



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for Configuring the Mutare Software Message Mirror Solution with Avaya Modular Messaging - Issue 1.0**

### **Abstract**

These Application Notes describe a sample configuration for the Mutare Software Message Mirror solution with Avaya Modular Messaging.

Mutare Software Message Mirror is a solution for Avaya Modular Messaging that backs up the production system and copies/mirrors voice messages, names, greetings, passwords and LDAP changes to a backup Avaya Modular Messaging Message Store Server (MSS).

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

Mutare Software Message Mirror is a business continuity solution for Avaya Modular Messaging that backs up the production system and copies/mirrors voice messages, names, greetings, passwords and LDAP changes to a backup Avaya Modular Messaging Message Store Server (MSS) in real time. Message Mirror provides continued user access to voicemail in the event of an outage and supports full restoration of data to the production server once it is back on line.

These Application Notes describe a sample configuration for the Mutare Software Message Mirror solution with Avaya Modular Messaging. Compliance testing emphasis was placed on validating the Mutare Software Message Mirror software capability of mirroring the messages, names, greetings and passwords of the enterprise Avaya Modular Messaging system to a backup Avaya Modular Messaging system.

## 1.1. Interoperability Compliance Testing

This document describes the interoperability compliance testing for the Mutare Software Message Mirror solution with Avaya Modular Messaging.

Compliance testing included the following:

- Installation of Mutare Software Message Mirror software
- Mirror
  - messages
  - names
  - greetings
  - passwords
- Restore
  - messages
  - greetings
- Serviceability

## 1.2. Support

Mutare Technical Support Email: [support@mutare.com](mailto:support@mutare.com)

Mutare Technical Support Phone: 847-4496-9000 option 2.

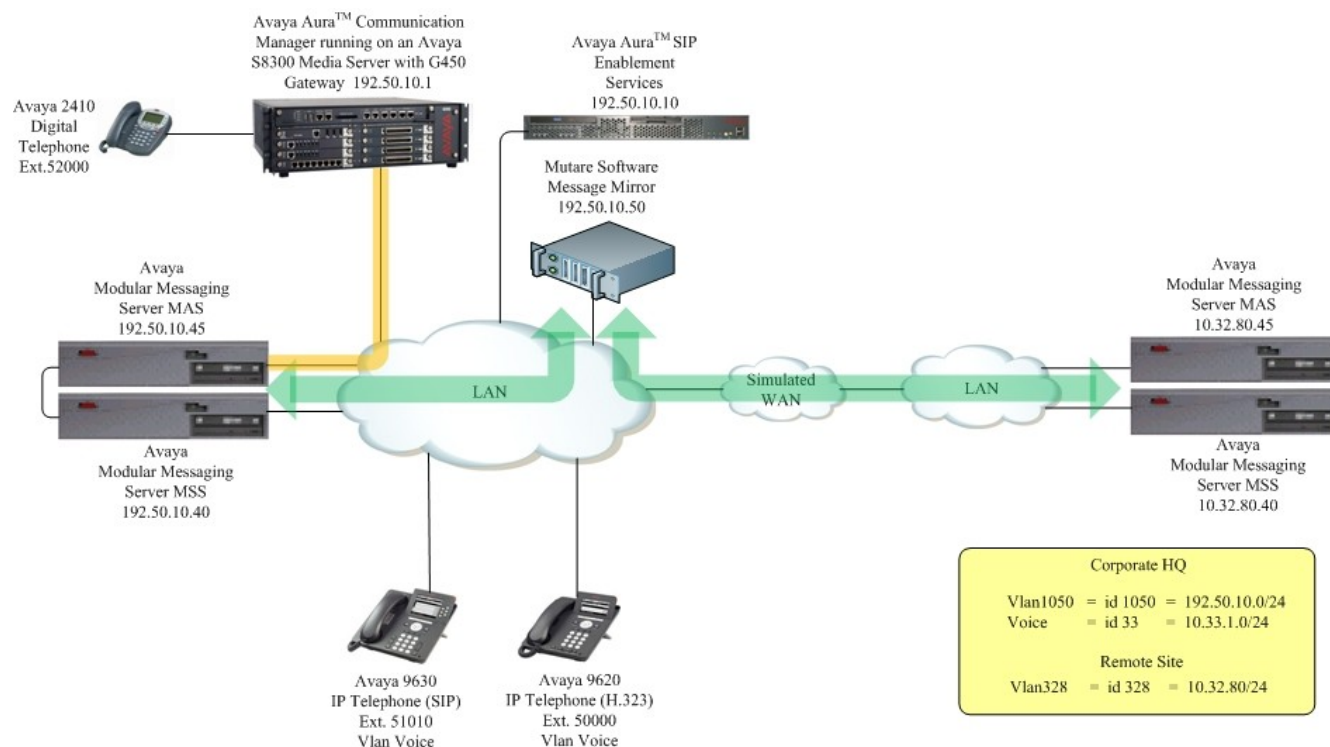
Mutare Technical Support Webpage: <http://mutare.com/support.asp>

# 2. Reference Configuration

The configuration in **Figure 1** shows an Avaya Telephony Infrastructure integrating a Mutare Software Message Mirror solution.

## 2.1. Corporate Headquarters

The configuration in **Figure 1** shows an Avaya Telephony Infrastructure consisting of Avaya Aura™ Communication Manager, Avaya Aura™ SIP Enabled Services and multiple Avaya Modular Messaging systems integrating a Mutare Software Message Mirror solution.



**Figure 1: Sample Network Configuration**

### 3. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment	Software/Firmware
<b><i>Avaya PBX Products</i></b>	
Avaya S8300 Server running Avaya Aura™ Communication Manager	Avaya Aura™ Communication Manager 5.2.1
Avaya G450 Media Gateway (Corporate Site) MGP MM712 DCP Media Module	28.22.0 HW9
<b><i>Avaya Aura™ SIP Enablement Services (SES)</i></b>	
Avaya Aura™ SIP Enabled Services (SES) Server	5.2.1 SP2
<b><i>Primary Avaya Modular Messaging</i></b>	
Avaya Modular Messaging - Messaging Application Server (MAS)	5.2
Avaya Modular Messaging - Message Storage Server (MSS)	5.2
<b><i>Backup Avaya Modular Messaging</i></b>	
Avaya Modular Messaging - Messaging Application Server (MAS)	5.2
Avaya Modular Messaging - Message Storage Server (MSS)	5.2
<b><i>Avaya Telephony Sets</i></b>	
Avaya 9600 Series IP Telephones	Avaya one-X Deskphone Edition 3.0.1
Avaya 9600 Series IP Telephones	Avaya one-X Deskphone SIP 2.4
Avaya 2410 Digital Telephone	5.0
<b><i>Mutare Software Products</i></b>	
Mutare Software Message Mirror	1.4.1
<b><i>MS Products</i></b>	
Microsoft Windows 2003 Server (Running the Mutare Software Message Mirror)	Microsoft Windows 2003 Server

## 4. Avaya Aura™ Communication Manager

This section describes the steps required for Avaya Aura™ Communication Manager to support the configuration shown in **Figure 1**. The assumption is that the appropriate license and authentication files have been installed on the servers and that login and password credentials are available.

- It is assumed that Avaya Aura™ Communication Manager, Avaya Aura™ SIP Enabled Services and both Avaya Modular Messaging are configured, only settings specific to the Mutare Software Message Mirror solution will be shown in this document. Refer to [1], [2], and [3] for more information

## 5. Primary Avaya Modular Messaging

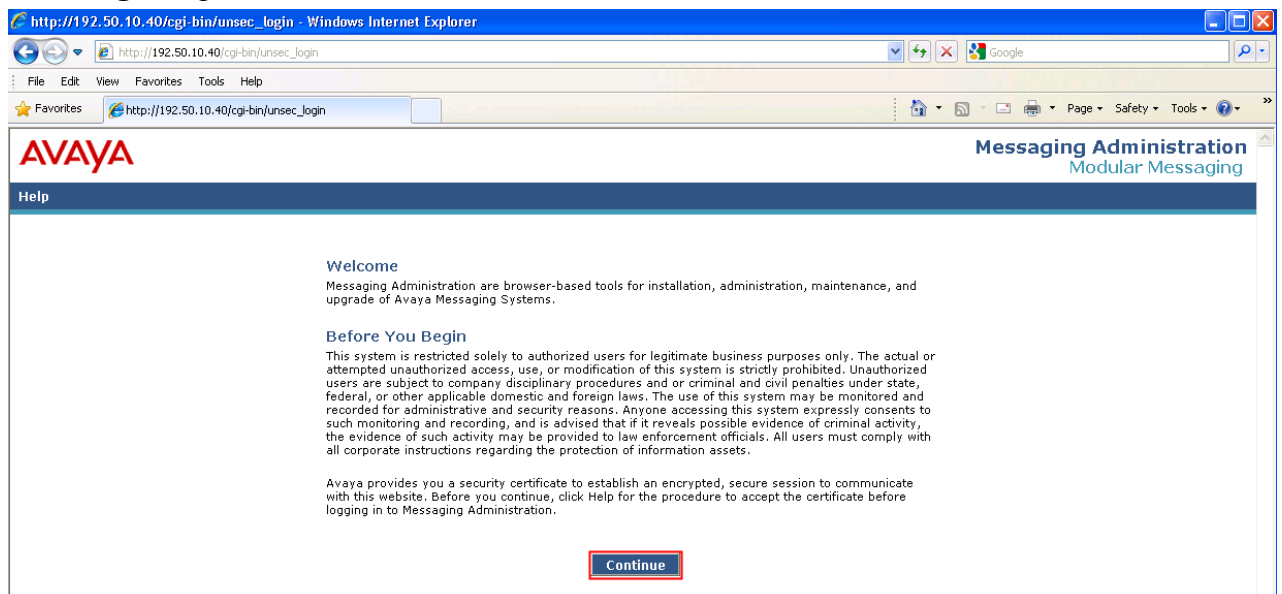
The Mutare Software Message Mirror solution requires that the IP Address of the server be a trusted host on the Avaya Modular Messaging.

Thanks

- Except where stated, the parameters in all steps are the default settings and are supplied for reference.

### 5.1. Define a Trusted Server on Avaya Modular Messaging

1. Connect to the Modular Messaging Administration page. For this example <http://192.50.10.40> was used. Select **Continue**. Enter the appropriate **Username** and **Password** information (not shown), click **Login** to proceed.



2. Select **Messaging Administration** → **Trusted Servers**. The Manage Trusted Servers webpage appears (not shown), select the **Add a New Trusted Server** tab. The Add Trusted Server webpage appears. Enter the following:

- **Trusted Server Name** - Mutare
- **Password** - Enter a password (This password needs to the Mutare Software Engineer that is installing the Mutare Software Message Mirror software)
- **Confirm Password** – Reenter the password
- **Machine Name / IP Address** - 192.50.10.50 (IP Address where Mutare application is installed)
- **Service Name** - Mutare
- **IMAP4 Super User Access Allowed** – Yes

Messaging Administration - Windows Internet Explorer  
https://192.50.10.40/cgi-bin/do\_login  
Certificate Error  
Google

File Edit View Favorites Tools Help  
Favorites Messaging Administration

AVAYA  
Modular Messaging  
Messaging Administration  
This server: 192.50.10.40

Help Log Off

Messaging Administration  
Subscriber Management  
Activity Log Configuration  
Messaging Attributes  
Classes-of-Service  
Enhanced-Lists  
Sending Restrictions  
System Administration  
Request Remote Update  
Networked Machines  
Trusted Servers  
Server Administration  
Configure Using DCT  
TCP/IP Network Configuration  
External Hosts  
MAS Host Setup  
MAS Host Send  
Windows Domain Setup  
Console Reboot Option  
Date/Time/NTP Server  
Syslog Server  
Modem/Terminal Display  
Modem/Terminal Configuration  
Modem/Terminal Removal  
TCP/IP Service Settings  
SMTP/SMTP Administration  
SMTP Options  
Mail Options  
IMAP/SMTP Status  
Server Information  
Server Status  
Alarm Summary

### Add Trusted Server

Trusted Server Name	Mutare	Password	*****
		Confirm Password	*****
Machine Name / IP Address	192.50.10.50	Service Name	Mutare
Minutes of Inactivity Before Alarm	0	Default Community	1
Access to Cross Domain Delivery	no	Special Type	(none)
LDAP Access Allowed	yes	LDAP Connection Security	No encryption required
IMAP4 Super User Access Allowed	yes	IMAP4 Super User Connection Security	Must use SSL or encrypted SASL

Save  
Back Help

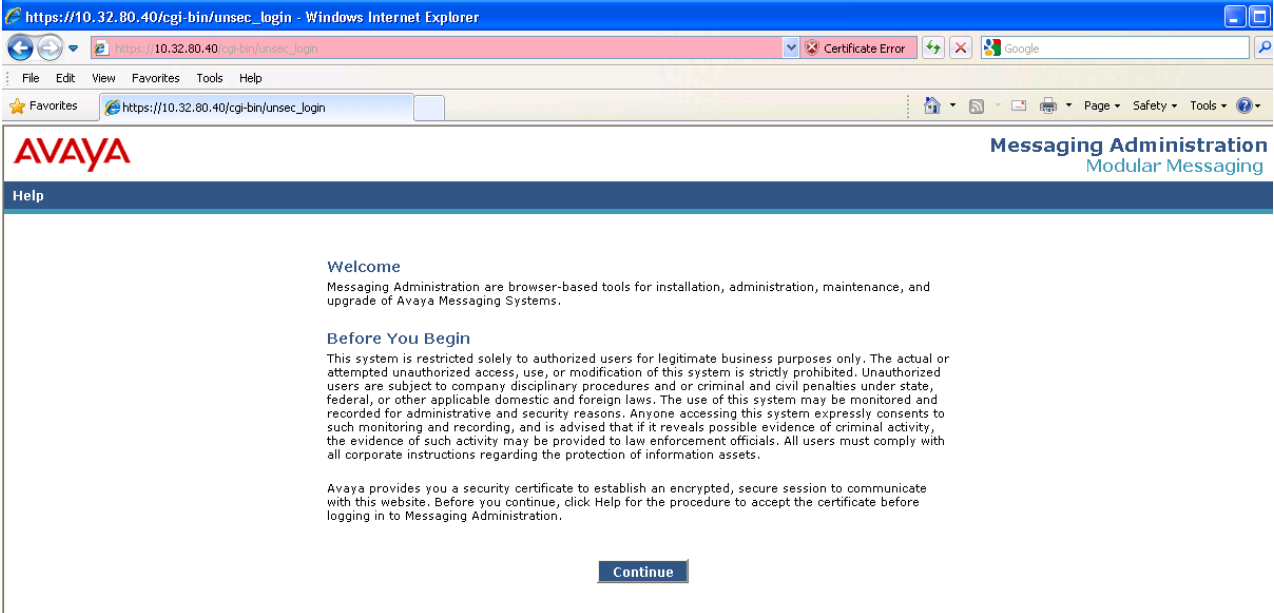
## 6. Backup Avaya Modular Messaging

The Mutare Software Message Mirror solution requires a few configuration settings the backup Avaya Modular Messaging. They are as follows:

- Configure the Mutare Software Message server as a trusted host
- Disable New Mailbox Initialization
- Change class-of-service (COS) values for Maximum Call Answer Message and Maximum Voice Mail Message
- Disable Modular Messaging (MM) Message Waiting Indicator (MWI) process

Except where stated, the parameters in all steps are the default settings and are supplied for reference.

### 6.1. Define a Trusted Server on Avaya Modular Messaging

1.	<p>Connect to the Modular Messaging Administration page. For this example <code>http://10.32.80.40</code> was used. Select <b>Continue</b>. Enter the appropriate <b>Username</b> and <b>Password</b> information (not shown), click <b>Login</b> to proceed.</p> 
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2. Select **Messaging Administration → Trusted Servers**. The Manage Trusted Servers webpage appears (not shown), select the **Add a New Trusted Server** tab. The Add Trusted Server webpage appears. Enter the following:

- **Trusted Server Name** - Mutare
- **Password** - Enter a password (This password needs to the Mutare Software Engineer that is installing the Mutare Software Message Mirror software)
- **Confirm Password** – Reenter the password
- **Machine Name / IP Address** - 192.50.10.50 (IP Address where Mutare application is installed)
- **Service Name** - Mutare
- **IMAP4 Super User Access Allowed** – Yes

Messaging Administration - Windows Internet Explorer

https://10.32.80.40/cgi-bin/do\_login

Avaya Modular Messaging Messaging Administration

This server: 10.32.80.40

Help Log Off

**Add Trusted Server**

Trusted Server Name	Mutare	Password	*****
		Confirm Password	*****
Machine Name / IP Address	192.50.10.50	Service Name	Mutare
Minutes of Inactivity Before Alarm	0	Default Community	1
Access to Cross Domain Delivery	no	Special Type	(none)
LDAP Access Allowed	yes	LDAP Connection Security	No encryption required
IMAP4 Super User Access Allowed	yes	IMAP4 Super User Connection Security	Must use SSL or encrypted SASL

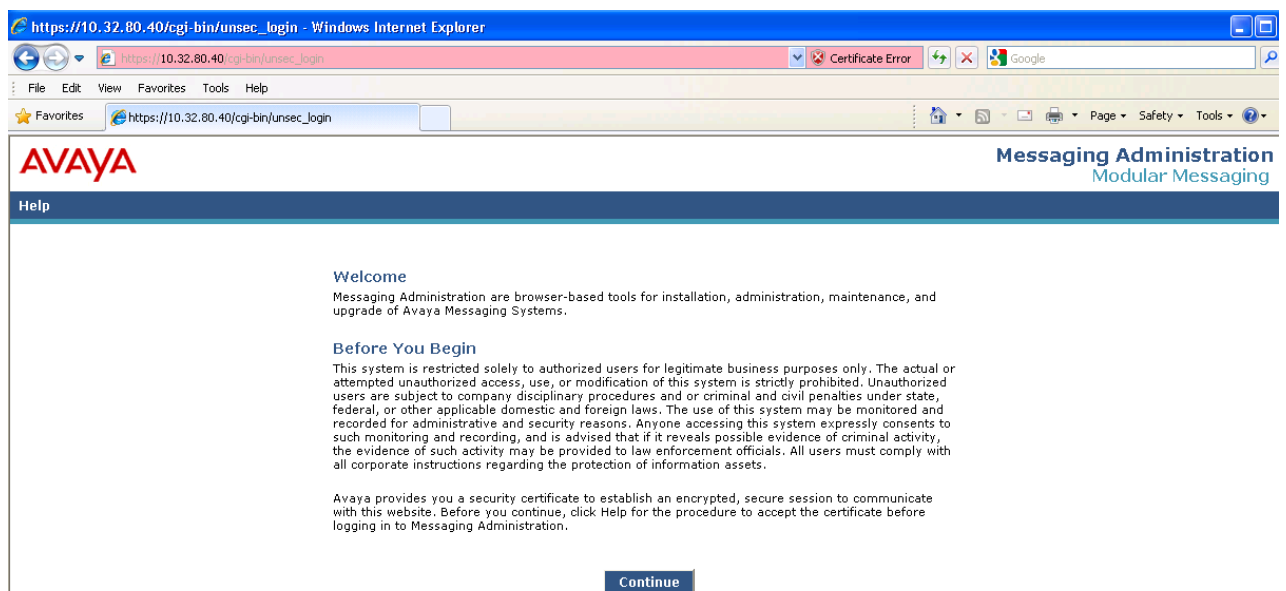
Save Back Help



## 6.2. Change Maximum Call Answer Message and Maximum Voice Mail Message settings

In order for maximum length messages to be mirrored to the backup MM system, the “Maximum Call Answer Message” and “Maximum Voice Mail Message” values in the COS for those mailboxes must be at least one minute longer than the corresponding COS on the production MM.

1. Connect to the Modular Messaging Administration page, For this example <http://10.32.80.40> was used. Select **Continue**. Enter the appropriate **Username** and **Password** information (not shown), click **Login** to proceed.



2. Select **Messaging Administration** → **Class-Of-Service**. The **Manage Class-Of-Service** webpage appears, select **ModM** (the class of service used for compliance testing). Click **Edit the Selected COS** to continue.

Messaging Administration - Windows Internet Explorer

https://10.32.80.40/cgi-bin/da\_login

File Edit View Favorites Tools Help

AVAYA

Modular Messaging  
Messaging Administration

This server: 10.32.80.40

Help Log Off

Messaging Administration

Subscriber Management

Activity Log Configuration

Messaging Attributes

Classes-of-Service

Enhanced-Lists

Sending Restrictions

System Administration

Request Remote Update

Networked Machines

Trusted Servers

Server Administration

Configure Using DCT

TCP/IP Network Configura

External Hosts

MAS Host Setup

MAS Host Send

Windows Domain Setup

Console Reboot Option

Date/Time/NTP Server

Syslog Server

Modem/Terminal Display

Modem/Terminal Configur

Modem/Terminal Removal

TCP/IP Service Settings

IMAP/SMTP Administration

SMTP Options

Mail Options

IMAP/SMTP Status

Server Information

Server Status

Alarm Summary

Disk Information

Server Notes

CMOS Settings

RAID Status

Rebuild RAID Status

Reboot Interval

Utilities

Rebuild RAID 1 Array

CD/DVD Mount

CD/DVD Unmount

CD/DVD Eject

Messaging DB Audits

Start Messaging

Stop Messaging

### Manage Classes-of-Service

Server Name: 10.32.80.40 Number of Classes-of-Service: 512

COS Name	COS Number
ModM	0
class01	1
class02	2
class03	3
class04	4
class05	5
class06	6
SpecialMailBox	7
ELA	8
class09	9
class10	10
class11	11
class12	12
class13	13
class14	14

Sort By Name

Display Report of COSs Edit the Selected COS

Help

3. The **Edit a Class-Of-Service** webpage appears. Change the following:

- **Maximum Call Answer Message - 6**
- **Maximum Voice Mail Message – 6**

Click **Save** to continue.

Messaging Administration - Windows Internet Explorer

https://10.32.80.40/cgi-bin/do\_login

File Edit View Favorites Tools Help

AVAYA

Modular Messaging  
Messaging Administration

This server: 10.32.80.40

Help Log Off

**Edit a Class-of-Service**

Class of Service Number: 0

Class of Service Name: ModM

MESSAGE RETENTION SETTINGS

Retain New Messages (days) Forever 45

Retain Saved Messages (days) Forever 45

Retain Filed Messages (days) Forever 45

MAILBOX AND MESSAGE SIZES

Maximum Mailbox Size 36 Minutes

Maximum Call Answer Message 6 Minutes

Maximum Voice Mail Message 6 Minutes

SUBSCRIBER FEATURES AND SERVICES

Time Zone Use System Timezone

Message Waiting Indication Allowed yes

Find Me Allowed yes

Call Handling yes

Outbound Fax Calls yes

Inbound Fax yes

Page via PBX no

Caller Application Announcement Recording no

Telephone User Interface MM AUDIX

Personal Operator Configuration no

Allow message after EAG Always

Call Me Allowed yes

Notify Me Allowed yes

Call Screening yes

Extended Absence Greeting Allowed yes

Aria TUI Date & Time Playback Never

Record Mailbox Greetings yes

Caller Application (none)

Restrict Client Access no

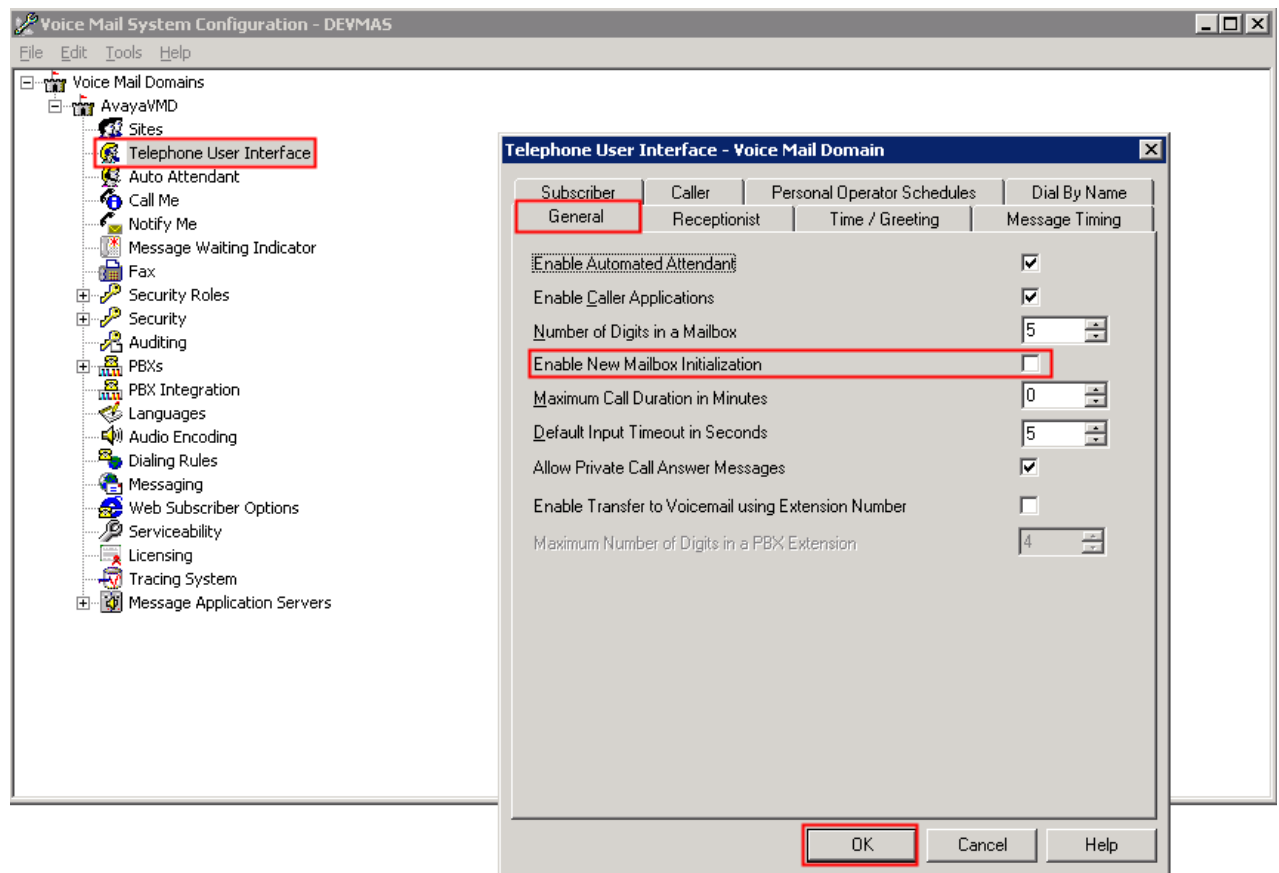
Unsent Message Allowed no

Back Save Help

### 6.3. Change Mailbox Initialization on the MAS

To avoid users having to change their mailbox when using the Backup Avaya Modular Messaging system, it is recommended that the “Enable New Mailbox Initialization” checkbox in the Telephone User Interface section of the Voice Mail System Configuration on the backup MAS be unchecked when creating new mailboxes on the backup MM system.

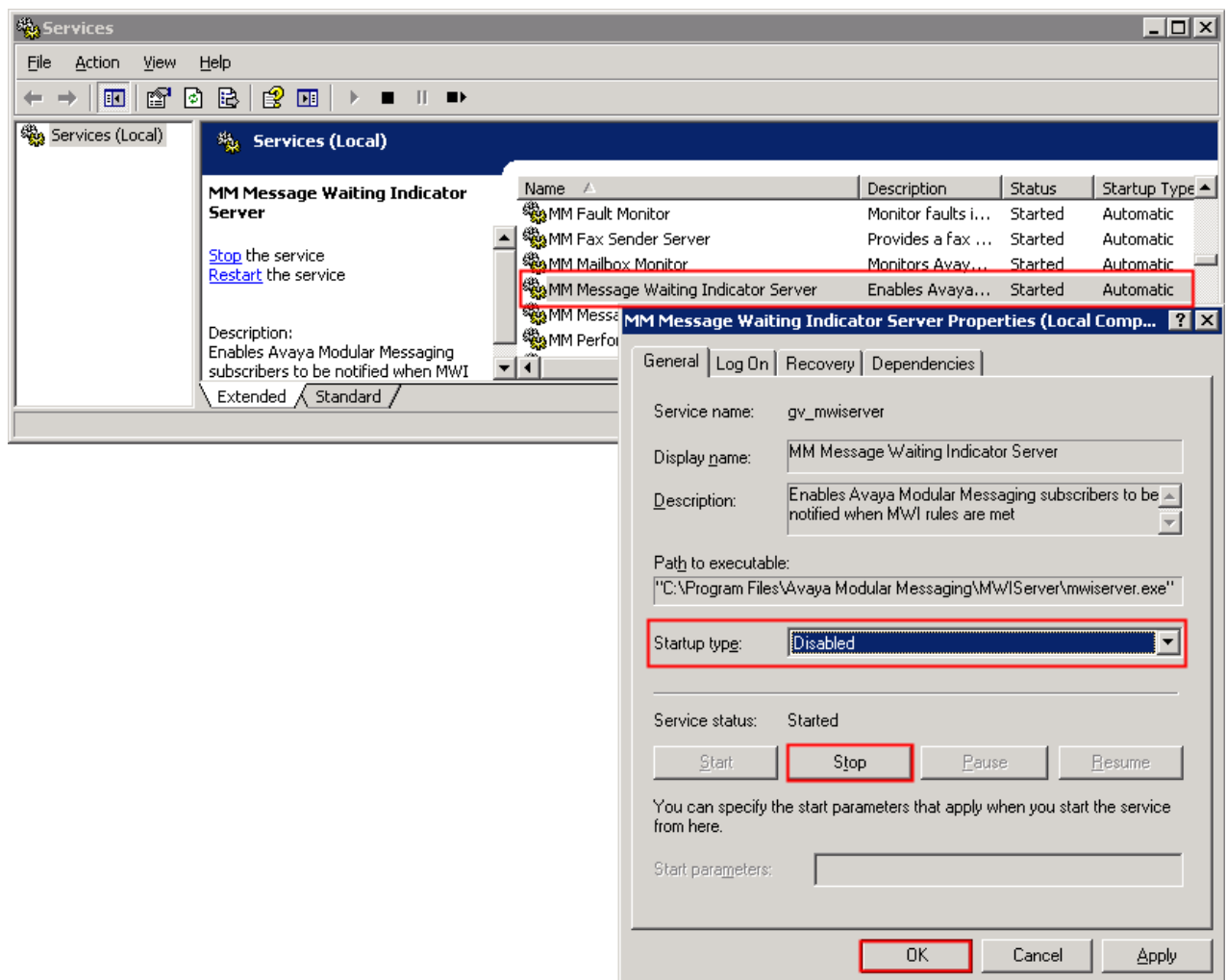
1. Log onto the Avaya Modular Messaging MAS server using the appropriate Username and Password information. From the desktop, go to **Start → Programs → Avaya Modular Messaging → Voice Mail System Configuration** (not shown). The **Voice Mail System Configuration** window appears. Double click on **Telephone User Interface**, the Telephone User Interface dialogue box appears. Click **General**, uncheck the check-box next to **Enable New Mailbox Initialization**, and select **OK** to continue.



## 6.4. Stop & Disable Avaya Modular Messaging MWI services

To avoid multiple MWI transmissions, one from the primary Avaya Modular Messaging system and one from the backup, the Avaya Modular Messaging MWI service should be disabled and only started if the primary Avaya Modular Messaging system is down.

1. Log onto the backup Avaya Modular Messaging MAS server using the appropriate Username and Password information. From the desktop, go to **Start → Run** and in the box type **services.msc** (not shown). Find the **MM Message Waiting Indicator Server** service, right mouse click and select **Properties**. Change the **Startup type** to **Disabled** then select **Stop**. Once the service has stopped, select **OK** to continue.



## 7. Mutare Software Message Mirror Software

Mutare Software installs and configures the Mutare Software Message Mirror Software on the server. Refer to the Mutare Software support page for server requirements.

Once the Mutare Software Message Mirror Software is installed configure the following:

### 7.1. Configure Mutare Software Message Mirror Software

Mutare Software Message Mirror is administered via a web interface. In the sample network, the Mutare Software Message Mirror was installed on a Windows 2003 server with IP address 192.50.10.50.

1. Open a Web browser and go to the following URL: <http://192.50.10.50>. Enter the appropriate **Admin ID** and **Password** information, click **Login** to proceed.



Mutare Software Message Mirror Admin

Admin ID: admin

Password: .....

Login

Powered By: Mutare Software

2. The **Message Mirror Admin** page appears. Select **Edit Global Settings** to continue.

## Mutare Software Message Mirror Admin

[Edit Global Settings](#) | [Edit Admins](#) | [Logout](#) (Default Admin)

### Target:

IP / Port	Super User	License Usage
10.32.80.40 / 143	Mutare	9 of 1000

### Sources: [Edit](#)

ID	Description	IP / Port	Super User	Mailboxes
1	Initial Source	192.50.10.40 / 143	Mutare	9

### Runs (Last 5): [More](#)

Src ID	Run ID	Type	Start	End	Duration	Processed	Total	Errors	Progress
<a href="#">1</a>	<a href="#">405</a>	Sync	6/18/2010 10:00:44 AM	6/18/2010 10:00:45 AM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">404</a>	Sync	6/18/2010 9:59:59 AM	6/18/2010 9:59:59 AM	0 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">403</a>	Sync	6/18/2010 9:59:44 AM	6/18/2010 9:59:44 AM	0 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">402</a>	Sync	6/18/2010 9:59:27 AM	6/18/2010 9:59:28 AM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">401</a>	Sync	6/18/2010 9:44:26 AM	6/18/2010 9:44:27 AM	1 sec	6	6	0	Done

### Mailboxes (Last 5): [More](#) | [Edit](#) | Find Mailbox for Source ID


Src ID	Run ID	Src Mbx	Dest Mbx	Start	End	Src Cnt	Dest Cnt	Errors
<a href="#">1</a>	<a href="#">405</a>	<a href="#">51007</a>	<a href="#">51007</a>	6/18/2010 10:00:45 AM	6/18/2010 10:00:45 AM	0	0	0
<a href="#">1</a>	<a href="#">405</a>	<a href="#">51010</a>	<a href="#">51010</a>	6/18/2010 10:00:45 AM	6/18/2010 10:00:45 AM	3	3	0
<a href="#">1</a>	<a href="#">405</a>	<a href="#">51012</a>	<a href="#">51012</a>	6/18/2010 10:00:45 AM	6/18/2010 10:00:45 AM	0	0	0
<a href="#">1</a>	<a href="#">405</a>	<a href="#">51013</a>	<a href="#">51013</a>	6/18/2010 10:00:45 AM	6/18/2010 10:00:45 AM	0	0	0
<a href="#">1</a>	<a href="#">405</a>	<a href="#">52000</a>	<a href="#">52000</a>	6/18/2010 10:00:45 AM	6/18/2010 10:00:45 AM	0	0	0

### Errors (Last 3): [More](#)

Src ID	Run ID	Src Mbx	Error Date	Error Msg
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51010</a>	6/18/2010 9:43:26 AM	Connect-D:4:[Error: Connection failure]:
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51010</a>	6/18/2010 9:43:25 AM	Connect-D2:4:[Error: Connection failure]:
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51005</a>	6/18/2010 9:43:24 AM	Connect-D:4:[Error: Connection failure]:


Powered By:  Mutare Software

3. The **Message Mirror Admin Global Settings** page appears. Verify that **Backup Type** is set to **Backup to MM** and **Backup IP / Port** is set to the IP address of the backup Avaya Modular Messaging system. Select **Return** to continue.

 **Message Mirror Admin**  
Global Settings

Backup Type:	Backup to MM
Backup IP / Port:	10.32.80.40 143
Cache Path:	c:\od\temp
Clear Local Cache:	1 AM
Use Super User (Src):	<input checked="" type="checkbox"/>
Use Super User (Dest):	<input checked="" type="checkbox"/>
Super User:	Mutare
Super Pwd:	*****
Use SSL:	<input type="checkbox"/>
Cycle Time (Sec):	60
From Email:	msgmirror@mutare.com
Error Email:	
Error Interval (Min):	1440
Last Error Sent:	6/17/2010 3:15:48 PM
Status Email:	
Status Email Times:	8:00 AM
Last Status Sent:	6/8/2010 2:31:46 PM
Backup UserInfo Folder:	<input checked="" type="checkbox"/>
Log All:	<input type="checkbox"/>
Archive Max Length Msgs:	<input checked="" type="checkbox"/>
Display Runs:	5
Display Mailboxes:	5
Display Errors:	3
Home Refresh (Sec):	15

License Key: rt!S6hBBCSkpQL+DAAacp4l9xiuDJYMPqv6PxK/o4YS4q+8= (1000 Mailboxes)

Powered By: 

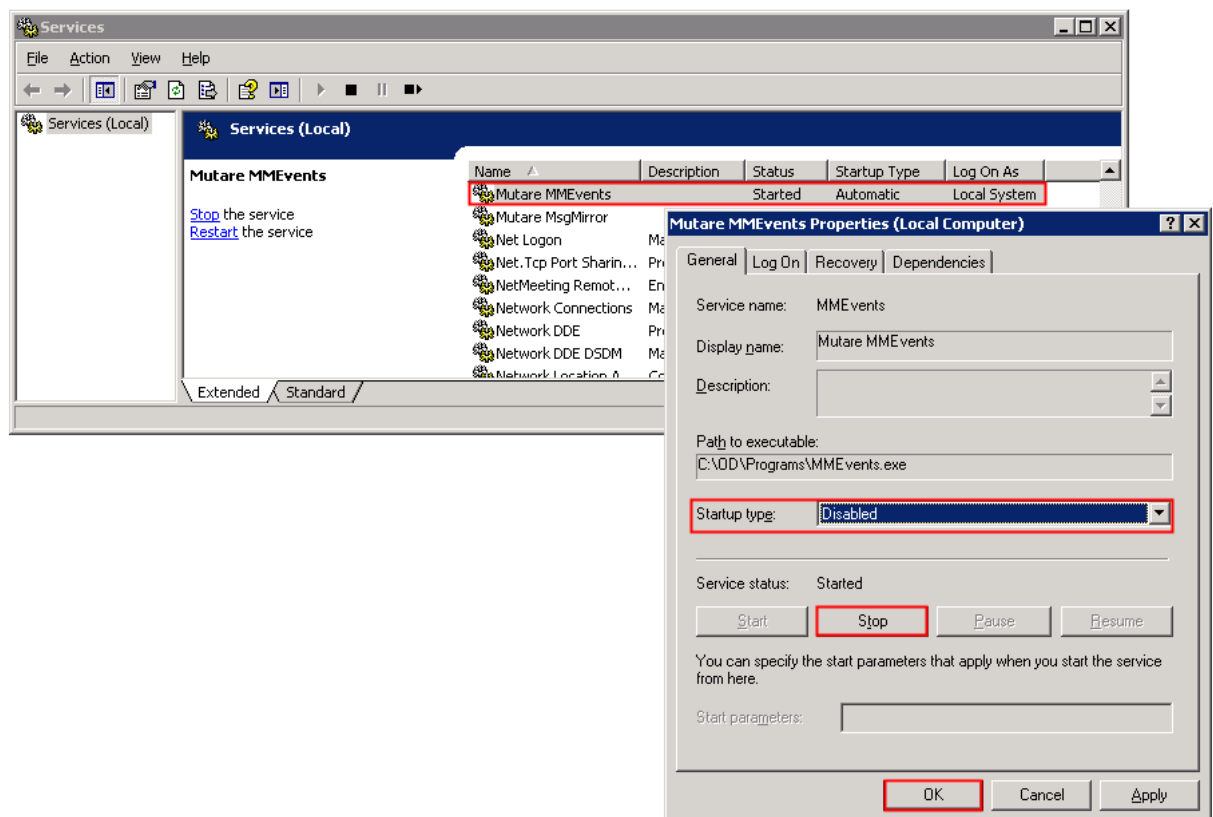


## 7.2. In the Event of an Avaya Modular Messaging Outage

In the event of an Avaya Modular Messaging outage, the **Mutare MMEvents** and **Mutare MsgMirror** services must be stopped and disabled to prevent damage to the stored Mailboxes on the backup Avaya Modular Messaging.

1. Stop and disable the Mutare Software services. From the server that is running the Mutare software, select **Start → Run**, enter **services.msc** (not shown). Find the **MMEvents** service, right mouse click and select **Properties**. Use the drop-down list for **Startup type** and select **Disabled** and then select **Stop**. Once the service has stopped, select **OK** to continue.

**\*\*Note:** Repeat this step for the Mutare **MsgMirror** service.



2. The following step is performed on Communication Manager. Access to the System Administration Terminal (SAT) screen is required.

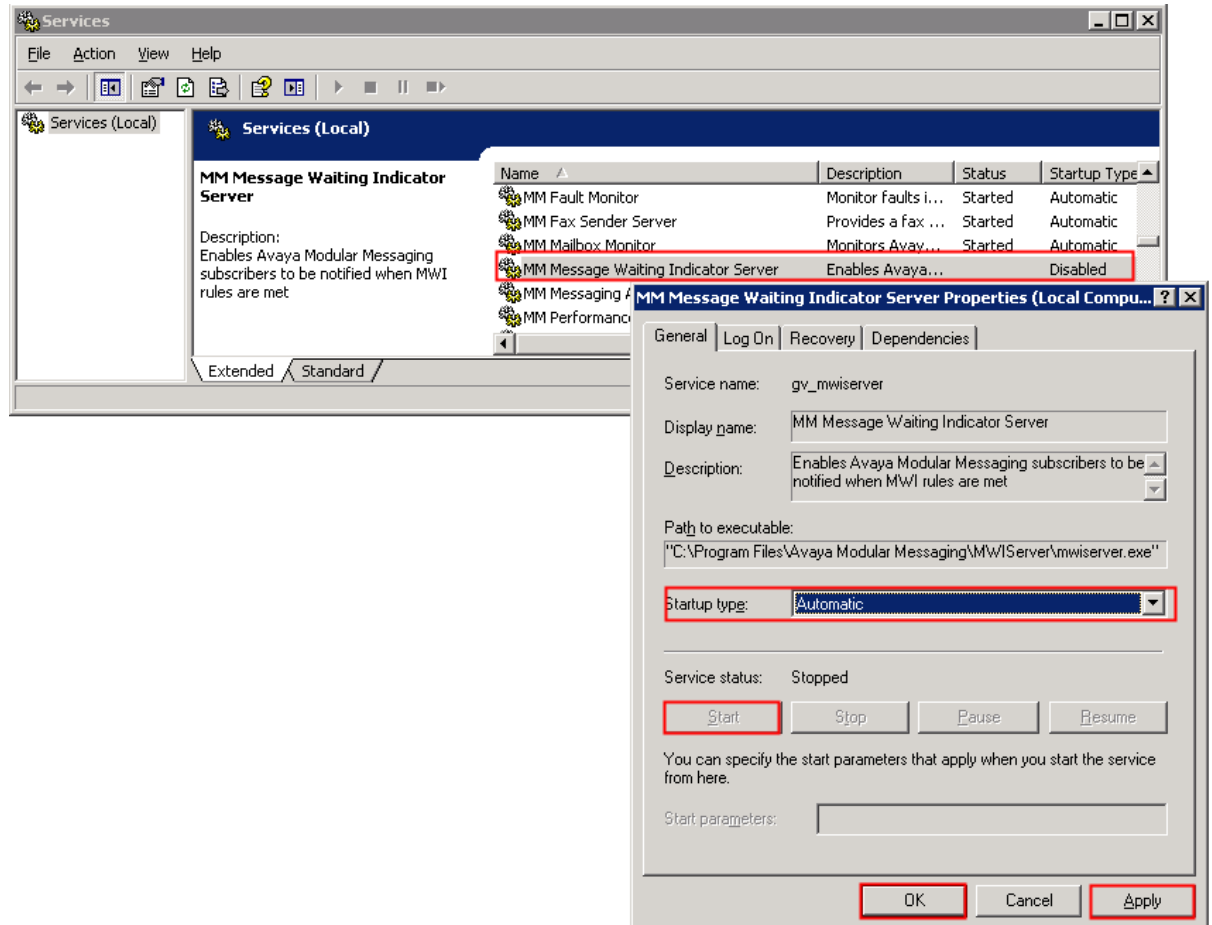
Both the primary and back up Avaya Modular Messaging systems have their own trunk groups, trunk group **44** for the primary, and **45** for the backup. When the primary Avaya Modular Messaging system is down, the route pattern for messaging needs to point to the backup Avaya Modular Messaging system. From the SAT, enter the **change route-pattern 44** command to change **Grp No** to **45**.

```
change route-pattern 44                                     Page 1 of 3
                    Pattern Number: 44 Pattern Name: to ModM
                    SCCAN? n      Secure SIP? n
  Grp FRL NPA Pfx Hop Toll No.  Inserted          DCS/ IXC
  No          Mrk Lmt List Del  Digits          QSIG
                    Dgts          Intw
1: 45      0
2:
3:
4:
5:
6:

      BCC VALUE  TSC CA-TSC      ITC BCIE Service/Feature PARM No. Numbering LAR
      0 1 2 M 4 W      Request      Dgts Format
                                Subaddress
1: y y y y y n y as-needed rest          unk-unk next
2: y y y y y n n          rest          none
3: y y y y y n n          rest          none
4: y y y y y n n          rest          none
5: y y y y y n n          rest          none
6: y y y y y n n          rest          none
```

3. Start the **MM Message Waiting Indicator Server** service on the backup Avaya Modular Messaging MAS server.

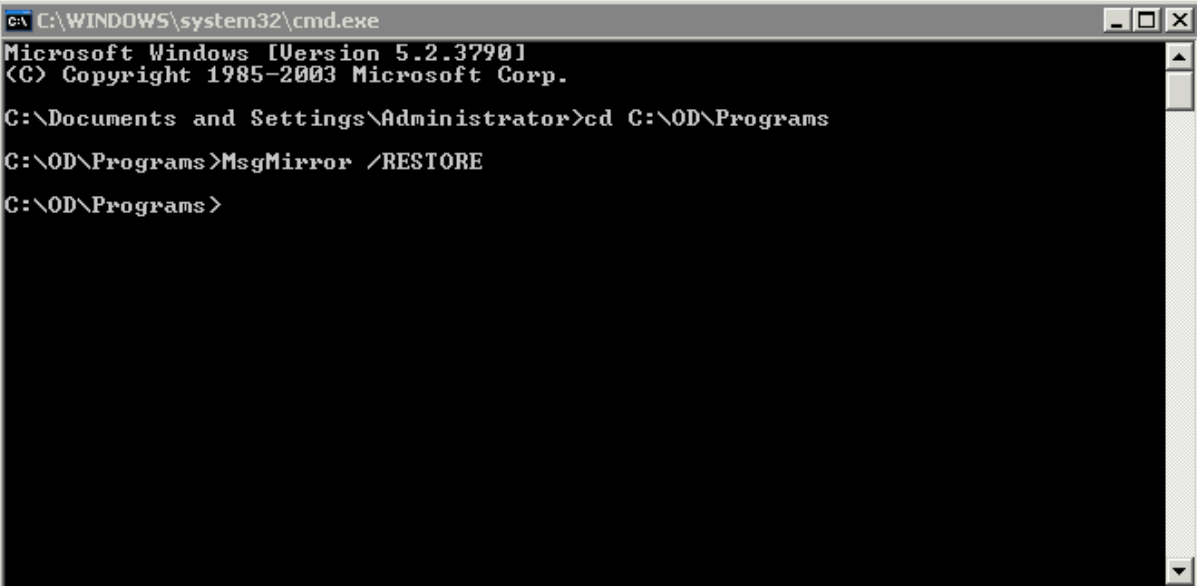
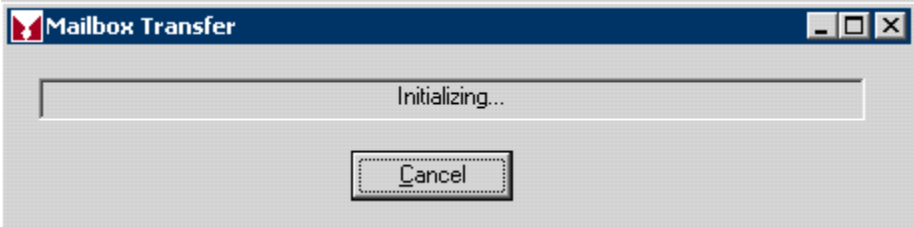
Log onto the backup Avaya Modular Messaging MAS server using the appropriate Username and Password information. From the desktop, go to **Start → Run** and in the box type **services.msc** (not shown). Find the **MM Message Waiting Indicator Server** service, right mouse click and select **Properties**. Use the drop-down list for **Startup type** and select **Automatic**. Select **Apply**, followed by **Start**. Once the service has started, select **OK** to continue.



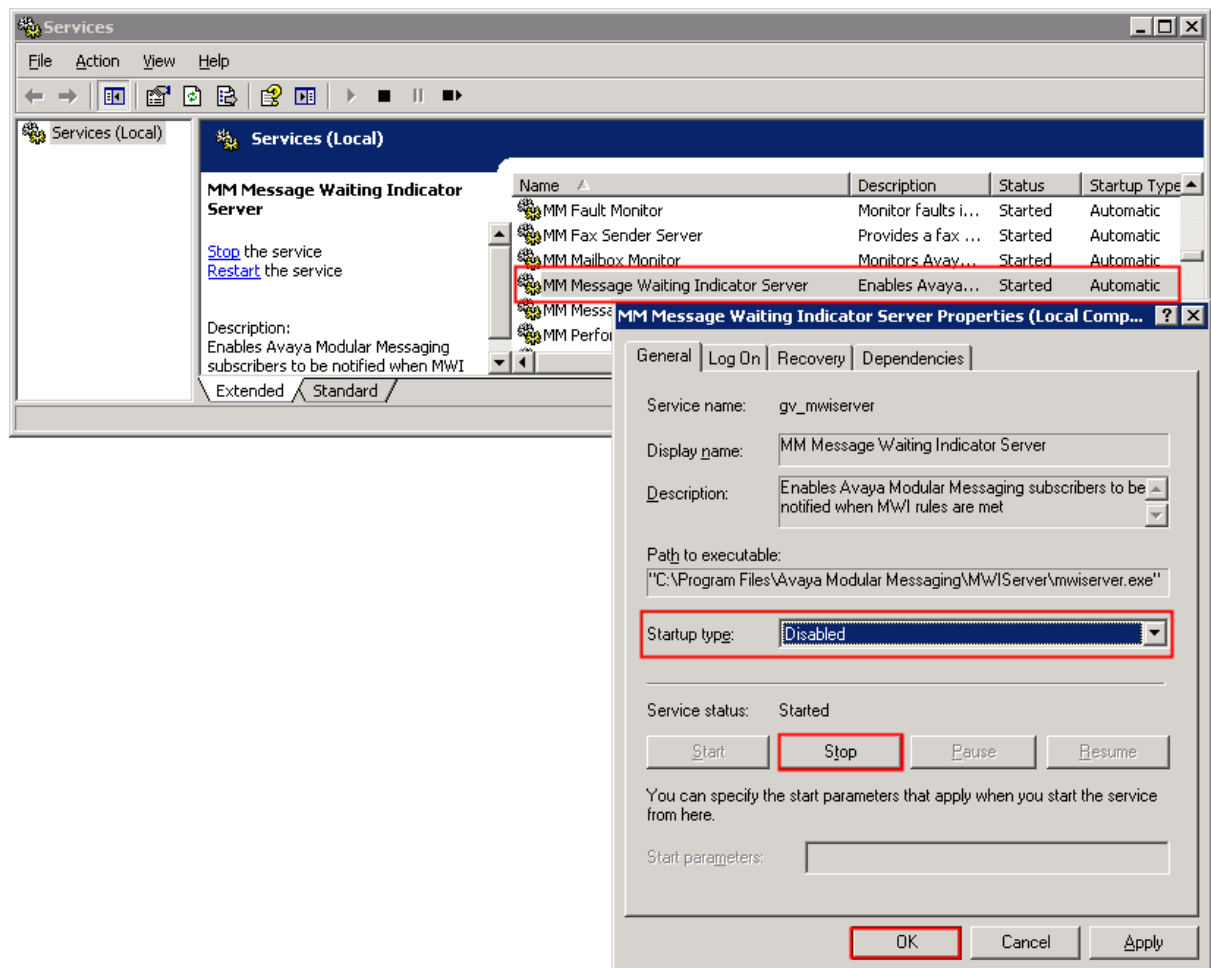
### 7.3. Restore Voicemail & Greetings

Once service to the Primary Avaya Modular Messaging system is restored, a global restore/update can be done. It will update all Mailboxes with new Voicemail & greetings that were left/changed while running on the backup Avaya Modular Messaging system.

**\*\*Note:** The restore will not create the user mailboxes, user mailboxes must be restored/created before the Voicemail restore process is started.

1.	<p>Open a <b>cmd</b> window on the Message Rescue server,</p> <p>Run the following commands:</p> <ul style="list-style-type: none"><li>• <b>cd C:\OD\Programs</b></li><li>• <b>MsgMirror /RESTORE</b></li></ul>  <pre>C:\WINDOWS\system32\cmd.exe Microsoft Windows [Version 5.2.3790] (C) Copyright 1985-2003 Microsoft Corp.  C:\Documents and Settings\Administrator&gt;cd C:\OD\Programs C:\OD\Programs&gt;MsgMirror /RESTORE C:\OD\Programs&gt;</pre>
2.	<p>The Mailbox Transfer dialogue box appears, once the restore has completed it will disappear.</p>  <p>The Mailbox Transfer dialog box is shown with a title bar that includes the Microsoft Office logo and the text 'Mailbox Transfer'. The main area contains a progress bar with the text 'Initializing...' and a 'Cancel' button at the bottom.</p>

3. Log onto the backup Avaya Modular Messaging MAS server using the appropriate Username and Password information. From the desktop, go to **Start → Run** and in the box type **services.msc** (not shown). Find the **MM Message Waiting Indicator Server** service, right mouse click and select **Properties**. Change the **Startup type** to **Disabled** then select **Stop**. Once the service has stopped, select **OK** to continue.



4. The following step is performed on Communication Manager. Access to the System Administration Terminal (SAT) screen is required.

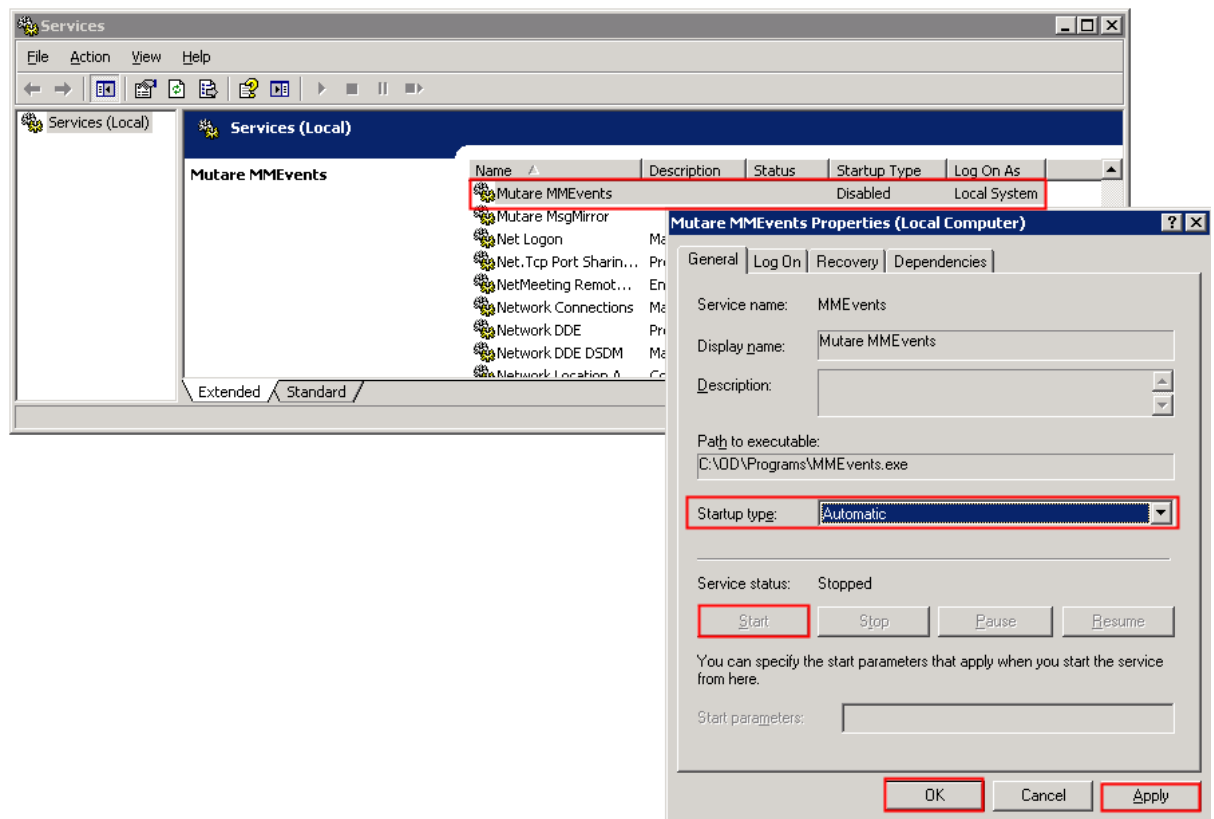
From the SAT, enter the **change route-pattern 44** command to change the route pattern to point to the trunk group for the primary Avaya Modular Messaging.

```
change route-pattern 44                                     Page 1 of 3
                    Pattern Number: 44  Pattern Name: to ModM
                    SCCAN? n      Secure SIP? n
      Grp FRL NPA Pfx Hop Toll No.  Inserted      DCS/ IXC
      No      Mrk Lmt List Del  Digits      QSIG
                    Dgts      Intw
1: 44      0                                     n  user
2:                                     n  user
3:                                     n  user
4:                                     n  user
5:                                     n  user
6:                                     n  user

      BCC VALUE  TSC CA-TSC      ITC BCIE Service/Feature PARM  No. Numbering LAR
      0 1 2 M 4 W      Request      Dgts Format
                        Subaddress
1: y y y y y n  y  as-needed rest      unk-unk  next
2: y y y y y n  n      rest      none
3: y y y y y n  n      rest      none
4: y y y y y n  n      rest      none
5: y y y y y n  n      rest      none
6: y y y y y n  n      rest      none
```

5. Restart and reset Startup type for the Mutare Software services. From the server that is running the Mutare software, select **Start → Run**, enter **services.msc** (not shown). Find the **MMEEvents** service, right mouse click and select **Properties**. Use the drop-down list for **Startup type** and select **Automatic**. Select **Apply**, followed by **Start**. Once the service has started, select **OK** to continue.

**\*\*Note:** Repeat this step for the Mutare **MsgMirror** service



## 8. General Test Approach and Test Results

This section describes the general test approach used during compliance testing and the test results.

### 8.1. Test Approach

The general test approach was to configure the Avaya Telephony Infrastructure using Avaya Aura™ Communication Manager and multiple Avaya Modular Messaging systems to interoperate with the Mutare Software Message Mirror solution (shown in **Figure 1**).

Testing included the creation and deletion of mailboxes. It was verified that mailboxes, messages and greetings created on the primary Modular Messaging system were copied to the backup Modular Messaging system. Once service to the primary Avaya Modular Messaging system is restored, it was verified that voicemail messages and greetings were restored to the primary.

Serviceability test included power cycling the primary and backup Avaya Modular Messaging systems as well as the server that the Mutare Software Message Mirror is running on and verified the solution recovered.

### 8.2. Test Results

The Mutare Software Message Mirror solution with Avaya Modular Messaging passed all test cases described in **Section 1.1**.

## 9. Verification Steps

This section provides the steps for verifying the Mutare Software Message Mirror solution with Avaya Modular Messaging. The verification steps include the following.



## 9.1. From the Message Mirror Admin Webpage:

Under **Runs** – Verify no **Errors** have occurred.



[Edit Global Settings](#) | [Edit Admins](#) | [Logout](#) (Default Admin)

### Target:

IP / Port	Super User	License Usage
10.32.80.40 / 143	Mutare	9 of 1000

### Sources: [Edit](#)

ID	Description	IP / Port	Super User	Mailboxes
1	Initial Source	192.50.10.40 / 143	Mutare	9

### Runs (Last 5): [More](#)

Src ID	Run ID	Type	Start	End	Duration	Processed	Total	Errors	Progress
<a href="#">1</a>	<a href="#">413</a>	Sync	6/18/2010 12:58:54 PM	6/18/2010 12:58:55 PM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">412</a>	Sync	6/18/2010 12:58:14 PM	6/18/2010 12:58:15 PM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">411</a>	Sync	6/18/2010 12:56:42 PM	6/18/2010 12:56:43 PM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">410</a>	Sync	6/18/2010 12:17:47 PM	6/18/2010 12:17:47 PM	0 sec	3	3	0	Done
<a href="#">1</a>	<a href="#">409</a>	Sync	6/18/2010 12:03:46 PM	6/18/2010 12:03:46 PM	0 sec	3	3	0	Done

### Mailboxes (Last 5): [More](#) | [Edit](#) | Find Mailbox: for Source ID [1](#)

Src ID	Run ID	Src MbX	Dest MbX	Start	End	Src Cnt	Dest Cnt	Errors
<a href="#">1</a>	<a href="#">413</a>	<a href="#">51010</a>	<a href="#">51010</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	3	3	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">51012</a>	<a href="#">51012</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">51013</a>	<a href="#">51013</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">52000</a>	<a href="#">52000</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">52002</a>	<a href="#">52002</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0

### Errors (Last 3): [More](#)

Src ID	Run ID	Src MbX	Error Date	Error Msg
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51010</a>	6/18/2010 9:43:26 AM	Connect-D:4:[Error: Connection failure]:
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51010</a>	6/18/2010 9:43:25 AM	Connect-D2:4:[Error: Connection failure]:
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51005</a>	6/18/2010 9:43:24 AM	Connect-D:4:[Error: Connection failure]:


Powered By: Mutare Software

## 9.2. Verify Backup

Leave a Voicemail message and verify that it is being saved to the backup Avaya Modular Messaging system. For this example, mailbox 51010 will be used.

From the Message Mirror Admin Webpage:

Under **Mailboxes** – Verify that the **Src Cnt** and **Dest Cnt** are the same.

 **Mutare**•Software **Message Mirror Admin**

[Edit Global Settings](#) | [Edit Admins](#) | [Logout](#) (Default Admin)

---

**Target:**

IP / Port	Super User	License Usage
10.32.80.40 / 143	Mutare	9 of 1000

**Sources:** [Edit](#)

ID	Description	IP / Port	Super User	Mailboxes
1	Initial Source	192.50.10.40 / 143	Mutare	9

**Runs (Last 5):** [More](#)

Src ID	Run ID	Type	Start	End	Duration	Processed	Total	Errors	Progress
<a href="#">1</a>	<a href="#">413</a>	Sync	6/18/2010 12:58:54 PM	6/18/2010 12:58:55 PM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">412</a>	Sync	6/18/2010 12:58:14 PM	6/18/2010 12:58:15 PM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">411</a>	Sync	6/18/2010 12:56:42 PM	6/18/2010 12:56:43 PM	1 sec	6	6	0	Done
<a href="#">1</a>	<a href="#">410</a>	Sync	6/18/2010 12:17:47 PM	6/18/2010 12:17:47 PM	0 sec	3	3	0	Done
<a href="#">1</a>	<a href="#">409</a>	Sync	6/18/2010 12:03:46 PM	6/18/2010 12:03:46 PM	0 sec	3	3	0	Done

**Mailboxes (Last 5):** [More](#) | [Edit](#) | Find Mailbox:  for Source ID

Src ID	Run ID	Src MbX	Dest MbX	Start	End	Src Cnt	Dest Cnt	Errors
<a href="#">1</a>	<a href="#">413</a>	<a href="#">51010</a>	<a href="#">51010</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	3	3	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">51012</a>	<a href="#">51012</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">51013</a>	<a href="#">51013</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">52000</a>	<a href="#">52000</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0
<a href="#">1</a>	<a href="#">413</a>	<a href="#">52002</a>	<a href="#">52002</a>	6/18/2010 12:58:55 PM	6/18/2010 12:58:55 PM	0	0	0

**Errors (Last 3):** [More](#)

Src ID	Run ID	Src MbX	Error Date	Error Msg
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51010</a>	6/18/2010 9:43:26 AM	Connect-D:4:[Error: Connection failure]:
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51010</a>	6/18/2010 9:43:25 AM	Connect-D:2:4:[Error: Connection failure]:
<a href="#">1</a>	<a href="#">400</a>	<a href="#">51005</a>	6/18/2010 9:43:24 AM	Connect-D:4:[Error: Connection failure]:

## 10. Conclusion

These Application Notes describe the configuration steps required for integrating the Mutare Software Message Mirror solution with primary and backup Avaya Modular Messaging systems. For the configuration described in these Application Notes, the Mutare Software Message Mirror solution was responsible for mirroring the messages, names, greetings and passwords of the enterprise Avaya Modular Messaging system to a backup Avaya Modular Messaging.

## 11. Additional References

The documents referenced below were used for additional support and configuration information.

This section references the Avaya documentation relevant to these Application Notes. The following Avaya product documentation is available at <http://support.avaya.com>

- [1] *Administering Avaya Aura™ Communication Manager*, June 2010, Issue 6.0.0, Document Number 03-300509.
- [2] *Installing, Administering, Maintaining, and Troubleshooting Avaya Aura™ SIP Enablement Services*, November 2009, Issue 8.0, Document 03-600768.
- [3] *Modular Messaging Admin Guide Release 5.2 with Avaya MSS*
- [4] *Avaya one-X Deskphone Edition for 9600 Series IP Telephones Administrator Guide Release 3.1*, Document Number 16-300698.
- [5] *Avaya one-X Deskphone SIP for 9600 Series IP Telephones Administrator Guide, Release 2.6*, Document Number 16-601944.

The Mutare Software product documentation can be found at: <http://mutare.com/support.asp>

- [6] *Message Mirror Pre-Install document* – <http://www.mutare.com/data/td/152-PreInstallEVMforMM.pdf>
- [7] *Server requirements* - <http://www.mutare.com/data/td/154-AppServer.pdf>

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