Eaton[®] Intelligent Power Manager[®] (IPM) **Quick Start Installation Manual**











1. Downloading the software

From powerquality.eaton.com, please choose "Download software and drivers" from the right menu.

of	Prod	luct List
	沭	Select a UPS
	沭	Select Rack PDU
1 10	EE	Find Marketing Materials
	0	Find a Reseller
	Ð	Register a Product
Г	$\overline{\mathbf{\Lambda}}$	Download Software & Drivers
	ŧΆ	Become a Reseller

Figure 1: Select Intelligent Power Manager on the Download Software & Firmware page.

Or select your software solution:

View a complete li	isting of our software	& firmware products



Figure 2: in the software download page.

Choose	[Download	now].
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You may be prompted to register:

▲ Home

Registration

Registration

Please enter your email address first. We may already have your details.

E 100 201	200	roce.
1 1100	auu	1633.

Continue >

com

Figure 3: Registration before download (1st step)

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Software Downloads

Registration

Software Downloads Registration

Your registration will allow us to keep you up-to-date on the latest product developments and exclusive opportunities for registered users. Please provide your computer and UPS details for access to the latest software versions.

Email address:	1.com
Product selected for download:	Intelligent Power Manager
Computer & UPS details	
Eaton Product:	9PX V
Operating System:	Windows 10 V
I would like to complete a product surve	y.
I agree to the terms & conditions.	
	Save & Continue

Figure 4: Registration before download (2nd step)

Once you've completed your registration details, you should have access to the download page:

▲ Home	Download - I	ntelligent Power Manager Soft	tware	
 Download - Intelligent Power Manager Software 				
	Platform	Download	Description	Notes
	Windows server	ipm_win_1_64_229.exe (135 MB)	Intelligent Power® Manager v1.64B229	Release note
	Virtual appliance	IPM-1.64.229.VA64_OVF10.ova (729 MB)	Intelligent Power® Manager v1.648229: Virtual Appliance on Debian 9.2 (x64)	Release note

*NOTE: These files will install the free, basic version of IPM on your system. You can upgrade to a full-featured version of IPM with a silver or gold license by contacting your local reseller. Find out what you're missing by using the basic version. Check out this overview.

Figure 5: list of the IPM downloadable packages

Choose the download package that corresponds to your need (according to the server operating system you will use for the installation of IPM).

2. Installing the software

2.1. from a Windows package:

You MUST have administrator rights on this computer for the installation.

Double-Click on the .exe package and answer all the questions until the completion of the installation process. When the installation completes, you will be redirected to the application login page in order to start using IPM.

Go to the paragraph 3. Login into the IPM application

2.2. from a VMware OVA :

The setup of the OVA is the responsibility of the VMware cluster administrator. Please contact your VMWare administrator to complete this installation.

At the end of the deployment of the OVA, you must edit the network settings if you want to have a static IP address ssigned to the server. DHCP is configured by default.

3. Login into the IPM application

This step assumes that you have successfully completed the initial installation in the previous step. You no longer have to be logged into the server hosting the IPM application.

A simple way to open the IPM monitoring application is is to Right-Click on the IPM Eaton icon in the Windows status bar (if you are connected to the computer hosting IPM).

Open the no	tincatio	on box	
Open the we	b interfa	ace	
Start 'Intellig	ent Pow	er Manager'	
Stop 'Intellig	ent Pow	er Manager'	
S X			
- FT 44	, ENG	4:09 PM	2
~ 뛷 ♡	FR	2/14/2019	Ц.

Figure 6: using the Eaton IPM command from the IPM icon in the Windows status bar.

You may also access the application from any web browser running in the same network as the IPM server (or a network segment with access to that network). You can access at the following URL:

http://ServerHostname_or_IPaddress:4679 https://ServerHostname_or_IPaddress:4680

Note: As the IPM security certificate is self-signed, you will have some security warnings before opening the web page. Please acknowledge all of the warnings in order to access the login page.

Intelligent Power [®] Manager	
 What is Eaton Intelligent Power Manager? Ideal for monitoring and managing multiple power and environmental devices, Intelligent Power Manager software from Eaton delivers a global view across the network from any PC with an Internet browser. Exceptionally versatile, the software is compatible with any device supporting a network interface, including other manufacturers' UPSs, environmental sensors, ePDUs, shutdown applications and more. Intelligent Power Manager also offers the ability to organize a management table by groups, centralize alarms, and maintain event logs for preventive maintenance of the entire installed equipment base. 	Login: admin Password: Login

Figure 7: IPM login web page

Default credentials are admin / admin.

We recommend to change the default password and to save the new password in a secure place.

4. Entering a license in the IPM instance

You can use the basic software capabilities after installation; however, to unlock its advanced capabilities you will need to enter a license key. Your Eaton pre-sales contact can propose the best license for your needs. If you want to try the advanced features before buying, trial versions are available upon request.

The license string may be entered in the System view:



Figure 8: System view just after installation without any license string

You can use the "Edit system information" on the right or double-click on the information in the middle dashlet. Then, just paste the license string in the "Product key:" field and push the [Save] button.

Product key:	101JR-	88DTS
Contact:	Bernard, IT Manager	
Location:	Albania, Tiranna, Main Build	ding, 4th flor,

Figure 9: entering the system information (example of possible information).

The system information panel is updated according to license level:

System
System About 'Eaton Intelligent Power Manager' Product version: 1.65 Release 231 License: Monitor Product key: 101JR- Pr
Website link: http://pqsoftware.eaton.com/explore/eng/ipm/default.htm

Figure 10: system information after insertion of a valid license string, and other information

5. Auto Discovery view

F:T•N Intellige	• Loport • Hep ∉	admar ⁱ
Views () Views	Node List Type Status Name Mac Address Description Location Contact Access Link Disco	Cuscle scan Consultation Consu
📓 User List	14 4 Page 1 of 1 👂 🖓 100 🔮 Items per page No data to display	diff Expart to CSV file
🚫 OK: 🛞 Warning:	Oritical: O Unknown:	

Figure 11: Auto Discovery view in the IPM graphic user interface.

Remember that the layout of this view may be tailored according to your needs. For example, you can display the IP addresses instead of the MAC addresses. In addition, this customization is local to the Auto Discovery view. Another layout could be defined in the Node List view because the available information are different in these 2 views.

Node List	:						
Туре	▼ Status	Name		IP address	Class	Location	Contact
3	A Sort ascer	nding	.mbt.lab.etn.com	124			
3	Z Sort desce	ending	.mbt.lab.etn.com	123	Eaton Gigabit Network Card UPS01	Rack01 - Lab A01 Dev	Sacha
	Columns	b	The second se	120	Eaton Gigabit Network Card		
	U	sninp_	V Type	95	UPS RFC1628 / SNMP	Montbonnot, A2, Soft S	Technica
3	0		V Status	93	Eaton Gigabit Network Card ups_00-20-85-E9-40-FD	A2-01, le Viseo, Mbt, Fr	Bernard
	0	ups_1	IP address	98	Network Management Card / KB	Labo A2-01, Mbt	Eaton GI
(P)	0	1A000	Mac Address	78	ATS Eaton 32A	FR, Mbt, A2	Tech Sup
3	Ø	ups_E	Description	58	Network Management Card / HF	Labo A2-01, Mbt	Eaton G
3	0	ups_1	Serial number	r 74	Network Management Card / HE	Labo A2-01, Mbt	Eaton GI
	0	ats_37	🔽 Class	37	ATS Eaton 16A	Computer Room	Compute
	0	ups_C	OS Type	57	Network Management Card / FA	Labo A2-01, Mbt	Eaton GI
3	Ø	ups_4	Location	60	Network Management Card / GD	Labo A2-01, Mbt	Eaton GI
3	0		Contact	97	Eaton Gigabit Network Card		
	0		V Access	70	Eaton Gigabit Network Card Network-M2	Tech Supp Lab	Jose / Be
	۲	Linux/	Discovery dat	36	Intelligent Power Manager / 1.55.175	Tech Supp Lab	Jose & B
3	0		.49	49	ConnectUPS Web/SNMP Card V4.36	labo TEc echSupport	Bernard

Figure 12: Customization of the layout of the Auto Discovery view. Just use the tile of the title bar!

At the end of the installation, the IPM software, automatically, performs a "quick scan" operation on the broadcast network. Some nodes may already be listed in this view, depending on your network architecture and other parameters.

If the UPSs, ePDUs, servers hosting Eaton applications (e.g. IPP or IPM) are not listed in the view, please use the command on the right: "Range scan" and "Address(es) scan" in order to discover the missing nodes.

6. Enabling the right modules for operation

The possible modules are the following:

Edit modules settings
✓ Management
Shutdown
Infrastructure Connectors
Site Recovery Manager®
☑ IPM REST API
🔲 Data Center Management
User drivers
Redundancy
Save Cancel

Figure 13: different possible modules

We recommend to enable the following modules :

Moduble label	Goal
Infrastructure connector	for the remote agentless protection of some hypervisors / VMs / etc
Redundancy	for the protection of computers that are protected by several UPSs
Shutdown	is only useful when the graceful shutdown of the computer hosting IPM is required.

7. Discovering the UPSs

We recommend discovering the UPSs before configuring any setting regarding protection.

8. Adding the hyper visors

8.1. Most frequent case: VMware vCenter

In the Settings >> "Infrastructure connectors" view; use the "Add a connector" function:

Add a connector	×		
Product:	VMware vCenter		
Hostname or IP address:	https://vcenter.support.ml		
Port:	443 (default)		
Username:	administrator@vsphere.loc		
Password:	•••••		
vCenter Plugin:			
Save	Cancel		

Figure 14: addition of a vCenter connector

The "vCenter Plugin" is not utilized in the protection features. So it is not mandatory to select it in this step. If you do enable it, it will let you view the UPS(s) that protect(s) your ESXi(s) directly within the vCenter application.

Once the connector is configured, you should have the vCenter and all the managed ESXi displayed in IPM:

Infrastructure Connectors			
Hostname or IP address 🔺	Plugin S	Connect	Product
□ Product: New VMware vCenter (1 Item)			
vcenter.support.mbt.lab.etn.com	Ø	Ø	New VMware vCenter
□ Product: VMware ESX/ESXi through vCenter (3 Items)			
5.27		Ø	VMware ESX/ESXi through vCenter
5.28		Ø	VMware ESX/ESXi through vCenter
5.29		Ø	VMware ESX/ESXi through vCenter

Figure 15: connectors displayed after the addition of a vCenter connector

8.2. Most frequent case: VMware ESXi direct connection

Edit connector		×
Product:	VMware ESXi	~
Hostname or IP address:	29	
Username:	guesteaton	
Password:		
Save	Cancel	

Figure 16: adding an ESXi as connector (without vCenter).

Infrastructure Connectors			
Hostname or IP address 🔺	Plugin St	Connecti	Product
🖃 Product: VMware ESXi (1 Item)			
29		0	VMware ESXI

Figure 17: ESXi listed when creating a direct connection with an ESXi

After this step, go to the paragraph "10. Protecting the hypervisors

9. Viewing the hypervisors

In the latest release of IPM software, the hypervisors may only be listed in the "Nodes List" view, instead of the "Infrastructure connectors" view. As this view could list a very large number of nodes, we recommend to create sub views based on node types: To create a sub view, right-click on "Nodes list" in the left part, and then choose the "Create a sub view from" sub-function:



Figure 18: sub-function for creation of sub views.

And select "Type":

Create a sub view fr	om, 🗤 6. mbt. lab. etn. com 🛛 🗙	3
Criteria:	•	
	Category	d
Sav	Configuration policy	
	Contact	
	Description	
	IP address	
	Location	
	Name	
	Status	
vCenter Server 6.5	Туре	

Figure 19: creating a sub view according to "Type".



Figure 20: prompt for confirmation of the sub views creation

The result is the creation of a sub view for hypervisors :

FAT-N	Intell	igent	Power	·® Managei	è.
Views	« 🌢	Node List			
🖃 😋 Views		Туре	Status	Name	
Node List			0	ESXi29	
Type: 'Hypervi	isor'		0	ESXi28	
Type: 'IPM'			0	ESXi26	
Type: 'IPP'			0	ESXi27	



10. Protecting the hypervisors

Before you configure any settings, you should define the following for each node you want to protect:

- the trigger event that will start the graceful shutdown of the node(s),
- the time required for the completion of this graceful shutdown.

10.1. Using the wizard for graceful shutdown protection

First, select the hypervisors you want to protect with a given set of shutdown parameters (in this example we have selected 2 ESXi from the list of 4) and Right-Click on the selection:

	CHARTEN ST	1 Carlos Constant		1		100 C 100 C
Type	Status	Name 🔺		IP address	Description	Location
	0	ESXi26		.26	VMware ESXi 6.5.0 build-59	vcenter.support.mbt.lab.etn
1	Ø	ESXi27		.27	VMware ESXi 6.5.0 build-59	vcenter.support.mbt.lab.etn
1	Ø	ESXi28	(- h - h - r	28	VMware ESXi 6.5.0 build-59	vcenter.support.mbt.lab.etn
0	Ø	Set nod		ormation ess parameters policy	VMware ESXi 6.5.0 build-45	vcenter.support.mbt.lab.etn

Figure 22: contextual sub command "Create Shutdown Policy" feature in order to start the wizard

Use the "Create Shutdown Policy" and then define the trigger (event) and the action required for the protection scenario: (for example for a group of servers that require 10 minutes for the complete shutdown, the settings could be the following).

ware ESXi 6.5.0 build-45 vc	enter.support.mbt.lab	.etn		(
PO_Shutdown Policy for ESX	i27 and ESXi28			
2 Nodes: ESXi27, ESXi28				
2 Class: Runtime threshole	d settings, Power S	ource		
Data	Value	Edit		
Timer	-1 s	1		
Remaining Time Limit	630 s	Ø		
Remaining Capacity Limit	0 %	Ø		
Shutdown Duration	600 s	Ø		
Power Source*	ups_89-84	Ø		
Load Segment*	Master output	Ø		
	PO_Shutdown Policy for ESX PO_Shutdown Policy for ESX 2 Nodes: ESXi27, ESXi28 2 Class: Runtime threshold Data Timer Remaining Time Limit Remaining Capacity Limit Shutdown Duration Power Source* Load Segment*	PO_Shutdown Policy for ESXi27 and ESXi28 PO_Shutdown Policy for ESXi27 and ESXi28 2 Nodes: ESXi27, ESXi28 2 Class: Runtime threshold settings, Power S Data Value Timer -1 s Remaining Time Limit 630 s Remaining Capacity Limit 0 % Shutdown Duration 600 s Power Source* ups_89-84 Load Segment* Master output	PO_Shutdown Policy for ESXi27 and ESXi28 PO_Shutdown Policy for ESXi27 and ESXi28 2 Nodes: ESXi27, ESXi28 2 Class: Runtime threshold settings, Power Source Data Value Edit Timer -1 s ✓ Remaining Time Limit 630 s ✓ Shutdown Duration 600 s ✓ Power Source* ups_89-84 ✓ Load Segment* Master output ✓	Data Value Edit Timer -1 s / Remaining Time Limit 630 s / Shutdown Duration 600 s / Shutdown Duration 600 s / Power Source* ups_89-84 / Load Segment* Master output /

Figure 23: Shutown policy example

When you click the [Save] button, the wizard proposes the following operations :

Create new action					
?	Do you want t policy?	o create a shutdo	own action for the newly	created	
		Yes	No		

Figure 24: wizard prompt after policy save operation

Click [Yes] and configure the suitable action for the protection (for example) :

1	Edit action						×
	Action active:		V				
	Action name*:		AC_Host Power Action				
	Events List*:		Runtime Threshold Reached				
	Event Source:		PO_Shutdown Policy for ESXi27 and ESXi28				
	Action type*:		Host power action (shutdown/start)			~	
In	Action Settings:						
	Name	Value					
	Host power c	Shutdown gue	st VMs first, then host	Ø			
	Host target*	PO_Shutdown	Policy for ESXi27 and ESXi28	Ø			
	Timeout	25		Ø			

Figure 25: example of possible action configuration

During this definition, if you are unable to select Policy in the host target field, just configure the other settings, then save and re-open the action again. Sometimes a refresh is required to enable the selection of the policy for the host target.

10.2. Manually or modifying an existing installation

If you need to modify some shutdown settings or prefer to manually create a policy, you may create/modify a policy in the Management >> Configuration policy view and create/modify an action in the Settings >> "Event / Actions" view.

11. Testing the protection

11.1. Testing the action

Actions / Events		
AC_Host Power Action Action type: Host power action (shutdown/start) Events List: Runtime Threshold Reached Event Source: PO_Shutdown Policy for ESXi27 and ESXi28	Host power cc Host target: P Timeout: 25	
AC_case_29716_STARTTLS_settings Action type: Email Events List: Event Source: Any source	Copy selected action Edit selected action Test selected action	SMTP server: SMTP Mode: SMTP server Login:

Figure 26: Right-Click on the action you need to test.

Then, confirm your request by clicking the [Yes] button.

Remove	action	essaye.Ameasuyer	×
2	Do you want to remove 'AC_Host Power Action'?		
	Yes	No	

Figure 27: confirmation for test of the action.

11.2. Testing the triggers

You may modify the shutdown policy for a quick test without draining all the power out of the battery. To do so, just use the Runtime threshold settings >> Timer:

Configuration policy settings:				
Class	Data	Value	Edit	
Runtime threshold settings	Timer	-1 s	Ø	
Runtime threshold settings	Edit parameter		1	×
Runtime threshold settings	_			
Runtime threshold settings				
Power Source The timer defines the maximum duration between power loss and triggering of the value is a third source (the value is a third source) of the value is a third source (the value is a third source).				
Power Source	criterion is disabled. If the duration in seconds.	e value is greater tha	in or equal to 0, it define	es the timer
				30 s

Figure 28: shutdown timer for test conditions.

This will reduce the delay between the power failure and the occurrence of the trigger to the specified delay.

Caution: this modification needs to the cleared for use in a production environment.

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