

Power Quality Solutions

# Powering your FlexPod environment



**EATON**

*Powering Business Worldwide*

# Eaton's partner network

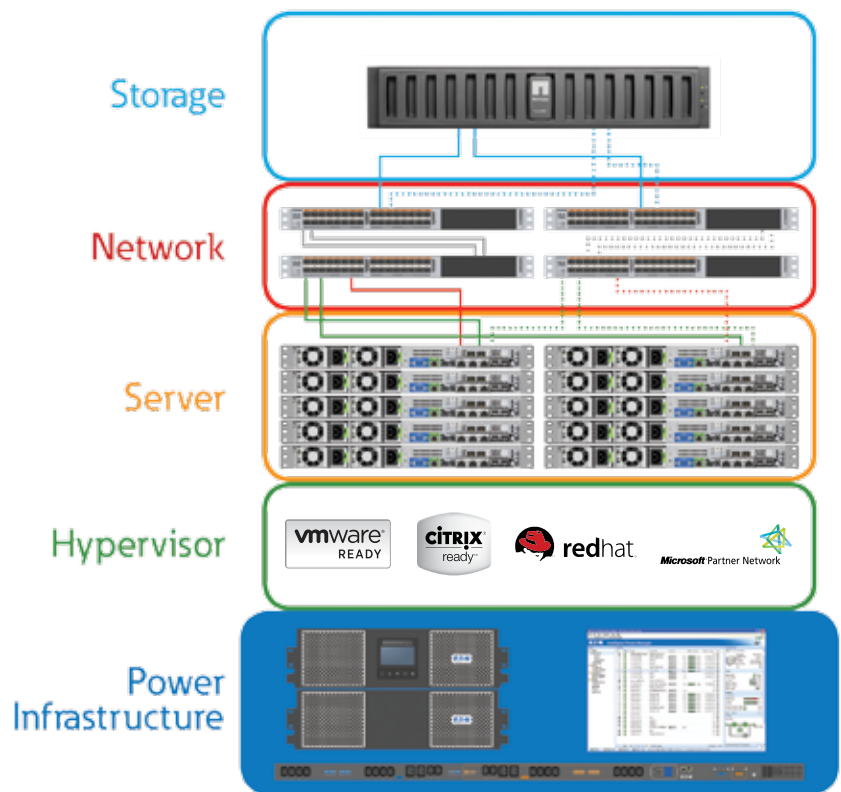


Alliance Partner



# Eaton. The fifth element of converged infrastructure

Power protection is so essential to the safe operation of converged architectures that it should be regarded as the fifth element of a complete converged infrastructure solution, alongside servers, storage, networking and software. A power management system from Eaton – consisting of an intelligent UPS, an appropriate power distribution system, and comprehensive power management software – ensures data integrity, business continuity and resilience. Eaton's virtualisation solution extends network runtime, protects critical equipment and allows you to view and manage your entire power system from your existing virtualisation dashboard. Eaton works with partners like NetApp to provide the ultimate power protection that is completely integrated with converged infrastructure offerings.



## Powering your FlexPod environment

Eaton integrates seamlessly with FlexPod and ExpressPod

### Why Eaton?

- **Integration/Control** – Eaton's Intelligent Power® Manager software uses a simple dashboard display that seamlessly integrates into the VMware's vCentre, Citrix's XenCentre and Microsoft's SCVMM. This added functionality allows you to easily automate the ability to move, consolidate or suspend virtual machines (VM) in the event of a power disruption. If you can't move your VMs to a safe place, we offer remote agentless shutdown to gracefully bring down your system and avoid data corruption. Eaton also integrates into NetApp FAS data storage based on Data ONTAP operating system.
- **Partnerships/Support** – Eaton collaborates with NetApp, Cisco, VMware, Microsoft, Citrix and RedHat to offer a physical and virtual infrastructure that seamlessly integrates into the FlexPod environment. We are committed to these ongoing partnerships so that we can offer our customers many different integration points within the server, storage and networking layers. Our service and support organisations have global reach and the capability to deliver service 24/7, when and where you need it.
- **Scalable/Flexible Designs** – Power requirements are unique to the locations they reside and constantly change with new business requirements. At Eaton, we anticipate these changes, designing platforms that scale for hyper growth but incorporate well into existing IT environments.

# Powering FlexPods

NetApp FAS  
Storage



Cisco Nexus  
Switch



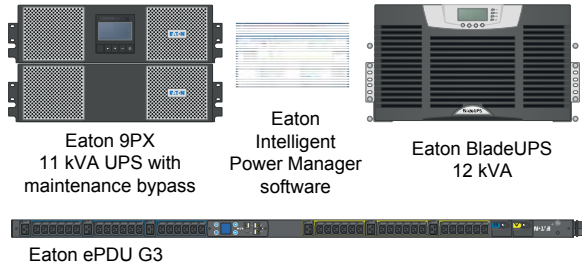
Hypervisor



Cisco Unified  
Computing  
System

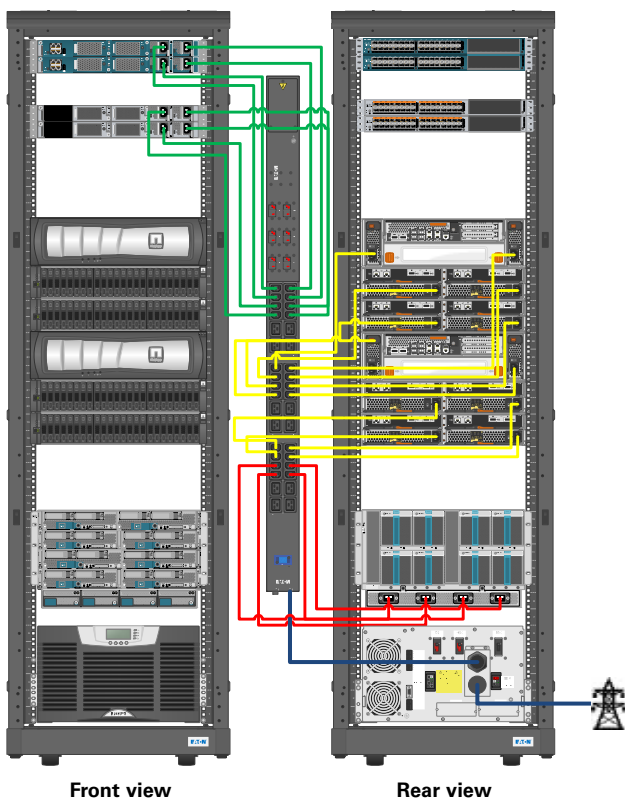


Eaton power  
infrastructure

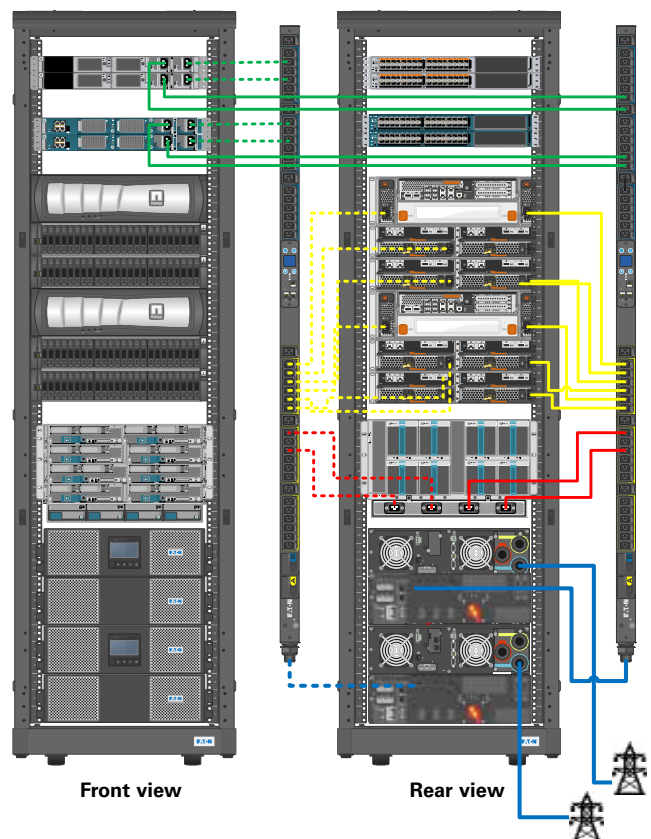


The FlexPod design is built on the Cisco Unified Computing System (UCS), Cisco Nexus switches, and NetApp fabric-attached storage (FAS) with clustered Data ONTAP software. NetApp and Cisco collaborated with VMware, Citrix, Red Hat and Microsoft to deliver solutions for virtualised enterprise environments. Eaton provides a powerful, integrated and scalable infrastructure designed to organize, manage and protect the FlexPod solutions.

## Eaton FlexPod power

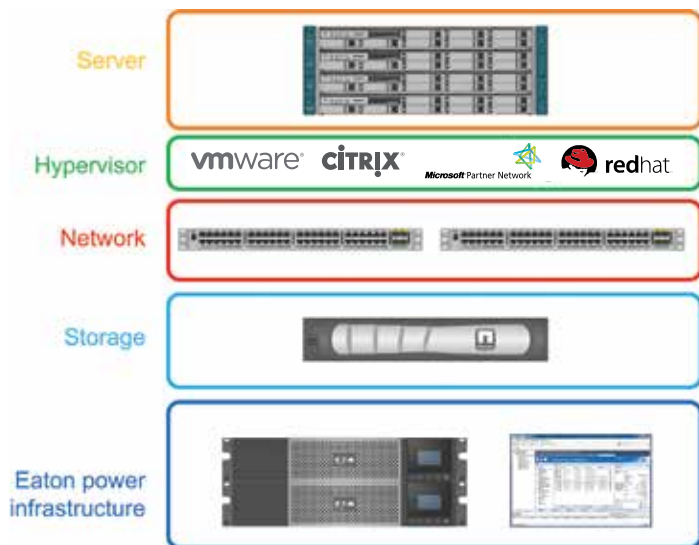


## Eaton FlexPod with redundant power





# Powering ExpressPods

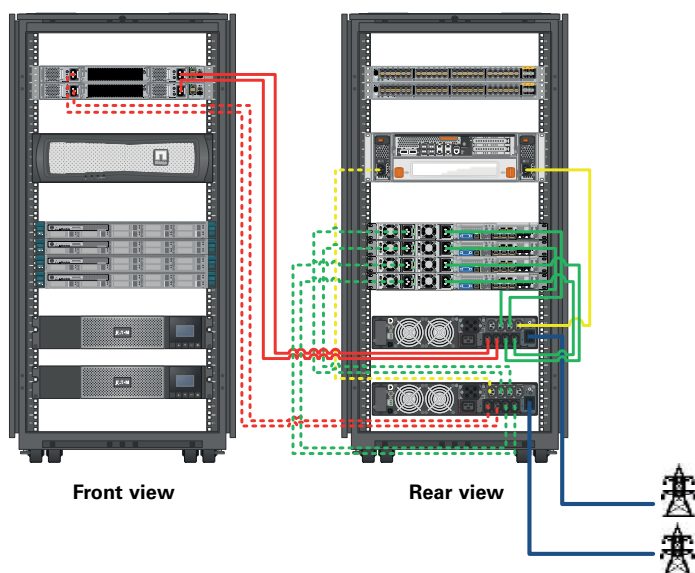


## Delivering efficiency and simplicity to small and mid-sized IT

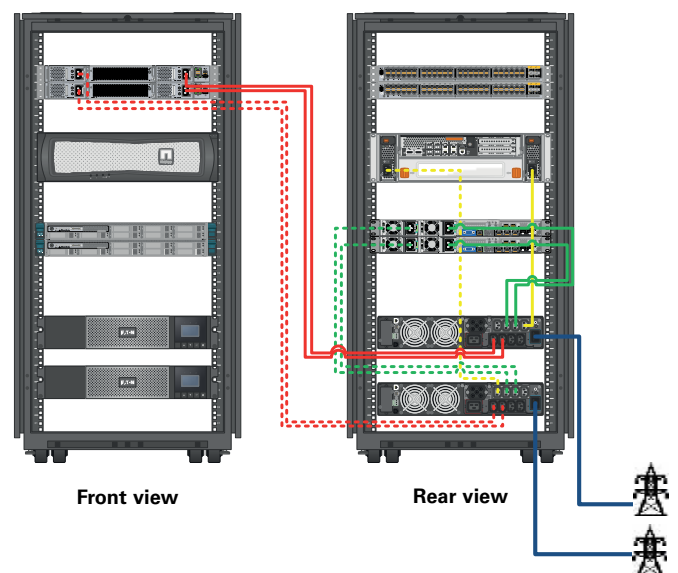
FlexPod Express is a simple and cost-effective way to make a successful transition to a shared, virtualized IT environment. It is designed for organizations with fewer than 500 users and limited IT resources.

FlexPod Express is a joint infrastructure solution from Cisco and NetApp that simplifies deployment of IT resources for small and midsize businesses. It combines best-of-breed components, including Cisco UCS C220 M3 servers, Nexus 3048 switches, and NetApp FAS2220 or FAS2240 storage. Eaton has designed a very simple but reliable power infrastructure to properly support the two ExpressPod design shown below.

## Medium ExpressPod configuration with redundant power



## Small ExpressPod configuration with redundant power

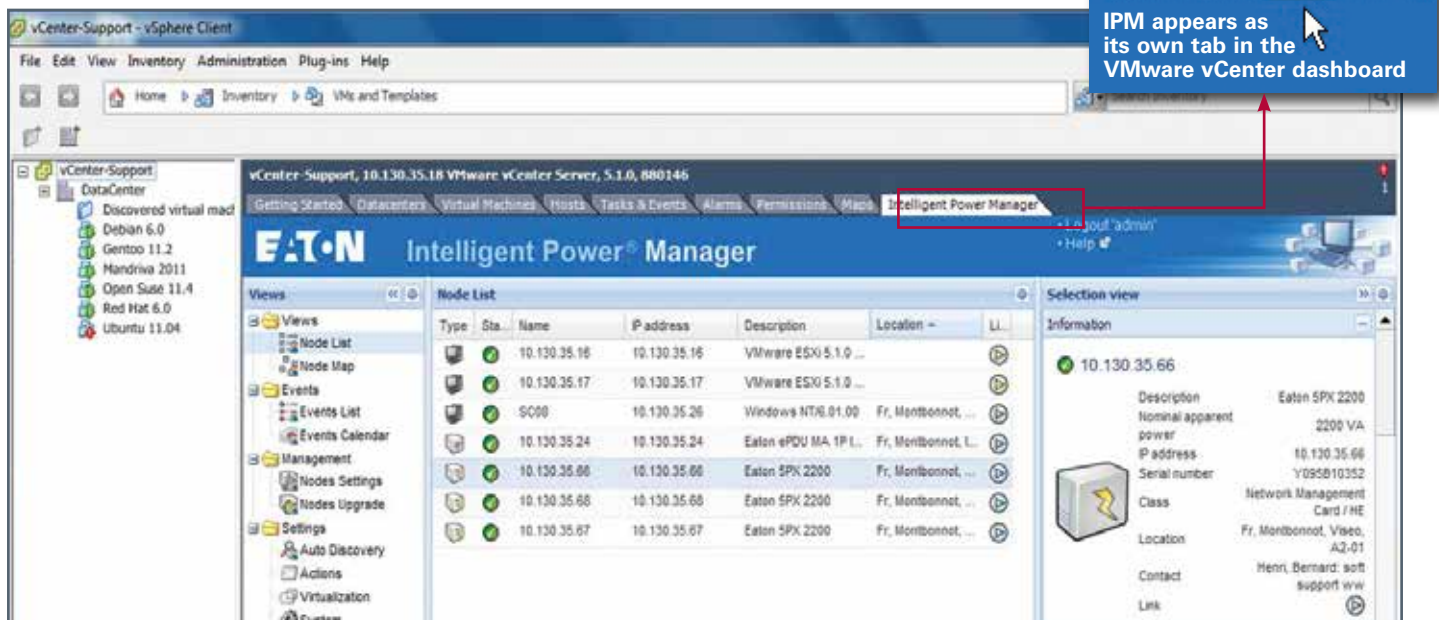


# How Eaton fits into the virtual landscape

Eaton's solutions integrate seamlessly into VMware's vCenter and Citrix's XenCenter dashboard. Our products provide not only the reliability and flexibility you need to adapt to an ever-changing virtual infrastructure, but they are also backed up with software that expands the capabilities of your virtual environment.



## Eaton's Intelligent Power Manager is VMware Ready.



## Eaton integration into virtual environments:

	VMware	Citrix	Microsoft	Red Hat
Shut down virtual machines	★	★	★	★
Trigger live migration	★	★	★	
Manage virtual machines and power through a single pane of glass	★	★		
Real-time notification of power outages	★	★	★	
Virtual desktop infrastructure integration	★	★		
Shut down a host in a cluster without installing software on each host	★	★		
Virtual appliance	★	*	*	*
Disaster avoidance, recovery site backup	★			
Cost	Free up to 10 nodes (UPS or ePDU)			

\* OVF compliant; fully tested on VMware

## Eaton also:

- Offers Cisco Energywise Certified products
- Offers open-source solutions
  - Key contributor to NetworkUPS tool project (NUT)
  - Open Virtualization Alliance member
  - Eucalyptus and Debian partners



# Eaton solutions for FlexPod and ExpressPod

Model/description	Quantity	Part number	Input	Output outlets	Benefits
<b>Single-phase FlexPod configuration</b>					
<b>Power distribution and protection</b>					
<b>Managed PDU</b>	2	eMAA12	IEC C20 16A	(20) C13, (4) C19	Remotely control and measure the power consumption of each FlexPod element, EnergyWise certified
<b>10 kW UPS (6U)</b>	1	9PX11KiRT + MBP11ki + Network-MS	Hardwired	4 IEC 16A	ENERGY STAR compliant, high density UPS with network management, generator friendly, provides 4 minutes of battery runtime at 9kW load
<b>Extended Battery Module (3U)</b>	Included (add up to 5 modules)	9PXEBM240RT	n/a	n/a	Increase runtime from standard to over 40 minutes at 10kW load
<b>* Redundant Configuration</b>	1	9PX11KiRT + MBP11ki + Network-MS	Hardwired	4 IEC 16A	High availability with no single points of failure
<b>Rack infrastructure</b>					
<b>42U rack</b>	1	ER81042-CAS			Sturdy enclosure design for high density systems like FlexPod. 800mm wide enterprise rack allows plenty of room for cabling
<b>Environmental Monitoring Probe</b>	2	116750224-001			Set up actions and alerts on humidity and temperature events within the rack
<b>Power management software</b>					
<b>Energy management module for vCenter</b>	1	Free web download			Manage power and enable VM live migration, Site Recovery Manager or Load Shedding from your vCenter console
<b>Shutdown module for FAS storage</b>	1	Free web download			Gracefully shutdown your NetApp storage during an extended power outage
<b>Three-phase in FlexPod configuration*</b>					
<b>Power distribution and protection</b>					
<b>Monitored ePDU®</b>	2	eMAA12	IEC C20 16A	20xC13 and 4xC19	Remotely control and measure the power consumption of each FlexPod element, EnergyWise certified
<b>10kW UPS (6U)</b>	1	9PX11KiRT31 + MBP11ki + Network-MS	Hardwired	4 IEC 16A	High density UPS with network management, generator friendly, provides 4 minutes of battery runtime at 9kW load
<b>Extended battery module (3U)</b>	Included (add up to 5 modules)	9PXEBM240RT	n/a	n/a	Increase runtime from standard to over 40 minutes at 10kW load
<b>Rack infrastructure</b>					
<b>42U rack</b>	1	ER81042-CAS			Sturdy enclosure design for high density systems like FlexPod
<b>Environmental monitoring probe</b>	2	116750224-001			Set up actions and alerts on humidity and temperature events within the rack
<b>Power management software</b>					
<b>Energy management module for vCenter</b>	1	Free web download			Manage power and enable VM live migration, Site Recovery Manager or Load Shedding from your vCenter console
<b>Shutdown module for FAS storage</b>	1	Free web download			Gracefully shutdown your NetApp storage during an extended power outage
<b>Single-phase ExpressPod configuration</b>					
<b>3kVA UPS (2U)</b>	2	5PX3000iRT2U + Network-MS	IEC C20	(8) C13, (1) C19	ENERGY STAR compliant, high density UPS with redundancy for high availability, provides 8 minutes of battery runtime at 1.5kW load
<b>Power management software</b>					
<b>Energy management module for vCenter</b>	1	Free web download			Manage power and enable VM live migration, Site Recovery Manager or Load Shedding from your vCenter console
<b>Shutdown module for FAS storage</b>	1	Free web download			Ultimate data protection in case of an extended power outage

\*Eaton also offers Eaton BladeUPS (12-60 kW) for three-phase Flexpod configurations.

Eaton is dedicated to ensuring that reliable, efficient and safe power is available when it's needed most. With unparalleled knowledge of electrical power management across industries, experts at Eaton deliver customised, integrated solutions to solve our customers' most critical challenges.

Our focus is on delivering the right solution for the application. But, decision makers demand more than just innovative products. They turn to Eaton for an unwavering commitment to personal support that makes customer success a top priority.

For more information, visit [www.eaton.com/ups](http://www.eaton.com/ups)

#### **Eaton**

Electrical Sector  
1000 Eaton Boulevard  
Cleveland, OH 44122 USA  
[www.eaton.com](http://www.eaton.com)  
[www.powerquality.eaton.com](http://www.powerquality.eaton.com)

#### **Asia Pacific**

Australia	1300 877 877	<a href="mailto:aupqsales@eaton.com">aupqsales@eaton.com</a>
China	400 889 3938	<a href="mailto:PQDmkt@eaton.com">PQDmkt@eaton.com</a>
Hong Kong	852 2830 3077	<a href="mailto:EE-Marketing-HK@eaton.com">EE-Marketing-HK@eaton.com</a>
India	1800 200 7887	<a href="mailto:EatonPowerQualityIndia@eaton.com">EatonPowerQualityIndia@eaton.com</a>
New Zealand	0508 328 6669	<a href="mailto:NZSales@eaton.com">NZSales@eaton.com</a>
South East Asia	65 6825 1684	<a href="mailto:EatonSEA@eaton.com">EatonSEA@eaton.com</a>
Taiwan	886 2 6600 6688 ext. 2335	<a href="mailto:sales_tw@eaton.com">sales_tw@eaton.com</a>

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