Powering your VSPEX environment

EAT•N

Powering Business Worldwide

Eaton's partner network

EMC² TECHNOLOGY PARTNER PROGRAM

CISCO ™ PARTNER — Technology Developer

vmware® PARTNER — TECHNOLOGY ALLIANCE

CITRIX® PARTNER — Citrix Ready

Microsoft® Partner Network

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Powering Business Worldwide

www.eaton.eu/CI
www.eaton.eu/vspex

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 EMC to provide the ultimate power protection that is completely integrated with converged infrastructure offerings.

Storage

Network

Server

Hypervisor

Power Infrastructure
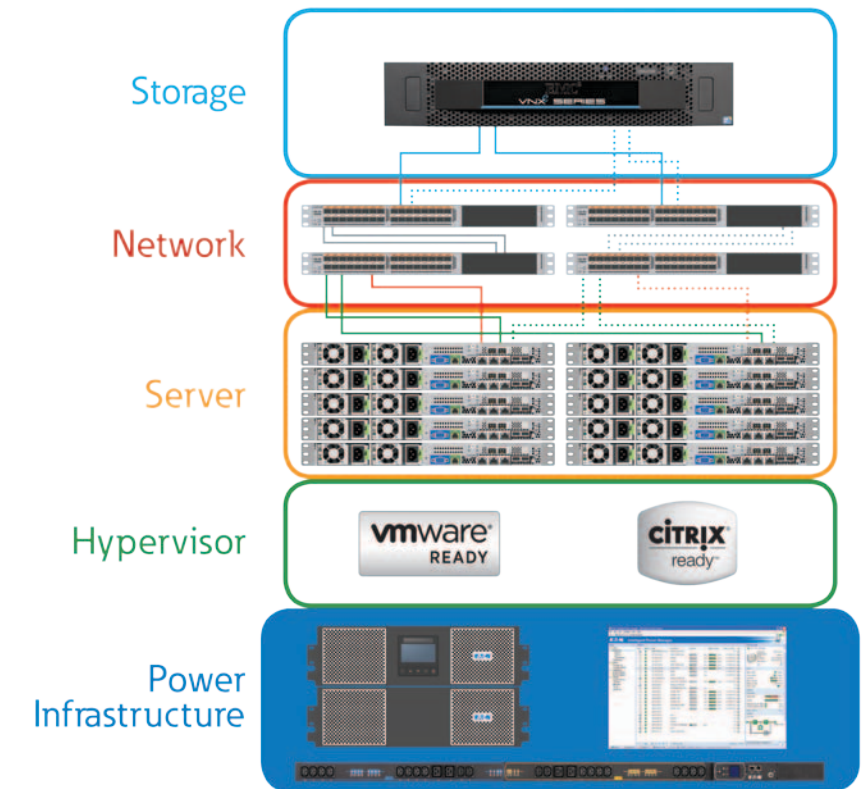
Powering your VSPEX environment

Eaton integrates seamlessly with VSPEX

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.

- **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.

- **Partnerships/Support** – Eaton collaborates with EMC, Cisco, VMware, Citrix, Microsoft to offer a physical and virtual infrastructure that seamlessly integrates into the VSPEX 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.

Private Cloud – 50 Virtual Machines

A Cisco Nexus 3048 Switches

B Cisco C220 M3 Servers

C EMC VNXe3150 Processor Enclosure

D EMC VNXe3150 Expansion Enclosure (3.5″)

E EMC SPS 1.2kW

F Data Domain DD670

G 9PX UPS

H Eaton Monitored ePDU

I Eaton RP-Series Rack
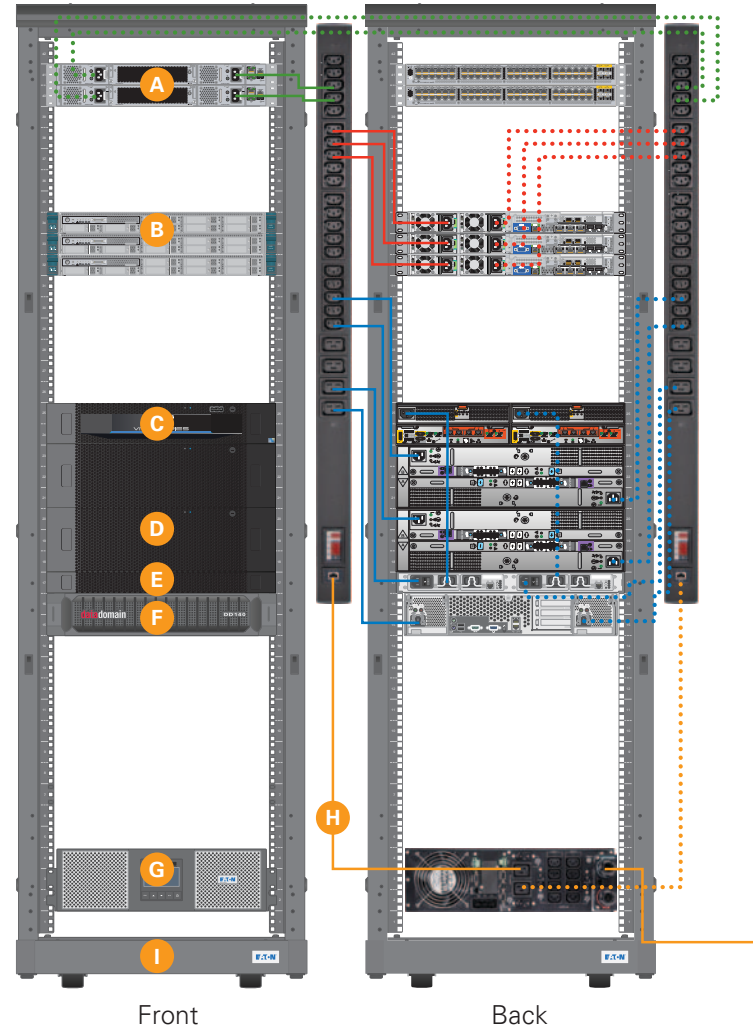
Front   Back

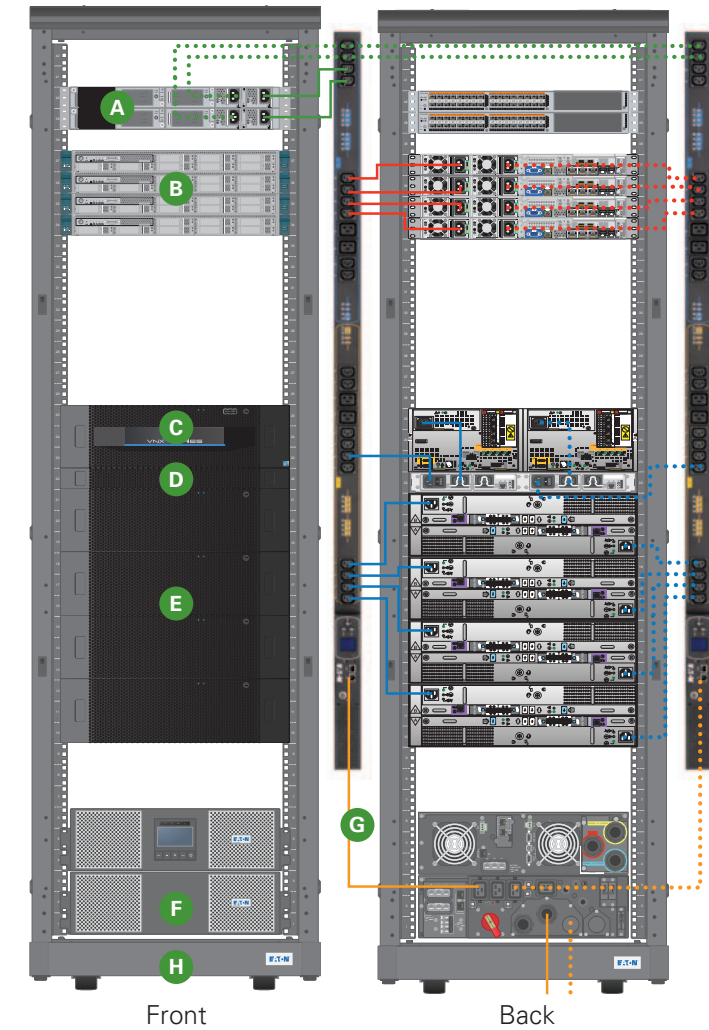**EATON PRE-CONFIGURED EMC CONVERGED INFRASTRUCTURE SOLUTIONS**

Components	Quantity	Description	Power Draw (Watts)		Power Connection	U Space	
			Per Supply (Max)	Solution Total		Per Unit	Solution Total
VMware 50 Virtual Machines							
Servers	3	Cisco C220 M3 Servers	450	1350	C13/14	1	3
Adapters	3	Broadcom NetXtreme II 5706 per server	N/A	–	N/A	–	–
Network Switches	2	Cisco Nexus 3048 Switches	124	248	C13/14	1	2
Virtual Switch	1	Cisco Nexus 1000V	N/A	–	N/A	–	–
Storage	1	EMC VNXe3150 Processor enclosure	440	440	C13/14	2	2
Storage	2	EMC VNXe3150 Expansion Enclosure (3.5")	240	480	C13/14	2	4
Storage	1	EMC SPS 1.2kW	40	40	C13/14	1	1
Data Deduplication, Backup and Recovery	1	Data Domain DD160	339	339	C13/14	2	2
Network Speed	–	1 GE	N/A	–	N/A	–	–
Hypervisor	–	VMware ESXi 5.0	N/A	–	N/A	–	–
			Total Power	**2897**		**Grand Total**	**14**

Eaton solution	Quantity	Description	Part Number		U Space
UPS	1	9PX 5000 Network Ready UPS	9PX5KiRTN		3
EBM (not shown)	1	Optional 9PX EBM – extends runtime to 30 minutes	9PXEBM180 + 9RK		3
ePDU	2	Eaton Monitored ePDU	PW104MI0UB97		0
EMP	1	Environmental Monitoring Probe	EMP001		0
IPM	Free	Intelligent Power Manager	Download at eaton.eu/virtualisation		0
Rack	1	RP-Series Rack – 600mmx1000mm	P1PCP1		0
				Solution Total	**20**

Private Cloud – 100 Virtual Machines

A Cisco Nexus 5548UP Switches

B Cisco C220 M3 Servers

C EMC VNXe3300

D EMC SPS 1.2kW

E EMC VNXe3300 Expansion Enclosure (3.5″)

F 9PX UPS 8kVA + Maintenance Bypass Module

G Eaton Managed ePDU

H Eaton RP-Series Rack

Front   Back

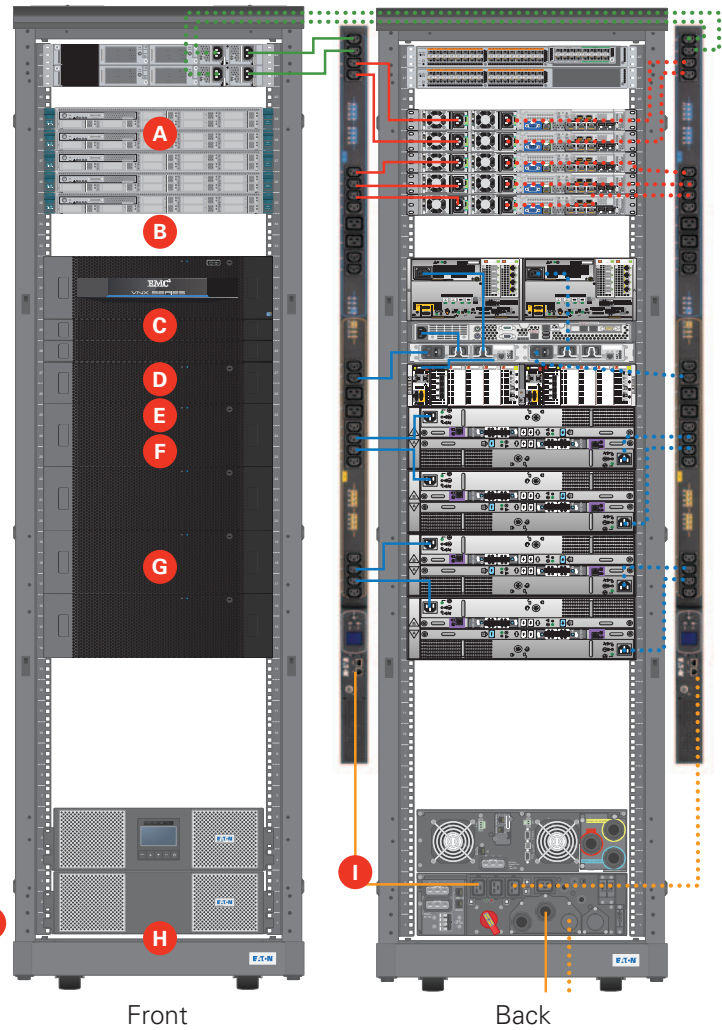**EATON PRE-CONFIGURED EMC CONVERGED INFRASTRUCTURE SOLUTIONS**

Components	Quantity	Description	Power Draw (Watts)		Power Connection	U Space	
			Per Supply (Max)	Solution Total		Per Unit	Solution Total
VMware 100 Virtual Machines							
Servers	4	Cisco C220 M3 Servers	450	1800	C13/14	1	4
Adapters	4	Cisco UCS P81E VIC per server	N/A	–	N/A	–	–
Network Switches	2	Cisco Nexus 5548UP switches	600	1200	C13/14	1	2
Virtual Switch	1	Cisco Nexus 1000V	N/A	–	N/A	–	–
Storage	1	EMC VNXe3300	455	455	C13/14	3	3
	4	EMC VNXe3300 Expansion Enclosure (3.5")	235	940	C13/14	3	12
	1	EMC SPS 1.2kW	40	40	C13/14	1	1
Network Speed	–	10 GE	N/A	–	N/A	–	–
Hypervisor	–	VMware ESXi 5.0	N/A	–	N/A	–	–
			Total Power	**4435**		**Grand Total**	**22**

Eaton solution	Quantity	Description	Part Number	U Space
UPS	1	9PX 8000 Network Ready UPS	9PX8KiRTNBP	6
EBM (not shown)	1	Optional 9PX EBM – extends runtime to 31 minutes	9PXEBM240 + 9RK	3
Rack	1	RP-Series Rack – 600mm x 1000 mm	P1PCP1	0
ePDU	2	Eaton Managed ePDU	eMAA12	0
EMP	1	Environmental Monitoring Probe	EMP001	0
IPM	Free	Intelligent Power Manager	Download at eaton.eu/virtualisation	0
			Solution Total	**31**

Private Cloud – 125 Virtual Machines

- **A** Cisco Nexus 5548UP Switches
- **B** Cisco C220 M3 Servers
- **C** EMC VNXe3300
- **D** EMC SPS 1.2kW
- **E** VNX Control Station
- **F** VNX5300 DME with Two Data Movers
- **G** EMC VNXe5300 Expansion Enclosure (3.5")
- **H** 9PX UPS 11kVA + Maintenance Bypass Module
- **I** Eaton Managed ePDU
- **J** Eaton RP-Series Rack

Front   Back

EATON PRE-CONFIGURED EMC CONVERGED INFRASTRUCTURE SOLUTIONS

Components	Quantity	Description	Power Draw (Watts)		Power Connection	U Space	
			Per Supply (Max)	Solution Total		Per Unit	Solution Total
VMware 125 Virtual Machines							
Servers	5	Cisco C220 M3 Servers	450	2250	C13/14	1	5
Adapters	5	Cisco UCS P81E VIC per server	N/A	–	N/A	–	–
Network Switches	2	Cisco Nexus 5548UP switches	600	1200	C13/14	1	2
Virtual Switch	1	Cisco Nexus 1000v	N/A	–	N/A	–	–
Storage	1	EMC VNX5300	455	455	C13/14	3	3
	4	EMC VNXe5300 Expansion Enclosure (3.5")	235	940	C13/14	3	12
	1	VNX5300 DME w/2 Data Movers	390	390	–	2	2
	1	VNX Control Station	104	104	–	1	1
	1	EMC SPS 1.2kW	40	40	C13/14	1	1
Network Speed	–	10 GE	N/A	–	N/A	–	–
Hypervisor	–	VMware ESXi 5.0	N/A	–	N/A	–	–
			Total Power	**5379**		**Grand Total**	**26**

Eaton solution	Quantity	Description	Part Number	U Space
UPS	1	9PX 11000 Network Ready UPS	9PX11KiRTNBP	6
EBM (not shown)	1	Optional 9PX EBM – extends runtime to 20 minutes	9PXEBM240 + 9RK	3
Rack	1	RP-Series Rack – 600mm x 1000 mm	P1PCP1	0
ePDU	2	Eaton Managed ePDU	eMAA12	0
EMP	1	Environmental Monitoring Probe	EMP001	0
IPM	Free	Intelligent Power Manager	Download at eaton.eu/virtualisation	0
			Solution Total	**40**

How Eaton fits into the virtual landscape

Eaton's solutions integrate seamlessly into VMware's vCenter and Citrix's XenCenter dashboards. 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.

Intelligent Power Manager

IPM appears as its own tab in the VMware vCenter dashboard
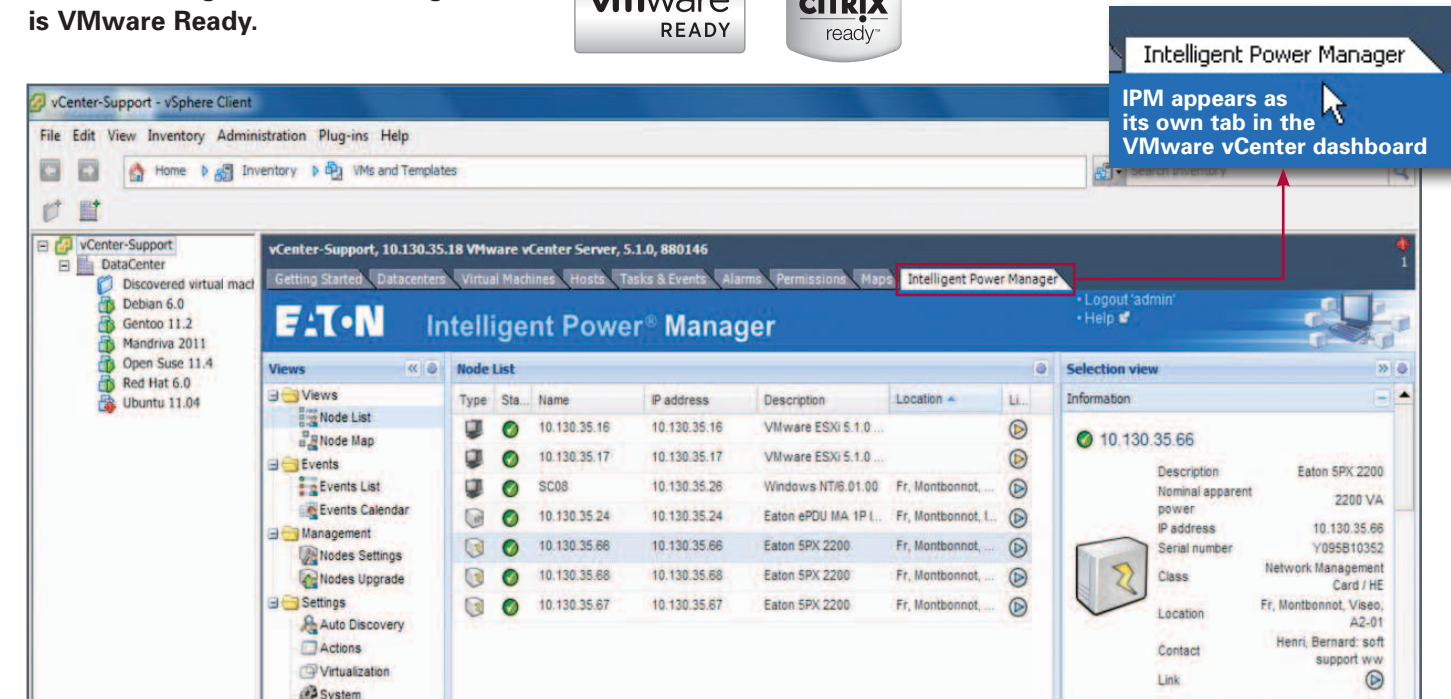
Eaton integration with virtual environments:

	VMware	Citrix	Microsoft
Shutdown 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	★	★	
Shutdown 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

debian

EUCALYPTUS

To learn more about Eaton's virtualisation solutions please visit:

www.eaton.eu/virtualisation

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.

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