

i2 Transportation Manager Transportation Bid Collaboration Integration Reference

Version 5.2





Powering the Bottom Line™

One i2 Place
11701 Luna Rd.
Dallas, TX 75234 USA

i2 Transportation Manager Transportation Bid Collaboration Integration Manual
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PATENTED NO. EP0776506	United Kingdom Patent No. 2316506	U. S. Patent No. 6,167,380
PATENTED NO. EP0776507	U. S. Patent No. 5,630,123	U. S. Patent No. 6,188,989
PATENTED NO. EP0776508	U. S. Patent No. 5,764,543	U. S. Patent No. 6,222,533
PATENTED NO. EP0776509	U. S. Patent No. 5,832,532	U. S. Patent No. 6,233,493
Singapore PATENT NO. 37930	U. S. Patent No. 5,845,258	U. S. Patent No. 6,233,572
Singapore PATENT NO. 37931	U. S. Patent No. 5,930,156	U. S. Patent No. 6,266,655
Singapore PATENT NO. 51047	U. S. Patent No. 5,931,900	U. S. Patent No. 6,289,384
Singapore PATENT NO. 51051	U. S. Patent No. 5,937,155	U. S. Patent No. 6,289,385
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Transportation Manager and Transportation Bid Collaboration Integration Reference

Welcome to the Integration Reference for i2 Transportation Manager and Transportation Bid Collaboration (TBC).

This document describes the requirements and procedures for extracting historical load data from Transportation Manager to TBC, and transferring the awarded bid data from TBC to Transportation Manager.

Program Requirements

The TBC Bridge program allows you to transfer certain data between Transportation Manager and TBC. To run this program, you must complete the following requirements:

- Register the data source name for databases containing the `RawData` table and the `AwardedBidService` table with the ODBC data source administrator.
- Install the i2 Transportation Manager servers and libraries.
- Configure the Oracle libraries and the Secant Distributed Service Coordinator (DSC) for access to the appropriate Transportation Manager database.
- Place the `ErrorMap.txt` file in the TBC bridge working directory.
- Make sure that the DSC is running so that historic load data from i2 Transportation Manager can be extracted.
- Set up the TBC Bridge configuration file as described in “Configuration Files” on page 4.

Running the TBC Bridge

To run the TBC Bridge program in console mode

1. Type
`CBOBridgeCon`
Include any required arguments described in “Command Line Arguments” on page 6.
2. Select one of the following options:
 1. Transfer historical load data from Transportation Manager to Transportation Bid Collaboration.
 2. Transfer awarded bid data from Transportation Bid Collaboration to Transportation Manager

These options are described in the following sections.

Option 1 – Transfer historical load data to TBC

Use this option to export load data from Transportation Manager to Transportation Bid Collaboration. This data contains information on truckload (TL) loads shipped during a specified period.

The following choices appear when you select this option:

```
Retrieve historic data from date [MM/DD/YYYY] : 1/1/1999
                                     to date [MM/DD/YYYY] : 12/31/1999
Limit by Division ID (y/n) : n
Are there any Carriers to exclude (y/n) : n
```

Filtering Loads by Division

The From and To dates define the period for which the data is to be retrieved. You can limit this information to the division ID by supplying a list of IDs at the “Limit by Division ID” field. Only loads for the divisions you have specified are selected. You must enter each ID on a separate line, and indicate the end of the ID list with a period.

Division ID Entry Example

```
Limit by Division ID (y/n) : y
      List of Division IDs :
      (enter each on a separate line; enter . to end the list)
      AUD1
      CM02
      DTTE
      .
      3 divisions entered.
```

Filtering Loads by Carrier

You can exclude loads that are transported by specific carriers from the load selection by supplying a list at the “Are there any Carriers to exclude” field. For example, you may want to exclude loads carried by a private fleet.

The carrier ID list that you supply specifies which loads are excluded. Enter each ID on a separate line and indicate the end of the ID list with a period.

Carrier ID Entry Example

```
Are there any Carriers to exclude (y/n) : y
      Carrier IDs to exclude :
      (enter each on a separate line; enter . to end the list)
      CAR-CM5
      HPCAR
      .
      2 carriers entered.
```

After entering your selection criteria, the TBC Bridge program selects the completed and closed TL loads. It then exports the load data to the i2 Shipper Bid Support (SBS) RawData table so that TBC can process this data.

Option 2 – Transfer awarded bid data to Transportation Manager

After the carrier negotiations are complete, select this option to transfer data that contains the awarded bids from TBC to Transportation Manager and load the resulting tariffs into Transportation Manager.

After selecting this option, you are prompted for the effective and expiry dates of the tariffs that will be created:

```
Effective Date for new Tariffs [MM/DD/YYYY] : 01/01/2001
      Expiry Date [MM/DD/YYYY] : 12/31/2001
```

After selecting these dates, the following processes occur in this order:

- Information is read from TBC’s `AwardedBidService` table and is used to create tariffs for Transportation Manager.
- Code translations in the configuration file are validated against the data in the `AwardedBidService` table, as described in “Validations” on page 7.
- Tariffs are built using this data as described in “TBC AwardedBidService Mapping” on page 8.
- The tariffs are imported into Transportation Manager with the effective and expiry dates.

Configuration Files

This table lists the configuration file settings.

Syntax Examples	Description
<pre>TMConnection {</pre>	<p>The data connection information for Transportation Manager. Enclose arguments within brackets. The order of arguments does not matter. This setting affects all operations.</p>
<pre>DBConnectionString = "usr/pass@db"</pre>	<p>The database connect string.</p>
<pre>LoginID = "VENTURE" Password = "VENTURE"</pre>	<p>The Transportation Manager user name and password. Alternatively, you can enter the password on the command line.</p>
<pre>UseRemoteEngines = Y</pre>	<p>"Y" or "N". "Y" indicates that the distance engine and the routing and rating engine are run as external (remote) servers. "N" indicates that these engines are collocated internally (locally). For this release, this value must be "Y".</p>
<pre>ShowDebugTraces = Y }</pre>	<p>"Y" or "N". Indicates whether the tariff structures that are provided to the API services library and any errors generated by them will be displayed in the console window.</p>
<pre>CBOConnection {</pre>	<p>The connection information for TBC and Shipper Bid Support (SBS) tables. Enclose arguments within brackets. The order of arguments does not matter. This setting affects all operations.</p>
<pre>DSN = "SBS"</pre>	<p>The Data Source Name (DSN) applied to tables in the CBOConnection set that do not have a more specific override. The SBS database can have both a <code>RawData</code> and an <code>AwardedBidService</code> table. If this database is used for both of these tables, then you can enter a single, common DSN here. Because embedded spaces appear in the TBC version of the table name, but not in the SBS version, you must also specify the table name.</p>
<pre>RawDataConnection {</pre>	<p>The information specific to the <code>RawData</code> table.</p>
<pre>Table = "RawData"</pre>	<p>The Raw Data table name.</p>
<pre>DSN = "SBS" }</pre>	<p>The DSN for the <code>RawData</code> table. If present, it overrides any DSN value in the CBOConnection set.</p>

Syntax Examples	Description
AwardedBidsConnection {	The information specific to the AwardedBidService table.
Table = "Awarded Bid Service"	The AwardedBidService Table name.
DSN = "CBO" } }	DSN for the AwardedBidService table. If present, it overrides any DSN value in the CBOConnection set.
TranslateCarriers = Y	"Y" or "N". "Y" indicates that translations in the CarrierMap set will be applied. "N" indicates values found in the AwardedBidService table will be applied to Transportation Manager tariffs exactly as they are listed.
CarrierMap {	The translations of the AwardedBidService CarrierID codes to Transportation Manager Carrier ID codes. Enclose member translations within brackets. This setting affects the exporting of the awarded bids into Transportation Manager as tariffs.
"ABXN" "ADCAR1" }	The first value in each pair is the AwardedBidService Carrier ID. The second value is the equivalent Transportation Manager Carrier code. Enclose each value in quotation marks.
TranslateServices = Y	"Y" or "N". "Y" indicates that translations in the ServiceMap set will be applied.
ServiceMap {	The translations of the AwardedBidService ServiceLevelID values to a Transportation Manager Tariff Service ID values.
"LINEHAUL STR SL" "TL" }	The first value in each pair is the AwardedBidService ServiceLevelID. The second value is the Transportation Manager tariff service ID.
TranslateZones = Y	"Y" or "N". Indicates whether the translations in the ZoneMap set will be applied.
ZoneMap {	The translations of the AwardedBidService Origin and Destination codes to Transportation Manager zone IDs. This setting affects the importing of the awarded bids to Transportation Manager as tariffs.
"NEW YORK - EAST" "NYEAST" }	The first value in each pair is the AwardedBidService Origin or Destination value. The second value is the Transportation Manager Zone ID.
TranslateEquipmentTypes = Y	"Y" or "N". Indicates whether the translations in the EquipmentTypeMap set will be applied.
EquipmentTypeMap {	The translations of the AwardedBidService Equipment TypeID codes to Transportation Manager equipment type codes. This setting affects the importing of the awarded bids to Transportation Manager as tariffs.
"DRY VAN 53'" "53FTDRY" }	The first value in each pair is the AwardedBidService EquipmentTypeID. The second value is the Transportation Manager equipment type code.
TranslatePriceUnits = Y	"Y" or "N". Indicates whether translations in the PriceUnitMap set will be applied.

Syntax Examples	Description
PriceUnitMap {	The translations of the AwardedBidService PriceUnit codes to Transportation Manager tariff charge codes. This setting affects the importing of the awarded bids to Transportation Manager as tariffs.
"BID UNIT PER DISTANCE UNIT" "MILE" }	The first value in each pair is the AwardedBidService PriceUnit. The second value is the Transportation Manager Tariff Charge code.
ChargeDescriptionMap {	The description values for new tariffs (for the TffChrg_V1::Chrg_Desc field) based on the Tariff Charge code. This translation map is always active. This setting affects the importing of the awarded bids to Transportation Manager as tariffs.
"MILE" "Distance charge" }	The first value in each pair is the tariff charge code. The second value is its description.
RangeCodeMap {	The range code values for new tariffs. TffChrg_V1::Rng_Cd, Rate_V1::Rng_ID and RngRate_V1::Rng_Cd are based on Tariff Charge codes. This translation map is always active. This setting affects the importing of the awarded bids to Transportation Manager as tariffs.
"MILE" "1RG" }	The first value in each pair is the tariff charge code. The second value is the corresponding range code.
PRIORITYMAP {	The priority values for new tariffs (TffChrg_V1::Prty) based on Transportation Manager Tariff Charge codes. This translation map is always active. This setting affects the importing of the awarded bids to Transportation Manager as tariffs.
"MILE" "1" }	The first value in each pair is the tariff charge code. The second value is the corresponding tariff charge priority.
DefaultStopCharge = "DROP"	Distinguishes stop charges from other charges. Each service of every created tariff must contain a stop charge. This code is used to recognize whether a stop charge has been found for the current service, and if not found, then to generate one.
BaseDivision = "*DFT"	Assigned to each LaneAssc_V1::Base_Div_Id field.

Command Line Arguments

There are two forms of each command line argument:

- The short form is one character and is preceded by a single hyphen.
- The long form is more descriptive and is preceded by two hyphens.

The following table lists each argument in both formats:

Short Form	Long Form	Description
-c	--config-file	Specifies the CBOBridge configuration file. The default value is CBOBridge.config in the current working directory.
-p	--tm-password	Specifies the password for logging into a Transportation Manager session. Although you can store this password in the "TMConnection" set of the CBOBridge configuration file, this command line argument allows you to avoid storing a password in a file for security reasons.

Validations

The following validations are performed on the agreement of the data in the `AwardedBidService` table and in the CBOBridge configuration file before tariffs are generated.

Carriers

- If the `TranslateCarriers` parameter in the configuration file is "Y", then each carrier in the `AwardedBidService` table must have a translation in the `CarrierMap` set. Otherwise, the `CarrierIDs` in the `AwardedBidService` table are assumed to be the codes used in Transportation Manager.
- Each carrier in the `AwardedBidService` table or its translated value must be in the Transportation Manager database.
- Each of these carriers must have a valid SCAC in the Transportation Manager database.
- Each of these SCACs must be unique.

Services

If the `TranslateServices` parameter in the configuration file is "Y", then each `ServiceLevelID` in the `AwardedBidService` table must have a translation in the `ServiceMap` set. Otherwise, the `ServiceLevelIDs` in the `AwardedBidService` table are assumed to be the codes used in Transportation Manager.

Zones

If the `TranslateZones` parameter in the configuration file is "Y", then each origin and destination value in the `AwardedBidService` table must have a translation in the "ZoneMap" set. Otherwise, the origin and destination values in the `AwardedBidService` table are assumed to be the zone IDs used in Transportation Manager.

Equipment Types

If the `TranslateEquipmentTypes` parameter in the configuration file is "Y", then each `EquipmentTypeID` in the `AwardedBidService` table must have a translation in the `EquipmentTypeMap` set. Otherwise, the `EquipmentTypeIDs` in the `AwardedBidService` table are assumed to be the Equipment Types used in Transportation Manager.

Price Units

- If the `TranslatePriceUnits` parameter in the configuration file is “Y”, then each `PriceUnit` in the `AwardedBidService` table must have a translation in the `PriceUnitMap` set. Otherwise, the `PriceUnits` in the `AwardedBidService` table are assumed to be the tariff charge codes used in Transportation Manager.
- Each unique tariff charge code must have a corresponding description in the `ChargeDescriptionMap` set. These values are assigned to new tariff charge codes during tariff loading.
- Each unique tariff charge code must have a corresponding range code in the `RangeCodeMap` set. These values are assigned to new tariff charge codes during tariff loading.
- Each unique tariff charge code must have a corresponding priority in the `PriorityMap` set. These values are assigned to new tariff charge codes during tariff loading.

Default Stop Charge

The `DefaultStopCharge` parameter cannot be empty.

Base Division

The `BaseDivision` parameter cannot be empty.

TBC AwardedBidService Mapping

The section describes the mapping of TBC `AwardedBidService` records to Transportation Manager tariffs.

Tariffs

A tariff is generated in Transportation Manager for each unique carrier in the `AwardedBidService` table. An entry in the `Price2` column will cause a second tariff to be generated; an entry in the the `Price3` column will cause a third tariff to be generated.

- `Tff_Cd` is a carrier’s SCAC appended with the effective date of the tariff, in YYMMDD format. A tariff generated with a price point of 2 or 3 has “-2” or “-3”, respectively, appended to `Tff_Cd`.
- `Tff_Desc` is in the following format:
Transportation Manager carrier code - effective date of tariff - expiry date of tariff.
A tariff generated for a price point 2 or 3 has “-2” or “-3” appended to the `Tff_Desc`.
- `Tff_Grp_typ` = “Default”.
- `FI_Pymt_Md_enu` = “Audit”.
- `Rate_Typ_enu` = “Point-to-point”.

Tariff Services

Each unique `ServiceLevelID` value for a carrier generates a tariff service on the tariff.

- `Srvc_Cd` is the `ServiceLevelID`, which may be a translated value.
- `Tff_Srvc_Desc` is identical to `Srvc_Cd`
- `Tnst_Md_enu` defaults to “Road”.
- `Trkg_Lvl_enu` defaults to “Shipment level”.
- `Mnft_Ld_Grp_cd` defaults to “*DFT”.
- No restriction is assigned.

Tariff Charges

Each unique `PriceUnit` value for a `ServiceLevelID` generates a tariff charge on the tariff service.

- If none of the charges for a service is a stop charge, then a default stop charge is added to the service.
- `Chrg_Cd` is the `PriceUnit`, which may be a translated value.
- `Chrg_Desc` is mapped from the `Chrg_Cd` in the `ChargeDescriptionMap` set.
- `Chrg_Cond_yn` = True, indicating that these tariff charges are conditions.
- `Min_RUnt_Aply` = 0
- `Max_RUnt_Aply` = 9999999.9999
- `Min_RUnt_Slc` = 0
- `Max_RUnt_Slc` = 9999999.9999
- `Bs_Chrg_dlr` = 0
- `Min_Chrg_dlr` = 0
- `Max_Chrg_dlr` = 999999999999.99
- `Prty` is mapped from the `Chrg_Cd` in the `PriorityMap` set.
- `Rng_Cd` is mapped from the `Chrg_Cd` in the `Range CodeMap` set.
- `Chrg_By_Rng_yn` = True.
- `Chrg_Bsd_Carr_yn` = False.
- No freight class cross references are assigned.

Equipment Types

Each unique `EquipmentTypeID` for a `ServiceLevelID` generates an equipment type on the tariff service.

- `Eqmt_Typ_Cd` is the `EquipmentTypeID`, which may be a translated value.
- `Prty` = 1
- No restriction is assigned.

Rate Codes

- Each unique origin and destination pair generates a rate code on the tariff.
- `Rate_Cd` is system-generated, starts at “000001” and increments by 1 for each unique origin and destination pair (lane) on the tariff.

- Desc is the AwardedBidService lane code that is used to build the rate code.

Rates

Each charge associated with the lane generates a rate on the rate code.

- Tff_Srvc_Cd is the service with which the charge is associated.
- Tff_Chrg_Cd is the identifier of the charge.
- Frht_Cls_Cd = “*FAK”.
- Rate_for_Shpm_yn = False.
- Rng_Id is mapped from the Tff_Chrg_Cd in the RangeCodeMap set.

Range Rates

A range rate is assigned to each rate.

- Rng_Cd is mapped from the Tff_Chrg_Cd in the RangeCodeMap set.
- Rng_To = “999999”
- Clip_yn = False.
- Brk_Bs_dlr = 0.
- Brk_Amt_dlr is the price.

Lane Associations

Each unique origin and destination pair generates a lane association on the tariff.

- Tff_Srvc_Cd is the lane’s service.
- Base_Div_Id contains the BaseDivision parameter taken from the configuration file.
- Orig_Zn_Id is the origin zone, which may be a translated value.
- Dest_Zn_Id is the destination zone, which may be a translated value.
- Rate_Cd is the system-generated number assigned to the corresponding rate code for the origin and destination pair.
- CdtY_Cd = “*ALL”.
- No restriction is assigned.