

**Envoy Message Queuing**

**version 1.3**

# ***Envoy MQ Connector Administrator's Guide***



*For use with Microsoft Message Queue services (MSMQ) software*

**ENVOY**  
**TECHNOLOGIES**

**Envoy Message Queuing version 1.3**  
***Envoy MQ Connector Administrator's Guide***

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**Envoy Technologies Inc.**

Corporate Headquarters  
120 Wood Avenue South  
Iselin, NJ, 08830, USA  
Phone: 732-549-6500  
Fax: 732-549-3165

**Web:** <http://www.envoytech.com>

**Tech Support:** [support@envoytech.com](mailto:support@envoytech.com)

# Envoy MQ Connector Administrator's Guide

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## Chapter 1

# Introduction

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Envoy MQ is an external gateway for the Microsoft Message Queue Services (MSMQ) environment. Envoy MQ extends MSMQ's capabilities from the Microsoft Windows operating system to other operating systems, and lets you connect systems such as UNIX, IBM AS/400, HP e3000, Java, and Unisys ClearPath to an MSMQ enterprise network.

Envoy MQ provides a fast and reliable messaging interface between the Windows operating systems and other systems. Envoy MQ enables all your applications to use MSMQ store-and-forward messaging. This allows applications to communicate across a network even if the applications are not running at the same time.

Developed by Envoy Technologies in collaboration with Microsoft Corporation, Envoy MQ works together with MSMQ in the simplest and most efficient possible way.

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## *Client/Server System*

Envoy MQ comprehends two main components:

Envoy MQ Connector (MQC)

Envoy MQ Client (EMQ)

MQC is the server component of a client/server system running in a distributed network environment. The MQC runs on Microsoft Windows platforms. To use the MQC, you must also install the appropriate message queuing clients (EMQ), which interface your applications with Envoy MQ and MSMQ.

Envoy Technologies supplies clients for many operating systems and with APIs in several programming languages, for example:

Operating systems	API languages
UNIX flavors: Sun Solaris Linux HP UNIX IBM AIX SCO-UNIX Compaq Tru64	C
DEC OpenVMS	C
HP e3000 MPE/iX	C, COBOL
Java	Java Application and Applets
IBM OS/400	C, RPG, COBOL

For technical and licensing information regarding Envoy MQ and its components, contact Envoy Technologies or visit our web site [www.envoytech.com](http://www.envoytech.com).

There is also a client for Unisys ClearPath systems. Please direct inquiries about this product and its support to your Unisys representative.

## Other Documentation

The following documentation of Envoy MQ and of message queuing clients is available from Envoy Technologies.

Document	Description
<i>Envoy MQ v1.3 Connector Administrator's Guide</i> (this book)	Explains how to set up and monitor Envoy MQ Connector
<i>Envoy MQ v1.3 Programmer's Guide</i>	Programming messaging applications using Envoy MQ and message queuing clients available from Envoy Technologies
<i>Envoy MQ v1.3 Platform Notes for Clients</i>	Installation and API details for Envoy MQ for clients running on OS/400, HP e3000 MPE/iX and other operating systems

## Chapter 2

# Installation

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This chapter explains how to install and configure MQC on the Windows 2000 operating system. The chapter covers:

- ❑ System and network requirements
- ❑ Installing and configuring MQC
- ❑ Registering Envoy MQ users and passwords
- ❑ Security procedures
- ❑ Registering a certificate to enable message authentication

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## System and Network Requirements

### *MSMQ*

Before you install MQC, Microsoft Message Queue Services (MSMQ) must be installed on your Windows network. For information on the system requirements for MSMQ installation, please see the Microsoft MSMQ documentation.

### *Envoy MQC*

MQC can be installed on a computer conforming to the following minimum requirements:

- ❑ Microsoft Windows NT 4.0 Workstation or Server with Service Pack 4, or Windows 2000.
- ❑ A Microsoft MSMQ Independent Client or Server.
- ❑ Approximately 5 Mb of free disk space for the MQC software.
- ❑ A TCP/IP link to non-Windows systems in your network.



*The EMQ 1.0 for OS/390 supports SNA protocol. You can figure SNA protocol in MQC 1.3 to connect to EMQ 1.0 clients for OS/390*

### *Where to install Envoy MQ*

You must install MQC on at least one Windows system in your network. You should choose a Windows system that is always connected to your non-Windows systems. An EMQ client cannot send messages unless a connection to MQC is open.

You can install MQC on additional Windows systems to balance the load as needed. An EMQ client can send and receive messages via any MQC installation in your network.

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## Version Compatibility

The following table summarizes the compatibility of different MQC and EMQ client versions.

MQC version	Can run with EMQ client versions	MQC requires Windows version
1.0	1.0	NT 4.0 Server + SP3 or SP4
1.1	1.0	NT 4.0 Workstation or Server + SP4, or Windows 2000
1.2	1.0 or 1.2	NT 4.0 Workstation or Server + SP4, or Windows 2000
1.3	1.0, 1.2 or 1.3	NT 4.0 Workstation or Server + SP4, Windows 2000 or Windows XP

Subject to the above limitations, you can connect different client versions simultaneously to the same MQC.

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## Setup Procedure

To install and configure MQC, you need to:

1. Install the MQC software
2. Configure the MQC service
3. Register domain users of the MQC service
4. Set the user rights



*Perform steps 1, 2, and 4 on the local Windows computer where MQC will run. Perform step 3 on a domain controller of the Windows domain. If you install MQC on a domain controller, then there is no distinction between the two computers.*

The installation program gives you the option to automatically perform steps 2, 3, 4 based upon user input. You will be given the options to select the following Security Methods: Local Security, Domain Security or Do not create security objects.

The details of each step are explained in the following paragraphs.

## Installing MQC

Log on to the Windows computer where you want to install the MQC software. You must log on as a domain user with administrator privileges for the local computer.

Insert the CD-ROM containing the MQC installation files. Start the AutoRun.htm file to display the startup screen in Microsoft Internet Explorer.

On the startup screen, select:

- Release Notes – for version information
- Support Notes – for technical support information
- Install *Message Queuing Connector* – to start the setup program

**Directory location**

By default, the setup program installs MQC in `c:\Program Files\Envoy\MQC`. You may specify a different directory if desired.

**Installation options**

You may select the following options:

<i>Typical</i>	Installs MQC, the MQC management console, default code-page tables, documentation, and executable versions of sample messaging programs.
<i>Full</i>	Installs MQC, the MQC management console, default code-page tables, documentation, and both executable and source-code versions of sample messaging programs.
<i>Service Only</i>	Installs MQC and default code page tables.
<i>Custom</i>	For more options, such as additional code-page tables.



*For an explanation of the code-page options, see Code-page translation tables below.*

**Program folder**

By default, the setup program creates a `Envoy Message Queuing Connector` folder, under Programs on the Windows Start menu. You may select a different folder name if preferred.

**Uninstalling**

To remove the installed MQC components from your computer, click the Uninstall option in the `Envoy Message Queuing` folder.

**Configuration**

When the setup program finishes copying the program files, continue to configure the MQC service as described in *Configuring MQC* below.



*If you have a previous version of MQC installed, it is advisable to remove it prior to installing MQC version 1.3.*

## Code-page Translation Tables

You must install code-page translation tables on at least one MQC in your network, so the message queuing clients can obtain them. The clients use the tables

to translate string-valued message properties from the code page of a non-Windows system to UNICODE.

You should install the code-page tables that are used on all computers where you intend to install EMQ clients versions 1.2 or older. EMQ clients version 1.3 or higher come with code page tables preloaded. Later, you can configure each client to use the appropriate table (see *Installation* in the EMQ client *Programmer's Guide*).

The Full or Typical installation options install the following code-page tables with Envoy MQ:

cp437.TXT	Cp850.TXT	cpISO8859-1.TXT
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If you choose the Custom option, you can install the following additional code-page tables:

cp037.TXT	Cp861.TXT	cpISO8859-15.TXT
cp1026.TXT	Cp862.TXT	cpISO8859-2.TXT
cp437.TXT	Cp863.TXT	cpISO8859-3.TXT
cp500.TXT	Cp864.TXT	cpISO8859-4.TXT
cp737.TXT	Cp865.TXT	cpISO8859-5.TXT
cp775.TXT	Cp866.TXT	cpISO8859-6.TXT
cp850.TXT	Cp869.TXT	cpISO8859-7.TXT
cp852.TXT	Cp874.TXT	cpISO8859-8.TXT
cp855.TXT	Cp875.TXT	cpISO8859-9.TXT
cp857.TXT	CpISO8859-1.TXT	
cp860.TXT	CpISO8859-14.TXT	



You can obtain additional code-page tables from <http://www.unicode.org>.

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## Installing on a Cluster Server

Optionally, you can install MQC on a Windows cluster server.

### Cluster server requirements

Before you install MQC on a cluster server, you must:

- Install the Microsoft Cluster Server
- Install MSMQ on the cluster server (recommended in a separate group)
- Bring the cluster group, the MSMQ group, and all their resources online, on the first cluster node where you intend to install MQC.
- Install the MQC software (see *Installing MQC* above).

### Cluster installation procedure

The setup program automatically detects cluster server installation and prompts you to install MQC on the shared disk where MSMQ is installed. Do not change the disk location.

When the installation is complete, the Cluster Administrator displays two new resources under the MSMQ cluster group:

Resource	Type	Description
MQC service	Generic Service	Envoy MQ
Envoy MQ install	Generic Application	An auto-install application supporting the cluster service

You need to install MQC only on the first cluster node. If the MSMQ group is moved or failed over to another cluster node, the Install application automatically installs and configures MQC on the new node.

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## Configuring MQC

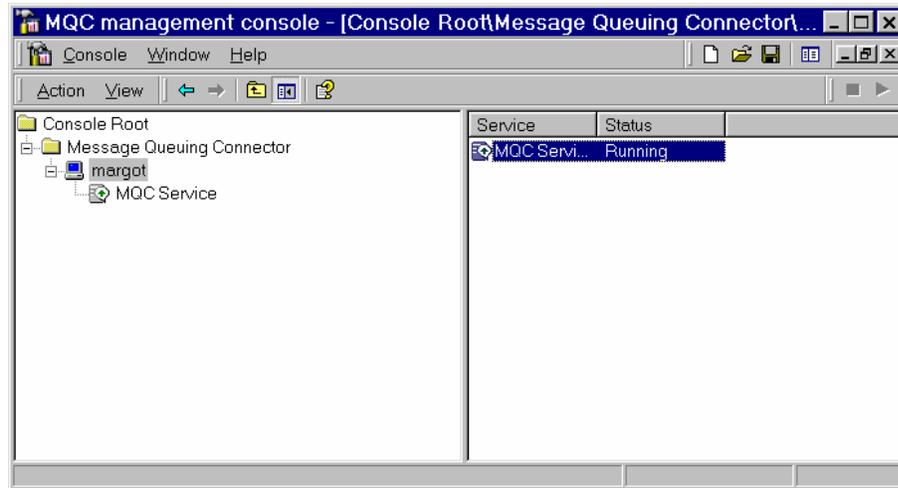
Before you can use the MQC service, you must configure it for operation. To do this, you must set its properties in the MQC management console. You can run the management console on the same computer as MQC is installed or on a remote computer in your network.

1. Log on to a Windows computer where the MQC management console is installed. You must log on as a user with administrator privileges for the computer where MQC is installed (for example, you can log on as the domain administrator).
2. On the Start menu, click the MQC management console option in the EnvoyMQ folder. This opens the Microsoft Management Console (MMC) with the Message Queuing Connector snap-in.



*Alternatively, you can open any saved MMC configuration and add the Message Queuing Connector snap-in to it.*

3. Expand the Message Queuing Connector folder to display the Windows computers where MQC is installed.
4. Expand the computer name and check whether the MQC service is *stopped* or *running*. If it is running, right-click the MQC service icon and click Stop.
5. Right-click the MQC service icon and click Properties. The MQC properties window is displayed.

**General tab**

The General tab of the MQC service properties displays information about MQC: the host name, MQC version, and service status (running or stopped).

You can set the following option:

*Sound* Play a sound if the MQC service stops or encounters an error.

**Address tab**

On the Address tab of the MQC service properties, specify the network transport protocols:

*TCP/IP* For connection to any message queuing client.

*SNA LU6.2* For connection to the message queuing client for OS/390.

You can select both protocols if appropriate.

For the TCP/IP protocol, also specify:

*Port Number* The TCP/IP port that MQC should use. The port must not be used by any other program on your computer (default = 1100).



To determine which ports are in use, read the file `system32\drivers\etc\services` in your Windows system directory, using any ASCII editor. Or use the command `netstat -a` on the command prompt.

*Keep Alive Time* The time interval (in seconds) between system checks of an active (live) TCP/IP connection. Lower values ensure that a failure is detected quickly but increase transmission overhead.



*Keep Alive* is a Windows system parameter. Changing it may affect other TCP/IP software besides MQC.

For the SNA LU6.2 protocol, specify:

	<i>TP Name</i>	A name (up to 8 characters), by which your OS/390 applications will address MQC. The name must not be used for any other MQC installation in the network.
<b>Optimization tab</b>		On the Optimization tab of the MQC service properties, specify the following option:
	<i>Max Clients</i>	The maximum number of communication sessions that MQC can open concurrently (default 100).  A higher Max Clients setting lets MQC handle more applications at a time but may degrade performance. For multithreaded applications, each thread requires a separate session.
	<i>Heartbeat</i>	The delay in milliseconds between heartbeat messages (default 2000). A heartbeat message is a "stay-tuned" message that MQC uses to keep a connection alive during a long <code>MQReceiveMessage</code> operation.
<b>Security tab</b>		On the Security tab of the MQC service properties, specify:
	<i>User Prefix</i>	A string that MQC adds to client user names to create user names on the Windows system (default <code>MQC_</code> ).
	<i>Password</i>	A string that MQC uses as a password or a password prefix for the users.



*For an explanation of how MQC uses the User Prefix and Password, see Registering domain users below.*

<b>Tracing tab</b>		On the Tracing tab of the MQC service properties, you can configure a trace file used for troubleshooting and debugging. Specify the following options:
	<i>Trace File Name</i>	Type the complete path of the file (by default, <code>c:\Program Files\Envoy\MQC\Trace\TRACE.DAT</code> ).
	<i>Clear</i>	Delete an existing trace file.
	<i>Bucket Size</i>	Size of the trace buffer (default 5120 kb). To improve performance, set the bucket size slightly larger than the largest message that you expect to trace.
	<i>Number of Buckets</i>	Maximum length of the trace file (in units of the bucket size, default 2). If a trace exceeds this length, it recycles and overwrites the trace file from the start.

It is recommended that you locate the trace file on an NTFS drive (as opposed to an FAT drive) and set the file properties to *Write by Everyone, Read by Domain Admins Only*.



*To perform a trace, see Tracing API calls in Chapter 3, Management Console.*

## Registering Domain Users

MQC permits access only by authorized domain users. You must register one or more user names and passwords in the Windows system. The user names and passwords permit your messaging applications to access MQC.

There are two access control methods:

*Default logon method*      Access is controlled by the user name under which a messaging application runs on a non-Windows system. The application does not need to send a user name and password explicitly.

*Explicit logon method*      Access is controlled by a Windows logon. A messaging application must send a domain name, a user name, and a password that are valid in Windows. MQC verifies the user and password in the specified domain.

Depending on the number of messaging users and applications in your network, the explicit logon method may enhance security and/or simplify your user registration procedures.

You can combine the two methods, registering some user names for default access and others for explicit logon access.

### Before you register users

Before you register users in the Windows system, set the User Prefix and Password on the Security tab of the MQC service properties (see *Configuring MQC* above).



*The following procedures are for Windows 2000 systems. For Windows NT 4.0 systems, you must log on to the primary domain controller of the domain where MQC is installed and register the users in the User Manager.*

### Registering default logon users

Log on as an administrator to a domain controller of the Windows domain where MQC is installed. Use Directory Management to add new users to the Users folder of the domain.

Optionally, create a global user group and set its privileges. As you add new users, enter them in the group.



*If MQC is installed on a domain controller, then you must also add each user to the Administrators group. Otherwise, the users cannot log on.*

Enter each user with the name `<User Prefix><user name under which the application runs on an external system>`. Enter the MQC password for each user (the same password for all users).

For example, if you set User Prefix = `MQC_` and Password = `topsecret` in the MQC service properties, then you should register users as follows:

On an external system, the application runs under:	In Windows, register:	
User name	User name	Password
MSmith	MQC_MSmith	topsecret
RICHARD	MQC_RICHARD	topsecret

Select the following options for each user: *User cannot change password, Password never expires*. Deselect the following options: *User must change password at next logon, Access disabled*.

**Registering explicit logon users**

You can register explicit logon users in the domain where MQC is installed, or in a trusting domain. Log on as an administrator to a domain controller of the desired domain. Use Directory Management to add new users to the Users folder of the domain.

Optionally, create a global user group and set its privileges. As you add new users, enter them in the group.



*If MQC is installed on a domain controller, then you must also add each user to the Administrators group. Otherwise, the users cannot logon.*

Enter the desired user names. The names do not need to be related to the user names on non-Windows systems.

For each user name, enter the MQC password followed by a logon password that your external applications will send.

For example, if you set Password = `topsecret` in the MQC service properties, then you should register users as follows:

External application logs on by sending:		In Windows, register:	
User name	Password	User name	Password
Msmith	M4kj3L	Msmith	topsecretM4kj3L
RICHARD	Z68c4e	RICHARD	topsecretZ68c4e

Depending on your security needs, you can implement the logon in many different ways. For example:

- You can register a separate name and password for each end user. An application can prompt the end user for the logon information.
- You can register a single user and code the name and password in an application.

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## Setting User Rights

After you register users in the Windows system, you must grant them the right to access the in the MQC service.

Log on to the Windows computer where MQC is installed. You must log on as a user with administrator privileges for the local computer.



*The following procedures are for Windows 2000 systems. On a Windows NT 4.0 system, open the User Manager and click Policies, User Rights, Show Advanced User Rights. Select the log on as service right, click Add, and select the domain users or global user groups that you previously registered.*

### On a domain controller

If the computer is a domain controller, follow these steps to set the user rights:

- On the Start menu, choose Administration Tools and then Directory Management.
- Expand the domain folder.
- Right-click the domain controllers folder and choose Task, Manage Group Policy.
- Select Default Domain Controllers Local Policy and click the Edit button.
- Expand the tree to display Computer Settings \ Security Settings \ Local Policies \ User Rights Assignment.
- Double-click Log On As Service and add the domain users or global user group that you previously registered.

*Not on a domain controller*

If the computer is not a domain controller, but it is part of a domain, follow these steps to set the user rights:

- ❑ On the Start menu, choose Administration Tools and then Computer Management.
- ❑ Expand the tree to display System Tools \ Group Profile Editor \ Computer Settings \ Security Settings \ Local Policies \ User Rights Assignment.
- ❑ Double-click Log On As Service and add the domain users or global user group that you previously registered.

*Part of a workgroup*

If the computer is part of a workgroup, follow these steps to set the user rights:

- ❑ On the Start menu, choose Settings and then Control Panel.
- ❑ Choose Local Security and then Local Policies
- ❑ Select User Rights Assignments



*There is an additional right that you may need to set. By default, MQC runs under the system account. If you change this to a domain user account, you must grant this user the right to Act as Part of the Operating System.*

## Enabling Authentication

A messaging application can use the MSMQ authentication service. To do this, the application can either:

- ❑ Access an internal MSMQ certificate, or
- ❑ Send an external certificate (obtained from an external certificate authority such as VeriSign) in the `PROPID_M_SENDER_CERT` property of the message.

Before you can use an internal or external certificate, you must register it in MSMQ. There is one exception to this rule. You can send an external certificate without registering it in MSMQ, provided that you include `PROPID_M_SENDERID_TYPE` in the message, and assign it a value of `MQMSG_SENDERID_TYPE_NONE`.



*For more information about certificates and their use, see the Microsoft MSMQ documentation.*

*Registering a certificate on a Windows computer*

To register a certificate, log on to the Windows system where MQC is installed. You must log on under the user name by which your application will connect to MQC (see *Registering domain users* above).

For example, suppose that your application runs on an external platform under the user name `MSmith` and connects to MQC by the default logon method. If the MQC User Prefix is `MQC_` and the MQC Password is `topsecret`, then log on to Windows as `MQC_MSmith` with the password `topsecret`.

Then, in the Windows Control Panel, select the MS Message Queue option. Use the dialog box to generate an internal certificate or register an external certificate. Transfer an external certificate to the non-Windows platform so you can send it with your messages.

***Registering a certificate from a program***

A messaging application can register a certificate by calling the MQRegisterCertificate() API function (see *Programming Messaging Applications* in the message queuing client *Programmer's Guide*).

## Chapter 3

# Management Console

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You can use the management console to configure, control, and monitor MQC. The console is a standard Microsoft Management Console (MMC) snap-in. The console lets you manage MQC installed on any computer in your enterprise network, from a single location.

You can use the management console to:

- ❑ Start or stop the MQC service, anywhere in the network.
- ❑ Observe the quantity and type of traffic between an EMQ client and MQC, anywhere in the network.
- ❑ Start and stop a trace file for a client application, containing a log of messaging API calls and a hexadecimal dump of Envoy MQ transmissions.
- ❑ Break a connection, for example if an application is overloading the MQC service.

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## Console Display

### *Opening MMC with the Envoy MQ snap-in*

On the Start menu, click the MQC management console option in the Envoy Message Queuing folder. This opens the Microsoft Management Console (MMC) with the MQC snap-in.

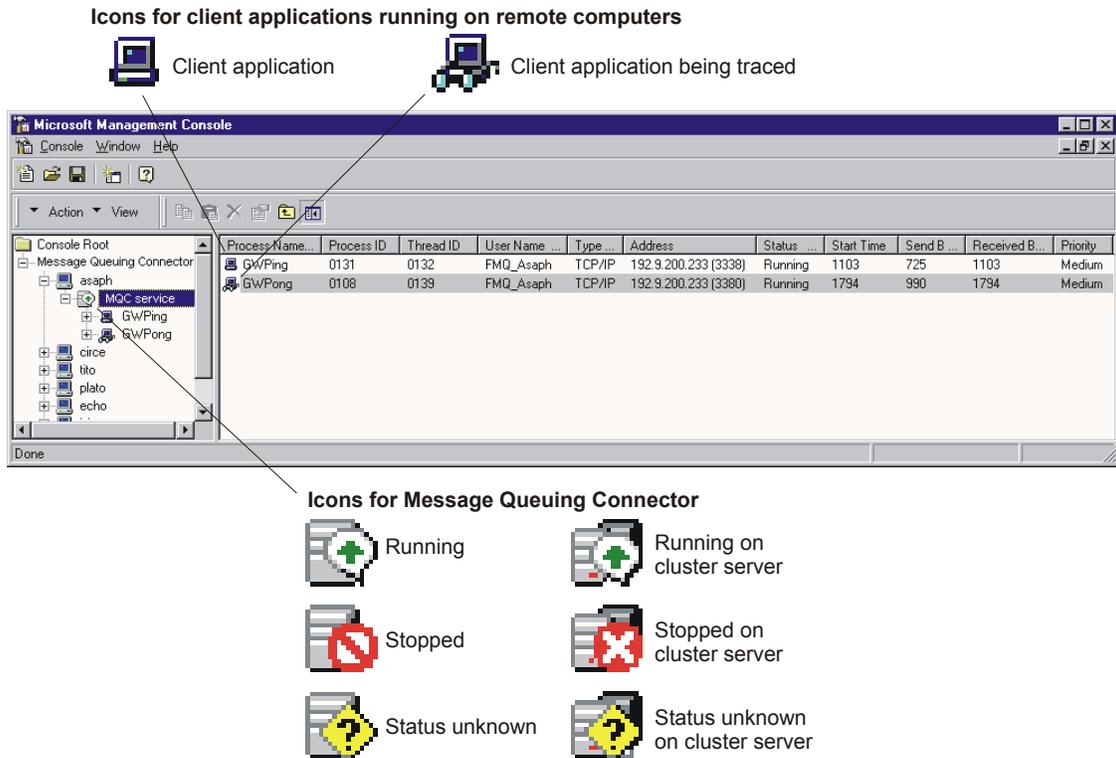
Alternatively, you can open any saved MMC configuration and add the MQC snap-in to it.

### *Displaying the Envoy MQ system*

In the left pane, expand the Message Queuing Connector folder. The display is an expandable tree containing:

- ❑ The names of computers where MQC is installed.
- ❑ An icon for the MQC service on each computer.
- ❑ Under each MQC service, the names of messaging applications, running on remote systems, that are currently connected to the MQC service.

There is a separate line for each thread of a remote application. The application names are not necessarily unique. To uniquely identify an application, the display includes the IP address, process ID, and thread ID.



### Starting or Stopping the MQC service

Select the MQC service in the left pane of the MQC management console window. The right pane indicates whether the service is currently running or stopped.

To start or stop the service, right-click the MQC service icon and choose Start Service or Stop Service from the pop-up menu.



Alternatively you can start/stop Envoy Message Queuing Connector Service from Control Panel -> Services or using the command `net start` or `net stop` from the command prompt.

## Setting MQC service Properties

After you install Envoy MQ, you must use the management console to set the MQC service properties. You can open the properties window and change the properties at any time.

To set the properties:

1. Stop the MQC service on the desired computer
2. Right-click the MQC service icon and click Properties on the pop-up menu.
3. When you finish setting the properties, restart the MQC service.

For a complete explanation of the various properties, see *Configuring MQC* in Chapter 2, *Installation*.



*The changes will be effective only after restarting the MQC service.*

## Monitoring Messaging Applications

Select the MQC service in the left pane of the MQC management console window. The right pane displays a line of data for each application, running on any client computer, that is currently connected to the MQC service. For multithreaded applications, a separate line is displayed for each thread.

The following data are displayed:

<i>Trace Icon</i>	If the application is currently being traced, the computer icon at the left of the line wears a pair of eyeglasses (see <i>Tracing API calls</i> below).
<i>Process ID, Thread ID</i>	Identifiers for the application process and thread on the non-Windows system.
<i>User Name</i>	The user name under which the application connects to Windows (see <i>Registering domain users</i> in Chapter 2, <i>Installation</i> ).
<i>Type</i>	Communication protocol: TCP/IP or SNA.
<i>Address</i>	For TCP/IP, the address and port number. For SNA, the LU name in the format <local LU><remote LU>.
<i>Status</i>	Running or stopped.
<i>Start Time</i>	The date and time at which the application connected to MQC.
<i>Send Bytes</i>	The cumulative number of bytes sent from the application since the Start Time.
<i>Receive Bytes</i>	The cumulative number of bytes sent to the application since the Start Time.



*Send Bytes and Receive Bytes include transmission and verification overhead.*

*Priority*

Access priority of the application to the MQC service (for future use).

## API Statistics Display

To display the API statistics for a particular client application, select the application in the left pane of the MQC management console window. The right pane then displays:

<i>Request</i>	API functions called by the application.
<i>Count</i>	Number of calls to each API function.
<i>Size</i>	Cumulative number of bytes sent to or from the application as a result of the calls.
<i>Time</i>	Cumulative time of MQC operation as a result of the calls (in milliseconds, not including transmission time).
<i>Avg Size</i>	Average number of bytes per call (Size/Count).
<i>Avg Time</i>	Average time per call (Time/Count).



*The statistics include transmission and verification overhead. Count and Size may differ from the actual API calls issued by the application.*

## Tracing API Calls

To help you test a connection, you can record the traffic from any application to MQC in a trace file.

Set the name, directory location, and maximum size of the trace file in the MQC service properties, if you have not already done so (see *Configuring MQC* in Chapter 2, *Installation*).



**IMPORTANT** *Tracing does not stop automatically when you close the MQC management console. If you forget to stop a trace, it continues indefinitely. If the trace exceeds the maximum file size, it recycles and overwrites the file from the start.*

### Starting a trace

- Right-click the client application in the MQC management console window.
- Choose Trace Start from the pop-up menu.

You may repeat this procedure for additional applications. The information for all applications connected to a single MQC service is recorded in the same trace file.



*While a trace is in progress, the computer icon at the left of each application wears a pair of eyeglasses.*

**Stopping a trace**

- ❑ Right-click the client application in the MQC management console window.
- ❑ Choose Trace End from the pop-up menu.

Be sure to stop the trace for all applications. When you have done this, the eyeglass icons should disappear for all messaging applications.

**Tracing from a remote location**

You can start and stop a trace from the MQC management console on any computer in your network. However, the trace file is stored on the Envoy MQ host that you are tracing, at the location that you specified in the MQC service properties.

You can start a trace on one computer and stop it on another.

**Formatting the trace file**

To convert the trace file from binary format to a readable ASCII format, run the MQCTrace utility, which is located in your Envoy MQ directory. From the MS-DOS prompt on the MQC computer, enter:

```
MQCTrace <trace filename.ext> <output filename.ext>
```

where <trace filename.ext> is the name you assigned to the trace file (see *Configuring MQC* in Chapter 2, *Installation*).

**Contents of the trace file**

The trace file contains the following information:

<i>Send/Receive</i>	Direction of transmission.
<i>Time</i>	Date and time of transmission.
<i>Client ID</i>	Code for the messaging client application that requested the transmission (needed if you are tracing more than one application simultaneously).
<i>API Function</i>	API function called by the application.
<i>Arguments</i>	Values of the function arguments.
<i>Hex Dump</i>	Hexadecimal representation of the transmission packet including all properties.

**Breaking a Connection**

You can break a connection between an application and MQC, for example if the application is overloading the MQC service capacity.

- ❑ Right-click the client application in the MQC management console window.
- ❑ Choose Stop from the pop-up menu.

Subsequent calls from the application to a messaging API function will return an error code.

**Online Help**

You can obtain online help on many aspects of MQC operation. To display the help information, select the Message Queuing Connector folder in the MQC

management console window. On the Help menu, click Help on Message Queuing.Connector

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