

# High-available fencing devices

Howto

## General

In a V-Cube+ cluster setup the nodes are set up redundant to provide high-availability for virtual machines, if a hardware error occurs. Besides the cluster-nodes additional hardware like switches and fencing-devices (Multiple socket outlets) is required. To ensure the functionality of your cluster, these additional single-point-of-failure components need to be redundant too. This document describes how you can protect your cluster-setup from power loss to one of your socket outlets.

For this purpose each participating cluster-node requires a redundant power supply, so multiple fencing devices can be connected. To guarantee a faultless performance of your cluster, you will need to adhere to some administrative steps.

Currently it is only possible to setup redundant fencing with the multiple socket outlets of APC.

*Attention: For a successfull stonith operation **both** socket outlet devices need to poweroff a node. Is one of your outlet devices not reachable via network, your fencing solution is not able to power off even one of your nodes.*

## Required Components

- HA-Cluster with Collax V-Cube+ (inkl. Module Inter-V and V-SAN)
- Two physical cluster nodes with redundant power supplies
- Two APC fencing devices

## Setup

The physical setup needs to be built in such a way that both nodes can be powered by one of the two multiple socket outlets. This means every participating node has to be connected with both power supplies to one of the outlet devices each. Furthermore both socket outlets have to be configured so sockets belonging to the same node are treated as a socket-group. Both nodes have to be able to reach both outlet devices via network.

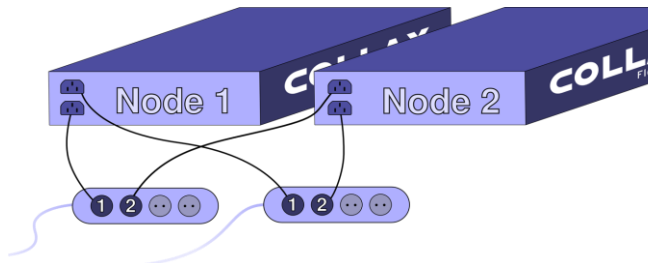
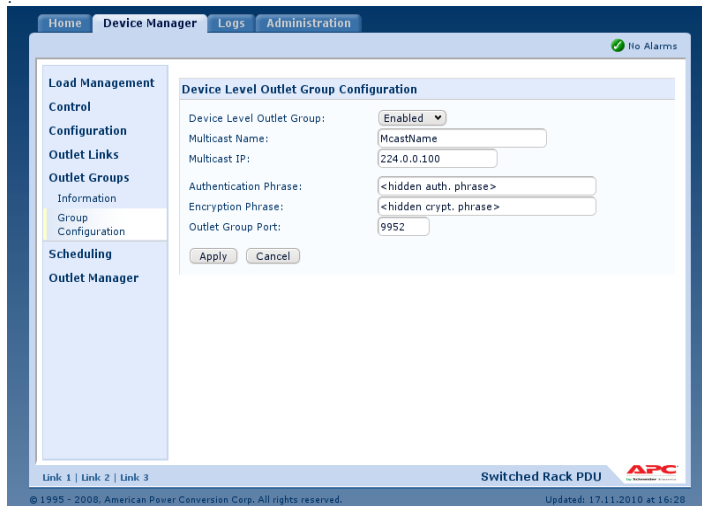


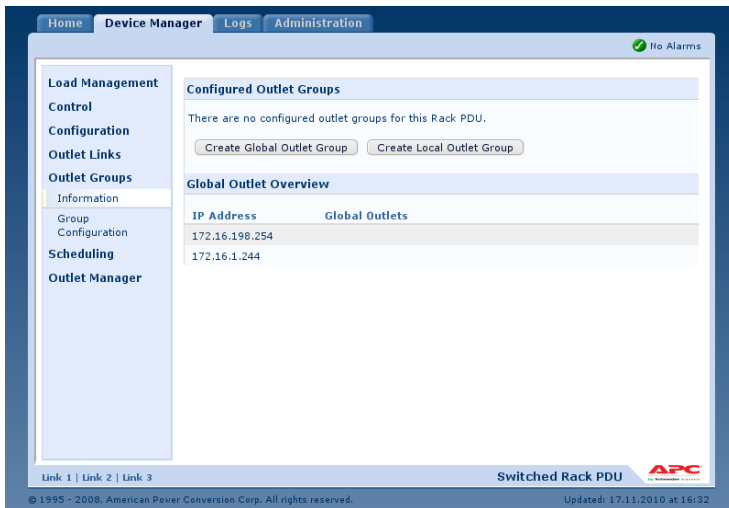
Image 1: Setup with redundant power supplies in a 2-node-cluster with high-available fencing devices (APC)

## Configuration of the APC multiple socket outlets

- Log into the web administration of your APC via <http://ipaddress>.
- On both APC-devices: Go to *Device-Manager* → *Outlet Groups* → *Group Configuration*, set „enabled“ and click „Apply“.



- You should see both APCs under Device-Manager → Outlet Groups → Information



- Create a *Global Outlet Group* on both devices under *Device-Manager* → *Outlet Groups* → *Information*. At this you have to choose the socket that should be grouped together with a socket from the other outlet device.



- After finishing the configuration on the first outlet device *Device-Manager* → *Outlet Groups* → *Information* shows group *GI* switches socket 1 on the just edited device.

The screenshot shows the 'Device Manager' interface for a Switched Rack PDU. The left sidebar contains navigation options: Load Management, Control, Configuration, Outlet Links, Outlet Groups (selected), Scheduling, and Outlet Manager. The 'Outlet Groups' section is active, showing 'Information' selected. The main content area displays 'Configured Outlet Groups' with a table listing two groups: 'GI Outlet Grp A' with ID '1' and IP addresses '172.16.1.244' and '172.16.198.254'. Below the table is a note: 'Note: Edit an outlet group by clicking on the group number or name. Bold outlet numbers are used to indicate global outlets.' There are two buttons: 'Create Global Outlet Group' and 'Create Local Outlet Group'. Below this is the 'Global Outlet Overview' section with a table showing the IP addresses and the number of global outlets (1).

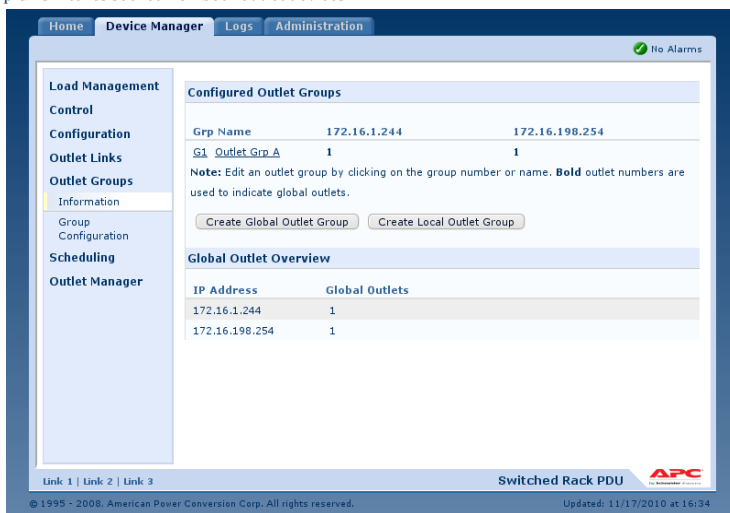
Grp Name	172.16.1.244	172.16.198.254
<b>GI Outlet Grp A</b>	<b>1</b>	-

Note: Edit an outlet group by clicking on the group number or name. **Bold** outlet numbers are used to indicate global outlets.

IP Address	Global Outlets
172.16.1.244	1
172.16.198.254	

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- After finishing the configuration on the second outlet device *Device-Manager* → *Outlet Groups* → *Information* shows group *GI* switches socket 1 on both outlet devices.



If one of the sockets is being triggered, the other one will be too.  
Repeat this procedure for all sockets that needs to be combined.

## Configuration of the cluster nodes

Both multiple socket outlets have to be configured in the cluster administration. For this please follow the instructions in chapter of the *Collax V-Family, Introduction* document.

Kommentiert [david 1]: Missing translation of english captions!