



CJIS Broker Appendix Migration Guide

Version 2.1 – 02/09/2016

**THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF PUBLIC SAFETY AND SECURITY
Department of Criminal Justice Information Services**

200 Arlington Street, Suite 2200, Chelsea, MA 02150
MASS.GOV/CJIS
TEL: 617-660-4600 | TTY: 617-660-4606 | FAX: 617-660-4613

Table of Contents

ABOUT THIS APPENDIX	3
MIGRATING FROM CJIS BROKER 1.0 TO 2.0	3
HEADER VALIDATIONS	3
ACKNOWLEDGMENT STRUCTURE	3
TRANSACTION STATUSES.....	5
TRANSACTION MESSAGE KEYS	5
MIGRATING FROM CJIS-XML TO CJIS BROKER 2.0.....	5
HIGH LEVEL KEY TECHNICAL CHANGES	5
REVISION HISTORY	6

Migration Guide

About this Appendix

This appendix to the *CJIS Broker Overview* document includes additional information for agencies/vendors that are migrating from an older version of the CJIS Broker to a newer version of the CJIS Broker. This document aims to provide additional details on key version changes that will assist agencies/vendors during their migration process. It is intended to be used as a supplement in conjunction with the *CJIS Broker Overview* document.

Migrating from CJIS Broker 1.0 to 2.0

CJIS Broker 2.0 includes enhancements to the core processing of the transactions to create a more maintainable and extensible system to support the future needs and business functions including the future additions of new transaction queries and data exchanges. This version introduces four key changes: 1) modified header field validations; 2) new structure of the acknowledgments sent to and from the CJIS Broker; 3) modified and expanded transaction statuses; 4) retired message keys.

Header Validations

The CJIS Broker performs validations on the various header values that are provided as part of each transaction. These validations are performed to ensure consistent and proper usage of the various header elements. The header elements contain the metadata about the transaction and are critical to the proper logging and processing of each transaction. See the *Transaction Header* appendix included in the CJIS Broker documentation package for a complete list of header elements and the validations associated with each element for the various transaction types.

New Validations

- **Device Address** element is now mandatory in all transaction types

Changes to Existing Validations

- **Application Version** element must now be populated with the value of "2.0"
- **Response Mechanism** element is now required in all transaction types and must be populated with the proper value based on the transaction type
- **User Contexts** element will now be validated for content length

Acknowledgment Structure

To maintain the guaranteed delivery obligation of the CJIS Broker, Acknowledgments are used to confirm the receipt of each transaction. The **Acknowledgment** is a synchronous confirmation that the transaction was received. A separate asynchronous Acknowledgement Transaction is NOT sent to the requestor and the Acknowledgement is NOT the Response Transaction. The Acknowledgement is provided in the return value of the web service method.

In previous versions of the CJIS Broker the structure of the Acknowledgement was based upon the structure of the type of transaction that was being sent to or from the CJIS Broker. In some instances it was structured like a response transaction even though it was not the actual response. To provide for a

cleaner acknowledgment exchange between the CJIS Broker and the clients a new common and consistent structure was created that will be used for ALL acknowledgments to and from the CJIS Broker.

This does not change the semantics or the actual content of the Acknowledgment. Only the structure is being changed. Any Acknowledgments received with the legacy structure will not be supported and the transaction will not be accepted or properly acknowledged.

All instances when an Acknowledgment is received from the CJIS Broker or sent back to the CJIS Broker will now need to adhere to the new structure format below. See the *Transaction Header* appendix, schema, and sample XML transactions included in the CJIS Broker documentation package for further details.

Example Success Acknowledgment

```
<dcjis:DataExchange xmlns:dcjis="http://www.xfact.com/schemas/eopss/dcjis/1.0">
  <dcjis:Acknowledgment>
    <dcjis:AcknowledgmentHeader>
      ... <!-- header content removed for structure example -->
    <dcjis:Transaction>
      <dcjis:TransactionStatus>0</dcjis:TransactionStatus>
      <dcjis:TransactionDescription>Success</dcjis:TransactionDescription>
    </dcjis:Transaction>
  </dcjis:AcknowledgmentHeader>
  <dcjis:AcknowledgmentBody/> <!-- body must always be empty -->
</dcjis:Acknowledgment>
</dcjis:DataExchange>
```

Example Error Acknowledgement

```
<dcjis:DataExchange xmlns:dcjis="http://www.xfact.com/schemas/eopss/dcjis/1.0">
  <dcjis:Acknowledgment>
    <dcjis:AcknowledgmentHeader>
      ... <!-- header content removed for structure example -->
    <dcjis:Transaction>
      <dcjis:TransactionStatus>-999</dcjis:TransactionStatus>
      <dcjis:TransactionDescription>An error has occurred while processing this
transaction</dcjis:TransactionDescription>
    </dcjis:Transaction>
  </dcjis:AcknowledgmentHeader>
  <dcjis:AcknowledgmentBody/> <!-- body must always be empty -->
</dcjis:Acknowledgment>
</dcjis:DataExchange>
```

Transaction Statuses

The transaction statuses used in the header of some transactions have been enhanced and restructured. Some statuses have been removed, replaced or redefined. Additionally the transaction statuses have been grouped into two logical groups, one for success statuses and the other for error statuses.

Codes in the success group are used to indicate that the transaction was accepted and/or successfully processed. These codes indicate a non error scenario and that no further action is necessary by the client. Codes in the error group are used to indicate that the transaction was not accepted and/or not successfully processed. These codes indicate an error scenario and that further action is usually necessary.

The description of any previous transaction status codes are no longer valid and will not be supported. See the *Transaction Status* appendix included in the CJIS Broker documentation package for a complete listing of supported statuses and descriptions.

Transaction Message Keys

Some transaction message keys have been retired and/or replaced. This has been done to eliminate legacy CJIS Mainframe message keys and make all the message keys consistent in behavior. Any message key that has been retired is usually replaced with a new message key that provides equivalent content. One example of this is the existing Q5 (Suicide Risk Search) message key which has been retired and replaced with two new message keys SUI1 and SUI2. The SUI1 message key provides the same candidate list response as the Q5 and the SUI2 message key provides the same detail record response as the Q5 when querying by ID. In some cases a message key has been retired and the content provided by that message key can be obtained by using a combination of existing message keys. For more information see the *Available CJIS Transactions* appendix included in the CJIS Broker documentation package.

Migrating from CJIS-XML to CJIS Broker 2.0

The implementation of the CJIS Broker 2.0 has the most impact on users who currently utilize CJIS-XML 1.0 (Pull) or CJIS-XML 2.0 (Push). These legacy CJIS-XML systems have reached their end of life and it is required for all users to migrate over to use the latest version of the CJIS Broker. Since the changes between the CJIS-XML systems and the latest CJIS Broker are extensive, it is recommended to read the entire CJIS Broker documentation package to determine the full impact of migration.

High Level Key Technical Changes

Below is a list of key technical changes to consider when migrating from CJIS-XML to the CJIS Broker. This list is considered to be high level and is not an exhaustive list of changes between CJIS-XML and the CJIS Broker. This list is provided only as a pointer to key areas that have changed and to help identify the scope of migration that may be needed.

- There are extensive changes to the Web Service Definition (WSDL).
- All Request/Response and Event communication between the client and the CJIS Broker is required to be asynchronous. The only synchronous communication is for transaction acknowledgment confirmations that the transaction was received which are provided as the return values of the web service method.

- All transaction responses will be sent back (or pushed) to systems which must maintain a Web Service to receive the transactions. There will no longer be the ability to retrieve (or pull) responses.
- Transaction acknowledgments are required on all transactions and use a new XML structure.
- New transaction header and body XML structures.
- Stricter header validations for required fields.
- New and updated XML schema namespaces are used.
- Transaction status/error codes have been redefined and expanded.
- Some transaction message keys have been retired and/or replaced such as Q2SX (replaced with QWA, R1/DQ/KQ, R5/RQ), Q2S1/Q2S2 (replaced with QWA, WMS1/WMSD), and Q5 (replaced with SUI1/SUI2).
- NCIC and Nlets transaction structures are now required to be built using their respective XML specifications.
- Many transactions will generate structured XML response and no longer pre-formatted text.

Revision History

Version	Date	Nature of Changes
2.0	08/14/2015	Initial version.
2.1	02/09/2016	Updated to include examples of retired messages keys for migrating from CJIS Broker 1.0 to 2.0. Updated to include information for migrating from the legacy CJIS-XML Push and Pull systems.