

Service Managed Gateway™

Configuring Ethernet Failover to ADSL



Issue 1.0
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1 About this document

1.1 Scope

This document describes:

- how to set up backup ADSL for a primary Ethernet interface with script for numbered interfaces; and
- how to use Telnet to trace scripting events.

1.2 Readership

This document is for engineers who have previous experience configuring and managing networks.

1.3 More information

For more information about managing the SMG, read the Service Managed Gateway documentation. The current documentation is available online at <http://virtualaccess.com/smgsdocs/>

2 Introduction

A backup numbered Ethernet interface with an unnumbered ADSL connection creates a redundant path for the primary interface. The Ethernet interface that is connected directly to the Internet is called a 'primary interface' and the ppp-x interface is called a 'backup interface'.

2.1 Prerequisites

Before the ADSL can operate as a backup for Ethernet interface, you must connect the Ethernet interface to the Internet through the SMG's WAN interface. Secondly, you must configure the ppp-x interface as described in the guide ['How to Configure a Single ADSL Connection'](#).

To change the default route and reroute traffic from one interface to another interface, you must use a script for the numbered interface. This script requires that you:

Configure **two** static routes. The static routes will always send the test pings out to the primary interface, even when the backup route is active.

- Configure the default route with the correct next hop IP address.
- If using Activator, you must configure the management update on the connect interface to the backup port.
- Configure **one** block filter. This block filter will block pings out on the backup interface to the test-addresses

The script uses a ping command to check the connectivity of two **remote IP addresses**. These are addresses specified through the scheduler. If a ping to both sites fails the number of times specified by the scheduler, the script changes to the default route and traffic from the SMG is routed through the ADSL interface.

3 Using the script editor

3.1 Saving your script

To open the script editor, click **Advanced** on the Start page of the SMG web. In the Advanced menu, click **Expert View**.

In the Expert View menu, select **system -> scripts -> script editor**. The script editor appears.

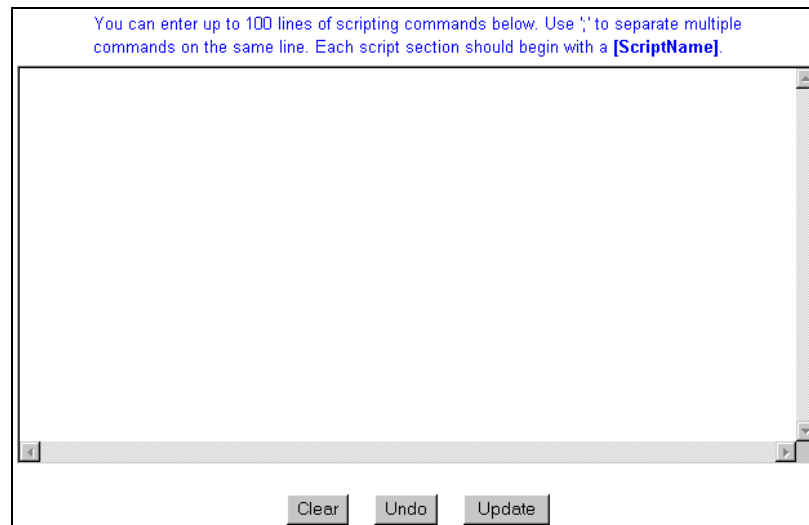


Figure 1: The script editor

In the following script, [backupethernet] is the name of the script.

Insert the name of your script in place of [backupethernet]. Then copy the code and paste it into the script editor and click **Save**.

```
[backupethernet]
!unique
!speed 50
!arg Address1, Address2, Bport, Wait, Pcount
// Parameters configurable via scheduler
$PnextHopIP = `sh ip route Default Next Hop IP`
!log Monitoring $Address1/$Address2, Primary Route $PnextHopIP, Backup
$Bport
!if z`sh ip route default numbered` <> "yes"
    $z = `set ip route default numbered yes`
    $z = `commit`
    $z = `set ip route reconfigure`
    $z = `vpnflush all force`
!endif
!pause $Wait
!label Primary_up
// Force management update of primary interface IP.
`dl $$ .ip none`
$Pfail = 0
!while $Pfail < $Pcount
    $z = `st ping results reset`
    $z = `quiet ping $Address1
    !pause 1
    $z = `quiet ping $Address2
    !pause 1
    $result = `sh ping replies`
    !if $result > 0
        $Pfail = 0
    !else
        !inc Pfail
    !endif
!endwhile
!label Primary_down
$Ppass = 0
$z = `set ip route default numbered no`
$z = `set IP Route Default Next Hop Interface $Bport`
$z = `commit`
$z = `set ip route reconfigure`
$z = `vpnflush all force`
!log Backup route active [$Bport]
!while $Ppass < $Pcount
    $z = `st ping results reset`
    $z = `quiet ping $Address1
    !pause 1
```

```

$z = `quiet ping $Paddress2
!pause 1
$result = `sh ping replies`
!if $result > 0
    !inc Ppass
!else
    $Ppass = 0
!endif
!endwhile
//set primary route active
$z = `set ip route default numbered yes`
$z = `commit`
$z = `set ip route reconfigure`
$z = `vpnflush all force`
!log Primary route active [$PnexthopIP]
!goto Primary_up

```

You can leave saving your configurations until you have made all the changes you require; or for your changes to take effect, click **Update** to save your configuration. Read section 4, Saving your configuration’.

3.2 Scheduling the execution of your script

To schedule the execution of the script, click **Advanced** on the start page of the SMG web. In the Advanced menu, click **Expert View -> system -> scheduler -> scheduler tasks**. The Scheduler Task List appears.

Scheduler Task List				
Index	Enabled	Name	Date	Operation
1	unconfigured	-	-	add
2	unconfigured	-	-	add
3	unconfigured	-	-	add
4	unconfigured	-	-	add
5	unconfigured	-	-	add

Figure 2: The scheduler task list

In the Operation column of the list, click **add**. The Scheduler Task Entry form appears.

Scheduler Task Entry 2

Enabled

Name

Date (dd-mm-yyyy)

Time (hh:mm)

Frequency

Window secs

Script

Figure 3: The scheduler task entry form

Fill in the fields and then click **Update**.

Field	Description	Command Line
Enabled	Enables or disables the scheduler task. Select yes .	Set Scheduler Task enabled 1,= Set Scheduler Task Date 1, dd-mm-yyyy Set Scheduler Task Name 1, set Scheduler Task Time 1, hh:mm
	yes Enables the scheduler task.	
	no Disables the scheduler task.	
Date	Defines the date of the task execution.	Set Scheduler Task Date 1, dd-mm-yyyy
	Date Type in the date: dd-mm-yyyy	
Name	Defines the name of the task. Type in the name you created in the script.	Set Scheduler Task Name 1,
Time	Defines the time of the task execution.	set Scheduler Task Time 1, hh:mm
	Time Type in the time: hh:mm	
Frequency	Defines the frequency of the task execution.	
	Once Executes the task once.	
	Startup The script will execute at every start up regardless of time and date set.	
	Everyday Executes the task everyday.	
	Sunday Executes the task on Sunday.	
	Monday Executes the task on Monday.	
	Tuesday Executes the task on Tuesday.	
	Wednesday Executes the task on Wednesday.	
	Thursday Executes the task on Thursday.	
Friday Executes the task on		

		Friday.	
	Saturday	Executes the task on Saturday.	
Window	The time within which the script execution will take place, when the router is busy.		Set Scheduler Task window 1,
	Minimum value	0	
	Default value	0	
	Maximum value	86400	
	Units	secs	
Script	Type in the name of the script you created. [backupethernet]		ScriptName Paddress1, Paddress2, Bport, Wait, Pcount
	Allows the following five parameters in this order:		
	Parameter	description	
	Address1	First address which the script will ping.	
	Address2	Second address which the script will ping.	
	Bport	Backup interface.	
	Wait	Number of seconds after boot up when the script will start ping.	
Pcount	Number of pings that signifies the link as down or up.		

Table 1: The task scheduler entry form fields and descriptions

After you click Update, the Scheduler Task List re-appears showing your configured script.

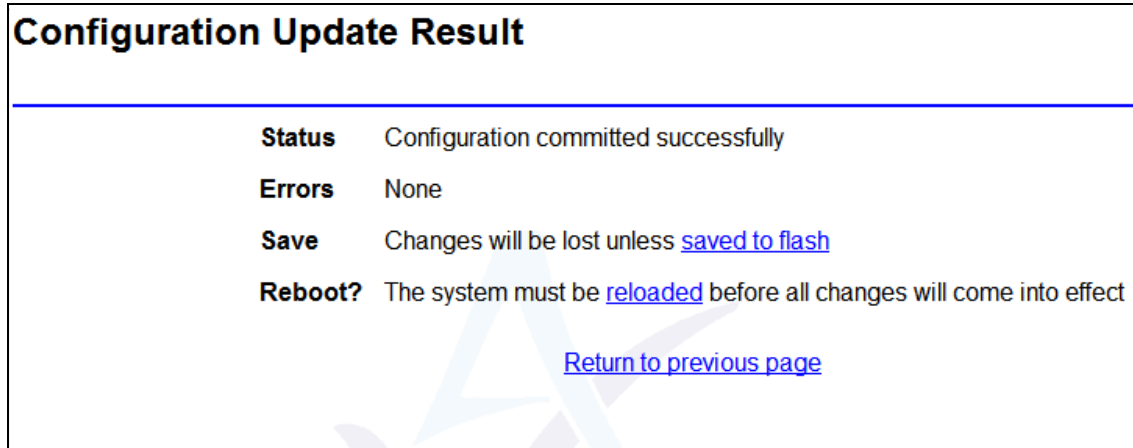
Scheduler Task List				
Index	Enabled	Name	Date	Operation
1	Yes	Test	11-05-2010	modify/delete
2	unconfigured	-	-	add
3	unconfigured	-	-	add
4	unconfigured	-	-	add
5	unconfigured	-	-	add

Figure 4: The scheduler task list

If you have not previously saved your changes, click **Unsaved changes**.

4 Saving your configuration

After you click Update or Unsaved changes, the Configuration Update Result page appears.



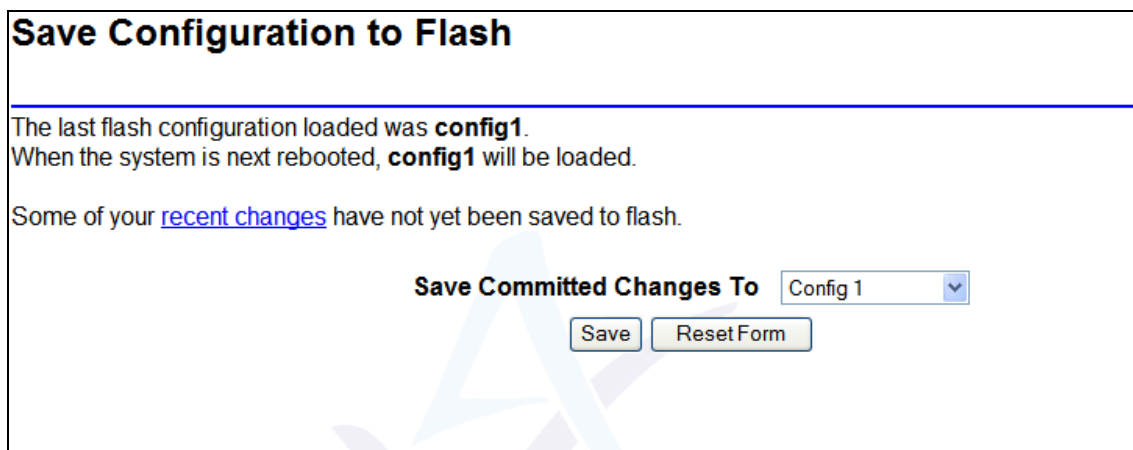
Configuration Update Result

Status	Configuration committed successfully
Errors	None
Save	Changes will be lost unless saved to flash
Reboot?	The system must be reloaded before all changes will come into effect

[Return to previous page](#)

Figure 5: The configuration update result page

Click **saved to flash**. The Save Configuration to Flash page appears.



Save Configuration to Flash

The last flash configuration loaded was **config1**.
When the system is next rebooted, **config1** will be loaded.

Some of your [recent changes](#) have not yet been saved to flash.

Save Committed Changes To

Figure 6: The save configuration to flash page

Click **Save**. The Configuration Saved page appears.

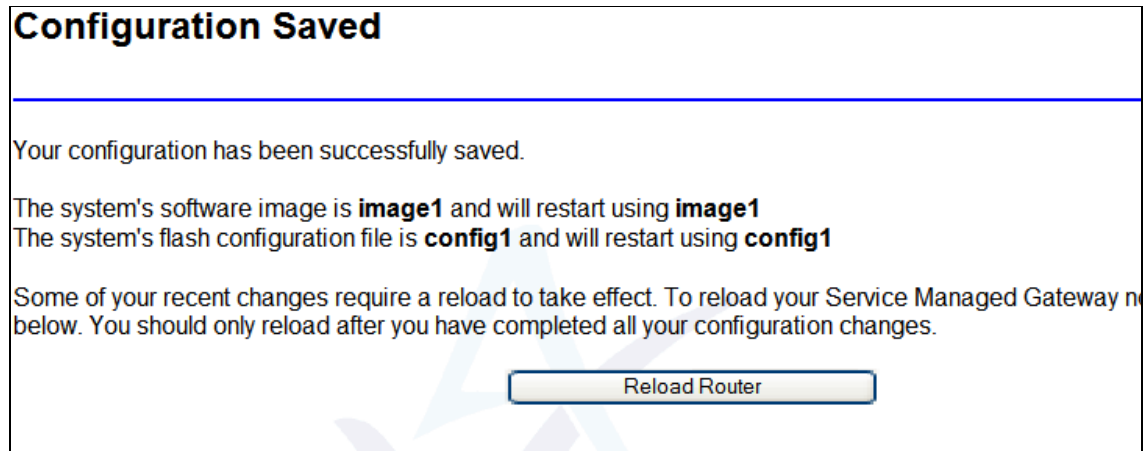


Figure 7: The configuration saved page

Click **Reload Router**.

The Reload Router button shows a progress timer and then the page returns to the Start page.

5 Diagnostics

To check if the script is operating correctly, telnet into the box and issue a `++script` command.

Command line: ++script

```

Username : super
Password :
User login successful.

      Serial Number: 00E0C8007891
      Hardware Model: GL4325A--50
      Provider: Virtual Access
      Customer: Ascent
      Boot Image: image2 - 8.10.21
      Boot Configuration: config2
      Current Time: 10:44:37, 09 Dec 2008 (up 0 days, 0:00)

super> ++script
Added event class to monitor list

super> sh ip route
DEFAULT/Target  Gateway          Interface      Mask           Metric  Status
83.244.223.236  -                eth-2          255.255.255.252 1          up
83.244.223.232  -                eth-1          255.255.255.252 1          up
66.66.66.0      -                eth-3          255.255.255.0   1          up
192.168.100.0   -                eth-0          255.255.255.0   1          up
DEFAULT ROUTE   83.244.223.233 eth-1          255.255.255.0   1          up
super> _

```

Figure 8: Default route at the primary interface

Figure 4 shows that the default route is configured for primary interfaces eth-1.

Command line: sh ip route

```

super>
super>
!10:54:38 Script: Backup route active [ppp-1]

super> sh ip route
DEFAULT/Target  Gateway          Interface      Mask           Metric  Status
10.1.227.3      83.244.223.233  eth-1          255.255.255.255 0          up
10.1.227.1      83.244.223.233  eth-1          255.255.255.255 1          up
83.244.223.236  -                eth-2          255.255.255.252 1          up
83.244.223.232  -                eth-1          255.255.255.252 1          up
66.66.66.0      -                eth-3          255.255.255.0   1          up
192.168.100.0   -                eth-0          255.255.255.0   1          up
DEFAULT ROUTE   -                ppp-1          255.255.255.0   1          up

super>
!10:55:10 Script 1 0 0 0
!10:56:10 Script 1 0 0 0

super>
super>
!10:57:02 Script: Primary route active [83.244.223.233]

```

Figure 9: Default route at the backup interface

When the script cannot ping two remote sites that have been preconfigured in the scheduler it changes the default route to backup interface as shown in Figure 5. The final line of Figure 5 example shows script events when the remote site is reachable again.

To stop tracing, enter `-` (minus) followed by the event class to stop tracing for this event class. Entering `-` (minus) on its own stops all tracing.

Syntax	Description
<code>++script</code>	Starts tracing script events
<code>-script</code>	Stops script tracing

Table 2: The command line tracing syntax and their descriptions