IBM Software Group

Installation, Configuration and First File Transfer of WebSphere MQ Managed File Transfer (MFT) 7.5 in Windows and Linux

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ON DEMAND BUSINESS

Agenda

- Part 1:
- Introduction to WebSphere MQ MFT
- Installing the MFT code: Server and Tools
- Topology - Ensure full connectivity between queue managers for MFT

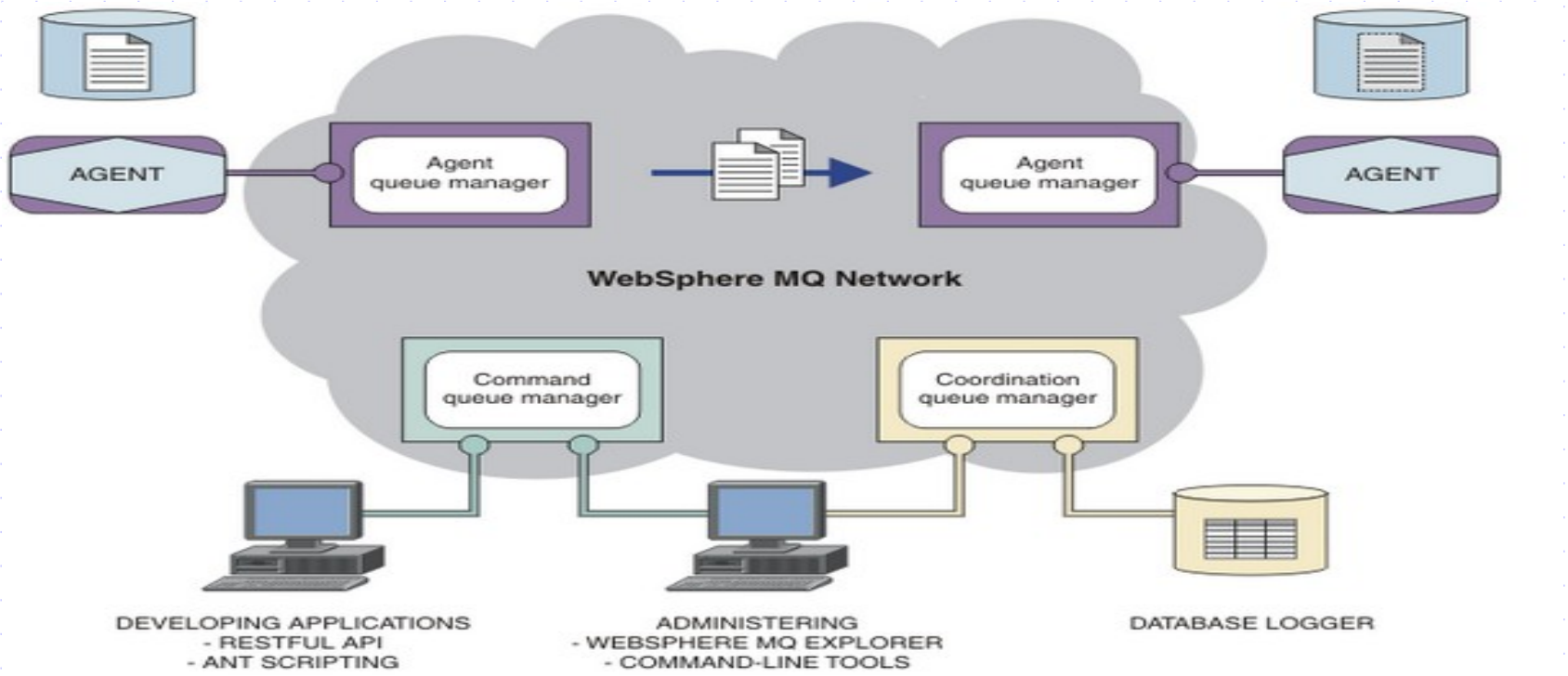
- Part 2:
- Configuration steps
- Starting and listing agents, logger, MQ Explorer
- Testing a single file transfer via MQ Explorer and via command line

Agenda for Part 1

- What is MQ MFT
- Why use it
- What's new on MQ 7.5
- How to setup MFT
  - Install
  - Setup
- Setup end to end MQ configuration

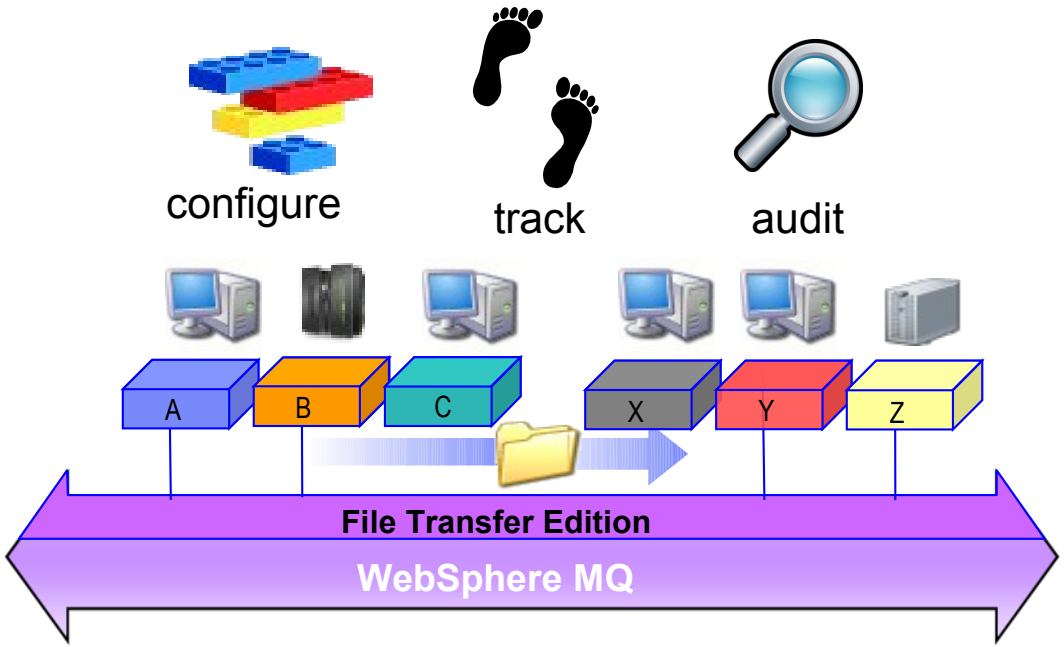
What is MQMFT

- WebSphere MQ Managed File Transfer (MQMFT) transfers files between systems in a managed and auditable way, regardless of file size or the operating systems used.

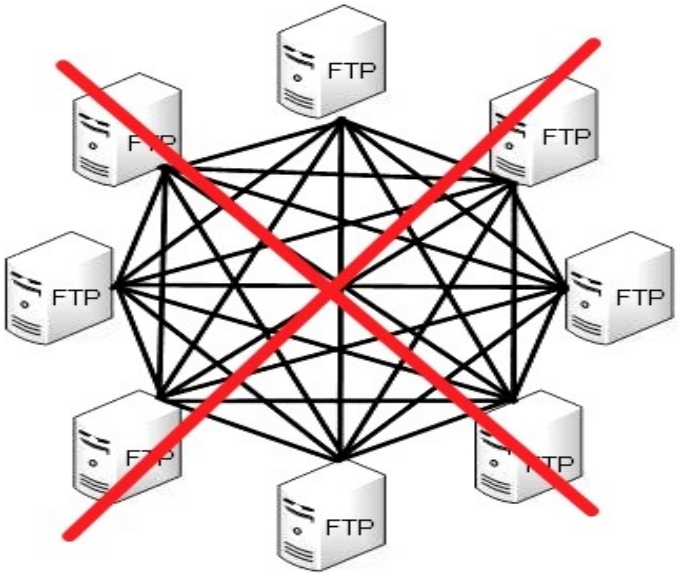


Why MQMFT

- Compared to regular FTP these are the advantages
  - Reliability
  - Security
  - Automation
  - Visibility
  - Flexibility
  - Integrated
    - (e.g. WebSphere DataPower, WebSphere Message Broker, Tivoli etc)



MQMFT vs FTP



- Any file size (Kb, Mb, Gb, Tb…)
- Reliable delivery leveraging MQ
- Guaranteed 100% Integrity
- Full logging for audit purpose
- High Performance
- Character set conversion
- Very Secure with Industry standard SSL security
- XML scripting (Ant Scripting) for distributed job automation
- Multi-purpose solution – transports both messages and files
- Supports many platforms
- Multi-instance so fail-over capability
  - View WSTE : MQFTE (http://www.ibm.com/support/docview.wss?uid=swg27023658)

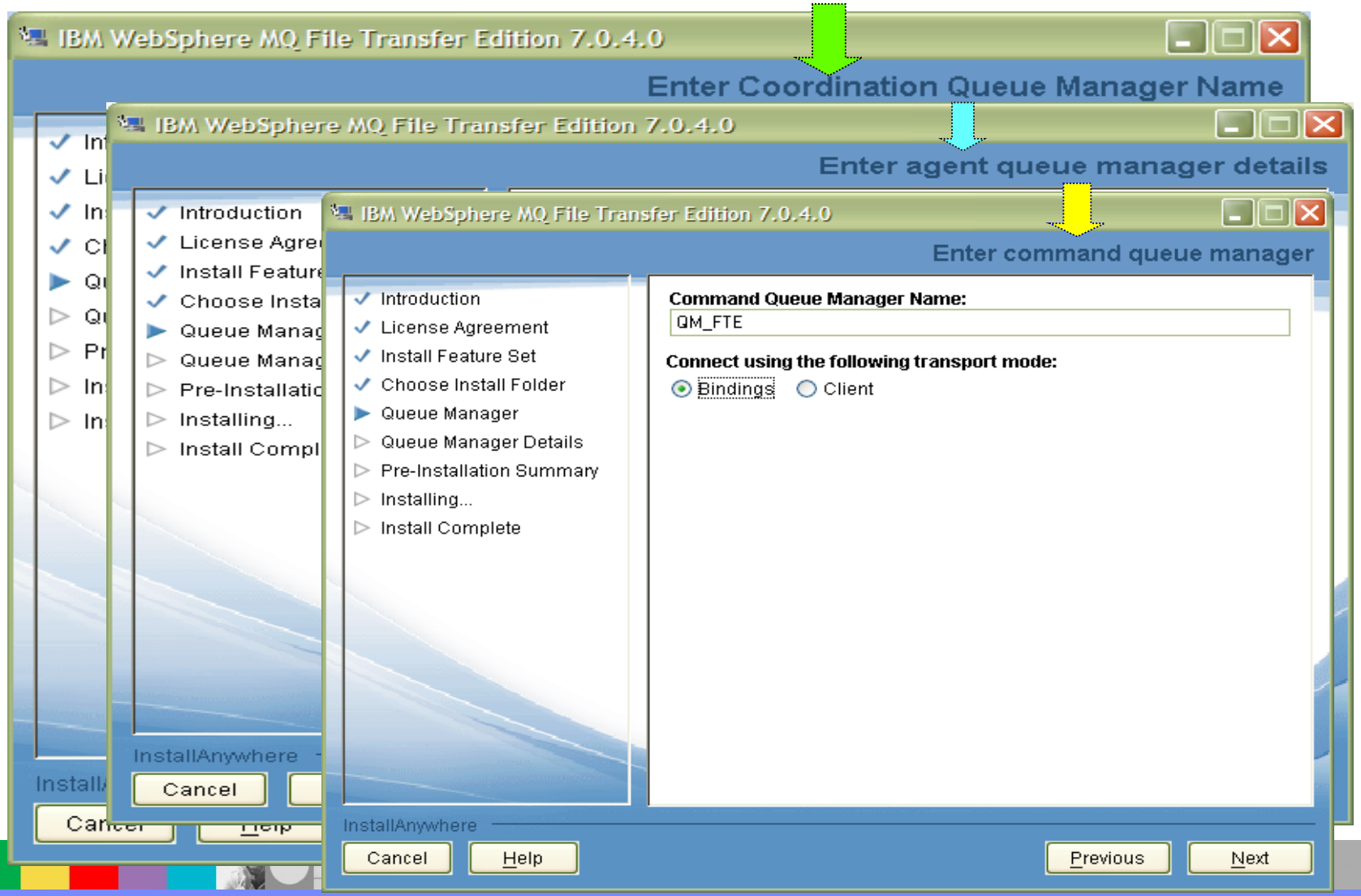
Major Players in MQMFT

- **Agent**
  - An agent is a process which transfers to and from another agent
- **Agent Queue Manager**
  - A queue manager that hosts an agent's queues.
- **Coordination Queue Manager**
  - A queue manager that broadcasts audit of file transfer and acts as a central location.
- **Command Queue Manager**
  - A queue manager that is used to connect to the MQ network. You access it to issue MFT commands

What's new MQMFT 7.5.x - Latest 7.5.0.3

- Changes to installation (part of MQ install process)
- Migration tools (fteMigrateAgent = migrates agent from 7.x--> 7.5.x)
- Changes to the configuration (Default configuration directory location and content, installation.properties, logger.properties etc)
- Enhancements to the logger (also save to text file)
- Enhancements to security support (FIPS and TLS-enabled channel support)
- Enhancements to user exit routines
- Enabling new function for the JEE database logger
- Enhancements to working with transfers (-qs parameter on the **fteCreateTransfer** command, the file is split into multiple messages.)
- Agent diagnostic information (the -d parameter on the fteShowAgentDetails command)

MQFTE(7.x) vs MQMFT (7.5) Install difference



Installation on MQMFT(Base + MFT)

WebSphere. MQ 7.5

IBM.

Welcome

Software Requirements

Network Configuration

WebSphere MQ Installation

Installation Guide

Release Notes

Welcome to the WebSphere MQ Launchpad

To install IBM WebSphere MQ successfully you must make sure you have satisfied all the prerequisites. This launchpad guides you through this process.

Click on the left-hand buttons, described below, to prepare your system :-

Software Requirements	Identify the software you need, install it from the IBM WebSphere MQ CDROM, the Internet, or your local computer.
Network Configuration	Check the suitability of your user account and authorization.
WebSphere MQ Installation	Start the installation program.
Installation Guide	Installation instructions.
Release Notes	Up-to-date information about the product.

Exit Launchpad

Installation - 1

WebSphere MQ V7.5 Setup

License Agreement

WebSphere MQ V

Setup Type

Choose the setup

Please Select a Se

Typical

Compact

Custom

InstallShield

WebSphere MQ V7.5 Setup

Installation Details

Define the installation details

Change the following fields to represent the details to be used for this installation, and click Next to proceed

Installation Name:

MQMFT75

Make this the primary installation

Installation Description:

IBM MQ Managed File Transfer Install

Installation folder for program files

C:\opt\mqm\

Change...

InstallShield

< Back | Next > | Cancel

Installation - 2

WebSphere MQ V7.5 Setup

Destination Fold

Select folder for

Click Next to inst

C:\var\mqm\

Change...

InstallShield

WebSphere MQ V7.5 Setup

Destination Folder

Select folder for log files

Click Next to install to this folder, o

Log files folder (

C:\var\mqm\log\

Change...

InstallShield

WebSphere MQ V7.5 Setup

Features

Select the features you want installed

Click on an icon in the list below to change how a feature is installed.

- Server
  - Telemetry Service
  - Advanced Message Security
  - Managed File Transfer Service
  - Managed File Transfer Logger
- Managed File Transfer Agent
- Managed File Transfer Tools
- MQ Explorer
- Windows Client
  - Telemetry Clients
- Java and .Net Messaging and Web Services
- Development Toolkit

Feature Description

The files you need to create and run queue managers

This feature requires 263 MB on your hard drive. It has 0 of 4 subfeatures selected. The subfeatures require 102 MB on your hard drive.

InstallShield

Help | Space | < Back | Next > | Cancel

Installation - 3

Click on an icon in the list below to change how a feature is installed.

- Server
  - Telemetry Service
  - Advanced Message Security
  - Managed File Transfer Service
  - Managed File Transfer Logger
  - Managed File Transfer Agent
  - Managed File Transfer Tools
  - MQ Explorer
  - Windows Client
  - Telemetry Clients

Feature Description

Adds managed file transfer capabilities including the capability to bridge to FTP, FTPS and SFTP servers and a JEE application that provides a RESTful API for managed file transfers.

This feature requires 148 MB on your hard drive.

- Server
  - Telemetry Service
  - Advanced Message Security
  - Managed File Transfer Service
  - Managed File Transfer Logger
  - Managed File Transfer Agent

Feature Description

Installs the managed file transfer logger component which can be used to record a history of file transfer activities to a database or a file.

Click on an icon in the list below to change how a feature is installed.

- Server
  - Telemetry Service
  - Advanced Message Security
  - Managed File Transfer Service
  - Managed File Transfer Logger
  - Managed File Transfer Agent

Feature Description

Installs the managed file transfer agent component which can be used to transfer files to or from this system.

Installation - 4

Click on an icon in the list below to change how a feature is installed.

- Server
  - Telemetry Service
  - Advanced Message Security
  - Managed File Transfer Service
  - Managed File Transfer Logger
- Managed File Transfer Agent
- Managed File Transfer Tools

Feature Description

Installs command line tools that are used to initiate file transfers between managed file transfer agents.

- Server
  - Telemetry Service
  - Advanced Message Security
  - Managed File Transfer Service
  - Managed File Transfer Logger
- Managed File Transfer Agent
- Managed File Transfer Tools
- MQ Explorer

Feature Description

An Eclipse-based graphical application for administering and monitoring resources in WebSphere MQ

C:\var\mqm\

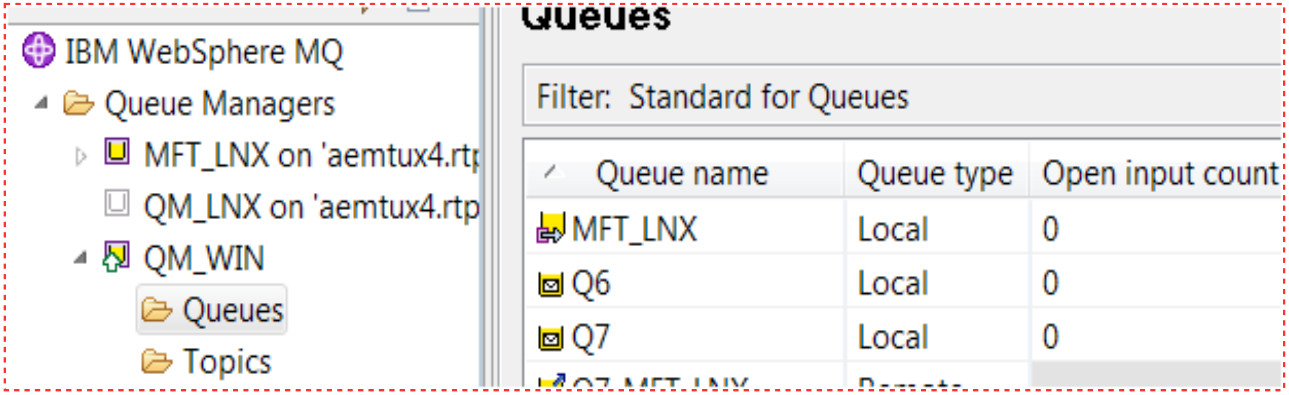
Folder for Log Files:
C:\var\mqm\log\

InstallShield

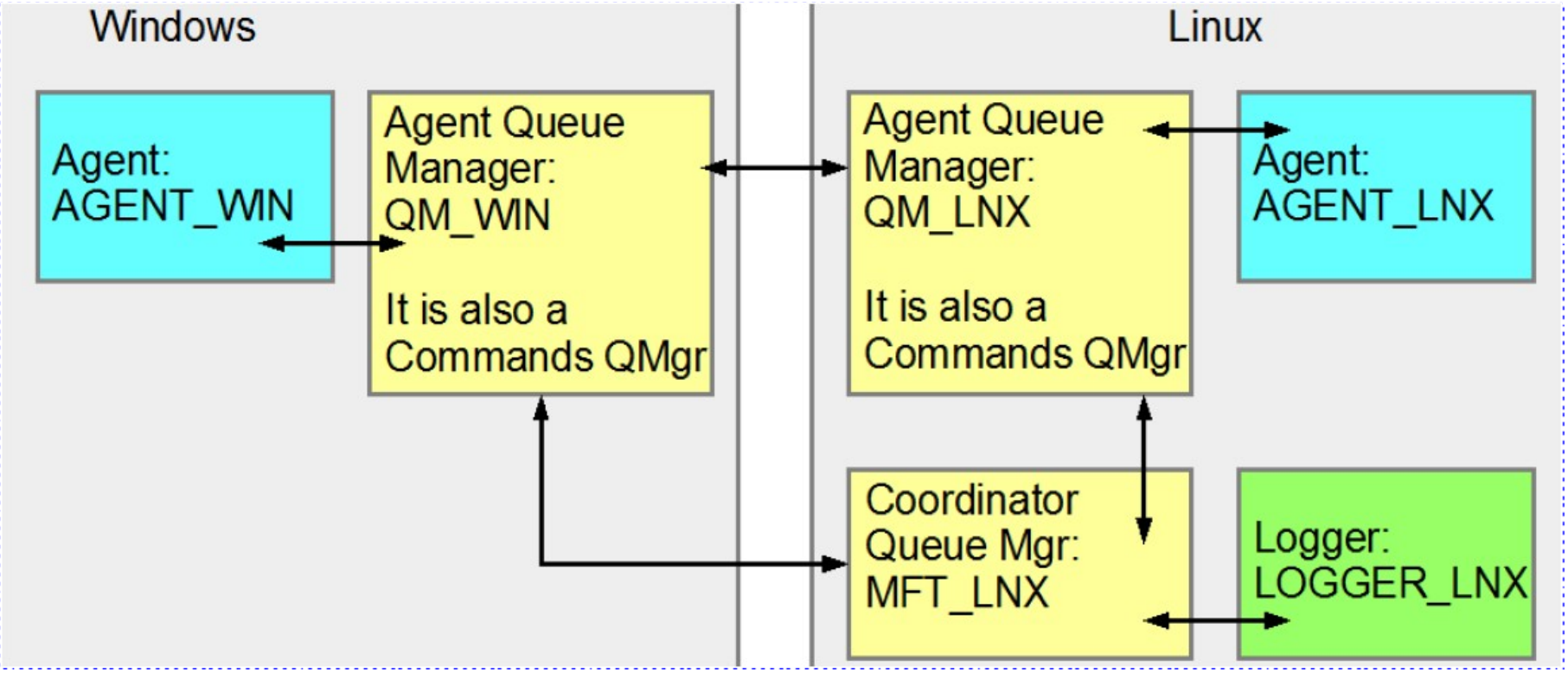
< Back | Install | Cancel

Post install and base MQ setup

- Make sure you have MQ installed on that system along with noted earlier MFT components.
- Here we are using MQ V7.5.0.3 (latest fix pack)
- For a setup review: Installing a WebSphere MQ server
  http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.mq.ins.doc/q008590_.htm
- We have created queue manager QM_WIN



Topology used in this WSTE



Installation in Linux

- See instructions in Tutorial techdoc:
- http://www.ibm.com/support/docview.wss?uid=swg27041181
- Installation, Configuration and First File Transfer of WebSphere MQ Managed File Transfer 7.5 in Windows and Linux
- Need to install filesets on Linux:
  - MQSeriesFTAgent
  - MQSeriesFTBase
  - MQSeriesFTLogger
  - MQSeriesFTService
  - MQSeriesFTTools

Ensure full connectivity between qmgrs

- It is necessary to have full connectivity between the queue managers: sender and receiver channels
- The following pairs of fully connected queue managers are needed:
- QM_WIN (in Windows) with MFT_LNX (in Linux)
- QM_WIN (in Windows) with QM_LNX (in Linux)
- MFT_LNX (in Linux) with QM_LNX (in Linux)
  - http://www.ibm.com/support/docview.wss?uid=swg21470997
- Commands to setup communication both ways between 2 queue managers via Sender and Receiver channels

Notes: Full connectivity

notes

- Only showing for one Queue manager - same can be followed for other two

1) **Create a queue manager :**
   Linux box #> *crtmqm -u DLQ QM_LNX*
2) **Start Queue manager:**
   Linux box #> *strmqm QM_LNX*
3) **Start Listener**
   Linux box #> *runmqsc QM_LNX*
   DEFINE LISTENER(LISTENER.1432) trptype(tcp) control(qmgr) port(1432)
   START LISTENER(LISTENER.1432)
4) **Add a SYSTEM.ADMIN.SVRCONN to communicate to MQ Explorer**
   Linux box #> *runmqsc QM_LNX*
   DEFINE CHANNEL(SYSTEM.ADMIN.SVRCONN) CHLTYPE(SVRCONN)
5) **Administrator and want to avoid return code 2035:**

*set CHLAUTH(*) TYPE(BLOCKUSER) USERLIST('nobody','*MQADMIN')*
set CHLAUTH(SYSTEM.ADMIN.) TYPE(BLOCKUSER) USERLIST('nobody')*

Notes: Full connectivity

notes

- Have a three way communication (sender/receiver channel) between all 3 queue Queue Managers:

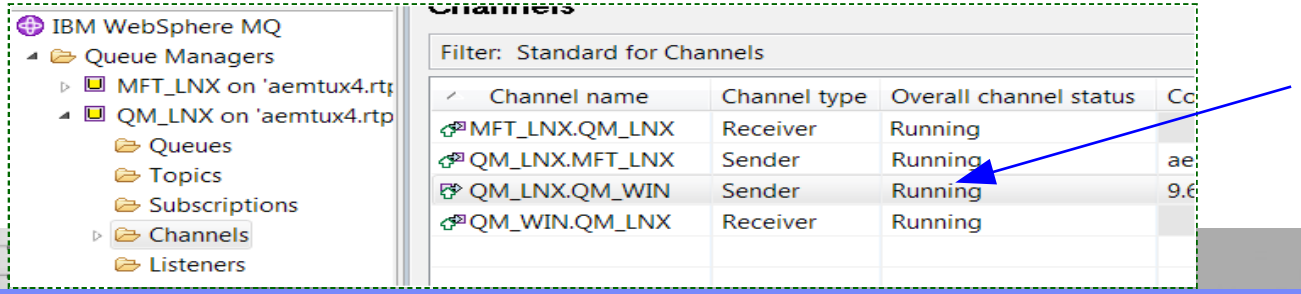
1) **Please follow Techdoc: 1470997 for your configuration assistance**

[http://www.ibm.com/support/docview.wss?uid=swg21470997]

2) **e.g on Linux box we will run this commands in mqsc to create & start channel**

```
$>runmqsc QM_LNX
define qlocal(Q7)
   define qlocal(QM_WIN) usage(xmitq)
   define qremote(Q7_QM_WIN) rname(Q7) rqmname(QM_WIN) xmitq (QM_WIN)
   define channel(QM_WIN.QM_LNX) chltype(RCVR) trptype(TCP)
   define channel(QM_LNX.QM_WIN) chltype(SDR) +
   conname('windowsbox.x.com(1414)') +
   xmitq(QM_MFT) trptype(TCP)
   start channel(LNX_MFT_TST.QM_MFT)
```

3) **Run similar commands on Window & another Linux side and start channels and then you can see:**



Agenda for Part 2

- MQMFT Configuration Steps
- Logger Setup
- Complete end to end MQMFT setup
- File transfer via MQ Explorer
- File transfer via command line
- Review those transfer in logger
- Summary
- Q&A

Part 2 - Configuration steps

- Configure the Coordination queue manager to coordinate file transfers

1) Create coordination queue manager in Linux (MFT_LNX)
2) Specify coordination queue manager in Windows (to use MFT_LNX in Linux)
3) Create command queue managers
4) Create agents
5) Create logger

Coordination queue manager - Linux

- Coordination queue manager in Linux (MFT_LNX)

1) Log in as MQ administrator into the Linux box

2) Issue the following command to create the properties files and the coordination queue manager directory:

- **fteSetupCoordination -coordinationQMgr MFT_LNX -coordinationQMgrHost linuxbox.x.com -coordinationQMgrPort 1424 -coordinationQMgrChannel SYSTEM.ADMIN.SVRCONN**

Coordination queue manager - Linux

- The configuration data for MFT is stored in:
- MQ_DATA_PATH/mqft

- In UNIX:
- /var/mqm/mqft

- In Windows:
- C:\Program Files (x86)\IBM\WebSphere MQ\mqft

Notes: fteSetupCoordination Linux (1)

notes

- The following is the output from the fteSetupCoordination command specified in the previous slide.
- Note: At this step, these commands are NOT executed, only stored in a file.
- BFGCM0242I: Direct the following MQSC definitions for your coordination queue manager 'MFT_LNX' to an MQSC session if you have not already done so.
- DEFINE TOPIC('SYSTEM.FTE') TOPICSTR('SYSTEM.FTE') REPLACE
- ALTER TOPIC('SYSTEM.FTE') NPMSGDLV(ALLAVAIL) PMSGDLV(ALLAVAIL)
- DEFINE QLOCAL(SYSTEM.FTE) LIKE(SYSTEM.BROKER.DEFAULT.STREAM) REPLACE
- ALTER QLOCAL(SYSTEM.FTE) DESCR('Stream for MQMFT Pub/Sub interface')
- * Altering namelist: SYSTEM.QPUBSUB.QUEUE.NAMELIST
- * Value prior to alteration:
- DISPLAY NAMELIST(SYSTEM.QPUBSUB.QUEUE.NAMELIST)
- ALTER NAMELIST(SYSTEM.QPUBSUB.QUEUE.NAMELIST) +
- NAMES(SYSTEM.BROKER.DEFAULT.STREAM+
- ,SYSTEM.BROKER.ADMIN.STREAM,SYSTEM.FTE)
- * Altering PSMODE. Value prior to alteration:
- DISPLAY QMGR PSMODE
- ALTER QMGR PSMODE(ENABLED)

Notes: fteSetupCoordination Linux (2)

notes

- Note: The runmqsc commands from the previous slides are stored in the file mentioned below. You will need to execute the commands later on.

- BFGCM0243I: A file has been created that contains the MQSC definitions for your coordination queue manager. The file can be found here: '/var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc'.

- The file permissions and ownership for the configuration directory for MFT are:
- ls -dl /var/mqm/mqft
- drwxrwsr-x 6 mqm mqm 4096 2014-01-17 10:36 /var/mqm/mqft
- ls -dl /var/mqm/mqft/config/
- drwxrwsr-x 3 mqm mqm 4096 2014-01-17 10:36 /var/mqm/mqft/config/

- This means that in MQ MFT 7.5, the configuration information is stored in the above directories and only the user "mqm" or members of the group "mqm" can modify the configuration information.

Notes: fteSetupCoordination Linux (3)

notes

- In addition to the runmqsc file, the following files are also created:

- - Coordination queue manager directory
- /var/mqm/mqft/config/MFT_LNX

- - Data directory (if this does not exist)
- /var/mqm/mqft/logs/MFT_LNX

- - installation.properties file
- /var/mqm/mqft/installations/Installation2/installation.properties
- Notice that "Installation2" is the installation in this test machine for MQ 7.5, because multi-version is being exploited (7.0 in Installation0, 7.1 in Installation1).

- Contents of the installation.properfies file:
- defaultProperties=MFT_LNX

Notes: fteSetupCoordination Linux (4)

notes

- - coordination.properties file
  /var/mqm/mqft/config/MFT_LNX/coordination.properties

Contents of the coordination.properties file:
coordinationQMgr=MFT_LNX
coordinationQMgrHost=linuxbox.x.com
coordinationQMgrChannel=SYSTEM.ADMIN.SVRCONN
CoordinationQMgrPort=1424

Coordination queue manager - Linux

- Configure the queue manager to act as the coordination queue manager.
- You need to runmqsc using the MQSC file generated in step 2.

- **runmqsc MFT_LNX < /var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc**

Coordination queue manager Windows

- Specify in Windows, which is the coordination queue manager (MFT_LNX in Linux)
- Open a Windows command prompt as an Administrator:
- Issue the following command to create the properties files and the coordination queue manager directory:

- **fteSetupCoordination -coordinationQMgr MFT_LNX -coordinationQMgrHost linuxbox.x.com**
- **-coordinationQMgrPort 1424**
- **-coordinationQMgrChannel SYSTEM.ADMIN.SVRCONN**

Coordination queue manager Windows

- The mqsc file that was generated earlier for Linux is the one that was used with runmqsc to add the objects for the coordination queue manager in Linux.
  - Using runmqsc with the mqsc coordination data is a one-time task, and there is no need to repeat it.
- But the important part of issuing the fteSetupCoordination command in Windows is the creation of the configuration
- files and directories.

Notes: fteSetupCoordination Windows (5)

notes

- The following directory is created
- C:\Program Files (x86)\IBM\WebSphere MQ\mqft

The following commands will show the directory structure:
cd C:\Program Files (x86)\IBM\WebSphere MQ\mqft
dir /b /s *

MQ_DATA_PATH\mqft\config
MQ_DATA_PATH\mqft\config\MFT_LNX
MQ_DATA_PATH\mqft\config\MFT_LNX\coordination.properties
MQ_DATA_PATH\mqft\config\MFT_LNX\MFT_LNX.mqsc

MQ_DATA_PATH\mqft\installations
MQ_DATA_PATH\mqft\installations\Installation2
MQ_DATA_PATH\mqft\installations\Installation2\installation.properties

MQ_DATA_PATH\mqft\logs
MQ_DATA_PATH\mqft\logs\MFT_LNX

Command queue manager Linux (QM_LNX)

- 3) In the Linux box, define which queue manager handles file transfer commands, in this case, QM_LNX.
- Use the fteSetupCommands command to create a command.properties file in the coordination queue manager configuration directory.
- **fteSetupCommands -connectionQMgr QM_LNX -connectionQMgrHost linuxbox.x.com -connectionQMgrPort 1432 -connectionQMgrChannel SYSTEM.ADMIN.SVRCONN**

Notes: fteSetupCommands Linux (1)

notes

- The following directory is created
- /var/mqm/mqft/config/MFT_LNX/command.properties
- The contents of the file is:
- connectionQMgrChannel=SYSTEM.ADMIN.SVRCONN
- connectionQMgrPort=1432
- connectionQMgrHost=linuxbox.x.com
- connectionQMgr=QM_LNX

Command queue manager Windows (QM_WIN)

- In the Windows box, define which queue manager handles file transfer commands, in this case, QM_WIN
- Use the fteSetupCommands command to create a command.properties file in the coordination queue manager configuration directory.
- **fteSetupCommands -connectionQMgr QM_WIN -connectionQMgrHost windosbox.x.com -connectionQMgrPort 1420 -connectionQMgrChannel SYSTEM.ADMIN.SVRCONN**

Notes: fteSetupCommands Windows (2)

notes

- The following directory is created

MQ_DATA_PATH\mqft\config\MFT_LNX\command.properties

The contents of the file is:

```
connectionQMgrChannel=SYSTEM.ADMIN.SVRCONN
connectionQMgrPort=1420
connectionQMgrHost=windosbox.x.com
connectionQMgr=QM_WIN
```

Create agent QM_LNX in Linux - a

- 4.a) Prepare a file transfer agent QM_LNX, including MQSC scripts that you must run against the queue manager that the agent connects to, in this case, QM_LNX

- Note that the channel is SYSTEM.ADMIN.SVRCONN because to keep this scenario as simple as possible, it is the channel for which the MQ Administrator has been configured to have remote access, to avoid rc 2035

Create agent QM_LNX in Linux

- The following command creates an mqsc output file and directories and other files.

- **fteCreateAgent -agentName AGENT_LNX**
  -agentQMgr QM_LNX
  -agentQMgrHost linuxbox.x.com
  -agentQMgrPort 1432
  -agentQMgrChannel SYSTEM.ADMIN.SVRCONN

Notes: fteCreateAgent Linux (1)

notes

- This command creates a configuration directory for the agent. In this case:

  /var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX

The files are:
AGENT_LNX_create.mqsc
AGENT_LNX_delete.mqsc
agent.properties
exits/ = > it is a directory
UserSandboxes.xml

The MQSC commands to create the objects for the agent are also supplied in a file in the following location:
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_create.mqsc

Notes: fteCreateAgent Linux (2)

notes

- If you later want to delete the agent, this command also provides you with the MQSC commands you must run to clear then delete the queues used by the agent. The MQSC commands are in a file in the following location:
- /var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/ AGENT_LNX_delete.mqsc

- MQ Managed File Transfer provides advanced agent properties that help you configure agents. These properties are described in the agent.properties file.
- The contents in this example is:

```
agentQMgr=QM_LNX
agentQMgrPort=1432
agentDesc=
agentQMgrHost=linuxbox.x.com
agentQMgrChannel=SYSTEM.ADMIN.SVRCONN
agentName=AGENT_LNX
```

Create agent QM_LNX in Linux - b

- 4.b) Configure the connection queue manager QM_LNX to handle the agent.
- The following is in small font to ensure to fit the whole command in a single line:
  - **runmqsc QM_LNX < /var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_create.mqsc**

Create agent QM_WIN in Windows - a

- 4.c) Prepare a file transfer agent QM_WIN including MQSC scripts that you must run against the queue manager that the agent connects to, in this case, QM_WIN

- **fteCreateAgent -agentName AGENT_WIN -agentQMgr QM_WIN -agentQMgrHost windosbox.x.com -agentQMgrPort 1420 -agentQMgrChannel SYSTEM.ADMIN.SVRCONN**

Create agent QM_WIN in Windows - b

- 4.d) Configure the connection queue manager QM_WIN to handle the agent.
- The following is in small font to ensure to fit the whole command in a single line:
- **runmqsc QM_WIN < MQ_DATA_PATH\mqft\config\MFT_LNX\agents\AGENT_WIN\AGENT_WIN_create.mqsc**

File linear logger LOGGER_LNX - 1

- 5) Because we want to be able to know all the file transfers that are done, it is necessary to have a logger.
- The simplest logger is type File, which is linear in nature. A database is not needed for this type of logger.

- Linux:
- **fteCreateLogger -loggerType FILE -loggerQMgr MFT_LNX -fileLoggerMode LINEAR -fileSize 5MB LOGGER_LNX**

File linear logger LOGGER_LNX - 2

- Similarly with the creation of an agent, it is necessary to run the mqsc command file:
  - **runmqsc MFT_LNX < /var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_create.mqsc**

Notes: fteCreateLogger Linux

notes

- The following directories and files are created:

/var/mqm/mqft/config/MFT_LNX/loggers
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_create.mqsc
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/logger.properties
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/FileLoggerFormat.xml
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_delete.mqsc

- The following file has the properties for the logger:

/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/logger.properties

- The contents are:

wmqfte.logger.name=LOGGER_LNX
wmqfte.file.logger.fileSize=5MB
wmqfte.file.logger.mode=LINEAR
wmqfte.logger.type=FILE
wmqfte.queue.manager=MFT_LNX

Starting the logger

- Linux:
- $ **fteStartLogger LOGGER_LNX**
- BFGCL0287I: The request to start the logger on this machine has been submitted.
- BFGCL0526I: Logger log files located at: /var/mqm/mqft/logs/MFT_LNX/loggers/LOGGER_LNX

Starting the Agent in Windows

Windows:

- C:\> **fteStartAgent AGENT_WIN**

  C:\Windows\System32>fteStartAgent AGENT_WIN

  BFGCL0030I: The request to start agent 'AGENT_WIN' on this machine has been submitted.

  BFGCL0031I: Agent log files located at: MQ_DATA_PATH\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs

Starting the Agent - output0.log

- In this case, the agent log file that we want to look at is:
- MQ_DATA_PATH\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\output0.log

- Example of the output (located at the bottom of the file) that confirms that the agent started fine:

- [20/01/2014 10:03:54:671 EST] 00000001 AgentRuntime I BFGAG0058I: The agent has successfully initialized.
- [20/01/2014 10:03:55:331 EST] 00000001 AgentRuntime I BFGAG0059I: The agent has been successfully started.

Starting the Agent in Linux

- Linux:
- $ **fteStartAgent AGENT_LNX**
- BFGCL0030I: The request to start agent 'AGENT_LNX' on this machine has been submitted.
- BFGCL0031I: Agent log files located at: /var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs

Pinging the agents - Windows

- The ftePingAgent command pings an agent to determine whether the agent is active and able to process transfers.

- **ftePingAgent -m QM_WIN -w 10 AGENT_WIN**
- BFGCL0212I: Issuing ping request to agent AGENT_WIN
- BFGCL0213I: agent AGENT_WIN responded to ping in 0.12 seconds.

- **ftePingAgent -m QM_LNX -w 10 AGENT_LNX**
- BFGCL0212I: Issuing ping request to agent AGENT_LNX
- BFGCL0213I: agent AGENT_LNX responded to ping in 0.67 seconds.

Pinging the agents - Linux

- $ **ftePingAgent -m QM_WIN -w 10 AGENT_WIN**
- BFGCL0212I: Issuing ping request to agent AGENT_WIN
- BFGCL0213I: agent AGENT_WIN responded to ping in 0.704 seconds.

- $ **ftePingAgent -m QM_LNX -w 10 AGENT_LNX**
- BFGCL0212I: Issuing ping request to agent AGENT_LNX
- BFGCL0213I: agent AGENT_LNX responded to ping in 0.556 seconds.

Listing the agents - BFGCL0014W

- Troubleshooting Note: If you issue the command "fteListAgents" and you get the following message:
- BFGCL0014W: No agents exist that match the current selection criteria.

- Then check the flowchart described in:
- http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.wmqfte.doc/list_agents_pd.htm
- WebSphere MQ Managed File Transfer > Troubleshooting and support > General troubleshooting
- What to do if your agent is not listed by the fteListAgents command

Listing the agents - unreachable

- $ **fteListAgents**

Agent Name:	Queue Manager Name:	Status:
AGENT_LNX	QM_LNX	READY
AGENT_WIN	QM_WIN	**UNREACHABLE**

- Troubleshooting note:

Notice that Status for AGENT_WIN is UNREACHABLE.

http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.wmqfte.doc/trouble_agent_unreachable.htm

WebSphere MQ Managed File Transfer > Troubleshooting and support > General troubleshooting

What to do if the fteListAgents command shows an agent status of UNREACHABLE

Listing the agents - successful

- After fixing the problems mentioned in the previous slides, the listing of the agents is successful

- $ **fteListAgents**
- Agent Name: Queue Manager Name: Status:
- AGENT_LNX QM_LNX READY
- AGENT_WIN QM_WIN READY

- Now we can proceed with a file transfer

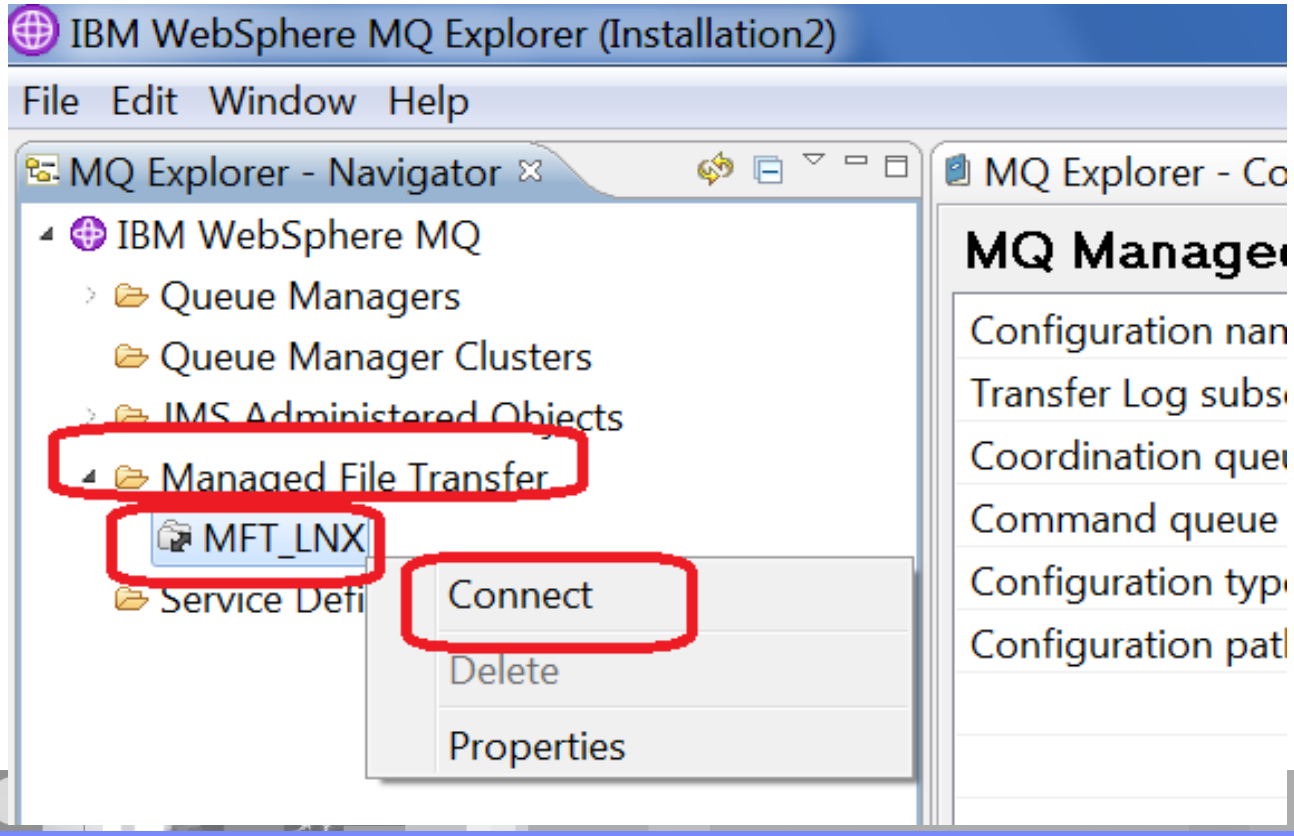
Using MQ Explorer MFT plugin

- To learn the transfer command it is best to start with wizard from the MQ Explorer

- In the left Navigator panel, scroll down to the bottom and expand:
- Managed File Transfer
- You will see the entry for the Coordination queue manager: MFT_LNX

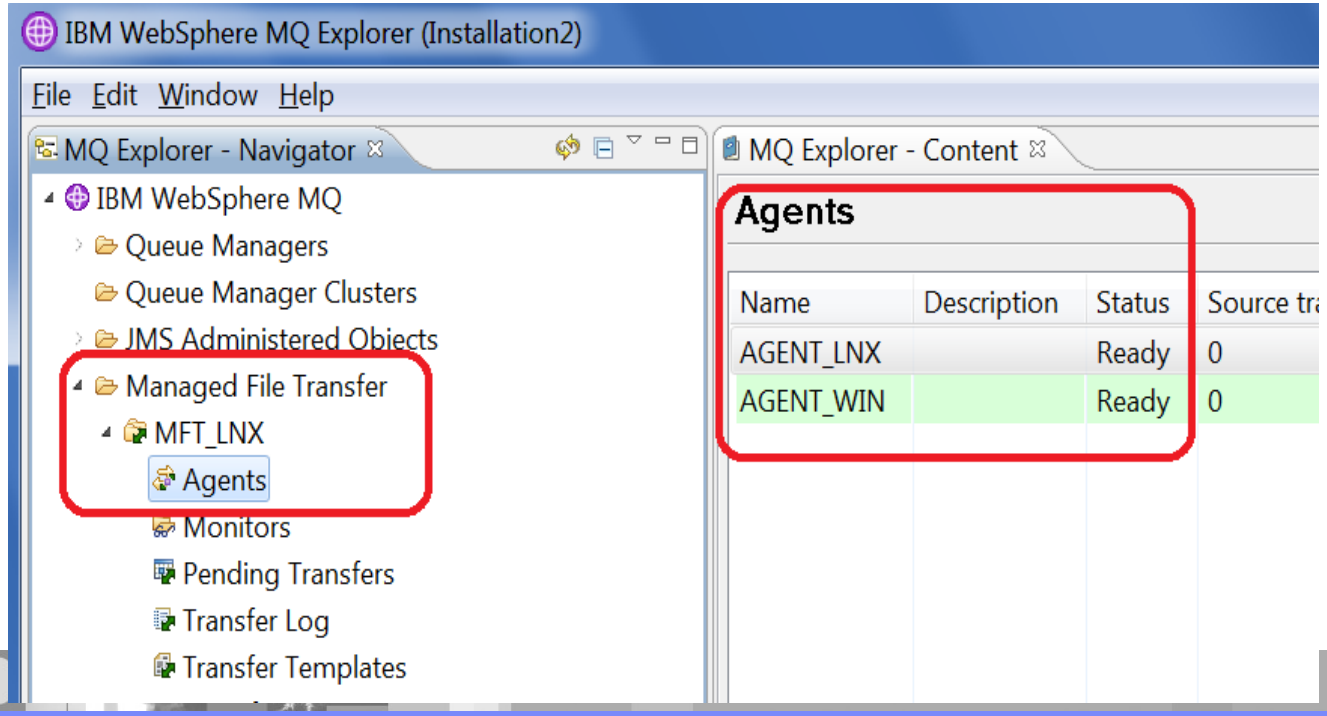
Connect to the coordination queue manager

- You need to “Connect” to the queue manager in order to see the agents and perform file transfers.



Ensure that Agents have Status 'Ready'

- The following shows the status of the agents.
- Before proceeding with the file transfer, ensure that both of them are in Status “Ready”

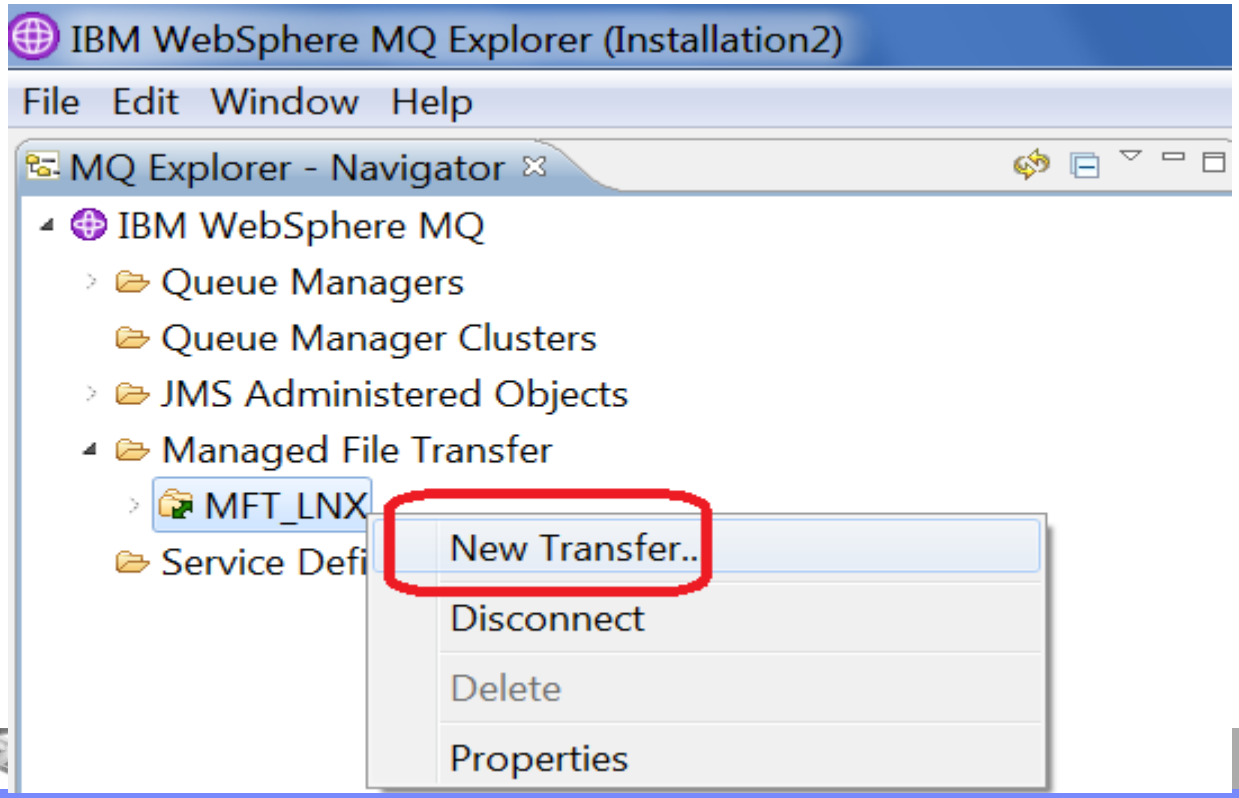


File transfer via MQ Explorer

- The testing scenario is a single transfer via MQ Explorer of a text file
- The text file resides in the Windows host:
- C:\temp\mft> dir *
- 01/21/2014 09:46 AM 61 test-file.txt
- 1 File(s) 61 bytes
- Full path name:
- C:\temp\mft\test-file.txt

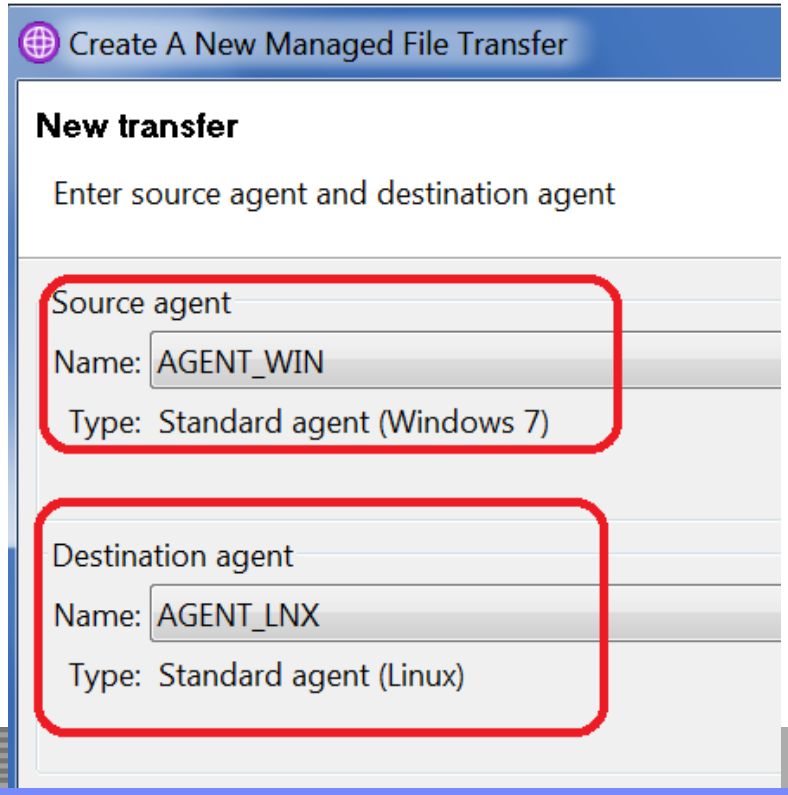
File transfer via MQ Explorer

- Select coordination queue manager and right click.
- Select “New Transfer ...”



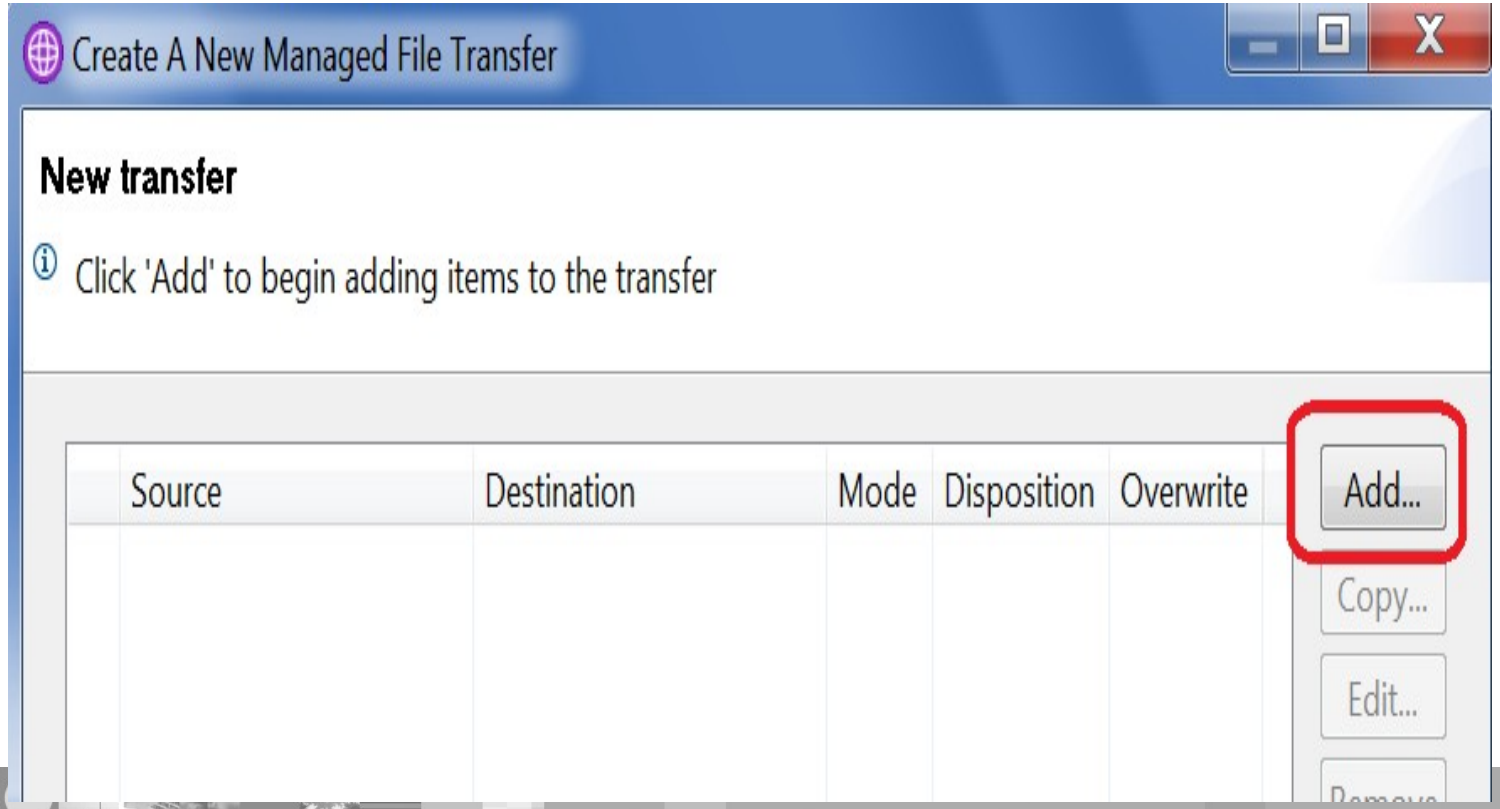
File transfer via MQ Explorer

- Select the "Source agent" AGENT_WIN
- and the "Destination agent" AGENT_LNX



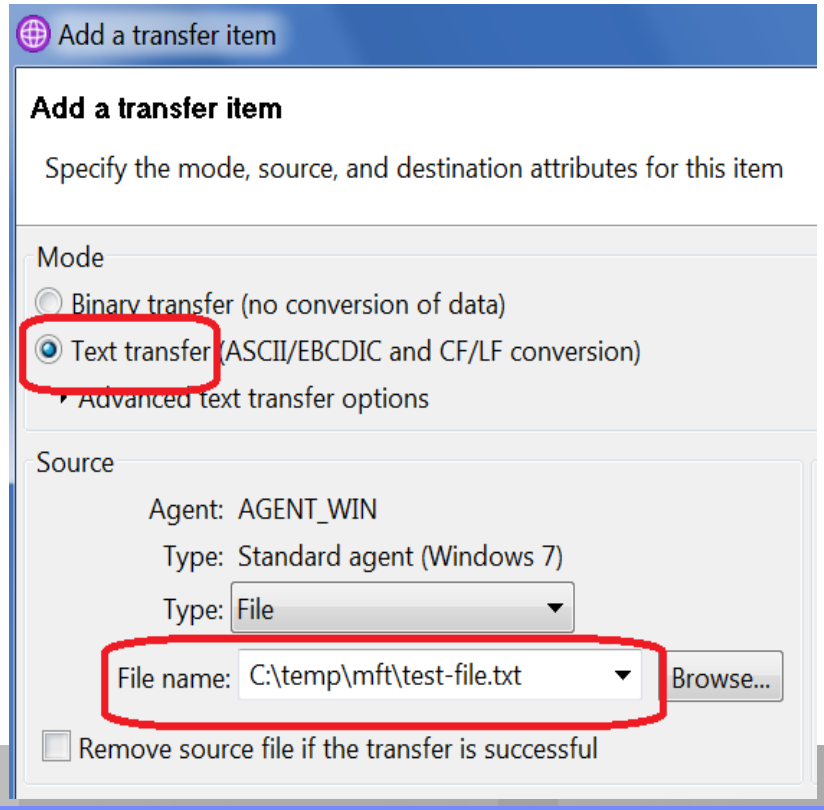
File transfer via MQ Explorer

- Click on "Add" to select the file to be transferred:



File transfer via MQ Explorer

- You will see a rather wide dialog. To better show the 2 sides, one side is shown at a time.
- The left side is the Source.
- Notice “Text” is selected.
- File name is
- full path name:
- C:\temp\mft\test-file.txt

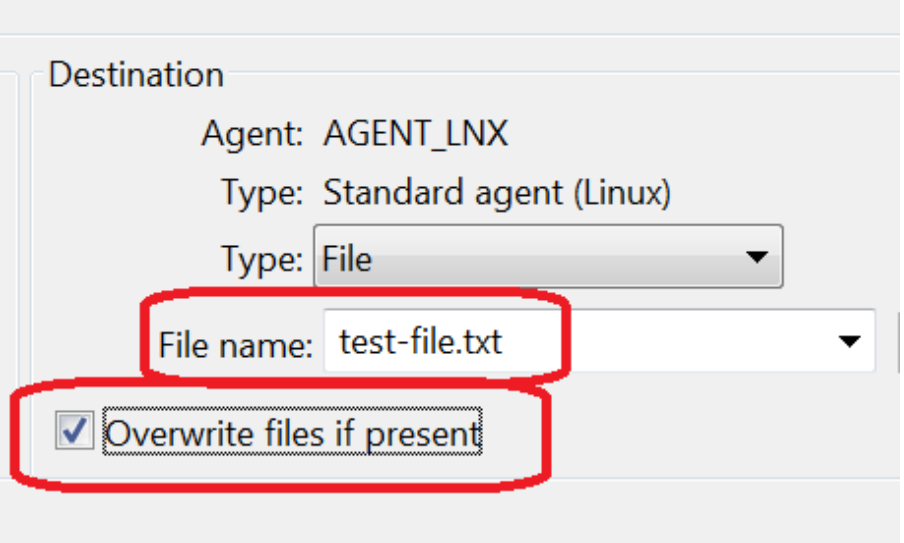


File transfer via MQ Explorer

- The right side is the Destination.
- Enter the name of the file at the destination:
- test-file.txt
- Notice that the use of relative paths is supported.
- The top portion of the final full path is the HOME of the userid who starts the destination agent.
- In this case, the AGENT_LNX was started by userid 'rivera' and the HOME directory is /home/rivera
- This means that the full path of the destination file will be: /home/rivera/test-file.txt

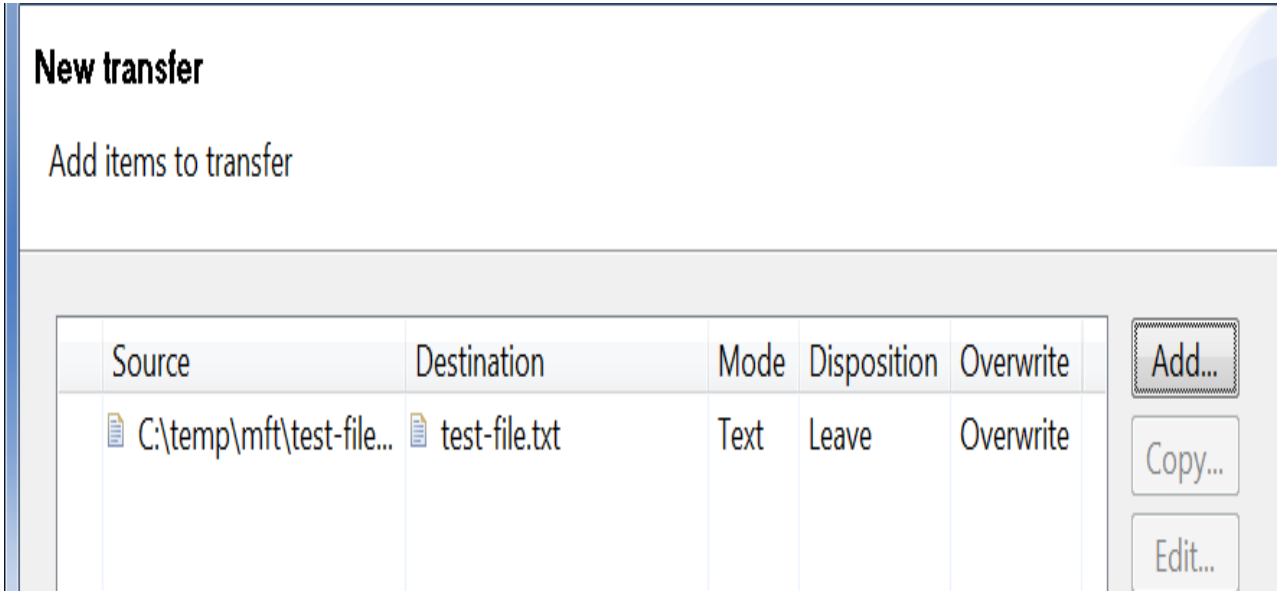
File transfer via MQ Explorer

- For this test, this checkbox was explicitly selected.
- "Overwrite files if present"



File transfer via MQ Explorer

- Notice that the desired file is added to the list of files to be transferred:



- Skip the rest of the prompts, until the Summary

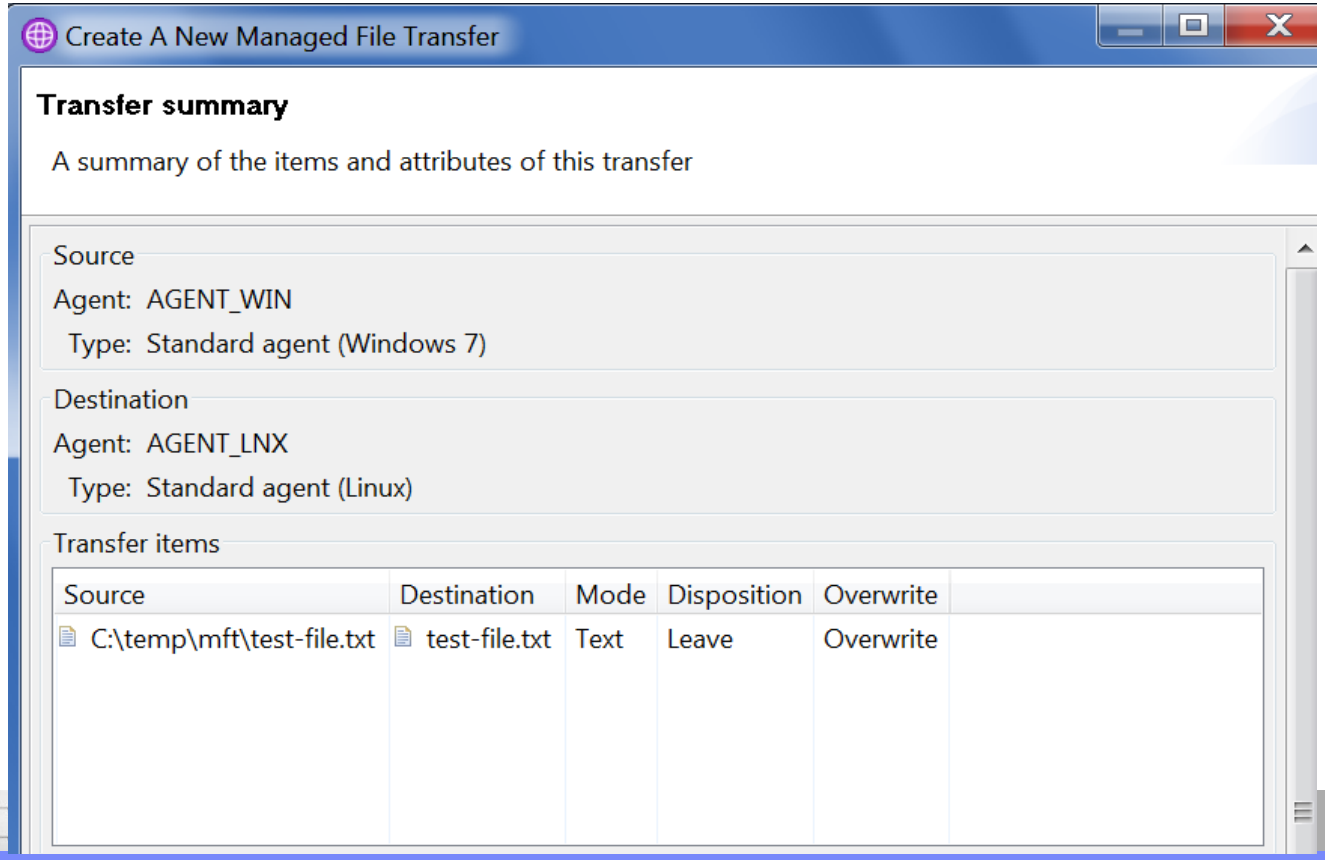
File transfer via MQ Explorer

- You will see the Summary for the transfer.
- Notice the "Command Preview" that shows the actual command line that you can use to replicate this scenario without using the MQ Explorer.
- This is a neat feature!
- In this case, the command is:

fteCreateTransfer -sa AGENT_WIN -sm QM_WIN -da AGENT_LNX -dm QM_LNX -t text -de overwrite -df "test-file.txt" "C:\temp\mft\test-file.txt"

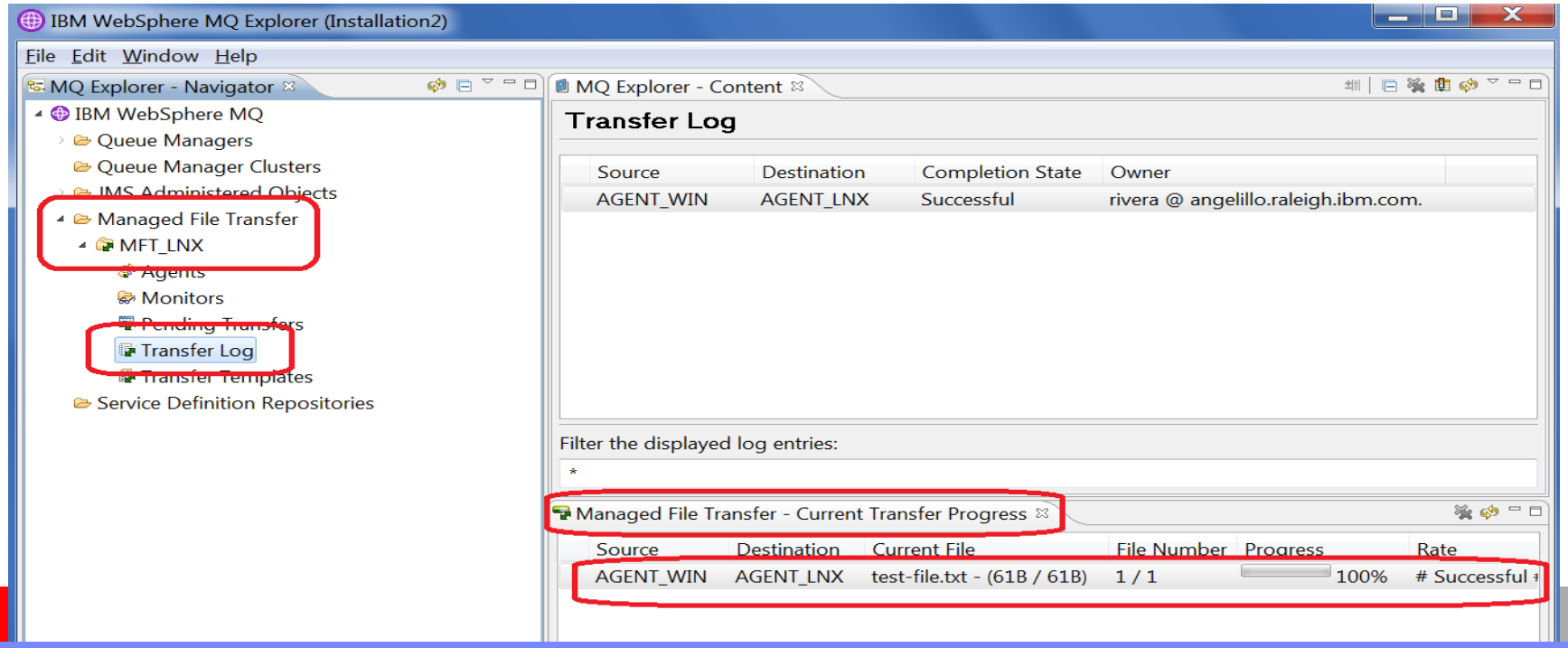
File transfer via MQ Explorer

- Transfer summary



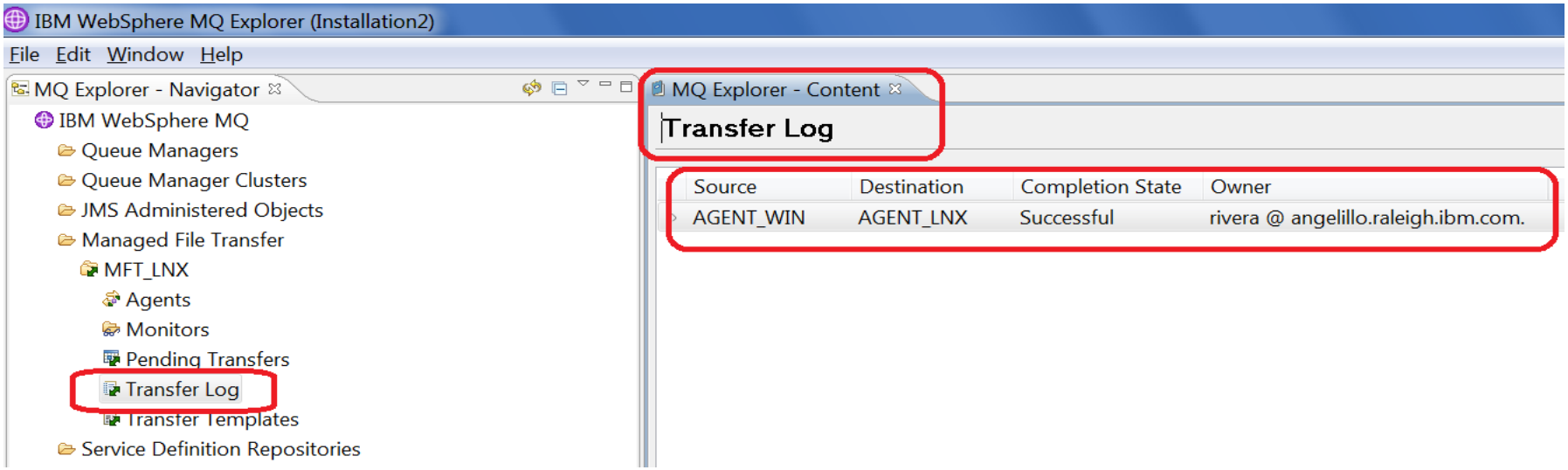
File transfer via MQ Explorer

- Click on Transfer Log in left panel.
  You will see the progress under the tab "Managed File Transfer - Current Transfer Progress".



File transfer via MQ Explorer

- Click on the tab "MQ Explorer - Content":



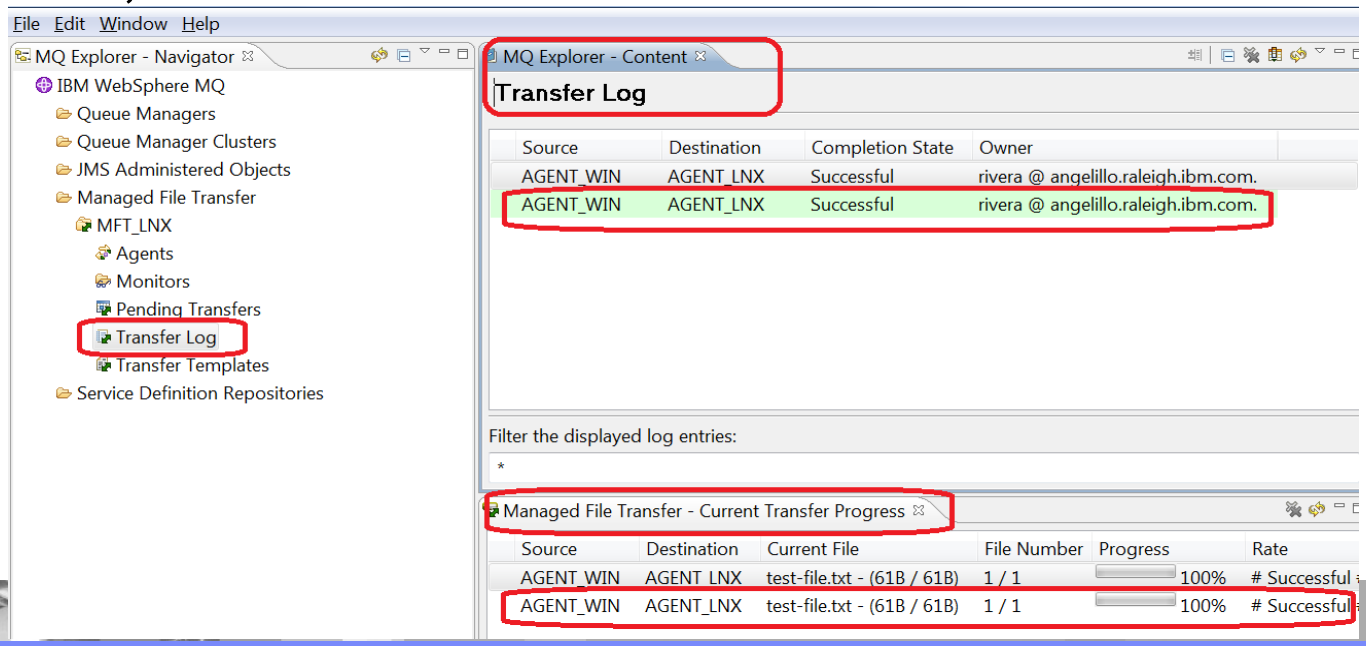
- Verify that file was received in UNIX
- $ ls -l /home/rivera/test*
- -rw-rw-r-- 1 rivera mqm 22 2012-01-17 test-file.txt

File transfer via line command

- While specifying the file transfer via the MQ Explorer, the Summary page generated the equivalent command line to achieve the same result. Let's run it:
- C:\> **fteCreateTransfer -sa AGENT_WIN -sm QM_WIN -da AGENT_LNX -dm QM_LNX -t text -de overwrite -df "test-file.txt" "C:\temp\mft\test-file.txt"**
- BFGCL0035I: Transfer request issued. The request ID is: 414d5120514d5f57494e202
- 0202020209059de5220007d03
- BFGCL0182I: The request is now waiting to be processed by the agent.

File transfer

- The result was successful, as shown in the Transfer Log in the MQ Explorer.
- The first entry was from MQ Explorer
- The second, from line command.



Reviewing the data captured in the logger

- Log in to the Linux machine and change to the directory where the logs for the logger are stored:
- cd /var/mqm/mqft/logs/MFT_LNX/loggers/LOGGER_LNX
- There is a *.log file
- $ ls -l
- -rw------- 1 rivera mqm 2394 2014-01-21 10:42 LOGGER_LNX-20140120131204787.log

Notes: logger data - 1

notes

- Notice that there are 2 sets of entries, one for each of the test file transfers that were done: the first via MQ Explorer and the second via the command line.
- Each set has 3 parts.
- Only one set is shown in this slide.
- For illustration purposes, monospace lines have been added in blue to annotate the observations.

- $ cat LOGGER_LNX-20140120131204787.log
- BFGDB0054I: The file logger has successfully started

- ### Set 1 Part 1:
- ### Start of the first file transfer (via MQ Explorer)
- 2014-01-21T15:09:56;414d5120514d5f57494e2020202020209059de5220006203;[TSTR];;AGENT_WIN;QM_WIN;STANDARD;AGENT_LNX;QM_LNX;rivera;;;com.ibm.wmqfte.SourceAgent=AGENT_WIN, com.ibm.wmqfte.DestinationAgent=AGENT_LNX, com.ibm.wmqfte.MqmdUser=rivera, com.ibm.wmqfte.OriginatingUser=rivera, com.ibm.wmqfte.OriginatingHost=windosbox.x.com., com.ibm.wmqfte.TransferId=414d5120514d5f57494e2020202020209059de5220006203, com.ibm.wmqfte.Priority=0;

Notes: logger data - 2

notes

- ### Set 1 Part 2:
- ### Actual file transfer (via MQ Explorer)
- 2014-01-21T15:17:47;414d5120514d5f57494e2020202020209059de5220006203;[TPRO];0 ;C:\temp\mft\test-file.txt;61;file;leave ;;;;;;/home/rivera/test-file.txt;59;file;overwrite;;;;;;;

- ### Set 1 Part 3
- ### Successful completion of first file transfer (via MQ Explorer)
- 2014-01-21T15:17:47;414d5120514d5f57494e2020202020209059de5220006203;[TCOM];0 ;AGENT_WIN;QM_WIN;STANDARD;AGENT_LNX;QM_LNX;STANDARD;rivera;;BFGRP0032I: The file transfer request has successfully
- completed.;com.ibm.wmqfte.SourceAgent=AGENT_WIN, com.ibm.wmqfte.DestinationAgent=AGENT_LNX, com.ibm.wmqfte.MqmdUser=rivera, com.ibm.wmqfte.OriginatingUser=rivera, com.ibm.wmqfte.OriginatingHost=windosbox.x.com., com.ibm.wmqfte.TransferId=414d5120514d5f57494e2020202020209059de5220006203, com.ibm.wmqfte.Priority=0;

Notes: logger data - 3

notes

- Notice the tokens [TSTR], [TPRO] and [TCOM] which are shown in the time stamp for each line in the logger.
- These tokens indicate the “status” of each command: Started, Progress, Complete.

- For more information see:
- http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.wmqfte.doc/logger_format_file.htm
- WebSphere MQ Managed File Transfer > Configuring > Configuring a logger > Installing the stand-alone file logger
- Stand-alone file logger format

- Table 1. Summary of supported message types and their "type" system inserts.
- (Excerpt)
- transferStarted [TSTR]
- transferCancelled [TCAN]
- transferComplete [TCOM]
- transferDelete [TDEL]
- transferProgress [TPRO]

Summary

- Overview of MQ MFT and its benefits
- Major Players in MFT
- What is new on MFT
- Full end to end MQ setup
- Step by step setup of MQ MFT components
- Learn about transferring files among two boxes

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- Learn about upcoming WebSphere Support Technical Exchange webcasts, and access previously recorded presentations at:
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