User Manual

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Chapter 1 Overview

NMC (Network Management Card) can receive the status information of UPS, and also can send commands to control UPS. User can manage UPS with NMC via web browser or via network management software which supports SNMP protocol.

Once UPS output is abnormal or other events are touched off, NMC will protect server or client operating system being shut down safely by working with system protect software (SPS) that can be installed on various operating system. The conditions include: UPS output abnormal, UPS battery low, UPS overload, over temperature, schedule shutdown, etc. User can set the condition, once the event is touched off, NMC will inform SPS of the event and SPS will shut down operating system safely according to the setting of SPS.

Note: NMC is short for Network Management Card in the following description.

1.1 NMC package contents

- 1. NMC with mounting bracket, packaged with ESD bag.
- 2. RJ45 to DB9 converter cable.
- 3. Quick Installation Guide.
- 4. NMC CD-ROM.

1.2 NMC CD Resources

NMC CD-ROM contains NMC Utility, Quick Installation Guide, User Manual, MIB files, System Protect Software for various OS, and NMC firmware upgrade SOP.

- 1. NMC Utility --- for searching NMC in LAN and linking to web of the card
- 2. Quick Installation Guide --- for describing how to configure NMC
- 3. User Manual --- for NMC function introduction and settings
- 4. MIB files --- for SNMP monitoring use
- 5. System Protect Software --- for protecting server or client operating system shutdown safely
- 6. NMC firmware upgrade SOP --- for describing how to upgrade NMC firmware

1.3 Features

• UPS management by network connection through RJ45 connector

User can monitor UPS status and control UPS via web browser on the internet.

• UPS and NMC configuring via SNMP protocol

User can configure parameters of NMC and control UPS via SNMP protocol on a network management station.

- RTC function supporting
- Standard MIB (RFC1628.mib) and user-defined MIB (EPPC.mib)
- EMP (Environment Monitoring Probe) supporting
- SSL supporting
- Operating system shutdown safely

System Protect Software can protect server or client operating system shutdown safely.

Redundant UPS input shutdown

If there is more than one UPS supply power to server, user can configure the redundant UPS input shutdown function of SPS (System Protect System), SPS will shut down server safely when the last one UPS can't supply power.

1.4 NMC Applications

NMC is kind of SNMP (Simple Network Management Protocol) manager to communicate UPS via Ethernet, it provides access information and send commands for the UPS. NMC supports two communicating protocols which are SNMP and HTTP for application. Through NMS (Network Management Station) or web browser user can access UPS information via Ethernet directly, meanwhile user can manage both UPS and NMC parameters as well.

NMC provides an application program which named SPS (System Protect Software) for multi-servers shutdown purpose. The program provides shutdown function for different operating systems when shutdown events are appearing on UPS. Shutdown events are configurable by user. The shutdown software will proceed the automatic shutdown orderly to prevent the abnormal shut-off of the clients or servers.



Chapter 2 NMC parameters setting via serial COM port

There are more methods for NMC parameters setting: setting via serial COM port, setting via telnet program, setting via SSH, and setting via web browser. It offers basic parameters setting through a serial COM port for NMC configuration such as IP Configuration, Pass Through, and Reset Configuration to default, Restart and Password. In this section, it particularly introduces the parameters setting via serial COM port. It is worth mentioning that the telnet/SSH program settings menu is same with the serial port settings.

2.1 Configure NMC via serial COM port

- 1. Prepare a computer (with Microsoft Windows XP or later version)
- 2. Insert NMC into UPS's intelligent slot exactly.
- 3. Tighten NMC with screw.
- 4. Connect the serial port of computer with NMC via RJ45 to DB9 converter cable, the cable is supplied in NMC package.
- 5. On the computer with Microsoft Windows, for XP operation system, select **Hyper Terminal** from **start→all programs** to communicate with serial port; For XP above version, communicate with serial port via serial port debug tool (Putty is used as example in this manual).
- For Windows XP or other Windows operation system that support Hyper Terminal, select Accessories→Communication→ Hyper Terminal to create serial communication.



Input a name and select the connection icon.

Connection Description	? 🗙
New Connection	
Enter a name and choose an icon for the connection:	
Name:	
NMC	
lcon:	
	%
OK Ca	ncel

Select the correct connection port.

Connect To	? 🔀
🦓 ммс	
Enter details for	the phone number that you want to dial:
<u>C</u> ountry/region:	United States (1)
Ar <u>e</u> a code:	1
<u>P</u> hone number:	
Co <u>n</u> nect using:	СОМЗ 🗸
	OK Cancel

Configure the parameters of the serial port: **9600** bps, **8** bits, **None** parity, **1** stop bit and **None** flow control.

COM3 Properties		? 🔀
Port Settings		
	<u> </u>	
<u>B</u> its per second:	9600 💌	
<u>D</u> ata bits:	8	
<u>P</u> arity:	None	
<u>S</u> top bits:	1 💌	
<u>F</u> low control:	None 🗸	
	<u>R</u> estore Defa	ults
	K Cancel	Apply

For XP above Windows version, communicate with serial port via serial port via serial port debug tool. Double click Putty icon , open Putty and select serial session, configure the correct serial port and baud rate 9600 bps.

ategory;	Basic options for your PuTTY ses	eioo
 Session Logging Terminal Keyboard Bell Features Window Appearance Behaviour Translation Selection Colours Connection Data Proxy Telnet Rlogin SSH Serial 	Specify the destination you want to connect Serial line COM1 Connection type: Raw Dielnet Rlogin Discher Load, save or delete a stored session Saved Sessions	t to Speed 9600
	Default Settings	Load Sa <u>v</u> e Delete
	Close window on exit: Always Never Only on cle	an exit

Select "Serial" node on the left tree, and configure the parameters of the serial port on the right window: **9600** bps, **8** bits, **None** parity, **1** stop bit and **None** flow control. And then open the putty serial communication window by click "open" button.

- Session	Options controlling	local serial lines
Logging Terminal Keyboard Bell Features	Select a serial line Serial line to connect to Configure the serial line	COM1
- Window - Appearance	Speed (baud)	9600
- Behaviour	Data <u>b</u> its	8
Translation	Stop bits	1
Selection Colours	Parity	None 🗸 👻
Connection	Elow control	None 🔹
Proxy Telnet Riogin ⊕ SSH		

6. Please turn on UPS and waiting NMC start successfully, there will be some information shown on the hyper terminal interface. Refer to the following diagram, input NMC password, the default password of NMC is password

NMC Version X.X.X.X

+	:=======+
Network Management Card Configure Menu	l
+	:============+

Password:_

7. After inputting the NMC password, all main menus will be shown on the hyper terminal interface, refer to the following diagram.

	۲.
Network Management Card Configure Menu	l
	•

- IP Configurations
 Pass Through
 Reset Configuration to default
- 4. Restart
- 5. Change Password
- 0. Exit

Please Enter Your Choice :

8. Basing on the main menus, please select "1" to configure IP address, gateway, subnet mask and DHCP, refer to the following diagram.

+======================================
I IP Configure Menu
+
IP address : 172.18.127.42 Subnet mask : 255.255.25.0
Gateway : 172.18.127.1 Primary DNS address : 172.18.121.17 Secondary DNS address : 151.110.232.21
7. IPv6 Configure 0. Return to previous menu

Please Enter Your Choice :

- 9. Basing on the main menus, please select "2" to send command to UPS, the function is just for double checking UPS reply data correctly or not.
- 10. Basing on the main menu, please select "3" to configure NMC parameters to default value.
- 11. Basing on the main menus, please select "4" to restart NMC.
- 12. Basing on the main menus, please select "5" to modify NMC password.
- 13. Basing on the main menus, please select "0" to exit main menus. It is suggested exit the main menu page when the configurations is completed, and then close the serial debugging tool.

Note: User can configure NMC through Telnet program; the menu options of Telnet program are as same as the serial port setting menu.

Chapter 3 NMC&UPS management via web browser

In this section, it particularly introduces how to configure NMC, manage UPS and monitor UPS parameters via web browser.

3.1 NMC Parameters setting via web browser

Please Note: Before implementing the NMC setting for all configuring parameters, user has to become NMC administrator first. While configure parameters for NMC via web browser, there will be a pop-up dialog to ask the name and password of NMC administrator. Only NMC password can be changed, regarding to change password by serial COM port, please refer to the item 15 of the section 2.1.

3.1.1 NMC System menu

NMC system menu can be accessed by **Settings→NMC System**. In this menu it offers configuring for DHCP function, default is enabled; NMC IP address; SNMP version; SMTP function; UPS description; UPS location; NMC web language change function and data log interval. Please refer to the following diagram 3.1.1.

Please Note: NMC must restart via Reboot System menu after changed IP address via web browser to make IP setting active immediately.

	NETWORK MAN	IAGEMENT CARD FOR UPS	ON-LINE Location: Office 21/01/2014 16:06:28	
IPS Monitoring	Settings » NMC System			help
UPS Status	System Configuration			
UPS Alarm	BootP/DHCP	Enable V		
UPS Parameters	IP Address	172 18 139.60		
JPS Powered Devices	Subnet Mask	255.255.255.0		
JPS Identification	Gateway Address	172.18.139.1		
PS Management				
UPS Battery Test	Primary DNS	172.18.121.17		
UPS Battery Test Schedule	Secondary DNS	151 110 232 21		
SNMP TRAP Receivers UPS Configuration	IPv6	Enable		
UPS Control	 IPv6 Auto Configuration 	Enable 🔽		
JPS Shutdown	IPv6 Address 1			
Shutdown Schedule	Prefix length	0		
ettings	IPv6 Gateway Tunnel	0.0.0.0		
NMC System	IPv6 Local Address	FE80 220 85FF FEF7 1112		
Reboot System	IPv6 Address 2			
Access Control		Save		
Date and Time	-	the second se		
SNMPv3 USM Table	SNMP Support	SNMP v3		
Wake On LAN	Telnet Connection	Enable 🗸		
Email Notification	SSH Connection	Disable 🗸		
Firmware Upload	SMTP	Enable 🗸		
File Management	Login required for web access	Disable 🗸		
ogs	UPS Description	Name of Street o		
UPS Log	UPS Location	Office		
UPS Statistics Log	Default Language	English V		
Event Log		And State of the S		
System Log	History Log Interval(Sec)	60		
	Statistics Log Interval(Min)	60 Save		

Diagram 3.1.1

3.1.2 Date and Time menu

Date and Time menu can be accessed by **Settings→Date and Time**. There are three methods for configuring NMC date and time: configure the date and time of NMC same as user's computer; manually setting the date and time through input the date and time by user self; enter the NTP server address and select a time zone, make the NMC clock synchronized with the NTP server time. Please refer to the following diagram 3.1.2.

		100 C	and the second se		
(→))/		P - C 🥃 Network Management C	×	↑ ★ 3
		NETWORK MAI	NAGEMENT CARD FOR UPS	ON-LINE Location: Office 22/01/2014 13:37:27	
UPS Monitoring	Settin	ngs » Date and Time			help
UPS Status					
UPS Alarm					
UPS Parameters	۲	Synchronize with comp			
UPS Powered Devices		Computer Date(dd/mm/yyyy)	22/01/2014		
UPS Identification		Computer Time(hh:mm:ss)	14:26:18		
UPS Management	-				1
UPS Battery Test	0	Setting manually			
UPS Battery Test Schedule		Date (dd/mm/yyyy)			
SNMP TRAP Receivers		Time (hh:mm:ss)			
UPS Configuration					
UPS Control	0	Synchronize with NTP	server time		
UPS Shutdown		Server Address			
Shutdown Schedule		Time Zone	(GMT+08:00) Beijing, Hong Kong, Kuala I	Lumpur Singapore Perth Taipei	~
Settings			Enable Daylight Saving Time	Lampar, emgapore, r enn, raper	
NMC System			Enable Daylight Saving Time		
Reboot System	Save				
Access Control	Save				
Date and Time					
SNMPv3 USM Table					
Wake On LAN					
Email Notification					
Firmware Upload					
File Management					
Logs					
UPS Log					
UPS Statistics Log					
Event Log					
System Log					

Diagram 3.1.2

3.1.3 Email Notification menu

Email Notification menu can be accessed by **Settings→ Email Notification**. NMC will send an Email to user when UPS event happens. Email Message Setting, there are columns which Mail Server, User Account, User Password, Sender's Email address, Mail Subject Prefix, Mail Server Port, Mail Daily Report At and Attached File must be input according to what user wants to define.

Recipient List Settings, four Email receiver address can be configured at most; user can input description for each Email address. The functions of Mail Type and Event Level are as following.

Email Type:

- None: It means that NMC won't send any Email to the mail account when event happens on UPS.
- Events: It means that NMC will send an Email when to the mail account when event happens on UPS.
- Daily status: It means that NMC will send UPS daily logs reports to the mail account and the delivery time is configured by "Mail Daily Report At" column. Note: user is able to select History Log, Event Log and System Log report by tick Attached File column.

- Events/Status: It means that NMC will send an event report to the mail account when event happens on UPS and meanwhile NMC will send the daily logs reports as well.

Event Level:

- Information: It means that NMC will send an Email to the mail account once event happens on UPS.
- Warning: It means that NMC will send an Email to the mail account once warning event happens on UPS.
- Severe: It means that NMC will send an Email to the mail account once severe event happens on UPS.

Refer to the following diagram 3.1.3.

		NETWORK M	ANAGEMENT	CARD FOR UP	s	ON-LINE Location: Office 22/01/2014 13:37:53	1
PS Monitoring	Settings	» Email Notification					help
UPS Status	Email	Message Settings					
JPS Alarm	Mail Serv		151 110	126.205			
JPS Parameters	User Acc		E201582				
JPS Powered Devices			E201302	.1			
UPS Identification	User Pas						
PS Management	Sender's	s Email Address	susanxi	a@eaton.com	<u> </u>		
UPS Battery Test	Mail Sub	ject Prefix					
UPS Battery Test Schedule	Mail Serv	ver Port	25				
SNMP TRAP Receivers	Mail Dail	ly Status Report At	00:00	1			
UPS Configuration	Attached Files		Histo	ry Log	Event Log	System L	00
UPS Control				17-09	El croix cog		
UPS Shutdown	and the second second second	ent List Settings					
Shutdown Schedule	Index	Mail Account		Description		Mail Type	Event Level
ettings	1	Yiqiongzhai@eaton.ci	om			Events/Status 🗸	Information 🗸
NMC System	2					Events/Status 🗸	Information 🗸
Reboot System	3					Events/Status 🗸	Information V
Access Control	4					Events/Status V	Information V
Date and Time							Set Value
SNMPv3 USM Table							- our raide
Wake On LAN				Se	end Test		
Email Notification							
Firmware Upload							
File Management							
ogs							
UPS Log							
UPS Statistics Log							
Event Log							
L VOIIT LOG							

Diagram 3.1.3

3.1.4 SNMP TRAP Receivers menu

SNMP trap receivers menu can be assessed by **UPS Management->SNMP TRAP Receivers**. In this menu, the columns NMS IP address, Trap Type, Severity and Description are configured by user's demand. The default of Community Strings column is "public", and it can't change by anyone. Trap type support two trap types which are RFC1628 Trap and EPPC Trap.

Severity:

- Information: It means that NMC will send a trap message to the NMS IP address once event happens on UPS.
- Warning: It means that NMC will send a trap message to the NMS IP address once warning event happens on UPS.

- Severe: It means that NMC will send a trap message to the NMS IP address once severe event happens on UPS.

User can input description for each NMS IP address in description column. Refer to the following diagram 3.1.4.

		NETWORK MANAGEMENT	CARD FOR UPS	DN-LINE location: Office 22/01/2014 13:40:52	
UPS Monitoring	UPS Mar	nagement » SNMP TRAP Receivers			help
UPS Status	Index	NMS IP Address	Community String	Тгар Туре	Severity
UPS Alarm	1	172 18 139 127		RFC1628 Trap	Warning
UPS Parameters	2	172.18.139.27		EPPC Trap	Information ~
UPS Powered Devices		172.10.135.21			
UPS Identification	3		•••••		Information V
UPS Management	4		•••••	None 🗸	Information V
UPS Battery Test	5		•••••	None 🗸	Information ~
UPS Battery Test Schedule	6		•••••	None 🗸	Information V
SNMP TRAP Receivers	7			None 🗸	Information ~
UPS Configuration	8			None 🗸	Information V
UPS Control				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sav
UPS Shutdown					
Shutdown Schedule					
Settings					
Settings NMC System					
Settings NMC System Reboot System					
Settings NMC System Reboot System Access Control					
Settings NMC System Reboot System Access Control Date and Time					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration Wake On LAN					
Settings NMC System Reboot System Access Control Date and Time SNMPy1/2 Configuration Wake On LAN Email Notification					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration Wake On LAN Email Notification Firmware Upload					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration Wake On LAN Email Notification Firmware Upload File Management					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration Wake On LAN Email Notification Firmware Upload File Management .ogs					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log UPS Statistics Log					
Settings NMC System Reboot System Access Control Date and Time SNMPv1/2 Configuration Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log					

Diagram 3.1.4

3.1.5 SNMPv1/2 Configuration

NMC Support SNMPv1 and SNMPv2 monitor, refer to Diagram 3.1.5. User can set SNMPv1 and SNMPv2 community strings.

The default public community string is public. And the private community string is private.

C () (http://172.18.13	9.60/authority_ok.html	Ø + C Ø Network Management C ×	
	NETWORK MANA	GEMENT CARD FOR UPS	ON-LINE Location: Office 22/01/2014 13:41:20
UPS Monitoring	Settings » SNMPv1/2 Configuration	n	help
UPS Status	SNMPv1/2 Community Strings		
UPS Alarm	Public Community String		
UPS Parameters			
UPS Powered Devices	Private Community String	•••••	
UPS Identification			Submit
UPS Management			
UPS Battery Test			
UPS Battery Test Schedule			
SNMP TRAP Receivers			
UPS Configuration			
UPS Control			
UPS Shutdown			
Shutdown Schedule			
Settings			
NMC System			
Reboot System			
Access Control			
Date and Time			
SNMPv1/2 Configuration			
Wake On LAN			
Email Notification			
Firmware Upload			
File Management			
Logs			
UPS Log			
UPS Statistics Log			
EventLog			
System Log	*		
< >			
			🕏 100% 🔹

Diagram 3.1.5

3.1.6 SNMPv3 User Management

To enhance security users can enable SNMPv3 management mechanism, NMC can add SNMPv3 user through setting user name and validate password.

Enter Settings →NMC System, select SNMP Support to SNMPv3, the SNMPv3 menu option will appear to the left window, and then select settings →SNMPv3 USM Table to add SNMPv3 user, refer to Diagram 3.1.6.

User need set SNMPv3 user name, Authentication password, Private password, Security level, Authentication, User status.

Security level can choose no Authentication no Private password,

Authentication but no Private, or both Authentication and Private password; Authentication is MD5 encryption mode;

User status can choose enable or disable.

		NETWORK MANAGEMEN	T CARD FOR UPS		: 014 13:42:58	
UPS Monitoring	Settings » SNMPv	/3 USM Table				help
UPS Status UPS Alarm	User Name	Authentication Password	Private Password	Security Level	Authentication	User Status
UPS Parameters				noAuthNoPriv V	HMAC-MD5 V	Disable V
UPS Powered Devices				noAuthNoPriv V	HMAC-MD5	Disable V
UPS Identification				noAuthNoPriv V	HMAC-MD5 V	Disable V
UPS Management					HMAC-MD5 V	Disable V
UPS Battery Test				noAuthNoPriv 🗸	A REAL PROPERTY AND A REAL PROPERTY A REAL PROPERTY AND A REAL PRO	Participation and the Party
UPS Battery Test Schedule				noAuthNoPriv 🗸	HMAC-MD5 🗸	Disable 🗸
SNMP TRAP Receivers	1	- 10		noAuthNoPriv 🗸	HMAC-MD5	Disable 🗸
UPS Configuration				noAuthNoPriv 🗸	HMAC-MD5	Disable 🗠
UPS Control	5			noAuthNoPriv 🗸	HMAC-MD5 🗸	Disable ⊻
UPS Shutdown			Save			
Shutdown Schedule			97 -3 8			
Settings NMC System						
Reboot System						
Access Control						
Date and Time						
SNMPv3 USM Table						
SNMPv3 USM Table Wake On LAN						
Wake On LAN						
Wake On LAN Email Notification						
Wake On LAN Email Notification Firmware Upload File Management						
Wake On LAN Email Notification Firmware Upload File Management						
Wake On LAN Email Notification Firmware Upload File Management Logs						
Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log UPS Statistics Log Event Lon						
Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log UPS Statistics Log						

Diagram 3.1.6

3.1.7 Wake On LAN

Wake On LAN menu can be accessed by **Settings**→**Wake On LAN**. This menu is used to start up client computer from network by MAC address. When the client PC shutdown cause of UPS shutdown events, "Wake On LAN" packet will send to client to start up PC after shutdown events returned the normal. User can set almost 16 MAC address of client from this page. Refer to Diagram 3.1.7.

IPS Monitoring UPS Status UPS Alarm UPS Parameters UPS Powered Devices UPS Identification IPS Management UPS Battery Test Schedule SIMIP TRAP Receivers	Settings » Index 1 2 3 4 5	Wake On LAN MAC Address 00:20:85:17:10:0b 00:20:85:17:10:0c	Description test 1 test 2	Actions Disable V Disable V
UPS Alarm UPS Parameters UPS Powered Devices UPS Identification IPS Management UPS Battery Test UPS Battery Test Schedule	1 2 3 4	00.20.85.f7.10.0b	test 1	Disable 🔽
UPS Parameters UPS Powered Devices UPS Identification IPS Management UPS Battery Test UPS Battery Test Schedule	2 3 4	A REAL PROPERTY OF A REAL PROPER	Statute of	and the second sec
UPS Powered Devices UPS Identification IPS Management UPS Battery Test UPS Battery Test Schedule	3 4	00:20:85:f7:10:0c	test 2	Disable 🗸
UPS Identification IPS Management UPS Battery Test UPS Battery Test Schedule	3 4			TRANSPORT OF TRANSPORT
PS Management UPS Battery Test UPS Battery Test Schedule	4			Disable V
UPS Battery Test UPS Battery Test Schedule	1.20			
UPS Battery Test Schedule	5			a statistic production and a statistic production of the s
				Disable 🗸
Shine Inde Necentera	6			Disable 🗸
UPS Configuration	7			Disable 🔽
UPS Control	8	17		Disable 🗸
UPS Shutdown	9			Disable 🗸
Shutdown Schedule	10			Disable 🗸
Settings	11			Disable 🗸
NMC System	12			Disable V
Reboot System	13		10	Disable V
Access Control	14			
Date and Time				
SNMPv3 USM Table	15	-		Disable 🗸
Wake On LAN	16			Disable 🗸
Email Notification	-			Test Save
Firmware Upload				
File Management				
ogs				
UPS Log				
UPS Statistics Log				
Event Log 🗸 🗸				
System Log				

Diagram 3.1.7

3.1.8 Firmware Upload menu

Firmware upload menu can be accessed by **Settings→Firmware Upload**. This menu offers upload NMC firmware via web browser. When user is going to upload NMC firmware, user has to become administrator of NMC first. The default name is "*root*", and the default password is "*password*" for login as administrator. Regarding upload NMC firmware procedure, please refer to the file *NMC Firmware Upgrade SOP.pdf* for detail information.

3.1.9 File Management menu

NMC file management menu can be accessed by **Settings**→**File Management**. The function of this menu is uploading files for the same configuration for different NMC. Only *confsnmp.cfg* (about NMC parameters) and *confups.cfg* (about UPS parameters set by NMC) these two files are available for application. After uploaded files NMC has to reboot immediately to make new configuration active. Regarding to reboot NMC system via web browser, please refer to section 3.1.9 and for reboot NMC system via serial COM port, please refer to item 14 in section 2.1. Furthermore it also can reboot NMC system manually by pull-out and push-in NMC from the Intelligent slot of UPS.

Note: Once .cfg file is deleted, and then reboots NMC system. The configuration of NMC system and UPS will be back to the default setting.

If user would like to save .cfg and .csv file on local computer, it can be achieved by click the file name directly.

3.1.10 System Log menu

NMC system log menu can be accessed by **Logs**→**System Log**. The menu allows user to view NMC system logs. Please refer to diagram 3.1.10.

		NET	WORK MANAGEMENT CARD FOR UPS	ON-LINE Location: Office 22/01/2014 13:44:06		
IPS Monitoring	Logs » Syst	em Log			help	1,
UPS Status	Date	Time	Descr	iption		n
UPS Alarm	25/12/2013	08:40:39	System manual restarted by user.	an a		11
UPS Parameters	25/12/2013	08:41:32	System started.			
UPS Powered Devices	25/12/2013	08:51:03	EMP connected			1
UPS Identification UPS Management	25/12/2013	08:52:38	EMP removed			
UPS Battery Test	25/12/2013	08:54:15	EMP connected			
UPS Battery Test Schedule	25/12/2013	08:55:13	EMP removed			-
SNMP TRAP Receivers	31/12/2013	13:12:41	System started.			-
UPS Configuration	02/01/2014	09:04:45	Firmware upgrade begin.			+
UPS Control	02/01/2014	09:04:45	Firmware upgraded.			+
UPS Shutdown	02/01/2014	09:05:38	System started.			-
Shutdown Schedule	02/01/2014	09:09:22				+
ettings		09:09:22	Firmware upgrade begin.			-
NMC System	02/01/2014	1.1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	Firmware upgraded.			4
Reboot System	01/01/1970	00:00:00	System manual restarted by user			-
Access Control	02/01/2014	09:12:10	System started.			4
Date and Time	03/01/2014	07:55:01	System started.			4
SNMPv3 USM Table	05/01/2014	22:19:50	System started.			
Wake On LAN	01/01/1970	00:00:00	System manual restarted by user.			
Email Notification	08/01/2014	12:27:06	System started.			
Firmware Upload	09/01/2014	13:09:24	System started.			
File Management	09/01/2014	13:23:38	Firmware upgrade begin.			1
ogs	09/01/2014	13:23:38	Firmware upgraded.			1
UPS Log UPS Statistics Log	09/01/2014	13:24:34	System started.			1
Event Log	09/01/2014	13:27:50	Firmware upgrade begin.			1
System Log		13:27:50	Firmware upgraded.			1
< >>	09/01/2014	13:28:46	System started.			

Diagram 3.1.10

3.1.11 Reboot system menu

NMC reboot system menu can be accessed by **Setting→Reboot System**. The menu offers a function for user to reboot NMC system if it is necessary. When user is going to reboot NMC system, user has to become administrator of NMC first. The default name is "*root*" and the default password is "*password*" for login as administrator.

3.1.12 Access Control

NMC Access Control menu can be accessed by **Setting→Access Control**. This menu displays a list of the workstations enabled access to NMC. User can enter workstation's IP address in IP Address column. 0.0.0.0 means entry not configured. User can choose access type in Access Type column, the available options are: Enable/Disable. "Enable" means the entry IPs have access to visit NMC via web or SNMP, "Disable" means the entry IPs have no access to visit NMC. For example, an entry 192.168.1.255 means the client with the IP address within the range from 192.168.1.0 to 192.168.1.255 become the management station with the access type set by Administrator. Please note 255.255.255.255 grant the access right to all IP. Please refer to diagram 3.1.12.

	20	NETWORK MA	NAGEMENT CARD FOR UPS	ON-LINE Location: Office 21/01/2014 13:34:04	C.
UPS Monitoring	Settings	» Access Control			help
UPS Status	SNMP/H	ITTP Access Table			
UPS Alarm	Index	IP Address		Access Type	
UPS Parameters	1	172 18 255 255		Enable V	
UPS Powered Devices	2	172 18 122 255		Disable V	
UPS Identification	3				
UPS Management		255.255.255.255		Enable 🗸	
UPS Battery Test	4	0.0.0		Enable 🔽	
UPS Battery Test Schedule	5	0.0.0.0		Enable 💌	
SNMP TRAP Receivers	6	0.0.0.0		Enable 🔽	
UPS Configuration	7	0.0.0.0		Enable 🗸	
UPS Control	8	0.0.0.0		Enable V	
UPS Shutdown					Submit
Shutdown Schedule					Cubinit
Settings					
NMC System					
Reboot System					
Access Control					
Date and Time					
SNMPv1/2 Configuration					
Wake On LAN					
Email Notification					
Firmware Upload					
File Management					
Logs 🗸					
UPS Log					

Diagram 3.1.12

3.2 UPS monitoring via web browser

3.2.1 UPS Status menu

UPS status menu can be accessed by **UPS Monitoring** \rightarrow **UPS Status**. User can view real-time operating status of the UPS from the web page directly. Please refer to diagram 3.2.1.

- (-) (.60/authority_ok.html	0 - C @ Network Management C ×		0 <mark>∞</mark> €
	NETWORK MANAG	EMENT CARD FOR UPS	ON-LINE Location: Office 22/01/2014 13:45:24	
UPS Monitoring	UPS Monitoring » UPS Status		help	
UPS Status		1		
UPS Alarm	UPS Status	Line		
UPS Parameters	UPS Temperature	23.0 °C		
UPS Powered Devices	Input			
UPS Identification	Voltage	224.8 V		
UPS Management	Frequency	49.9 Hz		
UPS Battery Test	Output			
UPS Battery Test Schedule	Load(%)	0		
SNMP TRAP Receivers	Voltage	220.3 V		
UPS Configuration	Frequency	50.0 Hz		
UPS Control	Battery			
UPS Shutdown	Status	Battery Normal		
Shutdown Schedule	Capacity(%)	100		_
Settings	Voltage	55.6 V		_
NMC System		the second se		_
Reboot System	Time On Battery	00:00:00		
Access Control				
Date and Time				
SNMPv3 USM Table				
Wake On LAN				
Email Notification				
Firmware Upload				
File Management				
Logs UPS Log				
UPS Log UPS Statistics Log				
Event Log				
System Log	/			
System Log				
· >	1			
			R 1009	6 •

Diagram 3.2.1

3.2.2 UPS Alarm menu

UPS Alarm menu can be accessed by **UPS Monitoring** \rightarrow **UPS Alarm**. User can view the current warning of UPS on the interface. Please refer to diagram 3.2.2.

	9.60/authority_ok.html	ク・C Network Management C ×	ON-LINE Location: Office 22/01/2014 13:44:39	ft 🛧 8
UPS Monitoring	UPS Monitoring » UP	°S Alarm	20.0	help
UPS Status	Date and Time	Description		Severity
UPS Alarm	21/01/2014 13:56:32			
UPS Parameters	21/01/2014 13:56:32	The UPS temperature is over the setting limit.		WARNING
UPS Powered Devices				
UPS Identification				
UPS Management				
UPS Battery Test				
UPS Battery Test Schedule				
SNMP TRAP Receivers				
UPS Configuration				
UPS Control				
UPS Shutdown				
Shutdown Schedule				
Settings				
NMC System				
NINC System				
Reboot System				
Reboot System				
Reboot System Access Control				
Reboot System Access Control Date and Time				
Reboot System Access Control Date and Time SNMPv3 USM Table				
Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN				
Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification				
Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management				
Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management				
Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management ogs				
Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management .ogs UPS Log UPS Statistics Log Event Log				
Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log UPS Statistics Log Event Log				

Diagram 3.2.2

3.2.3 UPS Parameters menu

UPS Parameters menu can be accessed by **UPS Monitoring** \rightarrow **UPS Parameters**. User can view the rating parameters of UPS on the interface. Such as rating output voltage, rating output frequency, rating output power, different parameters shown on the interface is depended on different UPS type. Please refer to diagram 3.2.3.

	NETWORK MANAGEMENT CARD FOR UPS	ON-LINE Location: Office	
		22/01/2014 13:45:42	
UPS Monitoring	UPS Monitoring » UPS Parameters		help
UPS Status	Output Rating Voltage	220.0 V	
UPS Alarm	Output Rating Frequency	50.0 Hz	
UPS Parameters	Output Rating VA	1500 VA	
UPS Powered Devices	Colparitoning in	1500 14	
UPS Identification			
UPS Management			
UPS Battery Test			
UPS Battery Test Schedule			
SNMP TRAP Receivers			
UPS Configuration			
UPS Configuration UPS Control			
UPS Configuration UPS Control UPS Shutdown			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification			
UP S Configuration UP S Control UP S Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management			
UP S Configuration UP S Control UP S Shutdown Shutdown Schedule Settings NMC System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification File Management Logs			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SMMPv3 USM Table Wake On LAN Email Notification Fire Management Logs UPS Log UPS Statistics Log			
UPS Configuration UPS Control UPS Shutdown Shutdown Schedule Settings NMC System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification File Management Logs UPS Log			

Diagram 3.2.3

3.2.4 UPS Powered Devices Menu

UPS Powered Devices menu can be accessed by **UPS Monitoring→UPS Powered Devices**. The table shows the amount of computers with SPS (System Protect Software) connected with NMC. Once UPS output is abnormal, NMC will send shutdown command to the computer with SPS, and computer will be shut down safely by SPS.

User can test remote computer with SPS shutdown function by configure test event.

Please refer to diagram 3.2.4.

← ⊕ @ http://172.	18.139.60	l/authority_ok.	.html 🔎	🕈 C 🥃 Network N	Management C ×		- □ ☆ Ռ
			NETWORK MANAGI	EMENT CARD FOR	UPS	ON-LINE Location: Office 22/01/2014 13:46:41	
UPS Monitoring		UPS Monito	oring » UPS Powered Dev	/ices			help
UPS Status	-2						010280
UPS Alarm							
UPS Parameters		The amount	of connected devices is:	1			
UPS Powered Devices		Index	IP Address		Host Name	Date Time	
UPS Identification		1	172.18.139.21	BAOCNW	HP3004159.napa.ad.etn.com	22/01/2014 13:46:31	
UPS Management							
UPS Battery Test		Remote PC	Shutdown Test	AC Failed	~	Subm	t
UPS Battery Test Schede	le		underni reet	p to t and a			-
SNMP TRAP Receivers							
UPS Configuration							
UPS Control							
UPS Shutdown							
Shutdown Schedule							
Settings							
NMC System							
Reboot System							
Access Control							
Date and Time							
SNMPv3 USM Table							
Wake On LAN							
Email Notification							
Circuit on History							
Firmware Upload							
File Management							
File Management							
File Management							
File Management Logs							
File Management Logs UPS Log							
File Management Logs UPS Log UPS Statistics Log	-						
File Management Logs UPS Log UPS Statistics Log Event Log System Log	×						

Diagram 3.2.4

3.2.5 UPS Identification menu

UPS Identification menu can be accessed by **UPS Monitoring→UPS Identification**. There will be UPS type, UPS description (refer to section 3.1.1), UPS firmware version, NMC firmware version and MAC address. Please refer to diagram 3.2.5.

	NETWORK MA	NAGEMENT CARD FOR UPS	ON-LINE Location: Office 22/01/2014 13:47:02	
UPS Monitoring	UPS Monitoring » UPS Identific	ation		help
UPS Status	UPS			
UPS Alarm	UPS Model	ON-LINE		
UPS Parameters	UPS Description	ONVEINE		
UPS Powered Devices		21212/12120		
UPS Identification	Firmware Version	05517-0200		
UPS Management	Network Management Card			
UPS Battery Test	Firmware Version	1.4.0.2		
UPS Battery Test Schedule	MAC Address	00:20:85:F7:11:12		
SNMP TRAP Receivers				
UPS Control				
UPS Shutdown Shutdown Schedule Settings				
UPS Shutdown Shutdown Schedule Settings NMC System				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification				
UPS Shutdown Shutdown Schedule Settings NMC System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload				
UPS Shutdown Shutdown Schedule Settings NMC System Access Control Date and Time SMMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management ogs UPS Log				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management .ogs UPS Log UPS Statistics Log				
UPS Shutdown Shutdown Schedule Settings NMC System Reboot System Access Control Date and Time SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log				

Diagram 3.2.5

3.2.6 UPS Log menu

UPS Log menu can be accessed by Logs→UPS Log. There are two hundred latest data logs shown on the interface at most. Please refer to diagram 3.2.6. User can export *upsdata.csv* file to view more data logs from file management interface, please refer to section 3.1.7.

Description Description Description UPS Alarman UPS Alarman UPS Parameters Description UPS Parameters Description UPS Parameters Output Carpot to transmission UPS Powere Devices UPS Detendication UPS Control Carpot to transmission UPS Control Carpot to transmission Output Tere use of transmission Carpot to transmission UPS Control Carpot to transmission Carpot to transmission Description Carpot to transmission Output Carpot to transmission UPS Control Carpot to transmission Carpot to transmission Carpot to transmission Carpot to transmission Carpot to transmission Carpot to transmission UPS Control Carpot to transmission Carpot to transmission Carpot to transmitera		.60/authority_ol			0+0	S Network W	lanagement C	^		î	
UPS Status Point of or other set of the set of			NE	TWORK M	ANAGEMENT (CARD FOR U	JPS		Location: Office		
UPS Alarm UPS Parameters UPS Parameters UPS Parameters UPS Parameters UPS (unitation UPS (unitation)	UPS Monitoring	Logs » UP:	Log							help	1,
UPS Parameters Date Time Frequency Output Evequency Los Los <thlos< th=""> Los <thlos< th=""> <thlo< th=""><th>UPS Status</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>1</th></thlo<></thlos<></thlos<>	UPS Status										1
UPS Parameters Voltage Frequency Load Capacity(%) Time On Battery (min) UPS Management 2201/2014 102810 2224 49.9 2200 50.0 0 100 0.0 UPS Management UPS Management 2201/2014 102810 222.0 50.0 20.0 60.0 0.0 0.0 0.0 UPS Battery Test 2201/2014 102810 222.0 50.0 220.0 60.0 0.0 0.0 0.0 UPS Configuration 2201/2014 103.10 221.8 49.9 220.0 50.0 0 100 0.0 UPS Configuration 2201/2014 103.10 221.8 49.9 220.0 50.0 0 100 0.0 0.0 UPS Statidown 2201/2014 103.10 220.3 50.0 220.0 50.0 0 100 0.0 0.0 2201/2014 103.10 220.3 50.0 220.0 50.0 0 100 0.0 0.0 0.0 <th>UPS Alarm</th> <th></th> <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>. </th>	UPS Alarm		-								.
UPS bydetect devices Voltage Prequency Voltage Prequency (%) Capacity(%) (min) UPS identification UPS identification 102 Minagement 2201/2014 10.28.10 222.4 49.9 220.0 50.0 0 100 0.0 0.0 UPS Battery Test 2201/2014 10.28.10 222.0 50.0 20.0 49.9 0 100 0.0 0.0 UPS Configuration 2201/2014 10.31:10 22.16 49.9 20.0 50.0 0 100 0.0 0.0 UPS Configuration 2201/2014 10.31:10 22.03 50.0 20.0 50.1 0 100 0.0 0.0 Stutdown Schedule 2201/2014 10.31:10 22.03 50.0 20.0 50.0 0 100 0.0 0.0 Stutdown Schedule 2201/2014 10.31:10 22.05 49.9 20.0 49.9 0 100 0.0 0.0 Stutdown Schedule 2201/2014		Date	Time		nput		Output	Land			
PS Management 2201/2014 102.810 222.4 49.9 220.0 50.0 0 100 0.0 UPS Battery Test 2201/2014 102.910 222.0 50.0 220.0 49.9 0 100 0.0 UPS Battery Test Schedule 2201/2014 103.110 221.8 49.9 220.0 50.0 0 100 0.0 UPS Control 2201/2014 103.110 221.8 49.9 220.0 50.0 0 100 0.0 UPS Control 2201/2014 103.110 221.8 49.9 220.0 50.1 0 100 0.0 UPS Control 2201/2014 103.110 220.3 50.0 220.0 50.0 0 100 0.0 Stutdown Schedule 2201/2014 103.810 220.5 49.9 220.0 49.9 0 100 0.0 Stutdown Schedule 2201/2014 103.810 222.5 50.0 220.0 49.9 0 100 0.0				Voltage	Frequency	Voltage	Frequency		Capacity(%)		
UPS Battery Test 22/01/2014 10.29:10 222.0 50.0 22.00 48.9 0 100 0.0 SNMP TRAP Receivers 22/01/2014 10.30:10 221.8 49.9 20.3 50.0 0 100 0.0 UPS Configuration 22/01/2014 10.31:10 221.8 49.9 20.3 50.0 0 100 0.0 UPS Configuration 22/01/2014 10.31:10 22.03 50.0 22.01 50.0 0 100 0.0 UPS Statisticswide 22/01/2014 10.34:10 22.03 50.0 22.00 50.1 0 100 0.0 UPS Statistics Log 22/01/2014 10.34:10 22.03 50.0 22.00 50.0 0 100 0.0 22/01/2014 10.34:10 22.03 50.0 22.00 50.0 0 100 0.0 22/01/2014 10.34:10 22.01 50.0 22.00 49.9 0 100 0.0 22/01/2014		22/01/2014	10:28:10	222.4	49.9	220.0	50.0	0	100	0.0	1
UPS Battery Test Schedule 2201/2014 10.0.10 221.8 49.9 219.6 50.0 0 100 0.0 SNMP TRAP Receivers 2201/2014 10.31.10 221.6 49.9 220.3 50.0 0 100 0.0 UPS Configuration 2201/2014 10.31.10 220.0 50.0 219.6 50.0 0 100 0.0 UPS Control 2201/2014 10.33.10 220.3 50.0 220.0 50.0 0 100 0.0 Shutdown 2201/2014 10.38.10 220.3 50.0 20.0 50.0 0 100 0.0 2201/2014 10.38.10 220.3 50.0 220.0 50.0 0 100 0.0 2201/2014 10.38.10 220.5 49.9 220.0 49.9 0 100 0.0 2201/2014 10.38.10 222.8 50.0 220.0 49.9 0 100 0.0 2201/2014 10.38.10 222.8		22/01/2014	10:29:10	222.0	50.0	220.0	49.9	0	100	0.0	1
SNMP TRAP Receivers 2201/2014 1031:10 221.6 48.9 220.3 50.0 0 100 0.0 UPS Configuration 2201/2014 10.32:10 220.0 50.0 219.6 50.0 0 100 0.0 UPS Control 2201/2014 10.32:10 220.3 50.0 220.0 50.1 0 100 0.0 Shutdown Schutdown Schutdown 2201/2014 10.34:10 220.3 50.0 220.0 60.0 0 100 0.0 Shutdown Schedule 2201/2014 10.34:10 220.3 50.0 220.0 60.0 0 100 0.0 2201/2014 10.36:10 220.5 49.9 220.0 49.9 0 100 0.0 2201/2014 10.36:10 222.8 50.0 220.0 49.9 0 100 0.0 2201/2014 10.41:10 222.8 50.0 220.0 50.0 0 100 0.0 2201/2014 <		22/01/2014	10:30:10	221.8	49.9	219.6	50.0	0	100	0.0	1
UP S Configuration 22/01/2014 10/32:10 22/0 50.0 219.8 50.0 0 100 0.0 UP S Control 22/01/2014 10/33:10 22/03 50.0 22/01 50.0 0 100 0.0 Shutdown Shutdown 22/01/2014 10/34:10 22/03 50.0 22/03 50.0 0 100 0.0 Shutdown Schedule 22/01/2014 10/34:10 22/03 50.0 22/03 50.0 0 100 0.0 22/01/2014 10/36:10 22/03 50.0 22/03 50.0 0 100 0.0 22/01/2014 10/37:10 22/07 50.0 22/03 50.0 0 100 0.0 22/01/2014 10/37:10 22/07 50.0 22/03 50.0 0 100 0.0 22/01/2014 10/38:10 22/28 50.0 22/03 50.0 0 100 0.0 22/01/2014 10/41:0 22/28 50.		22/01/2014	10:31:10	221.6	49.9	220.3	50.0	0	100	0.0	1
Solution Solution Solution Solution Solution UPS Control UPS Control 22/01/2014 10.33:10 220.3 50.0 220.3 50.0 0 100 0.0 Shutdown Schudown 22/01/2014 10.33:10 220.3 50.0 220.0 50.0 0 100 0.0 Shutdown Schedule 22/01/2014 10.34:10 220.3 50.0 220.0 50.0 0 100 0.0 Reboot System 22/01/2014 10.36:10 220.5 49.9 220.0 50.0 0 100 0.0 Access Control 22/01/2014 10.38:10 222.8 50.0 220.0 49.9 0 100 0.0 Access Control 22/01/2014 10.38:10 222.8 50.0 220.0 50.0 0 100 0.0 22/01/2014 10.38:10 222.8 50.0 220.0 50.0 0 100 0.0 22/01/2014 10.41:10 222.8		22/01/2014	10:32:10	220.0	50.0	219.6	50.0	0	100	0.0	1
UPS Shutdown 22/01/2014 10.34:10 22.03 50.0 22.03 50.0 0 100 0.0 Shutdown Schedule 22/01/2014 10.34:10 22.03 50.0 22.03 50.0 0 100 0.0 Actions 22/01/2014 10.36:10 22.03 50.0 22.04 49.9 0 100 0.0 Reboot System Access Control 22/01/2014 10.36:10 22.07 50.0 22.00 49.9 0 100 0.0 Access Control 22/01/2014 10.36:10 22.28 50.0 22.00 49.9 0 100 0.0 ShMPy3 USM Table 22/01/2014 10.81:10 22.28 50.0 22.00 50.0 0 100 0.0 Wake On LAN 22/01/2014 10.81:10 22.28 50.0 22.00 50.0 0 100 0.0 22/01/2014 10.41:10 22.28 50.0 22.00 50.0 0 100 0.0		Construction and a				1040/2012/02				0.0	1
Shutdown Schedule 22/01/2014 10.8:10 22.0 50.0 20.0 50.0 100 0.0 ettings NMC System 22/01/2014 10.8:10 22.0.5 49.9 20.0 50.0 0 100 0.0 Rebod System Access Control 22/01/2014 10.8:10 22.0.7 50.0 22.0.0 49.9 0 100 0.0 Date and Time 22/01/2014 10.8:10 22.2.8 50.0 21.9.8 50.0 0 100 0.0 SMMPy3 USM Table 22/01/2014 10.8:10 22.2.4 50.0 22.0.0 50.0 0 100 0.0 Z201/2014 10.9:10 22.2.4 50.0 22.0.0 50.0 0 100 0.0 Z201/2014 10.4:10 22.2.4 50.0 22.0.0 50.0 0 100 0.0 Z201/2014 10.4:10 22.2.4 50.0 22.0.0 50.0 0 100 0.0 Z201/2014 10.4:10 </td <td></td> <td>672379479177</td> <td></td> <td></td> <td>20704</td> <td></td> <td></td> <td></td> <td></td> <td>(A. 797)</td> <td></td>		672379479177			20704					(A. 797)	
etilings Los No Los No <thlo< th=""> Los No Los No<td></td><td>100000000000000000000000000000000000000</td><td>10-20-202</td><td>(250)223425</td><td>South Gits</td><td>h Chinaka</td><td>2549050</td><td></td><td>1001</td><td></td><td>+</td></thlo<>		100000000000000000000000000000000000000	10-20-202	(250)223425	South Gits	h Chinaka	2549050		1001		+
NMC System 10.0 10.0 0.0 Reboot System 22/01/2014 10.3/10 22/07 50.0 22/00 50.0 0 100 0.0 Access Control 22/01/2014 10.3/10 22/2.8 50.0 22/00 50.0 0 100 0.0 SMMP3 USM Table 22/01/2014 10.3/10 22/2.8 50.0 219.6 49.9 0 100 0.0 SMMP3 USM Table 22/01/2014 10.4/110 22/2.8 50.0 22/0.0 50.0 0 100 0.0 Wake On LAN 22/01/2014 10.4/110 22/2.8 50.0 22/0.0 50.0 0 100 0.0 22/01/2014 10.4/110 22/2.8 50.0 22/0.0 50.0 0 100 0.0 22/01/2014 10.4/110 22/2.8 50.0 22/0.0 50.0 0 100 0.0 22/01/2014 10.4/110 22/2.0 49.9 219.8 49.9 0 100								-			+
Reboot System 2201/2014 10.38.10 222.8 50.0 220.0 49.9 0 100 0.0 Date and Time 2201/2014 10.38.10 222.8 50.0 219.8 50.0 0 100 0.0 SNMPy3 USM Table 2201/2014 10.40.10 222.4 50.0 220.0 50.0 0 100 0.0 Wake On LAN 2201/2014 10.41.10 222.4 50.0 220.0 50.0 0 100 0.0 Wake On LAN 2201/2014 10.41.10 222.4 50.0 220.0 50.0 0 100 0.0 Piremail Notification 2201/2014 10.41.10 222.8 50.0 220.0 49.9 0 100 0.0 2201/2014 10.42.10 222.0 49.9 219.8 49.9 0 100 0.0 2201/2014 10.45.10 222.0 50.0 220.3 49.9 0 100 0.0 2201/2014 10.45.10		100000000000000000000000000000000000000	1.1.197.0.0		07.070		124.000		0.7.8	1.445	+
Access Control 22/01/2014 10.99:10 222.8 50.0 219.8 50.0 0 100 0.0 SNMP3 USM Table 22/01/2014 10.40:10 222.4 50.0 22.00 50.0 0 100 0.0 SNMP3 USM Table 22/01/2014 10.40:10 222.4 50.0 22.00 50.0 0 100 0.0 SNMP3 USM Table 22/01/2014 10.41:10 223.1 49.9 219.8 49.9 0 100 0.0 Email Notification 22/01/2014 10.42:10 222.8 50.0 220.0 50.0 0 100 0.0 Signament 22/01/2014 10.42:10 222.0 49.9 219.8 49.9 0 100 0.0 QS 22/01/2014 10.41:10 222.0 50.0 220.3 49.9 0 100 0.0 QS 22/01/2014 10.41:10 222.0 49.9 219.8 49.9 0 100 0.0 <	Reboot System	10000001010000000	8.2007-55		2250			27			-
Date and Time 22/01/2014 10/40.10 22/24 50.0 20.0 50.0 0 100 0.0 SNMP3 USM Table 22/01/2014 10/40.10 22/24 50.0 22/0.0 50.0 0 100 0.0 Email Notification 22/01/2014 10/41.10 22/23 50.0 22/0.0 50.0 0 100 0.0 Firmware Upload 22/01/2014 10/42.10 22/2.0 49.9 20.0 49.9 0 100 0.0 ggs 22/01/2014 10/41.10 22/2.0 49.9 219.8 49.9 0 100 0.0 ggs 22/01/2014 10/41.10 22/2.0 50.0 22/0.3 49.9 0 100 0.0 ggs 22/01/2014 10/45.10 22/2.0 50.0 22/0.3 49.9 0 100 0.0 UPS Log 22/01/2014 10/46.10 22/2.0 49.9 219.8 49.9 0 100 0.0 2/2	Access Control										+
SMMP3 USM Table Image: Control of the state	Date and Time										+
Value On LAN 22/01/2014 10.42:10 222.8 50.0 22.0.0 50.0 0 100 0.0 Fine Management 22/01/2014 10.42:10 22.2.0 49.9 20.0 49.9 0 100 0.0 0gs 22/01/2014 10.43:10 22.2.0 49.9 219.8 49.9 0 100 0.0 0gs 22/01/2014 10.44:10 22.2.0 50.0 22.0.3 49.9 0 100 0.0 UPS Log 22/01/2014 10.46:10 22.2.0 49.9 219.8 49.9 0 100 0.0 UPS Log 22/01/2014 10.46:10 22.2.0 49.9 219.8 49.9 0 100 0.0 22/01/2014 10.46:10 22.2.0 49.9 219.8 49.9 0 100 0.0 22/01/2014 10.46:10 22.1.8 49.9 20.5 50.0 0 100 0.0 22/01/2014 10.48:10 22.1.8	SNMPv3 USM Table		1.000000		(1999)		0.000	71	07.8		4
Line Holdnesson 22/01/2014 10.43:10 222.0 49.9 22.0.0 49.9 0 100 0.0 Ggs 22/01/2014 10.43:10 222.0 49.9 219.8 49.9 0 100 0.0 UPS Log 22/01/2014 10.44:10 222.0 50.0 220.3 49.9 0 100 0.0 UPS Log 22/01/2014 10.46:10 222.0 50.0 220.3 49.9 0 100 0.0 UPS Log 22/01/2014 10.46:10 222.0 49.9 219.8 49.9 0 100 0.0 UPS Log 22/01/2014 10.46:10 222.0 49.9 219.8 49.9 0 100 0.0 22/01/2014 10.46:10 221.8 49.9 220.5 50.0 0 100 0.0 22/01/2014 10.48:10 221.8 49.9 20.5 50.0 0 100 0.0	Wake On LAN	Crocks Street and			00220		1000				-
The Management 22/01/2014 10/4/10 22/20 49.9 219.8 49.9 0 100 0.0 Ogs 22/01/2014 10.44/10 22/20 50.0 22/03 49.9 0 100 0.0 UPS Log 22/01/2014 10.45/10 22/20 50.0 20/3 49.9 0 100 0.0 UPS Log 22/01/2014 10.46/10 22/20 49.9 219.8 49.9 0 100 0.0 22/01/2014 10.46/10 22/20 49.9 219.8 49.9 0 100 0.0 22/01/2014 10.46/10 22/20 49.9 219.8 49.9 0 100 0.0 22/01/2014 10.46/10 22/1.8 49.9 20.05 50.0 0 100 0.0 22/01/2014 10.48/10 221.8 49.9 20.05 50.0 0 100 0.0	Email Notification	22/01/2014	10:42:10	222.6		220.0	50.0		100		4
Ogs 22/01/2014 10.45:10 222.0 50.0 220.3 49.9 0 100 0.0 UPS Log 22/01/2014 10.45:10 222.0 49.9 219.8 49.9 0 100 0.0 UPS Log 22/01/2014 10.46:10 222.0 49.9 219.8 49.9 0 100 0.0 Event Log 22/01/2014 10.47:10 221.8 49.9 220.5 50.0 0 100 0.0 System Log 22/01/2014 10.48:10 221.8 49.9 220.5 50.0 0 100 0.0		22/01/2014					10.000	-			1
UPS Log 22/01/2014 10.46.10 222.0 49.9 219.8 49.9 0 100 0.0 UPS Statistics Log 22/01/2014 10.47.10 221.6 49.9 20.5 50.0 0 100 0.0 Event Log 22/01/2014 10.48.10 221.8 49.9 220.5 50.0 0 100 0.0		22/01/2014	10:44:10	222.0	49.9	219.8	49.9	. 50	100	0.0	
UPS Statistics Log 2210/12014 10.47:10 221.6 48.9 220.5 50.0 0 100 0.0 Event Log 22/01/2014 10.46:10 221.8 49.9 220.5 50.0 0 100 0.0		22/01/2014	10:45:10	222.0	50.0	220.3	49.9	0	100	0.0	
Event Log 22/01/2014 10:48:10 221.8 49.9 220.5 50.0 0 100 0.0	and a start of the	22/01/2014	10:46:10	222.0	49.9	219.8	49.9	0	100	0.0	
System Log 22/01/2014 10:48:10 221.8 49.9 220.5 50.0 0 100 0.0		22/01/2014	10:47:10	221.6	49.9	220.5	50.0	0	100	0.0	
System Log 22/01/2014 10:49:10 220.7 50.0 220.3 50.0 0 100 0.0		22/01/2014	10:48:10	221.8	49.9	220.5	50.0	0	100	0.0	1
		22/01/2014	10:49:10	220.7	50.0	220.3	50.0	0	100	0.0	

Diagram 3.2.6

3.2.7 UPS Statistics Log menu

UPS Statistics Log menu can be accessed by Logs→UPS Statistics Log. This page shows a statistics log of the UPS parameters taken over a period of time. For each of the UPS parameters, minimum, maximum and the average values is shown in each of the records. Please refer to diagram 3.2.7. Statistics log interval can be changed by modifying the variable "Statistics Log Interval" in "NMC System" page.

		NETWO	RK MANAG	EMENT O	CARD F	OR UP:	S		Loca	LINE ation: Of 01/2014	ffice 13:35:4	17	
UPS Parameters	Logs » UP	s Staticti	es Log										
UPS Powered Devices	Logs wor	o otatisti	USLOG										
UPS Identification													
UPS Management	Start	Start	End	End					Input				
UPS Battery Test	Date	Time	Date	Time	Inp	ut Volt	age	Fr	equer		Outp	out Vol	tage
UPS Battery Test Schedule					Min	Avg	Max	Min	Avg	Max	Min	Avg	Max
SNMP TRAP Receivers	06/01/2014	06:20:28	06/01/2014	07:20:28	218.2	221.3	223.7	49.9	49.9	50.0	221.0	221.0	222.4
UPS Configuration	06/01/2014	07:20:28	06/01/2014	08:20:28	218.2	221.6	225.1	49.9	50.0	50.0	221.0	221.0	222.4
UPS Control	06/01/2014	08:20:28	06/01/2014	09:20:28	214.0	218.7	221.0	49.9	50.0	50.0	221.0	221.0	222.4
UPS Shutdown	06/01/2014	09:20:28	06/01/2014	10:20:28	212.6	217.6	219.6	49.9	49.9	50.0	221.0	221.0	222.4
Shutdown Schedule	06/01/2014	10:20:28	06/01/2014	11:20:28	211.2	219.5	223.7	49.9	50.0	50.0	219.6	221.0	221.0
Settings	06/01/2014	11:20:28	06/01/2014	12:20:28	215.4	222.3	223.7	49.9	49.9	50.0	219.6	221.0	221.0
NMC System	06/01/2014	12:20:28	06/01/2014	13:20:28	215.4	220.7	223.7	49.9	49.9	50.0	219.6	220.9	221.0
Reboot System	06/01/2014	13:20:28	06/01/2014	14:20:28	215.4	220.2	222.4	49.9	50.0	50.0	219.6	220.9	222.4
Access Control Date and Time	06/01/2014	14:20:28	06/01/2014	15:20:28	216.8	220.3	222.4	49.9	49.9	50.0	219.6	221.1	222.4
SNMPv1/2 Configuration	06/01/2014	15:20:28	06/01/2014	16:20:28	214.0	219.5	222.4	49.9	49.9	50.0	219.6	221.0	221.0
Wake On LAN	06/01/2014	16:20:28	06/01/2014	17:20:28	215.4	221.0	222.4	49.9	49.9	50.0	221.0	221.0	221.0
Email Notification	06/01/2014	17:20:28	06/01/2014	18:20:28	215.4	219.7	222.4	49.9	50.0	50.0	221.0	221.0	221.0
Firmware Upload					1000000					C.C.O.L.C.			
File Management	06/01/2014	18:20:28	06/01/2014	19:20:28	215.4	220.8	223.7	49.9	50.0	50.0	221.0	221.0	221.0
Logs	06/01/2014	19:20:28	06/01/2014	20:20:28	216.8	222.0	223.7	49.9	49.9	50.0	221.0	221.0	221.0
UPSLog	06/01/2014	20:20:28	06/01/2014	21:20:28	216.8	222.3	225.1	49.9	50.0	50.0	221.0	221.0	221.0

Diagram 3.2.7

3.2.8 Event Log menu

Event Log menu can be accessed by Logs→Event Log. There are two hundred latest event logs shown on the interface at most. Please refer to diagram 3.2.8. User can export *upsevent.csv* file to view more event logs from file management interface, please refer to section 3.1.7.

		NETV	VORK MANAGEMENT CARD FOR UPS	ON-LINE Location: Office 22/01/2014 13:48:08	
JPS Monitoring	Logs » Eve	nt Log		help	
UPS Status	Date	Time	Description	1	
UPS Alarm	25/12/2013	08:45:39	WARNING: Utility power not available.		
UPS Parameters	25/12/2013	08:47:39	INFORMATION: Utility power has restored.		
UPS Powered Devices	25/12/2013	08:48:25	WARNING: Utility power not available.		
UPS Identification	25/12/2013	08:51:29	INFORMATION: Utility power hos restored.		
JPS Management	25/12/2013	08:52:08	WARNING: Utility power not available.		
UPS Battery Test UPS Battery Test Schedule	25/12/2013	08:53:09	INFORMATION: Utility power has restored.		
SNMP TRAP Receivers	25/12/2013	08:53:09			
UPS Configuration			WARNING: Utility power not available.		
UPS Control	25/12/2013	08:55:45	INFORMATION: Utility power has restored.		
UPS Shutdown	31/12/2013	13:12:51	WARNING: UPS Output Off.		
Shutdown Schedule	31/12/2013	13:22:26	INFORMATION: UPS Output On.		
Settings	31/12/2013	13:22:26	INFORMATION: The UPS has enabled bypass.		
NMC System	31/12/2013	13:22:30	INFORMATION: The UPS is not on Bypass and return to norma	il status.	
Reboot System	02/01/2014	20:30:57	WARNING: Utility power not available.		
Access Control	02/01/2014	20:37:09	SEVERE: The UPS batteries are low and will soon be exhausted	ed.	
Date and Time	02/01/2014	20:43:35	WARNING: The UPS batteries capacity is lower than setting lin	nit.[29% < 30%]	
SNMPv3 USM Table	02/01/2014	20:46:30	WARNING: UPS Output Off.		
Wake On LAN	05/01/2014	19:52:53	WARNING: Utility power not available.		
Email Notification	05/01/2014	20:02:16	SEVERE: The UPS batteries are low and will soon be exhausted	ed.	
Firmware Upload	05/01/2014	20:04:38	WARNING: The UPS batteries capacity is lower than setting lin	nit.[29% < 30%]	
File Management	05/01/2014	20:07:32	WARNING: UPS Output Off.		
logs	08/01/2014	17:22:02	WARNING: Utility power not available.		
UPS Log	08/01/2014	17:22:04	INFORMATION: Utility power has restored.		
UPS Statistics Log	09/01/2014	16:57:56	WARNING: Utility power not available.		
Event Log	09/01/2014	17:07:27	SEVERE: The UPS batteries are low and will soon be exhaust	4	
System Log	09/01/2014	17:09:59	WARNING: The UPS batteries capacity is lower than setting lim	the set of the set of the set	

Diagram 3.2.8

3.3 UPS control via web browser

Please Note: Before implementing the NMC setting for all configuring parameters, user has to become NMC administrator first. While configure parameters for NMC via web browser, there will be a pop-up dialog to ask the name and password of NMC administrator. Only NMC password can be changed, regarding to change password by serial COM port, please refer to the item 15 of the section 2.1.

3.3.1 UPS Battery Test menu

UPS Battery Test menu can be accessed by **UPS Management→UPS Battery Test**. UPS battery latest test result and test time is shown on the interface. User can configure "Quick Battery Test", "Test Until Battery Low", "Timed Test", "Cancel Test" and "Clear Test Information". For some offline UPS, UPS can't support "Test Until Battery Low" and "Timed Test" function, the function is depended on UPS firmware. Please refer to diagram 3.3.1.

🔶 💮 🍯 http://172.	18.139.6	0/authority_ok.html	ク・C 🧭 Network Management C.	×	
		NETWORK M	ANAGEMENT CARD FOR UPS	ON-LINE Location: Office 22/01/2014 13:48:32	
UPS Monitoring	_	UPS Management » UPS Batte	ry Test		help
UPS Status	2	Last Test Record			
UPS Alarm		Last Test Start Time	21/01/2014 15:47:23		
UPS Parameters					
UPS Powered Devices		Last Test Elapsed Time	00:00:13		
UPS Identification		Last Test Result	No Failure		
JPS Management		Battery Test Parameters			
UPS Battery Test		and the second			11
UPS Battery Test Schede	ile	Battery Test Setting Time(Min)	1		
SNMP TRAP Receivers		Battery Test Command	Quick Battery Test 🗸		
UPS Configuration			Save		
UPS Control					
UPS Shutdown					
Shutdown Schedule					
Settings					
NMC System					
Reboot System					
Access Control					
Date and Time					
SNMPv3 USM Table					
Wake On LAN					
Email Notification					
Firmware Upload					
File Management					
.ogs					
UPS Log					
UPS Statistics Log					
UPS Statistics Log Event Log	100				
	~				
Event Log System Log	~				

Diagram 3.3.1

3.3.2 UPS Battery Test Schedule menu

UPS Battery Test Schedule menu can be accessed by UPS

Management→UPS Battery Test Schedule. User can configure schedule test on specific day or weekly day. User can configure "Quick Battery Test", "Test Until Battery Low" and "Timed Test". "Battery Test setting Time" is for "Timed Test" function. For some offline UPS, UPS can't support "Test Until Battery Low" and "Timed Test" function, the function is depended on UPS firmware. Please refer to diagram 3.3.2.

		NE	TWO	RK MANAGEMENT (CARD FOR UPS	Lo	I-LINE cation: Office /01/2014 13:48	:55
UPS Monitoring	UPS Ma	nagement »	UPS	Battery Test Sched	dule			help
UPS Status				Specific Day	Test Time		Pattor	Test Setting
UPS Alarm	Index	Test Day		(dd/mm/yyyy)	(hh:mm)	Test Actions	Time(N	
UPS Parameters	1	Monday	×	00/00/0008	10:00	Quick Battery Test	✓ 1	
UPS Powered Devices	2	Tuesday	~	00/00/0000	10.00		✓ 1	
UPS Identification	3	Specific Da		12/01/2014	10:00	Test Until Battery Low		
UPS Management	4	Disabled	-	00/00/0000	00:00	None		
UPS Battery Test	1273	Address and the	~			11111111		
UPS Battery Test Schedule SNMP TRAP Receivers	5	Disabled	~	00/00/0000	00:00	A MARTINE	✓ 1.	
UPS Configuration	6	Disabled	~	00/00/0000	00:00	111715	Y 1	
UPS Control	7	Disabled	~	00/00/0000	00.00		✓ 1	
UPS Shutdown						Si	ave	
Shutdown Schedule								
Settings								
NMC System								
Reboot System								
Access Control								
The second s								
Date and Time								
SNMPv3 USM Table								
SNMPv3 USM Table								
SNMPv3 USM Table Wake On LAN								
SNMPv3 USM Table Wake On LAN Email Notification								
SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management Logs								
SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log								
SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log UPS Statistics Log								
SNMPv3 USM Table Wake On LAN Email Notification Firmware Upload File Management Logs UPS Log								

Diagram 3.3.2

3.3.3 UPS Control menu

UPS Control menu can be accessed by **UPS Management**->**UPS Control**. User can control UPS output on or off on the interface, please refer to diagram 3.3.3.

When selecting "UPS turn off" item, NMC will send shutdown command to UPS, UPS will shut down output once the delay time has run out. When selecting "UPS Sleep" item, NMC will send shutdown command to UPS, UPS will shut down output once the delay time has run out, and UPS will turn on output once the UPS sleep time has run out. When selecting "UPS Turn on / Cancel shutdown" item, NMC will send cancel shutdown command to UPS, and UPS will turn on output. Users can manual Turn On or Turn off UPS Load Segment in this page.

		NT CARD FOR UPS	Location: Office 21/01/2014 13:37:11
UPS Status	UPS Management » UPS Control	l	help
UPS Alarm	UPS Shutdown Delay (Sec)	120	
UPS Parameters	UPS Sleep Time (Min)	1	
UPS Powered Devices		None	
UPS Identification	Operation	A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O	
JPS Management	Load Segment 1	Turn On 🔽	
UPS Battery Test	Load Segment 2	Turn On 🗸	
UPS Battery Test Schedule		Save	
SNMP TRAP Receivers		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
UPS Configuration			
UPS Control			
UPS Shutdown			
Shutdown Schedule			
Settings			
NMC System			
Reboot System			
Access Control			
Access Control			
Access Control Date and Time			

Diagram 3.3.3

3.3.4 UPS Shutdown Schedule menu

UPS Shutdown Schedule menu can be accessed by **UPS Management→UPS Shutdown Schedule**. User can control UPS output on or off on specific day or on weekly day, please refer to diagram 3.3.4.

			ANAGEMENT CARD FOR	UPS	Location: 22/01/20	Office 014 13:50:22
UPS Monitoring	UPS Management »	UPS Shute	iown Schedule			help
UPS Status	Weekly					
UPS Alarm UPS Parameters	Shutdown Day	Shutd	own Time(hh:mm)	Restart Day	Rest	art Time(hh:mm)
UPS Parameters UPS Powered Devices	Monday 🗸	18:00		Tuesday 🗸	09:00	
UPS Identification	Tuesday 🗸	18:00		Friday 🗸	09.00	
UPS Management	Disable V	00:00		Disable 🗸	00:00	
UPS Battery Test	Disable V	00.00		Disable V	00.00	
UPS Battery Test Schedule	Disable V	00:00		Disable V	00.00	
SNMP TRAP Receivers	Disable V	00:00		Disable V	00.00	1
UPS Configuration	Disable V	00:00		Disable V	00.00	
UPS Control		00.00			00.00	
UPS Shutdown	Specific Day					
Shutdown Schedule	Shutdown Day		Shutdown Time	Restart Day		Restart Time(hh:mm)
Settings	(dd/mm/yyyy)		(hh:mm)	(dd/mm/yyyy)		
NMC System	28/01/2014		18:00	29/01/2014		09:00
Reboot System	00/00/0000		00:00	00/00/0000		00:00
Access Control	00/00/0000		00.00	00/00/0000		00:00
Date and Time	00/00/0000		00.00	00/00/0000		00:00
SNMPv3 USM Table Wake On LAN	00/00/0000		00:00	00/00/0000		00:00
Email Notification	00/00/0000		00.00	00/00/0000		00.00
Firmware Upload	00/00/0000		00.00	00/00/0000		00:00
File Management	00/00/0000		00:00	00/00/0000		00:00
Logs						Save
UPS Log						

Diagram 3.3.4

3.3.5 UPS Shutdown menu

UPS Shutdown menu can be accessed by **UPS Management→UPS Shutdown**. Please refer to diagram 3.3.5. When the selected event happens, NMC will inform the computer installed with SPS (System Protect System) of the event and send the shutdown command to the computer. Here, the computer installed with SPS is the computer shown on UPS powered devices interface (refer to section 3.2.4).

Action type:

- Disable: It means that NMC will do nothing even the event happens on UPS.
- Warning: It means that NMC will inform the computer installed with SPS of the event once the shutdown condition happens.
- Client Shutdown: It means that NMC will inform the computer installed with SPS of the event and send shutdown command to the computer once the shutdown condition happens.
- "UPS Turn Off" means that NMC will inform the computer installed with SPS of the event, send shutdown command to the computer, and also send shutdown command to UPS once the shutdown condition happens, when the delay time has run out, UPS will shut down output. The default value of delay time is 120 seconds.

Warning period means the overall time the warning will be repeatedly once event happens. Warning interval means that NMC will inform the event to the computer installed with SPS every short period once event happens. **N**= (Warning period / Warning interval) +1, N means the warning times.

Please Note: for client shutdown setting information, please refer to System Protect Software User Manual.pdf

	NETWORK MAI	NAGEMENT CARD FOR U	JPS		E n: Office 2014 13:49:43
JPS Monitoring	UPS Management » UPS Shutdo	own			help
UPS Status	E	Actions		Warning Period	Warning Interval
UPS Alarm UPS Parameters	Event	ACTIONS		(Sec)	(Sec)
UPS Parameters UPS Powered Devices	AC Failed	Client Shutdown	Y	900	30
UPS Identification	Battery Low	Client Shutdown	~	400	10
JPS Management	UPS Overload	Client Shutdown	~	900	30
UPS Battery Test	UPS Over Temperature	Client Shutdown	V	900	30
UPS Battery Test Schedule	Weekly Schedule	Client Shutdown	~	900	30
SNMP TRAP Receivers	Specific Day	Client Shutdown	~	900	30
UPS Configuration	EMP Temperature Threshold	Client Shutdown	~	900	30
UPS Control	EMP Humidity Threshold	Client Shutdown	~	900	30
UPS Shutdown	The second se				
Shutdown Schedule	EMP Alarm-1	Client Shutdown	~	900	30
Settings	EMP Alarm-2	Client Shutdown	~	900	30
NMC System	Below Battery Capacity Setting	Client Shutdown	×	0	30
Reboot System	Electrony March 10				
Access Control	Cancel UPS Shutdown i	fevents Restored in Shutdow	n Delay		
Date and Time		UPS Shutdown Del	lay(Sec)	120	
SNMPv3 USM Table Wake On LAN					Save
Email Notification					529-1767
Firmware Upload					
File Management					
.ogs					
UPS Log					
UPS Statistics Log					
Event Log					
System Log					

Diagram 3.3.5

3.3.6 UPS Configuration menu

UPS Configuration menu can be accessed by **UPS Management->UPS Configuration**. User can configure the limited point of UPS overload and over-temperature. For Innova UPS, User can configure UPS buzzer bee. User can configure the limited point of EMP temperature value and humidity value. User can configure the warning setting of EMP: "Normally open", "Normally closed" or "Not used". User also can configure UPS last replaced date. User can set the lower limit of battery capacity. When the battery capacity is below the set point, NMC will take action that is specified in the UPS Shutdown menu. The default value is 30%. User can set the lower limit of battery backup time. When the battery backup time is below the set point, NMC will take action that is specified in the UPS Shutdown menu. Refer to the following diagram 3.3.6.

	N	ETWORK MANAGEMENT (CARD FOR UPS	ON-LINE Location: 0 22/01/201	Office 14 13:50:44
IPS Monitoring	UPS Management	UPS Configuration			help
UPS Status	UPS				
UPS Alarm	Over Load Set Point(%	X	90		
JPS Parameters			10000		
UPS Powered Devices	Over Temperature Set	Point(°C)	50		
JPS Identification	Buzzer		On 🗸		
PS Management	Save				
UPS Battery Test	THE REPORT OF				
UPS Battery Test Schedule	EMP	Auto 🗸			
SNMP TRAP Receivers	Sensor	Description	110	Low Point	High Point
UPS Configuration	Temperature(°C)	EMP Temperature		15	50
JPS Control	Humidity(%)	EMP Humidity		50	90
UPS Shutdown	Alarm-1	Alarm-1	1.12	Normally Open V	
Shutdown Schedule	Alarm-2	Alarm-2		Normally Open	
ettings	Save	/NGITT2		Internally Open	
NMC System	Save				
Reboot System	UPS Battery				
Access Control	Last Replace Date(dd	les es lució à			
Date and Time					
SNMPv3 USM Table	Shutdown when batter	y capacity is below(%)	30		
Wake On LAN	Save				
Email Notification					
Firmware Upload					
File Management					
ogs					
JPS Log					
JPS Statistics Log					
Event Log					
System Log					

Diagram 3.3.6

Chapter 4 NMC & UPS management via SNMP

Please note: if user wants to use NMC via SNMP protocol, please make sure IP address and Gateway of NMC correct. Please refer to section 2.1 or section 3.1.1 for IP address and Gateway settings.

NMC support SNMP protocol, user can manage NMC and UPS via SNMP NMS (Network Management Station). Load the NMC MIB to the database of SNMP NMS, and user can read or configure the parameters of NMC and UPS. The read community strings is "*public*", and the write community strings is "*private.*" NMC support two type MIB: one is *RFC1628.mib*, the other is *EPPC.mib*. MIB files can be found in NMC CD-ROM packaged with NMC.

Furthermore, NMC can be monitored by Winpower software via SNMP protocol. For more detail information, please refer to the user manual of Winpower.

Chapter 5 NMC Utility - Find NMC in the LAN

Via NMC Utility, user can find NMC automatically and quickly in the LAN. User can link to the web of NMC. Please refer to the following diagram.

📭 NMC Utility				
Tasks:	Devices:			
Device Info	IP Address	MAC Address	Product	
	172.18.127.114	00:20:85:f7:10:14	Network Management 🜔	
<u>R</u> efresh List	172.18.127.99	00:20:85:f7:10:18	Network Management 🜔	
Close				
	1			_

NMC Utility can be found in NMC CD-ROM packaged with NMC, NMC Utility supports Windows XP / Windows 7.
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1 Introduction

The SPS (System Protect Software) is one utility which communicates with NMC (Network Monitoring Card). SPS provides logs events, notifies users of events, arranges actions for application and is also able to offer shutdown parameters setting for PC when it is necessary. SPS can provides safety shutdown method against unexpected interrupted due to the power failure. With the SPS, it can save application's data and documents before shutdown of system as well.

SPS has two major components: "SPS Service" and "SPS Interface", SPS Service runs in the background as a system service; and SPS Interface is a user interface application that allows the user to tailor the configuration parameters.

1.1 Supported platforms

Windows
Windows XP Home Edition
Windows XP Professional
Windows 2000
Windows Server 2003 x32,x64
Windows Server 2008 x32,x64
Windows Server 2012 x64
Windows Vista x32, x64
Windows 7 x32, x64
Windows 8 x32, x64
Hyper-V Server 2008/2012
LINUX
Red Hat Enterprise Server 5.x for i386,AMD64
Red Hat Enterprise Server 6.x for i386,AMD64
SUSE Enterprise Server 10.x for i386,AMD64
SUSE Enterprise Server 11.x for i386,AMD64
Ubuntu 8.x for i386,AMD64
Ubuntu 9.x for i386,AMD64
Ubuntu 10.x for i386,AMD64
Ubuntu 11.x for i386,AMD64
Ubuntu 12.x for i386,AMD64
MAC OS
Mac OS 10.5 for PPC
MAC OS 10.6/10.7/10.8/10.9 for Intel

Supported platforms (validated):

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VMware Server
VMware ESXi 4.0/4.1/5.0/5.1/5.5(Paid Version)
VMware ESX 4.0/4.1
Citrix XenServer
Citrix XenServer 6.2
Unix
Solaris 10 for Intel/Sparc
FreeBSD 7.X, 8.X, 9.X
HP UX 11.31

1.2 Quickly setup for SPS on Windows

- Download and unzip the SPS installation package, Double click the "setup" program, install the SPS
- The SPS service will be started automatically when the system boots
- Double click the SPS icon in the taskbar, open the SPS interface, Input the NMC IP address to add the device
- Select the alarm events from Events list. The alarm events are selected as default: Ac Fail, Battery Low, Schedule Shutdown, Battery Capacity below Limit, Battery Backup Time below Limit
- To check the setting, simulate the system shutdown by SPS according to section 8.5

1.3 Quickly setup for SPS on Linux (Mac OS) with GUI

- Download and unzip the SPS installation package, Enter the command to install the SPS: ./SPS.install
- Go to the installation path "/opt/sps", Enter the command to start the SPS service: ./SPSService
 The SPS service will be started automatically when the system boots
- Enter the command to open the SPS interface in the Linux: ./SPS Input the NMC IP address to add the device
- Enter the command to open the SPS interface in the MacOS: **open SPS.app** Input the NMC IP address to add the device
- Select the alarm events from Events list. The alarm events are selected as default: Ac Fail, Battery Low, Schedule Shutdown, Battery Capacity below Limit, Battery Backup Time below Limit
- To check the setting, simulate the system shutdown by SPS according to section 8.5

1.4 Quickly setup for SPS on Linux (Unix) with CUI

• Download and unzip the SPS installation package, Enter the command to install the SPS: ./SPS.install

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- Go to the installation path "/opt/sps", Enter the command to start the SPS service: ./SPSService
 The SPS service will be restarted automatically when the system boots
- Enter the command: ./SPS -i, input the password, the default password is "admin", edit the configuration, find the below line, Input the NMC IP address to add the device:
 <Remote name="NMC IP" serv="2993" model=""/>
- The alarm events are selected as default: Ac Fail, Battery Low, Schedule Shutdown, Battery Capacity below Limit, Battery Backup Time below Limit
- Restart the SPS Service by the command: ./SPS -r
- To check the setting, simulate the system shutdown by SPS according to section 8.5

2 Installation and configuration for SPS in the Windows

2.1 Installing the SPS

 For Windows XP operating system, open the Windows folder, the installing process can be executed by double click the program icon ("setup.exe" or "setup.msi") directly. For Microsoft Windows Vista, server 2008, server 2012,Windows 7 and 8 operating systems, it recommends the installing process is executed with the administrator account; If it is not login as administrator for the operating system the installing process is also able to be executed by right click the program icon and then click "Run as administrator". It will execute the installing process as the administrator account.

🔯 setur			9/2011 2:07 PM	Application	336 KB
👘 setuj		Open	9/2011 2:07 PM	Windows Installer	3,815 KB
	0	Run as administrator			

For Windows 2000 operating system, open the Windows-2000 folder, the installing process can be executed by double click the program icon "setup.exe".

Note: The setup.msi is not available for Windows Vista operating system, Windows 7 and Windows 8 OS.

- Follow the instructions step by step to finish the installing process.
 - By default of 32 bit operating system, SPS installs to "C:\Program Files\System Protect Software".
 - By default of 64 bit operating system, SPS installs to "C:\Program Files (x86)\System Protect Software"

2.2 Starting the SPS

SPS service starts automatically when operating system boots as default.

- There are two methods to start the SPS manually:
 - Select Start menu > All Programs > System Protect Software to start the Tray Icon and SPS service.
 - Select Start menu > Control Panel > Administrative tools > Services, and find the service
 System Protect Service. Right click it and select Start to start the SPS service.
 Manual Local System

- 🗱 SCISS VI			manual	Local Dystein
🆓 System Event Notification	Tracks syst	Started	Automatic	Local System
System Protect Service		Started	Automatic	Local System

• SPS Icon appears in status area of the task bar after the SPS service start. Double click the Icon will start up the SPS interface screen.



2.3 Configuring the SPS

- SPS offers authority system. Only the administrator of SPS has full privilege to configure and access in SPS. Users have privilege for reading SPS only. The administrator of SPS is able to login by click "System" > "Act as Administrator" and then enter the password. By default, the password is "admin".
- Enter the IP address of NMC via click "Add" button on the screen of SPS.
 Enter the Cluster name if the computer is protected by the redundant UPS Input.
 The NMC UPSs that under the same Cluster name will become a group.
 Note: Please add the network id as suffix at the end of IP address (for example: %4) as the below image, if the IP address is IPV6.

C:\WINDOWS\system32\cmd.exe	- 🗆 🗙
Windows IP Configuration	
Ethernet adapter Local Area Connection:	
Connection-specific DNS Suffix . : IP Address : 172.18.127.97 Subnet Mask : 255.255.255.0 IP Address : fe80::3ed9:2bff:fe65:6e1ex4 Default Gateway : 172.18.127.1	
Add	
IP Address or Host Name: :220:85FF:FEF7:1008%4	
Service or Port: 2993	
Device Model:	
Cluster:	
OK Cancel	

The device icon in the tree view will be abnormal if enter the error IP address.
 Click the View button, the Connection Status shows Not Connected
 Note: The connection will fail if the UPS output is off.

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ystem I	Log Language		
Device L	íst	Events	
1.	72.18.127.83(2993) 72.18.127.11(2993)	Ac Fail Battery Low UPS Overload	
ſ	View Device and Warr	ing 🔀	wn
Ac	172.18.127.11 Device Model: IP Address: 172.18.12	7.11	hutdown
Mo	Host Name: Unknow Connection Status: N	n E	
ocal Co	Shutdown Status: Un UPS Shutdown Delay		
Alias:		*	Default

Synchronously, the Tray Icon in the task widows will be signed with warning. Move the mouse to the Tray Icon, The detailed information will be prompted.



Select the alarms checkbox in the Event list: When the events occur, the SPS will pop up • alarm dialog or shutdown the computer gracefully.

Unselect the alarms checkbox in the Event list: When the events occur, the SPS will not pop up alarm dialog and will not shut down the computer.

Supported Alarms:

AC fail, Battery Low, UPS overload, UPS over temperature, Weekly Schedule Shutdown, Specific Day Schedule Shutdown, EMP over Temperature, EMP over Humidity, EMP Contact1 Alarm, and EMP contact2 Alarm.

- Action Definition When the events occur, The SPS will pop up the alarm **Event Warning** dialog, but the computer will not shut down or sleep. Shutdown When the shutdown condition is met, the SPS will send the shutdown command to system. Sleep When the shutdown condition is met, the SPS will send the sleep command to system.
- In the Action option, select Event Warning, Shutdown, or Sleep button. .

By the default, Shutdown is selected

In the System shutdown option, set the shutdown parameters. The parameters are defined as following:

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Shutdown Parameters	Definition
Cancel Shutdown if events	If the checkbox is selected, the shutdown (sleep) will be
Restored in Shutdown Delay	cancelled in system delay when the events restore to
	normal.
	If the checkbox isn't selected, the system will be shut
	down (sleep) in shutdown delay even if the events
	restore to normal.
	The checkbox isn't chosen as default.
Shutdown Delay	The SPS will send the shutdown (sleep) command to the
	computer after shutdown delay time when the shutdown
	condition is met.
	The shutdown Delay is 0 s as default.
Run Script Before Shutdown	If the checkbox is selected, the Script will be executed
	before the system shutdown (sleep).
	By the default, the SPS will not execute the script before
	system shutdown.
Script Max Execution Time	The script run will be ended when the max execution
	time is met.
	The script max execution time is 60s as default.

2.4 Uninstall the SPS

 Right click the Tray Icon, select Exit.
 Select the Exit System Protect Service in the prompted dialog to exit the SPS user interface and SPS service.

Confirm 🔀
Exit System Protect Software?
OK Cancel

• Select Start menu > All Programs > System Protect Software > Uninstall System Protect Service, uninstall the SPS

2.4 Configuring the Port

The SPS use UDP 3034 as the communication port with NMC as default. Please open the port according the command as below:

netsh.exe firewall add portopening udp 3034 SPSPort

Note: If the UDP 3034 is captured by the other program, the number of the port value will be added 1(range from 3034~3083)

3 Installation and configuration in Linux, MAC OS and Unix

3.1 Installing the SPS

•

Operation System	packages
Linux i386 with GUI (Graphics User	SPS-GUI-*.*.*.+linux-i386.tar.gz
Interface Mode)	SPS-CUI-*.*.*-linux-i386.tar.gz
	The two packages above are supported in GUI
	mode
Linux i386 with CUI(Console User	SPS-CUI-*.*.*-linux-i386.tar.gz
Interface Mode)	
Linux AMD 64 with GUI(Graphics Mode)	SPS-GUI-*.*.*.*-linux-x86_64.tar.gz
	SPS-CUI-*.*.*.*-linux- x86_64.tar.gz
	The two packages above are supported in GUI
	mode
Linux AMD 64 with CUI (Console Mode)	SPS- CUI-*.*.*-linux-x86_64.tar.gz
MAC OS 10.7 for Intel	SPS-*.*.*.MACOSX-10.7-intel.tar.gz
MAC OS 10.6 for Intel	SPS-*.*.*-MACOSX-10.6-intel.tar.gz
MAC OS 10.5 for PPC	SPS-*.*.*.MACOSX-10.5-ppc.tar.gz
Solaris 10 for Intel	SPS-CUI-*.*.*-solaris-intel.tar.gz
Solaris 10 for Sparc	SPS-CUI-*.*.*.solaris-sparc.tar.gz

- Extract the file, Enter the command: tar –zxvf SPS* Note: for the solaris OS, please extract as following: gunzip SPS*.tar.gz tar –xvf SPS*.tar
- Installing the file, Enter the command: ./SPS.install
- Finish the installation, Enter "y"
- By default, the SPS is installed to /opt/sps

3.2 Starting the SPS

3.2.1 Linux (MAC OS) with GUI

• Start the SPS service in the installation directory, enter the command:

./SPSService

SPS service will run automatically in the background when the system boot.

Select to start the SPS service or not when the system boots by the following command in table.

Operation	Starting the SPS Service when system	Stopping the SPS Service when system
System	boot	boot
RedHat	chkconfigadd SPSService	chkconfigdel SPSService
SUSE	chkconfigadd SPSService	chkconfigdel SPSService
Ubuntu	sudo update-rc.d SPSService defaults	sudo update-rc.d –f SPSService remove
MAC OS	sudo launchctl load	sudo launchctl unload
	/Library/LaunchDaemons/SPSService.	/Library/LaunchDaemons/SPSService.p
	plist	list

• For the Linux , Start the SPS user interface in the installation directory, enter the command: ./SPS

For the MAC OS, Start the SPS user interface in the installation directory, enter the command:

open SPS.APP

The packages in the below table are needed. In generally, the packages will be installed in the system as default:

Library Name	Provided by Package	Super Package
gtk-x11-2.0	gtk2	
gdk_pixbuf-2.0	gtk2	
gthread-2.0	libgthread-2_0-0	glib2
glib-2.0	glib2	glib2
gmodule-2.0	libgmodule	glib2
gobject-2.0	libgobject-2_0-0	glib2
atk-1.0	atk/libatk	
pango-1.0	pango	
freetype	freetype2	
fontconf	fontconfig	
Xrender	xorg-x11-libXrender	xorg-x11
x11	xorg-x11-libX11	xorg-x11
Xext	xorg-x11-libX11	xorg-x11
png12	libpng12-0	
Z	zlib	

3.2.2 Linux (Unix) with CUI

Note: The GUI mode of SPS for Unix OS is not supported. Please use the CUI mode of SPS for Unix.

- Start the SPS service in the installation directory, enter the command:
 - ./SPS –s

Restart the SPS service if necessary, Enter the command: **./SPS -r** SPS service starts automatically at system boot as default.

• The SPS user interface is unavailable in the Linux with CUI, refer to the SPS command parameters in the below table:

Parameter	Function	Comment
-h	Print all the parameters and functions	
-v	Show the software version	
	and copyright	
-S	Start SPS service automatically at	Take effect at next boot
	system boot	
-X	Stop SPS service at system boot	Take effect at next boot
-S	Start SPS service	Take effect immediately
-x	Exit SPS service	Take effect immediately
-r	Restart SPS service	Take effect immediately
-	List all the device and status	
-р	Check the shutdown parameters	
-i	Modify the configuration parameters	Enter the password, edit the
		configuration by the vi tool
-c	Modify the password	Enter the old password, then
		input the new password

3.3 Configuring the SPS

3.3.1 Linux (MAC OS) with GUI

Refer to the SPS configuration in Windows (section 2.3)

Note: Please add the network id as suffix at the end of IPV6 address (for example: %eth0) as the below image if the communication mode is IPV6.

System Protect Software User Manual

0					1	root(@p	oc1:	L: ~	ŝ.,					_				_		-	×
<u>File</u>	dit <u>V</u> ie	ew	Termin	al	<u>H</u> elp																	
root@pc ping: u	Inknown 1:~# i Lin Ine UP RX TX col RX	ing hos fcor k er t ad t6 a BROA pack pack lisi byte	FE80: t FE80 fig ccap:E dr:17 ddr: DCAST cets:2 cets:1 ons:0 es:174	220 2::2 ther 2.18 fe80 RUN 4969 2778 txq 5782	1:85FF:F 20:85FF 1:20:85FF	Vaddr B Bc 21ff: JLTIC rs:0 rs:0 rs:0 rs:0 h:106 4 MB)	F7: cas :fel CAS dro dro 00) 1	:137 90:1 st:1 ebb: ST ropp ropp TX	19: 172 172 0: fo MT opeo	:21 2.1 d42 TU: d:0 d:0	8,1 2/64 150 0 01	139 4 So 00 veri veri	.25 Cope Met runs runs	5 e:L tri s:0 s:0	in 10:) f) c	k 1 ram arr	e:0 ier	:0		255	.0	0
lo	ine UP RX TX col	t ad t6 a LOOF pack pack lisi	ddr:12 Mddr: PBACK Cets:4 Cets:4 Cons:0	7.0. ::1/ RUNN err err txq	Loopba 0.1 Ma 128 Sco IING MT ors:0 c ors:0 c ueueler 0.0 B)	ask:2 ope:H TU:16 dropp dropp n:0	Host 6430 ped ped	st 36 d:0 d:0	Me 0 01	etr ver ver	rur	ns:(ns:(0 ca	arr			16					
root@pc	:1:~#																					-

0	System Protect Configur	ation	_ O X
System Log La	anguage		
Device List	Events		
	🕑 Weekly S		20501
-	Add	×	
Add	IP Address or Host Name:	1373%eth0	
Modify			*
Local Configura	Service or Port:	2993	
Alias: pc1	Device Model:		Default
System Shutdov	Cluster:	×	
Shutdown Dela	Cancel	<u>O</u> K	Warning

3.3.2 Linux(Unix) with CUI

Note: The GUI mode of SPS for Unix OS is not supported. Please use the CUI mode of SPS for Unix.

- Enter the command: ./SPS –i.
 Input the password, the password is admin as default. Open the configuration by vi tool.
- Modify the parameters configuration, save and exit.

3.3.2.1 Add one device, or set the Redundant UPS Input if the computer is protected by multi-devices.

Add one device. Add the NMC IP address in the name parameter. (e.g the NMC IP address is 172.18.139.60)

<RemoteList>

```
<Remote name="172.18.139.60" serv="2993" model=""/> </RemoteList>
```

Or you can use the following format also:

<RemoteList>

```
<Remote name="172.18.139.60" serv="2993" model=""/>
```

<Cluster name="">

```
<Remote name="" serv="2993" model=""/>
```

</Cluster>

</RemoteList>

```
<RemoteList>
  <Remote name="172.18.139.60" serv="2993" model=""/>
<Cluster name=" "/>
</RemoteList>
<AcFail>1</AcFail>
<BatteryLow>1</BatteryLow>
<Overload>O</Overload>
<OverTp>O</OverTp>
<EMPTp>0</EMPTp>
<EMPHum>O</EMPHum>
<EMPCt1>0</EMPCt1>
<EMPCt2>0</EMPCt2>
<WSS>1</WSS>
<$$$$>1</$$$>
<Capacity>1</Capacity>
<RemainTime>1</RemainTime>
<Alias>localhost.localdom</Alias>
<CancelIf>O</CancelIf>
<ShutDelay>O</ShutDelay>
<EnableScript>1</EnableScript>
```

Add redundant devices in groups, system will be shutdown whenever any of the group met the shutdown condition:

For example:

```
The IP address of NMC is 172.18.127.65 and 172.18.127.66 in group1

The IP address of NMC is 172.18.127.73 and 172.18.127.74 in group2

<RemoteList>

<Cluster name="group1">

<Remote name="172.18.127.65" serv="2993" model="/>

<Remote name="172.18.127.66" serv="2993" model="/>

</Cluster>

<Cluster name="group2">

<Remote name="172.18.127.73" serv="2993" model="'/>

<Remote name="172.18.127.74" serv="2993" model="'/>

</Cluster>
```

</RemoteList>

Note: Please add the network id as suffix at the end of IPV6 address (for example: %eth0) if the communication mode is IPV6. Refer to the section "3.3.1 Linux (MAC OS) with GUI".

3.3.2.2 Set the alarm attribute

Enable the alarm, set the value to 1. The SPS will pop up alarm in the console and protect the system to shut down gracefully.

Disable the alarm, set the value to 0. The SPS will not pop up alarm and will not shut down the system.

The default setting as below:

<AcFail>1</AcFail>

<BatteryLow>1</BatteryLow>

<Overload>0</Overload>

<OverTp>0</OverTp>

<EMPTp>0</EMPTp>

<EMPHum>0</EMPHum>

<EMPCt1>0</EMPCt1>

<EMPCt2>0</EMPCt2>

<WSS>1</WSS>

<SSS>1</SSS>

<Capacity>1</Capacity>

<RemainTime>1</RemainTime>

Event parameters	Alarm
<acfail></acfail>	Ac Fail
<batterylow></batterylow>	Battery Low
<overload></overload>	UPS Overload
<overtp></overtp>	UPS Over Temperature
<wss></wss>	Weekly Schedule Shutdown
<\$\$\$\$	Specific Day Schedule Shutdown
<emptp></emptp>	EMP Over Temperature
<emphum></emphum>	EMP Over Humidity
<empct1></empct1>	EMP Contact1 Alarm
<empct2></empct2>	EMP Contact2 Alarm
<capacity></capacity>	Battery Capacity Below Limit
<remaintime></remaintime>	Battery Backup Time Below Limit

3.3.2.3 Set the shutdown parameters

<Cancellf>0</Cancellf> <ShutDelay>0</ShutDelay> <EnableScript>0</EnableScript> <Script></Script> <MaxScriptTime>60</MaxScriptTime>

Shutdown Parameters	Definition
---------------------	------------

Cancel Shutdown if events Restored	If the value is 0, the system will be shut down
in Shutdown Delay	(sleep) in shutdown delay even if the events
<cancellf>0</cancellf>	restore.
	If the value is 1, the shutdown (sleep) will be
	cancelled in system delay when the events restore.
Shutdown Delay	The SPS will send the shutdown (sleep) command
<shutdelay>0</shutdelay>	to the computer after shutdown delay time when
	the shutdown condition is met.
	The shutdown Delay is 0 s as default.
Enable or disable the Script	If the value is 1, enable to run the script
<enablescript>0</enablescript>	If the value is 0, disable to run the script
Run Script Before Shutdown	Enter the path of the script; the script will be
<script></script>	executed before the system shutdown (sleep).
	By the default, the SPS will not run the script
	before system shutdown.
	For example:
	<script>/opt/sps/shutdown.sh</script>
Script Max Execution Time	The script run will be ended when the max
<maxscripttime>60</maxscripttime>	execution time is met.
	The script max execution time is 60s as default

3.3.2.4 Set the actions

<Action>1</Action>

Note: The system should have hibernation function if the action is set to 2.

Action	Definition
Event Warning	When the events occur, The SPS will pop up the alarm
(The action value is set to 0)	dialog, but the computer will not shut down or sleep.
Shutdown	When the shutdown condition is met, the SPS will send
(The action value is set to 1)	the shutdown command to system.
Sleep	When the shutdown condition is met, the SPS will send
(The action value is set to 2)	the sleep command to system.

- Restart the SPS service after configuration end, Enter the command: ./SPS –r
- View the device status by the command: ./SPS –I
 For example: The device status for 172.18.127.65 as below image.

```
[root@PC001 sps]# ./SPS -1
172.18.127.65[group1]
Device Mode: C1K
IP Address: 172.18.127.65
Host Name: Unknown
Connection Status: Connected
Shutdown Status: Norma1
UPS Shutdown De1ay: 2s
```

• View the shutdown configuration by the command:

./SPS –p

For example, the shutdown configuration as below image:

```
[root@PC001 sps]# ./SPS -p
Event Accepted:
Ac Fai1: enable
Battery Low: enable
UPS Over1oad: enable
UPS Over Temperature: enable
Week1y Schedule Shutdown: enable
Specific Day Schedule Shutdown: enable
EMP Over Temperature: enable
EMP Over Humidity: enable
EMP Contact1 Alarm: enable
EMP Contact2 Alarm: enable
Ignore restore event in shutdown delay: enable
Shutdown delay: Os
```

Run script before shutdown: disable

• Modify the password, enter the command:./SPS -c

3.4 Uninstall the SPS

• Exit the SPS user interface, Select the Exit System Protect Service in the prompted dialog to exit the SPS service.

Confirm 🛛 🔀
Exit System Protect Software?
If exit service, system would lost protection!

For the Linux with CUI, exit the SPS service, run the command: ./SPS -x

• Uninstall the SPS, enter the command in the directory where the installation package extracted:

./SPS.remove

3.5 Configuring the Port

- The SPS use UDP 3034 as the communication port with NMC by default.
 Note: If the UDP 3034 is captured by the other program, the number of the port will be added 1(range from 3034~3083)
- Open the UDP port by the following command: iptables -I INPUT -p udp --dport 3034 -j ACCEPT iptables -I OUTPUT -p udp --dport 3034 -j ACCEPT /etc/rc.d/init.d/iptables save

4 Installation and configuration for SPS in the VMware ESX

4.1 Configuring for VMware ESX

4.1.1 Configuring VMs startup/shutdown automatically

Start VMware Client, select Configuration -> Virtual Machine Startup/Shutdown->Properties



 Select Allow virtual machines to start and stop automatically with the system checkbox. Enter the settings as shown on the Virtual Machine Startup and Shutdown window: For each virtual machine, set delay startup for 10 seconds
 For each virtual machine, set delay shutdown for 30 seconds
 Move up the virtual machines to the Automatic Startup list.
 The virtual machines will start/stop when the host start/shutdown automatically.

	Startup Delay virtual machine, delay st seconds	artup for:		Summer States	utdown Delay /irtual machine, dela seconds	ay shutdown i
Cor	ntinue immediately if the V	/Mware Tools st	art	Shutdow	n Action:	Power Off
881 (2013) (A	the specified virtual machi					d in the oppos
ower on Order	the specified virtual machi Virtual Machine	ines when the s	system starts. Duri Startup Delay		they will be stopped Shutdown Delay	d in the oppos
ower on Order	the specified virtual machi Virtual Machine atic Startup	Startup	Startup Delay	Shutdown	Shutdown Delay	d in the oppos
ower on Order	the specified virtual machi Virtual Machine			Shutdown		d in the oppos
ower on Order	the specified virtual machi Virtual Machine atic Startup	Startup	Startup Delay	Shutdown Shut do	Shutdown Delay	d in the oppos

4.1.2 VMware tools

• Install the VMware tool for each guest OS.

Select the guest OS, click summary menu, the status for VMware tools will show OK if the VMware tools is installed successfully.



4.1.3 Configuring the Port

- The SPS use UDP 3034 as the communication port with NMC as default.
 Note: If the UDP 3034 is captured by the other program, the number of the port will be added 1(range from 3034~3083)
- Open the UDP port by the following command: esxcfg-firewall -o 3034,udp,in,SPS esxcfg-firewall -o 3034,udp,out,SPS

4.2 Configuring the SPS

- Start the VMware Server host, refer to the chapter 3 (Linux with CUI) to finish the SPS Installation and configuration.
- Set the shutdown script for VMware ESX. The document of shutdownESX.sh is the script for shut down the virtual machines.
 Enter the command: ./SPS -i
 Find the two lines in the configuration and edit it as below:
 <EnableScript>1</EnableScript>
 <Script>/opt/sps/ShutdownScript/shutdown</Script>
- Set the Script Max Execution Time based on the amount of Virtual machines. Set apart 30s for each virtual machine.
 For example: there are ten virtual machines:
 Enter the command: ./SPS -i
 Find the line in the configuration and edit it as below:
 <MaxScriptTime>300</MaxScriptTime>
- Restart the SPS service by the command: ./SPS -r

5 Installation and configuration for SPS in the VMware ESXi

(paid version)

5.1 Configuring for VMware ESXi

5.1.1 Installing and configuring the VMA

- Go to the website :<u>http://www.vmware.com/support/developer/vima/</u>
 Download the VMA, and extract it, the format for the VMA document is *.OVF.
- Start the VMware Client, select File > Deploy OVF Template, click the browse button, select the OVF document.
- Start VMA, the default user name is vi-admin. Set the password for the first login.

5.1.2 Configuring VMs startup/shutdown automatically

• Start VMware Client, select Configuration -> Virtual Machine Startup/Shutdown->Properties



 Select Allow virtual machines to start and stop automatically with the system checkbox. Enter the settings as shown on the Virtual Machine Startup and Shutdown window: For each virtual machine, set delay startup for 10 seconds
 For each virtual machine, set delay shutdown for 30 seconds Move up the virtual machines to the Automatic Startup list

The virtual machines will start/stop when the host start/shutdown automatically.

Note: if the "shutdown" is selected in the Shutdown Action, make sure the vmware tools installed for each virtual machine.

	Startup Delay	and the	tically with the sys	Default Sh	nutdown Delay	11.112
For each	virtual machine, delay st seconds	tartup for:	For each virtual machine, delay shutdown fo			
Cor	ntinue immediately if the 1	/Mware Tools st	Shutdow	n Action:	Power Off	
tartup (ower on	Order the specified virtual mad-	ines when the s	ystem starts, Duri	ng shutdown,	they will be stopped	d in the oppos
ower on Order	the specified virtual mach	ines when the s	system starts. Duri		they will be stopped Shutdown Delay	d in the oppos
ower on Order	the specified virtual mach Virtual Machine atic Startup	Startup	Startup Delay	Shutdown	Shutdown Delay	d in the oppos
Order Autom	the specified virtual mach Virtual Machine atic Startup atic Startup windows2003	Startup Enabled	Startup Delay	Shutdown Shut do	Shutdown Delay 30 seconds	d in the oppos
ower on Order	the specified virtual mach Virtual Machine atic Startup	Startup	Startup Delay	Shutdown Shut do Shut do	Shutdown Delay	d in the oppos

5.1.3 Configuring the port

- The SPS use UDP 3034 as the communication port with NMC as default. The port is opened as default in the vMA. Note: If the UDP 3034 is captured by the other program, the value of the port will be added 1(range from 3034~3083)
- Neglect this step unless the port is disabled: iptables -I INPUT -p udp --dport 3034 -j ACCEPT iptables -I OUTPUT -p udp --dport 3034 -j ACCEPT

5.2 SPS Configuration

• Start VMA, refer to the chapter 3 (Linux with CUI) to finish the SPS Installation and configuration.

Note: please add with sudo because root privilege is forbid as default.

For example: (the NMC IP address is 172.18.139.60)

- 1. Enter the /opt/sps directory, start the SPS service by the command: sudo ./SPSService
- 2. Open the configuration document by the command: **sudo** ./SPS –i Input the password: admin
- 3. Add the NMC IP address

```
<RemoteList>
```

```
<Remote name="172.18.139.60" serv="2993" model=""/>
```

</RemoteList>

MA5.5 Getting Started Summary Resource Allocation Performance Events Console Permissions
<remotelist></remotelist>
<pre><remote model="" name="172.18.139.60" serv="2993"></remote> <cluster name=" "></cluster></pre>
<acfail>1</acfail> <batterylow>1</batterylow>
<overload>O</overload>
<overtp>0</overtp> <emptp>0</emptp>
<emphum>8</emphum>
<empct1>0</empct1> <empct2>0</empct2>
<#SS>1 #SS
<888>1 888 <capacity>1</capacity>
<remaintime>1</remaintime>
<alias>localhost.localdom</alias> <cancellf>0</cancellf>
<shutdelay>0</shutdelay>
<enablescript>1</enablescript> <script>/opt/sps/ShutdownScript/shutdownESXi.sh</script>
<pre></pre>
<action>1</action> <pwd>YWRtaW4=</pwd>

- 4. Restart the SPS Service by the command: sudo ./SPS -r
- 5. List the added NMC by the command: sudo ./SPS -I

VMA5.5 Getting Started Summary Resource Allocation Performance Events Console Permissions
Getting Started Summary Resource Allocation Performance Events Console Permissions localhost:/opt/sps # ./SPS Usage: SPS [-h] [-v] [-S] [-X] [-r] [-l] [-i] [-p] [-c] -h,help print this help message -v,version print product version
-S start System Protect Service at next boot -X don't start System Protect Service at next boot -s,start start System Protect Service now -x,exit stop System Protect Service -r,restart restart System Protect Service -1,list list all remote information
-i modify configuation -p view the configuration -c change password localhost:/opt/sps # ./SPS -1 172.18.139.60 Device Mode: IP Address: 172.18.139.60
Host Name: Unknown Connection Status: Connected Shutdown Status: Normal UPS Shutdown Delay: 120s
localhost:/opt/sps # _

The config.pl is used to add the hosts to be shutdown.
 Go to the ShutdownScript subdirectory: cd /opt/sps/ShutdownScript
 Enter the command: sudo ./config.pl
 Input the target VMware host ip(or hostname), username, password. SPS supports multi-hosts shutdown.

For example: 172.18.139.35 and 172.18.139.36 will be added:



The VMware host information will be saved in hostlist document. Note: The password will be encrypted.

- Set the shutdown script for VMware ESXi. The shutdownESXi.sh is the script to shut down the host and virtual machines.
 Enter the command: sudo ./SPS -i
 Find the two lines in the configuration and edit it as below:
 <EnableScript>1</EnableScript>
 <Script>/opt/sps/ShutdownScript/shutdownESXi.sh</Script>
- Set the Script Max Execution time. Time based on the amount of Virtual machines. Set apart 30s for each virtual machine.
 For example: there are ten virtual machines:
 Enter the command: sudo ./SPS -i
 Find the line in the configuration and edit it as below:
 <MaxScriptTime>300</MaxScriptTime>
- Restart the SPS service, enter the command : sudo ./SPS -r

• The time sequence for host and VMs shutdown can be seen by VMware client as below:

Name	Target		Status		Details	Initiated by	Requested Start Ti 🤝	Start Time
Power Off virtual machine	B	VMA4.0	0	Completed		root	2012-11-8 8:48:16	2012-11-8 8:48:16
Power Off virtual machine	60	vSphere Mana	0	Completed		root	2012-11-8 8:48:14	2012-11-8 8:48:14
Power Off virtual machine	ß	Windows XP P	0	Completed		root	2012-11-8 8:48:12	2012-11-8 8:48:12
🖄 Initiated guest OS shutdown	கு	redhat5	0	Completed		root	2012-11-8 8:47:43	2012-11-8 8:47:43
Auto power Off			0	Completed		root	2012-11-8 8:47:43	2012-11-8 8:47:43
Shutdown Host		172.18.127.11	۲	Completed		root	2012-11-8 8:47:42	2012-11-8 8:47:42
	1000							

6 Installation and configuration for SPS in the Hyper-V Server

6.1 Hyper-V configuration

Start Hyper-V Manager in the client
 For example: there are two virtual machines, Windows server 2003 and 2008.
 Select the VM. Click Setting -> "Automatic Stop Action Save", there are three methods.
 Save the virtual machine state:
 Turn off the virtual machine:

Shut down the guest operating system:

-V Manager IN-TS0GOFSK378	Virtual Machines			Actions				
IN-ISUGOFSK378	Name A	State	CPU Usage	Memory	Uptime	Status	-	WIN-TSOGOFSK37B
	Server 2003	Running	0 %	512 MB	01:26:50			New
	server 2008	Running	0%	512 MB	01:26:49			🕞 Import Virtual Machin
Settings for Server	003							Hyper-V Settings
Server 2003	•	P Q				Contraction of the second		Virtual Network Mana
¥ Hardware		Automatic Stop Act	22.0			-		Edit Disk
* Management				WWW. Sares	11. 1. 1. 1.			Inspect Disk
I Name		hat do you want this		o when the phys	ical computer shuts	down?		Stop Service
Server 2003	SERVICE CONTRACTOR	Save the virtual n						X Remove Server
All services offe	red	C Turn off the virtu						and the second second
👸 Snapshot File Lo	cation	C Shut down the gu	•	🞧 Refresh				
Automatic Start	Wicrosoft/Windo	The integration s must be installed		View				
Restart if previo								New Window from Here
Automatic Stop	Action							P Help
Jave								Server 2003
								Connect
								Settings
								Turn Off
								Shut Down
								second and a second
								O Save
								Pause
								Reset
								snapshot
								5 Revert
								📑 Rename

• If the third method is selected, install the "Integration Service" in the Action menu



System Protect Software User Manual

6.2 Installing and configuring the SPS

- Copy the installation file "setup.exe" to Hyper-V server 2008, enter the path where the installation file exists
- Install the SPS, enter the command: setup.exe.
 By the default, the SPS file is installed to the directory C:\Program Files\System Protect
 Software for the 32 bit windows. And it is installed to the directory C:\Program
 Files(x86)\System Protect Software for the 64 bit windows.



 Enter to the installation path: cd C:\Program Files(x86)\System Protect Software Start SPS service and user Interface by the command: StartSPSService.exe Add the NMC IP address in the SPS interface

		014.			Vindows\system	132\cmd.exe	>
			ry of C:\Progra 14 01:46 AM	m Files (x86 <dir></dir>	,		
Q	5	AR	Protect Configurat	20 2 23 3		×	
and the second se	tem Log Lang	10 Mar 200 Mar 2017	rioteci comgoni		ليسترابين	plorer ET	
De	vice List		Events			Jare	
	172.18.139.	60(2993)	Ac Fail		~	ect Software	
main/Wor mputer H			Battery Low				
d Local nfigure			UPS Overload			ew Device and Warning	×
ndows U) wnload a			Weekly Sched		172.18.139.60 Device Model:		^
mote Des				Schedule Shutdow	IP Address: 172.10 Host Name: Unkr		
twork Se te and 1			EMP Over Ter		Connection Statu		
elp inp	Add	Remove	EMP Over Hu	1. 3. 300 P	UPS Shutdown D		
og Off l estart { hut Down	Modify	View	EMP Contact	2 Alarm	1		
	cal Configuration	i.					~
number Al	ias: qit					OK	
						ATCE - EYE	
	stem Shutdown C					(e	
	Cancel Shutdow	n if events Resto	red in Shutdown Delay	Action			
Sh	iutdown Delay:		0	Sec. O Event	t Warning	rtSPSService	
	Run Script Befor	e Shutdown		Shute	lown		
=	e Path:						
	e raus			O Sleep			

Refer to the chapter 2.3 to finish the SPS configuration.
 The SPS Service will be started automatically when the system boots
 If the parameters need to be set, open the SPS interface by the command: SPS.exe

6.3 Uninstall the SPS

• Close the SPS user interface.

Confirm 🔀
Exit System Protect Software?
OK Cancel

• Enter to the directory where the installation package existed. Enter the command: setup.exe:

System Protect Software			
Welcome to the System Wizard	Protect So	ftware Setup	
Select whether you want to repair or ren	nove System Protec	t Software.	
○ <u>B</u> epair System Protect Software			
Remove System Protect Software			
	Cancel	< <u>B</u> ack	<u>F</u> inish

7 Installation and configuration for SPS in the Citrix XenServer

SPS is installed on the XenServer host. When the shutdown condition is met, the SPS will notify the XenServer host to shutdown.

The VMs will be shut down automatically before the host shut down. (This action takes effect as default by the XenServer)



7.1 Citrix XenServer Configuration

7.1.1 Installing XenServer tools for each Virtual Machine

• Open the XenServer Client, Choose the VMs, Right click VMs, Click "Install XenServer Tools"

Back • D Forward • 1	👍 Add New Server 🗏 🏪 New Pool 🛅 New Storage 📘 New VM 💷 🎯 Shut Down 🛞 Reboot 🕕 Suspend	V No Sys
iews: Server View •	G Windows Server 2008 (64-bit) on 'xenserver6'	Logged in as: Local
earch 🔎	General Memory Storage Networking Console Performance Snapshots Logs	
XenCenter • xenserver6 • Windows Server 2008 (6 • DVD drives • Local storage • Removable storage		Looking for guest (
	Recycl Citrix XenServer Tools Installer	
	CÎTRIX: Besk Next Cencel	

• The XenServer Tools is installed as below image:

ws: Server View	Windows Server 2008	8 (64-bit) on 'xenserver6'	Logged in as: L	ocal root accou
irch 👂	General Memory Storage N	etworking Console Performance Snapshots Logs		
enCenter xenserver6 B Windows Server 2008 (64-b	VM General Properties			
DVD drives Local storage	Properties	Expand all	Collapse all	
Removable storage	General			
	Name: Wind	ows Server 2008 (64-bit)		
	Description:			
	Tags: <nor< td=""><td>ie></td><td></td><td></td></nor<>	ie>		
	Folder: <nor< td=""><td>ie></td><td></td><td></td></nor<>	ie>		
	Operating System: Wind	ows Server® 2008 Standard		
	BIOS strings No copied:			
	Virtualization state: Optim	nized (version 6.2 installed)		
	Time since startup: 3 min	utes		
	UUID: e9d7	1ca6-8885-a2c4-c975-048140c2bcfa		
	Boot Options		6	

7.1.2 Open XenServer host ports

- The SPS use UDP 3034 as the communication port with NMC as default.
 Note: If the UDP 3034 is captured by the other program, the value of the port will be added 1(range from 3034~3083)
- Open the XenServer Client, click the host console, Open the UDP port by the following command:

iptables -I INPUT -p udp --dport 3034 -j ACCEPT iptables -I OUTPUT -p udp --dport 3034 -j ACCEPT /etc/rc.d/init.d/iptables save

7.2 Installing and Configuring for SPS

7.2.1 Installing SPS

- Upload the installation file "SPS-CUI-*.*.*.*-linux-i386.tar.gz" to the XenServer host using WinSCP tools
- Unzip the installation file and install the SPS by the command tar -zxvf SPS-CUI-*.*.*.*-linux-i386.tar.gz
- Install the SPS by the command: ./SPS.install

7.2.2 Configuring SPS

- Enter the /opt/sps directory, start the SPS service by the command: ./SPSService
- Open the configuration document by the command: ./SPS –i Input the password: admin Add the NMC IP address, for example the NMC IP is "172.18.139.102" <RemoteList>

<Remote name="172.18.139.102" serv="2993" model=""/>

</RemoteList>

- Please refer to chapter 3 (Linux with CUI) for more information about shutdown parameter setting
- Restart the SPS Service by the command: ./SPS -r
- Check the NMC is connected or not by the command: ./SPS -I

The NMC will be connected as below:



• The alarm will pop up when the AC fail as below image

xe	enserver	6								Logged in as: Local root acco	un
Search	General	Memory	Storage	Networking	NICs	Console	Performance	Users	Logs	l.	
xens	erver6 s	erver co	nsole								
			Broadcas	st message l	from ro	ot (Wed A	pr 16 17:46:	07 2014	Ð÷		
										Event Warning When: is not available	
			Broadcas	st message H	from ro	ot (Wed A	pr 16 17:46:	17 2014	D:		
			spswallm	nsg2YNAhv							
			Broadcas	st message H	from ro	ot (Wed A	pr 16 17:46:	17 2014	D:		
										Event Warning When: is not available	
			Broadcas	st message H	from roo	ot (Wed A	pr 16 17:46:	27 2014	Ð:		
			spswalln	nsgxGgUNk							
			Broadcas	st message H	from ro	ot (Wed A	pr 16 17:46:	27 2014	Ð:		
										Event Warning When: is not available	

8 Shutdown Operation

8.1 Shutdown flow chart



8.2 Shutdown setting (NMC Webpage Side)

8.2.1 Shutdown actions setting

 Open the NMC website, select UPS Management ->UPS shutdown, and check the Actions setting.

There are four	kinds of d	lefine for Actions:
----------------	------------	---------------------

Action	Definition
Disable	The NMC will not send the alarm and shutdown
	notification to the SPS client, when the events occur.
Warning	The NMC will send the alarm notification to the SPS client,
	when the events occur.
Client Shutdown	The NMC will send the alarm and shutdown notification to
	the SPS client, when the events occur.
Client &UPS Shutdown	The NMC will send the alarm and shutdown notification to
	the SPS client when the events occur. Besides, the NMC
	will send the shutdown command to the UPS.

Note: Select the action to Client Shutdown or Client & UPS Shutdown, so that the system can

be shut down gracefully by the SPS client.

8.2.2 Warning Period Setting

• Open the NMC website, select UPS Management ->UPS shutdown. Check the warning period setting.

For example:

The Warning Period is set to 30S and the Warning Interval is set to 10S.

The NMC will send the alarm notification to the SPS client every 10 seconds and will last about 30 seconds.

8.2.3 UPS Shutdown Delay Setting

• Open the NMC website, select UPS Management ->UPS shutdown. Check the UPS Shutdown Delay setting.

The NMC will send the shutdown notification to the SPS client when the warning period is met, then the UPS will be shut down after the shutdown delay interval if the action is "Client & UPS Shutdown".

By the default, the UPS shutdown delay timer is 120 seconds.

• Make sure the time for UPS Shutdown Delay should be longer than the timer for Shutdown delay plus Script MAX Execution time in SPS client, or else the warning dialog will pop up that the time is unreasonable.

For example:

The Shutdown delay timer is 90 seconds and the Script Max Execution Time is 60 seconds, The total time value is 150 seconds in SPS client.

But the UPS shutdown Delay time is 120 seconds in NMC webpage side.

The UPS shutdown Delay time is shorter than the 150 seconds, so the alarm dialog will pop up that the time is unreasonable.

System Shutdown Options									
Cancel Shutdown if events Restored in Shutdown Delay									
Shutdown Delay: 90 Sec.	O Event Warning								
Run Script Before Shutdown	💿 Shutdown								
File Path: E:\test.bat.txt									
Script Max Execution Time: 60 Sec.	◯ Sleep								
OK Cancel Apply									

System P	rotect S	oftware 🔀
	Topic:	Unreasonable Time
-	When:	2011-11-15 14:49:23
	Who:	172.18.127.20
	What:	The UPS shutdown delay (120)s isn't greater than the setting time (150)s
	📃 Don'	't show this message again
		OK(2s)

8.2.4 Shutdown continue or not if events restored.

Open the NMC website, select UPS Management ->UPS shutdown, enable/disable the checkbox for Cancel UPS shutdown if events restored.

- Select the checkbox: The NMC will cancel the shutdown notification to the SPS client if the events restored during the system shutdown delay interval.
- Unselect the checkbox: The NMC still send the shutdown notification to the SPS client if the event restored during the system shutdown delay interval.

8.3 Shutdown order

8.3.1 Shutdown continue if events restored

For example:

• NMC webpage side:

Set the action to Client &UPS Shutdown, set the warning period to 30s, set the UPS Shutdown Delay to 120s, unselect the Cancel UPS shutdown if event restored checkbox.

Event	Actions	Warning Period (Sec)	Warning Interval (Sec)
AC Failed	Client&UPS Shutdown 💌	30	10
Battery Low	Client&UPS Shutdown 🛩	30	10
UPS Overload	Client&UPS Shutdown 🛩	30	10
UPS Over Temperature	Client&UPS Shutdown 💌	30	10
Weekly Schedule	Client&UPS Shutdown 🐱	30	10
Specific Day	Client&UPS Shutdown 💌	30	10
EMP Temperature Threshold	Client&UPS Shutdown 🛩	30	10
EMP Humidity Threshold	Client&UPS Shutdown 🛩	30	10
EMP Alarm-1	Client&UPS Shutdown 🐱	30	10
EMP Alarm-2	Client&UPS Shutdown 🗸	30	10

• SPS client side:

Set the Shutdown Delay to 60s, set Script Max Execution Time to 40s, unselect Cancel Shutdown if events restored in Shutdown Delay.

System Shutdown Options Cancel Shutdown if events Restored in Shutdown Delay	Action
Shutdown Delay: 60 Sec.	O Event Warning
Run Script Before Shutdown File Path: E:\test.bat.txt	💿 Shutdown
Script Max Execution Time: 40 Sec.	◯ Sleep
OK Cancel Ap	bly

• Shutdown order:

When the events occur, the SPS will pop up warning dialog, the system start to shut down delay counter after 30 seconds warning.

When the shutdown delay time is met (60s), the system starts to execute the shutdown script. And the system starts to shut down after 40s.

The UPS will be shut down after 20s (120-60-40=20).

Note: The system and UPS shutdown continue if the events restored during the system shutdown delay interval. It will take effect to sleep function as also.

8.3.2 Shutdown discontinue if events restored

For example:

• NMC webpage side:

Set the action to Client &UPS Shutdown, set the warning period to 30s, set the UPS shutdown Delay to 120s. Select the Cancel UPS shutdown if event restored checkbox.

Event	Actions	Warning Period (Sec)	Warning Interval (Sec)
AC Failed	Client&UPS Shutdown 🛩	30	10
Battery Low	Client&UPS Shutdown 🗸	30	10
JPS Overload	Client&UPS Shutdown 🐱	30	10
JPS Over Temperature	Client&UPS Shutdown 🛩	30	10
Veekly Schedule	Client&UPS Shutdown 🛩	30	10
Specific Day	Client&UPS Shutdown 🛩	30	10
EMP Temperature Threshold	Client&UPS Shutdown 🗸	30	10
EMP Humidity Threshold	Client&UPS Shutdown 👻	30	10
EMP Alarm-1	Client&UPS Shutdown 🛩	30	10
EMP Alarm-2	Client&UPS Shutdown 🛩	30	10

• SPS client side:

Set the Shutdown Delay to 60s, set Script Max Execution Time to 40s. Select Cancel Shutdown if events restored in Shutdown Delay.

System Shutdown Options	Action
Shutdown Delay: 60 Sec.	O Event Warning
Run Script Before Shutdown File Path: E:\test.bat.txt Script Max Execution Time: 44 Sec.	⊙ Shutdown ○ Sleep
OK Cancel App	ly

• Shutdown order:

When the events occur, the SPS will pop up warning dialog, the system start to shut down delay counter after 30 seconds warning.

When the shutdown delay time is met (60s), the system starts to execute the shutdown script. And the system starts to shut down after 40s.

The UPS will be shut down after 20s (120-60-40=20).

Note: The system and UPS shutdown discontinue if the events restored during the system shutdown delay interval. It will take effect to sleep function as also.

8.4 Redundant UPS Input shutdown

For a computer powered by more than one NMC UPS, we can add them into cluster.

Enter the IP address of NMC via click "Add" button on the screen of SPS.

Enter a Cluster name, for example, group1.

Add second NMC IP address, and enter the same Cluster name.

The NMC UPSs that under the same Cluster name will become a group

The system will start to shut down when the shutdown conditions are all met for the devices under the group1

Device List		Events	
group1 172.18.127.83(2993) 172.18.127.75(2993) group2 172.18.127.86(2993)		 Ac Fail Battery Low UPS Overload UPS Over Temperature Weekly Schedule Shutdown Specific Day Schedule Shutdown 	
Add	Remove	EMP Over Temperature EMP Over Humidity	
Modify	View	EMP Contact1 Alarm	

8.5 Simulate shutdown by event

Before doing this simulate test, please make sure the computer system is not running critical mission, and is allowed to shut down for a while.

Open the NMC website, select UPS Management -> UPS Powered Devices.

- The server for the SPS client will be added to the table if the communication is established between the SPS and NMC.
- Select the event in the Remote PC Shutdown Test list, click submit button, the NMC will send the warning/shutdown notification to the SPS client.
- The SPS will show the alarms and shutdown or sleep the computer system. NMC will send the shutdown notification during the "UPS Shutdown Delay".
- After the test, wait for "UPS Shutdown Delay" time, then turn on the computer system.