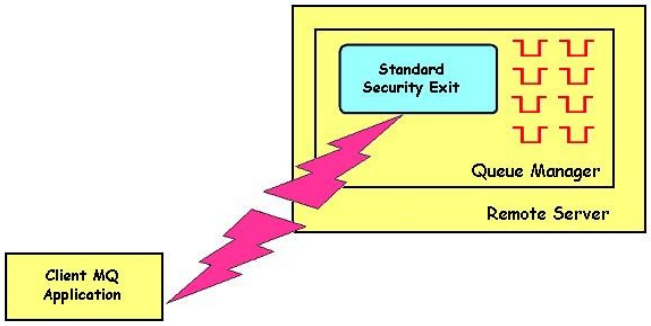
MQSSX for z/OS Queue Manager To Queue Manager Configuration Manual



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1 Introduction

1.1 Overview

MQ Standard Security Exit for z/OS (z/MQSSX) is a solution that allows a company to control and restrict who is accessing a IBM MQ resource. The security exit will operate with IBM MQ v5.3.1, v6.0, v7.0, v7.1, v8.0, v9.0, v9.1 and v9.2 for z/OS environments. It works with Server Connection, Receiver, Requester and Cluster-Receiver channels of IBM MQ queue manager.

The MQ Standard Security Exit for z/OS solution is comprised of a server-side security exit.

The server-side security exit has the ability to allow or restrict the incoming UserID. The server-side security exit uses a regular expression parser to parse the incoming client UserID against a predefined regular expression pattern.

The server-side security exit supports the concept of 'Proxy IDs'. After a user has been successfully validated against the native OS or file based validation data and the 'Proxy Mode' flag is set, then the security exit will look up the user's UserID in the Proxy file for their Proxy ID. The Proxy ID will be used for all MQ interactions.

The server-side security exit has the ability to allow or restrict users from connecting with a blank UserID value. This is controlled by the server-side security exit's property keyword 'AllowBlankUserID'.

The server-side security exit has the ability to block users from logging in with the 'CHIN' or the CHIN's Started-task UserIds. This is controlled by the server-side security exit's property keyword 'Allowmqm'.

The server-side security exit has the capability to allow or limit the incoming channel connections according to the name of the associated Server Connection channel (SVRCONN). Each Server Connection channel can be allocated a maximum number of connections and the server-side security exit will ensure that this maximum is not exceeded.

Client connections to a queue manager are limited by either channel name or the 'DefaultMCC' property keyword in the initialization file. In today's use of J2EE applications, it is a possibility that one J2EE application could overwhelm the queue manager with client connections, thus preventing any connections being made from other applications.

The server-side security exit has the ability to allow or restrict the incoming IP address, hostname and/or SSL DN. The server-side security exit uses a regular expression parser to parse the incoming client IP address and/or SSL DN against a predefined regular expression pattern.

The server-side security exit has the ability to allow or restrict the incoming UserID against a group. A list of groups can be queried for the incoming UserID. The groups are stored a group file.

2 Queue Manager To Queue Manager Overview

This section provides an overview of how z/MQSSX can verify the IP Address and/or UserId of the connection request from one queue manager to any queue manager.

As mentioned in Chapter 1, z/MQSSX is comprised of a server-side security exit.

2.1 Sender and Receiver Channel Pair

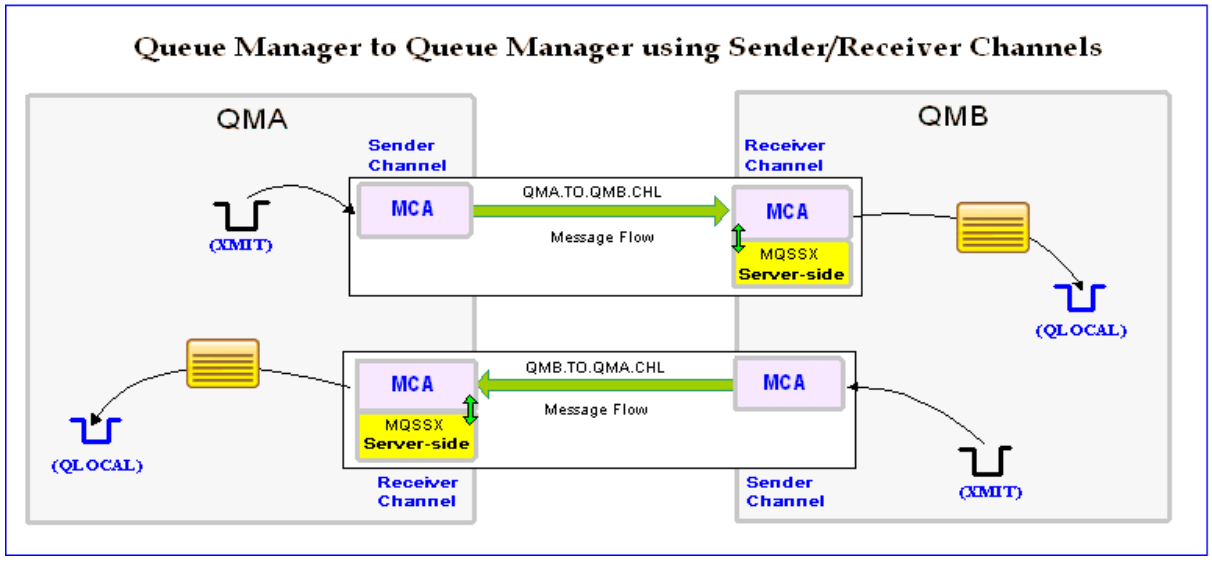
As noted below (in yellow) in the diagram, the z/MQSSX server-side security exit works with the Receiver (RCVR) channel.

There is a Message Channel Agent (MCA) at each end of the channel. The MCA is a component that handles the sending and receiving of messages between queue managers. Before the MCA can send and receive messages, the z/MQSSX server-side security exit must verify the incoming UserId and/or IP Address as detailed below:

- The MCA that is running the Receiver channel will call z/MQSSX server-side security exit to verify the incoming UserId and/or IP Address.

After verification has been successful, the channel will go to a 'Running' state and the messages will flow along the channel.

The following diagram highlights security exits in an MQ environment:



2.2 Server and Requester Channel Pair

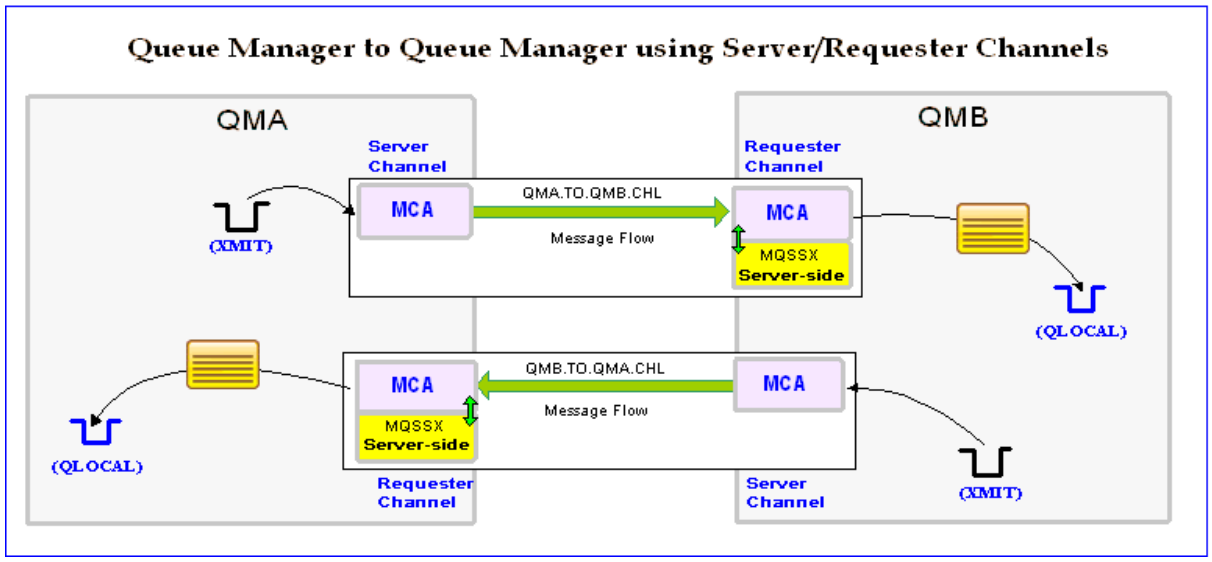
As noted below (in yellow) in the diagram, the z/MQSSX server-side security exit works with the Requester (RQSTR) channel.

There is a Message Channel Agent (MCA) at each end of the channel. The MCA is a component that handles the sending and receiving of messages between queue managers. Before the MCA can send and receive messages, the z/MQSSX server-side security exit must verify the incoming UserId and/or IP Address as detailed below:

- The MCA that is running the Requester channel will call z/MQSSX server-side security exit to verify the incoming UserId and/or IP Address.

After verification has been successful, the channel will go to a 'Running' state and the messages will flow along the channel.

The following diagram highlights security exits in an MQ environment:



3 Configuring a Receiver Channel

This section describes the necessary entries to enable the server-side security exit on a Receiver Channel. The server-side security exit and its data will be applied to 2 fields of the Receiver Channel. The MQ Administrator will need to update these 2 fields of the Receiver Channel.

For more information on server-side IniFile parameters, please review *Appendix A* of the ***MQSSX for z/OS Server-side Installation and Operation*** manual.

3.1 z/OS

On z/OS, SCYEXIT and SCYDATA will contain the following values assuming a default install:

- SCYEXIT
  MQSSX
- SCYDATA
  MQSSXIN

The following is an example of an MQSC command for creating a Receiver Channel with the server-side security exit and its data:

```
DEFINE CHANNEL ('QMA.TO.QMB.CHL') CHLTYPE(RCVR) +
       TRPTYPE(TCP) +
       SCYEXIT('MQSSX') +
       SCYDATA('MQSSXIN') +
       REPLACE
```

4 Configuring a Requester Channel

This section describes the necessary entries to enable the server-side security exit on a Requester Channel. The server-side security exit and its data will be applied to 2 fields of the Requester Channel. The MQ Administrator will need to update these 2 fields of the Requester Channel.

For more information on server-side IniFile parameters, please review *Appendix A* of the ***MQSSX for z/OS Server-side Installation and Operation*** manual.

4.1 z/OS

On z/OS, SCYEXIT and SCYDATA will contain the following values assuming a default install:

- SCYEXIT
  MQSSX
- SCYDATA
  MQSSXIN

The following is an example of an MQSC command for creating a Receiver Channel with the server-side security exit and its data:

```
DEFINE CHANNEL ('QMA.TO.QMB.CHL') CHLTYPE(RQSTR) +
       TRPTYPE(TCP) +
       SCYEXIT('MQSSX') +
       SCYDATA('MQSSXIN') +
       REPLACE
```

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