
Rental Car Agency Interface Control Document (ICD)

August 2009

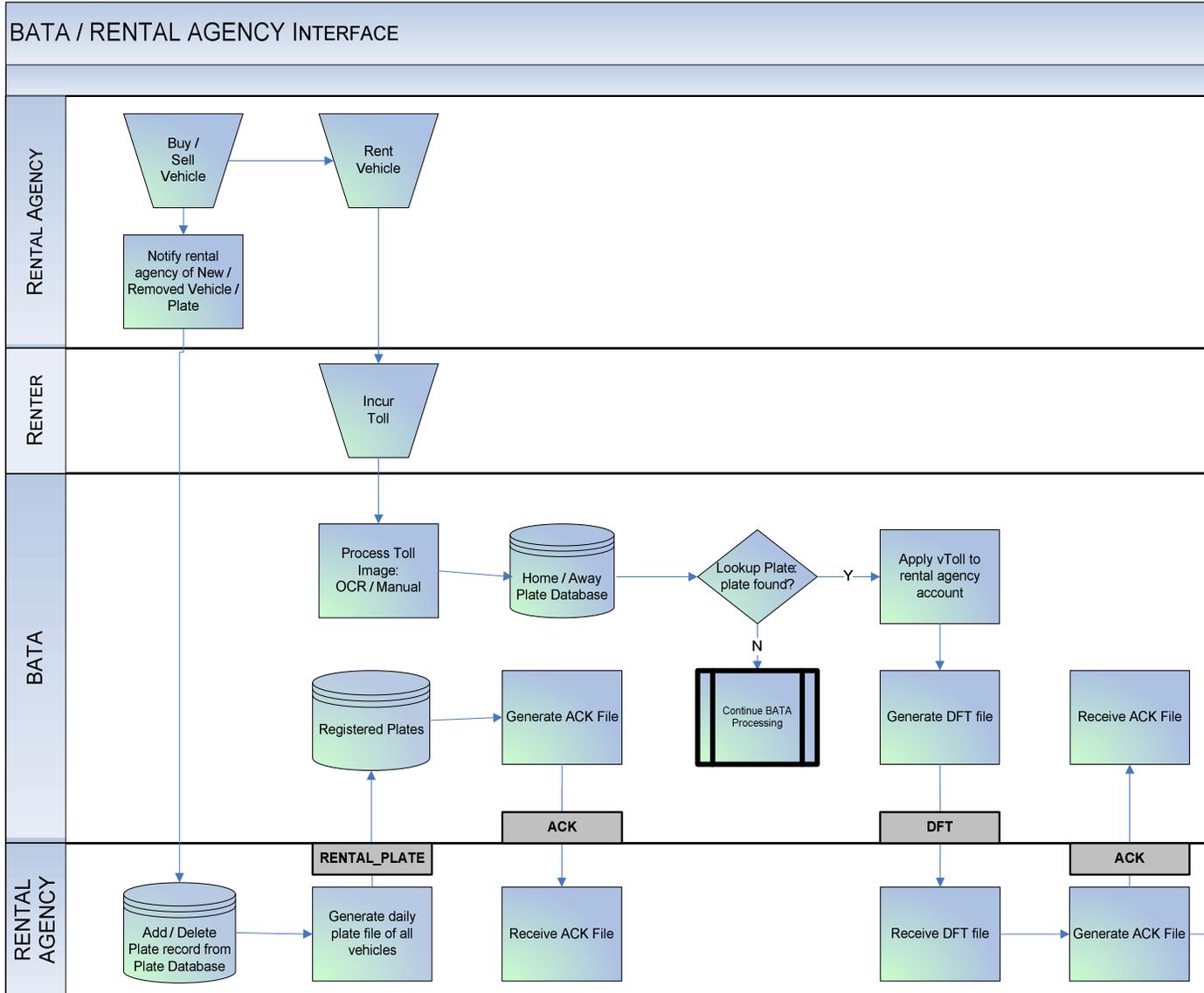
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1. Purpose

The purpose of this document is to outline the interfaces used to transfer data between Rental Car Agency and BATA.

2. Diagram



3. Technical Specifications

3.1. File Exchange Methodology

The file transfer mechanism utilizes the ftp (file transfer) protocol over the Internet to exchange the data files to/from each agency's ftp server. The transfer files are created with an agency's proprietary software, but the files conform to the formats described in this document. The files are generated in an ASCII format, and then the sending agency encrypts the file using PGP (pretty good privacy) encryption tools, and the receiving agency's public key. This also has the effect of compressing the data. The sending agency then utilizes the ftp protocol to send the encrypted files to the receiving agency's ftp server. The receiving agency possesses its private key and can therefore decrypt the received files. After decryption, the receiving agency processes the data with their own proprietary software.

File exchanges to the respective drop boxes will be made on a daily basis outside of routine business hours in the early morning or late evening hours.

Requirements:

- Each agency will have a publicly accessible ftp server, with or without a DNS entry on the Internet. An ftp exchange can be accomplished with only the IP address.
- The receiving agency will provide a special account and password to each agency that will transmit files to it. This is to prevent anonymous users from accessing the ftp site. This information will be provided outside of this document for security reasons.
- Each agency shall install a PGP encryption package suitable for the platform they run on.
- Files will be encrypted before transmission to ensure the confidential data does not fall into unauthorized hands.

3.2. Rental Car Agency Account

Rental Car Agency will have a single FasTrak account. The account number will be assigned to Rental Car Agency by the RCSC. The account is a pre-paid business account and all tolls from both Caltrans and Golden Gate Bridge will be posted via ITOL, Image Toll. The processing on this account is exclusively driven by license plates. All license plates on the account must be unique.

Rental Car Agency will send a License Plate Load File that will be linked to the assigned FasTrak Account Number. The license plates will not be visible on the web or on Vector on-line. The plate file load along with the ACK file will act as confirmation the plates have been updated to the Rental Car Agency Account.

4. Interfaces

4.1. Daily Plate File

The “Daily Plate Update” interface file provides a mechanism for Rental Car Agency to provide BATA with an up to date file of license plates. The RCSC will post any toll associated with a Rental Car Agency license plate against a Rental Car Agency account.

The Daily Plate File shall be created by Rental Car Agency to inform the RCSC all active license plates associated with the Rental Car Agency account held by RCSC. This file shall then be used by the RCSC to post ITOL, image toll, transactions to the Rental Car Agency account.

The daily transmission from Rental Car Agency to RCSC will include a full Daily Plate File, encrypted and zipped.

Interface Type: One-Way Batch

Initiating Party: Rental Car Agency

Delivery Format: Comma delimited text.

Delivery Method: FTP

Frequency: Once per day.

File Name: Rental Car Agency_PLATE_YYYYMMDD_HHMMSS.TXT

e.g.

ATS_PLATE_20090803_001500_TXT.pgp

HTA_PLATE_20090803_001500_TXT.pgp

RTL_PLATE_20090803_001500_TXT.pgp

Interface Specification Format:

File Records Header

Field #	Field Name	Max. Length	Description	Format
1	Record Code	4	Rental Car Agency will always send “SH01”.	Alphanumeric.
2	Originating Authority	8	This field will contain rental agency code “Rental Car Agency”. Values:	Alphanumeric.

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Field #	Field Name	Max. Length	Description	Format
			ATS HTA RTL	
3	Date-Time Created	15	GMT Date-time file was created. 'YYYYMMDD-HH24MISS'. Inserting the file header will change the original file size. To address this issue, the file should first be created with a fully loaded file header using all '0's, then complete the file build process so as to obtain the file size, and then recreate the file with the appropriate information loaded into the file header.	Alphanumeric.
4	Record Count	10	Number of records not including the header record to follow in this file.	Numeric.
5	Batch ID	10	Batch ID for the file. This field is a unique number between 0 and 4,294,967,295.	Numeric.
6	Update Type	10	Status update type: <ul style="list-style-type: none"> ▪ "FULL" = Complete list of all vehicles. ▪ "INCR" = Incremental list of vehicles, a periodic update. Rental Car Agency will always send FULL for BATA.	Character.
7	File Name	60	Original file name for this file as created by the originator.	Alphanumeric.

Example: SH01, (HTA or RTL),20020929-131545,2,6789,FULL, Rental Car Agency_PLATE_20060620_170000.TXT¶

Data Records: Each row in the file represents a license plate and its associated vehicle.

Field #	Field Name	Max. Length	Description	Format
1	Record Code	4	This field will always be ST01.	Alphanumeric.
2	BATA Account Number	15	The account number with BATA that the plate is associated with.	Alphanumeric.
3	License Plate State	2	The license plate state captured for the toll event.	Alphanumeric.

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Field #	Field Name	Max. Length	Description	Format
4	License Plate Number	10	The license plate number captured for the toll event.	Alphanumeric.
5	Plate Effective Start Date	15	This is used to pass the Effective Start Inventory Date. Plate start date shall be no earlier than account open date/start of operations.	YYYYMMDD-HH24MMSS.
6	Plate Effective End Date	15	This is used to pass the Effective End Inventory Date. This field is required when removing a vehicle from the fleet. Plates shall be included in plate file for a minimum of 60 days after plate end effective date to ensure posting to account.	YYYYMMDD-HH24MMSS.
7	Vehicle Make	30	Make of the vehicle the license plate is attached to.	Alphanumeric.
8	Vehicle Model	30	Model of the vehicle the license plate is attached to.	Alphanumeric.
9	Vehicle Year	4	Year of the vehicle the license plate is attached to.	Numeric.

Example 1:

ST01,879078654,TX,ABC123,20080101-120000,,FORD,TAURUS,2008¶

Example 2:

ST01,23451234,TX,XYZ456,2007101-180500,20080606-235959,FORD,TAURUS,2008¶

4.2. Daily Plate File Processing Requirements

1. Rental Car Agency shall complete the transmission of the comprehensive daily plate file to the RCSC drop-box as defined in Section 3 of the ICD.
2. In the event that an invalid header record is encountered (e.g., character data in a numeric field, etc.), the RCSC shall reject the file and notify the Rental Car Agency via the Acknowledgement File defined in Section 5 of this document.
3. Rental Car Agency will send one zipped Plate File to RCSC. In the case of a BAD file, the RCSC will use their existing mechanism of using the latest Plate file and ignoring the BAD Plate file. Upon received notification of an ACK file with a status of 01, the Rental Car Agency System Admin will log and escalate the issue. Rental Car Agency will contact the RCSC System Admin for additional detailed information. Once a decision has been reached appropriate action will be taken.
4. In the event that an invalid detail record is encountered (e.g., inappropriate Plate Status, etc.), the RCSC Host shall skip the complete file and notify the Rental Car Agency via the Acknowledgement File.

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5. The RCSC Host shall perform the appropriate sanity checks on the Daily Plate File prior to loading it on the database. Such sanity checks should include, but not be limited to:
 - Unusual growth in the number of plates from previous version

Rental Car Agency will determine the appropriate tolerances for the sanity checks mentioned and provide these to the RCSC as required.

4.3. Daily Fleet Toll File

The daily fleet toll interface will be created by the RCSC to inform Rental Car Agency of all toll (ITOL=Image Toll) transactions that occurred on the Rental Car Agency designated account. This file shall contain transactions from both the Caltrans and Golden Gate Bridge facilities having a valid license plate listed on the account.

Interface Type: One-Way Batch

Initiating Party: BATA – RCSC

Delivery Format: Comma delimited text

Delivery Method: Daily FTP

File Name: AGENCY_NAME_DFT_YYYYMMDDHHMMSS.TXT

ATS_DFT_20090811001505_TXT.pgp

HTA_DFT_20090811001505_TXT.pgp

RTL_DFT_20090811001505_TXT.pgp

File Records Header

Field #	Field Name	Max. Length	Description	Format
1	Record Code	4	BATA will always send "SH01".	Alphanumeric.
2	Originating Authority	8	This field will be an agreed upon value per BATA. This value will always be "BATA"	Alphanumeric.
3	Date-Time Created	15	GMT Date-time file was created. 'YYYYMMDD-HH24MISS'. Inserting the file header will change the original file size. To address this issue, the file should first be created with a fully loaded file header using all '0's, then complete the file build process so as to obtain the file size, and then recreate the file with the appropriate information loaded into the file header.	Alphanumeric.
4	Record Count	10	Number of records not including the header record to follow in this file.	Numeric.

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Field #	Field Name	Max. Length	Description	Format
5	Batch ID	10	Batch ID for the file. This field is a unique number between 0 and 4,294,967,295.	Numeric.
6	File Name	60	Original file name for this file as created by the originator.	Alphanumeric.

Example: SH01,BATA,20020929-131545,2,6789,DFT_20060620170000.TXT¶

Data Records: Each row in the file represents a toll billed to the Rental Car Agency account

Field #	Field Name	Max. Length	Description	Format
1	Record Code	4	This field will always be ST01	Alphanumeric.
2	Toll Id	50	Unique toll Id that can be used for auditing purposes.	Alphanumeric.
3	BATA Account Number	15	BATA account number associated with vehicle that incurred a toll.	Alphanumeric.
4	License Plate State	2	The license plate state captured for the toll event.	Alphanumeric.
5	License Plate Number	10	The license plate number captured for the toll event.	Alphanumeric.
6	Number of Axles	4	Numeric value representing the number of axles (2, 3, 4, 5, 6, 7 or 8).	Numeric
7	Posted Date/Time	15	Date and time when toll was posted.	YYYYMMDD-HH24MISS.
8	Entry Date/Time	15	Date and time of toll location entry.	YYYYMMDD-HH24MISS.
9	Entry Location Code	10	Code of toll location entry point. This is the field used for barrier toll plaza transactions.	Alphanumeric.
10	Entry Location Description	50	Description of toll location entry point. This field is used for barrier toll plaza transactions	Alphanumeric
11	Exit Date/Time	15	Date and time of toll location exit. If the entry and exit point are the same this can be null/empty. This will be empty for barrier toll transactions.	YYYYMMDD-HH24MISS.

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Field #	Field Name	Max. Length	Description	Format
12	Exit Location Code	10	Code of toll location exit point. If the entry and exit point are the same this can be null/empty. This will be empty for barrier toll transactions.	Alphanumeric.
13	Exit Location Description	50	Description of exit toll location. If the entry and exit point are the same this can be null/empty.	Alphanumeric
14	Toll Cost	5	Amount toll costs Rental Car Agency(ETC rate).	Numeric with two positions for the number before the decimal and two positions for the number after the decimal.

Example 1: ST01,48785744,767890432,TX,993GTB,2,20080616-210000,20080614-094301,6110,GRIFFEN RD EAST/WEST,,,,1.25,1.50¶

Example 2: ST01,48805097,345671234,FL,W81IEM,2,20080601-031059,20080530134132,5200,SR91/CYPRESS CREEK,20080530-134901,6410,US27/HIALEAH,3.75,4.00¶

4.4. Daily Fleet Toll File Processing requirements

1. The VECTOR RCSC shall send Daily Fleet Toll Files to Rental Car Agency once per day.
2. The account will post ITOLS, Image Tolls, only. There will be no transponders associated with the Rental Car Agency Account, only License Plates.
3. The VECTOR RCSC shall first check its own customer base to see if the transaction can be applied to one of its own accounts before checking the Rental Car Agency Licenses Plate table.

5. Acknowledgement File

5.1. File type

Fixed length, LF delimited

5.2. File name

{FROM_AGENCY}_{FILE_NAME}_{FILE_TYPE}.ack

Example: Rental Car Agency_2008120104101501_ETC.ack

ATS_DFT_20090811001505_TXT.ack

HTA_DFT_20090811001505_TXT.ack

RTL_DFT_20090811001505_TXT.ack

ATS_PLATE_20090803_001500_TXT.ack

HTA_PLATE_20090803_001500_TXT.ack

RTL_PLATE_20090803_001500_TXT.ack

Acknowledgement file from Golden Gate Bridge created in response to the VECTOR CSC tag status file created at 04:10:15.01 on 12/01/2008

5.3. File use

The Acknowledgment File shall be created by the receiving system (the VECTOR CSC or the Rental Car Agency hosts whosoever received the file) to inform the transmitting system (the VECTOR CSC or the Rental Car Agency Hosts whosoever transmitted the file) that the file transmitted was received in its entirety.

An Acknowledgement File shall be sent for

1. Daily full plate file - from Rental Car Agency to BATA CSC
2. Daily fleet toll interface (toll posting at the CSC) file – from BATA CSC to Rental Car Agency

5.4. File layout

Figure 5-1 Acknowledgment File - Detail Structure

Field #	Field Name	Type/Size	Description/Valid Values
1	FILE_TYPE	CHAR (4)	ACK
2	FROM_AGENCY_ID	CHAR (3)	Standard code of the system that received the file referenced in ORIG_FILE_NAME_TYPE. Values: CSC – indicates VECTOR CSC Rental Car Agency – indicates Rental Car Agency
3	TO_AGENCY_ID	CHAR (3)	Standard agency ID code of the system that transmitted the file referenced in ORIG_FILE_NAME_TYPE.

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Field #	Field Name	Type/Size	Description/Valid Values
			Values: CSC – indicates VECTOR CSC Rental Car Agency – indicates Rental Car Agency
4	ORIG_FILE_NAME_TYPE	CHAR (50)	The name and type of the file being acknowledged as received from the To Agency. Format: FILE_NAME.FILE_TYPE where FILE_NAME is the name of the file being acknowledged and FILE_TYPE is the type of the file being acknowledged.
5	FILE_DATE	CHAR (8)	Date ACK file created. Format: YYYYMMDD The system receiving this acknowledgment file shall use this as the acknowledgement date.
6	FILE_TIME	CHAR (6)	Time ACK file created. Format: HHMMSS This system receiving this acknowledgment file shall use this as the acknowledgement time.
7	RETURN_CODE	CHAR (2)	A code indicating the status of the file being acknowledged. Values: 00 – File was successfully received and verified. 01 – data elements in received file is not consistent with the ICD. File rejected in its entirety.
8	DELIMITER	CHAR (1)	LF
	Detail Total	77	

5.5. Processing requirements

1. This file shall contain a single record only. For each file received by the From Agency/CSC, the From Agency/CSC shall generate an Acknowledgement File and transmit the file back to the To Agency/CSC.
2. Error in ACK files will be recognized and escalated to production support for research and resolution. For example, if an ACK reject reason is received indicating the file is out of balance, this will initiate the research to correct the problem.
3. The ACK file indicates that a file was successfully received by the receiving agency. The ACK provides an audit trail for research and can be used as a key event, in the future, in the Regional CSC. The Regional CSC is not designed to recognize the receipt of an ACK file for the continuation of an operation (i.e. Rental Car Agency Invoicing).
4. All incoming files that fail file-sanity checks (like header record count does not match the trailer record/ record length in file, does not match the ICD/ invalid checksum for CALTRANS) shall be rejected with reject code 01.
5. Records received, in transaction files, where the data elements are inconsistent with the ICD (like invalid date/invalid plaza_id/invalid lane) shall be acked with a code of 00, if the file passed the sanity check, as mentioned in #4.

6. Exception Processing

Even though all interfaces are thoroughly tested prior to release into production, errors can occasionally occur. Errors can be categorized as either Pre-processing or Processing errors. Descriptions of each error type and how Rental Car Agency will handle them is outlined below.

6.1. Pre-processing Errors

Prior to processing the Daily Fleet Toll file or the Plate Validation Request file, Rental Car Agency runs a number of validations. These validations include checking the file size, verifying the header, etc. When a pre-processing error occurs, Rental Car Agency will automatically generate an email with an attachment that describes what error occurred. These emails are then sent to the designated BATA contact(s). When pre-processing errors occur, Rental Car Agency will not process the file. BATA must correct the file and retransmit it for processing.

Pre-Processing Errors

Description	Error text
File Name in header doesn't match actual name.	file name does not match expected file name.
Record Count format.	count is not numeric in file records header.
Record Count does not match actual lines.	RECORD_COUNT_MISMATCH.
Line type <> SH01.	Line type is invalid in file records header.
Toll agency code not defined in our system.	Toll agency not defined.
Missing Account Number	Account number is invalid or missing.
Toll agency code information is not supplied.	TOLL_AGENCY_MISSING.
Batch ID missing in file header.	BATCH_ID_MISSING.
Batch ID has characters that are not numbers.	Batch ID is not numeric in file records header.
Physical size of file does not match size of file specified in the file header.	Expected file size does not match actual.

Example:

Expected file size does not match actual. Actual (specified in file): 107903 Expected (physical file size): 107084,FFFFFFFF,000000107903

6.2. Processing Errors

When processing the Daily Fleet Toll file or the Plate Validation Request file, Rental Car Agency may encounter one or more records with errors. When errors occur, Rental Car Agency will process all other records in the file. For the remaining unprocessed records with errors, Rental Car Agency will automatically generate an email containing an attachment that describes the error along with the actual record. This data will be emailed to the designated BATA contact(s). When processing errors occur, BATA must correct the records with errors and resubmit them in a correctly formatted file. The newly created file should only contain the corrected records and file header information. Rental Car Agency regularly monitors the FTP site to receive and promptly process any corrected files posted by the tolling authority.

Processing Errors

Description	Error text
License plate state missing	MISSING_PLATE_STATE
License plate not found in system (or expired).	CANNOT_LOCATE_PLATE.
License plate missing.	TBR_016.
Line type <> ST01 on data record line.	INVALID_DATA_RECORD_LINE_TYPE_INDICATOR.
Negotiated price is missing.	TBR_008.
Negotiated price format incorrect.	AMOUNT_FORMATTED_INCORRECTLY.
Not enough fields supplied on data record line.	INVALID_NUMBER_OF_FIELDS.
Toll ID missing.	TOLL_ID_REQUIRED.
Toll date format incorrect.	TBR_009.
Cash price missing.	CASH_RATE_REQUIRED.
Cash price format incorrect.	CASH_RATE_FORMATTED_INCORRECTLY.
The axle field information is missing.	NUMBER_OF_AXLES_REQUIRED.
Axle field information is not numeric.	NUMBER_OF_AXLES_FORMATTED_INCORRECTLY.
Toll location is missing description.	LOCATION_DESCRIPTION_REQUIRED.
Entry and exit location codes are identical but descriptions are different.	ENTRY_AND_EXIT_DESCRIPTIONS_MISMATCHED.
Entry and exit codes are different and no exit location description is supplied.	EXIT_LOCATION_DESCRIPTION_REQUIRED.

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Description	Error text
The violation date is later than the exit date.	EXIT_DATE_EARLIER_THAN_VIOLATION_DATE.
Entry date is after the posting date.	POSTING_DATE_EARLIER_THAN_VIOLATION_DATE.
Axle count field is 0, 1 or greater than 8.	Axle count must be between 2 and 8.

Example:

CANNOT_LOCATE_PLATE,ST01,3119056132,FL,103HBI,02,20080917-113335,20080913-212822,107224,SR 836 EAST,20080913-212822,107224,SR 836 EAST, .75,1.00