Application note



Using Eaton IPM to gracefully shutdown ESXi hosts with versions 6.7 and later

OPEN IPM and check under system that **'Infrastructure Connectors'** is enabled, if not enable it by using **'Edit module settings'** on the right panel. Your screen will look something like this . . .

ws (II)	5 System	Edit system information
Vevrs	Language Settings Language: undefined Disk Ecount inscriminated	Edit language Edit scan settings
Location Floor Location Knowhere	Time Format HaMbas Temperature Unit [IC] Celsius	Check for updates
Type IPM	Automatic scan: Enabled Remove durificated orders automaticativ: Enabled	Edit modules settings
Type: Virtual machine	/ XML Enabled	😂 Edit security settings
Power Source Power Components Power Components Power Logs Events List Events Calendar Management	Username / Password, admin / **** ShiMPv1 Enabled ShiMPv3 Disabled NUT Enabled Microsoft Disabled MiCrosoft Disabled Username / Password, /	Configuration
Nodes Settings Nodes Upgrade Configuration Policies Settings	Automatic Update Settings Interval: Every week Last Update: (no update done) Next Check Update: 2019/05/16-17:38:06	
Auto Discovery	Modules Settings Management: Enabled Stationer: Enabled	
Infrastructure Connector System Log System User List	Infrastructure Connectors: Enabled Site Recovery Manager®: Disabled Third Party Connection (Rops / OpenStack AP): Disabled Simulator: Enabled Data Center Management: Disabled User drivers: Enabled Redundancy: Enabled	



NEXT SELECT 'INFRASTRUCTURE CONNECTORS' ON THE LEFT PANEL. Then select **'Add a connector'** on the top right panel. Select **'VMware ESX/ESXi'** from the pop up / drop down. Then **click save**.



3 AFTER IT AUTHENTICATES, the ESXi host will be discovered.

Intelligent Power® Manager					• Logout • Help 💕
Views 🔍 👌	Infras	tructu	re Con	nectors	
Carlo Views	Hos	Pl	C	Product .	
Avery's Creek	B Proc	luct: V	Mwar	e ESXi (1 Item)	
Location: 'Floor'	166		0	VMware ESXi	
Type: 'Hypervisor'					
Type: 1PM					
Type: 'UPS'					
Type: "Virtual machine"					



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SELECT 'AUTO DISCOVERY' FROM THE LEFT SIDE PANEL, then select the ESXi host you wish to have a

graceful shutdown as shown below.

FIT-N Inte	ellig	ent	Power	* Manager			- Logo - Help	d'admin'
Views # 0	Node	List	12					R Oukk scan
Ca Vevs	Type	Sta	Name -	Class	Location	Contact	Acc Link	A Range scan
Node List		0	ups/74	Network Management Card	Comput	Comp	,0 × (2)	R Address(es) scan
Location: Floor	0	0	ups203	Network Management Card	Comput	Comp	PxO	Cdit node information
Location: Knowhere'		۲	UPS 34	Eaton Gigabit Network Card			,0 × 0	Set node access parameters
Type: 1PM		0	IPM-1.65D	Villware Virtual Machine				Create Studiown Palicy
Type: UPS		0	IPM-1.65C	Villviare Virtual Machine				Remove nodes
Power Source		0	IPM .221	Intelligent Power Manager /			PKO	B Manage duplicated nodes .
Revier Components		0	ES30.219	VMware ESX				Select all
Events Logs								Set as power source
Notes Settings								User drivers editor
Auto Discovery								all Export to CSV file

SELECT 'CREATE SHUTDOWN POLICY' FROM THE RIGHT SIDE PANEL. This will then open a pop up that allows you to set shutdown parameters.

Configuration policy name":	Shutdown Policy			
Target nodes:	1 Nodes: ES00 .219			1
Class list:	2 Class: Runtime threshold	I settings, Power Source		2
Configuration policy settings:	Class	Data	Value	Edit
	Runtime threshold settings	Timer	-1.8	1
	Runtime threshold settings	Remaining Time Limit	0 s	1
	Runtime threshold settings	Remaining Capacity Limit	0 %	1
	Runtime threshold settings	Shutdown Duration	120 s	1
	Power Source	Power Source*		1
	Power Source	Load Segment*	Master output	1
	Power Source Power Source	Power Source* Load Segment*	Master output	,

THIS POP UP IS ALSO SHOWN WHEN YOU WANT TO SELECT MULTIPLE DEVICES — in which case you would access through selecting 'Configuration Policies' on the left side panel. In this case, the name Shutdown Policy was set automatically by the software.

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YOU SEE THERE ARE FOUR OPTIONS ON RUNTIME THRESHOLD SETTINGS, IPM will act on whichever happens first:

Name of setting	description
Timer	This will register the event upon the expiration of a timer. Edit the timer settings for how much time you would like to elapse before an action is taken
Remaining time limit	This will register the event upon how many seconds of battery remain. Edit the settings, here, for how much time you would like to elapse before an action is taken
Remaining capacity limit	This will register the event upon how much percent of battery capacity remains. Edit the settings, here, for how much battery capacity you would like to remain before an action is taken
Shutdown duration	This will be the last resort if no other value is reached. Edit the settings to depict the time duration required to do a graceful shutdown.

THE POWER SOURCE is the UPS that is providing power to the specific host that requires the shutdown action. The users will get a pop-up window when they **click on the pencil to edit the power source**. They then **select from the icons** of the discovered UPSs, then **click save**.

Att selected policy Configuration policy name*: Shutdown Policy Target nodes: 1 Nodes: ESX0.219 Class lst: 2 Class: Runtime threshold settings, Power Source Configuration policy settings: Image: Class Runtime threshold settings, Power Source Configuration policy settings: Image: Class Runtime threshold settings Configuration policy settings: Image: Runtime threshold settings Runtime threshold settings Remaining Time Limit 120 s Runtime threshold settings Remaining Capacity Limit 20 % Runtime threshold settings Shutdown Duration 120 s Power Source Load Segment* Master output	Type Nam	•			
dit selected policy Configuration policy name*: Shutdown Policy Target nodes: 1 Nodes: ESX0.219 Class lst: 2 Class: Runtime threshold settings, Power Source Configuration policy settings: Class Configuration policy settings: Class Cla	Location: No location ()	1 Item)			
Configuration policy name*: Shutdown Policy Target nodes: 1 Nodes: ESG .219 Class list: 2 Class: Runtime threshold settings, Power Source Configuration policy settings Class Int: Class Data Value Edit Runtime Breshold settings Timer 300 s Runtime Breshold settings Remaining Time Limit 120 s Runtime Breshold settings Remaining Capacity Limit 20 % Runtime Breshold settings Shutdown Duration 120 s Power Source Power Source ups203 Power Source Load Segment* Master output	dit selected policy				
Configuration policy settings: Class: Runtime threshold settings, Power Source Configuration policy settings: Class: Runtime threshold settings, Power Source Configuration policy settings: Class: Runtime threshold settings, Remaining Time Limit Source threshold settings Remaining Time Limit Runtime threshold settings Remaining Capacity Limit Runtime threshold settings Shutdown Duration Power Source Power Source* Power Source Load Segment*	Configuration policy name*:	Shutdown Policy			
Configuration policy settings: Class: Runtime threshold settings, Power Source Value Edit Configuration policy settings: Class Data Value Edit Runtime threshold settings Timer 300 s / Runtime threshold settings Remaining Time Limit 120 s / Runtime threshold settings Remaining Capacity Limit 20 % / Runtime threshold settings Shutdown Duration 120 s / Power Source Power Source* up303 / Power Source Load Segment* Master output /	Target nodes:	1 Nodes: ES30 .219			6
Configuration policy settings: Class Data Value Edit Puntime threshold settings Timer 300 s / Runtime threshold settings Remaining Time Limit 120 s / Runtime threshold settings Remaining Capacity Limit 20 % / Runtime threshold settings Shutdown Duration 120 s / Power Source Power Source ups203 / Power Source Load Segment* Master output /	Class list:	2 Class: Runtime threshold	settings, Power Source		G
Coast Class Value Coast Runtime threshold settings Timer 300 s / Runtime threshold settings Remaining Time Limit 120 s / Runtime threshold settings Remaining Capacity Limit 20 % / Runtime threshold settings Shutdown Duration 120 s / Runtime threshold settings Shutdown Duration 120 s / Power Source Power Source* ups203 /	Configuration policy settings:	Com.	0.00	100.0	100
Runtime threshold settings Remaining Time Limit 120 s Runtime threshold settings Remaining Capacity Limit 20 % Runtime threshold settings Shutdown Duration 120 s Runtime threshold settings Shutdown Duration 120 s Power Source Power Source* ups203 Power Source Load Segment* Master output		Runtime threshold settings	Timer	300 s	2
Runtime threshold settings Remaining Capacity Limit 20 % Runtime threshold settings Shutdown Duration 120 s Power Source Power Source* ups203 Power Source Load Segment* Master output		Runtime threshold settings	Remaining Time Limit	120 s	1
Runtime threshold settings Shuldown Duration 120 s Power Source Power Source* ups203 Power Source Load Segment* Master output		Runtime threshold settings	Remaining Capacity Limit	20 %	1
Power Source Power Source* ups203		Runtime threshold settings	Shuldown Duration	120 s	1
Power Source Load Segment' Master output		Power Source	Power Source*	ups203	1
		Power Source	Load Segment*	Master output	1
		Power Source	Load Segment*	Master output	1

ONCE THE USER HITS SAVE, IPM asks if they wish to have a shutdown action to accompany the newly created policy. When they **click 'yes'** and edit action pop-up appears. In the newly created action, the event source is pre-populated with the name given in the configuration policy from above '**Shutdown policy'**. The event's List shows '**Runtime Threshold Reached'** which picks up the timings from the configuration policy. Under action type, you will select '**Host Power Action (shutdown/start)'**.

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COD ACTIVE:	16			
(Son name*)	Host Power Activ	08		
vents List*:	Runtime Thresh	hold Reached		1
vent Source:	Shutdown Palicy			1
ction tope*:	Rest power activ	en Cehubbours/start0		~
ction Settings:	Name	Value		
	Host power c.	Shuldown host	1	
	Host target"	- Event source host -	1	
	Timeout	0	1	
	s	eve Cancel		

THE USER THEN SELECTS FROM THE OPTIONS FOR SHUTDOWN. The next selection required by the user is shutdown target. In this case, the user will select ESXi .219.



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THE CHECK BOX AT THE TOP OF THE POP-UP is how the action is enabled or disabled.

	Set host to standby mode
	Exit from standby mode
	Edit parameter
	March Research
10	intol target
19.	The host target. A host target can be the event source, a configuration poly associated to at least one host node, or an explicit host node.
ie	- Event source tost -
	Power Source
	ESIX 219

TO FURTHER YOUR OPTIONS on host power action, you can choose from the list that is provided when clicking on edit of shutdown host. The following pop-up

Actions that enable the complete or partial shutdown of a host server as well as its

(2) Actions that enable the complete or partial shutdown of a host server as well as its restart. The -Set host to maintenance mode-action causes the migration of the host VHs but does not stop the server. Similarly, the -Set host to standay mode- action causes the VHs to migrate but stops the server while leaving it in a state that makes it possible to wake from standby. The -Shutdown host- action simply stops the server without migrating the VHs. The host will have to be restarted manually. For more detailed information, please consult the user manual of your virtualization software provider.

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appears.

Shutdown guest VMs first, then host

Exit from maintenance mode

Host power command

Edit parameter

Shutidown host Set host to maintenance mode Set host to maintenance mode, then shutdown.

THE 'TIMEOUT' SELECTION is there in case one of the VMs gets hung up and does not shutdown in the expected time. See the pop-up verbiage below.

Idit action				
Action actives	10			
A(Sin name*)	Heat Power Acts	añ.		
Events List*:	Runtime Thread	hold Reached		1
Event Source:	Shutdown Policy			1
Action type*1	Heat power action	n (shuldimer/start)		w
Action Settinger	Name	Value		
	Host power 4	Set host to maintenance mode, then shu	1	
	Host larger	654-219	1	
	Timeout	1	1	
		ere Cancel		

Edit parameter

Timeout

This timeout is only relevant for the "Shutdown guest VHs first, then host" and Enter in maintenance mode then shutdown" actions. Once this timeout value is reached, the host will be provered off, even if the current action is not terminated. This defay is expressed in seconds.



AFTER YOU CLICK SAVE, it will show in the Actions/events section. The highlighted action is what is now shown when clicking 'Actions / Events' from the left side of the screen.

Views 4.0	Actions / Events		Create new action
Versi Ve	Enert Log Action type Event Log Events Luit Information Alarma, Warning	Message (Message)	Copy selected action
	Alanma, Critical Alanma, Unknown State Alanma Event Source: nemovel		Test exisched action
	Hoat Power Action Action type: Roat power action	Host power command. Set have to	Show Inactive Actions
	Events List Rankine Threshold Reached Event Source: Shatdown Policy	Honorements moon, then traditions, Honorement B Timerout B	Citit event rules
	(g) Head Shuldown Adlan (gie Hold power action (shuldownitet) E-onti Lui Power Fallure plus 30xeo E-onti Source: UPS 34	Hoad power command. Bet hoad to maintenance mode Hoad larget (EDX) 219 Tameout 520	
	(j) Notification Action type: Notification Events List Information Alarma, Warning Alarma, Critical Alarma, Unknown State Alarma Event Source: remove	Message (Message)	
	(g) Turn VM att Action type VM power action (atopistant) Event List Runtime Threahold Reached Event Source Att VM	Power command: Guest shutdown The VM target – VM event exerce – Studiour guest treout: 0	

If you need assistance, please call Eaton support at: 800.843.9433, option 2, option 5 or send an email to: PQSORaleighSoftware_ConnectivityTSEG@Eaton.com.



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