SEvMgr

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SEvMgr is a C++ library of discrete event queue management classes and functions, exclusively targeting simulation purposes. N

SEvMgr makes an extensive use of existing open-source libraries for increased functionality, speed and accuracy. In particular the Boost (*C++ Standard Extensions*) library is used.

The SEvMgr library originates from the department of Operational Research and Innovation at Amadeus, Sophia Antipolis, France. SEvMgr is released under the terms of the GNU Lesser General Public License (LGPLv2.1) for you to enjoy.

SEvMgr should work on GNU/Linux, Sun Solaris, Microsoft Windows (with Cygwin, MinGW/MSYS, or Microsoft Visual C++ .NET) and Mac OS X operating systems.

Note

(N) - The SEvMgr library is **NOT** intended, in any way, to be used by airlines for production systems. If you want to report issue, bug or feature request, or if you just want to give feedback, have a look on the right-hand side of this page for the preferred reporting methods. In any case, please do not contact Amadeus directly for any matter related to SEvMgr.

2 People

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Note

(N) - Amadeus employees.

3 Coding Rules

In the following sections we describe the naming conventions which are used for files, classes, structures, local variables, and global variables.

3.1 Default Naming Rules for Variables

Variables names follow Java naming conventions. Examples:

- `lNumberOfPassengers`
- `lSeatAvailability`

3.2 Default Naming Rules for Functions

Function names follow Java naming conventions. Example:

- `int myFunctionName (const int& a, int b)`

3.3 Default Naming Rules for Classes and Structures

Each new word in a class or structure name should always start with a capital letter and the words should be separated with an under-score. Abbreviations are written with capital letters. Examples:

- `MyClassName`
- `MyStructName`

3.4 Default Naming Rules for Files

Files are named after the C++ class names.

Source files are named using `.cpp` suffix, whereas header files end with `.hpp` extension. Examples:

- `FlightDate.hpp`
- `SegmentDate.cpp`

3.5 Default Functionality of Classes

All classes that are configured by input parameters should include:

- default empty constructor
- one or more additional constructor(s) that takes input parameters and initializes the class instance
- setup function, preferably named `'setup'` or `'set_parameters'`

Explicit destructor functions are not required, unless they are needed. It shall not be possible to use any of the other member functions unless the class has been properly initiated with the input parameters.

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4.1.1 Version 2.1, February 1999

```
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```

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```

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```
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user can modify the Library and then relink to produce a modified
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```

```
to use the modified definitions.)

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   b) Give prominent notice with the combined library of the fact
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   where to find the accompanying uncombined form of the same work.
   ```

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
    <one line to give the library's name and a brief idea of what it does.>
    Copyright (C) <year>  <name of author>

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```

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
  Yoyodyne, Inc., hereby disclaims all copyright interest in the
  library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

  <signature of Ty Coon>, 1 April 1990
  Ty Coon, President of Vice
```

That's all there is to it!

Source

5 Documentation Rules

5.1 General Rules

All classes in SEvMgr should be properly documented with Doxygen comments in include (`.hpp`) files. Source (`.cpp`) files should be documented according to a normal standard for well documented C++ code.

An example of how the interface of a class shall be documented in SEvMgr is shown here:

```
/*!
 * \brief Brief description of MyClass here
 *
 * Detailed description of MyClass here. With example code if needed.
 */
class MyClass {
public:
  //! Default constructor
  MyClass(void) { setup_done = false; }

  /*!
```

```
   * \brief Constructor that initializes the class with parameters
   *
   * Detailed description of the constructor here if needed
   *
   * \param[in] param1 Description of \a param1 here
   * \param[in] param2 Description of \a param2 here
   */
  MyClass(TYPE1 param1, TYPE2 param2) { setup(param1, param2); }

  /*!
   * \brief Setup function for MyClass
   *
   * Detailed description of the setup function here if needed
   *
   * \param[in] param1 Description of \a param1 here
   * \param[in] param2 Description of \a param2 here
   */
  void setup(TYPE1 param1, TYPE2 param2);

  /*!
   * \brief Brief description of memberFunction1
   *
   * Detailed description of memberFunction1 here if needed
   *
   * \param[in]     param1 Description of \a param1 here
   * \param[in]     param2 Description of \a param2 here
   * \param[in,out] param3 Description of \a param3 here
   * \return Description of the return value here
   */
  TYPE4 memberFunction1(TYPE1 param1, TYPE2 param2, TYPE3 &param3);

private:

  bool _setupDone;         /*!< Variable that checks if the class is properly
                                initialized with parameters */
  TYPE1 _privateVariable1; //!< Short description of _privateVariable1 here
  TYPE2 _privateVariable2; //!< Short description of _privateVariable2 here
};
```

5.2 File Header

All files should start with the following header, which include Doxygen's `\file`, `\brief` and `\author` tags, `$Date$` and `$Revisions$` CVS tags, and a common copyright note:

```
/*!
 * \file
 * \brief Brief description of the file here
 * \author Names of the authors who contributed to this code
 * \date Date
 *
 * Detailed description of the file here if needed.
 *
 * ---------------------------------------------------------------------------
 *
 * SEvMgr - C++ Airline Inventory Management Library
 *
 * Copyright (C) 2009-2010  (\see authors file for a list of contributors)
 *
 * \see copyright file for license information
 *
 * ---------------------------------------------------------------------------
 */
```

5.3 Grouping Various Parts

All functions must be added to a Doxygen group in order to appear in the documentation. The following code example defines the group `'my_group'`:

```
/*!
 * \defgroup my_group Brief description of the group here
 *
 * Detailed description of the group here
*/
```

The following example shows how to document the function `myFunction` and how to add it to the group `my_group`:

```
/*!
 * \brief Brief description of myFunction here
 * \ingroup my_group
 *
 * Detailed description of myFunction here
 *
 * \param[in] param1 Description of \a param1 here
 * \param[in] param2 Description of \a param2 here
 * \return Description of the return value here
 */
TYPE3 myFunction(TYPE1 param1, TYPE2 &param2);
```

6 Main features

A short list of the main features of SEvMgr is given below sorted in different categories. Many more features and functions exist and for these we refer to the reference documentation.

6.1 Booking management

- Booking and cancellation requests

6.2 Revenue Management notification

- Forecast and Optimisation notification requests

6.3 Setting simulation break-points

- Simulation break-points

6.4 Other features

- CSV input file parsing
- Memory handling

7 Make a Difference

Do not ask what SEvMgr can do for you. Ask what you can do for SEvMgr.

You can help us to develop the SEvMgr library. There are always a lot of things you can do:

- Start using SEvMgr
- Tell your friends about SEvMgr and help them to get started using it
- If you find a bug, report it to us. Without your help we can never hope to produce a bug free code.

- Help us to improve the documentation by providing information about documentation bugs
- Answer support requests in the SEvMgr discussion forums on SourceForge. If you know the answer to a question, help others to overcome their SEvMgr problems.
- Help us to improve our algorithms. If you know of a better way (e.g. that is faster or requires less memory) to implement some of our algorithms, then let us know.
- Help us to port SEvMgr to new platforms. If you manage to compile SEvMgr on a new platform, then tell us how you did it.
- Send us your code. If you have a good SEvMgr compatible code, which you can release under the LGPLv2.1, and you think it should be included in SEvMgr, then send it to us.
- Become an SEvMgr developer. Send us an e-mail and tell what you can do for SEvMgr.

8 Make a new release

8.1 Introduction

This document describes briefly the recommended procedure of releasing a new version of SEvMgr using a Linux development machine and the SourceForge project site.

The following steps are required to make a release of the distribution package.

8.2 Initialisation

Clone locally the full Git project:

```
cd ~
mkdir -p dev/sim
cd ~/dev/sim
git clone git://sevmgr.git.sourceforge.net/gitroot/sevmgr/sevmgr sevmgrgit
cd sevmgrgit
git checkout trunk
```

8.3 Branch creation

Create the branch, on your local clone, corresponding to the new release (say, 0.5.0):

```
cd ~/dev/sim/sevmgrgit
git checkout trunk
git checkout -b 0.5.0
```

Update the version in the various build system files, replacing 99.99.99 by the correct version number:

```
vi CMakeLists.txt
vi autogen.sh
```

Update the version and add a change-log in the ChangeLog and in the RPM specification files:

```
vi ChangeLog
vi sevmgr.spec
```

8.4 Commit and publish the release branch

Commit the new release:

```
cd ~/dev/sim/sevmgrgit
git add -A
git commit -m "[Release 0.5.0] Release of version 0.5.0."
git push
```

8.5 Update the change-log in the trunk as well

Update the change-log in the ChangeLog and RPM specification files:

```
cd ~/dev/sim/sevmgrgit
git checkout trunk
vi ChangeLog
vi sevmgr.spec
```

Commit the change-logs and publish the trunk (main development branch):

```
git commit -m "[Doc] Integrated the change-log of the release 0.5.0."
git push
```

8.6 Create distribution packages

Create the distribution packages using the following command:

```
cd ~/dev/sim/sevmgrgit
git checkout 0.5.0
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/sevmgr-0.5.0 \
 -DWITH_STDAIR_PREFIX=/home/user/dev/deliveries/stdair-stable \
 -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make check && make dist
```

This will configure, compile and check the package. The output packages will be named, for instance, `sevmgr-0.5.0.tar.gz` and `sevmgr-0.5.0.tar.bz2`.

8.7 Generation the RPM packages

Optionally, generate the RPM package (for instance, for Fedora/RedHat):

```
cd ~/dev/sim/sevmgrgit
git checkout 0.5.0
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/sevmgr-0.5.0 \
 -DWITH_STDAIR_PREFIX=/home/user/dev/deliveries/stdair-stable \
 -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make dist
```

To perform this step, rpm-build, rpmlint and rpmdevtools have to be available on the system.

```
cp sevmgr.spec ~/dev/packages/SPECS \
  && cp sevmgr-0.5.0.tar.bz2 ~/dev/packages/SOURCES
cd ~/dev/packages/SPECS
rpmbuild -ba sevmgr.spec
rpmlint -i ../SPECS/sevmgr.spec ../SRPMS/sevmgr-0.5.0-1.fc15.src.rpm \
  ../RPMS/noarch/sevmgr-* ../RPMS/i686/sevmgr-*
```

8.8 Update distributed change log

Update the `NEWS` and `ChangeLog` files with appropriate information, including what has changed since the previous release. Then commit and push the changes into the SEvMgr's Git repository.

8.9 Create the binary package, including the documentation

Create the binary package, which includes HTML and PDF documentation, using the following command:

```
make package
```

The output binary package will be named, for instance, `sevmgr-0.5.0-Linux.tar.bz2`. That package contains both the HTML and PDF documentation. The binary package contains also the executables and shared libraries, as well as C++ header files, but all of those do not interest us for now.

8.10 Upload the files to SourceForge

Upload the distribution and documentation packages to the SourceForge server. Check SourceForge help page on uploading software.

8.11 Upload the documentation to SourceForge

In order to update the Web site files, either:

- synchronise them with rsync and SSH:

  ```
  cd ~/dev/sim/sevmgrgit
  git checkout 0.5.0
  rsync -aiv doc/html/ doc/latex/refman.pdf joe,sevmgr@web.sourceforge.net:htdocs/
  ```

  where `-aiv` options mean:

  - `-a`: archive/mirror mode; equals `-rlptgoD` (no `-H`, `-A`, `-X`)
  - `-v`: increase verbosity
  - `-i`: output a change-summary for all updates
  - Note the trailing slashes (/) at the end of both the source and target directories. It means that the content of the source directory (`doc/html`), rather than the directory itself, has to be copied into the content of the target directory.

- or use the SourceForge Shell service.

8.12 Make a new post

- submit a new entry in the SourceForge project-related news feed
- make a new post on the SourceForge hosted WordPress blog
- and update, if necessary, Trac tickets.

8.13 Send an email on the announcement mailing-list

Finally, you should send an announcement to sevmgr-announce@lists.sourceforge.net (see https://lists.sourceforge.net/lists/listinfo/sevmgr-announce for the archives)

9 Installation

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9.2 Fedora/RedHat Linux distributions

Note that on Fedora/RedHat Linux distributions, RPM packages are available and can be installed with your usual package manager. For instance:

```
yum -y install sevmgr-devel sevmgr-doc
```

RPM packages can also be available on the SourceForge download site.

9.3 SEvMgr Requirements

SEvMgr should compile without errors or warnings on most GNU/Linux systems, on UNIX systems like Solaris SunOS, and on POSIX based environments for Microsoft Windows like Cygwin or MinGW with MSYS. It can be also built on Microsoft Windows NT/2000/XP/Vista/7 using Microsoft's Visual C++ .NET, but our support for this compiler is limited. For GNU/Linux, SunOS, Cygwin and MinGW we assume that you have at least the following GNU software installed on your computer:

- GNU Autotools:
  - autoconf,
  - automake,
  - libtool,
  - make, version 3.72.1 or later (check version with 'make –version')
- GCC - GNU C++ Compiler (g++), version 4.3.x or later (check version with 'gcc –version')
- Boost - C++ STL extensions, version 1.35 or later (check version with 'grep "define BOOST_LIB_VERSION" /usr/include/boost/version.hpp')
- MySQL - Database client libraries, version 5.0 or later (check version with 'mysql –version')
- SOCI - C++ database client library wrapper, version 3.0.0 or later (check version with 'soci-config –version')

Optionally, you might need a few additional programs: Doxygen, LaTeX, Dvips and Ghostscript, to generate the HTML and PDF documentation.

We strongly recommend that you use recent stable releases of the GCC, if possible. We do not actively work on supporting older versions of the GCC, and they may therefore (without prior notice) become unsupported in future releases of SEvMgr.

9.4 Basic Installation

Briefly, the shell commands `./cmake .. && make install` should configure, build, and install this package. The following more-detailed instructions are generic; see the `README` file for instructions specific to this package. Some packages provide this `INSTALL` file but do not implement all of the features documented below. The lack of an optional feature in a given package is not necessarily a bug. More recommendations for GNU packages can be found in the info page corresponding to "Makefile Conventions: (standards)Makefile Conventions".

The `cmake` shell script attempts to guess correct values for various system-dependent variables used during compilation. It uses those values to create a `Makefile` in each directory of the package. It may also create one or more `.h` files containing system-dependent definitions. Finally, it creates a `CMakeCache.txt` cache file that you can refer to in the future to recreate the current configuration, and a file `CMakeFiles` containing compiler output (useful mainly for debugging `cmake`).

It can also use an optional file (typically called `config.cache` and enabled with `--cache-file=config.cache` or simply `-C`) that saves the results of its tests to speed up reconfiguring. Caching is disabled by default to prevent problems with accidental use of stale cache files.

If you need to do unusual things to compile the package, please try to figure out how 'configure' could check whether to do them, and mail diffs or instructions to the address given in the `README` so they can be considered for the next release. If you are using the cache, and at some point `config.cache` contains results you don't want to keep, you may remove or edit it.

```
The file <tt>`CMakeLists.txt'</tt> is used to create the \c `Makefile'
```

files.

The simplest way to compile this package is:

1. `cd` to the directory containing the package's source code and type `./cmake ..` to configure the package for your system. Running `cmake` is generally fast. While running, it prints some messages telling which features it is checking for.
2. Type `make` to compile the package.
3. Optionally, type `make check`to run any self-tests that come with the package, generally using the just-built uninstalled binaries.
4. Type `make install` to install the programs and any data files and documentation. When installing into a prefix owned by root, it is recommended that the package be configured and built as a regular user, and only the `make install` phase executed with root privileges.
5. You can remove the program binaries and object files from the source code directory by typing `make clean`. To also remove the files that `configure` created (so you can compile the package for a different kind of computer), type `make distclean`. There is also a `make maintainer-clean` target, but that is intended mainly for the package's developers. If you use it, you may have to get all sorts of other programs in order to regenerate files that came with the distribution.
6. Often, you can also type `make uninstall` to remove the installed files again. In practice, not all packages have tested that uninstallation works correctly, even though it is required by the GNU Coding Standards.

9.5 Compilers and Options

Some systems require unusual options for compilation or linking that the `cmake` script does not know about. Run `./cmake -help` for details on some of the pertinent environment variables.

You can give `cmake` initial values for configuration parameters by setting variables in the command line or in the environment. Here is an example:

```
./cmake  CC=c99 CFLAGS=-g LIBS=-lposix
```

See also

Defining Variables for more details.

9.6 Compiling For Multiple Architectures

You can compile the package for more than one kind of computer at the same time, by placing the object files for each architecture in their own directory. To do this, you can use GNU 'make'. 'cd' to the directory where you want the object files and executables to go and run the 'configure' script. 'configure' automatically checks for the source code in the directory that 'configure' is in and in '..'. This is known as a "VPATH" build.

With a non-GNU 'make', it is safer to compile the package for one architecture at a time in the source code directory. After you have installed the package for one architecture, use 'make distclean' before reconfiguring for another architecture.

On MacOS X 10.5 and later systems, you can create libraries and executables that work on multiple system types-known as "fat" or "universal" binaries-by specifying multiple '-arch' options to the compiler but only a single '-arch' option to the preprocessor. Like this:

```
./configure CC="gcc -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
            CXX="g++ -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
            CPP="gcc -E" CXXCPP="g++ -E"
```

This is not guaranteed to produce working output in all cases, you may have to build one architecture at a time and combine the results using the 'lipo' tool if you have problems.

9.7 Installation Names

By default, 'make install' installs the package's commands under '/usr/local/bin', include files under '/usr/local/include', etc. You can specify an installation prefix other than '/usr/local' by giving 'configure' the option '-prefix=P-REFIX', where PREFIX must be an absolute file name.

You can specify separate installation prefixes for architecture-specific files and architecture-independent files. If you pass the option '-exec-prefix=P-REFIX' to 'configure', the package uses PREFIX as the prefix for installing programs and libraries. Documentation and other data files still use the regular prefix.

In addition, if you use an unusual directory layout you can give options like '-bindir=DIR' to specify different values for particular kinds of files. Run 'configure -help' for a list of the directories you can set and what kinds of files go in them. In general, the default for these options is expressed in terms of '${prefix}', so that specifying just '-prefix' will affect all of the other directory specifications that were not explicitly provided.

The most portable way to affect installation locations is to pass the correct locations to 'configure'; however, many packages provide one or both of the following shortcuts of passing variable assignments to the 'make install' command line to change installation locations without having to reconfigure or recompile.

The first method involves providing an override variable for each affected directory. For example, 'make install prefix=/alternate/directory' will choose an alternate location for all directory configuration variables that were expressed in terms of '${prefix}'. Any directories that were specified during 'configure', but not in terms of '${prefix}', must each be overridden at install time for the entire installation to be relocated. The approach of makefile variable overrides for each directory variable is required by the GNU Coding Standards, and ideally causes no recompilation. However, some platforms have known limitations with the semantics of shared libraries that end up requiring recompilation when using this method, particularly noticeable in packages that use GNU Libtool.

The second method involves providing the 'DESTDIR' variable. For example, 'make install DESTDIR=/alternate/directory' will prepend '/alternate/directory' before all installation names. The approach of 'DESTDIR' overrides is not required by the GNU Coding Standards, and does not work on platforms that have drive letters. On the other hand, it does better at avoiding recompilation issues, and works well even when some directory options were not specified in terms of '${prefix}' at 'configure' time.

9.8 Optional Features

If the package supports it, you can cause programs to be installed with an extra prefix or suffix on their names by giving 'cmake' the option '-program-prefix=P-REFIX' or '-program-suffix=SUFFIX'.

Some packages pay attention to '-enable-FEATURE' options to 'configure', where FEATURE indicates an optional part of the package. They may also pay attention to '-with-PACKAGE' options, where PACKAGE is something like 'gnu-as' or 'x' (for the X Window System). The 'README' should mention any '-enable-' and '-with-' options that the package recognizes.

For packages that use the X Window System, 'configure' can usually find the X include and library files automatically, but if it doesn't, you can use the 'configure' options '-x-includes=DIR' and '-x-libraries=DIR' to specify their locations.

Some packages offer the ability to configure how verbose the execution of 'make' will be. For these packages, running './configure -enable-silent-rules' sets the default to minimal output, which can be overridden with 'make V=1'; while running './configure -disable-silent-rules' sets the default to verbose, which can be overridden with 'make V=0'.

9.9 Particular systems

On HP-UX, the default C compiler is not ANSI C compatible. If GNU CC is not installed, it is recommended to use the following options in order to use an ANSI C compiler:

```
./configure CC="cc -Ae -D_XOPEN_SOURCE=500"
```

and if that doesn't work, install pre-built binaries of GCC for HP-UX.

On OSF/1 a.k.a. Tru64, some versions of the default C compiler cannot parse its '<wchar.h>' header file. The option '-nodtk' can be used as a workaround. If GNU CC is not installed, it is therefore recommended to try

```
./configure CC="cc"
```

and if that doesn't work, try

```
./configure CC="cc -nodtk"
```

On Solaris, don't put '/usr/ucb' early in your 'PATH'. This directory contains several dysfunctional programs; working variants of these programs are available in '/usr/bin'. So, if you need '/usr/ucb' in your 'PATH', put it *after* '/usr/bin'.

On Haiku, software installed for all users goes in '/boot/common', not '/usr/local'. It is recommended to use the following options:

```
./cmake -DCMAKE_INSTALL_PREFIX=/boot/common
```

9.10 Specifying the System Type

There may be some features 'configure' cannot figure out automatically, but needs to determine by the type of machine the package will run on. Usually, assuming the package is built to be run on the *same* architectures, 'configure' can figure that out, but if it prints a message saying it cannot guess the machine type, give it the '–build=TYPE' option. TYPE can either be a short name for the system type, such as 'sun4', or a canonical name which has the form CPU-COMPANY-SYSTEM

where SYSTEM can have one of these forms:

- OS
- KERNEL-OS

  See the file 'config.sub' for the possible values of each field. If 'config.sub' isn't included in this package, then this package doesn't need to know the machine type.

  If you are *building* compiler tools for cross-compiling, you should use the option '–target=TYPE' to select the type of system they will produce code for.

  If you want to *use* a cross compiler, that generates code for a platform different from the build platform, you should specify the "host" platform (i.e., that on which the generated programs will eventually be run) with '–host=TYPE'.

9.11 Sharing Defaults

If you want to set default values for 'configure' scripts to share, you can create a site shell script called 'config.site' that gives default values for variables like 'CC', 'cache_file', and 'prefix'. 'configure' looks for 'PREFIX/share/config.site' if it exists, then 'PREFIX/etc/config.site' if it exists. Or, you can set the 'CONFIG_SITE' environment variable to the location of the site script. A warning: not all 'configure' scripts look for a site script.

9.12 Defining Variables

Variables not defined in a site shell script can be set in the environment passed to 'configure'. However, some packages may run configure again during the build, and the customized values of these variables may be lost. In order to avoid this problem, you should set them in the 'configure' command line, using 'VAR=value'. For example:

```
./configure CC=/usr/local2/bin/gcc
```

causes the specified 'gcc' to be used as the C compiler (unless it is overridden in the site shell script).

Unfortunately, this technique does not work for 'CONFIG_SHELL' due to an Autoconf bug. Until the bug is fixed you can use this workaround:

```
CONFIG_SHELL=/bin/bash /bin/bash ./configure CONFIG_SHELL=/bin/bash
```

9.13 'cmake' Invocation

'cmake' recognizes the following options to control how it operates.

- '-help', '-h' print a summary of all of the options to 'cmake', and exit.
- '-help=short', '-help=recursive' print a summary of the options unique to this package's 'configure', and exit. The 'short' variant lists options used only in the top level, while the 'recursive' variant lists options also present in any nested packages.
- '-version', '-V' print the version of Autoconf used to generate the 'configure' script, and exit.
- '-cache-file=FILE' enable the cache: use and save the results of the tests in FILE, traditionally 'config.cache'. FILE defaults to '/dev/null' to disable caching.
- '-config-cache', '-C' alias for '-cache-file=config.cache'.
- '-quiet', '-silent', '-q' do not print messages saying which checks are being made. To suppress all normal output, redirect it to '/dev/null' (any error messages will still be shown).
- '-srcdir=DIR' look for the package's source code in directory DIR. Usually 'configure' can determine that directory automatically.
- '-prefix=DIR' use DIR as the installation prefix.

  See also

  Installation Names for more details, including other options available for fine-tuning the installation locations.

- '-no-create', '-n' run the configure checks, but stop before creating any output files.

'cmake' also accepts some other, not widely useful, options. Run 'cmake' -help' for more details.

The 'cmake' script produces an ouput like this:

```
export LIBSUFFIX_4_CMAKE="-DLIB_SUFFIX=64"
export INSTALL_BASEDIR=/home/user/dev/deliveries
cmake -DCMAKE_INSTALL_PREFIX=${INSTALL_BASEDIR}/sevmgr-0.5.0 \
 -DWITH_STDAIR_PREFIX=${INSTALL_BASEDIR}/stdair-stable \
 -DWITH_AIRRAC_PREFIX=${INSTALL_BASEDIR}/airrac-stable \
 -DWITH_RMOL_PREFIX=${INSTALL_BASEDIR}/rmol-stable \
 -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ${LIBSUFFIX_4_CMAKE} ..
-- The C compiler identification is GNU
-- The CXX compiler identification is GNU
-- Check for working C compiler: /usr/lib64/ccache/gcc
-- Check for working C compiler: /usr/lib64/ccache/gcc -- works
-- Detecting C compiler ABI info
```

```
-- Detecting C compiler ABI info - done
-- Check for working CXX compiler: /usr/lib64/ccache/c++
-- Check for working CXX compiler: /usr/lib64/ccache/c++ -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Requires Git without specifying any version
-- Current Git revision name: 0ee8dcc3e3dd1d1d442c4054fbfa4cacc1182e6a trunk
-- Requires Boost-1.41
-- Boost version: 1.46.0
-- Found the following Boost libraries:
--   regex
--   program_options
--   date_time
--   iostreams
--   serialization
--   filesystem
--   unit_test_framework
--   python
-- Found Boost version: 1.46.0
-- Found BoostWrapper: /usr/include (Required is at least version "1.41")
-- Requires Readline without specifying any version
-- Found Readline: /usr/include
-- Found Readline version: 6.2
-- Requires MySQL without specifying any version
-- Using mysql-config: /usr/bin/mysql_config
-- Found MySQL: /usr/lib64/mysql/libmysqlclient.so
-- Found MySQL version: 5.5.14
-- Requires SOCI-3.0
-- Using soci-config: /usr/bin/soci-config
-- SOCI headers are buried
-- Found SOCI: /usr/lib64/libsoci_core.so (Required is at least version "3.0")
-- Found SOCIMySQL: /usr/lib64/libsoci_mysql.so (Required is at least version "3.0")
-- Found SOCI with MySQL back-end support version: 3.0.0
-- Requires StdAir-0.37
-- Found StdAir version: 0.38.0
-- Requires Doxygen without specifying any version
-- Found Doxygen: /usr/bin/doxygen
-- Found DoxygenWrapper: /usr/bin/doxygen
-- Found Doxygen version: 1.7.4
-- Had to set the linker language for 'sevmgrlib' to CXX
-- Test 'InventoryTestSuite' to be built with 'InventoryTestSuite.cpp'
--
-- ============================================================
-- ----------------------------------
-- ---     Project Information    ---
-- ----------------------------------
-- PROJECT_NAME ................... : sevmgr
-- PACKAGE_PRETTY_NAME ............ : SEvMgr
-- PACKAGE ........................ : sevmgr
-- PACKAGE_NAME ................... : SEVMGR
-- PACKAGE_BRIEF .................. : C++ Simulation-Oriented Discrete Event Management Library
-- PACKAGE_VERSION ................ : 0.5.0
-- GENERIC_LIB_VERSION ............ : 0.5.0
-- GENERIC_LIB_SOVERSION .......... : 0.5
--
-- ----------------------------------
-- ---     Build Configuration    ---
-- ----------------------------------
-- Modules to build ............... : airrac;rmol;sevmgr
-- Libraries to build/install ..... : airraclib;rmollib;sevmgrlib
-- Binaries to build/install ...... : airrac;rmol;sevmgr_parseInventory;sevmgr
-- Modules to test ................ : sevmgr
-- Binaries to test ............... : InventoryTestSuitetst
--
-- * Module ....................... : sevmgr
--   + Layers to build ............ : .;basic;bom;factory;command;service
--   + Dependencies on other layers : airraclib;rmollib
--   + Libraries to build/install . : sevmgrlib
--   + Executables to build/install : sevmgr_parseInventory;sevmgr
--   + Tests to perform ........... : InventoryTestSuitetst
--
-- BUILD_SHARED_LIBS .............. : ON
-- CMAKE_BUILD_TYPE ............... : Debug
```

```
--  * CMAKE_C_FLAGS ..... :
--  * CMAKE_CXX_FLAGS ..... : -Wall -Werror
--  * BUILD_FLAGS ..... :
--  * COMPILE_FLAGS ..... :
-- CMAKE_MODULE_PATH ..... : /home/dan/dev/sim/sevmgr/sevmgrgithub/config/
-- CMAKE_INSTALL_PREFIX ..... : /home/dan/dev/deliveries/sevmgr-0.5.0
--
-- * Doxygen:
--   - DOXYGEN_VERSION ..... : 1.7.4
--   - DOXYGEN_EXECUTABLE ..... : /usr/bin/doxygen
--   - DOXYGEN_DOT_EXECUTABLE ..... : /usr/bin/dot
--   - DOXYGEN_DOT_PATH ..... : /usr/bin
--
-- ----------------------------------
-- --- Installation Configuration ---
-- ----------------------------------
-- INSTALL_LIB_DIR ..... : /home/dan/dev/deliveries/sevmgr-0.5.0/lib64
-- INSTALL_BIN_DIR ..... : /home/dan/dev/deliveries/sevmgr-0.5.0/bin
-- INSTALL_INCLUDE_DIR ..... : /home/dan/dev/deliveries/sevmgr-0.5.0/include
-- INSTALL_DATA_DIR ..... : /home/dan/dev/deliveries/sevmgr-0.5.0/share
-- INSTALL_SAMPLE_DIR ..... : /home/dan/dev/deliveries/sevmgr-0.5.0/share/sevmgr/samples
-- INSTALL_DOC ..... : ON
--
-- ----------------------------------
-- ---   Packaging Configuration  ---
-- ----------------------------------
-- CPACK_PACKAGE_CONTACT ..... : Denis Arnaud <denis_arnaud - at - users dot sourceforge dot net>
-- CPACK_PACKAGE_VENDOR ..... : Denis Arnaud
-- CPACK_PACKAGE_VERSION ..... : 0.5.0
-- CPACK_PACKAGE_DESCRIPTION_FILE . : /home/dan/dev/sim/sevmgr/sevmgrgithub/README
-- CPACK_RESOURCE_FILE_LICENSE .... : /home/dan/dev/sim/sevmgr/sevmgrgithub/COPYING
-- CPACK_GENERATOR ..... : TBZ2
-- CPACK_DEBIAN_PACKAGE_DEPENDS ... :
-- CPACK_SOURCE_GENERATOR ..... : TBZ2;TGZ
-- CPACK_SOURCE_PACKAGE_FILE_NAME . : sevmgr-0.5.0
--
-- ----------------------------------
-- ---     External libraries    ---
-- ----------------------------------
--
-- * Boost:
--   - Boost_VERSION ..... : 104600
--   - Boost_LIB_VERSION ..... : 1_46
--   - Boost_HUMAN_VERSION ..... : 1.46.0
--   - Boost_INCLUDE_DIRS ..... : /usr/include
--   - Boost required components .. : regex;program_options;date_time;iostreams;serialization;filesystem;unit_
--   - Boost required libraries ... : optimized;/usr/lib64/libboost_regex-mt.so;debug;/usr/lib64/libboost_rege
--
-- * Readline:
--   - READLINE_VERSION ..... : 6.2
--   - READLINE_INCLUDE_DIR ..... : /usr/include
--   - READLINE_LIBRARY ..... : /usr/lib64/libreadline.so
--
-- * MySQL:
--   - MYSQL_VERSION ..... : 5.5.14
--   - MYSQL_INCLUDE_DIR ..... : /usr/include/mysql
--   - MYSQL_LIBRARIES ..... : /usr/lib64/mysql/libmysqlclient.so
--
-- * SOCI:
--   - SOCI_VERSION ..... : 3.0.0
--   - SOCI_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCIMYSQL_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_LIBRARIES ..... : /usr/lib64/libsoci_core.so
--   - SOCIMYSQL_LIBRARIES ..... : /usr/lib64/libsoci_mysql.so
--
-- * StdAir:
--   - STDAIR_VERSION ..... : 0.38.0
--   - STDAIR_BINARY_DIRS ..... : /home/dan/dev/deliveries/stdair-0.38.0/bin
--   - STDAIR_EXECUTABLES ..... : stdair
--   - STDAIR_LIBRARY_DIRS ..... : /home/dan/dev/deliveries/stdair-0.38.0/lib64
--   - STDAIR_LIBRARIES ..... : stdairlib;stdairuicllib
--   - STDAIR_INCLUDE_DIRS ..... : /home/dan/dev/deliveries/stdair-0.38.0/include
--   - STDAIR_SAMPLE_DIR ..... : /home/dan/dev/deliveries/stdair-0.38.0/share/stdair/samples
```

```
--
-- Change a value with: cmake -D<Variable>=<Value>
-- ================================================================
--
-- Configuring done
-- Generating done
-- Build files have been written to: /home/dan/dev/sim/sevmgr/sevmgrgithub/build
```

It is recommended that you check if your library has been compiled and linked properly and works as expected. To do so, you should execute the testing process 'make check'. As a result, you should obtain a similar report:

```
[  0%] Built target hdr_cfg_sevmgr
[  0%] Built target hdr_cfg_airrac
[ 13%] Built target hdr_cfg_rmol
[ 98%] Built target sevmgrlib
[100%] Built target InventoryTestSuitetst
Scanning dependencies of target check_sevmgrtst
Test project /home/dan/dev/sim/sevmgr/sevmgrgithub/build/test/sevmgr
    Start 1: InventoryTestSuitetst
1/1 Test #1: InventoryTestSuitetst .............   Passed    0.08 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) =   0.35 sec
[100%] Built target check_sevmgrtst
Scanning dependencies of target check
[100%] Built target check
```

Check if all the executed tests PASSED. If not, please contact us by filling a bug-report.

Finally, you should install the compiled and linked library, include files and (optionally) HTML and PDF documentation by typing:

```
make install
```

Depending on the PREFIX settings during configuration, you might need the root (administrator) access to perform this step.

Eventually, you might invoke the following command

```
make clean
```

to remove all files created during compilation process, or even

```
cd ~/dev/sim/sevmgrgit
rm -rf build && mkdir build
cd build
```

to remove everything.

10 Linking with SEvMgr

10.1 Table of Contents

10.2 Introdution

There are two convenient methods of linking your programs with the SEvMgr library. The first one employs the 'pkg-config' command (see http://pkgconfig.freedesktop.org/), whereas the second one uses 'sevmgr-config' script. These methods are shortly described below.

10.3 Dependencies

The SEvMgr library depends on several other C++ components.

10.3.1 StdAir

Among them, as for now, only StdAir has been packaged. The support for StdAir is taken in charge by a dedicated M4 macro file (namely, 'stdair.m4'), from the configuration script (generated thanks to 'configure.ac').

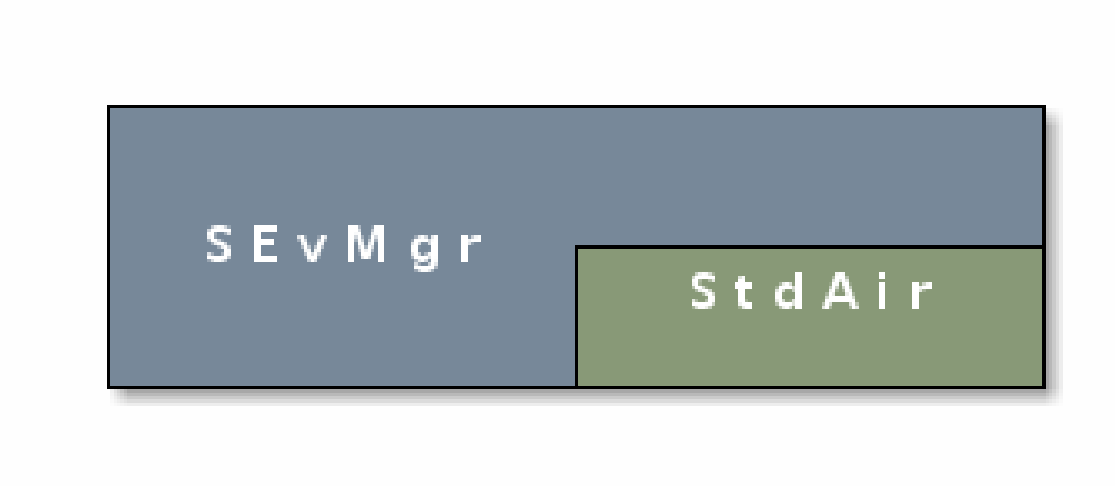

Figure 1: SEvMgr Dependencies

10.4 Using the pkg-config command

'pkg-config' is a helper tool used when compiling applications and libraries. It helps you insert the correct compiler and linker options. The syntax of the 'pkg-config' is as follows:

```
pkg-config <options> <library_name>
```

For instance, assuming that you need to compile an SEvMgr based program 'my_prog.cpp', you should use the following command:

```
g++ `pkg-config --cflags sevmgr` -o my_prog my_prog.cpp `pkg-config --libs
      sevmgr`
```

For more information see the 'pkg-config' man pages.

10.5 Using the sevmgr-config script

SEvMgr provides a shell script called sevmgr-config, which is installed by default in '$prefix/bin' ('/usr/local/bin') directory. It can be used to simplify compilation and linking of SEvMgr based programs. The usage of this script is quite similar to the usage of the 'pkg-config' command.

Assuming that you need to compile the program 'my_prog.cpp' you can now do that with the following command:

```
g++ `sevmgr-config --cflags` -o my_prog_opt my_prog.cpp `sevmgr-config --libs`
```

A list of 'sevmgr-config' options can be obtained by typing:

```
sevmgr-config --help
```

If the 'sevmgr-config' command is not found by your shell, you should add its location '$prefix/bin' to the PATH environment variable, e.g.:

```
export PATH=/usr/local/bin:$PATH
```

10.6 M4 macro for the GNU Autotools

A M4 macro file is delivered with SEvMgr, namely 'sevmgr.m4', which can be found in, e.g., '/usr/share/aclocal'. When used by a 'configure' script, thanks to he 'AM_PATH_SEvMgr' macro (specified in the M4 macro file), the following Makefile variables are then defined:

- 'SEvMgr_VERSION' (e.g., defined to 0.23.0)
- 'SEvMgr_CFLAGS' (e.g., defined to '-I${prefix}/include')
- 'SEvMgr_LIBS' (e.g., defined to '-L${prefix}/lib -lsevmgr')

10.7 Using SEvMgr with dynamic linking

When using static linking some of the library routines in SEvMgr are copied into your executable program. This can lead to unnecessary large executables. To avoid having too large executable files you may use dynamic linking instead. Dynamic linking means that the actual linking is performed when the program is executed. This requires that the system is able to locate the shared SEvMgr library file during your program execution. If you install the SEvMgr library using a non-standard prefix, the 'LD_LIBRARY_PATH' environment variable might be used to inform the linker of the dynamic library location, e.g.:

```
export LD_LIBRARY_PATH=<SEvMgr installation prefix>/lib:$LD_LIBRARY_PATH
```

11 Test Rules

This section describes rules how the functionality of the IT++ library should be verified. In the 'tests' subdirectory test files are provided. All functionality should be tested using these test files.

11.1 The Test File

Each new IT++ module/class should be accompanied with a test file. The test file is an implementation in C++ that tests the functionality of a function/class or a group of functions/classes called modules. The test file should test relevant parameter settings and input/output relations to guarantee correct functionality of the corresponding classes/functions. The test files should be maintained using version control and updated whenever new functionality is added to the IT++ library.

The test file should print relevant data to a standard output that can be used to verify the functionality. All relevant parameter settings should be tested.

The test file should be placed in the 'tests' subdirectory and should have a name ending with '_test.cpp'.

11.2 The Reference File

Consider a test file named `'module_test.cpp'`. A reference file named `'module_test.ref'` should accompany the test file. The reference file contains a reference printout of the standard output generated when running the test program. The reference file should be maintained using version control and updated according to the test file.

11.3 Testing IT++ Library

One can compile and execute all test programs from `'tests'` subdirectory by typing

```
% make check
```

after successful compilation of the IT++ library.

12 Users Guide

12.1 Table of Contents

12.2 Introduction

The `SEvMgr` library contains classes for airline business management. This document does not cover all the aspects of the `SEvMgr` library. It does however explain the most important things you need to know in order to start using `SEvMgr`.

12.3 Get Started

12.3.1 Get the SEvMgr library

Clone locally the full Git project:

```
cd ~
mkdir -p dev/sim
cd ~/dev/sim
git clone git://sevmgr.git.sourceforge.net/gitroot/sevmgr/sevmgr sevmgrgit
cd sevmgrgit
git checkout trunk
```

12.3.2 Build the SEvMgr project

Link with StdAir, create the distribution package (say, 0.5.0) and compile using the following commands:

```
cd ~/dev/sim/sevmgrgit
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=~/dev/deliveries/sevmgr-0.5.0 \
 -DWITH_STDAIR_PREFIX=~/dev/deliveries/stdair-stable \
 -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make
```

12.3.3 Build and Run the Tests

After building the SEvMgr project, the following commands run the tests:

```
cd ~/dev/sim/sevmgrgit
cd build
make check
```

As a result, you should obtain a similar report:

```
[  0%] Built target hdr_cfg_sevmgr
[ 96%] Built target sevmgrlib
[100%] Built target AirlineScheduleTestSuitetst
Scanning dependencies of target check_sevmgrtst
Test project /home/dan/dev/sim/sevmgr/sevmgrgithub/build/test/sevmgr
    Start 1: AirlineScheduleTestSuitetst
1/1 Test #1: AirlineScheduleTestSuitetst ......   Passed    0.15 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) =   0.40 sec
[100%] Built target check_sevmgrtst
Scanning dependencies of target check
[100%] Built target check
```

12.3.4 Install the SEvMgr Project (Binaries, Documentation)

After the step Build the SEvMgr project, to install the library and its header files, type:

```
cd ~/dev/sim/sevmgrgit
cd build
make install
```

You can check that the executables and other required files have been copied into the given final directory:

```
cd ~dev/deliveries/sevmgr-0.5.0
```

To generate the SEvMgr project documentation, the commands are:

```
cd ~/dev/sim/sevmgrgit
cd build
make doc
```

The SEvMgr project documentation is available in the following formats: HTML, LaTeX. Those documents are available in a subdirectory:

```
cd ~/dev/sim/sevmgrgit
cd build
cd doc
```

12.4 Input file of SEvMgr Project

The schedule input file structure should look like the following sample:

Each line, beyond the header, represents a schedule entry, i.e., the specification of a given flight-period (see `SEVMGR::FlightPeriodStruct`). The fields are as follows:

- Flights section
  - AirlineCode (e.g., `BA`)
  - FlightNumber (e.g., `9`)
  - Start of the flight departure period (e.g., `2007-04-20`)
  - End of the flight departure period (e.g., `2007-06-30`)
  - Day-Of-the-Week for the flight departure period (DOW) (e.g., `0000011`)
  - Leg section
  - Segment section
- Leg section
  - BoardPoint (e.g., `LHR`)
  - OffPoint (e.g., `BKK`)
  - BoardTime (e.g., `22`:00)
  - ArrivalTime (e.g., `15`:15)
  - ArrivalDateOffSet (e.g., `+1`)
  - ElapsedTime (e.g., `11`:15)
  - Leg-cabin section
- Leg-cabin section
  - Cabin code (e.g., `F`, `J`, `W` or `Y`)
  - Capacity (e.g., respectively `5`, `12`, `20` or `300`)
- Segment section
  - Specificity flag:
    - `0` means that all the segments behave the same way, i.e., have got the same dressing (distribution and order of the booking classes per cabin)
    - `1` means that each segment bahave differently. The full specification of each of those segments must therefore be given.
  - Segment-cabin section
  - Fare family section

- Segment-cabin section
  - Cabin code (e.g., F, J, W or Y)
  - List of (one-letter-code) booking classes for the cabin (e.g, respectively FA, JCDI, WT or YBHKMLSQ)
- Fare family section
  - Fare family code (e.g., 1)
  - List of (one-letter-code) booking classes for the fare family (e.g, respectively FA, JCDI, WT or YBHKMLSQ)

Some fare input examples (including the example above named schedule03.csv) are given in the StdAir project.

12.5 The schedule BOM Tree

The schedule-related Business Object Model (BOM) tree is a structure allowing to store all the SEVMGR::FlightPeriodStruct objects of the simulation. That is why parsing an input file, containing the specification for all the flight-periods, is more convenient (

See also

the previous section Input file of SEvMgr Project).

As it may be time consuming, and it for sure requires some know-how, to first build such a schedule input file, a small sample BOM tree is provided by default when needed.

12.5.1 Build of the schedule BOM tree

First, a BOM root object (i.e., a root for all the classes in the project) is instantiated by the stdair::STDAIR_ServiceContext context object, when the stdair::STDAIR_Service is itself instantiated (during the instantiation of the SEVMGR::SEVMGR_Service object).

The corresponding type (class) stdair::BomRoot is defined in the StdAir library.

Then, the BOM root can be either constructed thanks to the SEVMGR::SEVMGR_Service::buildSampleBom() method:

```
* Nothing is being done at that stage. The buildSampleBom() method may
```

or can be constructed using the schedule input file described above thanks to the SEVMGR::SEVMGR_Service::parseAndLoad (const stdair::Filename_T&) method:

12.5.2 Display of the schedule BOM tree

Note

That feature (of BOM tree display) has not been implemented yet. Do not hesitate to open a ticket if you would like to have it implemented more quickly.

The schedule BOM tree can be displayed as done in the batches::sevmgr.cpp program:

When the default BOM tree is used (`-b/-builtin` option of the main program `sevmgr.cpp`), the schedule BOM tree display (for now, corresponding to `schedule01.csv` parsed by `SEVMGR::parseInventory`) should look like:

```
============================================================
BomRoot:  -- ROOT --
============================================================
++++++++++++++++++++++++++++++++++++++++++++++++
Inventory: SQ
++++++++++++++++++++++++++++++++++++++++++++++++
**********************************************
FlightDate: SQ11, 2010-Jan-15
**********************************************
**********************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-15, SIN-BKK, 2010-Jan-15, 08:20:00, 2010-Jan-15, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
**********************************************
**********************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-15, SIN-BKK 2010-Jan-15, Y, 300, 300, 0, 0, 0, 0, 0, 0, 2, 298
      , 9, 0, 0, 0, 0, 0,
**********************************************
**********************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
**********************************************
**********************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-15, SIN-BKK 2010-Jan-15, Y, 1, 0, 0, 0, 2, 298, 0,
SQ11 2010-Jan-15, SIN-BKK 2010-Jan-15, Y, 2, 0, 0, 0, 2, 298, 0,
**********************************************
**********************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-15, SIN-BKK 2010-Jan-15, Y, 1, Y, 300 (0), 0, 0, 0, 2, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-15, SIN-BKK 2010-Jan-15, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
**********************************************
**********************************************
FlightDate: SQ11, 2010-Jan-16
**********************************************
**********************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-16, SIN-BKK, 2010-Jan-16, 08:20:00, 2010-Jan-16, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
**********************************************
**********************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-16, SIN-BKK 2010-Jan-16, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 1.83244e-319, 0, 0, 0, 0,
**********************************************
**********************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
**********************************************
**********************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-16, SIN-BKK 2010-Jan-16, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-16, SIN-BKK 2010-Jan-16, Y, 2, 0, 0, 0, 0, 300, 0,
**********************************************
**********************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
```

```
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-16, SIN-BKK 2010-Jan-16, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-16, SIN-BKK 2010-Jan-16, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ11, 2010-Jan-17
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-17, SIN-BKK, 2010-Jan-17, 08:20:00, 2010-Jan-17, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-17, SIN-BKK 2010-Jan-17, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 1.58896e-319, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-17, SIN-BKK 2010-Jan-17, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-17, SIN-BKK 2010-Jan-17, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-17, SIN-BKK 2010-Jan-17, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-17, SIN-BKK 2010-Jan-17, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ11, 2010-Jan-18
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-18, SIN-BKK, 2010-Jan-18, 08:20:00, 2010-Jan-18, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-18, SIN-BKK 2010-Jan-18, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-18, SIN-BKK 2010-Jan-18, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-18, SIN-BKK 2010-Jan-18, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-18, SIN-BKK 2010-Jan-18, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-18, SIN-BKK 2010-Jan-18, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
```

```
****************************************
****************************************
FlightDate: SQ11, 2010-Jan-19
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-19, SIN-BKK, 2010-Jan-19, 08:20:00, 2010-Jan-19, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-19, SIN-BKK 2010-Jan-19, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-19, SIN-BKK 2010-Jan-19, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-19, SIN-BKK 2010-Jan-19, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-19, SIN-BKK 2010-Jan-19, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-19, SIN-BKK 2010-Jan-19, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ11, 2010-Jan-20
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-20, SIN-BKK, 2010-Jan-20, 08:20:00, 2010-Jan-20, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-20, SIN-BKK 2010-Jan-20, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-20, SIN-BKK 2010-Jan-20, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-20, SIN-BKK 2010-Jan-20, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-20, SIN-BKK 2010-Jan-20, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-20, SIN-BKK 2010-Jan-20, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ11, 2010-Jan-21
****************************************
****************************************
```

```
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-21, SIN-BKK, 2010-Jan-21, 08:20:00, 2010-Jan-21, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-21, SIN-BKK 2010-Jan-21, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-21, SIN-BKK 2010-Jan-21, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-21, SIN-BKK 2010-Jan-21, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-21, SIN-BKK 2010-Jan-21, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-21, SIN-BKK 2010-Jan-21, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Jan-22
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-22, SIN-BKK, 2010-Jan-22, 08:20:00, 2010-Jan-22, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-22, SIN-BKK 2010-Jan-22, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-22, SIN-BKK 2010-Jan-22, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-22, SIN-BKK 2010-Jan-22, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-22, SIN-BKK 2010-Jan-22, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-22, SIN-BKK 2010-Jan-22, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Jan-23
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-23, SIN-BKK, 2010-Jan-23, 08:20:00, 2010-Jan-23, 11:00:00, 07:40:
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      00, 0, -05:00:00, 6300, 0,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-23, SIN-BKK 2010-Jan-23, Y, 300, 300, 0, 0, 0, 0, 0, 0, 6.64029e-
      319, 0, 300, 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-23, SIN-BKK 2010-Jan-23, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-23, SIN-BKK 2010-Jan-23, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-23, SIN-BKK 2010-Jan-23, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-23, SIN-BKK 2010-Jan-23, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Jan-24
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-24, SIN-BKK, 2010-Jan-24, 08:20:00, 2010-Jan-24, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-24, SIN-BKK 2010-Jan-24, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-24, SIN-BKK 2010-Jan-24, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-24, SIN-BKK 2010-Jan-24, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-24, SIN-BKK 2010-Jan-24, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-24, SIN-BKK 2010-Jan-24, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Jan-25
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-25, SIN-BKK, 2010-Jan-25, 08:20:00, 2010-Jan-25, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-25, SIN-BKK 2010-Jan-25, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-25, SIN-BKK 2010-Jan-25, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-25, SIN-BKK 2010-Jan-25, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-25, SIN-BKK 2010-Jan-25, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-25, SIN-BKK 2010-Jan-25, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Jan-26
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-26, SIN-BKK, 2010-Jan-26, 08:20:00, 2010-Jan-26, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-26, SIN-BKK 2010-Jan-26, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-26, SIN-BKK 2010-Jan-26, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-26, SIN-BKK 2010-Jan-26, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-26, SIN-BKK 2010-Jan-26, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-26, SIN-BKK 2010-Jan-26, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Jan-27
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-27, SIN-BKK, 2010-Jan-27, 08:20:00, 2010-Jan-27, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-27, SIN-BKK 2010-Jan-27, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-27, SIN-BKK 2010-Jan-27, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-27, SIN-BKK 2010-Jan-27, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-27, SIN-BKK 2010-Jan-27, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-27, SIN-BKK 2010-Jan-27, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Jan-28
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-28, SIN-BKK, 2010-Jan-28, 08:20:00, 2010-Jan-28, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-28, SIN-BKK 2010-Jan-28, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-28, SIN-BKK 2010-Jan-28, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-28, SIN-BKK 2010-Jan-28, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-28, SIN-BKK 2010-Jan-28, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-28, SIN-BKK 2010-Jan-28, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Jan-29
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-29, SIN-BKK, 2010-Jan-29, 08:20:00, 2010-Jan-29, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-29, SIN-BKK 2010-Jan-29, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-29, SIN-BKK 2010-Jan-29, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-29, SIN-BKK 2010-Jan-29, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-29, SIN-BKK 2010-Jan-29, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-29, SIN-BKK 2010-Jan-29, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Jan-30
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-30, SIN-BKK, 2010-Jan-30, 08:20:00, 2010-Jan-30, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-30, SIN-BKK 2010-Jan-30, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-30, SIN-BKK 2010-Jan-30, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Jan-30, SIN-BKK 2010-Jan-30, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-30, SIN-BKK 2010-Jan-30, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-30, SIN-BKK 2010-Jan-30, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Jan-31
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Jan-31, SIN-BKK, 2010-Jan-31, 08:20:00, 2010-Jan-31, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Jan-31, SIN-BKK 2010-Jan-31, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Jan-31, SIN-BKK 2010-Jan-31, Y, 1, 0, 0, 0, 0, 300, 0,
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SQ11 2010-Jan-31, SIN-BKK 2010-Jan-31, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Jan-31, SIN-BKK 2010-Jan-31, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Jan-31, SIN-BKK 2010-Jan-31, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-01
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-01, SIN-BKK, 2010-Feb-01, 08:20:00, 2010-Feb-01, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-01, SIN-BKK 2010-Feb-01, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-01, SIN-BKK 2010-Feb-01, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-01, SIN-BKK 2010-Feb-01, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-01, SIN-BKK 2010-Feb-01, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-01, SIN-BKK 2010-Feb-01, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-02
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-02, SIN-BKK, 2010-Feb-02, 08:20:00, 2010-Feb-02, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-02, SIN-BKK 2010-Feb-02, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-02, SIN-BKK 2010-Feb-02, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-02, SIN-BKK 2010-Feb-02, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-02, SIN-BKK 2010-Feb-02, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-02, SIN-BKK 2010-Feb-02, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-03
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-03, SIN-BKK, 2010-Feb-03, 08:20:00, 2010-Feb-03, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-03, SIN-BKK 2010-Feb-03, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-03, SIN-BKK 2010-Feb-03, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-03, SIN-BKK 2010-Feb-03, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-03, SIN-BKK 2010-Feb-03, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-03, SIN-BKK 2010-Feb-03, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-04
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-04, SIN-BKK, 2010-Feb-04, 08:20:00, 2010-Feb-04, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-04, SIN-BKK 2010-Feb-04, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-04, SIN-BKK 2010-Feb-04, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-04, SIN-BKK 2010-Feb-04, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-04, SIN-BKK 2010-Feb-04, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-04, SIN-BKK 2010-Feb-04, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
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      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-05
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-05, SIN-BKK, 2010-Feb-05, 08:20:00, 2010-Feb-05, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-05, SIN-BKK 2010-Feb-05, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-05, SIN-BKK 2010-Feb-05, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-05, SIN-BKK 2010-Feb-05, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-05, SIN-BKK 2010-Feb-05, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-05, SIN-BKK 2010-Feb-05, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-06
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-06, SIN-BKK, 2010-Feb-06, 08:20:00, 2010-Feb-06, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-06, SIN-BKK 2010-Feb-06, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-06, SIN-BKK 2010-Feb-06, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-06, SIN-BKK 2010-Feb-06, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-06, SIN-BKK 2010-Feb-06, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-06, SIN-BKK 2010-Feb-06, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-07
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-07, SIN-BKK, 2010-Feb-07, 08:20:00, 2010-Feb-07, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-07, SIN-BKK 2010-Feb-07, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-07, SIN-BKK 2010-Feb-07, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-07, SIN-BKK 2010-Feb-07, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-07, SIN-BKK 2010-Feb-07, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-07, SIN-BKK 2010-Feb-07, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-08
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-08, SIN-BKK, 2010-Feb-08, 08:20:00, 2010-Feb-08, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-08, SIN-BKK 2010-Feb-08, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-08, SIN-BKK 2010-Feb-08, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-08, SIN-BKK 2010-Feb-08, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-08, SIN-BKK 2010-Feb-08, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-08, SIN-BKK 2010-Feb-08, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-09
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
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SQ11 2010-Feb-09, SIN-BKK, 2010-Feb-09, 08:20:00, 2010-Feb-09, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-09, SIN-BKK 2010-Feb-09, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-09, SIN-BKK 2010-Feb-09, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-09, SIN-BKK 2010-Feb-09, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-09, SIN-BKK 2010-Feb-09, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-09, SIN-BKK 2010-Feb-09, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-10
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-10, SIN-BKK, 2010-Feb-10, 08:20:00, 2010-Feb-10, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-10, SIN-BKK 2010-Feb-10, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-10, SIN-BKK 2010-Feb-10, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-10, SIN-BKK 2010-Feb-10, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-10, SIN-BKK 2010-Feb-10, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-10, SIN-BKK 2010-Feb-10, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-11
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-11, SIN-BKK, 2010-Feb-11, 08:20:00, 2010-Feb-11, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-11, SIN-BKK 2010-Feb-11, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-11, SIN-BKK 2010-Feb-11, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-11, SIN-BKK 2010-Feb-11, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-11, SIN-BKK 2010-Feb-11, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-11, SIN-BKK 2010-Feb-11, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-12
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-12, SIN-BKK, 2010-Feb-12, 08:20:00, 2010-Feb-12, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-12, SIN-BKK 2010-Feb-12, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-12, SIN-BKK 2010-Feb-12, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-12, SIN-BKK 2010-Feb-12, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-12, SIN-BKK 2010-Feb-12, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-12, SIN-BKK 2010-Feb-12, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-13
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-13, SIN-BKK, 2010-Feb-13, 08:20:00, 2010-Feb-13, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-13, SIN-BKK 2010-Feb-13, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-13, SIN-BKK 2010-Feb-13, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-13, SIN-BKK 2010-Feb-13, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-13, SIN-BKK 2010-Feb-13, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-13, SIN-BKK 2010-Feb-13, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ11, 2010-Feb-14
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-14, SIN-BKK, 2010-Feb-14, 08:20:00, 2010-Feb-14, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-14, SIN-BKK 2010-Feb-14, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-14, SIN-BKK 2010-Feb-14, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-14, SIN-BKK 2010-Feb-14, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-14, SIN-BKK 2010-Feb-14, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-14, SIN-BKK 2010-Feb-14, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-15
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-15, SIN-BKK, 2010-Feb-15, 08:20:00, 2010-Feb-15, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-15, SIN-BKK 2010-Feb-15, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-15, SIN-BKK 2010-Feb-15, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-15, SIN-BKK 2010-Feb-15, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-15, SIN-BKK 2010-Feb-15, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-15, SIN-BKK 2010-Feb-15, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-16
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-16, SIN-BKK, 2010-Feb-16, 08:20:00, 2010-Feb-16, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-16, SIN-BKK 2010-Feb-16, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0, 0,
****************************************
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-16, SIN-BKK 2010-Feb-16, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-16, SIN-BKK 2010-Feb-16, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-16, SIN-BKK 2010-Feb-16, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-16, SIN-BKK 2010-Feb-16, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-17
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-17, SIN-BKK, 2010-Feb-17, 08:20:00, 2010-Feb-17, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-17, SIN-BKK 2010-Feb-17, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
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SQ11 2010-Feb-17, SIN-BKK 2010-Feb-17, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-17, SIN-BKK 2010-Feb-17, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-17, SIN-BKK 2010-Feb-17, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-17, SIN-BKK 2010-Feb-17, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-18
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-18, SIN-BKK, 2010-Feb-18, 08:20:00, 2010-Feb-18, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-18, SIN-BKK 2010-Feb-18, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-18, SIN-BKK 2010-Feb-18, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-18, SIN-BKK 2010-Feb-18, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-18, SIN-BKK 2010-Feb-18, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-18, SIN-BKK 2010-Feb-18, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-19
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-19, SIN-BKK, 2010-Feb-19, 08:20:00, 2010-Feb-19, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-19, SIN-BKK 2010-Feb-19, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-19, SIN-BKK 2010-Feb-19, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-19, SIN-BKK 2010-Feb-19, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-19, SIN-BKK 2010-Feb-19, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-19, SIN-BKK 2010-Feb-19, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-20
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-20, SIN-BKK, 2010-Feb-20, 08:20:00, 2010-Feb-20, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-20, SIN-BKK 2010-Feb-20, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-20, SIN-BKK 2010-Feb-20, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-20, SIN-BKK 2010-Feb-20, Y, 2, 0, 0, 0, 0, 300, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-20, SIN-BKK 2010-Feb-20, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-20, SIN-BKK 2010-Feb-20, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-21
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-21, SIN-BKK, 2010-Feb-21, 08:20:00, 2010-Feb-21, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-21, SIN-BKK 2010-Feb-21, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-21, SIN-BKK 2010-Feb-21, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-21, SIN-BKK 2010-Feb-21, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-21, SIN-BKK 2010-Feb-21, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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SQ11 2010-Feb-21, SIN-BKK 2010-Feb-21, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-22
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-22, SIN-BKK, 2010-Feb-22, 08:20:00, 2010-Feb-22, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-22, SIN-BKK 2010-Feb-22, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-22, SIN-BKK 2010-Feb-22, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-22, SIN-BKK 2010-Feb-22, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-22, SIN-BKK 2010-Feb-22, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-22, SIN-BKK 2010-Feb-22, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ11, 2010-Feb-23
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-23, SIN-BKK, 2010-Feb-23, 08:20:00, 2010-Feb-23, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-23, SIN-BKK 2010-Feb-23, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-23, SIN-BKK 2010-Feb-23, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-23, SIN-BKK 2010-Feb-23, Y, 2, 0, 0, 0, 0, 300, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-23, SIN-BKK 2010-Feb-23, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-23, SIN-BKK 2010-Feb-23, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ11, 2010-Feb-24
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-24, SIN-BKK, 2010-Feb-24, 08:20:00, 2010-Feb-24, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-24, SIN-BKK 2010-Feb-24, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-24, SIN-BKK 2010-Feb-24, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-24, SIN-BKK 2010-Feb-24, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-24, SIN-BKK 2010-Feb-24, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-24, SIN-BKK 2010-Feb-24, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-25
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-25, SIN-BKK, 2010-Feb-25, 08:20:00, 2010-Feb-25, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-25, SIN-BKK 2010-Feb-25, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-25, SIN-BKK 2010-Feb-25, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-25, SIN-BKK 2010-Feb-25, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-25, SIN-BKK 2010-Feb-25, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-25, SIN-BKK 2010-Feb-25, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-26
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
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      Elapsed, Distance, Capacity,
SQ11 2010-Feb-26, SIN-BKK, 2010-Feb-26, 08:20:00, 2010-Feb-26, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-26, SIN-BKK 2010-Feb-26, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-26, SIN-BKK 2010-Feb-26, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-26, SIN-BKK 2010-Feb-26, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-26, SIN-BKK 2010-Feb-26, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-26, SIN-BKK 2010-Feb-26, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-27
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-27, SIN-BKK, 2010-Feb-27, 08:20:00, 2010-Feb-27, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-27, SIN-BKK 2010-Feb-27, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-27, SIN-BKK 2010-Feb-27, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-27, SIN-BKK 2010-Feb-27, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-27, SIN-BKK 2010-Feb-27, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-27, SIN-BKK 2010-Feb-27, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ11, 2010-Feb-28
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ11 2010-Feb-28, SIN-BKK, 2010-Feb-28, 08:20:00, 2010-Feb-28, 11:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ11 2010-Feb-28, SIN-BKK 2010-Feb-28, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 0, 300
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ11 2010-Feb-28, SIN-BKK 2010-Feb-28, Y, 1, 0, 0, 0, 0, 300, 0,
SQ11 2010-Feb-28, SIN-BKK 2010-Feb-28, Y, 2, 0, 0, 0, 0, 300, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ11 2010-Feb-28, SIN-BKK 2010-Feb-28, Y, 1, Y, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ11 2010-Feb-28, SIN-BKK 2010-Feb-28, Y, 2, M, 300 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-15
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-15, SIN-HND, 2010-Jan-15, 09:20:00, 2010-Jan-15, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-15, SIN-HND 2010-Jan-15, Y, 200, 200, 2.082e+121, 5.53287e-48, 5.
      20268e-90, 0, 1.31346e-47, 1.05119e-153, 2.78986e+179, 0, 200, 9, 3.66962e-62, 1
      .0854e-71, 6.74783e-67, 6.9835e-77, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-15, SIN-HND 2010-Jan-15, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-15, SIN-HND 2010-Jan-15, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-15, SIN-HND 2010-Jan-15, Y, 1, Y13856, 200 (0), 0, 0, 0, 0, 0 (0)
      , 0, 0, 0, 0, 0, 0,
SQ12 2010-Jan-15, SIN-HND 2010-Jan-15, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-16
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-16, SIN-HND, 2010-Jan-16, 09:20:00, 2010-Jan-16, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
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SQ12 2010-Jan-16, SIN-HND 2010-Jan-16, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 2.63638e-319, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-16, SIN-HND 2010-Jan-16, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-16, SIN-HND 2010-Jan-16, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-16, SIN-HND 2010-Jan-16, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-16, SIN-HND 2010-Jan-16, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-17
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-17, SIN-HND, 2010-Jan-17, 09:20:00, 2010-Jan-17, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-17, SIN-HND 2010-Jan-17, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 2.39291e-319, 0, 0, 0, 0,
****************************************
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-17, SIN-HND 2010-Jan-17, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-17, SIN-HND 2010-Jan-17, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-17, SIN-HND 2010-Jan-17, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-17, SIN-HND 2010-Jan-17, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-18
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-18, SIN-HND, 2010-Jan-18, 09:20:00, 2010-Jan-18, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-18, SIN-HND 2010-Jan-18, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 2.14469e-319, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-18, SIN-HND 2010-Jan-18, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-18, SIN-HND 2010-Jan-18, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-18, SIN-HND 2010-Jan-18, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-18, SIN-HND 2010-Jan-18, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-19
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-19, SIN-HND, 2010-Jan-19, 09:20:00, 2010-Jan-19, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-19, SIN-HND 2010-Jan-19, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-19, SIN-HND 2010-Jan-19, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-19, SIN-HND 2010-Jan-19, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-19, SIN-HND 2010-Jan-19, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-19, SIN-HND 2010-Jan-19, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-20
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-20, SIN-HND, 2010-Jan-20, 09:20:00, 2010-Jan-20, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-20, SIN-HND 2010-Jan-20, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-20, SIN-HND 2010-Jan-20, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-20, SIN-HND 2010-Jan-20, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-20, SIN-HND 2010-Jan-20, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-20, SIN-HND 2010-Jan-20, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-21
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-21, SIN-HND, 2010-Jan-21, 09:20:00, 2010-Jan-21, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-21, SIN-HND 2010-Jan-21, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-21, SIN-HND 2010-Jan-21, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-21, SIN-HND 2010-Jan-21, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-21, SIN-HND 2010-Jan-21, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-21, SIN-HND 2010-Jan-21, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Jan-22
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-22, SIN-HND, 2010-Jan-22, 09:20:00, 2010-Jan-22, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-22, SIN-HND 2010-Jan-22, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-22, SIN-HND 2010-Jan-22, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-22, SIN-HND 2010-Jan-22, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-22, SIN-HND 2010-Jan-22, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-22, SIN-HND 2010-Jan-22, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-23
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-23, SIN-HND, 2010-Jan-23, 09:20:00, 2010-Jan-23, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-23, SIN-HND 2010-Jan-23, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-23, SIN-HND 2010-Jan-23, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-23, SIN-HND 2010-Jan-23, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-23, SIN-HND 2010-Jan-23, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-23, SIN-HND 2010-Jan-23, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-24
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-24, SIN-HND, 2010-Jan-24, 09:20:00, 2010-Jan-24, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-24, SIN-HND 2010-Jan-24, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-24, SIN-HND 2010-Jan-24, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-24, SIN-HND 2010-Jan-24, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
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SQ12 2010-Jan-24, SIN-HND 2010-Jan-24, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-24, SIN-HND 2010-Jan-24, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-25
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-25, SIN-HND, 2010-Jan-25, 09:20:00, 2010-Jan-25, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-25, SIN-HND 2010-Jan-25, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-25, SIN-HND 2010-Jan-25, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-25, SIN-HND 2010-Jan-25, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-25, SIN-HND 2010-Jan-25, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-25, SIN-HND 2010-Jan-25, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-26
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-26, SIN-HND, 2010-Jan-26, 09:20:00, 2010-Jan-26, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-26, SIN-HND 2010-Jan-26, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-26, SIN-HND 2010-Jan-26, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-26, SIN-HND 2010-Jan-26, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-26, SIN-HND 2010-Jan-26, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-26, SIN-HND 2010-Jan-26, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ12, 2010-Jan-27
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-27, SIN-HND, 2010-Jan-27, 09:20:00, 2010-Jan-27, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-27, SIN-HND 2010-Jan-27, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-27, SIN-HND 2010-Jan-27, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-27, SIN-HND 2010-Jan-27, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-27, SIN-HND 2010-Jan-27, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-27, SIN-HND 2010-Jan-27, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Jan-28
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-28, SIN-HND, 2010-Jan-28, 09:20:00, 2010-Jan-28, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-28, SIN-HND 2010-Jan-28, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-28, SIN-HND 2010-Jan-28, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-28, SIN-HND 2010-Jan-28, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-28, SIN-HND 2010-Jan-28, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-28, SIN-HND 2010-Jan-28, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ12, 2010-Jan-29
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-29, SIN-HND, 2010-Jan-29, 09:20:00, 2010-Jan-29, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-29, SIN-HND 2010-Jan-29, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-29, SIN-HND 2010-Jan-29, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-29, SIN-HND 2010-Jan-29, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-29, SIN-HND 2010-Jan-29, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-29, SIN-HND 2010-Jan-29, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Jan-30
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-30, SIN-HND, 2010-Jan-30, 09:20:00, 2010-Jan-30, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-30, SIN-HND 2010-Jan-30, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-30, SIN-HND 2010-Jan-30, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-30, SIN-HND 2010-Jan-30, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-30, SIN-HND 2010-Jan-30, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-30, SIN-HND 2010-Jan-30, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ12, 2010-Jan-31
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Jan-31, SIN-HND, 2010-Jan-31, 09:20:00, 2010-Jan-31, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Jan-31, SIN-HND 2010-Jan-31, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Jan-31, SIN-HND 2010-Jan-31, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Jan-31, SIN-HND 2010-Jan-31, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Jan-31, SIN-HND 2010-Jan-31, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Jan-31, SIN-HND 2010-Jan-31, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Feb-01
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-01, SIN-HND, 2010-Feb-01, 09:20:00, 2010-Feb-01, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-01, SIN-HND 2010-Feb-01, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-01, SIN-HND 2010-Feb-01, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-01, SIN-HND 2010-Feb-01, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-01, SIN-HND 2010-Feb-01, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-01, SIN-HND 2010-Feb-01, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Feb-02
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-02, SIN-HND, 2010-Feb-02, 09:20:00, 2010-Feb-02, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
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      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-02, SIN-HND 2010-Feb-02, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-02, SIN-HND 2010-Feb-02, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-02, SIN-HND 2010-Feb-02, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-02, SIN-HND 2010-Feb-02, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-02, SIN-HND 2010-Feb-02, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Feb-03
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-03, SIN-HND, 2010-Feb-03, 09:20:00, 2010-Feb-03, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-03, SIN-HND 2010-Feb-03, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-03, SIN-HND 2010-Feb-03, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-03, SIN-HND 2010-Feb-03, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-03, SIN-HND 2010-Feb-03, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-03, SIN-HND 2010-Feb-03, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Feb-04
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-04, SIN-HND, 2010-Feb-04, 09:20:00, 2010-Feb-04, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-04, SIN-HND 2010-Feb-04, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-04, SIN-HND 2010-Feb-04, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-04, SIN-HND 2010-Feb-04, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-04, SIN-HND 2010-Feb-04, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-04, SIN-HND 2010-Feb-04, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-05
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-05, SIN-HND, 2010-Feb-05, 09:20:00, 2010-Feb-05, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-05, SIN-HND 2010-Feb-05, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-05, SIN-HND 2010-Feb-05, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-05, SIN-HND 2010-Feb-05, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-05, SIN-HND 2010-Feb-05, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-05, SIN-HND 2010-Feb-05, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-06
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-06, SIN-HND, 2010-Feb-06, 09:20:00, 2010-Feb-06, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-06, SIN-HND 2010-Feb-06, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-06, SIN-HND 2010-Feb-06, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-06, SIN-HND 2010-Feb-06, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-06, SIN-HND 2010-Feb-06, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-06, SIN-HND 2010-Feb-06, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-07
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-07, SIN-HND, 2010-Feb-07, 09:20:00, 2010-Feb-07, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-07, SIN-HND 2010-Feb-07, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-07, SIN-HND 2010-Feb-07, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-07, SIN-HND 2010-Feb-07, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-07, SIN-HND 2010-Feb-07, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-07, SIN-HND 2010-Feb-07, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Feb-08
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****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-08, SIN-HND, 2010-Feb-08, 09:20:00, 2010-Feb-08, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-08, SIN-HND 2010-Feb-08, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-08, SIN-HND 2010-Feb-08, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-08, SIN-HND 2010-Feb-08, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-08, SIN-HND 2010-Feb-08, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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SQ12 2010-Feb-08, SIN-HND 2010-Feb-08, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-09
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-09, SIN-HND, 2010-Feb-09, 09:20:00, 2010-Feb-09, 12:00:00, 07:40:
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-09, SIN-HND 2010-Feb-09, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-09, SIN-HND 2010-Feb-09, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-09, SIN-HND 2010-Feb-09, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-09, SIN-HND 2010-Feb-09, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-09, SIN-HND 2010-Feb-09, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-10
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-10, SIN-HND, 2010-Feb-10, 09:20:00, 2010-Feb-10, 12:00:00, 07:40:
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-10, SIN-HND 2010-Feb-10, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-10, SIN-HND 2010-Feb-10, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-10, SIN-HND 2010-Feb-10, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
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      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-10, SIN-HND 2010-Feb-10, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-10, SIN-HND 2010-Feb-10, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-11
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-11, SIN-HND, 2010-Feb-11, 09:20:00, 2010-Feb-11, 12:00:00, 07:40:
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-11, SIN-HND 2010-Feb-11, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-11, SIN-HND 2010-Feb-11, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-11, SIN-HND 2010-Feb-11, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-11, SIN-HND 2010-Feb-11, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-11, SIN-HND 2010-Feb-11, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-12
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-12, SIN-HND, 2010-Feb-12, 09:20:00, 2010-Feb-12, 12:00:00, 07:40:
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-12, SIN-HND 2010-Feb-12, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-12, SIN-HND 2010-Feb-12, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-12, SIN-HND 2010-Feb-12, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-12, SIN-HND 2010-Feb-12, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-12, SIN-HND 2010-Feb-12, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ12, 2010-Feb-13
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-13, SIN-HND, 2010-Feb-13, 09:20:00, 2010-Feb-13, 12:00:00, 07:40:
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-13, SIN-HND 2010-Feb-13, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-13, SIN-HND 2010-Feb-13, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-13, SIN-HND 2010-Feb-13, Y, 2, 0, 0, 0, 0, 200, 0,
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-13, SIN-HND 2010-Feb-13, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-13, SIN-HND 2010-Feb-13, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-14
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-14, SIN-HND, 2010-Feb-14, 09:20:00, 2010-Feb-14, 12:00:00, 07:40:
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-14, SIN-HND 2010-Feb-14, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-14, SIN-HND 2010-Feb-14, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-14, SIN-HND 2010-Feb-14, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-14, SIN-HND 2010-Feb-14, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-14, SIN-HND 2010-Feb-14, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ12, 2010-Feb-15
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-15, SIN-HND, 2010-Feb-15, 09:20:00, 2010-Feb-15, 12:00:00, 07:40:
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-15, SIN-HND 2010-Feb-15, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-15, SIN-HND 2010-Feb-15, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-15, SIN-HND 2010-Feb-15, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-15, SIN-HND 2010-Feb-15, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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SQ12 2010-Feb-15, SIN-HND 2010-Feb-15, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-16
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Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-16, SIN-HND 2010-Feb-16, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-16, SIN-HND 2010-Feb-16, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-16, SIN-HND 2010-Feb-16, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-16, SIN-HND 2010-Feb-16, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-16, SIN-HND 2010-Feb-16, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-17
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-17, SIN-HND, 2010-Feb-17, 09:20:00, 2010-Feb-17, 12:00:00, 07:40:
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-17, SIN-HND 2010-Feb-17, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
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Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-17, SIN-HND 2010-Feb-17, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-17, SIN-HND 2010-Feb-17, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-17, SIN-HND 2010-Feb-17, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-17, SIN-HND 2010-Feb-17, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ12, 2010-Feb-18
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-18, SIN-HND, 2010-Feb-18, 09:20:00, 2010-Feb-18, 12:00:00, 07:40:
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-18, SIN-HND 2010-Feb-18, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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****************************************
Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-18, SIN-HND 2010-Feb-18, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-18, SIN-HND 2010-Feb-18, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-18, SIN-HND 2010-Feb-18, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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SQ12 2010-Feb-18, SIN-HND 2010-Feb-18, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
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FlightDate: SQ12, 2010-Feb-19
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
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SQ12 2010-Feb-19, SIN-HND, 2010-Feb-19, 09:20:00, 2010-Feb-19, 12:00:00, 07:40:
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LegCabins:
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Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-19, SIN-HND 2010-Feb-19, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-19, SIN-HND 2010-Feb-19, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-19, SIN-HND 2010-Feb-19, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
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Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-19, SIN-HND 2010-Feb-19, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-19, SIN-HND 2010-Feb-19, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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FlightDate: SQ12, 2010-Feb-20
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-20, SIN-HND, 2010-Feb-20, 09:20:00, 2010-Feb-20, 12:00:00, 07:40:
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****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-20, SIN-HND 2010-Feb-20, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-20, SIN-HND 2010-Feb-20, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-20, SIN-HND 2010-Feb-20, Y, 2, 0, 0, 0, 0, 200, 0,
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****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-20, SIN-HND 2010-Feb-20, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-20, SIN-HND 2010-Feb-20, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
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****************************************
FlightDate: SQ12, 2010-Feb-21
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****************************************
Leg-Dates:
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Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-21, SIN-HND, 2010-Feb-21, 09:20:00, 2010-Feb-21, 12:00:00, 07:40:
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LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-21, SIN-HND 2010-Feb-21, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
```

```
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-21, SIN-HND 2010-Feb-21, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-21, SIN-HND 2010-Feb-21, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-21, SIN-HND 2010-Feb-21, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-21, SIN-HND 2010-Feb-21, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-22
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-22, SIN-HND, 2010-Feb-22, 09:20:00, 2010-Feb-22, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-22, SIN-HND 2010-Feb-22, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0, 0,
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Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-22, SIN-HND 2010-Feb-22, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-22, SIN-HND 2010-Feb-22, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-22, SIN-HND 2010-Feb-22, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-22, SIN-HND 2010-Feb-22, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-23
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-23, SIN-HND, 2010-Feb-23, 09:20:00, 2010-Feb-23, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-23, SIN-HND 2010-Feb-23, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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```

```
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-23, SIN-HND 2010-Feb-23, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-23, SIN-HND 2010-Feb-23, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-23, SIN-HND 2010-Feb-23, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-23, SIN-HND 2010-Feb-23, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-24
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-24, SIN-HND, 2010-Feb-24, 09:20:00, 2010-Feb-24, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-24, SIN-HND 2010-Feb-24, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
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Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-24, SIN-HND 2010-Feb-24, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-24, SIN-HND 2010-Feb-24, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-24, SIN-HND 2010-Feb-24, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-24, SIN-HND 2010-Feb-24, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-25
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-25, SIN-HND, 2010-Feb-25, 09:20:00, 2010-Feb-25, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-25, SIN-HND 2010-Feb-25, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-25, SIN-HND 2010-Feb-25, Y, 1, 0, 0, 0, 0, 200, 0,
```

```
SQ12 2010-Feb-25, SIN-HND 2010-Feb-25, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-25, SIN-HND 2010-Feb-25, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-25, SIN-HND 2010-Feb-25, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-26
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-26, SIN-HND, 2010-Feb-26, 09:20:00, 2010-Feb-26, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-26, SIN-HND 2010-Feb-26, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-26, SIN-HND 2010-Feb-26, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-26, SIN-HND 2010-Feb-26, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-26, SIN-HND 2010-Feb-26, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-26, SIN-HND 2010-Feb-26, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-27
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-27, SIN-HND, 2010-Feb-27, 09:20:00, 2010-Feb-27, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-27, SIN-HND 2010-Feb-27, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-27, SIN-HND 2010-Feb-27, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-27, SIN-HND 2010-Feb-27, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
```

```
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-27, SIN-HND 2010-Feb-27, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-27, SIN-HND 2010-Feb-27, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
****************************************
FlightDate: SQ12, 2010-Feb-28
****************************************
****************************************
Leg-Dates:
----------
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset,
      Elapsed, Distance, Capacity,
SQ12 2010-Feb-28, SIN-HND, 2010-Feb-28, 09:20:00, 2010-Feb-28, 12:00:00, 07:40:
      00, 0, -05:00:00, 6300, 0,
****************************************
****************************************
LegCabins:
----------
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group,
      CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice,
SQ12 2010-Feb-28, SIN-HND 2010-Feb-28, Y, 200, 200, 0, 0, 0, 0, 0, 0, 0, 0, 200
      , 9, 0, 0, 0, 0, 0,
****************************************
****************************************
Buckets:
--------
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
****************************************
****************************************
SegmentCabins:
--------------
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQ12 2010-Feb-28, SIN-HND 2010-Feb-28, Y, 1, 0, 0, 0, 0, 200, 0,
SQ12 2010-Feb-28, SIN-HND 2010-Feb-28, Y, 2, 0, 0, 0, 0, 200, 0,
****************************************
****************************************
Subclasses:
-----------
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs,
      GrpBks (pdg), StfBkgs, WLBkgs, ETB, ClassAvl, RevAvl, SegAvl,
SQ12 2010-Feb-28, SIN-HND 2010-Feb-28, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
SQ12 2010-Feb-28, SIN-HND 2010-Feb-28, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0,
      0, 0, 0, 0, 0,
****************************************
```

12.6 Exploring the Predefined BOM Tree

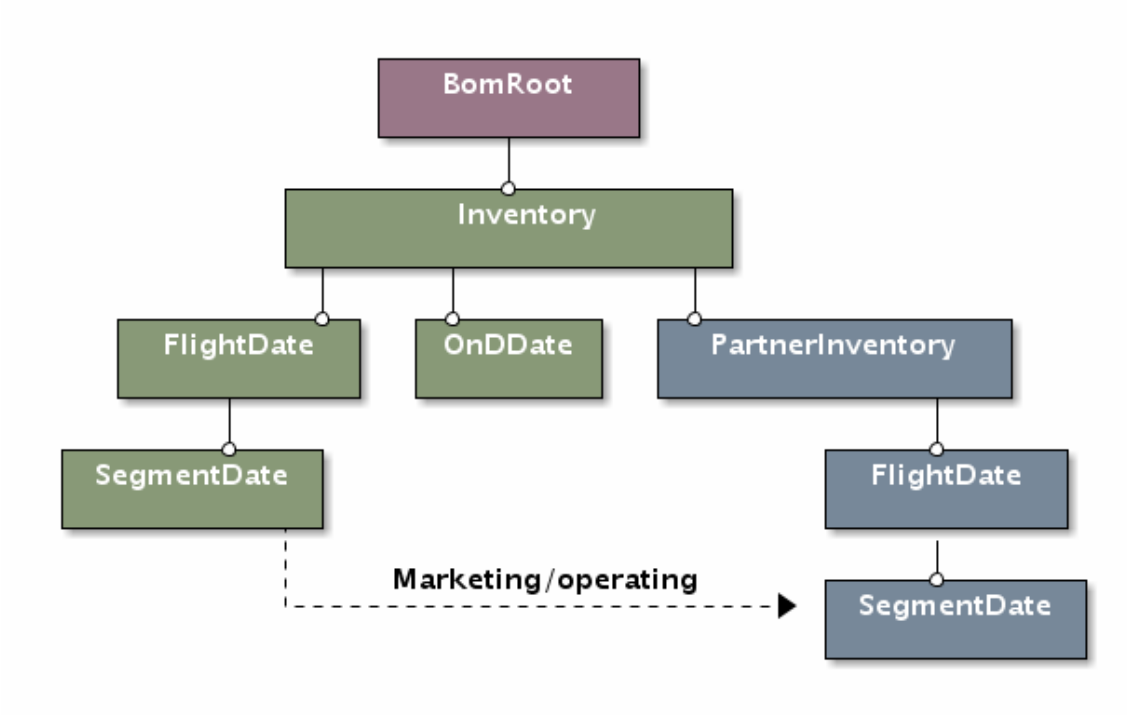


Figure 2: SEvMgr BOM tree

`SEvMgr` predefines a BOM (Business Object Model) tree specific to the airline IT arena.

12.6.1 Airline Network BOM Tree

- `SEVMGR::ReachableUniverse`
- `SEVMGR::OriginDestinationSet`
- `SEVMGR::SegmentPathPeriod`

12.6.2 Airline Schedule BOM Tree

- `stdair::Inventory`
- `stdair::FlightPeriod`
- `stdair::SegmentPeriod`
- `stdair::OnDPeriod`

12.7 Extending the BOM Tree

12.8 The travel solution calculation procedure

The project SEvMgr aims at calculating a list of `travel solutions` for every incoming `booking request`.

13 Supported Systems

13.1 Table of Contents

13.2 Introdution

This page is intended to provide a list of SEvMgr supported systems, i.e. the systems on which configuration, installation and testing process of the SEvMgr library has been sucessful. Results are grouped based on minor release number. Therefore, only the latest tests for bug-fix releases are included. Besides, the information on this page is divided into sections dependent on the operating system.

Where necessary, some extra information is given for each tested configuration, e.g. external libraries installed, configuration commands used, etc.

If you manage to compile, install and test the SEvMgr library on a system not mentioned below, please let us know, so we could update this database.

14 SEvMgr Supported Systems (Previous Releases)

14.1 SEvMgr 3.9.1

14.2 SEvMgr 3.9.0

14.3 SEvMgr 3.8.1

15 Tutorials

15.1 Table of Contents

15.2 Preparing the AirSched Project for Development

The source code for these examples can be found in the `batches` and `test/airsched` directories. They are compiled along with the rest of the `AirSched` project. See the Users Guide for more details on how to build the `AirSched` project.

15.3 Your first networkBuilde

15.3.1 Summary of the different steps

All the steps below can be found in the same order in the batch `AirSched.cpp` program.

First, we instanciate the AIRSCHED_Service object:

Then, we construct a default sample list of travel solutions and a default booking request (as mentionned in ug_procedure_bookingrequest and ug_procedure_travelsolution parts):

For basic use, the default BOM tree can be built using:

The main step is the network building (see The travel solution calculation procedure):

15.3.2 Result of the Batch Program

When the `AirSched.cpp` program is run (with the `-b` option), the log output file should look like:

What is interesting is to compare the travel solution list (here reduced to a single travel solution) displayed before:

and after the network building:

Between the two groups of dashes, we can see that a network option structure has been added by the network builder: the price is 450 EUR for the Y class, the ticket is refundable but there are exchange fees and the customer must stay over on saturday night.

Let's return to our default BOM tree display: the only network rule stored was a match for the travel solution into consideration (same origin airport, same destination airport, flight date included in the network rule date range, same airline "BA", ...).

By looking at the network rule trip type "RT", we can guess we face a round trip network: that means the price given in the default bom tree construction in `stdair::CmdBomManager.hpp` has been divided by 2 because we are considering either an inbound trip or an outbound one.

15.4 Network building with an input file

15.4.1 How to build a network input file?

The objective here is to build a network input file to network builde the default travel solution list built using:

This travel solution list, reduced to a singleton, can be displayed as done before:

We deduce:

- we need a network rule whose origin-destination couple is "LHR, SYD".
- the date range must include the date "2011-06-10".
- the time range must include the time "21:45".
- the airline operating is "BA", so it must be the airline pricing.

We can deduce a part of our network rule file :

We have no information about stay duration and advance purchase (such information are contained into the booking request): so let us put "0" to embrace all the requests possible.

No information for the point-of-sale and the channel too: let us consider all the channels ("IN", "DN", "IF" and DF") and all the points of sale (the origin "LHR", the destination "SYD" and the rest-of-the-world "ROW") existing. To access this information, we could look into the default booking request.

The input file is now:

Let us say we have just the Economy cabin "Y" and Bristish Airways prices ticket for class "Y".

No information about the trip type, so we duplicate all the network rules for both type: one-way "OW" and round-trip "RT" (to access this information, we could look to the default booking request).

The network options are all set to a default value "T" (meaning true) and the network values are chosen to be all distinct.

We obtain:

15.4.2 Building the BOM tree with an input file

The steps are the same as before Summary of the different steps except the bom tree must be built using the network input file :

15.4.3 Result of the Batch Program

When the `AirSched.cpp` program is run with the `-f` option linking with the file built just above:

```
~/AirSched -f ~/<YourFileName>.csv
```

the last lines of the log output should look like:

```
[D]~/AirSchedgit/AirSched/batches/AirSched.cpp:223: Travel solutions:
    [0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- Y, 145, 1 1 1 ---
```

We have just one network option added to the travel solution. We can deduce from the price value 145 that the network builder used the network rule number 15 to price the travel solution. We have an inbound or outbound trip of a round trip: the total price 290 has been divided by 2.

16 Command-Line Test to Demonstrate How To Use Sevmgr elements

```
 */
// //////////////////////////////////////////////////////////////////
// Import section
// //////////////////////////////////////////////////////////////////
// STL
#include <sstream>
#include <fstream>
#include <map>
#include <cmath>
// Boost Unit Test Framework (UTF)
#define BOOST_TEST_DYN_LINK
#define BOOST_TEST_MAIN
#define BOOST_TEST_MODULE EventQueueManagementTest
#include <boost/test/unit_test.hpp>
#include <boost/shared_ptr.hpp>
// StdAir
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/basic/ProgressStatusSet.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/BookingRequestTypes.hpp>
#include <stdair/service/Logger.hpp>
// SEvMgr
#include <sevmgr/SEVMGR_Service.hpp>
#include <sevmgr/config/sevmgr-paths.hpp>

namespace boost_utf = boost::unit_test;

// (Boost) Unit Test XML Report
std::ofstream utfReportStream ("EventQueueManagementTestSuite_utfresults.xml");

struct UnitTestConfig {
  UnitTestConfig() {
    boost_utf::unit_test_log.set_stream (utfReportStream);
    boost_utf::unit_test_log.set_format (boost_utf::XML);
    boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
    //boost_utf::unit_test_log.set_threshold_level
       (boost_utf::log_successful_tests);
  }

  ~UnitTestConfig() {
  }
};
```

```
// Specific type definitions
typedef std::pair<stdair::Count_T, stdair::Count_T> NbOfEventsPair_T;
typedef std::map<const stdair::DemandStreamKeyStr_T,
                 NbOfEventsPair_T> NbOfEventsByDemandStreamMap_T;


// ///////////////// Main: Unit Test Suite ///////////////

// Set the UTF configuration (re-direct the output to a specific file)
BOOST_GLOBAL_FIXTURE (UnitTestConfig);

// Start the test suite
BOOST_AUTO_TEST_SUITE (master_test_suite)


BOOST_AUTO_TEST_CASE (sevmgr_simple_simulation_test) {

  // Output log File
  const stdair::Filename_T lLogFilename ("EventQueueManagementTestSuite.log");

  // Set the log parameters
  std::ofstream logOutputFile;
  // open and clean the log outputfile
  logOutputFile.open (lLogFilename.c_str());
  logOutputFile.clear();

  // Initialise the Sevmgr service object
  const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
  SEVMGR::SEVMGR_Service sevmgrService (lLogParams);

  const bool isQueueDone = sevmgrService.isQueueDone();
  BOOST_REQUIRE_MESSAGE (isQueueDone == true,
                         "The event queue should be empty at this step. No "
                         << "insertion done.");

  sevmgrService.buildSampleQueue ();

  stdair::Count_T lNbOfEvents (sevmgrService.getQueueSize());

  BOOST_REQUIRE_MESSAGE (sevmgrService.isQueueDone() == false,
                         "The event queue should not be empty at this step. "
                         << "Two insertions done.");

  stdair::Count_T idx = 1;
  while (sevmgrService.isQueueDone() == false) {

    // Pop the next event out of the event queue
    stdair::EventStruct lEventStruct;
    const stdair::ProgressStatusSet lPPS =
      sevmgrService.popEvent (lEventStruct);

    // DEBUG
    STDAIR_LOG_DEBUG ("Poped event "<< idx << ": '"
                      << lEventStruct.describe() << "'.");
    STDAIR_LOG_DEBUG ("Progresss status: " << lPPS.describe());
    STDAIR_LOG_DEBUG ("Poped event: '"
                      << lEventStruct.describe() << "'.");

    // Iterate
    ++idx;
  }

  // Compensate for the last iteration
  --idx;
  // Compared the actual number of popped events with the expected one.
  BOOST_REQUIRE_MESSAGE (idx == lNbOfEvents,
                         "Actual number of requests in the queue: "
                         << idx << ". Expected value: " << lNbOfEvents);

  BOOST_REQUIRE_MESSAGE (sevmgrService.isQueueDone() == true,
                         "The event queue should be empty at this step: "
                         "the two events have been popped.");

  STDAIR_LOG_DEBUG ("Re-added the events into the queue");

  // Add again the four events into the queue thanks to
  // sevmgrService.buildSampleQueue().
  // Dates of the break points: 21-JAN-2010 and 14-MAY-2011.
  // Dates of the booking requests: 22-JAN-2010 and 15-MAY-2011.
  sevmgrService.buildSampleQueue ();

  // Pop the next event out of the event queue
  stdair::EventStruct lFirstEventStruct;
  const stdair::ProgressStatusSet lFirstPS =
    sevmgrService.popEvent (lFirstEventStruct);

  // Extract the corresponding date
```

```
  const stdair::DateTime_T& lFirstEventDateTime =
    lFirstEventStruct.getEventTime ();
  const stdair::Date_T& lFirstRequestDate =
    lFirstEventDateTime.date();

  const stdair::Date_T lExpectedDate (2010, boost::gregorian::Jan, 21);
  BOOST_REQUIRE_MESSAGE (lFirstRequestDate == lExpectedDate,
                         "Date of the first event popped from the queue: "
                         << lFirstRequestDate << ". Should be: "
                         << lExpectedDate << " which is earlier in time.");

  STDAIR_LOG_DEBUG ("Reset the queue");
  sevmgrService.reset();

  BOOST_REQUIRE_MESSAGE (sevmgrService.isQueueDone() == true,
                         "The event queue has been reset: it should be empty "
                         << "at this step.");

  STDAIR_LOG_DEBUG ("Re-added the events into the queue one more time");

  // Add again the four events into the queue thanks to
  // sevmgrService.buildSampleQueue().
  // Dates of the break points: 21-JAN-2010 and 14-MAY-2011.
  // Dates of the booking requests: 22-JAN-2010 and 15-MAY-2011.
  sevmgrService.buildSampleQueue ();

  stdair::EventStruct lBreakPointStruct;
  sevmgrService.run(lBreakPointStruct);
  stdair::EventType::EN_EventType lBreakPointType =
    lBreakPointStruct.getEventType();

  BOOST_REQUIRE_MESSAGE (lBreakPointType == stdair::EventType::BRK_PT,
                         "The last event poppped from the queue should be a "
                         << "break point.");

  sevmgrService.run(lBreakPointStruct);
  lBreakPointType = lBreakPointStruct.getEventType();

  BOOST_REQUIRE_MESSAGE (lBreakPointType == stdair::EventType::BRK_PT,
                         "The last event poppped from the queue should be a "
                         << "break point.");

  // Extract the corresponding date
  const stdair::DateTime_T& lBPDateTime =
    lBreakPointStruct.getEventTime ();
  const stdair::Date_T& lBPDate =
    lBPDateTime.date();

  const stdair::Date_T lExpectedBPDate (2011, boost::gregorian::May, 14);
  BOOST_REQUIRE_MESSAGE (lBPDate == lExpectedBPDate,
                         "Date of the second break point popped from the queue:
      "
                         << lBPDate << ". Should be: "
                         << lExpectedBPDate << ".");

  // DEBUG
  STDAIR_LOG_DEBUG ("End of the simulation");

  // Close the log file
  logOutputFile.close();
}

// End the test suite
BOOST_AUTO_TEST_SUITE_END()

/*!
```

17 Namespace Index

17.1 Namespace List

Here is a list of all namespaces with brief descriptions:

18 Class Index

18.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

std::basic_fstream< char >
std::basic_fstream< wchar_t >
std::basic_ifstream< char >
std::basic_ifstream< wchar_t >
std::basic_ios< char >
std::basic_ios< wchar_t >
std::basic_iostream< char >
std::basic_iostream< wchar_t >
std::basic_istream< char >
std::basic_istream< wchar_t >
std::basic_istringstream< char >
std::basic_istringstream< wchar_t >
std::basic_ofstream< char >
std::basic_ofstream< wchar_t >
std::basic_ostream< char >
std::basic_ostream< wchar_t >
std::basic_ostringstream< char >
std::basic_ostringstream< wchar_t >
std::basic_string< char >
std::basic_string< wchar_t >
std::basic_stringstream< char >
std::basic_stringstream< wchar_t >

19 Class Index

19.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

20 File Index

20.1 File List

Here is a list of all files with brief descriptions:

21 Namespace Documentation

21.1 bpt Namespace Reference

Typedefs

- typedef char ptree

21.1.1 Typedef Documentation

21.1.1.1 typedef char bpt::ptree

Definition at line 24 of file BomJSONExport.cpp.

21.2 SEVMGR Namespace Reference

Classes

- class BomJSONExport

  Utility class to export StdAir objects in a JSON format.
- class EventQueue

  Class holding event structures.
- struct EventQueueKey
- class EventQueueManager

  Utility class for Demand and DemandStream objects.
- class FacSEVMGRServiceContext
- struct PYEventQueueManager
- class SEVMGR_ServiceContext

  Class holding the context of the Sevmgr services.
- class SEvMgrException
- class EventQueueException
- class SEVMGR_Service

  class holding the services related to Travel Demand Generation.

Typedefs

- typedef char char_t
- typedef boost::spirit::classic::file_iterator < char_t > iterator_t
- typedef boost::spirit::classic::scanner < iterator_t > scanner_t
- typedef boost::spirit::classic::rule < scanner_t > rule_t
- typedef boost::spirit::classic::int_parser < unsigned int, 10, 1, 1 > int1_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 2, 2 > uint2_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 1, 2 > uint1_2_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 1, 3 > uint1_3_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 4, 4 > uint4_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 1, 4 > uint1_4_p_t
- typedef boost::spirit::classic::chset < char_t > chset_t

- typedef boost::spirit::classic::impl::loop_traits < chset_t, unsigned int, unsigned int >::type repeat_p_t
- typedef boost::spirit::classic::bounded < uint2_p_t, unsigned int > bounded2_p_t
- typedef boost::spirit::classic::bounded < uint1_2_p_t, unsigned int > bounded1_2_p_t
- typedef boost::spirit::classic::bounded < uint1_3_p_t, unsigned int > bounded1_3_p_t
- typedef boost::spirit::classic::bounded < uint4_p_t, unsigned int > bounded4_p_t
- typedef boost::spirit::classic::bounded < uint1_4_p_t, unsigned int > bounded1_4_p_t
- typedef std::list< EventQueue * > EventQueueList_T
- typedef std::map< const stdair::MapKey_T, EventQueue * > EventQueueMap_T
- typedef boost::shared_ptr < SEVMGR_Service > SEVMGR_ServicePtr_T
- typedef std::string EventQueueID_T
- typedef std::map < stdair::EventType::EN_EventType, stdair::ProgressStatus > ProgressStatusMap_T

Functions

- const EventQueueID_T DEFAULT_EVENT_QUEUE_ID ("EQ01")

Variables

- const EventQueueID_T DEFAULT_EVENT_QUEUE_ID

21.2.1 Typedef Documentation

21.2.1.1 typedef char SEVMGR::char_t

Definition at line 31 of file BasParserTypes.hpp.

21.2.1.2 typedef boost::spirit::classic::file_iterator<char_t> SEVMGR::iterator_t

Definition at line 35 of file BasParserTypes.hpp.

21.2.1.3 typedef boost::spirit::classic::scanner<iterator_t> SEVMGR::scanner_t

Definition at line 36 of file BasParserTypes.hpp.

21.2.1.4 typedef boost::spirit::classic::rule<scanner_t> SEVMGR::rule_t

Definition at line 37 of file BasParserTypes.hpp.

21.2.1.5 typedef boost::spirit::classic::int_parser<unsigned int, 10, 1, 1> SEVMGR::int1_p_t

1-digit-integer parser

Definition at line 45 of file BasParserTypes.hpp.

21.2.1.6 typedef boost::spirit::classic::uint_parser<unsigned int, 10, 2, 2> SEVMGR::uint2_p_t

2-digit-integer parser

Definition at line 48 of file BasParserTypes.hpp.

21.2.1.7 typedef boost::spirit::classic::uint_parser<unsigned int, 10, 1, 2> SEVMGR::uint1_2_p_t

Up-to-2-digit-integer parser

Definition at line 51 of file BasParserTypes.hpp.

21.2.1.8 typedef boost::spirit::classic::uint_parser<unsigned int, 10, 1, 3> SEVMGR::uint1_3_p_t

Up-to-3-digit-integer parser

Definition at line 54 of file BasParserTypes.hpp.

21.2.1.9 typedef boost::spirit::classic::uint_parser<unsigned int, 10, 4, 4> SEVMGR::uint4_p_t

4-digit-integer parser

Definition at line 57 of file BasParserTypes.hpp.

21.2.1.10 typedef boost::spirit::classic::uint_parser<unsigned int, 10, 1, 4> SEVMGR::uint1_4_p_t

Up-to-4-digit-integer parser

Definition at line 60 of file BasParserTypes.hpp.

21.2.1.11 typedef boost::spirit::classic::chset<char_t> SEVMGR::chset_t

character set

Definition at line 63 of file BasParserTypes.hpp.

21.2.1.12 typedef boost::spirit::classic::impl::loop_traits<chset_t, unsigned int, unsigned int>::type SEVMGR::repeat_p_t

(Repeating) sequence of a given number of characters: repeat_p(min, max)

Definition at line 69 of file BasParserTypes.hpp.

21.2.1.13 typedef boost::spirit::classic::bounded<uint2_p_t, unsigned int> SEVMGR::bounded2_p_t

Bounded-number-of-integers parser

Definition at line 72 of file BasParserTypes.hpp.

21.2.1.14 typedef boost::spirit::classic::bounded<uint1_2_p_t, unsigned int> SEVMGR::bounded1_2_p_t

Definition at line 73 of file BasParserTypes.hpp.

21.2.1.15 typedef boost::spirit::classic::bounded<uint1_3_p_t, unsigned int> SEVMGR::bounded1_3_p_t

Definition at line 74 of file BasParserTypes.hpp.

21.2.1.16 typedef boost::spirit::classic::bounded<uint4_p_t, unsigned int> SEVMGR::bounded4_p_t

Definition at line 75 of file BasParserTypes.hpp.

21.2.1.17 typedef boost::spirit::classic::bounded<uint1_4_p_t, unsigned int> SEVMGR::bounded1_4_p_t

Definition at line 76 of file BasParserTypes.hpp.

21.2.1.18 typedef std::list<EventQueue*> SEVMGR::EventQueueList_T

Define the EventQueue list.

Definition at line 17 of file EventQueueTypes.hpp.

21.2.1.19 typedef std::map<const stdair::MapKey_T, EventQueue*> SEVMGR::EventQueueMap_T

Define the EventQueue map.

Definition at line 23 of file EventQueueTypes.hpp.

21.2.1.20 typedef boost::shared_ptr<SEVMGR_Service> SEVMGR::SEVMGR_ServicePtr_T

(Smart) Pointer on the SEvMgr service handler.

Definition at line 18 of file SEVMGR_Types.hpp.

21.2.1.21 typedef std::string SEVMGR::EventQueueID_T

Define an ID for an EventQueue object.

Definition at line 27 of file SEVMGR_Types.hpp.

21.2.1.22 typedef std::map<stdair::EventType::EN_EventType, stdair::ProgressStatus> SEVMGR::ProgressStatusMap_T

Definition of the (STL) map of ProgressStatus structures, one for each event type (e.g., booking request, optimisation notification).

Definition at line 35 of file SEVMGR_Types.hpp.

21.2.2 Function Documentation

21.2.2.1 const EventQueueID_T SEVMGR::DEFAULT_EVENT_QUEUE_ID ("EQ01")

Default name for the SEVMGR_Service. Default ID for the event queue.

21.2.3 Variable Documentation

21.2.3.1 const EventQueueID_T SEVMGR::DEFAULT_EVENT_QUEUE_ID

Default ID for the event queue.

21.3 stdair Namespace Reference

Forward declarations.

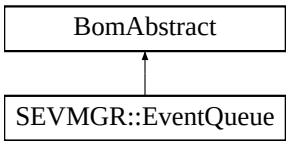
21.3.1 Detailed Description

Forward declarations.

22 Class Documentation

22.1 BomAbstract Class Reference

Inheritance diagram for BomAbstract:



The documentation for this class was generated from the following file:

- sevmgr/bom/EventQueue.hpp

22.2 SEVMGR::BomJSONExport Class Reference

Utility class to export StdAir objects in a JSON format.

`#include <sevmgr/bom/BomJSONExport.hpp>`

Static Public Member Functions

- static void jsonExportEventQueue (stdair::STDAIR_ServicePtr_T &, std::ostream &, const EventQueue &, const stdair::EventType::EN_EventType &)

22.2.1 Detailed Description

Utility class to export StdAir objects in a JSON format.

Definition at line 34 of file BomJSONExport.hpp.

22.2.2 Member Function Documentation

22.2.2.1 void SEVMGR::BomJSONExport::jsonExportEventQueue (stdair::STDAIR_ServicePtr_T & *ioSTDAIR_ServicePtr,* std::ostream & *oStream,* const EventQueue & *iEventQueue,* const stdair::EventType::EN_EventType & *iEventType*) [static]

Export (dump in the underlying output log stream and in JSON format) the event struct objects contained in the event queue.

::STDAIR_ServicePtr_T& Pointer on the StdAir service handler.

Parameters

std::ostream&	Output stream in which the events should be logged/dumped.
const	EventQueue& Events queue to be stored in JSON-ified format.
const	stdair::EventType::EN_EventType& Filter to select objects with a certain event type.

Definition at line 32 of file BomJSONExport.cpp.

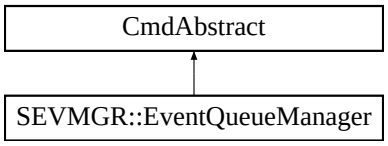
References SEVMGR::EventQueue::getEventList().

The documentation for this class was generated from the following files:

- sevmgr/bom/BomJSONExport.hpp
- sevmgr/bom/BomJSONExport.cpp

22.3 CmdAbstract Class Reference

Inheritance diagram for CmdAbstract:



The documentation for this class was generated from the following file:

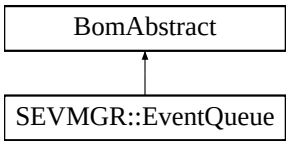
- sevmgr/command/EventQueueManager.hpp

22.4 SEVMGR::EventQueue Class Reference

Class holding event structures.

`#include <sevmgr/bom/EventQueue.hpp>`

Inheritance diagram for SEVMGR::EventQueue:



Public Types

- typedef EventQueueKey Key_T

Public Member Functions

- const Key_T & getKey () const
- BomAbstract ∗const getParent () const
- const stdair::EventList_T & getEventList () const
- const stdair::HolderMap_T & getHolderMap () const
- const stdair::ProgressStatus & getStatus () const
- const stdair::Count_T & getCurrentNbOfEvents () const
- const stdair::Count_T & getExpectedTotalNbOfEvents () const
- const stdair::Count_T & getActualTotalNbOfEvents () const
- const stdair::ProgressStatus & getStatus (const stdair::EventType::EN_EventType &) const
- const stdair::Count_T & getCurrentNbOfEvents (const stdair::EventType::EN_EventType &) const
- const stdair::Count_T & getExpectedTotalNbOfEvents (const stdair::EventType::EN_EventType &) const
- const stdair::Count_T & getActualTotalNbOfEvents (const stdair::EventType::EN_EventType &) const
- bool hasProgressStatus (const stdair::EventType::EN_EventType &) const
- void setStatus (const stdair::ProgressStatus &iProgressStatus)
- void setStatus (const stdair::Count_T &iCurrentNbOfEvents, const stdair::Count_T &iExpectedTotalNbOfEvents, const stdair::Count_T &iActualTotalNbOfEvents)
- void setStatus (const stdair::Count_T &iCurrentNbOfEvents, const stdair::Count_T &iActualTotalNbOfEvents)
- void setCurrentNbOfEvents (const stdair::Count_T &iCurrentNbOfEvents)
- void setExpectedTotalNbOfEvents (const stdair::Count_T &iExpectedTotalNbOfEvents)

- void setStatus (const stdair::EventType::EN_EventType &iType, const stdair::ProgressStatus &iProgressStatus)
- void toStream (std::ostream &ioOut) const
- void fromStream (std::istream &ioIn)
- std::string toString () const
- std::string list () const
- std::string list (const stdair::EventType::EN_EventType &) const
- const std::string describeKey () const
- std::string display () const
- void reset ()
- stdair::ProgressStatusSet popEvent (stdair::EventStruct &)
- bool addEvent (stdair::EventStruct &)
- bool hasEventDateTime (const stdair::DateTime_T &)
- bool isQueueDone () const
- void addStatus (const stdair::EventType::EN_EventType &, const stdair::NbOfRequests_T &iExpectedTotalNbOfEvents)
- void updateStatus (const stdair::EventType::EN_EventType &, const stdair::ProgressStatus &iProgressStatus)
- void updateStatus (const stdair::EventType::EN_EventType &, const stdair::NbOfEvents_T &iActualTotalNbOfEvents)
- stdair::ProgressPercentage_T calculateProgress () const
- stdair::ProgressPercentage_T calculateProgress (const stdair::EventType::EN_EventType &) const
- stdair::Count_T getQueueSize () const
- bool isQueueEmpty () const

Protected Member Functions

- EventQueue (const Key_T &)
- EventQueue (const EventQueue &)
- ~EventQueue ()

Protected Attributes

- Key_T _key
- BomAbstract * _parent
- stdair::HolderMap_T _holderMap
- stdair::EventList_T _eventList
- stdair::ProgressStatus _progressStatus
- ProgressStatusMap_T _progressStatusMap

Friends

- class stdair::FacBom
- class stdair::FacBomManager

22.4.1 Detailed Description

Class holding event structures.

Event types may be:

- booking requests,
- optimisation notifications,

- (simulation) break point,
- schedule changes.

The event content would be, respectively:

- a demand stream (generating booking requests),
- a DCP rule (generation optimisation notifications),
- a break point rule (generating simulation break points),
- a schedule update (generating schedule changes).

The EventQueue object keeps track of the simulation progress, overall and broken down (independently) both by event type and by content key. Following is a full example:

- Break down by event type:
  - Booking request: 9 events out of {expected: 20, actual: 20}
  - Optimisation notification: 7 events out of {expected: 32, actual: 32}
- Break down by content key:
  - "SIN-BKK" demand stream: 5 events out of {expected: 10, actual: 11}
  - "SIN-NRT" demand stream: 4 events out of {expected: 10, actual: 9}
  - "SQ 12" DCP rule: 2 events out of {expected: 16, actual: 16}
  - "SQ 25" DCP rule: 5 events out of {expected: 16, actual: 16}
- Overall status: 16 events out of {expected: 52, actual: 52}

Definition at line 68 of file EventQueue.hpp.

22.4.2 Member Typedef Documentation

22.4.2.1 typedef EventQueueKey SEVMGR::EventQueue::Key_T

Definition allowing to retrieve the associated BOM key type.

Definition at line 77 of file EventQueue.hpp.

22.4.3 Constructor & Destructor Documentation

22.4.3.1 SEVMGR::EventQueue::EventQueue (const Key_T & *iKey*) [protected]

Constructor.

Definition at line 25 of file EventQueue.cpp.

22.4.3.2 SEVMGR::EventQueue::EventQueue (const EventQueue & *iEventQueue*) [protected]

Default copy constructor.

Definition at line 32 of file EventQueue.cpp.

22.4.3.3 SEVMGR::EventQueue::~EventQueue ( ) [protected]

Destructor.

Definition at line 40 of file EventQueue.cpp.

References _eventList.

22.4.4 Member Function Documentation

22.4.4.1 const Key_T& SEVMGR::EventQueue::getKey ( ) const [inline]

Get the event queue key.

Definition at line 83 of file EventQueue.hpp.

References _key.

22.4.4.2 BomAbstract* const SEVMGR::EventQueue::getParent ( ) const [inline]

Get the parent object.

Definition at line 88 of file EventQueue.hpp.

References _parent.

22.4.4.3 const stdair::EventList_T& SEVMGR::EventQueue::getEventList ( ) const [inline]

Get the list of events.

Definition at line 93 of file EventQueue.hpp.

References _eventList.

Referenced by SEVMGR::BomJSONExport::jsonExportEventQueue().

22.4.4.4 const stdair::HolderMap_T& SEVMGR::EventQueue::getHolderMap ( ) const [inline]

Get the map of children holders.

Definition at line 98 of file EventQueue.hpp.

References _holderMap.

22.4.4.5 const stdair::ProgressStatus& SEVMGR::EventQueue::getStatus ( ) const [inline]

Get the overall progress status (for the whole event queue).

Definition at line 103 of file EventQueue.hpp.

References _progressStatus.

Referenced by popEvent().

22.4.4.6 const stdair::Count_T& SEVMGR::EventQueue::getCurrentNbOfEvents ( ) const [inline]

Get the current number of events (for the whole event queue).

Definition at line 107 of file EventQueue.hpp.

References _progressStatus.

22.4.4.7 const stdair::Count_T& SEVMGR::EventQueue::getExpectedTotalNbOfEvents ( ) const [inline]

Get the expected total number of events (for the whole event queue).

Definition at line 111 of file EventQueue.hpp.

References _progressStatus.

22.4.4.8 const stdair::Count_T& SEVMGR::EventQueue::getActualTotalNbOfEvents ( ) const [inline]

Get the actual total number of events (for the whole event queue).

Definition at line 115 of file EventQueue.hpp.

References _progressStatus.

22.4.4.9 const stdair::ProgressStatus & SEVMGR::EventQueue::getStatus (const stdair::EventType::EN_EventType & *iType*) const

Get the progress status for the given event type (e.g., booking request, optimisation notification, schedule change, break point).

Definition at line 324 of file EventQueue.cpp.

References _progressStatusMap, and display().

22.4.4.10 const stdair::Count_T & SEVMGR::EventQueue::getCurrentNbOfEvents (const stdair::EventType::EN_EventType & *iType*) const

Get the current number of events for the given event type.

Definition at line 157 of file EventQueue.cpp.

References _progressStatusMap, and display().

22.4.4.11 const stdair::Count_T & SEVMGR::EventQueue::getExpectedTotalNbOfEvents (const stdair::EventType::EN_EventType & *iType*) const

Get the expected total number of events for the given event type.

Definition at line 176 of file EventQueue.cpp.

References _progressStatusMap, and display().

22.4.4.12 const stdair::Count_T & SEVMGR::EventQueue::getActualTotalNbOfEvents (const stdair::EventType::EN_EventType & *iType*) const

Get the actual total number of events for the given event type.

Definition at line 198 of file EventQueue.cpp.

References _progressStatusMap, and display().

22.4.4.13 bool SEVMGR::EventQueue::hasProgressStatus (const stdair::EventType::EN_EventType & *iType*) const

Check if the event queue has already a progress status for the given event type

Definition at line 136 of file EventQueue.cpp.

References _progressStatusMap, and display().

22.4.4.14 void SEVMGR::EventQueue::setStatus (const stdair::ProgressStatus & *iProgressStatus*) [inline]

Set/update the progress status.

Definition at line 141 of file EventQueue.hpp.

References _progressStatus.

Referenced by popEvent().

22.4.4.15 void SEVMGR::EventQueue::setStatus (const stdair::Count_T & *iCurrentNbOfEvents*, const stdair::Count_T & *iExpectedTotalNbOfEvents*, const stdair::Count_T & *iActualTotalNbOfEvents*) [inline]

Set/update the progress status.

Definition at line 145 of file EventQueue.hpp.

References _progressStatus.

22.4.4.16 void SEVMGR::EventQueue::setStatus (const stdair::Count_T & *iCurrentNbOfEvents*, const stdair::Count_T & *iActualTotalNbOfEvents*) [inline]

Set/update the progress status.

Definition at line 153 of file EventQueue.hpp.

References _progressStatus.

22.4.4.17 void SEVMGR::EventQueue::setCurrentNbOfEvents (const stdair::Count_T & *iCurrentNbOfEvents*) [inline]

Set the current number of events (for the whole event queue).

Definition at line 159 of file EventQueue.hpp.

References _progressStatus.

22.4.4.18 void SEVMGR::EventQueue::setExpectedTotalNbOfEvents (const stdair::Count_T & *iExpectedTotalNbOfEvents*) [inline]

Set the expected total number of events (for the whole event queue).

Definition at line 163 of file EventQueue.hpp.

References _progressStatus.

22.4.4.19 void SEVMGR::EventQueue::setStatus (const stdair::EventType::EN_EventType & *iType,* const stdair::ProgressStatus & *iProgressStatus*)

Set the progress status for the given event type (e.g., booking request, optimisation notification, schedule change, break point).

Definition at line 308 of file EventQueue.cpp.

References _progressStatusMap.

22.4.4.20 void SEVMGR::EventQueue::toStream (std::ostream & *ioOut*) const [inline]

Dump a Business Object into an output stream.

Parameters

ostream&	the output stream.

Definition at line 182 of file EventQueue.hpp.

References toString().

22.4.4.21 void SEVMGR::EventQueue::fromStream (std::istream & *ioIn*) [inline]

Read a Business Object from an input stream.

Parameters

istream&	the input stream.

Definition at line 191 of file EventQueue.hpp.

22.4.4.22 std::string SEVMGR::EventQueue::toString ( ) const

Get the serialised version of the Business Object.

Definition at line 45 of file EventQueue.cpp.

References _eventList, and _progressStatus.

Referenced by display(), list(), toStream(), and updateStatus().

22.4.4.23 std::string SEVMGR::EventQueue::list ( ) const

Get the event list decsription.

Definition at line 64 of file EventQueue.cpp.

References _eventList, describeKey(), and toString().

22.4.4.24 std::string SEVMGR::EventQueue::list (const stdair::EventType::EN_EventType & *iType*) const

Get the event list decsription for a given event type

Definition at line 82 of file EventQueue.cpp.

References _eventList, describeKey(), and toString().

22.4.4.25 const std::string SEVMGR::EventQueue::describeKey ( ) const [inline]

Get a string describing the key.

Definition at line 213 of file EventQueue.hpp.

References _key, and SEVMGR::EventQueueKey::toString().

Referenced by list(), and popEvent().

22.4.4.26 std::string SEVMGR::EventQueue::display ( ) const

Definition at line 55 of file EventQueue.cpp.

References toString().

Referenced by calculateProgress(), getActualTotalNbOfEvents(), getCurrentNbOfEvents(), getExpectedTotalNbOfEvents(), getStatus(), and hasProgressStatus().

22.4.4.27 void SEVMGR::EventQueue::reset ( )

Reset the event queue.

The event queue is fully emptied.

Definition at line 118 of file EventQueue.cpp.

References _eventList, _progressStatus, and _progressStatusMap.

22.4.4.28 stdair::ProgressStatusSet SEVMGR::EventQueue::popEvent (stdair::EventStruct & *ioEventStruct*)

Pop the next coming (in time) event, and remove it from the event queue.

- The next coming (in time) event corresponds to the event having the earliest date-time stamp. In other words, it is the first/front element of the event queue.
- That (first) event/element is then removed from the event queue
- The progress status is updated for the corresponding event generator.

Definition at line 365 of file EventQueue.cpp.

References _eventList, _progressStatus, describeKey(), getStatus(), and setStatus().

22.4.4.29 bool SEVMGR::EventQueue::addEvent (stdair::EventStruct & *ioEventStruct*)

Add event.

If there already is an event with the same date-time, move the given event one nanosecond forward, and retry the insertion until it succeeds.

That method:

- first adds the event structure in the dedicated list,
- then retrieves the corresponding demand stream,

- and update accordingly the corresponding progress statuses.

Parameters

stdair::Event-Struct&	The reference on EventStruct is not constant, because the EventStruct object can be altered: its date-time stamp can be changed accordingly to the location where it has been inserted in the event queue.

Definition at line 433 of file EventQueue.cpp.

References _eventList.

22.4.4.30 bool SEVMGR::EventQueue::hasEventDateTime (const stdair::DateTime_T & *iDateTime*)

Find the event with the given date time, if such event existed.

Definition at line 466 of file EventQueue.cpp.

References _eventList.

22.4.4.31 bool SEVMGR::EventQueue::isQueueDone ( ) const

States whether the event queue has reached the end.

For now, that method states whether the event queue is empty.

Definition at line 112 of file EventQueue.cpp.

References _eventList, and isQueueEmpty().

22.4.4.32 void SEVMGR::EventQueue::addStatus (const stdair::EventType::EN_EventType & , const stdair::NbOfRequests_T & *iExpectedTotalNbOfEvents*)

Initialise the progress statuses for the given event type (e.g., request, snapshot).

The progress status is actually a pair of counters:

- The current number of (already generated) events, for the given event type. That number is initialised to 0 (no event has been generated yet).
- The total number of events (to be generated), also for the given event type.

Definition at line 257 of file EventQueue.cpp.

References _progressStatus, and updateStatus().

22.4.4.33 void SEVMGR::EventQueue::updateStatus (const stdair::EventType::EN_EventType & *iType*, const stdair::ProgressStatus & *iProgressStatus*)

Set/update the progress status for the corresponding event type (e.g., booking request, optimisation notification, schedule change, break point).

If there is no ProgressStatus object for that event type yet, one is inserted. Otherwise, the ProgressStatus object is updated.

Definition at line 216 of file EventQueue.cpp.

References _progressStatusMap, and toString().

Referenced by addStatus().

22.4.4.34 void SEVMGR::EventQueue::updateStatus (const stdair::EventType::EN_EventType & *iType*, const stdair::NbOfEvents_T & *iActualTotalNbOfEvents*)

Update the progress statuses for the given event type (e.g., booking request, optimisation notification, schedule change, break point).

The progress status is actually a pair of counters:

- The current number of (already generated) events, for the given event type. That number is initialised to 0 (no event has been generated yet).
- The total number of events (to be generated), also for the given event type.

Definition at line 282 of file EventQueue.cpp.

References _progressStatus, and _progressStatusMap.

22.4.4.35 stdair::ProgressPercentage_T SEVMGR::EventQueue::calculateProgress ( ) const [inline]

Calculate the progress status.

The progress is status is the ratio of:

- the current number of events, summed over all the demand streams,
- over the total number of events, also summed over all the demand streams.

Definition at line 338 of file EventQueue.hpp.

References _progressStatus.

22.4.4.36 stdair::ProgressPercentage_T SEVMGR::EventQueue::calculateProgress (const stdair::EventType::EN_EventType & *iType*) const

Calculate the progress status.

The progress is status is the ratio of:

- the current number of events, summed over all the demand streams,
- over the total number of events, also summed over all the demand streams.

Definition at line 347 of file EventQueue.cpp.

References _progressStatusMap, and display().

22.4.4.37 stdair::Count_T SEVMGR::EventQueue::getQueueSize ( ) const

Queue size

Definition at line 102 of file EventQueue.cpp.

References _eventList.

22.4.4.38 bool SEVMGR::EventQueue::isQueueEmpty ( ) const

Is queue empty

Definition at line 107 of file EventQueue.cpp.

References _eventList.

Referenced by isQueueDone().

22.4.5 Friends And Related Function Documentation

22.4.5.1 friend class stdair::FacBom [friend]

Definition at line 69 of file EventQueue.hpp.

22.4.5.2 friend class stdair::FacBomManager [friend]

Definition at line 70 of file EventQueue.hpp.

22.4.6 Member Data Documentation

22.4.6.1 Key_T SEVMGR::EventQueue::_key [protected]

Primary key (ID).

Definition at line 382 of file EventQueue.hpp.

Referenced by describeKey(), and getKey().

22.4.6.2 BomAbstract* SEVMGR::EventQueue::_parent [protected]

Pointer on the parent class (BomRoot).

Definition at line 387 of file EventQueue.hpp.

Referenced by getParent().

22.4.6.3 stdair::HolderMap_T SEVMGR::EventQueue::_holderMap [protected]

Map holding the children (e.g., DemandStream objects for booking requests, DCPRule objects for optimisation notifications).

Definition at line 394 of file EventQueue.hpp.

Referenced by getHolderMap().

22.4.6.4 stdair::EventList_T SEVMGR::EventQueue::_eventList [protected]

List of events.

Definition at line 399 of file EventQueue.hpp.

Referenced by addEvent(), getEventList(), getQueueSize(), hasEventDateTime(), isQueueDone(), isQueueEmpty(), list(), popEvent(), reset(), toString(), and ~EventQueue().

22.4.6.5 stdair::ProgressStatus SEVMGR::EventQueue::_progressStatus [protected]

Counters holding the overall progress status.

Definition at line 404 of file EventQueue.hpp.

Referenced by addStatus(), calculateProgress(), getActualTotalNbOfEvents(), getCurrentNbOfEvents(), getExpectedTotalNbOfEvents(), getStatus(), popEvent(), reset(), setCurrentNbOfEvents(), setExpectedTotalNbOfEvents(), setStatus(), toString(), and updateStatus().

22.4.6.6 ProgressStatusMap_T SEVMGR::EventQueue::_progressStatusMap [protected]

Counters holding the overall progress status, for each event type (e.g., booking request, optimisation notification, schedule change, break point).

Definition at line 411 of file EventQueue.hpp.

Referenced by calculateProgress(), getActualTotalNbOfEvents(), getCurrentNbOfEvents(), getExpectedTotalNbOfEvents(), getStatus(), hasProgressStatus(), reset(), setStatus(), and updateStatus().

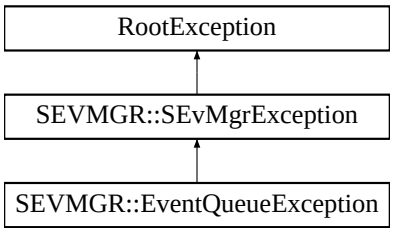
The documentation for this class was generated from the following files:

- sevmgr/bom/EventQueue.hpp
- sevmgr/bom/EventQueue.cpp

22.5 SEVMGR::EventQueueException Class Reference

`#include <sevmgr/SEVMGR_Exceptions.hpp>`

Inheritance diagram for SEVMGR::EventQueueException:



Public Member Functions

- EventQueueException (const std::string &iWhat)

22.5.1 Detailed Description

EventQueue.

Definition at line 28 of file SEVMGR_Exceptions.hpp.

22.5.2 Constructor & Destructor Documentation

22.5.2.1 SEVMGR::EventQueueException::EventQueueException (const std::string & *iWhat*) [inline]

Constructor.

Definition at line 31 of file SEVMGR_Exceptions.hpp.

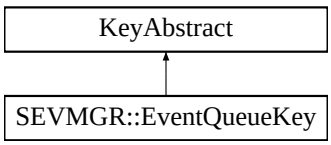
The documentation for this class was generated from the following file:

- sevmgr/SEVMGR_Exceptions.hpp

22.6 SEVMGR::EventQueueKey Struct Reference

`#include <sevmgr/bom/EventQueueKey.hpp>`

Inheritance diagram for SEVMGR::EventQueueKey:



Public Member Functions

- EventQueueKey (const EventQueueID_T &)
- EventQueueKey (const EventQueueKey &)
- ~EventQueueKey ()
- const EventQueueID_T & getEventQueueID () const
- void toStream (std::ostream &ioOut) const

- void fromStream (std::istream &ioIn)
- const std::string toString () const

22.6.1 Detailed Description

Key of eventqueue.

Definition at line 17 of file EventQueueKey.hpp.

22.6.2 Constructor & Destructor Documentation

22.6.2.1 SEVMGR::EventQueueKey::EventQueueKey (const EventQueueID_T & *iEventQueueID*)

Constructors.

Definition at line 12 of file EventQueueKey.cpp.

22.6.2.2 SEVMGR::EventQueueKey::EventQueueKey (const EventQueueKey & *iKey*)

Definition at line 16 of file EventQueueKey.cpp.

22.6.2.3 SEVMGR::EventQueueKey::~EventQueueKey ( )

Destructor.

Definition at line 21 of file EventQueueKey.cpp.

22.6.3 Member Function Documentation

22.6.3.1 const EventQueueID_T& SEVMGR::EventQueueKey::getEventQueueID ( ) const [inline]

Get the ID of the EventQueue object.

Definition at line 33 of file EventQueueKey.hpp.

22.6.3.2 void SEVMGR::EventQueueKey::toStream (std::ostream & *ioOut*) const

Dump a Business Object Key into an output stream.

Parameters

ostream&	the output stream.

Definition at line 25 of file EventQueueKey.cpp.

References toString().

22.6.3.3 void SEVMGR::EventQueueKey::fromStream (std::istream & *ioIn*)

Read a Business Object Key from an input stream.

Parameters

istream&	the input stream.

Definition at line 30 of file EventQueueKey.cpp.

22.6.3.4 const std::string SEVMGR::EventQueueKey::toString ( ) const

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Definition at line 34 of file EventQueueKey.cpp.

Referenced by SEVMGR::EventQueue::describeKey(), and toStream().

The documentation for this struct was generated from the following files:

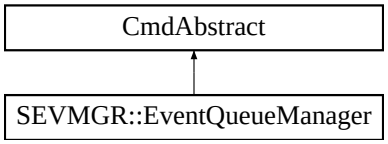
- sevmgr/bom/EventQueueKey.hpp
- sevmgr/bom/EventQueueKey.cpp

22.7 SEVMGR::EventQueueManager Class Reference

Utility class for Demand and DemandStream objects.

`#include <sevmgr/command/EventQueueManager.hpp>`

Inheritance diagram for SEVMGR::EventQueueManager:



Friends

- class SEVMGR_Service

22.7.1 Detailed Description

Utility class for Demand and DemandStream objects.

Definition at line 27 of file EventQueueManager.hpp.

22.7.2 Friends And Related Function Documentation

22.7.2.1 friend class SEVMGR_Service [friend]

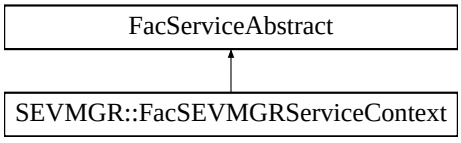
Definition at line 28 of file EventQueueManager.hpp.

The documentation for this class was generated from the following files:

- sevmgr/command/EventQueueManager.hpp
- sevmgr/command/EventQueueManager.cpp

22.8 FacServiceAbstract Class Reference

Inheritance diagram for FacServiceAbstract:



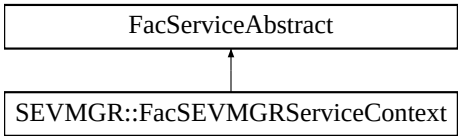
The documentation for this class was generated from the following file:

- sevmgr/factory/FacSEVMGRServiceContext.hpp

22.9 SEVMGR::FacSEVMGRServiceContext Class Reference

`#include <sevmgr/factory/FacSEVMGRServiceContext.hpp>`

Inheritance diagram for SEVMGR::FacSEVMGRServiceContext:



Public Member Functions

- ~FacSEVMGRServiceContext ()
- SEVMGR_ServiceContext & create ()

Static Public Member Functions

- static FacSEVMGRServiceContext & instance ()

Protected Member Functions

- FacSEVMGRServiceContext ()

22.9.1 Detailed Description

Factory for Bucket.

Definition at line 18 of file FacSEVMGRServiceContext.hpp.

22.9.2 Constructor & Destructor Documentation

22.9.2.1 SEVMGR::FacSEVMGRServiceContext::~FacSEVMGRServiceContext ( )

Destructor.

The Destruction put the _instance to NULL in order to be clean for the next FacSEVMGRServiceContext::instance().

Definition at line 17 of file FacSEVMGRServiceContext.cpp.

22.9.2.2 SEVMGR::FacSEVMGRServiceContext::FacSEVMGRServiceContext ( ) [inline], [protected]

Default Constructor.

This constructor is protected in order to ensure the singleton pattern.

Definition at line 42 of file FacSEVMGRServiceContext.hpp.

Referenced by instance().

22.9.3 Member Function Documentation

22.9.3.1 FacSEVMGRServiceContext & SEVMGR::FacSEVMGRServiceContext::instance ( ) [static]

Provide the unique instance.

The singleton is instantiated when first used

Returns

FacSEVMGRServiceContext&

Definition at line 22 of file FacSEVMGRServiceContext.cpp.

References FacSEVMGRServiceContext().

22.9.3.2 SEVMGR_ServiceContext & SEVMGR::FacSEVMGRServiceContext::create ( )

Create a new SEVMGR_ServiceContext object.

This new object is added to the list of instantiated objects.

Returns

SEVMGR_ServiceContext& The newly created object.

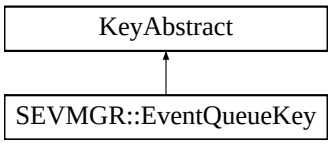
Definition at line 34 of file FacSEVMGRServiceContext.cpp.

The documentation for this class was generated from the following files:

- sevmgr/factory/FacSEVMGRServiceContext.hpp
- sevmgr/factory/FacSEVMGRServiceContext.cpp

22.10 KeyAbstract Class Reference

Inheritance diagram for KeyAbstract:



The documentation for this class was generated from the following file:

- sevmgr/bom/EventQueueKey.hpp

22.11 SEVMGR::PYEventQueueManager Struct Reference

Public Member Functions

- std::string sevmgr ()
- PYEventQueueManager ()
- PYEventQueueManager (const PYEventQueueManager &iPYEventQueueManager)
- ~PYEventQueueManager ()
- bool init (const std::string &iLogFilepath, const std::string &iDBUser, const std::string &iDBPasswd, const std::string &iDBHost, const std::string &iDBPort, const std::string &iDBDBName)

22.11.1 Detailed Description

Definition at line 22 of file pysevmgr.cpp.

22.11.2 Constructor & Destructor Documentation

22.11.2.1 SEVMGR::PYEventQueueManager::PYEventQueueManager ( ) [inline]

Default constructor.

Definition at line 76 of file pysevmgr.cpp.

22.11.2.2 SEVMGR::PYEventQueueManager::PYEventQueueManager (const PYEventQueueManager & *iPYEventQueueManager*) [inline]

Default copy constructor.

Definition at line 80 of file pysevmgr.cpp.

22.11.2.3 SEVMGR::PYEventQueueManager::~PYEventQueueManager ( ) [inline]

Default constructor.

Definition at line 86 of file pysevmgr.cpp.

22.11.3 Member Function Documentation

22.11.3.1 std::string SEVMGR::PYEventQueueManager::sevmgr ( ) [inline]

Wrapper around the travel demand generation use case.

Definition at line 25 of file pysevmgr.cpp.

Referenced by BOOST_PYTHON_MODULE().

22.11.3.2 bool SEVMGR::PYEventQueueManager::init (const std::string & *iLogFilepath,* const std::string & *iDBUser,* const std::string & *iDBPasswd,* const std::string & *iDBHost,* const std::string & *iDBPort,* const std::string & *iDBDBName*) [inline]

Wrapper around the search use case.

Definition at line 92 of file pysevmgr.cpp.

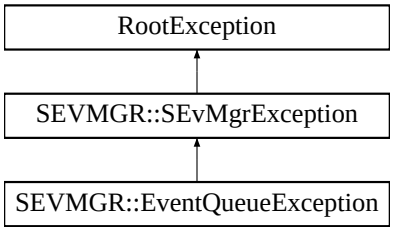
Referenced by BOOST_PYTHON_MODULE().

The documentation for this struct was generated from the following file:

- sevmgr/python/pysevmgr.cpp

22.12 RootException Class Reference

Inheritance diagram for RootException:

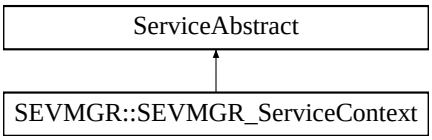


The documentation for this class was generated from the following file:

- sevmgr/SEVMGR_Exceptions.hpp

22.13 ServiceAbstract Class Reference

Inheritance diagram for ServiceAbstract:



The documentation for this class was generated from the following file:

- sevmgr/service/SEVMGR_ServiceContext.hpp

22.14 SEVMGR::SEVMGR_Service Class Reference

class holding the services related to Travel Demand Generation.

`#include <sevmgr/SEVMGR_Service.hpp>`

Public Member Functions

- SEVMGR_Service (const stdair::BasLogParams &, const stdair::BasDBParams &)
  Constructor.
- SEVMGR_Service (const stdair::BasLogParams &)
- SEVMGR_Service (stdair::STDAIR_ServicePtr_T)
- ~SEVMGR_Service ()
- void buildSampleQueue ()
- stdair::BookingRequestStruct buildSampleBookingRequest (const bool isForCRS=false)
- stdair::ProgressStatusSet popEvent (stdair::EventStruct &) const
- void run (stdair::EventStruct &) const
- bool select (stdair::EventStruct &, const stdair::DateTime_T &) const
- template<class EventGenerator >
  void addEventGenerator (EventGenerator &iEventGenerator) const
- void addEvent (stdair::EventStruct &) const
- void reset () const
- void updateStatus (const stdair::EventType::EN_EventType &, const stdair::Count_T &) const
- void addStatus (const stdair::EventType::EN_EventType &, const stdair::Count_T &) const
- bool isQueueDone () const
- bool hasProgressStatus (const stdair::EventType::EN_EventType &) const
- EventQueue & getEventQueue () const
- const stdair::Count_T & getQueueSize () const
- template<class EventGenerator , class Key >
  EventGenerator & getEventGenerator (const Key &iKey) const
- template<class EventGenerator , class Key >
  bool hasEventGenerator (const Key &iKey) const
- template<class EventGenerator >
  const std::list< EventGenerator * > getEventGeneratorList () const

- template<class EventGenerator >
  bool hasEventGeneratorList () const
- const stdair::Count_T & getExpectedTotalNumberOfEventsToBeGenerated () const
- const stdair::Count_T & getExpectedTotalNumberOfEventsToBeGenerated (const stdair::EventType::EN_EventType &) const
- const stdair::Count_T & getActualTotalNumberOfEventsToBeGenerated () const
- const stdair::Count_T & getActualTotalNumberOfEventsToBeGenerated (const stdair::EventType::EN_EventType &) const
- const stdair::ProgressStatus & getStatus () const
- const stdair::ProgressStatus & getStatus (const stdair::EventType::EN_EventType &) const
- std::string describeKey () const
- std::string list () const
- std::string list (const stdair::EventType::EN_EventType &) const
- std::string jsonHandler (const stdair::JSONString &) const
- std::string jsonExportEventQueue (const stdair::EventType::EN_EventType &=stdair::EventType::LAST_VALUE) const
- std::string jsonExportEvent (const stdair::EventStruct &) const

22.14.1 Detailed Description

class holding the services related to Travel Demand Generation.

Definition at line 32 of file SEVMGR_Service.hpp.

22.14.2 Constructor & Destructor Documentation

22.14.2.1 SEVMGR::SEVMGR_Service::SEVMGR_Service (const stdair::BasLogParams & *iLogParams*, const stdair::BasDBParams & *iDBParams*)

Constructor.

The initSevmgrService() method is called; see the corresponding documentation for more details.

A reference on an output stream is given, so that log outputs can be directed onto that stream.

Moreover, database connection parameters are given, so that a session can be created on the corresponding database.

Parameters

const	stdair::BasLogParams& Parameters for the output log stream.
const	stdair::BasDBParams& Parameters for the database access.

Definition at line 43 of file SEVMGR_Service.cpp.

22.14.2.2 SEVMGR::SEVMGR_Service::SEVMGR_Service (const stdair::BasLogParams & *iLogParams*)

Constructor.

The initSevmgrService() method is called; see the corresponding documentation for more details.

A reference on an output stream is given, so that log outputs can be directed onto that stream.

Parameters

const	stdair::BasLogParams& Parameters for the output log stream.

Definition at line 64 of file SEVMGR_Service.cpp.

22.14.2.3 SEVMGR::SEVMGR_Service::SEVMGR_Service (stdair::STDAIR_ServicePtr_T *ioSTDAIR_Service_ptr*)

Constructor.

The initSevmgrService() method is called; see the corresponding documentation for more details.

Moreover, as no reference on any output stream is given, neither any database access parameter is given, it is assumed that the StdAir log service has already been initialised with the proper log output stream by some other methods in the calling chain (for instance, when the SEVMGR_Service is itself being initialised by another library service such as TVLSIM_Service).

Parameters

stdair::STDAIR_ServicePtr_T	Handler on the STDAIR_Service.

Definition at line 85 of file SEVMGR_Service.cpp.

22.14.2.4 SEVMGR::SEVMGR_Service::~SEVMGR_Service ( )

Destructor.

Definition at line 101 of file SEVMGR_Service.cpp.

22.14.3 Member Function Documentation

22.14.3.1 void SEVMGR::SEVMGR_Service::buildSampleQueue ( )

Build a sample event queue.

Definition at line 175 of file SEVMGR_Service.cpp.

Referenced by main().

22.14.3.2 stdair::BookingRequestStruct SEVMGR::SEVMGR_Service::buildSampleBookingRequest (const bool *isForCRS* = `false`)

Build a sample booking request structure.

As of now (March 2011), the sample booking request is made of the following parameters:

- Return trip (inbound): LHR-SYD (POS: LHR, Channel: DN),
- Departing 10-JUN-2011 around 8:00, staying 7 days
- Requested on 15-MAY-2011 at 10:00
- Economy cabin, 3 persons, FF member
- WTP: 1000.0 EUR
- Dis-utility: 100.0 EUR/hour

As of now (March 2011), the CRS-related booking request is made of the following parameters:

- Return trip (inbound): SIN-BKK (POS: SIN, Channel: IN),
- Departing 30-JAN-2010 around 10:00, staying 7 days
- Requested on 22-JAN-2010 at 10:00
- Economy cabin, 3 persons, FF member
- WTP: 1000.0 EUR
- Dis-utility: 100.0 EUR/hour

See also

stdair::CmdBomManager for more details.

Parameters

const	bool isForCRS Whether the sample booking request is for CRS.

Returns

BookingRequestStruct& Sample booking request structure.

Definition at line 200 of file SEVMGR_Service.cpp.

22.14.3.3 stdair::ProgressStatusSet SEVMGR::SEVMGR_Service::popEvent (stdair::EventStruct & *iEventStruct*) const

Pop the next coming (in time) event, and remove it from the event queue.

- The next coming (in time) event corresponds to the event having the earliest date-time stamp. In other words, it is the first/front element of the event queue.
- That (first) event/element is then removed from the event queue
- The progress status is updated for the corresponding event generator.

Returns

stdair::EventStruct A copy of the event structure, which comes first in time from within the event queue.

Definition at line 398 of file SEVMGR_Service.cpp.

Referenced by main().

22.14.3.4 void SEVMGR::SEVMGR_Service::run (stdair::EventStruct & *iEventStruct*) const

Played all events and stopped when the first break point was encountered.

Returns

stdair::EventStruct A copy of the break point which came first in time within the event queue. If no break point was encountered, return a copy of the last event within the event queue.

Definition at line 417 of file SEVMGR_Service.cpp.

22.14.3.5 bool SEVMGR::SEVMGR_Service::select (stdair::EventStruct & *iEventStruct,* const stdair::DateTime_T & *iEventDateTime*) const

Selected the event with the given date time, if such event existed.

Returns

stdair::EventStruct A copy of the event with the given date time. If no event with the given DateTime was encountered, no copy are returned.

Parameters

const	stdair::DateTime_T Date time of the event to be returned.

Returns

bool States whether an event with the given date time had been encountered and thus returned.

/Note All events occuring before the selected one are played. Thus, the copy returned is the copy of the current first event of the queue.

Definition at line 437 of file SEVMGR_Service.cpp.

22.14.3.6 template<class EventGenerator > void SEVMGR::SEVMGR_Service::addEventGenerator (EventGenerator & *iEventGenerator*) const

Add an event generator to the map holding the children of the queue. Be careful, this method is not implemented: its implementation is left to the appelant according the EventGenerator type.

Note

An instance of implementation of that method can be found in the TraDemGen service.

22.14.3.7 void SEVMGR::SEVMGR_Service::addEvent (stdair::EventStruct & *iEventStruct*) const

Add an event to the queue.

Definition at line 596 of file SEVMGR_Service.cpp.

22.14.3.8 void SEVMGR::SEVMGR_Service::reset ( ) const

Reset the context of the event generators for another event generation without having to reparse the demand input file.

Definition at line 561 of file SEVMGR_Service.cpp.

22.14.3.9 void SEVMGR::SEVMGR_Service::updateStatus (const stdair::EventType::EN_EventType & *iEventType,* const stdair::Count_T & *iEventCount*) const

Update the progress status for the given event type (e.g., booking request, optimisation notification, schedule change, break point).

Parameters

const	stdair::EventType::EN_EventType& Type of the events for which the actual total count is updated.

Returns

const stdair::Count_T& Expected Actual count of such events already generated

Definition at line 458 of file SEVMGR_Service.cpp.

22.14.3.10 void SEVMGR::SEVMGR_Service::addStatus (const stdair::EventType::EN_EventType & *iEventType,* const stdair::Count_T & *iEventCount*) const

Initialise the progress statuses for the given event type (e.g., request, snapshot).

Parameters

const	stdair::EventType::EN_EventType& Type of the events for which the actual total count is updated.

Returns

const stdair::Count_T& Expected Actual count of such events already generated

Definition at line 478 of file SEVMGR_Service.cpp.

22.14.3.11 bool SEVMGR::SEVMGR_Service::isQueueDone ( ) const

States whether the event queue has reached the end.

For now, that method states whether the event queue is empty.

Definition at line 497 of file SEVMGR_Service.cpp.

Referenced by main().

22.14.3.12 bool SEVMGR::SEVMGR_Service::hasProgressStatus (const stdair::EventType::EN_EventType & *iEventType*) const

Check if the event queue has already a progress status for the given event type

Definition at line 519 of file SEVMGR_Service.cpp.

22.14.3.13 EventQueue & SEVMGR::SEVMGR_Service::getEventQueue ( ) const

Definition at line 580 of file SEVMGR_Service.cpp.

22.14.3.14 const stdair::Count_T & SEVMGR::SEVMGR_Service::getQueueSize ( ) const

Get the size of the queue.

Definition at line 542 of file SEVMGR_Service.cpp.

22.14.3.15 template<class EventGenerator , class Key > EventGenerator& SEVMGR::SEVMGR_Service::getEventGenerator (const Key & *iKey*) const

Extract an event generator from the map holding the children of the queue. Be careful, this method is not implemented: its implementation is left to the appelant according the EventGenerator type.

Note

An instance of implementation of that method can be found in the TraDemGen service.

22.14.3.16 template<class EventGenerator , class Key > bool SEVMGR::SEVMGR_Service::hasEventGenerator (const Key & *iKey*) const

Check whether the event generator object with the given key exists.

Be careful, this method is not implemented: its implementation is left to the appelant according the EventGenerator type.

Note

An instance of implementation of that method can be found in the TraDemGen service.

22.14.3.17 template<class EventGenerator > const std::list<EventGenerator*> SEVMGR::SEVMGR_Service::getEventGeneratorList ( ) const

Extract the event generator list from the map holding the children of the queue. Be careful, this method is not implemented: its implementation is left to the appelant according the EventGenerator type.

Note

An instance of implementation of that method can be found in the TraDemGen service.

22.14.3.18 template<class EventGenerator > bool SEVMGR::SEVMGR_Service::hasEventGeneratorList ( ) const

Check whether there are event generator objects.

Be careful, this method is not implemented: its implementation is left to the appelant according the EventGenerator type.

Note

An instance of implementation of that method can be found in the TraDemGen service.

22.14.3.19 const stdair::Count_T & SEVMGR::SEVMGR_Service::getExpectedTotalNumberOfEventsToBeGenerated ( ) const

Get the expected number of events to be generated.

The getExpectedTotalNbOfEvents() method is called on the underlying EventQueue object, which keeps track of that number.

Note

That number usually corresponds to an expectation (i.e., the mean value of a random distribution), and may not be accurate. The actual number will be known after calling the generateFirstEvents() method for each event type (e.g., booking request, optimisation notification, etc).

Returns

const Count_T& Expected number of events to be generated.

Definition at line 616 of file SEVMGR_Service.cpp.

Referenced by getExpectedTotalNumberOfEventsToBeGenerated().

22.14.3.20 const stdair::Count_T & SEVMGR::SEVMGR_Service::getExpectedTotalNumberOfEventsToBeGenerated (const stdair::EventType::EN_EventType & *iEventType*) const

Get the expected number of events to be generated for the given event type.

The getExpectedTotalNbOfEvents() method is called on the underlying EventQueue object, which keeps track of that number.

Note

That number usually corresponds to an expectation (i.e., the mean value of a random distribution), and may not be accurate. The actual number will be known after calling the generateFirstEvents() method for each event type (e.g., booking request, optimisation notification, etc).

Parameters

const	EventType_T& Event type for which the number is calculated.

Returns

const Count_T& Expected number of events to be generated.

Definition at line 636 of file SEVMGR_Service.cpp.

References getExpectedTotalNumberOfEventsToBeGenerated().

22.14.3.21 const stdair::Count_T & SEVMGR::SEVMGR_Service::getActualTotalNumberOfEventsToBeGenerated ( ) const

Get the actual number of events to be generated for all the event generators.

The getActualTotalNbOfEvents() method is called on the underlying EventQueue object, which keeps track of that number.

Note

That number is being known after calling the generateFirstEvents() method.

Returns

const Count_T& Expected number of events to be generated.

Definition at line 657 of file SEVMGR_Service.cpp.

Referenced by getActualTotalNumberOfEventsToBeGenerated().

22.14.3.22 const stdair::Count_T & SEVMGR::SEVMGR_Service::getActualTotalNumberOfEventsToBeGenerated (const stdair::EventType::EN_EventType & *iEventType*) const

Get the expected number of events to be generated for the given event type.

The getExpectedTotalNbOfEvents() method is called on the underlying EventQueue object, which keeps track of that number.

Note

That number usually corresponds to an expectation (i.e., the mean value of a random distribution), and may not be accurate. The actual number will be known after calling the generateFirstEvents() method for each event type (e.g., booking request, optimisation notification, etc).

Parameters

const	EventType_T& Event type for which the number is calculated.

Returns

const Count_T& Expected number of events to be generated.

Definition at line 678 of file SEVMGR_Service.cpp.

References getActualTotalNumberOfEventsToBeGenerated().

22.14.3.23 const stdair::ProgressStatus & SEVMGR::SEVMGR_Service::getStatus ( ) const

Get the overall progress status (for the whole event queue).

Definition at line 715 of file SEVMGR_Service.cpp.

Referenced by getStatus().

22.14.3.24 const stdair::ProgressStatus & SEVMGR::SEVMGR_Service::getStatus (const stdair::EventType::EN_EventType & *iEventType*) const

Get the progress status for the given event type (e.g., booking request, optimisation notification, schedule change, break point).

Definition at line 736 of file SEVMGR_Service.cpp.

References getStatus().

22.14.3.25 std::string SEVMGR::SEVMGR_Service::describeKey ( ) const

Display (dump in the returned string) the key of the event queue.

Returns

std::string Output string in which the key is logged/dumped.

Definition at line 224 of file SEVMGR_Service.cpp.

22.14.3.26 std::string SEVMGR::SEVMGR_Service::list ( ) const

Display (dump in the returned string) the event list of the event queue.

Returns

std::string Output string in which the events are logged/dumped.

Definition at line 243 of file SEVMGR_Service.cpp.

Referenced by list().

22.14.3.27 std::string SEVMGR::SEVMGR_Service::list (const stdair::EventType::EN_EventType & *iEventType*) const

Display (dump in the returned string) the event list for the given event type (e.g., booking request, optimisation notification, schedule change, break point).

Parameters

const	EventType_T& Event type for which the events are displayed

Returns

std::string Output string in which the events are logged/dumped.

Definition at line 263 of file SEVMGR_Service.cpp.

References list().

22.14.3.28 std::string SEVMGR::SEVMGR_Service::jsonHandler (const stdair::JSONString & *iJSONString*) const

Dispatch the JSon command string to the corresponding service.

Parameters

const	stdair::JSONString& Input string which contained the JSon command string.

Returns

std::string Output string in which the asking objects are logged/dumped with a JSon format.

Definition at line 283 of file SEVMGR_Service.cpp.

References jsonExportEventQueue().

22.14.3.29 std::string SEVMGR::SEVMGR_Service::jsonExportEventQueue (const stdair::EventType::EN_EventType & *iEventType* = `stdair::EventType::LAST_VALUE`) const

Dump in the returned string and in JSON format the whole list of events queue.

Definition at line 342 of file SEVMGR_Service.cpp.

Referenced by jsonHandler().

22.14.3.30 std::string SEVMGR::SEVMGR_Service::jsonExportEvent (const stdair::EventStruct & *iEvent*) const

Dump in the returned string and in JSON format the given event.

Definition at line 372 of file SEVMGR_Service.cpp.

The documentation for this class was generated from the following files:

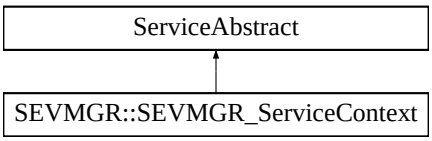
- sevmgr/SEVMGR_Service.hpp
- sevmgr/service/SEVMGR_Service.cpp

22.15 SEVMGR::SEVMGR_ServiceContext Class Reference

Class holding the context of the Sevmgr services.

`#include <sevmgr/service/SEVMGR_ServiceContext.hpp>`

Inheritance diagram for SEVMGR::SEVMGR_ServiceContext:



Friends

- class SEVMGR_Service
- class FacSEVMGRServiceContext

22.15.1 Detailed Description

Class holding the context of the Sevmgr services.

Definition at line 30 of file SEVMGR_ServiceContext.hpp.

22.15.2 Friends And Related Function Documentation

22.15.2.1 friend class SEVMGR_Service [friend]

The SEVMGR_Service class should be the sole class to get access to ServiceContext content: general users do not want to bother with a context interface.

Definition at line 36 of file SEVMGR_ServiceContext.hpp.

22.15.2.2 friend class FacSEVMGRServiceContext [friend]

Definition at line 37 of file SEVMGR_ServiceContext.hpp.

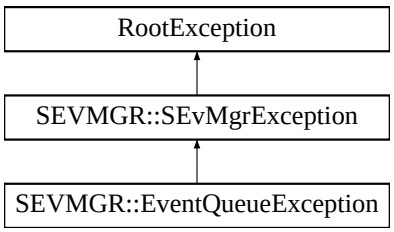
The documentation for this class was generated from the following files:

- sevmgr/service/SEVMGR_ServiceContext.hpp
- sevmgr/service/SEVMGR_ServiceContext.cpp

22.16 SEVMGR::SEvMgrException Class Reference

`#include <sevmgr/SEVMGR_Exceptions.hpp>`

Inheritance diagram for SEVMGR::SEvMgrException:



Public Member Functions

- SEvMgrException (const std::string &iWhat)

22.16.1 Detailed Description

Root exception for the Sevmgr component

Definition at line 18 of file SEVMGR_Exceptions.hpp.

22.16.2 Constructor & Destructor Documentation

22.16.2.1 SEVMGR::SEvMgrException::SEvMgrException (const std::string & *iWhat*) [inline]

Constructor.

Definition at line 23 of file SEVMGR_Exceptions.hpp.

The documentation for this class was generated from the following file:

- sevmgr/SEVMGR_Exceptions.hpp

23 File Documentation

23.1 doc/local/authors.doc File Reference

23.2 doc/local/codingrules.doc File Reference

23.3 doc/local/copyright.doc File Reference

23.4 doc/local/documentation.doc File Reference

23.5 doc/local/features.doc File Reference

23.6 doc/local/help_wanted.doc File Reference

23.7 doc/local/howto_release.doc File Reference

23.8 doc/local/index.doc File Reference

23.9 doc/local/installation.doc File Reference

23.10 doc/local/linking.doc File Reference

23.11 doc/local/test.doc File Reference

23.12 doc/local/users_guide.doc File Reference

23.13 doc/local/verification.doc File Reference

23.14 doc/tutorial/tutorial.doc File Reference

23.15 sevmgr/basic/BasConst.cpp File Reference

```
#include <stdair/basic/BasConst_General.hpp>
#include <sevmgr/basic/BasConst_SEVMGR_Service.hpp>
#include <sevmgr/basic/BasConst_EventQueueManager.hpp>
```

Namespaces

- namespace SEVMGR

Functions

- const EventQueueID_T SEVMGR::DEFAULT_EVENT_QUEUE_ID ("EQ01")

23.16 BasConst.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // StdAir
00005 #include <stdair/basic/BasConst_General.hpp>
00006 // Sevmgr
00007 #include <sevmgr/basic/BasConst_SEVMGR_Service.hpp
      >
00008 #include <sevmgr/basic/BasConst_EventQueueManager.hpp
      >
00009
00010 namespace SEVMGR {
00011
00013   // const std::string DEFAULT_SEVMGR_SERVICE_NAME = "sevmgr";
00014
00016   const EventQueueID_T DEFAULT_EVENT_QUEUE_ID
       ("EQ01");
00017
00018 }
```

23.17 sevmgr/basic/BasConst_EventQueueManager.hpp File Reference

```
#include <string>
#include <sevmgr/SEVMGR_Types.hpp>
```

Namespaces

- namespace SEVMGR

Variables

- const EventQueueID_T SEVMGR::DEFAULT_EVENT_QUEUE_ID

23.18 BasConst_EventQueueManager.hpp

```
00001 #ifndef __SEVMGR_BAS_BASCONST_EVENTQUEUEMANAGER_HPP
00002 #define __SEVMGR_BAS_BASCONST_EVENTQUEUEMANAGER_HPP
00003
00004 // ////////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 //SEvMgr
00010 #include <sevmgr/SEVMGR_Types.hpp>
00011
00012 namespace SEVMGR {
00013
00015   extern const EventQueueID_T DEFAULT_EVENT_QUEUE_ID
      ;
00016
00017 }
00018 #endif // __SEVMGR_BAS_BASCONST_EVENTQUEUEMANAGER_HPP
```

23.19 sevmgr/basic/BasConst_SEVMGR_Service.hpp File Reference

```
#include <string>
```

Namespaces

- namespace SEVMGR

23.20 BasConst_SEVMGR_Service.hpp

```
00001 #ifndef __SEVMGR_BAS_BASCONST_SEVMGR_SERVICE_HPP
00002 #define __SEVMGR_BAS_BASCONST_SEVMGR_SERVICE_HPP
00003
00004 // ////////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////////////////////////////////////////
00007 #include <string>
00008
00009 namespace SEVMGR {
00010
00012   // extern const std::string DEFAULT_SEVMGR_SERVICE_NAME;
00013
00014 }
00015 #endif // __SEVMGR_BAS_BASCONST_SEVMGR_SERVICE_HPP
```

23.21 sevmgr/basic/BasParserTypes.hpp File Reference

```
#include <string>
#include <boost/spirit/home/classic/core.hpp>
#include <boost/spirit/home/classic/utility/loops.hpp>
#include <boost/spirit/home/classic/utility/chset.hpp>
#include <boost/spirit/home/classic/utility/confix.hpp>
#include <boost/spirit/home/classic/iterator/file_iterator.hpp>
```

Namespaces

- namespace SEVMGR

Typedefs

- typedef char SEVMGR::char_t

- typedef boost::spirit::classic::file_iterator < char_t > SEVMGR::iterator_t
- typedef boost::spirit::classic::scanner < iterator_t > SEVMGR::scanner_t
- typedef boost::spirit::classic::rule < scanner_t > SEVMGR::rule_t
- typedef boost::spirit::classic::int_parser < unsigned int, 10, 1, 1 > SEVMGR::int1_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 2, 2 > SEVMGR::uint2_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 1, 2 > SEVMGR::uint1_2_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 1, 3 > SEVMGR::uint1_3_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 4, 4 > SEVMGR::uint4_p_t
- typedef boost::spirit::classic::uint_parser < unsigned int, 10, 1, 4 > SEVMGR::uint1_4_p_t
- typedef boost::spirit::classic::chset < char_t > SEVMGR::chset_t
- typedef boost::spirit::classic::impl::loop_traits < chset_t, unsigned int, unsigned int >::type SEVMGR::repeat_p_t
- typedef boost::spirit::classic::bounded < uint2_p_t, unsigned int > SEVMGR::bounded2_p_t
- typedef boost::spirit::classic::bounded < uint1_2_p_t, unsigned int > SEVMGR::bounded1_2_p_t
- typedef boost::spirit::classic::bounded < uint1_3_p_t, unsigned int > SEVMGR::bounded1_3_p_t
- typedef boost::spirit::classic::bounded < uint4_p_t, unsigned int > SEVMGR::bounded4_p_t
- typedef boost::spirit::classic::bounded < uint1_4_p_t, unsigned int > SEVMGR::bounded1_4_p_t

23.22 BasParserTypes.hpp

```
00001 #ifndef __SEVMGR_BAS_BASCOMPARSERTYPES_HPP
00002 #define __SEVMGR_BAS_BASCOMPARSERTYPES_HPP
00003
00004 // ////////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////////////////////////////////////////
00007 // STL
```

```
00008 #include <string>
00009 // Boost
00010 //#define BOOST_SPIRIT_DEBUG
00011 #include <boost/spirit/home/classic/core.hpp>
00012 //#include <boost/spirit/home/classic/attribute.hpp>
00013 //#include <boost/spirit/home/classic/utility/functor_parser.hpp>
00014 #include <boost/spirit/home/classic/utility/loops.hpp>
00015 #include <boost/spirit/home/classic/utility/chset.hpp>
00016 #include <boost/spirit/home/classic/utility/confix.hpp>
00017 #include <boost/spirit/home/classic/iterator/file_iterator.hpp>
00018 //#include <boost/spirit/home/classic/actor/push_back_actor.hpp>
00019 //#include <boost/spirit/home/classic/actor/assign_actor.hpp>
00020
00021 namespace SEVMGR {
00022
00023   // ////////////////////////////////////////////////////////////////////////
00024   //
00025   //  Definition of Basic Types
00026   //
00027   // ////////////////////////////////////////////////////////////////////////
00028   // For a file, the parsing unit is the character (char). For a string,
00029   // it is a "char const *".
00030   // typedef char const* iterator_t;
00031   typedef char char_t;
00032
00033   // The types of iterator, scanner and rule are then derived from
00034   // the parsing unit.
00035   typedef boost::spirit::classic::file_iterator<char_t> iterator_t;
00036   typedef boost::spirit::classic::scanner<iterator_t> scanner_t;
00037   typedef boost::spirit::classic::rule<scanner_t> rule_t;
00038
00039   // ////////////////////////////////////////////////////////////////////////
00040   //
00041   //  Parser related types
00042   //
00043   // ////////////////////////////////////////////////////////////////////////
00045   typedef boost::spirit::classic::int_parser<unsigned int, 10, 1, 1> int1_p_t
      ;
00046
00048   typedef boost::spirit::classic::uint_parser<unsigned int, 10, 2, 2> uint2_p_t
      ;
00049
00051   typedef boost::spirit::classic::uint_parser<unsigned int, 10, 1, 2>
      uint1_2_p_t;
00052
00054   typedef boost::spirit::classic::uint_parser<unsigned int, 10, 1, 3>
      uint1_3_p_t;
00055
00057   typedef boost::spirit::classic::uint_parser<unsigned int, 10, 4, 4> uint4_p_t
      ;
00058
00060   typedef boost::spirit::classic::uint_parser<unsigned int, 10, 1, 4>
      uint1_4_p_t;
00061
00063   typedef boost::spirit::classic::chset<char_t> chset_t;
00064
00067   typedef boost::spirit::classic::impl::loop_traits<chset_t,
00068                                                     unsigned int,
00069                                                     unsigned int>::type repeat_p_t
      ;
00070
00072   typedef boost::spirit::classic::bounded<uint2_p_t, unsigned int> bounded2_p_t
      ;
00073   typedef boost::spirit::classic::bounded<uint1_2_p_t, unsigned int>
      bounded1_2_p_t;
00074   typedef boost::spirit::classic::bounded<uint1_3_p_t, unsigned int>
      bounded1_3_p_t;
00075   typedef boost::spirit::classic::bounded<uint4_p_t, unsigned int> bounded4_p_t
      ;
00076   typedef boost::spirit::classic::bounded<uint1_4_p_t, unsigned int>
      bounded1_4_p_t;
00077 }
00078 #endif // __SEVMGR_BAS_BASCOMPARSERTYPES_HPP
```

23.23 sevmgr/batches/sevmgr_demo.cpp File Reference

```
#include <cassert>
```

```
#include <sstream>
#include <fstream>
#include <vector>
#include <list>
#include <string>
#include <boost/program_options.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/basic/ProgressStatusSet.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <stdair/bom/BomDisplay.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/BookingRequestTypes.hpp>
#include <sevmgr/SEVMGR_Service.hpp>
#include <sevmgr/config/sevmgr-paths.hpp>
```

Functions

- const stdair::Filename_T K_SEVMGR_DEFAULT_LOG_FILENAME ("sevmgr_demo.log")
- int readConfiguration (int argc, char *argv[], stdair::Filename_T &ioLogFilename)
- int main (int argc, char *argv[])

Variables

- const int K_SEVMGR_EARLY_RETURN_STATUS = 99

23.23.1 Function Documentation

23.23.1.1 const stdair::Filename_T K_SEVMGR_DEFAULT_LOG_FILENAME ("sevmgr_demo.log")

Default name and location for the log file.

Referenced by readConfiguration().

23.23.1.2 int readConfiguration (int *argc*, char * *argv[]*, stdair::Filename_T & *ioLogFilename*)

Read and parse the command line options.

Definition at line 37 of file sevmgr_demo.cpp.

References K_SEVMGR_DEFAULT_LOG_FILENAME(), K_SEVMGR_EARLY_RETURN_STATUS, PACKAGE_NAME, PACKAGE_VERSION, and PREFIXDIR.

Referenced by main().

23.23.1.3 int main (int *argc*, char * *argv[]*)

Definition at line 111 of file sevmgr_demo.cpp.

References SEVMGR::SEVMGR_Service::buildSampleQueue(), SEVMGR::SEVMGR_Service::isQueueDone(), K_SEVMGR_EARLY_RETURN_STATUS, SEVMGR::SEVMGR_Service::popEvent(), and readConfiguration().

23.23.2 Variable Documentation

23.23.2.1 const int K_SEVMGR_EARLY_RETURN_STATUS = 99

Early return status (so that it can be differentiated from an error).

Definition at line 32 of file sevmgr_demo.cpp.

Referenced by main(), and readConfiguration().

23.24 sevmgr_demo.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 #include <fstream>
00008 #include <vector>
00009 #include <list>
00010 #include <string>
00011 //  //// Boost (Extended STL) ////
00012 // Boost Program Options
00013 #include <boost/program_options.hpp>
00014 // StdAir
00015 #include <stdair/stdair_basic_types.hpp>
00016 #include <stdair/basic/ProgressStatusSet.hpp>
00017 #include <stdair/bom/EventStruct.hpp>
00018 #include <stdair/bom/BomDisplay.hpp>
00019 #include <stdair/service/Logger.hpp>
00020 #include <stdair/bom/BookingRequestStruct.hpp>
00021 #include <stdair/bom/BookingRequestTypes.hpp>
00022 #include <stdair/bom/EventStruct.hpp>
00023 // SEvMgr
00024 #include <sevmgr/SEVMGR_Service.hpp>
00025 #include <sevmgr/config/sevmgr-paths.hpp>
00026
00027 // //////// Constants //////
00029 const stdair::Filename_T K_SEVMGR_DEFAULT_LOG_FILENAME
       ("sevmgr_demo.log");
00030
00032 const int K_SEVMGR_EARLY_RETURN_STATUS = 99;
00033
00034
00035 // ///////// Parsing of Options & Configuration /////////
00037 int readConfiguration (int argc, char* argv[],
00038                        stdair::Filename_T& ioLogFilename) {
00039
00040   // Declare a group of options that will be allowed only on command line
00041   boost::program_options::options_description generic ("Generic options");
00042   generic.add_options()
00043     ("prefix", "print installation prefix")
00044     ("version,v", "print version string")
00045     ("help,h", "produce help message");
00046
00047   // Declare a group of options that will be allowed both on command
00048   // line and in config file
00049   boost::program_options::options_description config ("Configuration");
00050   config.add_options()
00051     ("log,l",
00052      boost::program_options::value< std::string >(&ioLogFilename)->
      default_value(K_SEVMGR_DEFAULT_LOG_FILENAME),
00053      "Filepath for the logs")
00054     ;
00055
00056   // Hidden options, will be allowed both on command line and
00057   // in config file, but will not be shown to the user.
00058   boost::program_options::options_description hidden ("Hidden options");
00059   hidden.add_options()
00060     ("copyright",
00061      boost::program_options::value< std::vector<std::string> >(),
00062      "Show the copyright (license)");
00063
00064   boost::program_options::options_description cmdline_options;
00065   cmdline_options.add(generic).add(config).add(hidden);
00066
00067   boost::program_options::options_description config_file_options;
00068   config_file_options.add(config).add(hidden);
00069
00070   boost::program_options::options_description visible ("Allowed options");
00071   visible.add(generic).add(config);
00072
00073   boost::program_options::positional_options_description p;
00074   p.add ("copyright", -1);
00075
00076   boost::program_options::variables_map vm;
00077   boost::program_options::
00078     store (boost::program_options::command_line_parser (argc, argv).
00079            options (cmdline_options).positional(p).run(), vm);
```

```
00080
00081   std::ifstream ifs ("sevmgr.cfg");
00082   boost::program_options::store (parse_config_file (ifs, config_file_options),
00083                                  vm);
00084   boost::program_options::notify (vm);
00085
00086   if (vm.count ("help")) {
00087     std::cout << visible << std::endl;
00088     return K_SEVMGR_EARLY_RETURN_STATUS;
00089   }
00090
00091   if (vm.count ("version")) {
00092     std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION
      << std::endl;
00093     return K_SEVMGR_EARLY_RETURN_STATUS;
00094   }
00095
00096   if (vm.count ("prefix")) {
00097     std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
00098     return K_SEVMGR_EARLY_RETURN_STATUS;
00099   }
00100
00101   if (vm.count ("log")) {
00102     ioLogFilename = vm["log"].as< std::string >();
00103     std::cout << "Log filename is: " << ioLogFilename << std::endl;
00104   }
00105
00106   return 0;
00107 }
00108
00109
00110 // ///////////////// M A I N //////////////////
00111 int main (int argc, char* argv[]) {
00112
00113   // Output log File
00114   stdair::Filename_T lLogFilename;
00115
00116   // Call the command-line option parser
00117   const int lOptionParserStatus = readConfiguration (argc,
      argv, lLogFilename);
00118
00119   if (lOptionParserStatus == K_SEVMGR_EARLY_RETURN_STATUS
      ) {
00120     return 0;
00121   }
00122
00123   // Set the log parameters
00124   std::ofstream logOutputFile;
00125   // Open and clean the log outputfile
00126   logOutputFile.open (lLogFilename.c_str());
00127   logOutputFile.clear();
00128
00129   // Set up the log parameters
00130   const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00131
00135   SEVMGR::SEVMGR_Service sevmgrService (lLogParams);
00136
00137   // Build the default sample queue.
00138   STDAIR_LOG_DEBUG ("Build the default sample queue.");
00139   sevmgrService.buildSampleQueue();
00140
00147   stdair::Count_T idx = 1;
00148   while (sevmgrService.isQueueDone() == false) {
00149
00150     // Pop the next event out of the event queue
00151     stdair::EventStruct lEventStruct;
00152     const stdair::ProgressStatusSet lPPS =
00153       sevmgrService.popEvent (lEventStruct);
00154
00155     // DEBUG
00156     STDAIR_LOG_DEBUG ("Poped event "<< idx << ": '"
00157                       << lEventStruct.describe() << "'.");
00158     STDAIR_LOG_DEBUG ("Progresss status: " << lPPS.describe());
00159
00160     // Iterate
00161     ++idx;
00162   }
00163
00164   // DEBUG
00165   STDAIR_LOG_DEBUG ("End of the simulation");
00166
00167   // Close the Log outputFile
00168   logOutputFile.close();
00169
00170   /*
00171     Note: as that program is not intended to be run on a server in
00172     production, it is better not to catch the exceptions. When it
```

```
00173     happens (that an exception is throwned), that way we get the
00174     call stack.
00175   */
00176
00177   return 0;
00178 }
```

23.25 sevmgr/bom/BomJSONExport.cpp File Reference

```
#include <cassert>
#include <ostream>
#include <stdair/STDAIR_Service.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <sevmgr/bom/EventQueue.hpp>
#include <sevmgr/bom/BomJSONExport.hpp>
```

Namespaces

- namespace bpt
- namespace SEVMGR

Typedefs

- typedef char bpt::ptree

23.26 BomJSONExport.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <ostream>
00007 #if BOOST_VERSION >= 104100
00008 // Boost Property Tree
00009 #include <boost/property_tree/ptree.hpp>
00010 #include <boost/property_tree/json_parser.hpp>
00011 #include <boost/regex.hpp>
00012 #endif // BOOST_VERSION >= 104100
00013 // StdAir
00014 #include <stdair/STDAIR_Service.hpp>
00015 #include <stdair/bom/EventStruct.hpp>
00016 // SEVMGR
00017 #include <sevmgr/bom/EventQueue.hpp>
00018 #include <sevmgr/bom/BomJSONExport.hpp>
00019
00020 #if BOOST_VERSION >= 104100
00021 namespace bpt = boost::property_tree;
00022 #else // BOOST_VERSION >= 104100
00023 namespace bpt {
00024   typedef char ptree;
00025 }
00026 #endif // BOOST_VERSION >= 104100
00027
00028 namespace SEVMGR {
00029
00030   // ////////////////////////////////////////////////////////////////////
00031   void BomJSONExport::
00032   jsonExportEventQueue (stdair::STDAIR_ServicePtr_T&
      ioSTDAIR_ServicePtr,
00033                         std::ostream& oStream,
00034                         const EventQueue& iEventQueue,
00035                         const stdair::EventType::EN_EventType& iEventType) {
00036
00037     // Retrieve the event list
00038     const stdair::EventList_T& lEventList = iEventQueue.getEventList
      ();
00039
00040 #if BOOST_VERSION >= 104100
00041     // Create empty property tree objects
```

```
00042     bpt::ptree ptEvents;
00043     bpt::ptree pt;
00044
00045     // Browse the events
00046     for (stdair::EventList_T::const_iterator itEvent = lEventList.begin();
00047          itEvent != lEventList.end(); ++itEvent) {
00048       const stdair::EventStruct& lEvent = itEvent->second;
00049       const stdair::EventType::EN_EventType& lEventType =
00050         lEvent.getEventType();
00051
00052       const bool isEventTypeLastValue =
00053         (iEventType == stdair::EventType::LAST_VALUE);
00054       if (lEventType == iEventType || isEventTypeLastValue == true) {
00055
00056         // Delegate the JSON export to the dedicated service
00057         const std::string lCurrentEvent =
00058           ioSTDAIR_ServicePtr->jsonExportEventObject (lEvent);
00059
00060         // Load the JSON formatted string into the property tree.
00061         // If reading fails (cannot open stream, parse error), an
00062         // exception is thrown.
00063         if (lCurrentEvent.empty () == false) {
00064           bpt::ptree ptCurrentEvent;
00065           std::istringstream lStrCurrentEvent(lCurrentEvent);
00066           read_json (lStrCurrentEvent, ptCurrentEvent);
00067
00068           // Put the current inventory tree in the events array
00069           ptEvents.push_back(std::make_pair("", ptCurrentEvent));
00070         }
00071       }
00072     }
00073
00074     // Store the events array tree into the global tree
00075     pt.add_child ("events", ptEvents);
00076
00077     // Write the property tree into the JSON stream.
00078     write_json (oStream, pt);
00079
00080 #endif // BOOST_VERSION >= 104100
00081   }
00082
00083 }
```

23.27 sevmgr/bom/BomJSONExport.hpp File Reference

```
#include <iosfwd>
#include <stdair/stdair_service_types.hpp>
#include <stdair/bom/EventTypes.hpp>
```

Classes

- class SEVMGR::BomJSONExport

  Utility class to export StdAir objects in a JSON format.

Namespaces

- namespace bpt
- namespace SEVMGR

23.28 BomJSONExport.hpp

```
00001 #ifndef __SEVMGR_BOM_BOMJSONEXPORT_HPP
00002 #define __SEVMGR_BOM_BOMJSONEXPORT_HPP
00003
00004 // //////////////////////////////////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iosfwd>
00009 // Boost Property Tree
00010 #if BOOST_VERSION >= 104100
```

```
00011 #include <boost/property_tree/ptree.hpp>
00012 #include <boost/property_tree/json_parser.hpp>
00013 #endif // BOOST_VERSION >= 104100
00014 // StdAir
00015 #include <stdair/stdair_service_types.hpp>
00016 #include <stdair/bom/EventTypes.hpp>
00017
00018 #if BOOST_VERSION >= 104100
00019   namespace bpt = boost::property_tree;
00020 #else // BOOST_VERSION >= 104100
00021   namespace bpt {
00022     typedef char ptree;
00023   }
00024 #endif // BOOST_VERSION >= 104100
00025
00026 namespace SEVMGR {
00027
00028   class EventQueue;
00029
00034   class BomJSONExport {
00035   public:
00036     // ////////////////// Export support methods /////////////////
00037
00050     static void jsonExportEventQueue (
      stdair::STDAIR_ServicePtr_T&,
00051                                       std::ostream&,
00052                                       const EventQueue&,
00053                                       const stdair::EventType::EN_EventType&);
00054
00055   };
00056
00057 }
00058 #endif // __SEVMGR_BOM_BOMJSONEXPORT_HPP
```

23.29 sevmgr/bom/EventQueue.cpp File Reference

```
#include <cassert>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/BasConst_Event.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <stdair/service/Logger.hpp>
#include <sevmgr/basic/BasConst_EventQueueManager.hpp>
#include <sevmgr/bom/EventQueue.hpp>
```

Namespaces

- namespace SEVMGR

23.30 EventQueue.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/stdair_exceptions.hpp>
00008 #include <stdair/basic/BasConst_Event.hpp>
00009 #include <stdair/bom/EventStruct.hpp>
00010 #include <stdair/service/Logger.hpp>
00011 // SEvMgr
00012 #include <sevmgr/basic/BasConst_EventQueueManager.hpp
      >
00013 #include <sevmgr/bom/EventQueue.hpp>
00014
00015 namespace SEVMGR {
00016
00017   // ////////////////////////////////////////////////////////////////////
00018   EventQueue::EventQueue()
00019     : _key (DEFAULT_EVENT_QUEUE_ID), _parent (NULL),
00020       _progressStatus (stdair::DEFAULT_PROGRESS_STATUS,
00021                        stdair::DEFAULT_PROGRESS_STATUS) {
00022   }
```

```
00023
00024   // //////////////////////////////////////////////////////////////////////
00025   EventQueue::EventQueue (const Key_T& iKey)
00026     : _key (iKey), _parent (NULL),
00027       _progressStatus (stdair::DEFAULT_PROGRESS_STATUS,
00028                        stdair::DEFAULT_PROGRESS_STATUS) {
00029   }
00030
00031   // //////////////////////////////////////////////////////////////////////
00032   EventQueue::EventQueue (const EventQueue& iEventQueue)
00033     : _key (DEFAULT_EVENT_QUEUE_ID), _parent (NULL),
00034       _progressStatus (stdair::DEFAULT_PROGRESS_STATUS,
00035                        stdair::DEFAULT_PROGRESS_STATUS) {
00036     assert (false);
00037   }
00038
00039   // //////////////////////////////////////////////////////////////////////
00040   EventQueue::~EventQueue() {
00041     _eventList.clear();
00042   }
00043
00044   // //////////////////////////////////////////////////////////////////////
00045   std::string EventQueue::toString() const {
00046     std::ostringstream oStr;
00047     oStr << "(" << _eventList.size() << ") "
00048          << _progressStatus.getCurrentNb() << "/{"
00049          << _progressStatus.getExpectedNb() << ","
00050          << _progressStatus.getActualNb() << "}";
00051     return oStr.str();
00052   }
00053
00054   // //////////////////////////////////////////////////////////////////////
00055   std::string EventQueue::display() const {
00056     std::ostringstream oStr;
00057
00058     oStr << toString();
00059
00060     return oStr.str();
00061   }
00062
00063   // //////////////////////////////////////////////////////////////////////
00064   std::string EventQueue::list () const {
00065     std::ostringstream oStr;
00066     oStr << describeKey () << std::endl;
00067     oStr << toString() << std::endl;
00068
00069     // Browse the events
00070     for (stdair::EventList_T::const_iterator itEvent = _eventList.
      begin();
00071          itEvent != _eventList.end(); ++itEvent) {
00072       const stdair::EventStruct& lEvent = itEvent->second;
00073
00074       oStr << lEvent.describe();
00075     }
00076
00077     return oStr.str();
00078   }
00079
00080   // //////////////////////////////////////////////////////////////////////
00081   std::string EventQueue::
00082   list (const stdair::EventType::EN_EventType& iType) const {
00083       std::ostringstream oStr;
00084       oStr << describeKey () << std::endl;
00085       oStr << toString() << std::endl;
00086       oStr << "List " << stdair::EventType::getLabel(iType)
00087            << " events:" << std::endl;
00088
00089       // Browse the events
00090       for (stdair::EventList_T::const_iterator itEvent = _eventList.
      begin();
00091            itEvent != _eventList.end(); ++itEvent) {
00092         const stdair::EventStruct& lEvent = itEvent->second;
00093
00094         if (lEvent.getEventType() == iType) {
00095           oStr << lEvent.describe();
00096         }
00097       }
00098       return oStr.str();
00099   }
00100
00101   // //////////////////////////////////////////////////////////////////////
00102   stdair::Count_T EventQueue::getQueueSize () const {
00103     return _eventList.size();
00104   }
00105
00106   // //////////////////////////////////////////////////////////////////////
00107   bool EventQueue::isQueueEmpty () const {
```

```
00108     return _eventList.empty();
00109   }
00110
00111   // ////////////////////////////////////////////////////////////////////
00112   bool EventQueue::isQueueDone () const {
00113     const bool isQueueEmpty = _eventList.empty();
00114     return isQueueEmpty;
00115   }
00116
00117   // ////////////////////////////////////////////////////////////////////
00118   void EventQueue::reset () {
00119     // Reset only the current number of events, not the expected one
00120     _progressStatus.reset();
00121
00122     // Empty the list of events
00123     _eventList.clear();
00124
00125     // Reset the progress statuses for all the event types
00126     for (ProgressStatusMap_T::iterator itProgressStatus =
00127           _progressStatusMap.begin();
00128          itProgressStatus != _progressStatusMap.end(); ++
      itProgressStatus) {
00129       stdair::ProgressStatus& lProgressStatus = itProgressStatus->second;
00130       lProgressStatus.reset();
00131     }
00132   }
00133
00134   // ////////////////////////////////////////////////////////////////////
00135   bool EventQueue::
00136   hasProgressStatus (const stdair::EventType::EN_EventType&
      iType) const {
00137
00138     bool hasProgressStatus = true;
00139
00140     // Retrieve the ProgressStatus structure corresponding to the
00141     // given event type
00142     ProgressStatusMap_T::const_iterator itProgressStatus =
00143       _progressStatusMap.find (iType);
00144     if (itProgressStatus == _progressStatusMap.end()) {
00145       //
00146       STDAIR_LOG_DEBUG ("No ProgressStatus structure can be retrieved in the "
00147                         << "EventQueue: " << display());
00148
00149       hasProgressStatus = false;
00150     }
00151
00152     return hasProgressStatus;
00153   }
00154
00155   // ////////////////////////////////////////////////////////////////////
00156   const stdair::Count_T& EventQueue::
00157   getCurrentNbOfEvents (const
      stdair::EventType::EN_EventType& iType) const {
00158
00159     // Retrieve the ProgressStatus structure corresponding to the
00160     // given event type
00161     ProgressStatusMap_T::const_iterator itProgressStatus =
00162       _progressStatusMap.find (iType);
00163     if (itProgressStatus == _progressStatusMap.end()) {
00164       //
00165       STDAIR_LOG_ERROR ("No ProgressStatus structure can be retrieved in the "
00166                         << "EventQueue: " << display());
00167       assert (false);
00168     }
00169
00170     const stdair::ProgressStatus& lProgressStatus = itProgressStatus->second;
00171     return lProgressStatus.getCurrentNb();
00172   }
00173
00174   // ////////////////////////////////////////////////////////////////////
00175   const stdair::Count_T& EventQueue::
00176   getExpectedTotalNbOfEvents (const
      stdair::EventType::EN_EventType& iType) const {
00177
00178     // Retrieve the ProgressStatus structure corresponding to the
00179     // given event type
00180     ProgressStatusMap_T::const_iterator itProgressStatus =
00181       _progressStatusMap.find (iType);
00182     if (itProgressStatus == _progressStatusMap.end()) {
00183       std::ostringstream oStr;
00184       oStr << "No ProgressStatus structure can be retrieved in the EventQueue '
      "
00185            << display() << "'. The EventQueue should be initialised,
       e.g., by "
00186            << "calling a buildSampleBom() method.";
00187       //
00188       STDAIR_LOG_ERROR (oStr.str());
```

```
00189       throw EventQueueException (oStr.str());
00190     }
00191
00192     const stdair::ProgressStatus& lProgressStatus = itProgressStatus->second;
00193     return lProgressStatus.getExpectedNb();
00194   }
00195
00196   // ////////////////////////////////////////////////////////////////////
00197   const stdair::Count_T& EventQueue::
00198   getActualTotalNbOfEvents (const
      stdair::EventType::EN_EventType& iType) const {
00199
00200     // Retrieve the ProgressStatus structure corresponding to the
00201     // given event type
00202     ProgressStatusMap_T::const_iterator itProgressStatus =
00203       _progressStatusMap.find (iType);
00204     if (itProgressStatus == _progressStatusMap.end()) {
00205       //
00206       STDAIR_LOG_ERROR ("No ProgressStatus structure can be retrieved in the "
00207                         << "EventQueue: " << display());
00208       assert (false);
00209     }
00210
00211     const stdair::ProgressStatus& lProgressStatus = itProgressStatus->second;
00212     return lProgressStatus.getActualNb();
00213   }
00214
00215   // ////////////////////////////////////////////////////////////////////
00216   void EventQueue::updateStatus (const
      stdair::EventType::EN_EventType& iType,
00217                                  const stdair::ProgressStatus& iProgressStatus)
       {
00218
00219     // Retrieve, if existing, the ProgressStatus structure
00220     // corresponding to the given event type
00221     ProgressStatusMap_T::iterator itProgressStatus =
00222       _progressStatusMap.find (iType);
00223     if (itProgressStatus == _progressStatusMap.end()) {
00224       const bool hasInsertBeenSuccessful =
00225         _progressStatusMap.insert (ProgressStatusMap_T
      ::
00226                                    value_type (iType, iProgressStatus)).second;
00227
00228       if (hasInsertBeenSuccessful == false) {
00229         STDAIR_LOG_ERROR ("No progress_status can be inserted "
00230                           << "for the following event type: "
00231                           << stdair::EventType::getLabel(iType)
00232                           << ". EventQueue: " << toString());
00233         throw stdair::EventException ("No progress_status can be inserted for
       the "
00234                                       "following event type: "
00235                                       + stdair::EventType::getLabel(iType)
00236                                       + ". EventQueue: " + toString());
00237       }
00238
00239       return;
00240     }
00241
00242     stdair::ProgressStatus& lProgressStatus = itProgressStatus->second;
00243
00244     // Update the progress status
00245     const stdair::Count_T& lCurrentNb = iProgressStatus.getCurrentNb();
00246     lProgressStatus.setCurrentNb (lCurrentNb);
00247
00248     const stdair::Count_T& lExpectedNb = iProgressStatus.getExpectedNb();
00249     lProgressStatus.setExpectedNb(lProgressStatus.getExpectedNb() + lExpectedNb
      );
00250
00251     const stdair::Count_T& lActualNb = iProgressStatus.getActualNb();
00252     lProgressStatus.setActualNb (lProgressStatus.getActualNb() + lActualNb);
00253   }
00254
00255   // ////////////////////////////////////////////////////////////////////
00256   void EventQueue::
00257   addStatus (const stdair::EventType::EN_EventType& iType,
00258              const stdair::NbOfEvents_T& iExpectedTotalNbOfEvents) {
00259
00260     // Initialise the progress status object
00261     const stdair::Count_T lExpectedTotalNbOfEventsInt =
00262       static_cast<const stdair::Count_T> (std::floor (iExpectedTotalNbOfEvents)
      );
00263     const stdair::ProgressStatus lProgressStatus (lExpectedTotalNbOfEventsInt);
00264
00265     // Update the progress status for the given event type
00266     updateStatus (iType, lProgressStatus);
00267
00268     // Update the overall progress status
```

```
00269     const stdair::Count_T lExpectedNb =
00270       static_cast<const stdair::Count_T> (_progressStatus.
      getExpectedNb()
00271                                   + iExpectedTotalNbOfEvents);
00272     _progressStatus.setExpectedNb (lExpectedNb);
00273
00274     const stdair::Count_T lActualNb =
00275       static_cast<const stdair::Count_T> (_progressStatus.
      getActualNb()
00276                                   + iExpectedTotalNbOfEvents);
00277     _progressStatus.setActualNb (lActualNb);
00278
00279   }
00280
00281   // ////////////////////////////////////////////////////////////////////
00282   void EventQueue::updateStatus (const
      stdair::EventType::EN_EventType& iType,
00283                                  const stdair::NbOfEvents_T& iActualNbOfEvents)
       {
00284
00285     // Initialise the progress status object for the type key
00286     stdair:: Count_T lActualNbOfEventsInt =
00287       static_cast<const  stdair::Count_T> (std::floor (iActualNbOfEvents));
00288
00289     // Update the progress status for the corresponding content type key
00290     ProgressStatusMap_T::iterator itProgressStatus =
00291       _progressStatusMap.find (iType);
00292     if (itProgressStatus != _progressStatusMap.end()) {
00293
00294       //
00295       stdair::ProgressStatus& lProgressStatus = itProgressStatus->second;
00296
00297       // Update the overall progress status
00298       const stdair::Count_T lActualEventTypeNb = lProgressStatus.getActualNb();
00299       const stdair::Count_T lActualTotalNb = _progressStatus.
      getActualNb();
00300       _progressStatus.setActualNb (lActualTotalNb +
      iActualNbOfEvents - lActualEventTypeNb);
00301
00302       // Update the progress status for the corresponding type key
00303       lProgressStatus.setActualNb (lActualNbOfEventsInt);
00304     }
00305   }
00306
00307   // ////////////////////////////////////////////////////////////////////
00308   void EventQueue::setStatus (const
      stdair::EventType::EN_EventType& iType,
00309                               const stdair::ProgressStatus& iProgressStatus) {
00310
00311     // Retrieve the ProgressStatus structure corresponding to the
00312     // given event type
00313     ProgressStatusMap_T::iterator itProgressStatus =
00314       _progressStatusMap.find (iType);
00315     // assert (itProgressStatus != _progressStatusMap.end());
00316     if (itProgressStatus != _progressStatusMap.end()) {
00317       // Update the ProgressStatus structure
00318       itProgressStatus->second = iProgressStatus;
00319     }
00320   }
00321
00322   // ////////////////////////////////////////////////////////////////////
00323   const stdair::ProgressStatus& EventQueue::
00324   getStatus (const stdair::EventType::EN_EventType& iType) const {
00325
00326     // Retrieve the ProgressStatus structure corresponding to the
00327     // given event type
00328     ProgressStatusMap_T::const_iterator itProgressStatus =
00329       _progressStatusMap.find (iType);
00330     if (itProgressStatus == _progressStatusMap.end()) {
00331       std::ostringstream oStr;
00332       oStr << "No ProgressStatus structure can be retrieved in the EventQueue '
      "
00333            << display() << "' for the following event type: "
00334            << stdair::EventType::getLabel(iType) << ".";
00335       //
00336       STDAIR_LOG_ERROR (oStr.str());
00337       throw EventQueueException (oStr.str());
00338     }
00339     assert(itProgressStatus != _progressStatusMap.end());
00340
00341     const stdair::ProgressStatus& oProgressStatus = itProgressStatus->second;
00342     return oProgressStatus;
00343   }
00344
00345   // ////////////////////////////////////////////////////////////////////
00346   stdair::ProgressPercentage_T EventQueue::
00347   calculateProgress (const stdair::EventType::EN_EventType&
```

```
      iType) const {
00348
00349     // Retrieve the ProgressStatus structure corresponding to the
00350     // given event type
00351     ProgressStatusMap_T::const_iterator itProgressStatus =
00352       _progressStatusMap.find (iType);
00353     if (itProgressStatus == _progressStatusMap.end()) {
00354       //
00355       STDAIR_LOG_ERROR ("No ProgressStatus structure can be retrieved in the "
00356                         << "EventQueue: " << display());
00357       assert (false);
00358     }
00359
00360     const stdair::ProgressStatus& lProgressStatus = itProgressStatus->second;
00361     return lProgressStatus.progress();
00362   }
00363
00364   // ////////////////////////////////////////////////////////////////////
00365   stdair::ProgressStatusSet EventQueue::popEvent (
      stdair::EventStruct& ioEventStruct) {
00366
00367     if (_eventList.empty() == true) {
00368       std::ostringstream oStr;
00369       oStr << "The event queue '" << describeKey() << "' is empty. "
00370            << "No event can be popped.";
00371       //
00372       STDAIR_LOG_ERROR (oStr.str());
00373       throw EventQueueException (oStr.str());
00374     }
00375
00379     // Get an iterator on the first event (sorted by date-time stamps)
00380     stdair::EventList_T::iterator itEvent = _eventList.begin();
00381
00388     ioEventStruct = itEvent->second;
00389     // Retrieve the event type
00390     const stdair::EventType::EN_EventType& lEventType = ioEventStruct.
      getEventType();
00391     stdair::ProgressStatusSet oProgressStatusSet (lEventType);
00392
00393     // Update the (current number part of the) overall progress status,
00394     // to account for the event that is being popped out of the event
00395     // queue.
00396     ++_progressStatus;
00397
00398     // Remove the event, which has just been retrieved
00399     _eventList.erase (itEvent);
00400
00401
00409     // Retrieve the progress status specific to that event type
00410     stdair::ProgressStatus lEventTypeProgressStatus = getStatus (
      lEventType);
00411
00412     // Increase the current number of events
00413     ++lEventTypeProgressStatus;
00414
00415     // Store back the progress status
00416     setStatus (lEventType, lEventTypeProgressStatus);
00417
00418     // Update the progress status of the progress status set, specific to
00419     // the event type.
00420     oProgressStatusSet.setTypeSpecificStatus (lEventTypeProgressStatus);
00421
00425     // Update the overall progress status of the progress status set.
00426     oProgressStatusSet.setOverallStatus (_progressStatus);
00427
00428     //
00429     return oProgressStatusSet;
00430   }
00431
00432   // ////////////////////////////////////////////////////////////////////
00433   bool EventQueue::addEvent (stdair::EventStruct&
      ioEventStruct) {
00434     bool insertionSucceeded =
00435       _eventList.insert (stdair::EventListElement_T (ioEventStruct.
      getEventTimeStamp(),
00436                                                      ioEventStruct)).second;
00437
00450     const unsigned int idx = 0;
00451     while (insertionSucceeded == false && idx != 1e3) {
00452       // Increment the date-time stamp (expressed in milliseconds)
00453       ioEventStruct.incrementEventTimeStamp();
00454
00455       // Retry to insert into the event queue
00456       insertionSucceeded =
00457         _eventList.insert (stdair::EventListElement_T (ioEventStruct.
      getEventTimeStamp(),
00458                                                        ioEventStruct)).second;
```

```
00459     }
00460     assert (idx != 1e3);
00461
00462     return insertionSucceeded;
00463   }
00464
00465   // ////////////////////////////////////////////////////////////////////
00466   bool EventQueue::hasEventDateTime (const
      stdair::DateTime_T& iDateTime) {
00467
00468     bool hasSearchEventBeenSucessful = true;
00469
00475     const stdair::Duration_T lDuration =
00476       iDateTime - stdair::DEFAULT_EVENT_OLDEST_DATETIME;
00477     const stdair::LongDuration_T lDateTimeStamp =
00478       lDuration.total_milliseconds();
00479
00480     // Searches the container for an element with iDateTime as key
00481     stdair::EventList_T::iterator itEvent =
00482       _eventList.find (lDateTimeStamp);
00483
00484     // An iterator to map::end means the specified key has not found in the
00485     // container.
00486     if (itEvent == _eventList.end()) {
00487       hasSearchEventBeenSucessful = false;
00488     }
00489
00490     return hasSearchEventBeenSucessful;
00491
00492   }
00493
00494 }
```

23.31 sevmgr/bom/EventQueue.hpp File Reference

```
#include <iosfwd>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/basic/ProgressStatusSet.hpp>
#include <stdair/basic/EventType.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/EventTypes.hpp>
#include <sevmgr/bom/EventQueueKey.hpp>
#include <sevmgr/bom/EventQueueTypes.hpp>
#include <sevmgr/SEVMGR_Types.hpp>
```

Classes

- class SEVMGR::EventQueue

  Class holding event structures.

Namespaces

- namespace stdair

  Forward declarations.
- namespace SEVMGR

23.32 EventQueue.hpp

```
00001 #ifndef __SEVMGR_BOM_EVENTQUEUE_HPP
00002 #define __SEVMGR_BOM_EVENTQUEUE_HPP
00003
00004 // ////////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////////////////////////////////////////
```

```
00007 // STL
00008 #include <iosfwd>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/stdair_date_time_types.hpp>
00013 #include <stdair/basic/ProgressStatusSet.hpp>
00014 #include <stdair/basic/EventType.hpp>
00015 #include <stdair/bom/BomAbstract.hpp>
00016 #include <stdair/bom/EventTypes.hpp>
00017 // SEvMgr
00018 #include <sevmgr/bom/EventQueueKey.hpp>
00019 #include <sevmgr/bom/EventQueueTypes.hpp>
00020 #include <sevmgr/SEVMGR_Types.hpp>
00021
00023 namespace stdair {
00024   class FacBomManager;
00025   template <typename BOM> class FacBom;
00026 }
00027
00028 namespace SEVMGR {
00029
00068   class EventQueue : public stdair::BomAbstract {
00069     template <typename BOM> friend class stdair::FacBom;
00070     friend class stdair::FacBomManager;
00071
00072   public:
00073     // ////////// Type definitions /////////////
00077     typedef EventQueueKey Key_T;
00078
00079
00080   public:
00081     // ////////// Getters ///////////////
00083     const Key_T& getKey () const {
00084       return _key;
00085     }
00086
00088     BomAbstract* const getParent () const {
00089       return _parent;
00090     }
00091
00093     const stdair::EventList_T& getEventList () const {
00094       return _eventList;
00095     }
00096
00098     const stdair::HolderMap_T& getHolderMap () const {
00099       return _holderMap;
00100     }
00101
00103     const stdair::ProgressStatus& getStatus () const {
00104       return _progressStatus;
00105     }
00107     const stdair::Count_T& getCurrentNbOfEvents () const {
00108       return _progressStatus.getCurrentNb();
00109     }
00111     const stdair::Count_T& getExpectedTotalNbOfEvents
      () const {
00112       return _progressStatus.getExpectedNb();
00113     }
00115     const stdair::Count_T& getActualTotalNbOfEvents ()
      const {
00116       return _progressStatus.getActualNb();
00117     }
00118
00123     const stdair::ProgressStatus& getStatus (const
     stdair::EventType::EN_EventType&) const;
00124
00126     const stdair::Count_T& getCurrentNbOfEvents (const
     stdair::EventType::EN_EventType&) const;
00127
00129     const stdair::Count_T& getExpectedTotalNbOfEvents
      (const stdair::EventType::EN_EventType&) const;
00130
00132     const stdair::Count_T& getActualTotalNbOfEvents (
     const stdair::EventType::EN_EventType&) const;
00133
00136     bool hasProgressStatus (const
     stdair::EventType::EN_EventType&) const;
00137
00138   public:
00139     // ////////// Setters ///////////////
00141     void setStatus (const stdair::ProgressStatus& iProgressStatus) {
00142       _progressStatus = iProgressStatus;
00143     }
00145     void setStatus (const stdair::Count_T& iCurrentNbOfEvents,
00146                     const stdair::Count_T& iExpectedTotalNbOfEvents,
00147                     const stdair::Count_T& iActualTotalNbOfEvents) {
```

```
00148       _progressStatus.setCurrentNb (iCurrentNbOfEvents);
00149       _progressStatus.setExpectedNb (iExpectedTotalNbOfEvents);
00150       _progressStatus.setActualNb (iActualTotalNbOfEvents);
00151     }
00153     void setStatus (const stdair::Count_T& iCurrentNbOfEvents,
00154                     const stdair::Count_T& iActualTotalNbOfEvents) {
00155       _progressStatus.setCurrentNb (iCurrentNbOfEvents);
00156       _progressStatus.setActualNb (iActualTotalNbOfEvents);
00157     }
00159     void setCurrentNbOfEvents (const stdair::Count_T&
      iCurrentNbOfEvents) {
00160       _progressStatus.setCurrentNb (iCurrentNbOfEvents);
00161     }
00163     void setExpectedTotalNbOfEvents (const
      stdair::Count_T& iExpectedTotalNbOfEvents) {
00164       _progressStatus.setExpectedNb (iExpectedTotalNbOfEvents);
00165     }
00166
00171     void setStatus (const stdair::EventType::EN_EventType& iType,
00172                     const stdair::ProgressStatus& iProgressStatus);
00173
00174
00175   public:
00176     // ////////// Display support methods /////////
00182     void toStream (std::ostream& ioOut) const {
00183       ioOut << toString();
00184     }
00185
00191     void fromStream (std::istream& ioIn) {
00192     }
00193
00197     std::string toString () const;
00198
00202     std::string list () const;
00203
00208     std::string list (const stdair::EventType::EN_EventType&) const;
00209
00213     const std::string describeKey () const {
00214       return _key.toString();
00215     }
00216
00217     /*
00218      * Display the full content of the event queue, with all its
00219      * event structure.
00220      *
00221      * That method can be very consuming (in time, CPU and memory)
00222      * when there are a lot of event structures (e.g., several hundreds
00223      * of thousands). Call it only for debug purposes.
00224     */
00225     std::string display () const;
00226
00227
00228   public:
00229     // ////////// Business methods /////////
00234     void reset ();
00235
00249      stdair::ProgressStatusSet popEvent (stdair::EventStruct&);
00250
00271     bool addEvent (stdair::EventStruct&);
00272
00276     bool hasEventDateTime (const stdair::DateTime_T&);
00277
00283     bool isQueueDone () const;
00284
00298     void addStatus (const stdair::EventType::EN_EventType&,
00299                     const stdair::NbOfRequests_T& iExpectedTotalNbOfEvents);
00300
00309     void updateStatus (const stdair::EventType::EN_EventType&,
00310                        const stdair::ProgressStatus& iProgressStatus);
00311
00325     void updateStatus (const stdair::EventType::EN_EventType&,
00326                        const stdair::NbOfEvents_T& iActualTotalNbOfEvents);
00327
00338     stdair::ProgressPercentage_T calculateProgress () const {
00339       return _progressStatus.progress();
00340     }
00341
00352     stdair::ProgressPercentage_T calculateProgress (const
      stdair::EventType::EN_EventType&)const;
00353
00354
00355   public:
00356     // ////////// Debug methods /////////
00358     stdair::Count_T getQueueSize () const;
00359
00361     bool isQueueEmpty () const;
00362
```

```
00363
00364   protected:
00365     // ********** Constructors and destructors *********
00367     EventQueue (const Key_T&);
00369     EventQueue (const EventQueue&);
00371     ~EventQueue ();
00372   private:
00374     EventQueue ();
00375
00376
00377   protected:
00378     // ********** Attributes *********
00382     Key_T _key;
00383
00387     BomAbstract* _parent;
00388
00394     stdair::HolderMap_T _holderMap;
00395
00399     stdair::EventList_T _eventList;
00400
00404     stdair::ProgressStatus _progressStatus;
00405
00411     ProgressStatusMap_T _progressStatusMap
    ;
00412   };
00413
00414 }
00415 #endif // __SEVMGR_BOM_EVENTQUEUE_HPP
```

23.33 sevmgr/bom/EventQueueKey.cpp File Reference

```
#include <sstream>
#include <sevmgr/bom/EventQueueKey.hpp>
```

Namespaces

- namespace SEVMGR

23.34 EventQueueKey.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <sstream>
00006 // SEvMgr
00007 #include <sevmgr/bom/EventQueueKey.hpp>
00008
00009 namespace SEVMGR {
00010
00011   // ////////////////////////////////////////////////////////////////////
00012   EventQueueKey::EventQueueKey (const EventQueueID_T&
      iEventQueueID)
00013     : _eventQueueID (iEventQueueID) {
00014   }
00015   // ////////////////////////////////////////////////////////////////////
00016   EventQueueKey::EventQueueKey (const EventQueueKey& iKey)
00017     : _eventQueueID (iKey._eventQueueID) {
00018   }
00019
00020   // ////////////////////////////////////////////////////////////////////
00021   EventQueueKey::~EventQueueKey () {
00022   }
00023
00024   // ////////////////////////////////////////////////////////////////////
00025   void EventQueueKey::toStream (std::ostream& ioOut)
       const {
00026     ioOut << "EventQueueKey: " << toString() << std::endl;
00027   }
00028
00029   // ////////////////////////////////////////////////////////////////////
00030   void EventQueueKey::fromStream (std::istream& ioIn)
    {
00031   }
00032
00033   // ////////////////////////////////////////////////////////////////////
```

```
00034   const std::string EventQueueKey::toString() const {
00035     std::ostringstream oStr;
00036     oStr << _eventQueueID;
00037     return oStr.str();
00038   }
00039
00040 }
```

23.35 sevmgr/bom/EventQueueKey.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_event_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
#include <sevmgr/SEVMGR_Types.hpp>
```

Classes

- struct SEVMGR::EventQueueKey

Namespaces

- namespace SEVMGR

23.36 EventQueueKey.hpp

```
00001 #ifndef __SEVMGR_BOM_EVENTQUEUEKEY_HPP
00002 #define __SEVMGR_BOM_EVENTQUEUEKEY_HPP
00003
00004 // ////////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_event_types.hpp>
00010 #include <stdair/bom/KeyAbstract.hpp>
00011 //SEvMgr
00012 #include <sevmgr/SEVMGR_Types.hpp>
00013
00014 namespace SEVMGR {
00015
00017   struct EventQueueKey : public stdair::KeyAbstract {
00018
00019   private:
00020     // ////////// Default constructor //////////
00021     EventQueueKey () { };
00022
00023   public:
00024     // ////////// Construction //////////
00026     EventQueueKey (const EventQueueID_T&);
00027     EventQueueKey (const EventQueueKey&);
00029     ~EventQueueKey ();
00030
00031     // ////////// Getters //////////
00033     const EventQueueID_T& getEventQueueID() const
      {
00034       return _eventQueueID;
00035     }
00036
00037     // ////////// Display support methods /////////
00040     void toStream (std::ostream& ioOut) const;
00041
00044     void fromStream (std::istream& ioIn);
00045
00051     const std::string toString() const;
00052
00053
00054   private:
00055     // ////////// Attributes ////////////////
00057     EventQueueID_T _eventQueueID;
00058   };
00059
00060 }
```

```
00061 #endif // __SEVMGR_BOM_EVENTQUEUEKEY_HPP
```

23.37 sevmgr/bom/EventQueueTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

Namespaces

- namespace SEVMGR

Typedefs

- typedef std::list< EventQueue * > SEVMGR::EventQueueList_T
- typedef std::map< const stdair::MapKey_T, EventQueue * > SEVMGR::EventQueueMap_T

23.38 EventQueueTypes.hpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 #ifndef __SEVMGR_BOM_EVENTQUEUETYPES_HPP
00003 #define __SEVMGR_BOM_EVENTQUEUETYPES_HPP
00004
00005 // ////////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ////////////////////////////////////////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace SEVMGR {
00015
00016   // Forward declarations.
00017   class EventQueue;
00018
00020   typedef std::list<EventQueue*> EventQueueList_T;
00021
00023   typedef std::map<const stdair::MapKey_T, EventQueue*> EventQueueMap_T
      ;
00024
00025 }
00026 #endif // __SEVMGR_BOM_EVENTQUEUETYPES_HPP
```

23.39 sevmgr/command/EventQueueManager.cpp File Reference

```
#include <cassert>
#include <boost/make_shared.hpp>
#include <stdair/basic/ProgressStatusSet.hpp>
#include <stdair/basic/EventType.hpp>
#include <stdair/basic/BasConst_Event.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/BreakPointStruct.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <sevmgr/bom/EventQueue.hpp>
#include <sevmgr/command/EventQueueManager.hpp>
```

Namespaces

- namespace SEVMGR

23.40 EventQueueManager.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // Boost
00007 #include <boost/make_shared.hpp>
00008 // StdAir
00009 #include <stdair/basic/ProgressStatusSet.hpp>
00010 #include <stdair/basic/EventType.hpp>
00011 #include <stdair/basic/BasConst_Event.hpp>
00012 #include <stdair/bom/BomManager.hpp>
00013 #include <stdair/bom/EventStruct.hpp>
00014 #include <stdair/bom/BookingRequestStruct.hpp>
00015 #include <stdair/bom/BreakPointStruct.hpp>
00016 #include <stdair/service/Logger.hpp>
00017 #include <stdair/STDAIR_Service.hpp>
00018 // SEvMgr
00019 #include <sevmgr/bom/EventQueue.hpp>
00020 #include <sevmgr/command/EventQueueManager.hpp
      >
00021
00022 namespace SEVMGR {
00023
00024   // ////////////////////////////////////////////////////////////////////
00025   void EventQueueManager::
00026   buildSampleQueue (stdair::STDAIR_ServicePtr_T lSTDAIR_ServicePtr,
00027                     EventQueue& ioEventQueue) {
00028
00029     // Total number of booking requests into the queue
00030     stdair::Count_T lNbOfBookingRequests (2);
00031     addStatus(ioEventQueue, stdair::EventType::BKG_REQ, lNbOfBookingRequests);
00032
00033     // Create a shared pointer on a first booking request
00034     // Date of the request (15-MAY-2011)
00035     const stdair::BookingRequestStruct& lBookingRequest =
00036       buildSampleBookingRequest (lSTDAIR_ServicePtr);
00037     const stdair::BookingRequestPtr_T lBookingRequest_ptr =
00038       boost::make_shared<stdair::BookingRequestStruct> (lBookingRequest);
00039
00040     // Create an event structure
00041     stdair::EventStruct lEventStruct (stdair::EventType::BKG_REQ,
00042                                       lBookingRequest_ptr);
00043
00044     // Add the event into the queue
00045     addEvent(ioEventQueue, lEventStruct);
00046
00047     // Create a second shared pointer on a second booking request
00048     // Date of the request (22-JAN-2010)
00049     const bool isForCRS = true;
00050     const stdair::BookingRequestStruct& lBookingRequestForCRS =
00051       buildSampleBookingRequest (lSTDAIR_ServicePtr, isForCRS);
00052     const stdair::BookingRequestPtr_T lBookingRequestForCRS_ptr =
00053       boost::make_shared<stdair::BookingRequestStruct> (lBookingRequestForCRS);
00054
00055     // Create an event structure
00056     stdair::EventStruct lEventStructForCRS (stdair::EventType::BKG_REQ,
00057                                             lBookingRequestForCRS_ptr);
00058
00059     // Add the event into the queue
00060     addEvent(ioEventQueue, lEventStructForCRS);
00061
00062     // Total number of break points into the queue
00063     stdair::Count_T lNbOfBreakPoints (2);
00064     addStatus(ioEventQueue, stdair::EventType::BRK_PT, lNbOfBreakPoints);
00065
00066     // Create a shared pointer on a second break point
00067     // Date of the break point (21-JAN-2010)
00068     const stdair::Date_T lBP1Date (2010, boost::gregorian::Jan, 21);
00069     // Time of the break point (00:00)
00070     const stdair::Duration_T lBP1Time (0, 0, 0);
00071     // Date-time of the break point  (made of the date and time above)
00072     const stdair::DateTime_T lBP1DateTime (lBP1Date, lBP1Time);
00073     const stdair::BreakPointPtr_T lBreakPoint1_ptr =
00074       boost::make_shared<stdair::BreakPointStruct> (lBP1DateTime);
00075
00076     // Create an event structure
```

```
00077     stdair::EventStruct lEventBreakPoint1 (stdair::EventType::BRK_PT,
00078                                            lBreakPoint1_ptr);
00079
00080     // Add the event into the queue
00081     addEvent(ioEventQueue, lEventBreakPoint1);
00082
00083     // Create a shared pointer on a second break point
00084     // Date of the break point (14-MAY-2011)
00085     const stdair::Date_T lBP2Date (2011, boost::gregorian::May, 14);
00086     // Time of the break point (00:00)
00087     const stdair::Duration_T lBP2Time (0, 0, 0);
00088     // Date-time of the break point  (made of the date and time above)
00089     const stdair::DateTime_T lBP2DateTime (lBP2Date, lBP2Time);
00090
00091     // TODO: understand why the form above does not work.
00092     const stdair::BreakPointPtr_T lBreakPoint2_ptr =
00093       boost::make_shared<stdair::BreakPointStruct> (lBP2DateTime);
00094
00095     // Create an event structure
00096     stdair::EventStruct lEventBreakPoint2 (stdair::EventType::BRK_PT,
00097                                            lBreakPoint2_ptr);
00098
00099     // Add the event into the queue
00100     addEvent(ioEventQueue, lEventBreakPoint2);
00101
00102   }
00103
00104   // ////////////////////////////////////////////////////////////////////
00105   stdair::BookingRequestStruct EventQueueManager::
00106   buildSampleBookingRequest(stdair::STDAIR_ServicePtr_T lSTDAIR_ServicePtr,
00107                             const bool isForCRS) {
00108
00109     // Delegate the booking request building to the dedicated service
00110     stdair::BookingRequestStruct oBookingRequest =
00111       lSTDAIR_ServicePtr->buildSampleBookingRequest (isForCRS);
00112
00113     return oBookingRequest;
00114   }
00115
00116
00117   // ////////////////////////////////////////////////////////////////////
00118   void EventQueueManager::reset (EventQueue& ioEventQueue) {
00119
00123     ioEventQueue.reset();
00124   }
00125
00126   // ////////////////////////////////////////////////////////////////////
00127   bool EventQueueManager::
00128   hasProgressStatus (const EventQueue& iEventQueue,
00129                      const stdair::EventType::EN_EventType& iEventType) {
00130
00134     const bool hasProgressStatus = iEventQueue.hasProgressStatus(iEventType);
00135
00136     //
00137     return hasProgressStatus;
00138   }
00139
00140   // ////////////////////////////////////////////////////////////////////
00141   void EventQueueManager::addEvent (EventQueue& ioEventQueue,
00142                                     stdair::EventStruct& iEventStruct) {
00143
00147     ioEventQueue.addEvent(iEventStruct);
00148   }
00149
00150   // ////////////////////////////////////////////////////////////////////
00151   const std::string EventQueueManager::
00152   list (const EventQueue& iEventQueue) {
00153
00157     const std::string& lEventListStr = iEventQueue.list();
00158
00159     //
00160     return lEventListStr;
00161   }
00162
00163   // ////////////////////////////////////////////////////////////////////
00164   const std::string EventQueueManager::
00165   list (const EventQueue& iEventQueue,
00166         const stdair::EventType::EN_EventType& iEventType) {
00167
00171     const std::string& lEventListStr =
00172       iEventQueue.list(iEventType);
00173
00174     //
00175     return lEventListStr;
00176   }
00177
00178   // ////////////////////////////////////////////////////////////////////
```

```
00179   const std::string EventQueueManager::
00180   describeKey (const EventQueue& iEventQueue) {
00181
00185     const std::string& lEventQueueKeyStr = iEventQueue.describeKey();
00186
00187     //
00188     return lEventQueueKeyStr;
00189   }
00190
00191   // ////////////////////////////////////////////////////////////////////
00192   stdair::ProgressStatusSet EventQueueManager::
00193   popEvent (EventQueue& ioEventQueue,
00194             stdair::EventStruct& iEventStruct) {
00195
00196     try {
00200       const stdair::ProgressStatusSet& lProgressStatusSet
00201         = ioEventQueue.popEvent (iEventStruct);
00202
00203       // DEBUG
00204       std::ostringstream oEventStr;
00205       oEventStr << "Poped event: '"
00206                 << iEventStruct.describe() << "'.";
00207       STDAIR_LOG_DEBUG (oEventStr.str());
00208
00209       //
00210       return lProgressStatusSet;
00211
00212     } catch (EventQueueException& lEventQueueException) {
00213       // DEBUG
00214       std::ostringstream oErrorMessage;
00215       oErrorMessage << "The event queue is empty: no event can be popped out.";

00216       std::cerr << oErrorMessage.str() << std::endl;
00217       STDAIR_LOG_DEBUG(oErrorMessage.str());
00218
00219     }
00220
00221     //
00222     return stdair::ProgressStatusSet(stdair::EventType::BKG_REQ);
00223   }
00224
00225   // ////////////////////////////////////////////////////////////////////
00226   void EventQueueManager::run (EventQueue& ioEventQueue,
00227                                stdair::EventStruct& iEventStruct) {
00228
00229     // Default event type
00230     stdair::EventType::EN_EventType lEventType = stdair::EventType::BKG_REQ;
00231
00232     // While no break point has been encountered, keep on extracting events
00233     while (ioEventQueue.isQueueDone() == false
00234            && lEventType != stdair::EventType::BRK_PT) {
00238       ioEventQueue.popEvent (iEventStruct);
00239       lEventType = iEventStruct.getEventType();
00240
00241     }
00242
00243   }
00244
00245   // ////////////////////////////////////////////////////////////////////
00246   bool EventQueueManager::select (EventQueue& ioEventQueue,
00247                                   stdair::EventStruct& iEventStruct,
00248                                   const stdair::DateTime_T& iDateTime) {
00249
00250     // Search if an event has the given key
00251     const bool hasResearchBeenSuccessful =
00252       ioEventQueue.hasEventDateTime (iDateTime);
00253
00254     // If no event has the given hey, return
00255     if (hasResearchBeenSuccessful == false) {
00256       return hasResearchBeenSuccessful;
00257     }
00258     assert (hasResearchBeenSuccessful == true);
00259
00260     // Default date time
00261     stdair::DateTime_T lDateTime = stdair::DEFAULT_EVENT_OLDEST_DATETIME;
00262
00263     // While the event with the given key has not been retrieved, keep on
00264     // extracting events
00265     while (ioEventQueue.isQueueDone() == false
00266            && lDateTime != iDateTime) {
00267       ioEventQueue.popEvent (iEventStruct);
00268       lDateTime = iEventStruct.getEventTime ();
00269
00270     }
00271
00272     assert (lDateTime == iDateTime);
00273     return hasResearchBeenSuccessful;
```

```
00274
00275   }
00276
00277   // ////////////////////////////////////////////////////////////////////
00278   void EventQueueManager::
00279   updateStatus (EventQueue& ioEventQueue,
00280                 const stdair::EventType::EN_EventType& iEventType,
00281                 const stdair::Count_T& iEventCount) {
00282
00286     ioEventQueue.updateStatus (iEventType, iEventCount);
00287   }
00288
00289   // ////////////////////////////////////////////////////////////////////
00290   void EventQueueManager::
00291   addStatus (EventQueue& ioEventQueue,
00292              const stdair::EventType::EN_EventType& iEventType,
00293              const stdair::Count_T& iEventCount) {
00294
00299     ioEventQueue.addStatus (iEventType, iEventCount);
00300   }
00301
00302   // ////////////////////////////////////////////////////////////////////
00303   bool EventQueueManager::
00304   isQueueDone (const EventQueue& iEventQueue) {
00305
00309     const bool isQueueDone = iEventQueue.isQueueDone();
00310
00311     //
00312     return isQueueDone;
00313   }
00314
00315   // ////////////////////////////////////////////////////////////////////
00316   const stdair::Count_T& EventQueueManager::
00317   getQueueSize (const EventQueue& iEventQueue) {
00318
00322     const stdair::Count_T& lQueueSize = iEventQueue.getQueueSize();
00323
00324     //
00325     return lQueueSize;
00326   }
00327
00328   // ////////////////////////////////////////////////////////////////////
00329   const stdair::Count_T& EventQueueManager::
00330   getExpectedTotalNumberOfEventsToBeGenerated (const EventQueue& ioEventQueue)
      {
00331
00335     const stdair::Count_T& lExpectedTotalNumberOfEvents =
00336       ioEventQueue.getExpectedTotalNbOfEvents ();
00337
00338     //
00339     return lExpectedTotalNumberOfEvents;
00340   }
00341
00342   // ////////////////////////////////////////////////////////////////////
00343   const stdair::Count_T& EventQueueManager::
00344   getExpectedTotalNumberOfEventsToBeGenerated (const EventQueue& ioEventQueue,
00345                                                const
      stdair::EventType::EN_EventType& iEventType) {
00346
00350     const stdair::Count_T& lExpectedTotalNumberOfEvents =
00351       ioEventQueue.getExpectedTotalNbOfEvents (iEventType);
00352
00353     //
00354     return lExpectedTotalNumberOfEvents;
00355   }
00356
00357   // ////////////////////////////////////////////////////////////////////
00358   const stdair::Count_T& EventQueueManager::
00359   getActualTotalNumberOfEventsToBeGenerated (const EventQueue& ioEventQueue) {
00360
00364     const stdair::Count_T& lActualTotalNumberOfEvents =
00365       ioEventQueue.getActualTotalNbOfEvents ();
00366
00367     //
00368     return lActualTotalNumberOfEvents;
00369
00370   }
00371
00372   // ////////////////////////////////////////////////////////////////////
00373   const stdair::Count_T& EventQueueManager::
00374   getActualTotalNumberOfEventsToBeGenerated (const EventQueue& ioEventQueue,
00375                                              const
      stdair::EventType::EN_EventType& iEventType) {
00376
00380     const stdair::Count_T& lActualTotalNumberOfEvents =
00381       ioEventQueue.getActualTotalNbOfEvents (iEventType);
00382
```

```
00383     //
00384     return lActualTotalNumberOfEvents;
00385
00386   }
00387
00389   const stdair::ProgressStatus& EventQueueManager::
00390   getStatus (const EventQueue& iEventQueue,
00391              const stdair::EventType::EN_EventType& iEventType) {
00392
00396     return iEventQueue.getStatus(iEventType);
00397
00398   }
00399
00401   const stdair::ProgressStatus&  EventQueueManager::
00402   getStatus (const EventQueue& iEventQueue) {
00403
00407     return iEventQueue.getStatus();
00408
00409   }
00410
00411 }
```

23.41 sevmgr/command/EventQueueManager.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/command/CmdAbstract.hpp>
#include <stdair/stdair_service_types.hpp>
#include <sevmgr/SEVMGR_Types.hpp>
```

Classes

- class SEVMGR::EventQueueManager

  Utility class for Demand and DemandStream objects.

Namespaces

- namespace stdair

  Forward declarations.
- namespace SEVMGR

23.42 EventQueueManager.hpp

```
00001 #ifndef __SEVMGR_CMD_EVENTQUEUEMANAGER_HPP
00002 #define __SEVMGR_CMD_EVENTQUEUEMANAGER_HPP
00003
00004 // //////////////////////////////////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/command/CmdAbstract.hpp>
00010 #include <stdair/stdair_service_types.hpp>
00011 // SEvMgr
00012 #include <sevmgr/SEVMGR_Types.hpp>
00013
00014 // Forward declarations
00015 namespace stdair {
00016   struct ProgressStatusSet;
00017 }
00018
00019 namespace SEVMGR {
00020
00021   // Forward declarations
00022   class EventQueue;
00023
00027   class EventQueueManager : public stdair::CmdAbstract {
00028     friend class SEVMGR_Service;
00029
00030   private:
00031     // //////// Business methodes //////////
```

```
00035     static void buildSampleQueue (stdair::STDAIR_ServicePtr_T,
00036                                   EventQueue&);
00037
00041     static stdair::BookingRequestStruct buildSampleBookingRequest(
      stdair::STDAIR_ServicePtr_T,
00042                                                                   const bool
      isForCRS = false);
00043
00047     static void reset (EventQueue&);
00048
00052     static void addEvent (EventQueue&, stdair::EventStruct&);
00053
00057     static const std::string describeKey (const EventQueue&);
00058
00062     static const std::string list (const EventQueue&);
00063
00067     static const std::string list (const EventQueue&,
00068                                    const stdair::EventType::EN_EventType&);
00069
00073     static stdair::ProgressStatusSet popEvent (EventQueue&,
00074                                                stdair::EventStruct&);
00075
00079     static void run (EventQueue&, stdair::EventStruct&);
00080
00097     static bool select (EventQueue&, stdair::EventStruct&, const
      stdair::DateTime_T&);
00098
00102     static void updateStatus (EventQueue&,
00103                               const stdair::EventType::EN_EventType&,
00104                               const stdair::Count_T&);
00109     static void addStatus (EventQueue&,
00110                            const stdair::EventType::EN_EventType&,
00111                            const stdair::Count_T&);
00112
00117     static bool hasProgressStatus (const EventQueue&,
00118                                    const stdair::EventType::EN_EventType&);
00119
00123     static bool isQueueDone (const EventQueue&);
00124
00125
00129     static const stdair::Count_T& getQueueSize(const EventQueue&);
00130
00134     static const stdair::Count_T&
00135     getExpectedTotalNumberOfEventsToBeGenerated(const EventQueue&);
00136
00140     static const stdair::Count_T&
00141     getExpectedTotalNumberOfEventsToBeGenerated(const EventQueue&,
00142                                                 const
      stdair::EventType::EN_EventType&);
00143
00147     static const stdair::Count_T&
00148     getActualTotalNumberOfEventsToBeGenerated(const EventQueue&);
00149
00153     static const stdair::Count_T&
00154     getActualTotalNumberOfEventsToBeGenerated(const EventQueue&,
00155                                               const
      stdair::EventType::EN_EventType&);
00156
00160     static const stdair::ProgressStatus& getStatus (const EventQueue&
      ,
00161                                                     const
      stdair::EventType::EN_EventType&);
00162
00167     static const stdair::ProgressStatus& getStatus (const EventQueue&
      );
00168
00169   };
00170
00171 }
00172 #endif // __SEVMGR_CMD_EVENTQUEUEMANAGER_HPP
```

23.43 sevmgr/config/sevmgr-paths.hpp File Reference

Macros

- #define PACKAGE "sevmgr"
- #define PACKAGE_NAME "SEVMGR"
- #define PACKAGE_VERSION "1.00.0"
- #define PREFIXDIR "/usr"
- #define EXEC_PREFIX "/usr"

- #define BINDIR "/usr/bin"
- #define LIBDIR "/usr/lib"
- #define LIBEXECDIR "/usr/libexec"
- #define SBINDIR "/usr/sbin"
- #define SYSCONFDIR "/usr/etc"
- #define INCLUDEDIR "/usr/include"
- #define DATAROOTDIR "/usr/share"
- #define DATADIR "/usr/share"
- #define DOCDIR "/usr/share/doc/sevmgr-1.00.0"
- #define MANDIR "/usr/share/man"
- #define INFODIR "/usr/share/info"
- #define HTMLDIR "/usr/share/doc/sevmgr-1.00.0/html"
- #define PDFDIR "/usr/share/doc/sevmgr-1.00.0/html"
- #define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"

23.43.1 Macro Definition Documentation

23.43.1.1 #define PACKAGE "sevmgr"

Definition at line 4 of file sevmgr-paths.hpp.

23.43.1.2 #define PACKAGE_NAME "SEVMGR"

Definition at line 5 of file sevmgr-paths.hpp.

Referenced by readConfiguration().

23.43.1.3 #define PACKAGE_VERSION "1.00.0"

Definition at line 6 of file sevmgr-paths.hpp.

Referenced by readConfiguration().

23.43.1.4 #define PREFIXDIR "/usr"

Definition at line 7 of file sevmgr-paths.hpp.

Referenced by readConfiguration().

23.43.1.5 #define EXEC_PREFIX "/usr"

Definition at line 8 of file sevmgr-paths.hpp.

23.43.1.6 #define BINDIR "/usr/bin"

Definition at line 9 of file sevmgr-paths.hpp.

23.43.1.7 #define LIBDIR "/usr/lib"

Definition at line 10 of file sevmgr-paths.hpp.

23.43.1.8 #define LIBEXECDIR "/usr/libexec"

Definition at line 11 of file sevmgr-paths.hpp.

23.43.1.9 #define SBINDIR "/usr/sbin"

Definition at line 12 of file sevmgr-paths.hpp.

23.43.1.10 #define SYSCONFDIR "/usr/etc"

Definition at line 13 of file sevmgr-paths.hpp.

23.43.1.11 #define INCLUDEDIR "/usr/include"

Definition at line 14 of file sevmgr-paths.hpp.

23.43.1.12 #define DATAROOTDIR "/usr/share"

Definition at line 15 of file sevmgr-paths.hpp.

23.43.1.13 #define DATADIR "/usr/share"

Definition at line 16 of file sevmgr-paths.hpp.

23.43.1.14 #define DOCDIR "/usr/share/doc/sevmgr-1.00.0"

Definition at line 17 of file sevmgr-paths.hpp.

23.43.1.15 #define MANDIR "/usr/share/man"

Definition at line 18 of file sevmgr-paths.hpp.

23.43.1.16 #define INFODIR "/usr/share/info"

Definition at line 19 of file sevmgr-paths.hpp.

23.43.1.17 #define HTMLDIR "/usr/share/doc/sevmgr-1.00.0/html"

Definition at line 20 of file sevmgr-paths.hpp.

23.43.1.18 #define PDFDIR "/usr/share/doc/sevmgr-1.00.0/html"

Definition at line 21 of file sevmgr-paths.hpp.

23.43.1.19 #define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"

Definition at line 22 of file sevmgr-paths.hpp.

23.44 sevmgr-paths.hpp

```
00001 #ifndef __SEVMGR_PATHS_HPP__
00002 #define __SEVMGR_PATHS_HPP__
00003
00004 #define PACKAGE "sevmgr"
00005 #define PACKAGE_NAME "SEVMGR"
00006 #define PACKAGE_VERSION "1.00.0"
00007 #define PREFIXDIR "/usr"
00008 #define EXEC_PREFIX "/usr"
00009 #define BINDIR "/usr/bin"
00010 #define LIBDIR "/usr/lib"
00011 #define LIBEXECDIR "/usr/libexec"
00012 #define SBINDIR "/usr/sbin"
00013 #define SYSCONFDIR "/usr/etc"
00014 #define INCLUDEDIR "/usr/include"
00015 #define DATAROOTDIR "/usr/share"
00016 #define DATADIR "/usr/share"
00017 #define DOCDIR "/usr/share/doc/sevmgr-1.00.0"
00018 #define MANDIR "/usr/share/man"
00019 #define INFODIR "/usr/share/info"
00020 #define HTMLDIR "/usr/share/doc/sevmgr-1.00.0/html"
00021 #define PDFDIR "/usr/share/doc/sevmgr-1.00.0/html"
00022 #define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"
00023
00024 #endif // __SEVMGR_PATHS_HPP__
```

23.45 sevmgr/config/sevmgr-paths.hpp.in File Reference

Macros

- #define __SEVMGR_PATHS_HPP__
- #define PACKAGE "@PACKAGE@"
- #define PACKAGE_NAME "@PACKAGE_NAME@"
- #define PACKAGE_VERSION "@PACKAGE_VERSION@"
- #define PREFIXDIR "@prefix@"
- #define EXEC_PREFIX "@exec_prefix@"
- #define BINDIR "@bindir@"
- #define LIBDIR "@libdir@"
- #define LIBEXECDIR "@libexecdir@"
- #define SBINDIR "@sbindir@"
- #define SYSCONFDIR "@sysconfdir@"
- #define INCLUDEDIR "@includedir@"
- #define DATAROOTDIR "@datarootdir@"
- #define DATADIR "@datadir@"
- #define DOCDIR "@docdir@"
- #define MANDIR "@mandir@"
- #define INFODIR "@infodir@"
- #define HTMLDIR "@htmldir@"
- #define PDFDIR "@pdfdir@"
- #define STDAIR_SAMPLE_DIR "@sampledir@"

23.45.1 Macro Definition Documentation

23.45.1.1 #define __SEVMGR_PATHS_HPP__

Definition at line 2 of file sevmgr-paths.hpp.in.

23.45.1.2 #define PACKAGE "@PACKAGE@"

Definition at line 4 of file sevmgr-paths.hpp.in.

23.45.1.3 #define PACKAGE_NAME "@PACKAGE_NAME@"

Definition at line 5 of file sevmgr-paths.hpp.in.

23.45.1.4 #define PACKAGE_VERSION "@PACKAGE_VERSION@"

Definition at line 6 of file sevmgr-paths.hpp.in.

23.45.1.5 #define PREFIXDIR "@prefix@"

Definition at line 7 of file sevmgr-paths.hpp.in.

23.45.1.6 #define EXEC_PREFIX "@exec_prefix@"

Definition at line 8 of file sevmgr-paths.hpp.in.

23.45.1.7 #define BINDIR "@bindir@"

Definition at line 9 of file sevmgr-paths.hpp.in.

23.45.1.8 #define LIBDIR "@libdir@"

Definition at line 10 of file sevmgr-paths.hpp.in.

23.45.1.9 #define LIBEXECDIR "@libexecdir@"

Definition at line 11 of file sevmgr-paths.hpp.in.

23.45.1.10 #define SBINDIR "@sbindir@"

Definition at line 12 of file sevmgr-paths.hpp.in.

23.45.1.11 #define SYSCONFDIR "@sysconfdir@"

Definition at line 13 of file sevmgr-paths.hpp.in.

23.45.1.12 #define INCLUDEDIR "@includedir@"

Definition at line 14 of file sevmgr-paths.hpp.in.

23.45.1.13 #define DATAROOTDIR "@datarootdir@"

Definition at line 15 of file sevmgr-paths.hpp.in.

23.45.1.14 #define DATADIR "@datadir@"

Definition at line 16 of file sevmgr-paths.hpp.in.

23.45.1.15 #define DOCDIR "@docdir@"

Definition at line 17 of file sevmgr-paths.hpp.in.

23.45.1.16 #define MANDIR "@mandir@"

Definition at line 18 of file sevmgr-paths.hpp.in.

23.45.1.17 #define INFODIR "@infodir@"

Definition at line 19 of file sevmgr-paths.hpp.in.

23.45.1.18 #define HTMLDIR "@htmldir@"

Definition at line 20 of file sevmgr-paths.hpp.in.

23.45.1.19 #define PDFDIR "@pdfdir@"

Definition at line 21 of file sevmgr-paths.hpp.in.

23.45.1.20 #define STDAIR_SAMPLE_DIR "@sampledir@"

Definition at line 22 of file sevmgr-paths.hpp.in.

23.46 sevmgr-paths.hpp.in

```
00001 #ifndef __SEVMGR_PATHS_HPP__
00002 #define __SEVMGR_PATHS_HPP__
00003
00004 #define PACKAGE "@PACKAGE@"
00005 #define PACKAGE_NAME "@PACKAGE_NAME@"
00006 #define PACKAGE_VERSION "@PACKAGE_VERSION@"
00007 #define PREFIXDIR "@prefix@"
00008 #define EXEC_PREFIX "@exec_prefix@"
00009 #define BINDIR "@bindir@"
00010 #define LIBDIR "@libdir@"
00011 #define LIBEXECDIR "@libexecdir@"
00012 #define SBINDIR "@sbindir@"
00013 #define SYSCONFDIR "@sysconfdir@"
00014 #define INCLUDEDIR "@includedir@"
00015 #define DATAROOTDIR "@datarootdir@"
00016 #define DATADIR "@datadir@"
```

```
00017 #define DOCDIR "@docdir@"
00018 #define MANDIR "@mandir@"
00019 #define INFODIR "@infodir@"
00020 #define HTMLDIR "@htmldir@"
00021 #define PDFDIR "@pdfdir@"
00022 #define STDAIR_SAMPLE_DIR "@sampledir@"
00023
00024 #endif // __SEVMGR_PATHS_HPP__
```

23.47 sevmgr/factory/FacSEVMGRServiceContext.cpp File Reference

```
#include <cassert>
#include <stdair/service/FacSupervisor.hpp>
#include <sevmgr/factory/FacSEVMGRServiceContext.hpp>
#include <sevmgr/service/SEVMGR_ServiceContext.hpp>
```

Namespaces

- namespace SEVMGR

23.48 FacSEVMGRServiceContext.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/service/FacSupervisor.hpp>
00008 // Sevmgr
00009 #include <sevmgr/factory/FacSEVMGRServiceContext.hpp
      >
00010 #include <sevmgr/service/SEVMGR_ServiceContext.hpp
      >
00011
00012 namespace SEVMGR {
00013
00014   FacSEVMGRServiceContext* FacSEVMGRServiceContext::_instance = NULL;
00015
00016   // ////////////////////////////////////////////////////////////////////
00017   FacSEVMGRServiceContext::~FacSEVMGRServiceContext
       () {
00018     _instance = NULL;
00019   }
00020
00021   // ////////////////////////////////////////////////////////////////////
00022   FacSEVMGRServiceContext&
      FacSEVMGRServiceContext::instance () {
00023
00024     if (_instance == NULL) {
00025       _instance = new FacSEVMGRServiceContext();
00026       assert (_instance != NULL);
00027
00028       stdair::FacSupervisor::instance().
      registerServiceFactory (_instance);
00029     }
00030     return *_instance;
00031   }
00032
00033   // ////////////////////////////////////////////////////////////////////
00034   SEVMGR_ServiceContext& FacSEVMGRServiceContext::create
       () {
00035     SEVMGR_ServiceContext* aServiceContext_ptr = NULL;
00036
00037     aServiceContext_ptr = new SEVMGR_ServiceContext ();
00038     assert (aServiceContext_ptr != NULL);
00039
00040     // The new object is added to the Bom pool
00041     _pool.push_back (aServiceContext_ptr);
00042
00043     return *aServiceContext_ptr;
00044   }
00045
00046 }
```

23.49 sevmgr/factory/FacSEVMGRServiceContext.hpp File Reference

```
#include <stdair/service/FacServiceAbstract.hpp>
#include <sevmgr/SEVMGR_Types.hpp>
```

Classes

- class SEVMGR::FacSEVMGRServiceContext

Namespaces

- namespace SEVMGR

23.50 FacSEVMGRServiceContext.hpp

```
00001 #ifndef __SEVMGR_FAC_FACSEVMGRSERVICECONTEXT_HPP
00002 #define __SEVMGR_FAC_FACSEVMGRSERVICECONTEXT_HPP
00003
00004 // //////////////////////////////////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////////////////////////////////
00007 // StdAir
00008 #include <stdair/service/FacServiceAbstract.hpp>
00009 // Sevmgr
00010 #include <sevmgr/SEVMGR_Types.hpp>
00011
00012 namespace SEVMGR {
00013
00015   class SEVMGR_ServiceContext;
00016
00018   class FacSEVMGRServiceContext : public
      stdair::FacServiceAbstract {
00019   public:
00020
00024     static FacSEVMGRServiceContext& instance();
00025
00030     ~FacSEVMGRServiceContext();
00031
00035     SEVMGR_ServiceContext& create ();
00036
00037
00038   protected:
00042     FacSEVMGRServiceContext () {}
00043
00044   private:
00046     static FacSEVMGRServiceContext* _instance;
00047   };
00048
00049 }
00050 #endif // __SEVMGR_FAC_FACSEVMGRSERVICECONTEXT_HPP
```

23.51 sevmgr/python/pysevmgr.cpp File Reference

```
#include <cassert>
#include <stdexcept>
#include <fstream>
#include <sstream>
#include <string>
#include <list>
#include <vector>
#include <boost/python.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <sevmgr/SEVMGR_Service.hpp>
```

Classes

- struct SEVMGR::PYEventQueueManager

Namespaces

- namespace SEVMGR

Functions

- BOOST_PYTHON_MODULE (libpysevmgr)

23.51.1 Function Documentation

23.51.1.1 BOOST_PYTHON_MODULE (libpysevmgr)

Definition at line 152 of file pysevmgr.cpp.

References SEVMGR::PYEventQueueManager::init(), and SEVMGR::PYEventQueueManager::sevmgr().

23.52 pysevmgr.cpp

```
00001 // STL
00002 #include <cassert>
00003 #include <stdexcept>
00004 #include <fstream>
00005 #include <sstream>
00006 #include <string>
00007 #include <list>
00008 #include <vector>
00009 // Boost String
00010 #include <boost/python.hpp>
00011 // StdAir
00012 #include <stdair/stdair_basic_types.hpp>
00013 #include <stdair/stdair_exceptions.hpp>
00014 #include <stdair/basic/BasFileMgr.hpp>
00015 #include <stdair/basic/BasLogParams.hpp>
00016 #include <stdair/basic/BasDBParams.hpp>
00017 // SEvMgr
00018 #include <sevmgr/SEVMGR_Service.hpp>
00019
00020 namespace SEVMGR {
00021
00022   struct PYEventQueueManager {
00023   public:
```

```
00025     std::string sevmgr() {
00026       std::ostringstream oStream;
00027
00028       // Sanity check
00029       if (_logOutputStream == NULL) {
00030         oStream << "The log filepath is not valid." << std::endl;
00031         return oStream.str();
00032       }
00033       assert (_logOutputStream != NULL);
00034
00035       try {
00036
00037         // DEBUG
00038         *_logOutputStream << "Default service" << std::endl;
00039
00040         if (_sevmgrService == NULL) {
00041           oStream << "The Sevmgr service has not been initialised, "
00042                   << "i.e., the init() method has not been called "
00043                   << "correctly on the PYEventQueueManager object. Please "
00044                   << "check that all the parameters are not empty and "
00045                   << "point to actual files.";
00046           *_logOutputStream << oStream.str();
00047           return oStream.str();
00048         }
00049         assert (_sevmgrService != NULL);
00050
00051         // Do the sevmgr
00052         _sevmgrService->buildSampleBom();
00053
00054         // DEBUG
00055         *_logOutputStream << "Default service returned" << std::endl;
00056
00057         // DEBUG
00058         *_logOutputStream << "Sevmgr output: " << oStream.str() << std::endl;
00059
00060       } catch (const stdair::RootException& eSevmgrError) {
00061         *_logOutputStream << "Sevmgr error: "  << eSevmgrError.what()
00062                           << std::endl;
00063
00064       } catch (const std::exception& eStdError) {
00065         *_logOutputStream << "Error: "  << eStdError.what() << std::endl;
00066
00067       } catch (...) {
00068         *_logOutputStream << "Unknown error" << std::endl;
00069       }
00070
00071       return oStream.str();
00072     }
00073
00074   public:
00076     PYEventQueueManager() : _sevmgrService (NULL),
      _logOutputStream (NULL) {
00077     }
00078
00080     PYEventQueueManager (const PYEventQueueManager
      & iPYEventQueueManager)
00081       : _sevmgrService (iPYEventQueueManager._sevmgrService),
00082         _logOutputStream (iPYEventQueueManager._logOutputStream) {
00083     }
00084
00086     ~PYEventQueueManager() {
00087       _sevmgrService = NULL;
00088       _logOutputStream = NULL;
00089     }
00090
00092     bool init (const std::string& iLogFilepath,
00093                const std::string& iDBUser, const std::string& iDBPasswd,
00094                const std::string& iDBHost, const std::string& iDBPort,
00095                const std::string& iDBDBName) {
00096       bool isEverythingOK = true;
00097
00098       try {
00099
00100         // Check that the file path given as input corresponds to an actual
       file
00101         const bool isWriteable = (iLogFilepath.empty() == false);
00102         // stdair::BasFileMgr::isWriteable (iLogFilepath);
00103         if (isWriteable == false) {
00104           isEverythingOK = false;
00105           return isEverythingOK;
00106         }
00107
00108         // Set the log parameters
00109         _logOutputStream = new std::ofstream;
00110         assert (_logOutputStream != NULL);
00111
00112         // Open and clean the log outputfile
```

```
00113         _logOutputStream->open (iLogFilepath.c_str());
00114         _logOutputStream->clear();
00115
00116         // DEBUG
00117         *_logOutputStream << "Python wrapper initialisation" << std::endl;
00118         const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
00119                                                *_logOutputStream);
00120
00121         // Initialise the context
00122         stdair::BasDBParams lDBParams (iDBUser, iDBPasswd, iDBHost, iDBPort,
00123                                        iDBDBName);
00124         _sevmgrService = new SEVMGR_Service (lLogParams,
      lDBParams);
00125
00126         // DEBUG
00127         *_logOutputStream << "Python wrapper initialised" << std::endl;
00128
00129       } catch (const stdair::RootException& eSevmgrError) {
00130         *_logOutputStream << "Sevmgr error: "  << eSevmgrError.what()
00131                           << std::endl;
00132
00133       } catch (const std::exception& eStdError) {
00134         *_logOutputStream << "Error: "  << eStdError.what() << std::endl;
00135
00136       } catch (...) {
00137         *_logOutputStream << "Unknown error" << std::endl;
00138       }
00139
00140       return isEverythingOK;
00141     }
00142
00143   private:
00145     SEVMGR_Service* _sevmgrService;
00146     std::ofstream* _logOutputStream;
00147   };
00148
00149 }
00150
00151 // //////////////////////////////////////////////////////////////////
00152 BOOST_PYTHON_MODULE(libpysevmgr) {
00153   boost::python::class_<SEVMGR::PYEventQueueManager> ("PYEventQueueManager")
00154     .def ("sevmgr", &SEVMGR::PYEventQueueManager::sevmgr
      )
00155     .def ("init", &SEVMGR::PYEventQueueManager::init
      );
00156 }
```

23.53 sevmgr/service/SEVMGR_Service.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <boost/make_shared.hpp>
#include <stdair/basic/BasChronometer.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/JSonCommand.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/BomDisplay.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/BomJSONImport.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <sevmgr/basic/BasConst_SEVMGR_Service.hpp>
#include <sevmgr/factory/FacSEVMGRServiceContext.hpp>
#include <sevmgr/command/EventQueueManager.hpp>
#include <sevmgr/service/SEVMGR_ServiceContext.hpp>
#include <sevmgr/SEVMGR_Service.hpp>
#include <sevmgr/bom/EventQueue.hpp>
#include <sevmgr/bom/BomJSONExport.hpp>
```

Namespaces

- namespace SEVMGR

23.54 SEVMGR_Service.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost
00008 #include <boost/make_shared.hpp>
00009 // StdAir
00010 #include <stdair/basic/BasChronometer.hpp>
00011 #include <stdair/basic/BasConst_General.hpp>
00012 #include <stdair/basic/JSonCommand.hpp>
00013 #include <stdair/bom/BomRoot.hpp>
00014 #include <stdair/bom/BomDisplay.hpp>
00015 #include <stdair/bom/EventStruct.hpp>
00016 #include <stdair/bom/BookingRequestStruct.hpp>
00017 #include <stdair/bom/BomJSONImport.hpp>
00018 #include <stdair/service/Logger.hpp>
00019 #include <stdair/STDAIR_Service.hpp>
00020 // Sevmgr
00021 #include <sevmgr/basic/BasConst_SEVMGR_Service.hpp
      >
00022 #include <sevmgr/factory/FacSEVMGRServiceContext.hpp
      >
00023 #include <sevmgr/command/EventQueueManager.hpp
      >
00024 #include <sevmgr/service/SEVMGR_ServiceContext.hpp
      >
00025 #include <sevmgr/SEVMGR_Service.hpp>
00026 #include <sevmgr/bom/EventQueue.hpp>
00027 #include <sevmgr/bom/BomJSONExport.hpp>
00028
00029 namespace SEVMGR {
00030
00031   // ////////////////////////////////////////////////////////////////////
00032   SEVMGR_Service::SEVMGR_Service() : _sevmgrServiceContext (NULL) {
00033     assert (false);
00034   }
00035
00036   // ////////////////////////////////////////////////////////////////////
00037   SEVMGR_Service::SEVMGR_Service (const SEVMGR_Service& iService)
00038     : _sevmgrServiceContext (NULL) {
00039     assert (false);
00040   }
00041
00042   // ////////////////////////////////////////////////////////////////////
00043   SEVMGR_Service::SEVMGR_Service (const stdair::BasLogParams& iLogParams,
00044                                   const stdair::BasDBParams& iDBParams)
00045     : _sevmgrServiceContext (NULL) {
00046
00047     // Initialise the STDAIR service handler
00048     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00049       initStdAirService (iLogParams, iDBParams);
00050
00051     // Initialise the service context
00052     initServiceContext();
00053
00054     // Add the StdAir service context to the SEvMgr service context
00055     // \note SEvMgr owns the STDAIR service resources here.
00056     const bool ownStdairService = true;
00057     addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00058
00059     // Initialise the (remaining of the) context
00060     initSevmgrService();
00061   }
00062
00063   // ////////////////////////////////////////////////////////////////////
00064   SEVMGR_Service::SEVMGR_Service (const stdair::BasLogParams& iLogParams)
00065     : _sevmgrServiceContext (NULL) {
00066
00067     // Initialise the STDAIR service handler
00068     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00069       initStdAirService (iLogParams);
00070
00071     // Initialise the service context
00072     initServiceContext();
00073
```

```
00074     // Add the StdAir service context to the SEvMgr service context
00075     // \note SEvMgr owns the STDAIR service resources here.
00076     const bool ownStdairService = true;
00077     addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00078
00079     // Initialise the (remaining of the) context
00080     initSevmgrService();
00081   }
00082
00083   // //////////////////////////////////////////////////////////////////
00084   SEVMGR_Service::
00085   SEVMGR_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr)
00086     : _sevmgrServiceContext (NULL) {
00087
00088     // Initialise the service context
00089     initServiceContext();
00090
00091     // Add the StdAir service context to the SEvMgr service context
00092     // \note SEvMgr does not own the STDAIR service resources here.
00093     const bool doesNotOwnStdairService = false;
00094     addStdAirService (ioSTDAIR_Service_ptr, doesNotOwnStdairService);
00095
00096     // Initialise the context
00097     initSevmgrService();
00098   }
00099
00100   // //////////////////////////////////////////////////////////////////
00101   SEVMGR_Service::~SEVMGR_Service() {
00102     // Delete/Clean all the objects from memory
00103     finalise();
00104   }
00105
00106   // //////////////////////////////////////////////////////////////////
00107   void SEVMGR_Service::finalise() {
00108     assert (_sevmgrServiceContext != NULL);
00109     // Reset the (Boost.)Smart pointer pointing on the STDAIR_Service object.
00110     _sevmgrServiceContext->reset();
00111   }
00112
00113   // //////////////////////////////////////////////////////////////////
00114   void SEVMGR_Service::initServiceContext() {
00115     // Initialise the service context
00116     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00117       FacSEVMGRServiceContext::instance().
      create();
00118     _sevmgrServiceContext = &lSEVMGR_ServiceContext;
00119   }
00120
00121   // //////////////////////////////////////////////////////////////////
00122   void SEVMGR_Service::
00123   addStdAirService (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr,
00124                     const bool iOwnStdairService) {
00125     // Retrieve the SEvMgr service context
00126     assert (_sevmgrServiceContext != NULL);
00127     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00128       *_sevmgrServiceContext;
00129
00130     // Store the STDAIR service object within the (SEvMgr) service context
00131     lSEVMGR_ServiceContext.setSTDAIR_Service (ioSTDAIR_Service_ptr,
00132                                               iOwnStdairService);
00133   }
00134
00135   // //////////////////////////////////////////////////////////////////
00136   stdair::STDAIR_ServicePtr_T SEVMGR_Service::
00137   initStdAirService (const stdair::BasLogParams& iLogParams,
00138                      const stdair::BasDBParams& iDBParams) {
00139
00145     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00146       boost::make_shared<stdair::STDAIR_Service> (iLogParams, iDBParams);
00147     assert (lSTDAIR_Service_ptr != NULL);
00148
00149     return lSTDAIR_Service_ptr;
00150   }
00151
00152   // //////////////////////////////////////////////////////////////////
00153   stdair::STDAIR_ServicePtr_T SEVMGR_Service::
00154   initStdAirService (const stdair::BasLogParams& iLogParams) {
00155
00161     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00162       boost::make_shared<stdair::STDAIR_Service> (iLogParams);
00163     assert (lSTDAIR_Service_ptr != NULL);
00164
00165     return lSTDAIR_Service_ptr;
00166   }
00167
00168   // //////////////////////////////////////////////////////////////////
00169   void SEVMGR_Service::initSevmgrService() {
```

```
00170     // Do nothing at this stage. A sample BOM tree may be built by
00171     // calling the buildSampleBom() method
00172   }
00173
00174   // ////////////////////////////////////////////////////////////////////
00175   void SEVMGR_Service::buildSampleQueue() {
00176
00177     // Retrieve the SEvMgr service context
00178     if (_sevmgrServiceContext == NULL) {
00179       throw stdair::NonInitialisedServiceException ("The SEvMgr service has "
00180                                                     "not been initialised");
00181     }
00182     assert (_sevmgrServiceContext != NULL);
00183
00184     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00185
00186     // Retrieve the StdAir service context
00187     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00188       lSEVMGR_ServiceContext.getSTDAIR_ServicePtr();
00189
00190     // Retrieve the EventQueue
00191     EventQueue& lEventQueue = lSEVMGR_ServiceContext.getEventQueue();
00192
00193     // Delegate the building process to the dedicated command
00194     EventQueueManager::buildSampleQueue (
      lSTDAIR_Service_ptr, lEventQueue);
00195
00196   }
00197
00198   // ////////////////////////////////////////////////////////////////////
00199   stdair::BookingRequestStruct SEVMGR_Service::
00200   buildSampleBookingRequest(const bool isForCRS) {
00201
00202     // Retrieve the SEvMgr service context
00203     if (_sevmgrServiceContext == NULL) {
00204       throw stdair::NonInitialisedServiceException ("The SEvMgr service has "
00205                                                     "not been initialised");
00206     }
00207     assert (_sevmgrServiceContext != NULL);
00208
00209     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00210
00211     // Retrieve the StdAir service context
00212     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00213       lSEVMGR_ServiceContext.getSTDAIR_ServicePtr();
00214
00215     // Delegate the booking request building to the dedicated service
00216     stdair::BookingRequestStruct oBookingRequest =
00217       EventQueueManager::buildSampleBookingRequest
       (lSTDAIR_Service_ptr,
00218                                                     isForCRS);
00219
00220     return oBookingRequest;
00221   }
00222
00223   // ////////////////////////////////////////////////////////////////////
00224   std::string SEVMGR_Service::describeKey() const {
00225
00226     // Retrieve the SEvMgr service context
00227     if (_sevmgrServiceContext == NULL) {
00228       throw stdair::NonInitialisedServiceException ("The SEvMgr service has "
00229                                                     "not been initialised");
00230     }
00231     assert (_sevmgrServiceContext != NULL);
00232
00233     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00234
00235     // Retrieve the event queue
00236     EventQueue& lEventQueue = lSEVMGR_ServiceContext.getEventQueue();
00237
00238     // Delegate the key display to the dedicated command
00239     return EventQueueManager::describeKey(
      lEventQueue);
00240   }
00241
00242   // ////////////////////////////////////////////////////////////////////
00243   std::string SEVMGR_Service::list () const {
00244
00245     // Retrieve the SEvMgr service context
00246     if (_sevmgrServiceContext == NULL) {
00247       throw stdair::NonInitialisedServiceException ("The SEvMgr service has "
00248                                                     "not been initialised");
00249     }
00250     assert (_sevmgrServiceContext != NULL);
```

```
00251
00252     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
    _sevmgrServiceContext;
00253
00254     // Retrieve the event queue
00255     EventQueue& lEventQueue = lSEVMGR_ServiceContext.getEventQueue ()
    ;
00256
00257     // Delegate the key display to the dedicated command
00258     return EventQueueManager::list (lEventQueue);
00259   }
00260
00261   // ////////////////////////////////////////////////////////////////////
00262   std::string SEVMGR_Service::
00263   list (const stdair::EventType::EN_EventType& iEventType) const {
00264
00265     // Retrieve the SEvMgr service context
00266     if (_sevmgrServiceContext == NULL) {
00267       throw stdair::NonInitialisedServiceException ("The SEvMgr service has "
00268                                                     "not been initialised");
00269     }
00270     assert (_sevmgrServiceContext != NULL);
00271
00272     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
    _sevmgrServiceContext;
00273
00274     // Retrieve the event queue
00275     EventQueue& lEventQueue = lSEVMGR_ServiceContext.getEventQueue ()
    ;
00276
00277     // Delegate the key display to the dedicated command
00278     return EventQueueManager::list (lEventQueue,
    iEventType);
00279   }
00280
00281   // ////////////////////////////////////////////////////////////////////
00282   std::string SEVMGR_Service::
00283   jsonHandler (const stdair::JSONString& iJSONString) const {
00284
00285     //
00286     // Extract from the JSON-ified string the command
00287     //
00288     stdair::JSonCommand::EN_JSonCommand lEN_JSonCommand;
00289     const bool hasCommandBeenRetrieved =
00290       stdair::BomJSONImport::jsonImportCommand (iJSONString,
00291                                                 lEN_JSonCommand);
00292
00293     if (hasCommandBeenRetrieved == false) {
00294       // Return an error JSON-ified string
00295       std::ostringstream oErrorStream;
00296       oErrorStream << "{\"error\": \"Wrong JSON-ified string: "
00297                    << "the command is not understood.\"}";
00298       return oErrorStream.str();
00299     }
00300     assert (hasCommandBeenRetrieved == true);
00301
00302     //
00303     // Dispatch the command to the right JSon service handler
00304     //
00305     switch (lEN_JSonCommand) {
00306     case stdair::JSonCommand::EVENT_LIST:{
00307
00308       //
00309       // Try to extract the event type from the JSON-ified string
00310       //
00311       stdair::EventType::EN_EventType lEN_EventType;
00312       const bool hasEventTypeBeenRetrieved =
00313         stdair::BomJSONImport::jsonImportEventType (iJSONString,
00314                                                     lEN_EventType);
00315
00316       if (hasEventTypeBeenRetrieved == true) {
00317         return jsonExportEventQueue (lEN_EventType);
00318       }
00319       return jsonExportEventQueue ();
00320     }
00321     default: {
00322         // Return an Error string
00323         std::ostringstream lErrorCmdMessage;
00324         const std::string& lCommandStr =
00325           stdair::JSonCommand::getLabel(lEN_JSonCommand);
00326         lErrorCmdMessage << "{\"error\": \"The command '" << lCommandStr
00327                          << "' is not handled by the DSim service.\"}";
00328         return lErrorCmdMessage.str();
00329         break;
00330       }
00331     }
00332
```

```
00333     // Return an error JSON-ified string
00334     assert (false);
00335     std::string lJSONDump ("{\"error\": \"Wrong JSON-ified string\"}");
00336     return lJSONDump;
00337
00338   }
00339
00340   // ////////////////////////////////////////////////////////////////////
00341   std::string SEVMGR_Service::
00342   jsonExportEventQueue (const
      stdair::EventType::EN_EventType& iEventType) const {
00343
00344     std::ostringstream oStr;
00345
00346     // Retrieve the SEvMgr service context
00347     if (_sevmgrServiceContext == NULL) {
00348       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00349                                                     "has not been initialised")
      ;
00350     }
00351     assert (_sevmgrServiceContext != NULL);
00352
00353     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00354
00355     // Retrieve the StdAir service context
00356     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00357       lSEVMGR_ServiceContext.getSTDAIR_ServicePtr();
00358
00359     // Retrieve the event queue
00360     const EventQueue& lEventQueue =
00361       lSEVMGR_ServiceContext.getEventQueue();
00362
00363     // Delegate the JSON export to the dedicated command
00364     BomJSONExport::jsonExportEventQueue (
      lSTDAIR_Service_ptr, oStr,
00365                                          lEventQueue, iEventType);
00366     return oStr.str();
00367
00368   }
00369
00370   // ////////////////////////////////////////////////////////////////////
00371   std::string SEVMGR_Service::
00372   jsonExportEvent (const stdair::EventStruct& iEvent) const {

00373
00374     std::ostringstream oStr;
00375
00376     // Retrieve the SEvMgr service context
00377     if (_sevmgrServiceContext == NULL) {
00378       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00379                                                     "has not been initialised")
      ;
00380     }
00381     assert (_sevmgrServiceContext != NULL);
00382
00383     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00384
00385     // Retrieve the STDAIR service object from the (SEvMgr) service context
00386     stdair::STDAIR_Service& lSTDAIR_Service =
00387       lSEVMGR_ServiceContext.getSTDAIR_Service();
00388
00389     // Delegate the JSON export to the dedicated service
00390     oStr << lSTDAIR_Service.jsonExportEventObject (iEvent);
00391
00392     return oStr.str();
00393
00394   }
00395
00396   // ////////////////////////////////////////////////////////////////////
00397   stdair::ProgressStatusSet SEVMGR_Service::
00398   popEvent (stdair::EventStruct& iEventStruct) const {
00399
00400     // Retrieve the SEvMgr service context
00401     if (_sevmgrServiceContext == NULL) {
00402       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00403                                                     "has not been initialised")
      ;
00404     }
00405     assert (_sevmgrServiceContext != NULL);
00406     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00407
00408     // Retrieve the event queue object instance
00409     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00410
```

```
00411     // Delegate the call to the dedicated command
00412     return EventQueueManager::popEvent(lQueue,
      iEventStruct);
00413   }
00414
00415   // ////////////////////////////////////////////////////////////////////
00416   void SEVMGR_Service::
00417   run (stdair::EventStruct& iEventStruct) const {
00418
00419     // Retrieve the SEvMgr service context
00420     if (_sevmgrServiceContext == NULL) {
00421       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00422                                                     "has not been initialised")
      ;
00423     }
00424     assert (_sevmgrServiceContext != NULL);
00425     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00426
00427     // Retrieve the event queue object instance
00428     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00429
00430     // Delegate the call to the dedicated command
00431     EventQueueManager::run (lQueue, iEventStruct);
00432
00433   }
00434
00435   // ////////////////////////////////////////////////////////////////////
00436   bool SEVMGR_Service::
00437   select (stdair::EventStruct& iEventStruct,
00438           const stdair::DateTime_T& iEventDateTime) const {
00439
00440     // Retrieve the SEvMgr service context
00441     if (_sevmgrServiceContext == NULL) {
00442       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00443                                                     "has not been initialised")
      ;
00444     }
00445     assert (_sevmgrServiceContext != NULL);
00446     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00447
00448     // Retrieve the event queue object instance
00449     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00450
00451     // Delegate the call to the dedicated command
00452     return EventQueueManager::select (lQueue,
      iEventStruct, iEventDateTime);
00453
00454   }
00455
00456   // ////////////////////////////////////////////////////////////////////
00457   void SEVMGR_Service::
00458   updateStatus (const stdair::EventType::EN_EventType& iEventType
      ,
00459                 const stdair::Count_T& iEventCount) const {
00460
00461     // Retrieve the SEvMgr service context
00462     if (_sevmgrServiceContext == NULL) {
00463       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00464                                                     "has not been initialised")
      ;
00465     }
00466     assert (_sevmgrServiceContext != NULL);
00467     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00468
00469     // Retrieve the event queue object instance
00470     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00471
00472     // Delegate the call to the dedicated command
00473     EventQueueManager::updateStatus (lQueue,
      iEventType, iEventCount);
00474   }
00475
00476   // ////////////////////////////////////////////////////////////////////
00477   void SEVMGR_Service::
00478   addStatus (const stdair::EventType::EN_EventType& iEventType,
00479              const stdair::Count_T& iEventCount) const {
00480
00481     // Retrieve the SEvMgr service context
00482     if (_sevmgrServiceContext == NULL) {
00483       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00484                                                     "has not been initialised")
      ;
00485     }
00486     assert (_sevmgrServiceContext != NULL);
```

```
00487     SEVMGR_ServiceContext& lSEVMGR_ServiceContext = *
      _sevmgrServiceContext;
00488
00489     // Retrieve the event queue object instance
00490     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00491
00492     // Delegate the call to the dedicated function
00493     EventQueueManager::addStatus (lQueue,
      iEventType, iEventCount);
00494   }
00495
00496   // ////////////////////////////////////////////////////////////////////
00497   bool SEVMGR_Service::isQueueDone() const {
00498
00499     // Retrieve the SEvMgr service context
00500     if (_sevmgrServiceContext == NULL) {
00501       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00502                                                     "has not been initialised")
      ;
00503     }
00504     assert (_sevmgrServiceContext != NULL);
00505     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00506       *_sevmgrServiceContext;
00507
00508     // Retrieve the event queue object instance
00509     const EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue()
      ;
00510
00511     // Calculates whether the event queue has been fully emptied
00512     const bool isQueueDone = EventQueueManager::isQueueDone
      (lQueue);
00513
00514     //
00515     return isQueueDone;
00516   }
00517
00518   // ////////////////////////////////////////////////////////////////////
00519   bool SEVMGR_Service::hasProgressStatus(const
       stdair::EventType::EN_EventType& iEventType) const {
00520
00521     // Retrieve the SEvMgr service context
00522     if (_sevmgrServiceContext == NULL) {
00523       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00524                                                     "has not been initialised")
      ;
00525     }
00526     assert (_sevmgrServiceContext != NULL);
00527     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00528       *_sevmgrServiceContext;
00529
00530     // Retrieve the event queue object instance
00531     const EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue()
      ;
00532
00533     // Calculates whether the event queue has been fully emptied
00534     const bool hasProgressStatus =
00535       EventQueueManager::hasProgressStatus
       (lQueue, iEventType);
00536
00537     //
00538     return hasProgressStatus;
00539   }
00540
00541   // ////////////////////////////////////////////////////////////////////
00542   const stdair::Count_T& SEVMGR_Service::getQueueSize
      () const {
00543
00544     // Retrieve the SEvMgr service context
00545     if (_sevmgrServiceContext == NULL) {
00546       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00547                                                     "has not been initialised")
      ;
00548     }
00549     assert (_sevmgrServiceContext != NULL);
00550     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00551       *_sevmgrServiceContext;
00552
00553     // Retrieve the event queue object instance
00554     const EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue()
      ;
00555
00556     // Delegate the call to the dedicated command
00557     return EventQueueManager::getQueueSize(
      lQueue);
00558   }
00559
00560   // ////////////////////////////////////////////////////////////////////
```

```
00561   void SEVMGR_Service::reset() const {
00562
00563     // Retrieve the SEvMgr service context
00564     if (_sevmgrServiceContext == NULL) {
00565       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00566                                                     "has not been initialised")
    ;
00567     }
00568     assert (_sevmgrServiceContext != NULL);
00569     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00570       *_sevmgrServiceContext;
00571
00572     // Retrieve the event queue object instance
00573     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00574
00575     // Delegate the call to the dedicated command
00576     EventQueueManager::reset (lQueue);
00577   }
00578
00579   // ////////////////////////////////////////////////////////////////////
00580   EventQueue& SEVMGR_Service::getEventQueue
    () const {
00581
00582     // Retrieve the SEvMgr service context
00583     if (_sevmgrServiceContext == NULL) {
00584       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00585                                                     "has not been initialised")
    ;
00586     }
00587     assert (_sevmgrServiceContext != NULL);
00588
00589     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00590       *_sevmgrServiceContext;
00591
00592     return lSEVMGR_ServiceContext.getEventQueue();
00593   }
00594
00595   // ////////////////////////////////////////////////////////////////////
00596   void SEVMGR_Service::addEvent(stdair::EventStruct&
    iEventStruct) const {
00597
00598     // Retrieve the SEvMgr service context
00599     if (_sevmgrServiceContext == NULL) {
00600       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00601                                                     "has not been initialised")
    ;
00602     }
00603     assert (_sevmgrServiceContext != NULL);
00604     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00605       *_sevmgrServiceContext;
00606
00607     // Retrieve the event queue object instance
00608     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00609
00610     // Delegate the call to the dedicated command
00611     EventQueueManager::addEvent (lQueue,
    iEventStruct);
00612   }
00613
00614   // ////////////////////////////////////////////////////////////////////
00615   const stdair::Count_T& SEVMGR_Service::
00616   getExpectedTotalNumberOfEventsToBeGenerated
    () const {
00617
00618     // Retrieve the SEvMgr service context
00619     if (_sevmgrServiceContext == NULL) {
00620       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00621                                                     "has not been initialised")
    ;
00622     }
00623     assert (_sevmgrServiceContext != NULL);
00624     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00625       *_sevmgrServiceContext;
00626
00627     // Retrieve the event queue object instance
00628     const EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue()
    ;
00629
00630     // Delegate the call to the dedicated function
00631     return EventQueueManager::getExpectedTotalNumberOfEventsToBeGenerated
     (lQueue);
00632   }
00633
00634   // ////////////////////////////////////////////////////////////////////
00635   const stdair::Count_T& SEVMGR_Service::
00636   getExpectedTotalNumberOfEventsToBeGenerated
    (const stdair::EventType::EN_EventType& iEventType) const {
```

```
00637
00638     // Retrieve the SEvMgr service context
00639     if (_sevmgrServiceContext == NULL) {
00640       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00641                                                     "has not been initialised")
      ;
00642     }
00643     assert (_sevmgrServiceContext != NULL);
00644     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00645       *_sevmgrServiceContext;
00646
00647     // Retrieve the event queue object instance
00648     const EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue()
      ;
00649
00650     // Delegate the call to the dedicated function
00651     return EventQueueManager::getExpectedTotalNumberOfEventsToBeGenerated
       (lQueue,
00652
      iEventType);
00653   }
00654
00655   // ////////////////////////////////////////////////////////////////////
00656   const stdair::Count_T& SEVMGR_Service::
00657   getActualTotalNumberOfEventsToBeGenerated
      () const {
00658
00659     // Retrieve the SEvMgr service context
00660     if (_sevmgrServiceContext == NULL) {
00661       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00662                                                     "has not been initialised")
      ;
00663     }
00664     assert (_sevmgrServiceContext != NULL);
00665     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00666       *_sevmgrServiceContext;
00667
00668     // Retrieve the event queue object instance
00669     const EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue()
      ;
00670
00671     // Delegate the call to the dedicated function
00672     return EventQueueManager::getActualTotalNumberOfEventsToBeGenerated
      (lQueue);
00673
00674   }
00675
00676   // ////////////////////////////////////////////////////////////////////
00677   const stdair::Count_T& SEVMGR_Service::
00678   getActualTotalNumberOfEventsToBeGenerated
      (const stdair::EventType::EN_EventType& iEventType) const {
00679
00680     // Retrieve the SEvMgr service context
00681     if (_sevmgrServiceContext == NULL) {
00682       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00683                                                     "has not been initialised")
      ;
00684     }
00685     assert (_sevmgrServiceContext != NULL);
00686     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00687       *_sevmgrServiceContext;
00688
00689     // Retrieve the event queue object instance
00690     const EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue()
      ;
00691
00692     // Delegate the call to the dedicated function
00693     return EventQueueManager::getActualTotalNumberOfEventsToBeGenerated
      (lQueue,
00694
      iEventType);
00695
00696   }
00697
00699   const stdair::STDAIR_Service& SEVMGR_Service::getSTDAIR_Service() const {
00700
00701       // Retrieve the StdAir service context
00702     if (_sevmgrServiceContext == NULL) {
00703       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00704                                                     "has not been initialised")
      ;
00705     }
00706     assert (_sevmgrServiceContext != NULL);
00707     const stdair::STDAIR_Service& lSTDAIR_Service =
00708       _sevmgrServiceContext->getSTDAIR_Service();
00709
00710     //
```

```
00711     return lSTDAIR_Service;
00712   }
00713
00715   const stdair::ProgressStatus& SEVMGR_Service::getStatus
      () const {
00716
00717     // Retrieve the SEvMgr service context
00718     if (_sevmgrServiceContext == NULL) {
00719       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00720                                                     "has not been initialised")
      ;
00721     }
00722     assert (_sevmgrServiceContext != NULL);
00723     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00724       *_sevmgrServiceContext;
00725
00726     // Retrieve the event queue object instance
00727     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00728
00729     // Delegate the call to the dedicated function
00730     return EventQueueManager::getStatus(lQueue);
00731
00732   }
00733
00735   const stdair::ProgressStatus& SEVMGR_Service::
00736   getStatus(const stdair::EventType::EN_EventType& iEventType) const
       {
00737
00738     // Retrieve the SEvMgr service context
00739     if (_sevmgrServiceContext == NULL) {
00740       throw stdair::NonInitialisedServiceException ("The SEvMgr service "
00741                                                     "has not been initialised")
      ;
00742     }
00743     assert (_sevmgrServiceContext != NULL);
00744     SEVMGR_ServiceContext& lSEVMGR_ServiceContext =
00745       *_sevmgrServiceContext;
00746
00747     // Retrieve the event queue object instance
00748     EventQueue& lQueue = lSEVMGR_ServiceContext.getEventQueue();
00749
00750     // Delegate the call to the dedicated function
00751     return EventQueueManager::getStatus(lQueue,
      iEventType);
00752
00753   }
00754
00755
00756 }
```

23.55 sevmgr/service/SEVMGR_ServiceContext.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/STDAIR_Service.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/factory/FacBom.hpp>
#include <sevmgr/basic/BasConst_EventQueueManager.hpp>
#include <sevmgr/bom/EventQueue.hpp>
#include <sevmgr/service/SEVMGR_ServiceContext.hpp>
```

Namespaces

- namespace SEVMGR

23.56 SEVMGR_ServiceContext.cpp

```
00001 // ////////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
```

```
00007 // StdAir
00008 #include <stdair/STDAIR_Service.hpp>
00009 #include <stdair/basic/BasConst_General.hpp>
00010 #include <stdair/factory/FacBom.hpp>
00011 // SEvMgr
00012 #include <sevmgr/basic/BasConst_EventQueueManager.hpp
      >
00013 #include <sevmgr/bom/EventQueue.hpp>
00014 #include <sevmgr/service/SEVMGR_ServiceContext.hpp
      >
00015
00016 namespace SEVMGR {
00017
00018   // ////////////////////////////////////////////////////////////////////
00019   SEVMGR_ServiceContext::SEVMGR_ServiceContext()
00020     : _eventQueue (NULL) {
00021     init();
00022   }
00023
00024   // ////////////////////////////////////////////////////////////////////
00025   SEVMGR_ServiceContext::
00026   SEVMGR_ServiceContext (const SEVMGR_ServiceContext& iServiceContext)
00027     : _eventQueue (iServiceContext._eventQueue) {
00028   }
00029
00030   // ////////////////////////////////////////////////////////////////////
00031   SEVMGR_ServiceContext::~SEVMGR_ServiceContext() {
00032   }
00033
00034   // ////////////////////////////////////////////////////////////////////
00035   void SEVMGR_ServiceContext::init() {
00036     //
00037     initEventQueue();
00038   }
00039
00040   // ////////////////////////////////////////////////////////////////////
00041   void SEVMGR_ServiceContext::initEventQueue() {
00042
00043     // The event queue key is just a string. For now, it is not used.
00044     const EventQueueKey lKey ("EQ01");
00045
00046     // Create an EventQueue object instance
00047     EventQueue& lEventQueue = stdair::FacBom<EventQueue>::instance().create (
      lKey);
00048
00049     // Store the event queue object
00050     _eventQueue = &lEventQueue;
00051   }
00052
00053   // ////////////////////////////////////////////////////////////////////
00054   const std::string SEVMGR_ServiceContext::shortDisplay() const {
00055     std::ostringstream oStr;
00056     oStr << "SEVMGR_ServiceContext -- Owns StdAir service: "
00057          << _ownStdairService;
00058     if (_eventQueue != NULL) {
00059       oStr << " -- Queue: " << _eventQueue->toString();
00060     }
00061     return oStr.str();
00062   }
00063
00064   // ////////////////////////////////////////////////////////////////////
00065   const std::string SEVMGR_ServiceContext::display() const {
00066     std::ostringstream oStr;
00067     oStr << shortDisplay();
00068     return oStr.str();
00069   }
00070
00071   // ////////////////////////////////////////////////////////////////////
00072   const std::string SEVMGR_ServiceContext::describe() const {
00073     return shortDisplay();
00074   }
00075
00076   // ////////////////////////////////////////////////////////////////////
00077   void SEVMGR_ServiceContext::reset() {
00078
00079     // The shared_ptr<>::reset() method drops the refcount by one.
00080     // If the count result is dropping to zero, the resource pointed to
00081     // by the shared_ptr<> will be freed.
00082
00083     // Reset the stdair shared pointer
00084     _stdairService.reset();
00085   }
00086
00087   // ////////////////////////////////////////////////////////////////////
00088   EventQueue& SEVMGR_ServiceContext::getEventQueue() const {
00089     assert (_eventQueue != NULL);
00090     return *_eventQueue;
```

```
00091   }
00092
00093 }
```

23.57 sevmgr/service/SEVMGR_ServiceContext.hpp File Reference

```
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_service_types.hpp>
#include <stdair/service/ServiceAbstract.hpp>
#include <sevmgr/SEVMGR_Types.hpp>
```

Classes

- class SEVMGR::SEVMGR_ServiceContext

  Class holding the context of the Sevmgr services.

Namespaces

- namespace stdair

  Forward declarations.
- namespace SEVMGR

23.58 SEVMGR_ServiceContext.hpp

```
00001 #ifndef __SEVMGR_SVC_SEVMGRSERVICECONTEXT_HPP
00002 #define __SEVMGR_SVC_SEVMGRSERVICECONTEXT_HPP
00003
00004 // //////////////////////////////////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/stdair_service_types.hpp>
00012 #include <stdair/service/ServiceAbstract.hpp>
00013 // SEvMgr
00014 #include <sevmgr/SEVMGR_Types.hpp>
00015
00017 namespace stdair {
00018   class FacBomManager;
00019   template <typename BOM> class FacBom;
00020 }
00021
00022 namespace SEVMGR {
00023
00025   class EventQueue;
00026
00030   class SEVMGR_ServiceContext : public
      stdair::ServiceAbstract {
00036     friend class SEVMGR_Service;
00037     friend class FacSEVMGRServiceContext;
00038
00039   private:
00040     // ///////// Getters //////////
00044     stdair::STDAIR_ServicePtr_T getSTDAIR_ServicePtr() const {
00045       return _stdairService;
00046     }
00047
00051     stdair::STDAIR_Service& getSTDAIR_Service() const {
00052       assert (_stdairService != NULL);
00053       return *_stdairService;
00054     }
00055
00059     const bool getOwnStdairServiceFlag() const {
00060       return _ownStdairService;
00061     }
00062
```

```
00066     EventQueue& getEventQueue() const;
00067
00068
00069   private:
00070     // ///////// Setters //////////
00074     void setSTDAIR_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr,
00075                             const bool iOwnStdairService) {
00076       _stdairService = ioSTDAIR_ServicePtr;
00077       _ownStdairService = iOwnStdairService;
00078     }
00079
00080
00081   private:
00082     // ///////// Display Methods //////////
00086     const std::string shortDisplay() const;
00087
00091     const std::string display() const;
00092
00096     const std::string describe() const;
00097
00098
00099   private:
00101
00104     SEVMGR_ServiceContext();
00108     SEVMGR_ServiceContext (const SEVMGR_ServiceContext&);
00109
00113     ~SEVMGR_ServiceContext();
00114
00118     void reset();
00119
00127     void init();
00128
00135     void initEventQueue();
00136
00137
00138   private:
00139     // ///////////////// Children ///////////////
00143     stdair::STDAIR_ServicePtr_T _stdairService;
00144
00148     bool _ownStdairService;
00149
00150
00151   private:
00152     // /////////////// Attributes ////////////////
00156     EventQueue* _eventQueue;
00157   };
00158
00159 }
00160 #endif // __SEVMGR_SVC_SEVMGRSERVICECONTEXT_HPP
```

23.59 sevmgr/SEVMGR_Exceptions.hpp File Reference

```
#include <exception>
#include <stdair/stdair_exceptions.hpp>
```

Classes

- class SEVMGR::SEvMgrException
- class SEVMGR::EventQueueException

Namespaces

- namespace SEVMGR

23.60 SEVMGR_Exceptions.hpp

```
00001 #ifndef __SEVMGR_SEVMGR_EXCEPTIONS_HPP
00002 #define __SEVMGR_SEVMGR_EXCEPTIONS_HPP
00003
00004 // ////////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////////////////////////////////////////
```

```
00007 // STL
00008 #include <exception>
00009 // StdAir
00010 #include <stdair/stdair_exceptions.hpp>
00011
00012 namespace SEVMGR {
00013
00014   // ///////// Exceptions ////////////
00018   class SEvMgrException : public stdair::RootException {
00019   public:
00023     SEvMgrException (const std::string& iWhat)
00024       : stdair::RootException (iWhat) {}
00025   };
00026
00028   class EventQueueException : public SEvMgrException
      {
00029   public:
00031     EventQueueException (const std::string& iWhat) :
      SEvMgrException (iWhat) {}
00032   };
00033
00034
00035 }
00036 #endif // __SEVMGR_SEVMGR_EXCEPTIONS_HPP
00037
```

23.61 sevmgr/SEVMGR_Service.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_json.hpp>
#include <stdair/stdair_service_types.hpp>
#include <stdair/bom/EventTypes.hpp>
#include <stdair/bom/EventStruct.hpp>
```

Classes

- class SEVMGR::SEVMGR_Service

  class holding the services related to Travel Demand Generation.

Namespaces

- namespace stdair

  Forward declarations.
- namespace SEVMGR

23.62 SEVMGR_Service.hpp

```
00001 #ifndef __SEVMGR_SEVMGR_SERVICE_HPP
00002 #define __SEVMGR_SEVMGR_SERVICE_HPP
00003
00004 // //////////////////////////////////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_json.hpp>
00010 #include <stdair/stdair_service_types.hpp>
00011 #include <stdair/bom/EventTypes.hpp>
00012 #include <stdair/bom/EventStruct.hpp>
00013
00014 // Forward declarations
00015 namespace stdair {
00016   struct ProgressStatusSet;
00017   struct BasLogParams;
00018   struct BasDBParams;
00019   struct BookingRequestStruct;
00020 }
00021
00022 namespace SEVMGR {
```

```
00023
00025   class SEVMGR_ServiceContext;
00026   class EventQueue;
00027   //struct EventStruct;
00028
00032   class SEVMGR_Service {
00033   public:
00034     // ////////////////// Constructors and Destructors //////////////////
00050     SEVMGR_Service (const stdair::BasLogParams&, const
      stdair::BasDBParams&);
00051
00063     SEVMGR_Service (const stdair::BasLogParams&);
00064
00080     SEVMGR_Service (stdair::STDAIR_ServicePtr_T);
00081
00085     ~SEVMGR_Service();
00086
00087
00088   public:
00089     // ////////////////// Business support methods //////////////////
00093     void buildSampleQueue();
00094
00125     stdair::BookingRequestStruct buildSampleBookingRequest
      (const bool isForCRS = false);
00126
00143     stdair::ProgressStatusSet popEvent (stdair::EventStruct&) const;
00144
00145
00153     void run (stdair::EventStruct&) const;
00154
00169     bool select (stdair::EventStruct&,
00170                  const stdair::DateTime_T&) const;
00171
00180     template<class EventGenerator>
00181     void addEventGenerator(EventGenerator& iEventGenerator)
      const;
00182
00186     void addEvent(stdair::EventStruct&) const;
00187
00192     void reset() const;
00193
00203     void updateStatus (const stdair::EventType::EN_EventType&,
00204                        const stdair::Count_T&) const;
00205
00215      void addStatus (const stdair::EventType::EN_EventType&,
00216                      const stdair::Count_T&) const;
00217
00223     bool isQueueDone() const;
00224
00229     bool hasProgressStatus(const
      stdair::EventType::EN_EventType&) const;
00230
00231     /* @brief Get a reference on the EventQueue object.
00232      *
00233      * @return EventQueue& Reference on the EventQueue.
00234      */
00235     EventQueue& getEventQueue() const;
00236
00240     const stdair::Count_T& getQueueSize() const;
00241
00251     template<class EventGenerator, class Key>
00252     EventGenerator& getEventGenerator(const Key& iKey) const;
00253
00263     template<class EventGenerator, class Key>
00264     bool hasEventGenerator(const Key& iKey) const;
00265
00275     template<class EventGenerator>
00276     const std::list<EventGenerator*> getEventGeneratorList
      () const;
00277
00287     template<class EventGenerator>
00288     bool hasEventGeneratorList() const;
00289
00304     const stdair::Count_T& getExpectedTotalNumberOfEventsToBeGenerated
      () const;
00305
00322     const stdair::Count_T&
00323     getExpectedTotalNumberOfEventsToBeGenerated
      (const stdair::EventType::EN_EventType&) const;
00324
00337     const stdair::Count_T& getActualTotalNumberOfEventsToBeGenerated
      () const;
00338
00355     const stdair::Count_T&
00356     getActualTotalNumberOfEventsToBeGenerated
      (const stdair::EventType::EN_EventType&) const;
00357
```

```
00361     const stdair::ProgressStatus& getStatus () const;
00362
00367     const stdair::ProgressStatus& getStatus (const
      stdair::EventType::EN_EventType&) const;
00368
00369   public:
00370     // ///////////////// Display support methods /////////////////
00371
00378     std::string describeKey() const;
00379
00386     std::string list () const;
00387
00397     std::string list (const stdair::EventType::EN_EventType&) const;
00398
00399   public:
00400     // ///////////////// Export support methods /////////////////
00409     std::string jsonHandler (const stdair::JSONString&) const;
00410
00415     std::string jsonExportEventQueue (const
      stdair::EventType::EN_EventType& =
00416                                       stdair::EventType::LAST_VALUE) const;
00417
00421     std::string jsonExportEvent (const stdair::EventStruct&)
      const;
00422
00423   private:
00424     // ////////////////// Constructors and Destructors /////////////////
00428     SEVMGR_Service();
00429
00433     SEVMGR_Service (const SEVMGR_Service&);
00434
00439     void initServiceContext();
00440
00452     stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&,
00453                                                    const stdair::BasDBParams&);
00454
00464     stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&)
      ;
00465
00474     void addStdAirService (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr,
00475                            const bool iOwnStdairService);
00476
00483     void initSevmgrService();
00484
00488     void finalise();
00489
00490   private:
00491     // ////////////////// Getters ////////////////////
00498     const stdair::STDAIR_Service& getSTDAIR_Service() const;
00499
00500   private:
00501     // ///////// Service Context /////////
00505     SEVMGR_ServiceContext* _sevmgrServiceContext;
00506   };
00507
00508 }
00509 #endif // __SEVMGR_SEVMGR_SERVICE_HPP
```

23.63 sevmgr/SEVMGR_Types.hpp File Reference

```
#include <boost/shared_ptr.hpp>
#include <stdair/basic/ProgressStatusSet.hpp>
#include <stdair/basic/EventType.hpp>
#include <sevmgr/SEVMGR_Exceptions.hpp>
```

Namespaces

- namespace SEVMGR

Typedefs

- typedef boost::shared_ptr < SEVMGR_Service > SEVMGR::SEVMGR_ServicePtr_T
- typedef std::string SEVMGR::EventQueueID_T

- typedef std::map
  < stdair::EventType::EN_EventType,
  stdair::ProgressStatus > SEVMGR::ProgressStatusMap_T

23.64 SEVMGR_Types.hpp

```
00001 #ifndef __SEVMGR_SEVMGR_TYPES_HPP
00002 #define __SEVMGR_SEVMGR_TYPES_HPP
00003
00004 // //////////////////////////////////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////////////////////////////////
00007 // Boost
00008 #include <boost/shared_ptr.hpp>
00009 // Stdair
00010 #include <stdair/basic/ProgressStatusSet.hpp>
00011 #include <stdair/basic/EventType.hpp>
00012 // Sevmgr
00013 #include <sevmgr/SEVMGR_Exceptions.hpp>
00014
00015 namespace SEVMGR {
00016
00017   // Forward declarations
00018   class SEVMGR_Service;
00019
00020   // //////// Type definitions specific to to Sevmgr /////////
00024   typedef boost::shared_ptr<SEVMGR_Service> SEVMGR_ServicePtr_T
      ;
00025
00027   typedef std::string EventQueueID_T;
00028
00034   typedef std::map<stdair::EventType::EN_EventType,
00035                    stdair::ProgressStatus> ProgressStatusMap_T
      ;
00036
00037 }
00038 #endif // __SEVMGR_SEVMGR_TYPES_HPP
00039
```

23.65 sevmgr/ui/cmdline/sevmgr.cpp File Reference

23.66 sevmgr.cpp

```
00001
00005 // STL
00006 #include <cassert>
00007 #include <iostream>
00008 #include <sstream>
00009 #include <fstream>
00010 #include <string>
00011 // Boost (Extended STL)
00012 #include <boost/program_options.hpp>
00013 #include <boost/tokenizer.hpp>
00014 #include <boost/regex.hpp>
00015 #include <boost/swap.hpp>
00016 #include <boost/algorithm/string/case_conv.hpp>
00017 // StdAir
00018 #include <stdair/stdair_exceptions.hpp>
00019 #include <stdair/basic/BasLogParams.hpp>
00020 #include <stdair/basic/BasDBParams.hpp>
00021 #include <stdair/service/Logger.hpp>
00022 #include <stdair/bom/BookingRequestStruct.hpp>
00023 #include <stdair/bom/BookingRequestTypes.hpp>
00024 #include <stdair/basic/ProgressStatusSet.hpp>
00025 #include <stdair/bom/EventStruct.hpp>
00026 // GNU Readline Wrapper
00027 #include <stdair/ui/cmdline/SReadline.hpp>
00028 // SEvMgr
00029 #include <sevmgr/SEVMGR_Service.hpp>
00030 #include <sevmgr/config/sevmgr-paths.hpp>
00031
00032 // //////// Constants //////
00036 const std::string K_SEVMGR_DEFAULT_LOG_FILENAME ("
      sevmgr.log");
00037
00041 const int K_SEVMGR_EARLY_RETURN_STATUS = 99;
00042
00047 typedef std::vector<std::string> TokenList_T;
00048
```

```
00052 struct Command_T {
00053   typedef enum {
00054     NOP = 0,
00055     QUIT,
00056     HELP,
00057     LIST,
00058     DISPLAY,
00059     SELECT,
00060     NEXT,
00061     RUN,
00062     JSON_LIST,
00063     JSON_DISPLAY,
00064     LAST_VALUE
00065   } Type_T;
00066 };
00067
00068 // ///////// Parsing of Options & Configuration /////////
00069 // A helper function to simplify the main part.
00070 template<class T> std::ostream& operator<< (std::ostream& os,
00071                                             const std::vector<T>& v) {
00072   std::copy (v.begin(), v.end(), std::ostream_iterator<T> (std::cout, " "));
00073   return os;
00074 }
00075
00079 int readConfiguration (int argc, char* argv[], std::string&
      ioLogFilename) {
00080   // Declare a group of options that will be allowed only on command line
00081   boost::program_options::options_description generic ("Generic options");
00082   generic.add_options()
00083     ("prefix", "print installation prefix")
00084     ("version,v", "print version string")
00085     ("help,h", "produce help message");
00086
00087   // Declare a group of options that will be allowed both on command
00088   // line and in config file
00089
00090   boost::program_options::options_description config ("Configuration");
00091   config.add_options()
00092     ("log,l",
00093      boost::program_options::value< std::string >(&ioLogFilename)->
      default_value(K_SEVMGR_DEFAULT_LOG_FILENAME),
00094      "Filename for the logs")
00095     ;
00096
00097   // Hidden options, will be allowed both on command line and
00098   // in config file, but will not be shown to the user.
00099   boost::program_options::options_description hidden ("Hidden options");
00100   hidden.add_options()
00101     ("copyright",
00102      boost::program_options::value< std::vector<std::string> >(),
00103      "Show the copyright (license)");
00104
00105   boost::program_options::options_description cmdline_options;
00106   cmdline_options.add(generic).add(config).add(hidden);
00107
00108   boost::program_options::options_description config_file_options;
00109   config_file_options.add(config).add(hidden);
00110   boost::program_options::options_description visible ("Allowed options");
00111   visible.add(generic).add(config);
00112
00113   boost::program_options::positional_options_description p;
00114   p.add ("copyright", -1);
00115
00116   boost::program_options::variables_map vm;
00117   boost::program_options::
00118     store (boost::program_options::command_line_parser (argc, argv).
00119            options (cmdline_options).positional(p).run(), vm);
00120
00121   std::ifstream ifs ("sevmgr.cfg");
00122   boost::program_options::store (parse_config_file (ifs, config_file_options),
00123                                  vm);
00124   boost::program_options::notify (vm);
00125
00126   if (vm.count ("help")) {
00127     std::cout << visible << std::endl;
00128     return K_SEVMGR_EARLY_RETURN_STATUS;
00129   }
00130
00131   if (vm.count ("version")) {
00132     std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION
       << std::endl;
00133     return K_SEVMGR_EARLY_RETURN_STATUS;
00134   }
00135
00136   if (vm.count ("prefix")) {
00137     std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
00138     return K_SEVMGR_EARLY_RETURN_STATUS;
```

```
00139   }
00140
00141   if (vm.count ("log")) {
00142     ioLogFilename = vm["log"].as< std::string >();
00143     std::cout << "Log filename is: " << ioLogFilename << std::endl;
00144   }
00145
00146   return 0;
00147 }
00148
00149 // ////////////////////////////////////////////////////////////////////
00150 void initReadline (swift::SReadline& ioInputReader) {
00151
00152   // Prepare the list of my own completers
00153   std::vector<std::string> Completers;
00154
00155   // The following is supported:
00156   // - "identifiers"
00157   // - special identifier %file - means to perform a file name completion
00158   Completers.push_back ("help");
00159   Completers.push_back ("list");
00160   Completers.push_back ("list BookingRequest");
00161   Completers.push_back ("list BreakPoint");
00162   Completers.push_back ("select %date %time");
00163   Completers.push_back ("display");
00164   Completers.push_back ("next");
00165   Completers.push_back ("run");
00166   Completers.push_back ("json_list");
00167   Completers.push_back ("json_display");
00168   Completers.push_back ("quit");
00169
00170
00171   // Now register the completers.
00172   // Actually it is possible to re-register another set at any time
00173   ioInputReader.RegisterCompletions (Completers);
00174 }
00175
00176 // ////////////////////////////////////////////////////////////////////
00177 void parseEventDateTime (const TokenList_T& iTokenList,
00178                          stdair::Date_T& ioEventDate,
00179                          stdair::Duration_T& ioEventTime) {
00180   //
00181   const std::string kMonthStr[12] = {"Jan", "Feb", "Mar", "Apr", "May", "Jun",
00182                                      "Jul", "Aug", "Sep", "Oct", "Nov", "Dec"};
00183   //
00184   unsigned short ioEventDateYear = ioEventDate.year();
00185   unsigned short ioEventDateMonth = ioEventDate.month();
00186   std::string ioEventDateMonthStr = kMonthStr[ioEventDateMonth-1];
00187   unsigned short ioEventDateDay = ioEventDate.day();
00188   //
00189   unsigned short ioEventTimeHours = ioEventTime.hours();
00190   unsigned short ioEventTimeMinutes = ioEventTime.minutes();
00191   unsigned short ioEventTimeSeconds = ioEventTime.seconds();
00192
00193   // Interpret the user input
00194   if (iTokenList.empty() == false) {
00195
00196     // Read the date year
00197     TokenList_T::const_iterator itTok = iTokenList.begin();
00198
00199     // Read the year for the event date
00200     if (itTok != iTokenList.end()) {
00201
00202       if (itTok->empty() == false) {
00203         try {
00204
00205           ioEventDateYear = boost::lexical_cast<unsigned short> (*itTok);
00206           if (ioEventDateYear < 100) {
00207             ioEventDateYear += 2000;
00208           }
00209
00210         } catch (boost::bad_lexical_cast& eCast) {
00211           std::cerr << "The year of the event date ('" << *itTok
00212                     << "') cannot be understood. The default value ("
00213                     << ioEventDateYear << ") is kept. " << std::endl;
00214           return;
00215         }
00216       }
00217
00218     } else {
00219       return;
00220     }
00221
00222     // Read the month for the event date
00223     ++itTok;
00224     if (itTok != iTokenList.end()) {
00225
```

```
00226       if (itTok->empty() == false) {
00227         try {
00228
00229           const boost::regex lMonthRegex ("^(\\d{1,2})$");
00230           const bool isMonthANumber = regex_match (*itTok, lMonthRegex);
00231
00232           if (isMonthANumber == true) {
00233             const unsigned short lMonth =
00234               boost::lexical_cast<unsigned short> (*itTok);
00235             if (lMonth > 12) {
00236               throw boost::bad_lexical_cast();
00237             }
00238             ioEventDateMonthStr = kMonthStr[lMonth-1];
00239
00240           } else {
00241             const std::string lMonthStr (*itTok);
00242             if (lMonthStr.size() < 3) {
00243               throw boost::bad_lexical_cast();
00244             }
00245             std::string lMonthStr1 (lMonthStr.substr (0, 1));
00246             boost::algorithm::to_upper (lMonthStr1);
00247             std::string lMonthStr23 (lMonthStr.substr (1, 2));
00248             boost::algorithm::to_lower (lMonthStr23);
00249             ioEventDateMonthStr = lMonthStr1 + lMonthStr23;
00250           }
00251
00252         } catch (boost::bad_lexical_cast& eCast) {
00253           std::cerr << "The month of the event date ('" << *itTok
00254                     << "') cannot be understood. The default value ("
00255                     << ioEventDateMonthStr << ") is kept. " << std::endl;
00256           return;
00257         }
00258       }
00259     }
00260
00261     // Read the day for the event date
00262     ++itTok;
00263     if (itTok != iTokenList.end()) {
00264
00265       if (itTok->empty() == false) {
00266         try {
00267
00268           ioEventDateDay = boost::lexical_cast<unsigned short> (*itTok);
00269
00270         } catch (boost::bad_lexical_cast& eCast) {
00271           std::cerr << "The day of the event date ('" << *itTok
00272                     << "') cannot be understood. The default value ("
00273                     << ioEventDateDay << ") is kept. " << std::endl;
00274           return;
00275         }
00276       }
00277
00278     } else {
00279       return;
00280     }
00281
00282     // Re-compose the event date
00283     std::ostringstream lEventDateStr;
00284     lEventDateStr << ioEventDateYear << "-" << ioEventDateMonthStr
00285                   << "-" << ioEventDateDay;
00286
00287     try {
00288
00289       ioEventDate =
00290         boost::gregorian::from_simple_string (lEventDateStr.str());
00291
00292     } catch (boost::gregorian::bad_month& eCast) {
00293       std::cerr << "The event date ('" << lEventDateStr.str()
00294                 << "') cannot be understood. The default value ("
00295                 << ioEventDate << ") is kept. " << std::endl;
00296       return;
00297     }
00298
00299     // Read the hours of the event time
00300     ++itTok;
00301     if (itTok != iTokenList.end()) {
00302
00303       if (itTok->empty() == false) {
00304         try {
00305
00306           ioEventTimeHours = boost::lexical_cast<unsigned short> (*itTok);
00307
00308         } catch (boost::bad_lexical_cast& eCast) {
00309           std::cerr << "The hours of the event time ('" << *itTok
00310                     << "') cannot be understood. The default value ("
00311                     << ioEventTimeHours << ") is kept. " << std::endl;
00312           return;
```

```
00313         }
00314       }
00315
00316     } else {
00317       return;
00318     }
00319
00320     // Read the minutes of the event time
00321     ++itTok;
00322     if (itTok != iTokenList.end()) {
00323
00324       if (itTok->empty() == false) {
00325         try {
00326
00327           ioEventTimeMinutes = boost::lexical_cast<unsigned short> (*itTok);
00328
00329         } catch (boost::bad_lexical_cast& eCast) {
00330           std::cerr << "The minutes of the event time ('" << *itTok
00331                     << "') cannot be understood. The default value ("
00332                     << ioEventTimeMinutes << ") is kept. " << std::endl;
00333           return;
00334         }
00335       }
00336
00337     } else {
00338       return;
00339     }
00340
00341     // Read the seconds of the event time
00342     ++itTok;
00343     if (itTok != iTokenList.end()) {
00344
00345       if (itTok->empty() == false) {
00346         try {
00347
00348           ioEventTimeSeconds = boost::lexical_cast<unsigned short> (*itTok);
00349
00350         } catch (boost::bad_lexical_cast& eCast) {
00351           std::cerr << "The seconds of the event time ('" << *itTok
00352                     << "') cannot be understood. The default value ("
00353                     << ioEventTimeSeconds << ") is kept. " << std::endl;
00354           return;
00355         }
00356       }
00357
00358     } else {
00359       return;
00360     }
00361
00362     // Re-compose the event time
00363     std::ostringstream lEventTimeStr;
00364     lEventTimeStr << ioEventTimeHours << ":" << ioEventTimeMinutes
00365                   << ":" << ioEventTimeSeconds;
00366
00367     try {
00368
00369       ioEventTime =
00370         boost::posix_time::duration_from_string (lEventTimeStr.str());
00371
00372     } catch (boost::gregorian::bad_month& eCast) {
00373       std::cerr << "The event time ('" << lEventTimeStr.str()
00374                 << "') cannot be understood. The default value ("
00375                 << ioEventTime << ") is kept. " << std::endl;
00376       return;
00377     }
00378
00379   }
00380
00381 }
00382
00383 // //////////////////////////////////////////////////////////////////
00384 Command_T::Type_T extractCommand (TokenList_T& ioTokenList) {
00385   Command_T::Type_T oCommandType = Command_T::LAST_VALUE;
00386
00387   // Interpret the user input
00388   if (ioTokenList.empty() == false) {
00389     TokenList_T::iterator itTok = ioTokenList.begin();
00390     std::string lCommand (*itTok);
00391     boost::algorithm::to_lower (lCommand);
00392
00393     if (lCommand == "help") {
00394       oCommandType = Command_T::HELP;
00395
00396     } else if (lCommand == "list") {
00397       oCommandType = Command_T::LIST;
00398
00399     } else if (lCommand == "display") {
```

```
00400       oCommandType = Command_T::DISPLAY;
00401
00402     } else if (lCommand == "select") {
00403       oCommandType = Command_T::SELECT;
00404
00405     } else if (lCommand == "next") {
00406       oCommandType = Command_T::NEXT;
00407
00408     } else if (lCommand == "run") {
00409       oCommandType = Command_T::RUN;
00410
00411     } else if (lCommand == "json_list") {
00412       oCommandType = Command_T::JSON_LIST;
00413
00414     } else if (lCommand == "json_display") {
00415       oCommandType = Command_T::JSON_DISPLAY;
00416
00417     } else if (lCommand == "quit") {
00418       oCommandType = Command_T::QUIT;
00419     }
00420
00421     // Remove the first token (the command), as the corresponding information
00422     // has been extracted in the form of the returned command type enumeration
00423     ioTokenList.erase (itTok);
00424
00425   } else {
00426     oCommandType = Command_T::NOP;
00427   }
00428
00429   return oCommandType;
00430 }
00431
00432 // //////////////////////////////////////////////////////////
00433 std::string toString (const TokenList_T& iTokenList) {
00434   std::ostringstream oStr;
00435
00436   // Re-create the string with all the tokens, trimmed by read-line
00437   unsigned short idx = 0;
00438   for (TokenList_T::const_iterator itTok = iTokenList.begin();
00439        itTok != iTokenList.end(); ++itTok, ++idx) {
00440     if (idx != 0) {
00441       oStr << " ";
00442     }
00443     oStr << *itTok;
00444   }
00445
00446   return oStr.str();
00447 }
00448
00449 // //////////////////////////////////////////////////////////
00450 TokenList_T extractTokenList (const TokenList_T& iTokenList,
00451                               const std::string& iRegularExpression) {
00452   TokenList_T oTokenList;
00453
00454   // Re-create the string with all the tokens (which had been trimmed
00455   // by read-line)
00456   const std::string lFullLine = toString (iTokenList);
00457
00458   // See the caller for the regular expression
00459   boost::regex expression (iRegularExpression);
00460
00461   std::string::const_iterator start = lFullLine.begin();
00462   std::string::const_iterator end = lFullLine.end();
00463
00464   boost::match_results<std::string::const_iterator> what;
00465   boost::match_flag_type flags = boost::match_default | boost::format_sed;
00466   regex_search (start, end, what, expression, flags);
00467
00468   // Put the matched strings in the list of tokens to be returned back
00469   // to the caller
00470   const unsigned short lMatchSetSize = what.size();
00471   for (unsigned short matchIdx = 1; matchIdx != lMatchSetSize; ++matchIdx) {
00472     const std::string lMatchedString (std::string (what[matchIdx].first,
00473                                                    what[matchIdx].second));
00474     //if (lMatchedString.empty() == false) {
00475     oTokenList.push_back (lMatchedString);
00476     //}
00477   }
00478
00479   // DEBUG
00480   // std::cout << "After (token list): " << oTokenList << std::endl;
00481
00482   return oTokenList;
00483 }
00484
00485 // //////////////////////////////////////////////////////////
00486 TokenList_T extractTokenListForDateTime (const TokenList_T& iTokenList) {
```

```
00499   const std::string lRegEx("^([[:digit:]]{2,4})?[/-]?[[:space:]]*"
00500                            "([[:alpha:]]{3}|[[:digit:]]{1,2})?[/-]?[[:space:]]*
    "
00501                            "([[:digit:]]{1,2})?[[:space:]]*"
00502                            "([[:digit:]]{1,2})?[:-]?[[:space:]]*"
00503                            "([[:alpha:]]{3}|[[:digit:]]{1,2})?[:-]?[[:space:]]*
    "
00504                            "([[:digit:]]{1,2})?[[:space:]]*$");
00505
00506   //
00507   const TokenList_T& oTokenList = extractTokenList (iTokenList, lRegEx);
00508   return oTokenList;
00509 }
00510
00511 // ///////// M A I N ////////////
00512 int main (int argc, char* argv[]) {
00513
00514   // Readline history
00515   const unsigned int lHistorySize (100);
00516   const std::string lHistoryFilename ("sevmgr.hist");
00517   const std::string lHistoryBackupFilename ("sevmgr.hist.bak");
00518
00519   // Default parameters for the interactive session
00520   stdair::EventStruct lCurrentInteractiveEventStruct;
00521   stdair::DateTime_T lCurrentInteractiveDateTime;
00522   stdair::EventType::EN_EventType lCurrentInteractiveEventType;
00523
00524   // Output log File
00525   stdair::Filename_T lLogFilename;
00526
00527   // Call the command-line option parser
00528   const int lOptionParserStatus = readConfiguration (argc,
    argv, lLogFilename);
00529
00530   if (lOptionParserStatus == K_SEVMGR_EARLY_RETURN_STATUS
    ) {
00531     return 0;
00532   }
00533
00534   // Set the log parameters
00535   std::ofstream logOutputFile;
00536   // Open and clean the log outputfile
00537   logOutputFile.open (lLogFilename.c_str());
00538   logOutputFile.clear();
00539
00540   // Initialise the inventory service
00541   const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00542   SEVMGR::SEVMGR_Service sevmgrService (lLogParams);
00543
00544   // Build the sample event queue.
00545   sevmgrService.buildSampleQueue();
00546
00547   // Pop out the first event from the queue.
00548   sevmgrService.popEvent(lCurrentInteractiveEventStruct);
00549
00550   // DEBUG
00551   STDAIR_LOG_DEBUG ("=================================================");
00552   STDAIR_LOG_DEBUG ("=       Beginning of the interactive session       =");
00553   STDAIR_LOG_DEBUG ("=================================================");
00554
00555   // Initialise the GNU readline wrapper
00556   swift::SReadline lReader (lHistoryFilename, lHistorySize);
00557   initReadline (lReader);
00558
00559   // Now we can ask user for a line
00560   std::string lUserInput;
00561   bool EndOfInput (false);
00562   Command_T::Type_T lCommandType (Command_T::NOP);
00563
00564   while (lCommandType != Command_T::QUIT && EndOfInput == false) {
00565
00566     // Update the interactive parameters which have not been updated yet
00567     lCurrentInteractiveDateTime = lCurrentInteractiveEventStruct.getEventTime (
    );
00568     lCurrentInteractiveEventType = lCurrentInteractiveEventStruct.getEventType
    ();
00569
00570     // Prompt
00571     std::ostringstream oPromptStr;
00572     oPromptStr << "sevmgr "
00573                << stdair::EventType::getTypeLabelAsString(
    lCurrentInteractiveEventType)
00574                << " / " << lCurrentInteractiveDateTime << "> " ;
00575     // Call read-line, which will fill the list of tokens
00576     TokenList_T lTokenListByReadline;
00577     lUserInput = lReader.GetLine (oPromptStr.str(), lTokenListByReadline,
00578                                   EndOfInput);
```

```
00579
00580     // The history can be saved to an arbitrary file at any time
00581     lReader.SaveHistory (lHistoryBackupFilename);
00582
00583     // The end-of-input typically corresponds to a CTRL-D typed by the user
00584     if (EndOfInput) {
00585       std::cout << std::endl;
00586       break;
00587     }
00588
00589     // Interpret the user input
00590     lCommandType = extractCommand (lTokenListByReadline);
00591
00592     switch (lCommandType) {
00593
00594       // ////////////////////////////// Help ////////////////////////
00595     case Command_T::HELP: {
00596       std::cout << std::endl;
00597       std::cout << "Commands: " << std::endl;
00598       std::cout << " help" << "\t\t" << "Display this help" << std::endl;
00599       std::cout << " quit" << "\t\t" << "Quit the application" << std::endl;
00600       std::cout << " list" << "\t\t" << "List events in the queue. It is "
00601                 << "possible to filter events according to their types"
00602                 << std::endl
00603                 << "\t\t\t\t  'list_event BookingRequest' "
00604                 << "list all the booking requests" << std::endl
00605                 << "\t\t\t\t  'list_event BreakPoint' "
00606                 << "list all the break points" << std::endl;
00607       std::cout << " select" << "\t\t"
00608                 << "Select an event into the 'list' to become the current one.
      For instance, try the command:\n"
00609                 << "\t\t  'select 2011-May-14 00:00:00'"
00610                 << std::endl;
00611       std::cout << " display" << "\t"
00612                 << "Display the current event" << std::endl;
00613       std::cout << " next" << "\t\t"
00614                 << "Play the current event and pop the next one from the queue"
00615                 << std::endl;
00616       std::cout << " run" << "\t\t"
00617                 << "Play all the events until the next break-point, if any"
00618                 << std::endl;
00619       std::cout << " \nDebug Commands" << std::endl;
00620       std::cout << " json_list" << "\t"
00621                 << "List events in the queue in a JSON format"
00622                 << std::endl;
00623       std::cout << " json_display" << "\t"
00624                 << "Display the current event in a JSON format"
00625                 << std::endl;
00626       std::cout << std::endl;
00627       break;
00628     }
00629
00630       // ////////////////////////////// Quit ////////////////////////
00631     case Command_T::QUIT: {
00632       break;
00633     }
00634
00635       // ////////////////////////////// List ////////////////////////
00636     case Command_T::LIST: {
00637
00638       //
00639       std::ostringstream oEventListStr;
00640
00641       if (lTokenListByReadline.empty() == true) {
00642
00643         // If no parameter is given, list all the events in the queue
00644         oEventListStr << sevmgrService.list ();
00645
00646       } else if (lTokenListByReadline.size() == 1) {
00647
00648         assert (lTokenListByReadline.empty() == false);
00649         const std::string lEventTypeStr (lTokenListByReadline[0]);
00650
00651         // If exactly one parameter is given, try to convert it into
00652         // an event type
00653         try {
00654
00655           const stdair::EventType lEventType (lEventTypeStr);
00656           const stdair::EventType::EN_EventType& lActualEventType =
00657             lEventType.getType();
00658           oEventListStr << sevmgrService.list (lActualEventType);
00659
00660         } catch (stdair::CodeConversionException e) {
00661           oEventListStr << "The event type '" << lEventTypeStr
00662                         << "' is not known. Try 'help' for "
00663                         << "more information on the 'list_event' command."
00664                         << std::endl;
```

```
00665         }
00666       } else {
00667
00668         // If more than one parameter is given, display an error message
00669         oEventListStr << "The event type is not understood: try 'help' for "
00670                       << "more information on the 'list_event' command."
00671                       << std::endl;
00672       }
00673       std::cout << oEventListStr.str() << std::endl;
00674       STDAIR_LOG_DEBUG (oEventListStr.str());
00675
00676       //
00677       break;
00678     }
00679
00680       // ////////////////////////////// Select ////////////////////////
00681     case Command_T::SELECT: {
00682
00683       //
00684       TokenList_T lTokenList = extractTokenListForDateTime (
      lTokenListByReadline);
00685       stdair::Date_T lUserDate = lCurrentInteractiveDateTime.date();
00686       stdair::Duration_T lUserTime = lCurrentInteractiveDateTime.time_of_day();
00687       parseEventDateTime (lTokenList, lUserDate, lUserTime);
00688
00689       std::cout << "Try to select event: "
00690                 << lUserDate << " " << lUserTime
00691                 << std::endl;
00692
00693       const stdair::DateTime_T lUserDateTime =
00694         boost::posix_time::ptime (lUserDate, lUserTime);
00695
00696       const bool hasSelectBeenSuccessful =
00697         sevmgrService.select (lCurrentInteractiveEventStruct,
00698                               lUserDateTime);
00699
00700       std::cout << "Selection successful: "
00701                 << hasSelectBeenSuccessful << std::endl;
00702
00703       //
00704       break;
00705     }
00706
00707       // ////////////////////////////// Display ////////////////////////
00708     case Command_T::DISPLAY: {
00709       //
00710       std::cout << "Display" << std::endl;
00711
00712       // DEBUG
00713       std::ostringstream oEventStr;
00714       oEventStr << lCurrentInteractiveEventStruct.describe();
00715       std::cout << oEventStr.str() << std::endl;
00716       STDAIR_LOG_DEBUG (oEventStr.str());
00717
00718       //
00719       break;
00720     }
00721
00722       // ////////////////////////////// Next ////////////////////////
00723     case Command_T::NEXT: {
00724       //
00725       std::cout << "Next" << std::endl;
00726
00727       if (sevmgrService.isQueueDone() == true) {
00728
00729         // DEBUG
00730         std::ostringstream oEmptyQueueStr;
00731         oEmptyQueueStr << "The event queue is empty: no event can be popped
       out.";
00732         std::cout << oEmptyQueueStr.str() << std::endl;
00733         STDAIR_LOG_DEBUG (oEmptyQueueStr.str());
00734
00735         //
00736         break;
00737
00738       }
00739
00740       // Get the next event from the event queue
00741       stdair::ProgressStatusSet lPPS =
00742         sevmgrService.popEvent (lCurrentInteractiveEventStruct);
00743
00744       // DEBUG
00745       std::ostringstream oEventStr;
00746       oEventStr << "Poped event: '"
00747                 << lCurrentInteractiveEventStruct.describe() << "'.";
00748       std::cout << oEventStr.str() << std::endl;
00749       STDAIR_LOG_DEBUG (oEventStr.str());
```

```
00750
00751       //
00752       break;
00753     }
00754
00755       // ////////////////////////////// Run ////////////////////////
00756     case Command_T::RUN: {
00757       //
00758       std::cout << "Run" << std::endl;
00759
00760       // Delegate the call to the dedicated service
00761       sevmgrService.run (lCurrentInteractiveEventStruct);
00762       lCurrentInteractiveEventType = lCurrentInteractiveEventStruct.
      getEventType ();
00763
00764       // DEBUG
00765       if (lCurrentInteractiveEventType == stdair::EventType::BRK_PT) {
00766         std::ostringstream oBreakPointStr;
00767         oBreakPointStr << "Break point found. Stop at: '"
00768                        << lCurrentInteractiveEventStruct.describe() << "'.";
00769         std::cout << oBreakPointStr.str() << std::endl;
00770         STDAIR_LOG_DEBUG (oBreakPointStr.str());
00771       } else {
00772         std::ostringstream oNoBreakPointStr;
00773         oNoBreakPointStr << "No break point found. All the events have been
     played.\n"
00774                          << "The current event is the last one.";
00775         std::cout << oNoBreakPointStr.str() << std::endl;
00776         STDAIR_LOG_DEBUG (oNoBreakPointStr.str());
00777       }
00778
00779       //
00780       break;
00781     }
00782
00783       // ////////////////////////////// JSon List ////////////////////////
00784
00785     case Command_T::JSON_LIST: {
00786       //
00787       std::cout << "JSON List" << std::endl;
00788
00789       // Delegate the call to the dedicated service
00790       const std::string& lCSVEventQueueDumpAfter =
00791         sevmgrService.jsonExportEventQueue ();
00792
00793       // DEBUG: Display the events queue JSON string
00794       std::cout << lCSVEventQueueDumpAfter << std::endl;
00795       STDAIR_LOG_DEBUG (lCSVEventQueueDumpAfter);
00796
00797       break;
00798     }
00799
00800       // ////////////////////////////// JSon Display ////////////////////////
00801
00802     case Command_T::JSON_DISPLAY: {
00803       //
00804       std::cout << "JSON Display" << std::endl;
00805
00806       // Delegate the call to the dedicated service
00807       const std::string& lCSVEventDumpAfter =
00808         sevmgrService.jsonExportEvent (lCurrentInteractiveEventStruct);
00809
00810       // DEBUG: Display the event JSON string
00811       std::cout << lCSVEventDumpAfter << std::endl;
00812       STDAIR_LOG_DEBUG (lCSVEventDumpAfter);
00813
00814       //
00815       break;
00816     }
00817
00818       // ////////////////////////// Default / No value ////////////////////////
00819     case Command_T::NOP: {
00820       break;
00821     }
00822
00823     case Command_T::LAST_VALUE:
00824     default: {
00825       // DEBUG
00826       std::ostringstream oStr;
00827       oStr << "That command is not yet understood: '" << lUserInput
00828            << "' => " << lTokenListByReadline;
00829       STDAIR_LOG_DEBUG (oStr.str());
00830       std::cout << oStr.str() << std::endl;
00831     }
00832     }
00833   }
00834
```

```
00835   // DEBUG
00836   STDAIR_LOG_DEBUG ("End of the session. Exiting.");
00837   std::cout << "End of the session. Exiting." << std::endl;
00838
00839   // Close the Log outputFile
00840   logOutputFile.close();
00841
00842   /*
00843     Note: as that program is not intended to be run on a server in
00844     production, it is better not to catch the exceptions. When it
00845     happens (that an exception is thrownded), that way we get the
00846     call stack.
00847   */
00848
00849   return 0;
00850 }
```

23.67 test/sevmgr/EventQueueManagementTestSuite.cpp File Reference

23.68 EventQueueManagementTestSuite.cpp

```
00001
00005 // ////////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ////////////////////////////////////////////////////////////////////
00008 // STL
00009 #include <sstream>
00010 #include <fstream>
00011 #include <map>
00012 #include <cmath>
00013 // Boost Unit Test Framework (UTF)
00014 #define BOOST_TEST_DYN_LINK
00015 #define BOOST_TEST_MAIN
00016 #define BOOST_TEST_MODULE EventQueueManagementTest
00017 #include <boost/test/unit_test.hpp>
00018 #include <boost/shared_ptr.hpp>
00019 // StdAir
00020 #include <stdair/stdair_basic_types.hpp>
00021 #include <stdair/stdair_date_time_types.hpp>
00022 #include <stdair/basic/BasLogParams.hpp>
00023 #include <stdair/basic/BasDBParams.hpp>
00024 #include <stdair/basic/BasFileMgr.hpp>
00025 #include <stdair/basic/ProgressStatusSet.hpp>
00026 #include <stdair/bom/EventStruct.hpp>
00027 #include <stdair/bom/BookingRequestStruct.hpp>
00028 #include <stdair/bom/BookingRequestTypes.hpp>
00029 #include <stdair/service/Logger.hpp>
00030 // SEvMgr
00031 #include <sevmgr/SEVMGR_Service.hpp>
00032 #include <sevmgr/config/sevmgr-paths.hpp>
00033
00034 namespace boost_utf = boost::unit_test;
00035
00036 // (Boost) Unit Test XML Report
00037 std::ofstream utfReportStream ("EventQueueManagementTestSuite_utfresults.xml");
00038
00042 struct UnitTestConfig {
00044   UnitTestConfig() {
00045     boost_utf::unit_test_log.set_stream (utfReportStream);
00046     boost_utf::unit_test_log.set_format (boost_utf::XML);
00047     boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
00048     //boost_utf::unit_test_log.set_threshold_level
       (boost_utf::log_successful_tests);
00049   }
00050
00052   ~UnitTestConfig() {
00053   }
00054 };
00055
00056 // Specific type definitions
00057 typedef std::pair<stdair::Count_T, stdair::Count_T> NbOfEventsPair_T;
00058 typedef std::map<const stdair::DemandStreamKeyStr_T,
00059                  NbOfEventsPair_T> NbOfEventsByDemandStreamMap_T;
00060
00061
00062 // ///////////////// Main: Unit Test Suite ///////////////
00063
00064 // Set the UTF configuration (re-direct the output to a specific file)
00065 BOOST_GLOBAL_FIXTURE (UnitTestConfig);
00066
00067 // Start the test suite
00068 BOOST_AUTO_TEST_SUITE (master_test_suite)
00069
```

```
00070
00073 BOOST_AUTO_TEST_CASE (sevmgr_simple_simulation_test) {
00074
00075   // Output log File
00076   const stdair::Filename_T lLogFilename ("EventQueueManagementTestSuite.log");
00077
00078   // Set the log parameters
00079   std::ofstream logOutputFile;
00080   // open and clean the log outputfile
00081   logOutputFile.open (lLogFilename.c_str());
00082   logOutputFile.clear();
00083
00084   // Initialise the Sevmgr service object
00085   const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00086   SEVMGR::SEVMGR_Service sevmgrService (lLogParams);
00087
00089   const bool isQueueDone = sevmgrService.isQueueDone();
00090   BOOST_REQUIRE_MESSAGE (isQueueDone == true,
00091                          "The event queue should be empty at this step. No "
00092                          << "insertion done.");
00093
00097   sevmgrService.buildSampleQueue ();
00098
00102   stdair::Count_T lNbOfEvents (sevmgrService.getQueueSize());
00103
00105   BOOST_REQUIRE_MESSAGE (sevmgrService.isQueueDone() == false,
00106                          "The event queue should not be empty at this step. "
00107                          << "Two insertions done.");
00108
00115   stdair::Count_T idx = 1;
00116   while (sevmgrService.isQueueDone() == false) {
00117
00118     // Pop the next event out of the event queue
00119     stdair::EventStruct lEventStruct;
00120     const stdair::ProgressStatusSet lPPS =
00121       sevmgrService.popEvent (lEventStruct);
00122
00123     // DEBUG
00124     STDAIR_LOG_DEBUG ("Poped event "<< idx << ": '"
00125                       << lEventStruct.describe() << "'.");
00126     STDAIR_LOG_DEBUG ("Progresss status: " << lPPS.describe());
00127     STDAIR_LOG_DEBUG ("Poped event: '"
00128                       << lEventStruct.describe() << "'.");
00129
00130     // Iterate
00131     ++idx;
00132   }
00133
00134   // Compensate for the last iteration
00135   --idx;
00136   // Compared the actual number of popped events with the expected one.
00137   BOOST_REQUIRE_MESSAGE (idx == lNbOfEvents,
00138                          "Actual number of requests in the queue: "
00139                          << idx << ". Expected value: " << lNbOfEvents);
00140
00142   BOOST_REQUIRE_MESSAGE (sevmgrService.isQueueDone() == true,
00143                          "The event queue should be empty at this step: "
00144                          "the two events have been popped.");
00145
00146   STDAIR_LOG_DEBUG ("Re-added the events into the queue");
00147
00148   // Add again the four events into the queue thanks to
00149   // sevmgrService.buildSampleQueue().
00150   // Dates of the break points: 21-JAN-2010 and 14-MAY-2011.
00151   // Dates of the booking requests: 22-JAN-2010 and 15-MAY-2011.
00152   sevmgrService.buildSampleQueue ();
00153
00154   // Pop the next event out of the event queue
00155   stdair::EventStruct lFirstEventStruct;
00156   const stdair::ProgressStatusSet lFirstPS =
00157     sevmgrService.popEvent (lFirstEventStruct);
00158
00159   // Extract the corresponding date
00160   const stdair::DateTime_T& lFirstEventDateTime =
00161     lFirstEventStruct.getEventTime ();
00162   const stdair::Date_T& lFirstRequestDate =
00163     lFirstEventDateTime.date();
00164
00166   const stdair::Date_T lExpectedDate (2010, boost::gregorian::Jan, 21);
00167   BOOST_REQUIRE_MESSAGE (lFirstRequestDate == lExpectedDate,
00168                          "Date of the first event popped from the queue: "
00169                          << lFirstRequestDate << ". Should be: "
00170                          << lExpectedDate << " which is earlier in time.");
00171
00174   STDAIR_LOG_DEBUG ("Reset the queue");
00175   sevmgrService.reset();
00176
```

```
00178   BOOST_REQUIRE_MESSAGE (sevmgrService.isQueueDone() == true,
00179                          "The event queue has been reset: it should be empty "
00180                          << "at this step.");
00181
00182   STDAIR_LOG_DEBUG ("Re-added the events into the queue one more time");
00183
00184   // Add again the four events into the queue thanks to
00185   // sevmgrService.buildSampleQueue().
00186   // Dates of the break points: 21-JAN-2010 and 14-MAY-2011.
00187   // Dates of the booking requests: 22-JAN-2010 and 15-MAY-2011.
00188   sevmgrService.buildSampleQueue ();
00189
00192   stdair::EventStruct lBreakPointStruct;
00193   sevmgrService.run(lBreakPointStruct);
00194   stdair::EventType::EN_EventType lBreakPointType =
00195     lBreakPointStruct.getEventType();
00196
00198   BOOST_REQUIRE_MESSAGE (lBreakPointType == stdair::EventType::BRK_PT,
00199                          "The last event poppped from the queue should be a "
00200                          << "break point.");
00201
00202   sevmgrService.run(lBreakPointStruct);
00203   lBreakPointType = lBreakPointStruct.getEventType();
00204
00206   BOOST_REQUIRE_MESSAGE (lBreakPointType == stdair::EventType::BRK_PT,
00207                          "The last event poppped from the queue should be a "
00208                          << "break point.");
00209
00210   // Extract the corresponding date
00211   const stdair::DateTime_T& lBPDateTime =
00212     lBreakPointStruct.getEventTime ();
00213   const stdair::Date_T& lBPDate =
00214     lBPDateTime.date();
00215
00217   const stdair::Date_T lExpectedBPDate (2011, boost::gregorian::May, 14);
00218   BOOST_REQUIRE_MESSAGE (lBPDate == lExpectedBPDate,
00219                          "Date of the second break point popped from the queue:
      "
00220                          << lBPDate << ". Should be: "
00221                          << lExpectedBPDate << ".");
00222
00223   // DEBUG
00224   STDAIR_LOG_DEBUG ("End of the simulation");
00225
00226   // Close the log file
00227   logOutputFile.close();
00228 }
00229
00230 // End the test suite
00231 BOOST_AUTO_TEST_SUITE_END()
00232
00233
```