

TravelCCM Reference Manual

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1 TravelCCM Documentation

1.1 Getting Started

- [Main features of TravelCCM](#)
- [Installation](#)
- [Linking with TravelCCM](#)
- [Users Guide](#)
- [Tutorials](#)
- [Copyright and License](#)
- [Make a Difference](#)
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- [TravelCCM People](#)

1.2 TravelCCM at SourceForge

- [Project page](#)
- [Download TravelCCM](#)
- [Open a ticket for a bug or feature](#)
- [Mailing lists](#)
- [Forums](#)
 - [Discuss about Development issues](#)
 - [Ask for Help](#)
 - [Discuss TravelCCM](#)

1.3 TravelCCM Development

- [Git Repository](#) (Subversion is deprecated)
- [coding_rules](#)
- [Documentation Rules](#)
- [Test Rules](#)

1.4 External Libraries

- [Boost](#) (C++ STL extensions)
- [Python](#)
- [MySQL client](#)
- [SOCHI](#) (C++ DB API)

1.5 Support TravelCCM

1.6 About TravelCCM

TravelCCM aims at providing a clean API, and the corresponding C++ implementation, for choosing one item among a set of travel solutions, given demand-related characteristics (e.g., Willingness-To-Pay, preferred airline, preferred cabin, etc.). [N](#)

The TravelCCM C++ library implements some simple Customer Choice Models (CCM), as referenced in the literature (PhD dissertations at MIT, for instance: <http://dspace.mit.edu>).

The TravelCCM C++ library exposes a simple, clean and object-oriented, API. For instance, the `choose()` method takes, as input, both a structure representing the travel request (e.g., from Washington, DC, US, to Beijing, China, on the 25th of May) and a list of travel solutions (as provided by the Airline Schedule Manager project: <http://sourceforge.net/projects/air-sched>), and yields, as output, the chosen item.

The output can then be used by other systems, for instance to book the corresponding travel or to visualise it on a map and calendar and to share it with others.

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

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

TravelCCM 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 TravelCCM 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 TravelCCM.

2 TravelCCM Directory Hierarchy

2.1 TravelCCM Directories

This directory hierarchy is sorted roughly, but not completely, alphabetically:

test	9
travelccm	10
travelccm	9
basic	8
batches	8
bom	8
command	8
config	9
factory	9
service	9

3 TravelCCM Namespace Index

3.1 TravelCCM Namespace List

Here is a list of all namespaces with brief descriptions:

stdair (Forward declarations)	10
TRAVELCCM	10

4 TravelCCM Hierarchical Index

4.1 TravelCCM Class Hierarchy

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

std::allocator< T >	
std::auto_ptr< T >	
std::basic_string< Char >	
std::basic_string< char >	
std::string	
std::basic_string< wchar_t >	
std::wstring	
std::bitset< Bits >	
TRAVELCCM::ChoiceManager	11
TRAVELCCM::CmdAbstract	11
std::complex	
TestFixture	12
TravelChoiceTestSuite	27
TRAVELCCM::CustomerChoiceModel	13
TRAVELCCM::HardRestrictionModel	16
TRAVELCCM::HybridModel	18
TRAVELCCM::PriceOrientedModel	20
std::deque< T >	
std::exception	
std::bad_alloc	
std::bad_cast	
std::bad_exception	
std::bad_typeid	
std::ios_base::failure	
std::logic_error	
std::domain_error	
std::invalid_argument	
std::length_error	
std::out_of_range	
std::runtime_error	
std::overflow_error	
std::range_error	
std::underflow_error	
FacServiceAbstract	14
TRAVELCCM::FacTRAVELCCMServiceContext	14
TRAVELCCM::FileMgr	16
std::ios_base	
std::basic_ios	

```

std::basic_istream
std::basic_ifstream
std::basic_iostream
    std::basic_fstream
    std::basic_stringstream
std::basic_istream
std::basic_ostream
    std::basic_iostream
    std::basic_ofstream
    std::basic_ostringstream
std::basic_ios< char >
std::basic_istream< char >
std::basic_ifstream< char >
    std::ifstream
std::basic_iostream< char >
    std::basic_fstream< char >
    std::fstream
    std::basic_stringstream< char >
    std::stringstream
std::basic_istream< char >
    std::istream
std::ostream
std::basic_ostream< char >
    std::basic_iostream< char >
    std::basic_ofstream< char >
    std::ofstream
std::basic_ostringstream< char >
    std::ostringstream
std::ostream
std::ios
std::basic_ios< wchar_t >
std::basic_istream< wchar_t >
std::basic_ifstream< wchar_t >
    std::wifstream
std::basic_iostream< wchar_t >
    std::basic_fstream< wchar_t >
    std::wfstream
    std::basic_stringstream< wchar_t >
    std::wstringstream
std::basic_istream< wchar_t >
    std::wistream
std::ostream
std::basic_ostream< wchar_t >
    std::basic_iostream< wchar_t >
    std::basic_ofstream< wchar_t >
    std::wofstream
std::basic_ostringstream< wchar_t >
    std::wostringstream
std::ostream
std::wios
std::list< T >
std::map< K, T >
std::multimap< K, T >
std::multiset< K >

```

std::priority_queue< T >
std::queue< T >

RootException [21](#)

TRAVELCCM::CustomerChoiceException [12](#)

TRAVELCCM::MissingCustomerChoiceModelException [19](#)

ServiceAbstract [21](#)

TRAVELCCM::TRAVELCCM_ServiceContext [26](#)

std::set< K >
std::stack< T >

TRAVELCCM::TRAVELCCM_Service [22](#)

std::valarray< T >
std::vector< T >

5 TravelCCM Class Index

5.1 TravelCCM Class List

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

TRAVELCCM::ChoiceManager [11](#)

TRAVELCCM::CmdAbstract [11](#)

TestFixture [12](#)

TRAVELCCM::CustomerChoiceException [12](#)

TRAVELCCM::CustomerChoiceModel [13](#)

FacServiceAbstract [14](#)

TRAVELCCM::FacTRAVELCCMServiceContext [14](#)

TRAVELCCM::FileMgr [16](#)

TRAVELCCM::HardRestrictionModel [16](#)

TRAVELCCM::HybridModel [18](#)

TRAVELCCM::MissingCustomerChoiceModelException [19](#)

TRAVELCCM::PriceOrientedModel [20](#)

RootException [21](#)

ServiceAbstract [21](#)

TRAVELCCM::TRAVELCCM_Service [22](#)

TRAVELCCM::TRAVELCCM_ServiceContext (Inner class holding the context for the TravelCCM Service object)	26
TravelChoiceTestSuite	27

6 TravelCCM File Index

6.1 TravelCCM File List

Here is a list of all files with brief descriptions:

test/travelccm/TravelChoiceTestSuite.cpp	28
test/travelccm/TravelChoiceTestSuite.hpp	28
travelccm/TRAVELCCM_Service.hpp	37
travelccm/TRAVELCCM_Types.hpp	37
travelccm/basic/BasConst.cpp	29
travelccm/basic/BasConst_General.hpp	29
travelccm/batches/travelccm.cpp	29
travelccm/bom/CustomerChoiceModel.cpp	29
travelccm/bom/CustomerChoiceModel.hpp	29
travelccm/bom/HardRestrictionModel.cpp	30
travelccm/bom/HardRestrictionModel.hpp	30
travelccm/bom/HybridModel.cpp	30
travelccm/bom/HybridModel.hpp	31
travelccm/bom/PriceOrientedModel.cpp	31
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travelccm/command/ChoiceManager.cpp	32
travelccm/command/ChoiceManager.hpp	32
travelccm/command/CmdAbstract.cpp	32
travelccm/command/CmdAbstract.hpp	32
travelccm/command/FileMgr.cpp	33
travelccm/command/FileMgr.hpp	33
travelccm/config/travelccm-paths.hpp.in	33
travelccm/factory/FacTRAVELCCMServiceContext.cpp	35

travelccm/factory/FacTRAVELCCMServiceContext.hpp	35
travelccm/service/TRAVELCCM_Service.cpp	36
travelccm/service/TRAVELCCM_ServiceContext.cpp	36
travelccm/service/TRAVELCCM_ServiceContext.hpp	36

7 TravelCCM Page Index

7.1 TravelCCM Related Pages

Here is a list of all related documentation pages:

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8 TravelCCM Directory Documentation

8.1 travelccm/basic/ Directory Reference

Files

- file [BasConst.cpp](#)
- file [BasConst_General.hpp](#)

8.2 travelccm/batches/ Directory Reference

Files

- file [travelccm.cpp](#)

8.3 travelccm/bom/ Directory Reference

Files

- file [CustomerChoiceModel.cpp](#)
- file [CustomerChoiceModel.hpp](#)
- file [HardRestrictionModel.cpp](#)
- file [HardRestrictionModel.hpp](#)
- file [HybridModel.cpp](#)
- file [HybridModel.hpp](#)
- file [PriceOrientedModel.cpp](#)
- file [PriceOrientedModel.hpp](#)

8.4 travelccm/command/ Directory Reference

Files

- file [ChoiceManager.cpp](#)
- file [ChoiceManager.hpp](#)
- file [CmdAbstract.cpp](#)
- file [CmdAbstract.hpp](#)
- file [FileMgr.cpp](#)
- file [FileMgr.hpp](#)

8.5 travelccm/config/ Directory Reference

Files

- file [travelccm-paths.hpp.in](#)

8.6 travelccm/factory/ Directory Reference

Files

- file [FacTRAVELCCMServiceContext.cpp](#)
- file [FacTRAVELCCMServiceContext.hpp](#)

8.7 travelccm/service/ Directory Reference

Files

- file [TRAVELCCM_Service.cpp](#)
- file [TRAVELCCM_ServiceContext.cpp](#)
- file [TRAVELCCM_ServiceContext.hpp](#)

8.8 test/ Directory Reference

Directories

- directory [travelccm](#)

8.9 travelccm/ Directory Reference

Directories

- directory [basic](#)
- directory [batches](#)
- directory [bom](#)
- directory [command](#)
- directory [config](#)
- directory [factory](#)
- directory [service](#)

Files

- file [TRAVELCCM_Service.hpp](#)
- file [TRAVELCCM_Types.hpp](#)

8.10 test/travelccm/ Directory Reference

Files

- file [TravelChoiceTestSuite.cpp](#)
- file [TravelChoiceTestSuite.hpp](#)

9 TravelCCM Namespace Documentation

9.1 stdair Namespace Reference

Forward declarations.

9.1.1 Detailed Description

Forward declarations.

9.2 TRAVELCCM Namespace Reference

Classes

- class [CustomerChoiceModel](#)
- class [HardRestrictionModel](#)
- class [HybridModel](#)

- class [PriceOrientedModel](#)
- class [ChoiceManager](#)
- class [CmdAbstract](#)
- class [FileMgr](#)
- class [FacTRAVELCCMServiceContext](#)
- class [TRAVELCCM_ServiceContext](#)

Inner class holding the context for the TravelCCM Service object.

- class [TRAVELCCM_Service](#)
- class [CustomerChoiceException](#)
- class [MissingCustomerChoiceModelException](#)

Typedefs

- typedef boost::shared_ptr< [TRAVELCCM_Service](#) > [TRAVELCCM_ServicePtr_T](#)

9.2.1 Typedef Documentation

9.2.1.1 typedef boost::shared_ptr<[TRAVELCCM_Service](#)> [TRAVELCCM::TRAVELCCM_ServicePtr_T](#)

Pointer on the [TRAVELCCM](#) Service handler.

Definition at line 52 of file [TRAVELCCM_Types.hpp](#).

10 TravelCCM Class Documentation

10.1 TRAVELCCM::ChoiceManager Class Reference

```
#include <travelccm/command/ChoiceManager.hpp>
```

Static Public Member Functions

- static const stdair::TravelSolutionStruct * [chooseTravelSolution](#) (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &, const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &)

10.1.1 Detailed Description

Class managing the customer choice model/algorithm.

Definition at line 22 of file [ChoiceManager.hpp](#).

10.1.2 Member Function Documentation

10.1.2.1 const stdair::TravelSolutionStruct * [TRAVELCCM::ChoiceManager::chooseTravelSolution](#) (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &, const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &) [static]

Choose the travel solution and the fare option within the given list of travel solutions.

The returned pointer will be NULL if no travel solution is chosen (e.g. Willingness-To-Pay too low).

Definition at line 17 of file ChoiceManager.cpp.

References TRAVELCCM::CustomerChoiceModel::chooseTravelSolution(), and TRAVELCCM::CustomerChoiceModel::create().

Referenced by TRAVELCCM::TRAVELCCM_Service::chooseTravelSolution().

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

- [travelccm/command/ChoiceManager.hpp](#)
- [travelccm/command/ChoiceManager.cpp](#)

10.2 TRAVELCCM::CmdAbstract Class Reference

```
#include <travelccm/command/CmdAbstract.hpp>
```

10.2.1 Detailed Description

Base class for the Command layer.

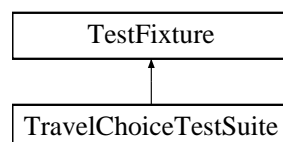
Definition at line 11 of file CmdAbstract.hpp.

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

- [travelccm/command/CmdAbstract.hpp](#)

10.3 TestFixture Class Reference

Inheritance diagram for TestFixture::



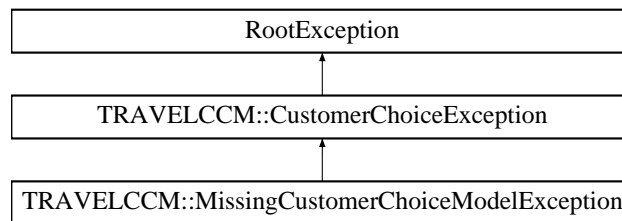
The documentation for this class was generated from the following file:

- [test/travelccm/TravelChoiceTestSuite.hpp](#)

10.4 TRAVELCCM::CustomerChoiceException Class Reference

```
#include <travelccm/TRAVELCCM_Types.hpp>
```

Inheritance diagram for TRAVELCCM::CustomerChoiceException::



Public Member Functions

- [CustomerChoiceException](#) (const std::string &iWhat)

10.4.1 Detailed Description

TravelCCM specific root exception.

Definition at line 24 of file TRAVELCCM_Types.hpp.

10.4.2 Constructor & Destructor Documentation

10.4.2.1 TRAVELCCM::CustomerChoiceException::CustomerChoiceException (const std::string &iWhat) [inline]

Constructor.

Definition at line 29 of file TRAVELCCM_Types.hpp.

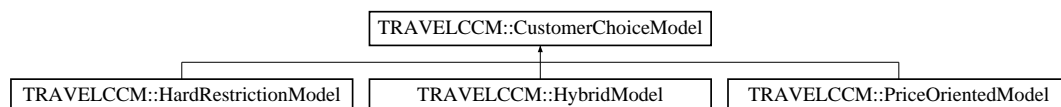
The documentation for this class was generated from the following file:

- travelccm/[TRAVELCCM_Types.hpp](#)

10.5 TRAVELCCM::CustomerChoiceModel Class Reference

```
#include <travelccm/bom/CustomerChoiceModel.hpp>
```

Inheritance diagram for TRAVELCCM::CustomerChoiceModel::



Public Member Functions

- virtual const stdair::TravelSolutionStruct * [chooseTravelSolution](#) (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const =0
- virtual [~CustomerChoiceModel](#) ()

Static Public Member Functions

- static const [CustomerChoiceModel](#) * [create](#) (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &)

Protected Member Functions

- [CustomerChoiceModel](#) ()
- [CustomerChoiceModel](#) (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &)

10.5.1 Detailed Description

Class implementing the customer choice.

Definition at line 22 of file CustomerChoiceModel.hpp.

10.5.2 Constructor & Destructor Documentation

10.5.2.1 TRAVELCCM::CustomerChoiceModel::~~CustomerChoiceModel () [virtual]

Destructor.

Definition at line 31 of file CustomerChoiceModel.cpp.

10.5.2.2 TRAVELCCM::CustomerChoiceModel::CustomerChoiceModel () [protected]

Default Constructor.

Definition at line 17 of file CustomerChoiceModel.cpp.

10.5.2.3 TRAVELCCM::CustomerChoiceModel::CustomerChoiceModel (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &) [protected]

Main Constructor.

Definition at line 22 of file CustomerChoiceModel.cpp.

10.5.3 Member Function Documentation

10.5.3.1 virtual const stdair::TravelSolutionStruct* TRAVELCCM::CustomerChoiceModel::chooseTravelSolution (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const [pure virtual]

Choose a travel solution within the given list of travel solutions.

Implemented in [TRAVELCCM::HardRestrictionModel](#), [TRAVELCCM::HybridModel](#), and [TRAVELCCM::PriceOrientedModel](#).

Referenced by [TRAVELCCM::ChoiceManager::chooseTravelSolution\(\)](#).

10.5.3.2 const [CustomerChoiceModel](#) * TRAVELCCM::CustomerChoiceModel::create (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &) [static]

Return the Customer Choice Model object described by the given enum type.

Definition at line 36 of file CustomerChoiceModel.cpp.

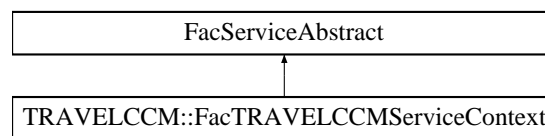
Referenced by TRAVELCCM::ChoiceManager::chooseTravelSolution().

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

- [travelccm/bom/CustomerChoiceModel.hpp](#)
- [travelccm/bom/CustomerChoiceModel.cpp](#)

10.6 FacServiceAbstract Class Reference

Inheritance diagram for FacServiceAbstract::



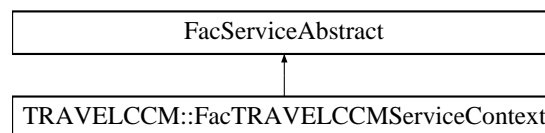
The documentation for this class was generated from the following file:

- [travelccm/factory/FacTRAVELCCMServiceContext.hpp](#)

10.7 TRAVELCCM::FacTRAVELCCMServiceContext Class Reference

```
#include <travelccm/factory/FacTRAVELCCMServiceContext.hpp>
```

Inheritance diagram for TRAVELCCM::FacTRAVELCCMServiceContext::



Public Member Functions

- [~FacTRAVELCCMServiceContext \(\)](#)
- [TRAVELCCM_ServiceContext & create \(\)](#)

Static Public Member Functions

- static [FacTRAVELCCMServiceContext & instance \(\)](#)

Protected Member Functions

- [FacTRAVELCCMServiceContext \(\)](#)

10.7.1 Detailed Description

Factory for Bucket.

Definition at line 18 of file FacTRAVELCCMServiceContext.hpp.

10.7.2 Constructor & Destructor Documentation

10.7.2.1 TRAVELCCM::FacTRAVELCCMServiceContext::~~FacTRAVELCCMServiceContext ()

Destructor.

The Destruction put the `_instance` to NULL in order to be clean for the next [FacTRAVELCCMServiceContext::instance\(\)](#).

Definition at line 17 of file FacTRAVELCCMServiceContext.cpp.

10.7.2.2 TRAVELCCM::FacTRAVELCCMServiceContext::FacTRAVELCCMServiceContext () [inline, protected]

Default Constructor.

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

Definition at line 42 of file FacTRAVELCCMServiceContext.hpp.

Referenced by `instance()`.

10.7.3 Member Function Documentation

10.7.3.1 [FacTRAVELCCMServiceContext](#) & TRAVELCCM::FacTRAVELCCMServiceContext::instance () [static]

Provide the unique instance.

The singleton is instantiated when first used

Returns:

[FacTRAVELCCMServiceContext&](#)

Definition at line 22 of file FacTRAVELCCMServiceContext.cpp.

References `FacTRAVELCCMServiceContext()`.

10.7.3.2 [TRAVELCCM_ServiceContext](#) & TRAVELCCM::FacTRAVELCCMServiceContext::create ()

Create a new [TRAVELCCM_ServiceContext](#) object.

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

Returns:

[TRAVELCCM_ServiceContext&](#) The newly created object.

Definition at line 34 of file FacTRAVELCCMServiceContext.cpp.

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

- [travelccm/factory/FacTRAVELCCMServiceContext.hpp](#)
- [travelccm/factory/FacTRAVELCCMServiceContext.cpp](#)

10.8 TRAVELCCM::FileMgr Class Reference

```
#include <travelccm/command/FileMgr.hpp>
```

10.8.1 Detailed Description

Class filling the TravelSolutionHolder structure (representing a list of classes/travelSolutions) from a given input file.

Definition at line 15 of file FileMgr.hpp.

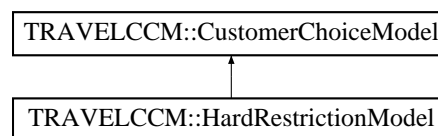
The documentation for this class was generated from the following file:

- [travelccm/command/FileMgr.hpp](#)

10.9 TRAVELCCM::HardRestrictionModel Class Reference

```
#include <travelccm/bom/HardRestrictionModel.hpp>
```

Inheritance diagram for TRAVELCCM::HardRestrictionModel::



Public Member Functions

- const stdair::TravelSolutionStruct * [chooseTravelSolution](#) (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const
- [HardRestrictionModel](#) ()
- [~HardRestrictionModel](#) ()

Static Public Member Functions

- static const [CustomerChoiceModel](#) * [create](#) (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &)

10.9.1 Detailed Description

Class implementing the hard restriction model.

Definition at line 15 of file HardRestrictionModel.hpp.

10.9.2 Constructor & Destructor Documentation

10.9.2.1 TRAVELCCM::HardRestrictionModel::HardRestrictionModel ()

Default Constructor.

Definition at line 24 of file HardRestrictionModel.cpp.

10.9.2.2 TRAVELCCM::HardRestrictionModel::~~HardRestrictionModel ()

Destructor.

Definition at line 29 of file HardRestrictionModel.cpp.

10.9.3 Member Function Documentation

10.9.3.1 const stdair::TravelSolutionStruct * TRAVELCCM::HardRestrictionModel::choose-TravelSolution (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const [virtual]

Choose a travel solution and a fare option within the given list of travel solutions.

The fare option must satisfy the hard restriction/constrain such as change fees and non refundable.

The returned pointer will be NULL if no travel solution is chosen (e.g. Willingness-To-Pay too low).

Implements [TRAVELCCM::CustomerChoiceModel](#).

Definition at line 34 of file HardRestrictionModel.cpp.

10.9.3.2 const [CustomerChoiceModel](#) * TRAVELCCM::CustomerChoiceModel::create (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &) [static, inherited]

Return the Customer Choice Model object described by the given enum type.

Definition at line 36 of file CustomerChoiceModel.cpp.

Referenced by TRAVELCCM::ChoiceManager::chooseTravelSolution().

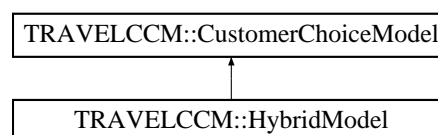
The documentation for this class was generated from the following files:

- travelccm/bom/[HardRestrictionModel.hpp](#)
- travelccm/bom/[HardRestrictionModel.cpp](#)

10.10 TRAVELCCM::HybridModel Class Reference

```
#include <travelccm/bom/HybridModel.hpp>
```

Inheritance diagram for TRAVELCCM::HybridModel::



Public Member Functions

- const stdair::TravelSolutionStruct * [chooseTravelSolution](#) (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const
- [HybridModel](#) ()
- [~HybridModel](#) ()

Static Public Member Functions

- static const [CustomerChoiceModel](#) * [create](#) (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &)

10.10.1 Detailed Description

Class implementing the customer choice of cheapest solution within disutility.

Definition at line 16 of file HybridModel.hpp.

10.10.2 Constructor & Destructor Documentation

10.10.2.1 TRAVELCCM::HybridModel::HybridModel ()

Default Constructor.

Definition at line 24 of file HybridModel.cpp.

10.10.2.2 TRAVELCCM::HybridModel::~~HybridModel ()

Destructor.

Definition at line 29 of file HybridModel.cpp.

10.10.3 Member Function Documentation

10.10.3.1 const stdair::TravelSolutionStruct * TRAVELCCM::HybridModel::chooseTravelSolution (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const [virtual]

Choose a travel solution and a fare option within the given list of travel solutions.

Fare options which do not satisfy the restrictions of the customer have a disutility for each unsatisfied restriction.

The returned pointer will be NULL if no travel solution is chosen (e.g. Willingness-To-Pay too low).

Implements [TRAVELCCM::CustomerChoiceModel](#).

Definition at line 34 of file HybridModel.cpp.

10.10.3.2 const [CustomerChoiceModel](#) * TRAVELCCM::CustomerChoiceModel::create (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &) [static, inherited]

Return the Customer Choice Model object described by the given enum type.

Definition at line 36 of file CustomerChoiceModel.cpp.

Referenced by TRAVELCCM::ChoiceManager::chooseTravelSolution().

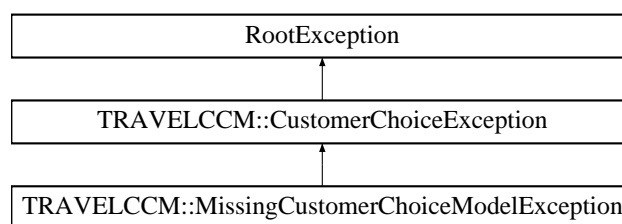
The documentation for this class was generated from the following files:

- [travelccm/bom/HybridModel.hpp](#)
- [travelccm/bom/HybridModel.cpp](#)

10.11 TRAVELCCM::MissingCustomerChoiceModelException Class Reference

```
#include <travelccm/TRAVELCCM_Types.hpp>
```

Inheritance diagram for TRAVELCCM::MissingCustomerChoiceModelException::



Public Member Functions

- [MissingCustomerChoiceModelException](#) (const std::string &iWhat)

10.11.1 Detailed Description

Customer choice model missing exception (if no algorithm corresponds to the enum value).

Definition at line 37 of file TRAVELCCM_Types.hpp.

10.11.2 Constructor & Destructor Documentation

10.11.2.1 TRAVELCCM::MissingCustomerChoiceModelException::MissingCustomerChoiceModelException (const std::string &iWhat) [inline]

Constructor.

Definition at line 42 of file TRAVELCCM_Types.hpp.

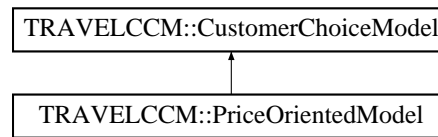
The documentation for this class was generated from the following file:

- [travelccm/TRAVELCCM_Types.hpp](#)

10.12 TRAVELCCM::PriceOrientedModel Class Reference

```
#include <travelccm/bom/PriceOrientedModel.hpp>
```

Inheritance diagram for TRAVELCCM::PriceOrientedModel::



Public Member Functions

- `const stdair::TravelSolutionStruct * chooseTravelSolution (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const`
- `PriceOrientedModel ()`
- `~PriceOrientedModel ()`

Static Public Member Functions

- `static const CustomerChoiceModel * create (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &)`

10.12.1 Detailed Description

Class implementing the customer choice of cheapest solution.

Definition at line 15 of file `PriceOrientedModel.hpp`.

10.12.2 Constructor & Destructor Documentation

10.12.2.1 TRAVELCCM::PriceOrientedModel::PriceOrientedModel ()

Default Constructor.

Definition at line 24 of file `PriceOrientedModel.cpp`.

10.12.2.2 TRAVELCCM::PriceOrientedModel::~~PriceOrientedModel ()

Destructor.

Definition at line 29 of file `PriceOrientedModel.cpp`.

10.12.3 Member Function Documentation

10.12.3.1 `const stdair::TravelSolutionStruct * TRAVELCCM::PriceOrientedModel::chooseTravelSolution (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &) const` [virtual]

Choose the cheapest travel solution and the fare option within the given list of travel solutions.

The returned pointer will be NULL if no travel solution is chosen (e.g. Willingness-To-Pay too low).

Implements [TRAVELCCM::CustomerChoiceModel](#).

Definition at line 34 of file `PriceOrientedModel.cpp`.

10.12.3.2 `const CustomerChoiceModel * TRAVELCCM::CustomerChoiceModel::create (const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &) [static, inherited]`

Return the Customer Choice Model object described by the given enum type.

Definition at line 36 of file CustomerChoiceModel.cpp.

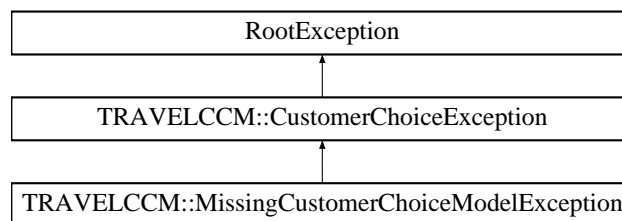
Referenced by TRAVELCCM::ChoiceManager::chooseTravelSolution().

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

- [travelccm/bom/PriceOrientedModel.hpp](#)
- [travelccm/bom/PriceOrientedModel.cpp](#)

10.13 RootException Class Reference

Inheritance diagram for RootException::

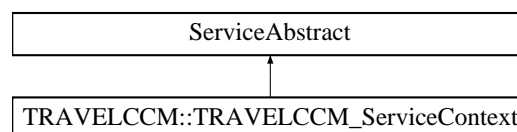


The documentation for this class was generated from the following file:

- [travelccm/TRAVELCCM_Types.hpp](#)

10.14 ServiceAbstract Class Reference

Inheritance diagram for ServiceAbstract::



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

- [travelccm/service/TRAVELCCM_ServiceContext.hpp](#)

10.15 TRAVELCCM::TRAVELCCM_Service Class Reference

```
#include <travelccm/TRAVELCCM_Service.hpp>
```

Public Member Functions

- [TRAVELCCM_Service](#) (const stdair::BasLogParams &, const stdair::BasDBParams &)
- [TRAVELCCM_Service](#) (const stdair::BasLogParams &)
- [TRAVELCCM_Service](#) (stdair::STDAIR_ServicePtr_T)
- [~TRAVELCCM_Service](#) ()
- void [buildSampleBom](#) ()
- void [clonePersistentBom](#) ()
- void [buildComplementaryLinks](#) (stdair::BomRoot &)
- void [buildSampleTravelSolutions](#) (stdair::TravelSolutionList_T &)
- stdair::BookingRequestStruct [buildSampleBookingRequest](#) (const bool isForCRS=false)
- const stdair::TravelSolutionStruct * [chooseTravelSolution](#) (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &, const stdair::PassengerChoiceModel::EN_PassengerChoiceModel &iPassengerChoiceModel=stdair::PassengerChoiceModel::PRICE_ORIENTED)
- std::string [csvDisplay](#) () const
- std::string [csvDisplay](#) (const stdair::TravelSolutionList_T &) const

10.15.1 Detailed Description

Interface for the [TRAVELCCM](#) Services.

Definition at line 33 of file TRAVELCCM_Service.hpp.

10.15.2 Constructor & Destructor Documentation**10.15.2.1 TRAVELCCM::TRAVELCCM_Service::TRAVELCCM_Service (const stdair::BasLogParams &, const stdair::BasDBParams &)**

Constructor.

The init() 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 36 of file TRAVELCCM_Service.cpp.

10.15.2.2 TRAVELCCM::TRAVELCCM_Service::TRAVELCCM_Service (const stdair::BasLogParams &)

Constructor.

The init() 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 57 of file TRAVELCCM_Service.cpp.

10.15.2.3 TRAVELCCM::TRAVELCCM_Service::TRAVELCCM_Service (stdair::STDAIR_ServicePtr_T)

Constructor.

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

Moreover, as no reference on any output stream 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 [TRAVELCCM_Service](#) is itself being initialised by another library service such as TVLSIM_Service).

Parameters:

stdair::STDAIR_ServicePtr_T Reference on the STDAIR service.

Definition at line 78 of file TRAVELCCM_Service.cpp.

10.15.2.4 TRAVELCCM::TRAVELCCM_Service::~~TRAVELCCM_Service ()

Destructor.

Definition at line 94 of file TRAVELCCM_Service.cpp.

10.15.3 Member Function Documentation

10.15.3.1 void TRAVELCCM::TRAVELCCM_Service::buildSampleBom ()

Build a sample BOM tree, and attach it to the BomRoot instance.

Definition at line 170 of file TRAVELCCM_Service.cpp.

References buildComplementaryLinks(), clonePersistentBom(), TRAVELCCM::TRAVELCCM_ServiceContext::getOwnStdairServiceFlag(), and TRAVELCCM::TRAVELCCM_ServiceContext::getSTDAIR_Service().

10.15.3.2 void TRAVELCCM::TRAVELCCM_Service::clonePersistentBom ()

Clone the persistent BOM object.

Definition at line 228 of file TRAVELCCM_Service.cpp.

References buildComplementaryLinks(), TRAVELCCM::TRAVELCCM_ServiceContext::getOwnStdairServiceFlag(), and TRAVELCCM::TRAVELCCM_ServiceContext::getSTDAIR_Service().

Referenced by buildSampleBom().

10.15.3.3 void TRAVELCCM::TRAVELCCM_Service::buildComplementaryLinks (stdair::Bom-Root &)

Build all the complementary links in the given bom root object.

Note:

Do nothing for now.

Definition at line 273 of file TRAVELCCM_Service.cpp.

Referenced by buildSampleBom(), and clonePersistentBom().

10.15.3.4 void TRAVELCCM::TRAVELCCM_Service::buildSampleTravelSolutions(stdair::TravelSolutionList_T &)

Build a sample list of travel solutions.

As of now (March 2011), that list is made of the following travel solutions:

- BA9
- LHR-SYD
- 2011-06-10
- Q
- WTP: 900
- Change fee: 20; Non refundable; Saturday night stay

Parameters:

stdair::TravelSolutionList_T& Sample list of travel solution structures. It should be given empty. It is altered with the returned sample.

Definition at line 279 of file TRAVELCCM_Service.cpp.

References TRAVELCCM::TRAVELCCM_ServiceContext::getSTDAIR_Service().

10.15.3.5 stdair::BookingRequestStruct TRAVELCCM::TRAVELCCM_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

Parameters:

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

Returns:

BookingRequestStruct& Sample booking request structure.

Definition at line 301 of file TRAVELCCM_Service.cpp.

References TRAVELCCM::TRAVELCCM_ServiceContext::getSTDAIR_Service().

10.15.3.6 const stdair::TravelSolutionStruct * TRAVELCCM::TRAVELCCM_Service::choose-TravelSolution (stdair::TravelSolutionList_T &, const stdair::BookingRequestStruct &, const stdair::PassengerChoiceModel::EN_PassengerChoiceModel & iPassengerChoiceModel = stdair::PassengerChoiceModel::PRICE_ORIENTED)

Choose the travel solution and the fare option within the given list of travel solutions.

The returned pointer will be NULL if no travel solution is chosen (e.g., when the Willingness-To-Pay is too low).

Parameters:

stdair::TravelSolutionList_T& The list of travel solution to choose among.

const stdair::BookingRequestStruct& The booking request and its context.

Returns:

stdair::TravelSolutionStruct* The chosen travel solution. NULL when not found.

Definition at line 366 of file TRAVELCCM_Service.cpp.

References TRAVELCCM::ChoiceManager::chooseTravelSolution().

10.15.3.7 std::string TRAVELCCM::TRAVELCCM_Service::csvDisplay () const

Recursively display (dump in the returned string) the objects of the BOM tree.

Returns:

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

Definition at line 322 of file TRAVELCCM_Service.cpp.

References TRAVELCCM::TRAVELCCM_ServiceContext::getSTDAIR_Service().

10.15.3.8 std::string TRAVELCCM::TRAVELCCM_Service::csvDisplay (const stdair::TravelSolutionList_T &) const

Display (dump in the returned string) the full list of travel solution structures.

Returns:

std::string Output string in which the list of travel solutions is logged/dumped.

Definition at line 345 of file TRAVELCCM_Service.cpp.

References TRAVELCCM::TRAVELCCM_ServiceContext::getSTDAIR_Service().

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

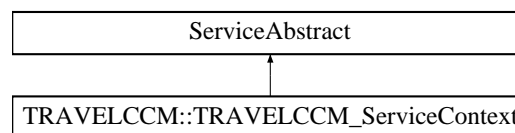
- [travelccm/TRAVELCCM_Service.hpp](#)
- [travelccm/service/TRAVELCCM_Service.cpp](#)

10.16 TRAVELCCM::TRAVELCCM_ServiceContext Class Reference

Inner class holding the context for the TravelCCM Service object.

```
#include <travelccm/service/TRAVELCCM_ServiceContext.hpp>
```

Inheritance diagram for TRAVELCCM::TRAVELCCM_ServiceContext::



Friends

- class [TRAVELCCM_Service](#)
- class [FacTRAVELCCMServiceContext](#)

10.16.1 Detailed Description

Inner class holding the context for the TravelCCM Service object.

Definition at line 23 of file TRAVELCCM_ServiceContext.hpp.

10.16.2 Friends And Related Function Documentation

10.16.2.1 friend class [TRAVELCCM_Service](#) [friend]

The [TRAVELCCM_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 29 of file TRAVELCCM_ServiceContext.hpp.

10.16.2.2 friend class [FacTRAVELCCMServiceContext](#) [friend]

Definition at line 30 of file TRAVELCCM_ServiceContext.hpp.

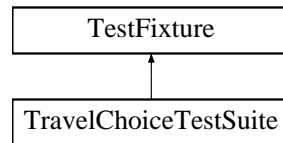
The documentation for this class was generated from the following files:

- [travelccm/service/TRAVELCCM_ServiceContext.hpp](#)
- [travelccm/service/TRAVELCCM_ServiceContext.cpp](#)

10.17 TravelChoiceTestSuite Class Reference

```
#include <test/travelccm/TravelChoiceTestSuite.hpp>
```

Inheritance diagram for TravelChoiceTestSuite::



Public Member Functions

- void [testTravelChoice \(\)](#)
- [TravelChoiceTestSuite \(\)](#)

Protected Attributes

- `std::stringstream` [_describeKey](#)

10.17.1 Detailed Description

Definition at line 6 of file `TravelChoiceTestSuite.hpp`.

10.17.2 Constructor & Destructor Documentation

10.17.2.1 TravelChoiceTestSuite::TravelChoiceTestSuite ()

Constructor.

10.17.3 Member Function Documentation

10.17.3.1 void TravelChoiceTestSuite::testTravelChoice ()

Test the Optimisation functionality.

10.17.4 Member Data Documentation

10.17.4.1 `std::stringstream` [TravelChoiceTestSuite::_describeKey](#) [protected]

Definition at line 23 of file `TravelChoiceTestSuite.hpp`.

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

- `test/travelccm/TravelChoiceTestSuite.hpp`

11 TravelCCM File Documentation

- 11.1 [doc/local/authors.doc](#) File Reference
- 11.2 [doc/local/codingrules.doc](#) File Reference
- 11.3 [doc/local/copyright.doc](#) File Reference
- 11.4 [doc/local/documentation.doc](#) File Reference
- 11.5 [doc/local/features.doc](#) File Reference
- 11.6 [doc/local/help_wanted.doc](#) File Reference
- 11.7 [doc/local/howto_release.doc](#) File Reference
- 11.8 [doc/local/index.doc](#) File Reference
- 11.9 [doc/local/installation.doc](#) File Reference
- 11.10 [doc/local/linking.doc](#) File Reference
- 11.11 [doc/local/test.doc](#) File Reference
- 11.12 [doc/local/users_guide.doc](#) File Reference
- 11.13 [doc/local/verification.doc](#) File Reference
- 11.14 [doc/tutorial/tutorial.doc](#) File Reference
- 11.15 [test/travelccm/TravelChoiceTestSuite.cpp](#) File Reference
- 11.16 [test/travelccm/TravelChoiceTestSuite.hpp](#) File Reference

```
#include <sstream>
```

```
#include <cppunit/extensions/HelperMacros.h>
```

Classes

- class [TravelChoiceTestSuite](#)

Functions

- [CPPUNIT_TEST_SUITE_REGISTRATION](#) ([TravelChoiceTestSuite](#))

11.16.1 Function Documentation

11.16.1.1 CPPUNIT_TEST_SUITE_REGISTRATION ([TravelChoiceTestSuite](#))

11.17 travelccm/basic/BasConst.cpp File Reference

```
#include <travelccm/basic/BasConst_General.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.18 travelccm/basic/BasConst_General.hpp File Reference

Namespaces

- namespace [TRAVELCCM](#)

11.19 travelccm/batches/travelccm.cpp File Reference

11.20 travelccm/bom/CustomerChoiceModel.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <map>
#include <stdair/service/Logger.hpp>
#include <travelccm/bom/CustomerChoiceModel.hpp>
#include <travelccm/TRAVELCCM_Types.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.21 travelccm/bom/CustomerChoiceModel.hpp File Reference

```
#include <stdair/stdair_service_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/basic/PassengerChoiceModel.hpp>
```

Namespaces

- namespace [stdair](#)
- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::CustomerChoiceModel](#)

11.22 travelccm/bom/HardRestrictionModel.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/bom/BomKeyManager.hpp>
#include <stdair/bom/BookingClassKey.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/FareOptionStruct.hpp>
#include <stdair/service/Logger.hpp>
#include <travelccm/bom/HardRestrictionModel.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.23 travelccm/bom/HardRestrictionModel.hpp File Reference

```
#include <travelccm/bom/CustomerChoiceModel.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::HardRestrictionModel](#)

11.24 travelccm/bom/HybridModel.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/bom/BomKeyManager.hpp>
#include <stdair/bom/BookingClassKey.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/FareOptionStruct.hpp>
#include <stdair/service/Logger.hpp>
#include <travelccm/bom/HybridModel.hpp>
```


Namespaces

- namespace [TRAVELCCM](#)

11.25 travelccm/bom/HybridModel.hpp File Reference

```
#include <travelccm/bom/CustomerChoiceModel.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::HybridModel](#)

11.26 travelccm/bom/PriceOrientedModel.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/bom/BomKeyManager.hpp>
#include <stdair/bom/BookingClassKey.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/FareOptionStruct.hpp>
#include <stdair/service/Logger.hpp>
#include <travelccm/bom/PriceOrientedModel.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.27 travelccm/bom/PriceOrientedModel.hpp File Reference

```
#include <travelccm/bom/CustomerChoiceModel.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::PriceOrientedModel](#)

11.28 travelccm/command/ChoiceManager.cpp File Reference

```
#include <cassert>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <travelccm/bom/CustomerChoiceModel.hpp>
#include <travelccm/command/ChoiceManager.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.29 travelccm/command/ChoiceManager.hpp File Reference

```
#include <stdair/stdair_service_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/basic/PassengerChoiceModel.hpp>
```

Namespaces

- namespace [stdair](#)
- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::ChoiceManager](#)

11.30 travelccm/command/CmdAbstract.cpp File Reference

```
#include <travelccm/command/CmdAbstract.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.31 travelccm/command/CmdAbstract.hpp File Reference

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::CmdAbstract](#)

11.32 travelccm/command/FileMgr.cpp File Reference

```
#include <cassert>
#include <fstream>
#include <stdair/service/Logger.hpp>
#include <travelccm/command/FileMgr.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.33 travelccm/command/FileMgr.hpp File Reference

```
#include <string>
```

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::FileMgr](#)

11.34 travelccm/config/travelccm-paths.hpp.in File Reference

Defines

- #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@"

11.34.1 Define Documentation

11.34.1.1 `#define PACKAGE "@PACKAGE@"`

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

11.34.1.2 `#define PACKAGE_NAME "@PACKAGE_NAME@"`

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

11.34.1.3 `#define PACKAGE_VERSION "@PACKAGE_VERSION@"`

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

11.34.1.4 `#define PREFIXDIR "@prefix@"`

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

11.34.1.5 `#define EXEC_PREFIX "@exec_prefix@"`

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

11.34.1.6 `#define BINDIR "@bindir@"`

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

11.34.1.7 `#define LIBDIR "@libdir@"`

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

11.34.1.8 `#define LIBEXECDIR "@libexecdir@"`

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

11.34.1.9 `#define SBINDIR "@sbindir@"`

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

11.34.1.10 `#define SYSCONFDIR "@sysconfdir@"`

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

11.34.1.11 `#define INCLUDEDIR "@includedir@"`

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

11.34.1.12 `#define DATAROOTDIR "@datarootdir@"`

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

11.34.1.13 `#define DATADIR "@datadir@"`

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

11.34.1.14 #define DOCDIR "@docdir@"

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

11.34.1.15 #define MANDIR "@mandir@"

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

11.34.1.16 #define INFODIR "@infodir@"

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

11.34.1.17 #define HTMLDIR "@htmldir@"

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

11.34.1.18 #define PDFDIR "@pdfdir@"

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

11.34.1.19 #define STDAIR_SAMPLE_DIR "@sampledir@"

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

11.35 travelccm/factory/FacTRAVELCCMServiceContext.cpp File Reference

```
#include <cassert>
#include <stdair/service/FacSupervisor.hpp>
#include <travelccm/factory/FacTRAVELCCMServiceContext.hpp>
#include <travelccm/service/TRAVELCCM_ServiceContext.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.36 travelccm/factory/FacTRAVELCCMServiceContext.hpp File Reference

```
#include <stdair/service/FacServiceAbstract.hpp>
#include <travelccm/TRAVELCCM_Types.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::FacTRAVELCCMServiceContext](#)

11.37 travelccm/service/TRAVELCCM_Service.cpp File Reference

```
#include <cassert>
#include <boost/make_shared.hpp>
#include <stdair/basic/BasChronometer.hpp>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <travelccm/factory/FacTRAVELCCMServiceContext.hpp>
#include <travelccm/command/ChoiceManager.hpp>
#include <travelccm/service/TRAVELCCM_ServiceContext.hpp>
#include <travelccm/TRAVELCCM_Service.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.38 travelccm/service/TRAVELCCM_ServiceContext.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <travelccm/service/TRAVELCCM_ServiceContext.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

11.39 travelccm/service/TRAVELCCM_ServiceContext.hpp File Reference

```
#include <string>
#include <boost/shared_ptr.hpp>
#include <stdair/stdair_service_types.hpp>
#include <stdair/service/ServiceAbstract.hpp>
#include <travelccm/TRAVELCCM_Types.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::TRAVELCCM_ServiceContext](#)
Inner class holding the context for the TravelCCM Service object.

11.40 travelccm/TRAVELCCM_Service.hpp File Reference

```
#include <stdair/basic/PassengerChoiceModel.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_service_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <travelccm/TRAVELCCM_Types.hpp>
```

Namespaces

- namespace [stdair](#)
- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::TRAVELCCM_Service](#)

11.41 travelccm/TRAVELCCM_Types.hpp File Reference

```
#include <string>
#include <boost/shared_ptr.hpp>
#include <stdair/stdair_exceptions.hpp>
```

Namespaces

- namespace [TRAVELCCM](#)

Classes

- class [TRAVELCCM::CustomerChoiceException](#)
- class [TRAVELCCM::MissingCustomerChoiceModelException](#)

Typedefs

- typedef boost::shared_ptr< TRAVELCCM_Service > [TRAVELCCM::TRAVELCCM_ServicePtr_-T](#)

12 TravelCCM Page Documentation

12.1 TravelCCM People

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Note:

(N) - **Amadeus** employees.

12.2 Coding Rules

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

12.2.1 Default Naming Rules for Variables

Variables are named using lower-case letters and words are separated using under-score. Abbreviations, when used in variable names, are also written with lower-case letters. Examples:

- `'fft_size'`
- `'nrof_paths'`
- `'my_variable_name'`

Some variable names or parts of variable names are commonly used in several different functions and files to denote the same thing. For instance the following common names and prefixes should be used:

- `'rows'` - number of rows in a matrix
- `'cols'` - number of columns in a matrix
- `'nrof_'` - number of ...

12.2.2 Default Naming Rules for Files

Files are named using lower-case letters and words are separated using under-score. Abbreviations, when used in file names, are also written with lower-case letters.

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

- `'my_file.h'`
- `'my_file.cpp'`

12.2.3 Default Naming Rules for Functions

Function names are named using lower-case letters and words are separated using under-score. Abbreviations, when used in function names, are also written with lower-case letters. This rule applies both to stand-alone functions as well as to member functions of classes. Example:

- `int my_function_name(int a, int b)`

12.2.4 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:

- `'My_Class_Name'`
- `'My_Struct_Name'`
- `'OFDM'`

12.2.5 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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12.3.1 GNU LESSER GENERAL PUBLIC LICENSE

12.3.1.1 Version 2.1, February 1999

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12.3.3.2 END OF TERMS AND CONDITIONS

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```
<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

12.4 Documentation Rules

12.4.1 General Rules

All classes in IT++ should be properly documented with Doxygen comments in include (`.h`) 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 IT++ is shown here:

```
/*!
 * \brief Brief description of My_Class here
 *
 * Detailed description of My_Class here. With example code if needed.
 */
class My_Class {

public:
```



```

    ///! Default constructor
    My_Class(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
     */
    My_Class(TYPE1 param1, TYPE2 param2) { setup(param1, param2); }

    /*!
     * \brief Setup function for My_Class
     *
     * 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 member_function1
     *
     * Detailed description of member_function1 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 member_function1(TYPE1 param1, TYPE2 param2, TYPE3 &param3);

private:

    bool setup_done;          /*!< Variable that checks if the class is properly
                               initialized with parameters */
    TYPE1 private_variable1; /*!< Short description of private_variable1 here
    TYPE2 private_variable2; /*!< Short description of private_variable2 here
};

```

12.4.2 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
 *
 * Detailed description of the file here if needed.
 *
 * $Date: 2005-12-13 12:27:39 +0100 (mar, 13 dÃ1'c 2005) $
 * $Revision: 93 $
 *
 * -----
 *
 * IT++ - C++ library of mathematical, signal processing, speech processing,
 *       and communications classes and functions
 *
 * Copyright (C) 1995-2005 (see AUTHORS file for a list of contributors)
 *

```

```

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* along with this program; if not, write to the Free Software
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*
* -----
*/

```

12.4.3 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 'my_function' and how to add it to the group 'my_group':

```

/*!
 * \brief Brief description of my_function here
 * \ingroup my_group
 *
 * Detailed description of my_function 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 my_function(TYPE1 param1, TYPE2 &param2);

```

12.5 Main features of TravelCCM

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

12.5.1 Customer-Choice features

- Customer-Choice Model (CCM)

12.5.2 Other features

- CSV input file parsing

12.6 Make a Difference

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

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

- Start using TravelCCM
- Tell your friends about TravelCCM 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 TravelCCM discussion forums on SourceForge. If you know the answer to a question, help others to overcome their TravelCCM 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 TravelCCM to new platforms. If you manage to compile TravelCCM on a new platform, then tell us how you did it.
- Send us your code. If you have a good TravelCCM compatible code, which you can release under the LGPLv2.1, and you think it should be included in TravelCCM, then send it to us.
- Become an TravelCCM developer. Send us an e-mail and tell what you can do for TravelCCM.

12.7 Make a new release

12.7.1 Introduction

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

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

- [Initialisation](#)
- [Release branch maintenance](#)
- [Commit and publish the release branch](#)
- [Create source packages \(tar-balls\)](#)
- [Upload the HTML documentation to SourceForge](#)
- [Generate the RPM packages](#)
- [Update distributed change log](#)
- [Create the binary package, including the documentation](#)
- [Upload the files to SourceForge](#)
- [Make a new post](#)
- [Send an email on the announcement mailing-list](#)

12.7.2 Initialisation

Clone locally the full [Git project](#):

```
cd ~
mkdir -p dev/sim
cd ~/dev/sim
git clone git://travel-ccm.git.sourceforge.net/gitroot/travel-ccm/travel-ccm travelccmgit
cd travelccmgit
git checkout trunk
```

12.7.3 Release branch maintenance

Switch to the release branch, on your local clone, and merge the latest updates from the trunk. Decide about the new version to be released.

```
cd ~/dev/sim/travelccmgit
git checkout releases
git merge trunk
```

Update the version in the various build system files, replacing the old version numbers by the correct ones:

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

Update the version, add some news in the NEWS file, add a change-log in the ChangeLog file and in the RPM specification files:

```
vi NEWS
vi ChangeLog
vi travelccm.spec
```

12.7.4 Commit and publish the release branch

Commit the new release:

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

12.7.5 Create source packages (tar-balls)

Create the distribution packages using the following command:

```
cd ~/dev/sim/travelccmgit
git checkout releases
rm -rf build && mkdir -p build
cd build
export INSTALL_BASEDIR=/home/user/dev/deliveries
export LIBSUFFIX_4_CMAKE="-DLIB_SUFFIX=64"
cmake -DCMAKE_INSTALL_PREFIX=${INSTALL_BASEDIR}/travelccm-0.5.0 \
  -DWITH_STDAIR_PREFIX=${INSTALL_BASEDIR}/stdair-stable \
  -DWITH_AIRRAC_PREFIX=${INSTALL_BASEDIR}/airsched-stable \
```

```
-DWITH_AIRAC_PREFIX=${INSTALL_BASEDIR}/airrac-stable \
-DWITH_TravelCCM_PREFIX=${INSTALL_BASEDIR}/travelccm-stable \
-DWITH_TravelCCM_PREFIX=${INSTALL_BASEDIR}/airinv-stable \
-DWITH_TravelCCM_PREFIX=${INSTALL_BASEDIR}/simfqt-stable \
-DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON \
${LIBSUFFIX_4_CMAKE} ..
make check && make dist
make install
```

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

12.7.6 Upload the HTML documentation to SourceForge

In order to update the Web site files, either:

- **synchronise them with rsync and SSH:** Upload the just generated HTML (and PDF) documentation onto the **SourceForge Web site**.

```
cd ~/dev/sim/travelccmgit/build
git checkout releases
rsync -aiv ${INSTALL_BASEDIR}/travelccm-0.5.0/share/doc/travelccm-0.5.0/html/ \
your_sf_user,travel-ccm@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**.

12.7.7 Generate the RPM packages

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

```
cd ~/dev/sim/travelccmgit/build
git checkout releases
make dist
```

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

```
cp ../travelccm.spec ~/dev/packages/SPECS \
&& cp travelccm-0.5.0.tar.bz2 ~/dev/packages/SOURCES
cd ~/dev/packages/SPECS
rpmbuild -ba travelccm.spec
cd ~/dev/packages
rpmlint -i SPECS/travelccm.spec SRPMS/travelccm-0.5.0-1.fc16.src.rpm \
RPMS/noarch/travelccm-* RPMS/i686/travelccm-*
```

12.7.8 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 [TravelCCM's Git repository](#).

12.7.9 Create the binary package, including the documentation

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

```
cd ~/dev/sim/travelccmgit/build
git checkout releases
make package
```

The output binary package will be named, for instance, `travelccm-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.

12.7.10 Upload the files to SourceForge

Upload the distribution and documentation packages to the SourceForge server. Check [SourceForge help page on uploading software](#).

12.7.11 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](#).

12.7.12 Send an email on the announcement mailing-list

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

12.8 Installation

12.8.1 Table of Contents

- [Fedora/RedHat Linux distributions](#)
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12.8.2 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 travelccm-devel travelccm-doc
```

RPM packages can also be available on the [SourceForge download site](#).

12.8.3 TravelCCM Requirements

TravelCCM 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`’)
- [SOCHI](#) - 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 TravelCCM.

12.8.4 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 `'CMakeLists.txt'` is used to create the `'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.

12.8.5 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.

12.8.6 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.

12.8.7 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=PREFIX', 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=PREFIX'` 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.

12.8.8 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=PREFIX'` 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'`.

12.8.9 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
```

12.8.10 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'`.

12.8.11 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.

12.8.12 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
```

12.8.13 '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 output like this:

```
-- Requires Git without specifying any version
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/travelccm-99.99.99 -DLIB_SUFFIX=64 -DCMAKE_BUILD_TYPE=Debug
-- 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: dbedfae29cd555c176034d09ecff12e80f28e915 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 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-0.35
-- 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 'travelccmlib' to CXX
-- Test 'TravelChoiceTestSuite' to be built with 'TravelChoiceTestSuite.cpp'
--
-- =====
-- -----
-- ---      Project Information      ---
-- -----
-- PROJECT_NAME ..... : travelccm
-- PACKAGE_PRETTY_NAME ..... : TravelCCM
-- PACKAGE ..... : travelccm
-- PACKAGE_NAME ..... : TRAVELCCM
-- PACKAGE_BRIEF ..... : C++ Travel Customer Choice Model Library
-- PACKAGE_VERSION ..... : 99.99.99
-- GENERIC_LIB_VERSION ..... : 99.99.99
-- GENERIC_LIB_SOVERSION ..... : 99.99
--
-- -----
-- ---      Build Configuration      ---
-- -----
-- Modules to build ..... : travelccm
-- Libraries to build/install ..... : travelccmlib
-- Binaries to build/install ..... : travelccm
-- Modules to test ..... : travelccm
-- Binaries to test ..... : TravelChoiceTestSuitetst
--
-- * Module ..... : travelccm
--   + Layers to build ..... : .;basic;bom;factory;command;service
--   + Dependencies on other layers :
--   + Libraries to build/install . : travelccmlib
--   + Executables to build/install : travelccm
--   + Tests to perform ..... : TravelChoiceTestSuitetst
--
-- BUILD_SHARED_LIBS ..... : ON
-- CMAKE_BUILD_TYPE ..... : Debug
-- * CMAKE_C_FLAGS ..... :
-- * CMAKE_CXX_FLAGS ..... : -Wall -Werror
-- * BUILD_FLAGS ..... :
-- * COMPILE_FLAGS ..... :
-- CMAKE_MODULE_PATH ..... : /home/user/dev/sim/travelccm/travelccmgithub/config/
-- CMAKE_INSTALL_PREFIX ..... : /home/user/dev/deliveries/travelccm-99.99.99
--
-- * 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/user/dev/deliveries/travelccm-99.99.99/lib64
-- INSTALL_BIN_DIR ..... : /home/user/dev/deliveries/travelccm-99.99.99/bin
-- INSTALL_INCLUDE_DIR ..... : /home/user/dev/deliveries/travelccm-99.99.99/include
-- INSTALL_DATA_DIR ..... : /home/user/dev/deliveries/travelccm-99.99.99/share

```

```

-- INSTALL_SAMPLE_DIR ..... : /home/user/dev/deliveries/travelccm-99.99.99/share/travelccm/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 ..... : 99.99.99
-- CPACK_PACKAGE_DESCRIPTION_FILE . : /home/user/dev/sim/travelccm/travelccmgithub/README
-- CPACK_RESOURCE_FILE_LICENSE .... : /home/user/dev/sim/travelccm/travelccmgithub/COPYING
-- CPACK_GENERATOR ..... : TBZ2
-- CPACK_DEBIAN_PACKAGE_DEPENDS ... :
-- CPACK_SOURCE_GENERATOR ..... : TBZ2;TGZ
-- CPACK_SOURCE_PACKAGE_FILE_NAME . : travelccm-99.99.99
--
-- -----
-- --- 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;u
--   - Boost required libraries ... : optimized;/usr/lib64/libboost_regex-mt.so;debug;/usr/lib64/libboost_
--
-- * 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
--   - SOCI_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_LIBRARIES ..... : /usr/lib64/libsoci_core.so
--   - SOCI_LIBRARIES ..... : /usr/lib64/libsoci_mysql.so
--
-- * StdAir:
--   - STDAIR_VERSION ..... : 0.38.0
--   - STDAIR_BINARY_DIRS ..... : /home/user/dev/deliveries/stdair-0.38.0/bin
--   - STDAIR_EXECUTABLES ..... : stdair
--   - STDAIR_LIBRARY_DIRS ..... : /home/user/dev/deliveries/stdair-0.38.0/lib64
--   - STDAIR_LIBRARIES ..... : stdairlib;stdairuicllib
--   - STDAIR_INCLUDE_DIRS ..... : /home/user/dev/deliveries/stdair-0.38.0/include
--   - STDAIR_SAMPLE_DIR ..... : /home/user/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/user/dev/sim/travelccm/travelccmgithub/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_travelccm
[ 88%] Built target travelccmlib
[100%] Built target TravelChoiceTestSuitetst
Scanning dependencies of target check_travelccmtst
Test project /home/user/dev/sim/travelccm/travelccmgithub/build/test/travelccm

```

```
Start 1: TravelChoiceTestSuitetst
1/1 Test #1: TravelChoiceTestSuitetst ..... Passed    0.02 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) = 0.30 sec
[100%] Built target check_travelccmtst
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/travelccmgit
rm -rf build && mkdir build
cd build
```

to remove everything.

12.9 Linking with TravelCCM

12.9.1 Table of Contents

- [Introduction](#)
- [Dependencies](#)
- [Using the pkg-config command](#)
- [Using the travelccm-config script](#)
- [M4 macro for the GNU Autotools](#)
- [Using TravelCCM with dynamic linking](#)

12.9.2 Introduction

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

12.9.3 Dependencies

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

12.9.3.1 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'`).

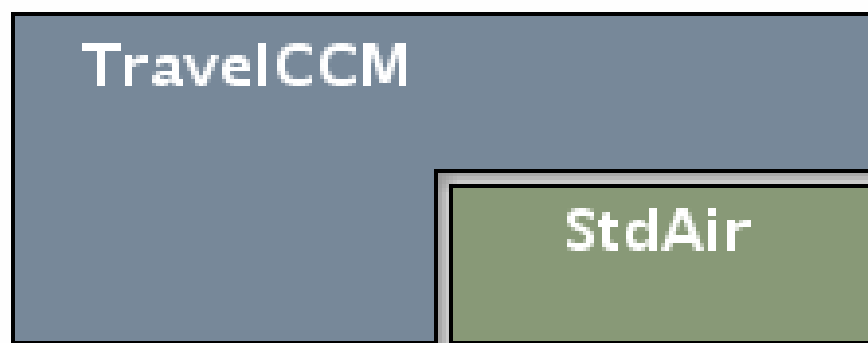


Figure 1: TravelCCM Dependencies

12.9.4 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 TravelCCM based program `'my_prog.cpp'`, you should use the following command:

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

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

12.9.5 Using the travelccm-config script

TravelCCM provides a shell script called `'travelccm-config'`, which is installed by default in `'$prefix/bin'` (`'/usr/local/bin'`) directory. It can be used to simplify compilation and linking of TravelCCM 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++ 'travelccm-config --cflags' -o my_prog_opt my_prog.cpp 'travelccm-config --libs'
```

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

```
travelccm-config --help
```

If the `'travelccm-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
```

12.9.6 M4 macro for the GNU Autotools

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

- `'TravelCCM_VERSION'` (e.g., defined to 0.23.0)
- `'TravelCCM_CFLAGS'` (e.g., defined to `'-I${prefix}/include'`)
- `'TravelCCM_LIBS'` (e.g., defined to `'-L${prefix}/lib -ltravelccm'`)

12.9.7 Using TravelCCM with dynamic linking

When using static linking some of the library routines in TravelCCM 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 TravelCCM library file during your program execution. If you install the TravelCCM 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=<TravelCCM installation prefix>/lib:$LD_LIBRARY_PATH
```

12.10 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.

12.10.1 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'`.

12.10.2 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.

12.10.3 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.

12.11 Users Guide

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- [Introduction](#)
- [Get Started](#)
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 - [Build the TravelCCM project](#)
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 - [Install the TravelCCM Project \(Binaries, Documentation\)](#)
- [Input file of TravelCCM Project](#)
- [The schedule BOM Tree](#)
 - [Build of the schedule BOM tree](#)
 - [Display of the schedule BOM tree](#)
- [Exploring the Predefined BOM Tree](#)
 - [Airline Network BOM Tree](#)
 - [Airline Schedule BOM Tree](#)
- [Extending the BOM Tree](#)
- [The travel solution calculation procedure](#)

12.11.2 Introduction

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

12.11.3 Get Started

12.11.3.1 Get the `TravelCCM` library

Clone locally the full [Git project](#):

```
cd ~
mkdir -p dev/sim
cd ~/dev/sim
git clone git://travel-ccm.git.sourceforge.net/gitroot/travel-ccm/travel-ccm travelccmgit
cd travelccmgit
git checkout trunk
```

12.11.3.2 Build the `TravelCCM` project

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

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

12.11.3.3 Build and Run the Tests

After building the `TravelCCM` project, the following commands run the tests:

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

As a result, you should obtain a similar report:

```
[ 0%] Built target hdr_cfg_travelccm
[ 96%] Built target travelccmlib
[100%] Built target AirlineScheduleTestSuitetst
Scanning dependencies of target check_travelccmtst
Test project /home/user/dev/sim/travelccm/travelccmgithub/build/test/travelccm
  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_travelccmtst
Scanning dependencies of target check
[100%] Built target check
```

12.11.3.4 Install the `TravelCCM` Project (Binaries, Documentation)

After the step [Build the `TravelCCM` project](#), to install the library and its header files, type:

```
cd ~/dev/sim/travelccmgit
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/travelccm-0.5.0
```

To generate the TravelCCM project documentation, the commands are:

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

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

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

12.11.4 Input file of TravelCCM 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 TRAVELCCM: :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 behave 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, JC DI, 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, JC DI, WT or YBHKMLSQ)

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

12.11.5 The schedule BOM Tree

The schedule-related Business Object Model (BOM) tree is a structure allowing to store all the `TRAVELCCM::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 TravelCCM 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.

12.11.5.1 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 [TRAVELCCM::TRAVELCCM_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 [TRAVELCCM::TRAVELCCM_Service::buildSampleBom\(\)](#) method:

```
void buildSampleBom();
```

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

12.11.5.2 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::travelccm.cpp` program:

When the default BOM tree is used (`-b/-builtin` option of the main program `travelccm.cpp`), the schedule BOM tree display (for now, corresponding to `schedule01.csv` parsed by `TRAVEL-CCM::travelccm`) 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,
SQ11 2010-Jan-15, SIN-BKK 2010-Jan-15, Y, 300, 300, 0, 0, 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,
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, 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,
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,

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,
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,
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,

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,
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,
SQ11 2010-Jan-18, SIN-BKK 2010-Jan-18, Y, 300, 300, 0, 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-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,
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,
SQ11 2010-Jan-19, SIN-BKK 2010-Jan-19, Y, 300, 300, 0, 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,
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

```

```
SQL1 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,
SQL1 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,
SQL1 2010-Jan-20, SIN-BKK 2010-Jan-20, Y, 1, 0, 0, 0, 0, 300, 0,
SQL1 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,
SQL1 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,
SQL1 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: SQL1, 2010-Jan-21
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
SQL1 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,
SQL1 2010-Jan-21, SIN-BKK 2010-Jan-21, Y, 1, 0, 0, 0, 0, 300, 0,
SQL1 2010-Jan-21, SIN-BKK 2010-Jan-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,
SQL1 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,
SQL1 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,
*****
*****
FlightDate: SQL1, 2010-Jan-22
*****
*****
Leg-Dates:
-----
```

```
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
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, 07:40:00, 0, -05:00:00, 6300, 0,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
FlightDate: SQ11, 2010-Jan-24
*****
*****
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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Jan-25

Leg-Dates:

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Jan-26

Leg-Dates:

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Jan-27

Leg-Dates:

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Jan-28

Leg-Dates:

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQ11 2010-Jan-28, SIN-BKK 2010-Jan-28, Y, 300, 300, 0, 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-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,

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,

FlightDate: SQ11, 2010-Jan-29

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,

SQ11 2010-Jan-29, SIN-BKK 2010-Jan-29, Y, 300, 300, 0, 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-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,

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,

FlightDate: SQ11, 2010-Jan-30

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Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
SQL1 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:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL1 2010-Jan-30, SIN-BKK 2010-Jan-30, Y, 1, 0, 0, 0, 0, 0, 300, 0,
SQL1 2010-Jan-30, SIN-BKK 2010-Jan-30, Y, 2, 0, 0, 0, 0, 0, 300, 0,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
SQL1 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,
SQL1 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,
*****
*****
FlightDate: SQL1, 2010-Jan-31
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
SQL1 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL1 2010-Jan-31, SIN-BKK 2010-Jan-31, Y, 1, 0, 0, 0, 0, 0, 300, 0,
SQL1 2010-Jan-31, SIN-BKK 2010-Jan-31, Y, 2, 0, 0, 0, 0, 0, 300, 0,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
SQL1 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,
SQL1 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

Leg-Dates:

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,
SQ11 2010-Feb-01, SIN-BKK 2010-Feb-01, Y, 300, 300, 0, 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-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,
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,

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQ11 2010-Feb-02, SIN-BKK 2010-Feb-02, Y, 300, 300, 0, 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-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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Feb-03

Leg-Dates:

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQ11 2010-Feb-03, SIN-BKK 2010-Feb-03, Y, 300, 300, 0, 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-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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Feb-04

Leg-Dates:

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQ11 2010-Feb-04, SIN-BKK 2010-Feb-04, Y, 300, 300, 0, 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-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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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, 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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQ11 2010-Feb-05, SIN-BKK 2010-Feb-05, Y, 300, 300, 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,
*****
*****
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, 0, 300, 0,
SQ11 2010-Feb-05, SIN-BKK 2010-Feb-05, Y, 2, 0, 0, 0, 0, 0, 300, 0,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
FlightDate: SQ11, 2010-Feb-06
*****
*****
Leg-Dates:
-----
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
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, 0, 300, 0,
SQ11 2010-Feb-06, SIN-BKK 2010-Feb-06, Y, 2, 0, 0, 0, 0, 0, 300, 0,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

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SQL1 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: SQL1, 2010-Feb-07
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQL1 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL1 2010-Feb-07, SIN-BKK 2010-Feb-07, Y, 1, 0, 0, 0, 0, 300, 0,
SQL1 2010-Feb-07, SIN-BKK 2010-Feb-07, 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,
SQL1 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,
SQL1 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,
*****
*****
FlightDate: SQL1, 2010-Feb-08
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQL1 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL1 2010-Feb-08, SIN-BKK 2010-Feb-08, Y, 1, 0, 0, 0, 0, 300, 0,
SQL1 2010-Feb-08, SIN-BKK 2010-Feb-08, 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,
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SQL1 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,
SQL1 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,
*****
*****
FlightDate: SQL1, 2010-Feb-09
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQL1 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
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SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL1 2010-Feb-09, SIN-BKK 2010-Feb-09, Y, 1, 0, 0, 0, 0, 0, 300, 0,
SQL1 2010-Feb-09, SIN-BKK 2010-Feb-09, Y, 2, 0, 0, 0, 0, 0, 300, 0,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
SQL1 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,
SQL1 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,
*****
*****
FlightDate: SQL1, 2010-Feb-10
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
SQL1 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL1 2010-Feb-10, SIN-BKK 2010-Feb-10, Y, 1, 0, 0, 0, 0, 0, 300, 0,
SQL1 2010-Feb-10, SIN-BKK 2010-Feb-10, Y, 2, 0, 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,
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,
*****
*****
FlightDate: SQ11, 2010-Feb-11
*****
*****
Leg-Dates:
-----
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
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-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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
FlightDate: SQ11, 2010-Feb-12
*****
*****
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,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
*****
*****
Subclasses:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

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,
SQ11 2010-Feb-13, SIN-BKK 2010-Feb-13, Y, 300, 300, 0, 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-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,

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,

SQ11 2010-Feb-14, SIN-BKK 2010-Feb-14, Y, 300, 300, 0, 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-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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Feb-15

Leg-Dates:

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,
SQ11 2010-Feb-15, SIN-BKK 2010-Feb-15, Y, 300, 300, 0, 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-15, SIN-BKK 2010-Feb-15, Y, 1, 0, 0, 0, 0, 0, 300, 0,

SQ11 2010-Feb-15, SIN-BKK 2010-Feb-15, Y, 2, 0, 0, 0, 0, 0, 300, 0,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Feb-16

Leg-Dates:

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQ11 2010-Feb-16, SIN-BKK 2010-Feb-16, Y, 300, 300, 0, 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-16, SIN-BKK 2010-Feb-16, Y, 1, 0, 0, 0, 0, 0, 300, 0,

SQ11 2010-Feb-16, SIN-BKK 2010-Feb-16, Y, 2, 0, 0, 0, 0, 0, 300, 0,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Feb-17

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

FlightDate: SQ11, 2010-Feb-18

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,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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:
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Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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:
-----
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
FlightDate: SQ11, 2010-Feb-20
*****
*****
Leg-Dates:
-----
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
```

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SQL1 2010-Feb-20, SIN-BKK 2010-Feb-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,
SQL1 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,
SQL1 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,
*****
*****
FlightDate: SQL1, 2010-Feb-21
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQL1 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL1 2010-Feb-21, SIN-BKK 2010-Feb-21, Y, 1, 0, 0, 0, 0, 300, 0,
SQL1 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,
SQL1 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,
SQL1 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,
*****
*****
FlightDate: SQL1, 2010-Feb-22
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL1 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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQL1 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
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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,
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,
SQ11 2010-Feb-23, SIN-BKK 2010-Feb-23, Y, 300, 300, 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-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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
FlightDate: SQ11, 2010-Feb-24
*****
*****
Leg-Dates:
-----
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,
SQ11 2010-Feb-24, SIN-BKK 2010-Feb-24, Y, 300, 300, 0, 0, 0, 0, 0, 0, 0, 300, 9, 0, 0, 0, 0, 0,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
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```
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,
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,
*****
*****
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,
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,
*****
*****
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,
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,
*****
*****
FlightDate: SQ11, 2010-Feb-26
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, 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,
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,
*****
*****
SegmentCabins:
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```
-----
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,
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,
*****
*****
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,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
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,
*****
*****
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
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-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,
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,

FlightDate: SQ12, 2010-Jan-15

Leg-Dates:

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,
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,

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,
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,

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,
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,

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-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,
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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,
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
*****
*****
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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-17, SIN-HND, 2010-Jan-17, 09:20:00, 2010-Jan-17, 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,
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:
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```
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
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```
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,
```

```
*****
*****
Subclasses:
-----
```

```
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
```

```
*****
*****
LegCabins:
-----
```

```
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
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,
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,
*****
*****
FlightDate: SQ12, 2010-Jan-19
*****
*****
Leg-Dates:
-----
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,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
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,
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,
*****
*****
FlightDate: SQ12, 2010-Jan-20
*****
*****
Leg-Dates:
-----
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
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-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,
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,
*****
*****
FlightDate: SQ12, 2010-Jan-21
*****
*****
Leg-Dates:
-----
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,
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,
*****
*****
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,
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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:

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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-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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
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,
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,
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,
*****
*****
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,
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,
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*****
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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-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,
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,

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,
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,
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,

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,
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,

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,
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,

FlightDate: SQ12, 2010-Jan-27

Leg-Dates:

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,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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

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,
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:
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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-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:
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```
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
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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,
SQ12 2010-Jan-29, SIN-HND 2010-Jan-29, 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:
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```

```
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,
```

```
*****
*****
Subclasses:
-----
```

```
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
```

```
LegCabins:
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```

```
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
```

```
SQL2 2010-Jan-30, SIN-HND 2010-Jan-30, 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,
SQL2 2010-Jan-30, SIN-HND 2010-Jan-30, Y, 1, 0, 0, 0, 0, 200, 0,
SQL2 2010-Jan-30, SIN-HND 2010-Jan-30, 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,
SQL2 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,
SQL2 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,
*****
*****
FlightDate: SQL2, 2010-Jan-31
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL2 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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQL2 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL2 2010-Jan-31, SIN-HND 2010-Jan-31, Y, 1, 0, 0, 0, 0, 200, 0,
SQL2 2010-Jan-31, SIN-HND 2010-Jan-31, 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,
SQL2 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,
SQL2 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,
*****
*****
FlightDate: SQL2, 2010-Feb-01
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL2 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,
*****
*****
LegCabins:
-----
```

```
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
FlightDate: SQ12, 2010-Feb-02
*****
*****
Leg-Dates:
-----
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,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
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:
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-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
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, 0, 200, 0,
SQ12 2010-Feb-03, SIN-HND 2010-Feb-03, 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,
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,
*****
*****
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,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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,
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,
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*****
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LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

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,

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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,

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,
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,

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,
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,

FlightDate: SQ12, 2010-Feb-08

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,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
SQ12 2010-Feb-08, SIN-HND 2010-Feb-08, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0, 0, 0, 0, 0, 0,
SQ12 2010-Feb-08, SIN-HND 2010-Feb-08, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0, 0, 0, 0, 0, 0,

FlightDate: SQ12, 2010-Feb-09

Leg-Dates:

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, 07:40:00, 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,
SQ12 2010-Feb-09, SIN-HND 2010-Feb-09, Y, 200, 200, 0, 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-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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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, 0, 0, 0, 0, 0,
*****
*****
FlightDate: SQ12, 2010-Feb-10
*****
*****
Leg-Dates:
-----
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, 07:40:00, 0, -05:00:00, 6300, 0,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
SQ12 2010-Feb-10, SIN-HND 2010-Feb-10, Y, 200, 200, 0, 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-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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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, 0, 0, 0, 0, 0,
*****
*****
FlightDate: SQ12, 2010-Feb-11
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
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SQL2 2010-Feb-11, SIN-HND, 2010-Feb-11, 09:20:00, 2010-Feb-11, 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,
SQL2 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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, CommSpace, AvPool, BP,
SQL2 2010-Feb-11, SIN-HND 2010-Feb-11, Y, 1, 0, 0, 0, 0, 200, 0,
SQL2 2010-Feb-11, SIN-HND 2010-Feb-11, 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,
SQL2 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,
SQL2 2010-Feb-11, SIN-HND 2010-Feb-11, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0, 0, 0, 0, 0, 0,
*****
*****
FlightDate: SQL2, 2010-Feb-12
*****
*****
Leg-Dates:
-----
Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQL2 2010-Feb-12, SIN-HND, 2010-Feb-12, 09:20:00, 2010-Feb-12, 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,
SQL2 2010-Feb-12, SIN-HND 2010-Feb-12, 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,
SQL2 2010-Feb-12, SIN-HND 2010-Feb-12, Y, 1, 0, 0, 0, 0, 200, 0,
SQL2 2010-Feb-12, SIN-HND 2010-Feb-12, 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,
SQL2 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,
SQL2 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,
*****
*****
FlightDate: SQL2, 2010-Feb-13
*****
*****
Leg-Dates:
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```

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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, 07:40:00, 0, -05:00:00, 6300, 0,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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, 0, 0, 0, 0, 0,
*****
*****
FlightDate: SQ12, 2010-Feb-14
*****
*****
Leg-Dates:
-----
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, 07:40:00, 0, -05:00:00, 6300, 0,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
SegmentCabins:
-----
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,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
*****
*****
FlightDate: SQ12, 2010-Feb-15
*****
*****
Leg-Dates:
```

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, 07:40:00, 0, -05:00:00, 6300, 0,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,
SQ12 2010-Feb-15, SIN-HND 2010-Feb-15, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0, 0, 0, 0, 0, 0,
SQ12 2010-Feb-15, SIN-HND 2010-Feb-15, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0, 0, 0, 0, 0, 0,

FlightDate: SQ12, 2010-Feb-16

Leg-Dates:

Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQ12 2010-Feb-16, SIN-HND, 2010-Feb-16, 09:20:00, 2010-Feb-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,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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, 0, 0, 0, 0, 0,

FlightDate: SQ12, 2010-Feb-17

Leg-Dates:

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, 07:40:00, 0, -05:00:00, 6300, 0,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

SegmentCabins:

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,
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,

FlightDate: SQ12, 2010-Feb-18

Leg-Dates:

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, 07:40:00, 0, -05:00:00, 6300, 0,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

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,
SQ12 2010-Feb-18, SIN-HND 2010-Feb-18, Y, 1, Y, 200 (0), 0, 0, 0, 0, 0 (0), 0, 0, 0, 0, 0, 0,
SQ12 2010-Feb-18, SIN-HND 2010-Feb-18, Y, 2, M, 200 (0), 0, 0, 0, 0, 0 (0), 0, 0, 0, 0, 0, 0,

FlightDate: SQ12, 2010-Feb-19

Leg-Dates:

Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance, Capacity
SQ12 2010-Feb-19, SIN-HND, 2010-Feb-19, 09:20:00, 2010-Feb-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,
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,

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,

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,

FlightDate: SQ12, 2010-Feb-20

Leg-Dates:

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, 07:40:00, 0, -05:00:00, 6300, 0,

LegCabins:

Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,

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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

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,

Subclasses:

Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,

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,

FlightDate: SQ12, 2010-Feb-21


```
*****
*****
Leg-Dates:
-----
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, 07:40:00, 0, -05:00:00, 6300, 0,
*****
*****
LegCabins:
-----
Flight, Leg, Cabin, OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, CommSpace, AvPool, Avl, NAV,
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, 0, 200, 0,
SQ12 2010-Feb-21, SIN-HND 2010-Feb-21, Y, 2, 0, 0, 0, 0, 0, 200, 0,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,
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,
*****
*****
Buckets:
-----
Flight, Leg, Cabin, Yield, AU/SI, SS, AV,
*****
*****
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, 0, 200, 0,
SQ12 2010-Feb-22, SIN-HND 2010-Feb-22, Y, 2, 0, 0, 0, 0, 0, 200, 0,
*****
*****
Subclasses:
-----
Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), Nego, NS%, OB%, Bkgs, GrpBks (pdg), StfBkgs, WLBkgs,
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,

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,

Buckets:

Flight, Leg, Cabin, Yield, AU/SI, SS, AV,

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,

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,

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:

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,

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,
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,
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,
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,
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,
SQ12 2010-Feb-27, SIN-HND 2010-Feb-27, Y, 200, 200, 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,
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,
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,
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,
*****

```

12.11.6 Exploring the Predefined BOM Tree

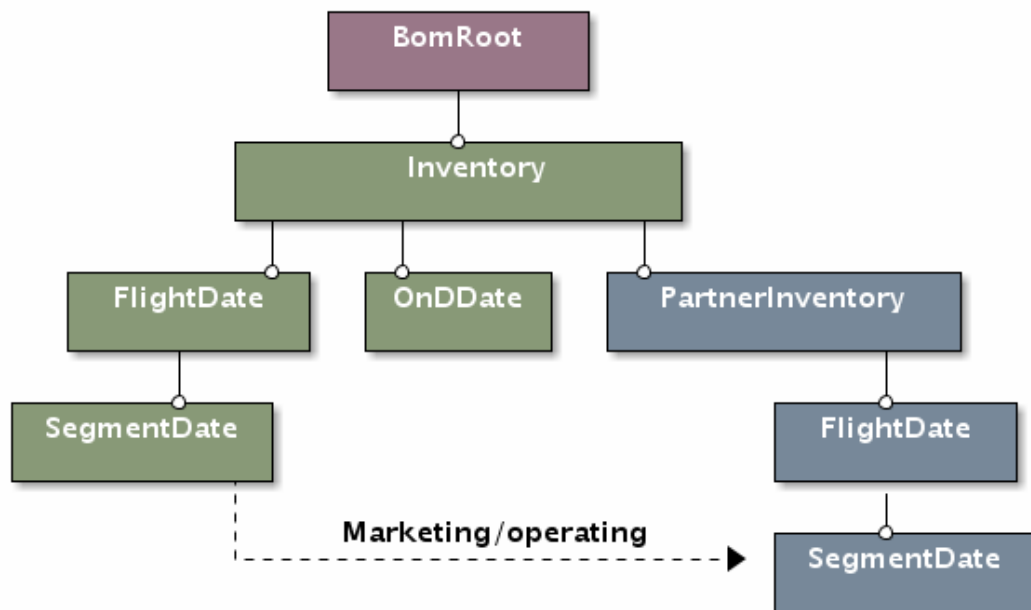


Figure 2: TravelCCM BOM tree

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

12.11.6.1 Airline Network BOM Tree

- TRAVELCCM::ReachableUniverse
- TRAVELCCM::OriginDestinationSet
- TRAVELCCM::SegmentPathPeriod

12.11.6.2 Airline Schedule BOM Tree

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

12.11.7 Extending the BOM Tree

12.11.8 The travel solution calculation procedure

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

12.12 TRAVELCCM Supported Systems

12.12.1 Table of Contents

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- [TRAVELCCM 3.10.x](#)
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 - * [Gentoo Linux with ACML](#)
 - * [Gentoo Linux with ATLAS](#)
 - * [Gentoo Linux with MKL](#)
 - * [Gentoo Linux with NetLib's BLAS and LAPACK](#)
 - * [Red Hat Enterprise Linux with TRAVELCCM External](#)
 - * [SUSE Linux 10.0 with NetLib's BLAS and LAPACK](#)
 - * [SUSE Linux 10.0 with MKL](#)
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 - * [Microsoft Windows XP with Cygwin](#)
 - * [Microsoft Windows XP with Cygwin and ATLAS](#)
 - * [Microsoft Windows XP with Cygwin and ACML](#)
 - * [Microsoft Windows XP with MinGW, MSYS and ACML](#)
 - * [Microsoft Windows XP with MinGW, MSYS and TRAVELCCM External](#)
 - * [Microsoft Windows XP with MS Visual C++ and Intel MKL](#)
 - [Unix Systems](#)
 - * [SunOS 5.9 with TRAVELCCM External](#)
- [TRAVELCCM 3.9.1](#)
- [TRAVELCCM 3.9.0](#)
- [TRAVELCCM 3.8.1](#)

12.12.2 Introduction

This page is intended to provide a list of [TRAVELCCM](#) supported systems, i.e. the systems on which configuration, installation and testing process of the [TRAVELCCM](#) library has been successful. 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 [TRAVELCCM](#) library on a system not mentioned below, please let us know, so we could update this database.

12.12.3 TRAVELCCM 3.10.x

12.12.3.1 Linux Systems

Fedora Core 4 with ATLAS

- **Platform:** Intel Pentium 4
- **Operating System:** Fedora Core 4 (x86)
- **Compiler:** g++ (GCC) 4.0.2 20051125
- **TRAVELCCM release:** 3.10.0
- **External Libraries:** From FC4 distribution:
 - fftw3.i386-3.0.1-3
 - fftw3-devel.i386-3.0.1-3
 - atlas-sse2.i386-3.6.0-8.fc4
 - atlas-sse2-devel.i386-3.6.0-8.fc4
 - blas.i386-3.0-35.fc4
 - lapack.i386-3.0-35.fc4
- **Tests Status:** All tests PASSED
- **Comments:** TRAVELCCM configured with:

```
% CXXFLAGS="-O3 -pipe -march=pentium4" ./configure
```
- **Date:** March 7, 2006
- **Tester:** Tony Ottosson

Gentoo Linux with ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler(s):** g++ (GCC) 3.4.5
- **TRAVELCCM release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:
 - sci-libs/acml-3.0.0
- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ACML
% eselect lapack set ACML
```

TRAVELCCM configured with:

```
% export CPPFLAGS="-I/usr/include/acml"
% ./configure --with-blas="-lblas"
```
- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

Gentoo Linux with ATLAS

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **TRAVELCCM release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:
 - sci-libs/fftw-3.1
 - sci-libs/blas-atlas-3.6.0-r1
 - sci-libs/lapack-atlas-3.6.0
- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ATLAS
% eselect lapack set ATLAS
```

TRAVELCCM configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

Gentoo Linux with MKL

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler:** g++ (GCC) 3.4.5
- **TRAVELCCM release:** 3.10.0
- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory: /opt/intel/mkl/8.0.1
- **Tests Status:** All tests PASSED
- **Comments:** TRAVELCCM configured using the following commands:

```
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/32"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```

- **Date:** February 28, 2006
- **Tester:** Adam Piatyszek (ediap)

Gentoo Linux with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **TRAVELCCM release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:
 - sci-libs/fftw-3.1
 - sci-libs/blas-reference-19940131-r2
 - sci-libs/cblas-reference-20030223
 - sci-libs/lapack-reference-3.0-r2
- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% blas-config reference
% lapack-config reference
```

TRAVELCCM configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

Red Hat Enterprise Linux with TRAVELCCM External

- **Platform:** Intel Pentium 4
- **Operating System:** Red Hat Enterprise Linux AS release 4 (Nahant Update 2)
- **Compiler:** g++ (GCC) 3.4.4 20050721 (Red Hat 3.4.4-2)
- **TRAVELCCM release:** 3.10.0
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from TRAVELCCM External 2.1.1 package
- **Tests Status:** All tests PASSED
- **Date:** March 7, 2006
- **Tester:** Erik G. Larsson

SUSE Linux 10.0 with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)
- **Operating System:** SUSE Linux 10.0 (x86_64)
- **Compiler(s):** g++ (GCC) 4.0.2
- **TRAVELCCM release:** 3.10.0
- **External Libraries:** BLAS, LAPACK and FFTW libraries installed from OpenSuse 10.0 RPM repository:
 - blas-3.0-926
 - lapack-3.0-926
 - fftw3-3.0.1-114
 - fftw3-threads-3.0.1-114
 - fftw3-devel-3.0.1-114
- **Tests Status:** All tests PASSED
- **Comments:** TRAVELCCM configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% ./configure --with-lapack="/usr/lib64/liblapack.so.3"
```
- **Date:** March 1, 2006
- **Tester:** Adam Piatyszek (ediap)

SUSE Linux 10.0 with MKL

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)
- **Operating System:** SUSE Linux 10.0 (x86_64)
- **Compiler(s):** g++ (GCC) 4.0.2
- **TRAVELCCM release:** 3.10.0
- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory: /opt/intel/mkl/8.0.1
- **Tests Status:** All tests PASSED
- **Comments:** TRAVELCCM configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/em64t"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```
- **Date:** March 1, 2006
- **Tester:** Adam Piatyszek (ediap)

12.12.3.2 Windows Systems

Microsoft Windows XP with Cygwin

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **TRAVELCCM release:** 3.10.1
- **External Libraries:** Installed from Cygwin's repository:
 - fftw-3.0.1-2
 - fftw-dev-3.0.1-1
 - lapack-3.0-4
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. TRAVELCCM configured with:

```
% ./configure
```
- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

Microsoft Windows XP with Cygwin and ATLAS

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **TRAVELCCM release:** 3.10.1
- **External Libraries:** Installed from Cygwin's repository:
 - fftw-3.0.1-2
 - fftw-dev-3.0.1-1ATLAS BLAS and LAPACK libraries from TRAVELCCM External 2.1.1 package configured using:

```
% ./configure --enable-atlas --disable-fftw
```
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. TRAVELCCM configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% ./configure
```
- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

Microsoft Windows XP with Cygwin and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **TRAVELCCM release:** 3.10.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. TRAVELCCM configured with:

```
% export LDFLAGS="-L/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```
- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

Microsoft Windows XP with MinGW, MSYS and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **TRAVELCCM release:** 3.10.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. TRAVELCCM configured with:

```
% export LDFLAGS="-L/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```
- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

Microsoft Windows XP with MinGW, MSYS and TRAVELCCM External

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **TRAVELCCM release:** 3.10.5
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from [TRAVELCCM](#) External 2.2.0 package
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. [TRAVELCCM](#) configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% export CPPFLAGS="-I/usr/local/include"
% export CXXFLAGS="-Wall -O3 -march=athlon-tbird -pipe"
% ./configure --disable-html-doc
```

- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

Microsoft Windows XP with MS Visual C++ and Intel MKL

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2
- **Compiler(s):** Microsoft Visual C++ 2005 .NET
- **TRAVELCCM release:** 3.10.5
- **External Libraries:** Intel Math Kernel Library (MKL) 8.1 installed manually in the following directory: "C:\Program Files\Intel\MKL\8.1"
- **Tests Status:** Not fully tested. Some [TRAVELCCM](#) based programs compiled and run with success.
- **Comments:** Only static library can be built. [TRAVELCCM](#) built by opening the "win32\travelccm.vcproj" project file in MSVC++ and executing "Build → Build Solution" command from menu.
- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

12.12.3.3 Unix Systems

SunOS 5.9 with TRAVELCCM External

- **Platform:** SUNW, Sun-Blade-100 (SPARC)
- **Operating System:** SunOS 5.9 Generic_112233-10
- **Compiler(s):** g++ (GCC) 3.4.5
- **TRAVELCCM release:** 3.10.2
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from [TRAVELCCM](#) External 2.1.1 package. The following configuration command has been used:

```
% export CFLAGS="-mcpu=ultrasparc -O2 -pipe -funroll-all-loops"  
% ./configure
```

- **Tests Status:** All tests PASSED
- **Comments:** [TRAVELCCM](#) configured with:

```
% export LDFLAGS="-L/usr/local/lib"  
% export CPPFLAGS="-I/usr/local/include"  
% export CXXFLAGS="-mcpu=ultrasparc -O2 -pipe"  
% ./configure --enable-debug
```

- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

12.13 TRAVELCCM Supported Systems (Previous Releases)**12.13.1 TRAVELCCM 3.9.1****12.13.2 TRAVELCCM 3.9.0****12.13.3 TRAVELCCM 3.8.1****12.14 Tutorials****12.14.1 Table of Contents**

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 - [Result of the Batch Program](#)
- [Network building with an input file](#)
 - [How to build a network input file?](#)
 - [Building the BOM tree with an input file](#)
 - [Result of the Batch Program](#)

12.14.2 Preparing the TravelCCM Project for Development

The source code for these examples can be found in the `batches` and `test/travelccm` directories. They are compiled along with the rest of the TravelCCM project. See the [Users Guide](#) for more details on how to build the TravelCCM project.

12.14.3 Your first networkBuilder

12.14.3.1 Summary of the different steps All the steps below can be found in the same order in the batch `TravelCCM.cpp` program.

First, we instantiate the `TRAVELCCM_Service` object:

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

```
stdair::TravelSolutionList_T lTSList;
```

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

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

12.14.3.2 Result of the Batch Program When the `TravelCCM.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.

12.14.4 Network building with an input file

12.14.4.1 How to build a network input file? The objective here is to build a network input file to network build 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 :

```
// Fares: fare ID; OriginCity; DestinationCity; TripType; DateRangeStart; DateRangeEnd; DepartureTimeRange
// Segment: AirlineCode; Class;
1; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ???; ?; ??; ?; ?; ?; ?; ?; ?; ?; ?; ?; ?; BA; ?;
```

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:

```
// Fares: fare ID; OriginCity; DestinationCity; TripType; DateRangeStart; DateRangeEnd; DepartureTimeRange
// Segment: AirlineCode; Class;
1; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; IN; 0; ?; ?; ?; ?; 0; ????; BA; ?;
2; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; IF; 0; ?; ?; ?; ?; 0; ????; BA; ?;
3; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; DN; 0; ?; ?; ?; ?; 0; ????; BA; ?;
4; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; DF; 0; ?; ?; ?; ?; 0; ????; BA; ?;
5; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; IN; 0; ?; ?; ?; ?; 0; ????; BA; ?;
6; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; IF; 0; ?; ?; ?; ?; 0; ????; BA; ?;
7; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; DN; 0; ?; ?; ?; ?; 0; ????; BA; ?;
8; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; DF; 0; ?; ?; ?; ?; 0; ????; BA; ?;
9; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; IN; 0; ?; ?; ?; ?; 0; ????; BA; ?;
10; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; IF; 0; ?; ?; ?; ?; 0; ????; BA; ?;
11; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; DN; 0; ?; ?; ?; ?; 0; ????; BA; ?;
12; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; DF; 0; ?; ?; ?; ?; 0; ????; BA; ?;
```

Let us say we have just the Economy cabin "Y" and British 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:


```
// Fares: fare ID; OriginCity; DestinationCity; TripType; DateRangeStart; DateRangeEnd; DepartureTimeRange
// Segment: AirlineCode; Class;
1; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IN; 0; T; T; T; 0; 50; BA; Y;
2; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IF; 0; T; T; T; 0; 150; BA; Y;
3; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DN; 0; T; T; T; 0; 250; BA; Y;
4; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DF; 0; T; T; T; 0; 350; BA; Y;
5; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IN; 0; T; T; T; 0; 450; BA; Y;
6; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IF; 0; T; T; T; 0; 550; BA; Y;
7; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DN; 0; T; T; T; 0; 650; BA; Y;
8; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DF; 0; T; T; T; 0; 750; BA; Y;
9; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IN; 0; T; T; T; 0; 850; BA; Y;
10; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IF; 0; T; T; T; 0; 950; BA; Y;
11; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DN; 0; T; T; T; 0; 1050; BA; Y;
12; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DF; 0; T; T; T; 0; 1150; BA; Y;
13; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IN; 0; T; T; T; 0; 90; BA; Y;
14; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IF; 0; T; T; T; 0; 190; BA; Y;
15; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DN; 0; T; T; T; 0; 290; BA; Y;
16; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DF; 0; T; T; T; 0; 390; BA; Y;
17; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IN; 0; T; T; T; 0; 490; BA; Y;
18; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IF; 0; T; T; T; 0; 590; BA; Y;
19; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DN; 0; T; T; T; 0; 690; BA; Y;
20; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DF; 0; T; T; T; 0; 790; BA; Y;
21; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IN; 0; T; T; T; 0; 890; BA; Y;
22; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IF; 0; T; T; T; 0; 990; BA; Y;
23; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DN; 0; T; T; T; 0; 1090; BA; Y;
24; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DF; 0; T; T; T; 0; 1190; BA; Y;
```

12.14.4.2 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 :

12.14.4.3 Result of the Batch Program When the TravelCCM.cpp program is run with the `-f` option linking with the file built just above:

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

the last lines of the log output should look like:

```
[D]~/TravelCCMgit/TravelCCM/batches/TravelCCM.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.

12.15 Command-Line Test to Demonstrate How To Test the Travel CCM Project

```
*/
// //////////////////////////////////////
// Import section
// //////////////////////////////////////
// STL
#include <sstream>
#include <fstream>
#include <string>
// Boost Unit Test Framework (UTF)
#define BOOST_TEST_DYN_LINK
```

```

#define BOOST_TEST_MAIN
#define BOOST_TEST_MODULE TravelCCMTest
#include <boost/test/unit_test.hpp>
// StdAir
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/basic/PassengerChoiceModel.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/service/Logger.hpp>
// TravelCCM
#include <travelccm/TRAVELCCM_Service.hpp>
#include <travelccm/config/travelccm-paths.hpp>

namespace boost_utf = boost::unit_test;

// (Boost) Unit Test XML Report
std::ofstream utfReportStream ("TravelChoiceTestSuite_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() {
    }
};

// ////////////////////////////////////////
void testTravelCCMHelper (const unsigned short iTestFlag,
                        const stdair::PassengerChoiceModel& iPassengerChoiceModel,
                        const unsigned int iExpectedPrice) {

    // Output log File
    std::ostream oStr;
    oStr << "TravelChoiceTestSuite_" << iTestFlag << ".log";
    const stdair::Filename_T lLogFilename (oStr.str());

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

    // Initialise the service context
    const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);

    // Build the BOM tree
    TRAVELCCM::TRAVELCCM_Service travelccmService (lLogParams);
    travelccmService.buildSampleBom ();

    // DEBUG
    STDAIR_LOG_DEBUG ("Welcome to TravelCCM");

    // Build a list of travel solutions
    const stdair::BookingRequestStruct& lBookingRequest =
        travelccmService.buildSampleBookingRequest();

    // DEBUG
    STDAIR_LOG_DEBUG ("Booking request: " << lBookingRequest.display());

    // Build the sample BOM tree
    stdair::TravelSolutionList_T lTSList;
    travelccmService.buildSampleTravelSolutions (lTSList);

```

```

// DEBUG: Display the list of travel solutions
const std::string& lCSVDump = travelccmService.csvDisplay (lTSList);
STDAIR_LOG_DEBUG (lCSVDump);

// Choose a travel solution
const stdair::TravelSolutionStruct* lTS_ptr =
    travelccmService.chooseTravelSolution (lTSList, lBookingRequest, iPassengerChoiceModel);

// Check that a solution has been found
BOOST_REQUIRE_MESSAGE (lTS_ptr != NULL,
    "No travel solution can be found for "
    << lBookingRequest.display()
    << " within the following list of travel solutions. "
    << lCSVDump);

STDAIR_LOG_DEBUG (lTS_ptr->describe());

// Retrieve the chosen fare option
stdair::FareOptionStruct lFareOption = lTS_ptr->getChosenFareOption();

// DEBUG
std::ostringstream oMessageExpectedPrice;
oMessageExpectedPrice << "The price chosen by the passenger is: "
    << lFareOption.getFare() << " Euros. It is expected to be "
    << iExpectedPrice << " Euros.";
STDAIR_LOG_DEBUG (oMessageExpectedPrice.str());

// Check that the price corresponds to the expected one
BOOST_CHECK_EQUAL (std::floor (lFareOption.getFare() + 0.5), iExpectedPrice);

BOOST_CHECK_MESSAGE (std::floor (lFareOption.getFare() + 0.5)
    == iExpectedPrice, oMessageExpectedPrice.str());

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

void testAllTravelCCMHelper (const unsigned short iTestFlag) {

    // Output log File
    std::ostringstream oStr;
    oStr << "TravelChoiceTestSuite_" << iTestFlag << ".log";
    const stdair::Filename_T lLogFilename (oStr.str());

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

    // Initialise the service context
    const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);

    // Build the BOM tree
    TRAVELCCM::TRAVELCCM_Service travelccmService (lLogParams);
    travelccmService.buildSampleBom ();

    // DEBUG
    STDAIR_LOG_DEBUG ("Welcome to TravelCCM");

    // Build a list of travel solutions
    const stdair::BookingRequestStruct& lBookingRequest =
        travelccmService.buildSampleBookingRequest();

    // DEBUG

```

```

    STDAIR_LOG_DEBUG ("Booking request: " << lBookingRequest.display());

    // Build the sample BOM tree
    stdair::TravelSolutionList_T lTSList;
    travelccmService.buildSampleTravelSolutions (lTSList);

    // DEBUG: Display the list of travel solutions
    const std::string& lCSVDump = travelccmService.csvDisplay (lTSList);
    STDAIR_LOG_DEBUG (lCSVDump);

    // Choose a travel solution with the hard restriction method.
    const stdair::TravelSolutionStruct* lTS_HardRestriction_ptr =
        travelccmService.chooseTravelSolution
            (lTSList, lBookingRequest,
             stdair::PassengerChoiceModel::HARD_RESTRICTION);

    STDAIR_LOG_DEBUG ("Chosen travel solution with the Hard Restriction model: "
                      + lTS_HardRestriction_ptr->describe());

    // Choose a travel solution with the price oriented model
    const stdair::TravelSolutionStruct* lTS_Price_Oriented_ptr =
        travelccmService.chooseTravelSolution
            (lTSList, lBookingRequest,
             stdair::PassengerChoiceModel::PRICE_ORIENTED);

    STDAIR_LOG_DEBUG ("Chosen travel solution with the Price Oriented model: "
                      + lTS_Price_Oriented_ptr->describe());

    // Choose a travel solution with the hybrid model
    const stdair::TravelSolutionStruct* lTS_Hybrid_ptr =
        travelccmService.chooseTravelSolution
            (lTSList, lBookingRequest,
             stdair::PassengerChoiceModel::HYBRID);

    STDAIR_LOG_DEBUG ("Chosen travel solution with the Hybrid model: " +
                      lTS_Hybrid_ptr->describe());

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

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

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

// Start the test suite
BOOST_AUTO_TEST_SUITE (master_test_suite)

BOOST_AUTO_TEST_CASE (simple_hard_restriction_model_test) {

    const unsigned int lExpectedPrice = 1000;

    BOOST_CHECK_NO_THROW (testTravelCCMHelper
                          (0,
                           stdair::PassengerChoiceModel::HARD_RESTRICTION,
                           lExpectedPrice));
}

BOOST_AUTO_TEST_CASE (simple_price_oriented_model_test) {

    const unsigned int lExpectedPrice = 900;

    BOOST_CHECK_NO_THROW (testTravelCCMHelper

```

```
        (1,
         stdair::PassengerChoiceModel::PRICE_ORIENTED,
         lExpectedPrice));
    }

BOOST_AUTO_TEST_CASE (simple_hybrid_model_test) {

    const unsigned int lExpectedPrice = 920;

    BOOST_CHECK_NO_THROW (testTravelCCMHelper
                          (2,
                           stdair::PassengerChoiceModel::HYBRID,
                           lExpectedPrice));
}

BOOST_AUTO_TEST_CASE (all_models_test) {

    BOOST_CHECK_NO_THROW (testAllTravelCCMHelper(3));
}

// End the test suite
BOOST_AUTO_TEST_SUITE_END()

/*!
```