

Management Stacking

Feature Overview and Configuration Guide

Introduction

Management stacking is a term used by Allied Telesis and some other vendors to describe a feature that enables multiple network devices to be managed from a single console. Other similar implementations are known by names such as Enhanced Stacking, Virtual Stacking and Clustering.

At its simplest, management stacking enables CLI commands to be issued from a single command switch to another switch in the stack. Therefore the user only needs to use the command node's IP address to be able to reach any device in the stack. On edge switches, this feature reduces the burden of managing many individual devices.

Management stacking supports up to 32 devices in the stack. Only one device can be controlled at a time via the command node.

This guide describes how to create and use a management stack.

List of terms

Command node

The command node is the parent device in the management stack. You can control other nodes in the management stack from the command node.

node

A management stacking node is a network device that is attached to a network, and is capable of sending, receiving, or forwarding information over a communications channel

Management stack

A management stack is a group of switches across a network, where one switch is used as a command node. The other switches in the stack can be managed from the command node.

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Products and software version that apply to this guide

This guide applies to the x230 Series switches running AlliedWare Plus™ version **5.4.5** or later and GS970M series switches running AlliedWare Plus™ version **5.4.7** or later.

For more information, see the following documents:

- The [product's Datasheet](#)
- The product's [Command Reference](#)

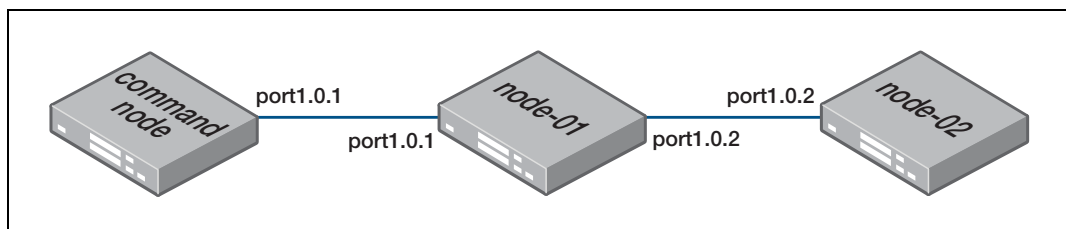
These documents are available from the above links on our website at alliedtelesis.com.

Setting Up a Management Stack

This example illustrates configuring three switches in a management stack. Each management stacking member will need to be given a unique host name. In this example, the first unit in the management stack is the command node, the second is referred to as node-01, and the third as node-02.

You cannot give different members the same hostname with different capitalization. For example, you cannot call one member “node-a”, and another member “node-A”.

Note: In order to configure and use management stacking, AMF must first be disabled on each device in the stack, including the command node.



Step 1: Configure the command-node.

This step configures the device as a management stacking command node. A management stacking command node must be present for a management stack to form. Only one device in the management stack can be the command node.

First, name the device by giving it a host-name.

```
awplus(config)#hostname command-node
```

Then, disable AMF and enable management stacking. AMF and management stacking cannot be used at the same time.

```
command-node(config)#no atmf enable
```

% Warning: After disabling ATMF a config save and system restart is recommended.

```
command-node(config)#mstack enable
```

Then, assign the device to be the command node.

```
command-node(config)#mstack command-node
```

Then, enter interface mode for the port, or ports, that will link the command node to other members in the stack. Specify that the port is part of the management stacking link.

```
command-node(config)#int port1.0.1
```

```
command-node(config-if)#switchport mstack-link
```

After configuring the command-node, log out and log in again.

Step 2: Configure node-01

This step sets the host-name on the second unit to 'node-01', and adds it to the stack.

First, name the device by giving it a host-name.

```
awplus(config)#hostname node-01
```

Then, disable AMF and enable management stacking. AMF and management stacking cannot be used at the same time.

```
node-01(config)#no atmf enable
```

Warning: After disabling ATMF a config save and system restart is recommended.

```
node-01(config)#mstack enable
```

Then, enter interface mode for the ports that will link this node to other members in the stack. Specify that the ports are part of the management stacking link.

```
node-01(config)#int port1.0.1-1.0.2
```

```
node-01(config-if)#switchport mstack-link
```

When port1.0.1 of node-01 is connected to port1.0.1 of the command node, then node-01 will join the management stack and the following information will be displayed:

```
node-01(config-if)#01:11:15 node-01 MSTACK[910]: command-node
has joined. 2 members in total.
```

Step 3: Configure node-02

This step sets the host-name on the second unit to 'node-02', and adds it to the stack.

First, name the device by giving it a host-name.

```
awplus(config)#hostname node-02
```

Then, disable AMF and enable management stacking. AMF and management stacking cannot be used at the same time.

```
node-02(config)#no atmf enable

% Warning: After disabling ATMF a config save and system
restart is recommended.

node-02(config)#mstack enable
```

Then, enter interface mode for the port or ports that will link this node to other members in the stack. Specify that the port is part of the management stacking link.

```
node-02(config)#int port1.0.2

node-02(config-if)#switchport mstack-link
```

When port1.0.2 of node-02 is connected to port1.0.2 of node-01, then node-02 will join the management stack and the following information will be displayed:

```
node-02(config-if)#01:32:52 node-02 MSTACK[899]: node-01 has
joined. 2 members in total.

01:32:52 node-02 MSTACK[899]: command-node has joined. 3
members in total.
```

Check the Status of the Stack

You can check the configuration by using the following command:

```
node-02#sh mstack node
```

```
Node Information:

* = Local device

SC = Switch Configuration:
C = Chassis    S = Stackable    N = Standalone
```

Node Name	Device Type	MSTACK C-Node	SC	Parent	Node Depth
command-node	x230-10GP	Y	N	none	0
node-01	x230-10GP	N	N	command-node	1
* node-02	x230-10GP	N	N	node-01	2

```
Current MSTACK node count 3
```

The following table explains the meaning of fields in this output.

Table 1: Fields in the output of the 'show mstack node' command

FIELD	DEFINITION
C-Node	This indicates whether that node is the command node (Y) or not (N).
SC	In a management stack this is 'N' and indicates that the switch is a standalone switch.
Parent	This indicates the switch that is a level above the current node in the management stack hierarchy. This has no effect on the operation of the management stack.
Node Depth	This indicates the distance from the command node. This has no effect on the operation of the management stack.

Running Commands on Devices in the Management Stack

From the command node, you can login to other management stacking nodes in order to run commands as if you were a local user of that node.

To remotely login from command-node to node-02, use the following command:

```
command-node#mstack remote-login node-02
```

The following information is displayed:

```
Type 'exit' to return to command-node.
AlliedWare Plus (TM) 0.0.0 01/07/15 20:00:58
node-02>
```

You can then enter commands on node-02:

```
node-02>enable
node-02#<other-commands>
```

To return to command-node, use the following command:

```
node-02#exit
```

If the remote login session exits for any reason (i.e. device reboot) the user will be returned to the originating node. Users are prevented from multiple remote login sessions. You must exit the existing session, before starting a new session.

Copying Files Between Management Stack Members

To copy files between members in the management stack, you need to be logged into either the source or destination switch.

Using remote login to copy files between other units in the management stack

This example shows how to copy files between a second and third x230 unit remotely from the command node. In this example, the second and third x230 unit in the management stack are called node-01 and node-02 respectively.

First, remote log into node-01 from the command node, and change mode.

```
command-node#mstack remote-login node-01
Type 'exit' to return to command-node.
AlliedWare Plus (TM) 0.0.0 01/07/15 20:00:58
node-01>enable
```

Now, you can use the copy command to copy files from node-01 to node-02. Note that the path to the node's flash memory is of the form **<node-hostname>.mstk/<file-system>**.

```
node-01#copy test.txt node-02.mstk/flash
Enter destination file name[test.txt]:
Copying...
Successful operation
```

To return to the command node, use the exit command.

```
node-01#exit
command-node#
```