ASUS System Management Application Notes

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This manual introduces the fundamental Server Management knowledge, the hardware support in ASMM board . This note provides features and architecture of the ASMM product for the server and the console.

Table of Contents

1. Introduction 3
1.1 What is the ASUS System Management 3
1.2 ASMM Overview 3
1.3 ASMA Overview 4
1.4 SNMP Overview 7
1.5 Terminology 8
2. ASMA installation and configuration9
2.1 Installation Tip 9
2.2 Configuration 10
2.3 Troubleshooting14
3. NT Performance Monitor 16
4. NT Event Viewer21
5. NT Web Admin24
6. ASUS LDSM OEM Release 27
7. SNMP Management Station42
7.1 HP Openview 42
7.2 Microsoft SMS 48
7.3 Solaris Solstice Site/SunNet/Domain Manager 55
7.4 CA-TNG 60

Chapter 1 Introduction

1.1 What is the ASUS System Management

There are two components for ASUS System Management. One is ASMM – ASUS System Monitoring Module, the other one is ASMA – ASUS System Monitoring Agent. ASMM had been implemented on an ISA card and ASUSTek mainboards. This hardware module provides Fan speed, Voltage, Temperature and Chassis Intrusion information of system and Automatic Server Restart function. ASMA contains ASMM's driver and its SNMP agent. Through SNMP Agent, Network management software such as HP OpenView can monitor the system's fan speeds, working voltage and system temperature. SNMP Agent will report to Network Manager immediately to prevent problems from getting worse when the server's in an abnormal state.

1.2 ASMM Overview

Basically the ASMM card is a 8 bit ISA Server Monitor Card and it includes the 20-pin external feature connector for ASUSTek SMH (Server Monitoring Header).



The connections are classified into 2 categories: Chassis Intrusion and Fan Monitor: Chassis Intrusion: Chassis Intrusion permits the activation of a user-installed alarm. One 3 wires cable supports the external customized chassis intrusion alarm. The pin definition are : RED (battery power), YELLOW (intrusion signal), and BLACK (ground). The external intrusion signal should be open-drained. Fan Monitor: The fan monitor provides power for up to 3 fan while monitoring the connected fans' rotation through the specially designed tachomter. Three 3 wire cables are used to extend the length of each fan connection. The pin definitions are: YELLOW (tachometer signal), RED (+12V), and BLACK (ground).

The system can be notified when the voltage/temperature/fan speed exceeds the predefined thresholds. The notification mechanism can be a simple as polling or through SMI#/IRQ service routine, depending on the programming of LM78. Five ISA IRQ can be selected (IRQ 3,4,5,6,7) through hardware jumper.

If your motherboard has equipped with LM78 chipset, system will report an warning message as both LM78s (The on board and the one on ASMM) use the same I/O address which is necessary for LDSM software that LM78 is located at I/O address of 0x295. The basic idea for testing the LM78 function of ASMM is to disable the on-board LM78. The ASR related function gets no influence of LM78 and need to do nothing for disable any function. Currently, the BIOS cannot auto-detect the on-board LM78 and LM78 on ASMM such that a hardware conflict occurs and results in a system warning. Future BIOS will automatically disable the onboard LM78 if the ASMM is detected. There is a chip on the motherboard at the rear edge about in the middle of the plug in slots called and LM78. It's a chip made by National Instruments and it's the LM78 that provides the circuitry for monitoring the motherboard hardware such as fan RPM's and Temp. There are several features:

Fan Status Monitoring and Alarm: To prevent system overheat and system damage, the CPU fan and system fans are monitored for failure. Each fan can be set for its alarm thresholds.

Voltage Monitoring and Alert: System voltage levels are monitored to ensure stable current to critical motherboard components. Voltage specifications are more critical for future processors, so monitoring is necessary to ensure proper system configuration and management.

System Resources Alert: Today's operation systems, such as Windows 95, Windows NT and OS/2, require much more memory and hard drive space to present enormous user interfaces and run large applications. The system resource monitor will warm the user before the system resources are used up to prevent possible application crashes.

If you want to maintain mainboard, you must use jumper to disable Photo Sensor Chassis Intrusion. If you do not disable Photo Sensor Chassis Intrusion, the capacity of battery will be lost when you maintain mainboard.

1.3 ASMA Overview

ASUS System Monitoring Agent is a SNMP agent. This software enable the computer to be managed by Network Management Station (NMSs) through Internet. ASUS System Monitoring Agent can report the computer fan speeds, working voltage, system temperature and chassis intrusion to NMS. ASUS System Monitoring Module can enable or disable Automatic Server Restart (ASR) function from NMS through the Internet. ASR is a function that can reboot the computer system automatically when the computer system is hang. ASR and Chassis Intrusion functions must have ASMM card or its hardware circuit/components installed on the computer system. However, the P2B-DS motherboard already included ASR and Chassis Intrusion There are several manageable environments for ASMA:

NT Performance Monitor - is a graphical tool for measuring the performance of your own computer or other computers on a network. On each computer, you can view the behavior of objects, such as processors, memory, cache, threads, and processes. Each of these objects has an associated set of counters that provide information about device usage, queue lengths, delays, and information used to measure throughput and internal congestion. It provides charting, alerting, and reporting capabilities that reflect both current activity and ongoing logging. You can open, browse, and chart log files later as if they reflected current activity.

NT Event Viewer - is the tool you can use to monitor events in your system. You can use Event Viewer to view and manage System, Security, and Application event logs. You can also archive event logs. The event-logging service starts automatically when you run Windows NT. You can stop event logging with the Services tool in Control Panel.

NT Web Administration - for Microsoft Windows NT Server enables you to remotely administer Microsoft Windows NT Server using existing HTML browsers. Web Administration is not designed to replace existing administrative tools for Windows NT servers; instead, it is to enable you to perform limited administrative tasks when you are roaming, away from your usual workstation.

LANDesk Server Manager - provides network administrators with a proactive management solution and emergency management recovery Tools to help maximize business-critical server uptime. From a centralized console, LANDesk Server Manager monitors critical parameters on either Microsoft NT or Novell Netware servers. Through enhanced alerting features and server health monitoring, LANDesk Server Manager products notify the LAN administrator when a server reaches a predefined threshold.

SNMP Management Stations – there are several management programs in the market. One of the SNMP programs from HP is Openview, which is to control basic network devices and critical systems and applications. Microsoft System Management Server (SMS) is a solution for centralized management of Windows-based environment. SMS offers features that can help administrators streamline their work and increase user productivity.

Model / Function	P2B-LS Rev. 1.03 P2B-S Rev 1.03	P2L97-DS	P2B-DS Rev. 1.03 P2B-D2 Rev 1.02	P65Up8 / with ASMM card Rev. 1.04
Chassis Fan	Х	Х	Х	Х
CPU 1 Fan Speed	Х	Х	Х	Х
CPU 2 / Power	Х	Х	Х	Х
Fan Speed	(Power Fan)	(CPU 2 Fan)	(CPU 2 Fan)	(CPU 2 Fan)
CPU 1 Vcore	Х	Х	Х	
CPU 2 Vcore		Х	Х	
+3.3V	Х	Х	Х	Х
+5V	Х	Х	Х	Х
-5V	Х	Х	Х	Х
+12V	Х	Х	Х	Х
-12V	Х	Х	Х	Х
System Temperature	Х	Х	Х	Х
CPU 1 Temperature	Х		Х	
CPU 2 /	Х		Х	
Regulator	(Regulator		(CPU 2 Temp.)	
Temperature	Temp.)			
ASR	Х		Х	Х
Chassis Intrusion	Х		X	Х
Remote Reboot Management	Х	Х	Х	Х

Table of ASMA function for ASMM card and ASUS mainboard

(Notes: X is mean its VALUE is VALID in this mainboard)

1.4 SNMP Overview

Simple Network Management Protocol (SNMP) is the most popular network management protocol in the TCP/IP protocol suite. SNMP lets TCP/IP-based network management clients exchange information about the configuration and status of nodes on a TCP/IP-based Internet. The information available is defined by a set of managed objects referred to as the SNMP.

The example of SNMP in a network environment is illustrated as follows.



As mentioned above, we will introduce several terminology of SNMP.

Management Information Base (MIB). The subset of managed objects comprising the TCP/IP portion of the MIB is maintained by each TCP/IP node. SNMP also generates trap messages used to report significant TCP/IP events asynchronously to interested clients.

SNMP Get – let SNMP NMS get the value of attribute of managed system, such as fan speed, working voltage and system temperature.

SNMP GetNext – allows the NMS to retrieve the next object instances from a table with an agent.

SNMP Set – set the value of attribute of managed system, such as fan speed threshold, working voltage threshold and system temperature threshold from SNMP NMS.

SNMP Response – be responsible for the response of SNMP GET, SNMP GETNext and SNMP Set.

 $SNMP \ Trap-managed \ computer \ system \ can \ inform \ the \ NMS \ of \ some \ event \ (\ when \ the \ interested \ attributes, \ such \ as \ fan/voltage/temperature, \ over \ or \ lower \ the \ thresholds \) \ asynchronously.$

1.5 Terminology

Term	Definition						
ASMM	ASUS System Monitoring Module						
LDSM	LANDesk Server Manager						
LM78	H/W Monitor, which is for system temperature, fan status, CPU voltage and alert.						
AMS2	A new version of Alert Management System						
DMI	Desktop Management Interface, an industry standard management specification						
MIB	Management Information Format, used by SNMP for describing component instrumentation						
SNMP	Simple Network Management Protocol, a stand network protocol for management information						
ASR	Automatic Server Restart, is a function that can reboot the computer system automatically when the computer system is hang						
NMS	Network Management Station, such as LANDesk Server Manager, HP Openview, SUN Net Manager, Tivoli Netview and CA-Unicenter TNG.						

The following table lists common terms for ASMM and LDSM

Chapter 2 ASMA Installation and Configuration

2.1 Installation tip:

ASUS System Monitoring Agent defines ASUS Private Enterprise MIB that is about the computer system fan speed, working voltage and system temperature information. It has the thresholds MIBs for fan, voltage and temperature MIBs also. ASUS System Monitoring Agent can send SNMP Trap to NMS to inform user that computer system have an abnormal condition occur when ASUS System Monitoring Agent detect the computer system temperature/fan/ voltage over the temperature/fan/voltage threshold.

You must start the services to be monitored before configuring and starting the SNMP service on ASMA software. Once the SNMP service has been started on both remote and local side, you can use SNMP tools to monitor the running services.

NT SNMP Service Installing:

- 1. From the Windows NT Control Panel, double-click Network icon.
- 2.Click the **Services** tab.
- 3.Click the **Add** button.
- 4.Double-click **SNMP** Service.
- 5.Specify a location for the Windows NT install files and click the Continue button.

User may get this MIB file from ASUS subdirectory under Program File directory in local drive. User can use MIB Compiler to compile this file, then user adds the compiled ASUS MIB file module to NMS to manage and operate the ASUS private Enterprise MIB with the computer system has installed ASUS System Monitoring Agent .

You may verify this MIB file in REGEDIT program as following screen:



REGEDIT Program in NT server

2.2 Configuration

If you monitor your PC or network by using Simple Network Management Protocol (SNMP), you can use the SNMP Management Information Bases (MIBs) provided by ASMA software program. You will need to compile the MIB files using the MIB compiler that comes with your SNMP software.

Configuring SNMP Service on NT Server

- 1.At the Microsoft SNMP Properties dialog, click the Traps tab.
- 2.In the **Community Name** box, type a name for the SNMP community, such as public.
- 3.Click the **Add** button.
- 4.Below the **Trap Destinations** box, click the Add button.
- 5. Type the **IP address** or **computer name** of your network's SNMP management station.
- 6.Click the **Add** button.
- 7.Click the **OK** button.
- 8.Click the **Close** button.
- 9. When prompted, click the Yes button to restart your computer.

Microsoft SNMP Properties		? X
Agent Traps Security		
The SNMP Service provides network manageme IPX/SPX protocols. If traps are required, one or n must be specified. Trap destinations may be hos or IPX addresses.	ent over TCP/IP and more community name st names, IP addresse	95 IS,
Community Name:		
public	Add	
	<u>R</u> emove	
Trap Destinations:		
192.168.10.123		
Add Edit	Remove	
OK Car	ncel <u>A</u> pply	

To turn ON/OFF the Automatic Server Restart:

 $\label{eq:local_Machine} Hkey_Local_Machine\\System\\CurrentControlSet\\Services\\ASR\\Parameter\\ASREnable (for P65UP8 + ASMM card)$



 $\label{eq:local_Machine} Hkey_Local_Machine\System\CurrentControlSet\Services\WASR\Parameter\ASREnable (for P2B series)$



To turn ON/OFF the Reboot System function:

Hkey_Local_Machine\Software\ASUS\ASUSMIB\RebootSystemEnable

📅 Registry Editor - [HKEY_LOCAL_MACHINE on Local Machine]
🔣 <u>R</u> egistry <u>E</u> dit <u>T</u> ree <u>V</u> iew <u>S</u> ecurity <u>O</u> ptions <u>W</u> indow <u>H</u> elp
😑 HKEY_LOCAL_MACHINE 🛛 🛛 🗍 LM78IN3HighLimit : REG_DWORD : 0x1676
HARDWARE LM78IN3LowLimit: REG_DWORD: 0x109a
- 🔁 SAM LM78IN3WarningHighLimit : REG_DWORD : 0x157c
E SECURITY E LM78IN3WarningLowLimit : REG_DWORD : 0x1194
Em SOFTWARE LM78IN4HighLimit : REG_DWORD : 0x35e8
Adobe LM78IN4LowLimit : REG_DWORD : 0x27d8
Asus LM78IN4WarningHighLimit : REG_DWORD : 0x3390
- 🔁 ASUS System Monitoring LM78IN4WarningLowLimit : REG_DWORD : 0x2a30
⊢ ⊢ ← AsusMIB ↓ LM78MinusIN5HighLimit : REG_DWORD : 0xffffd828
│ │ └
└── └── └── └── └── └── └── └── └── └──
Clients LM78MinusIN5WarningLowLimit : REG_DWORD : 0xffffc
Compaq LM78MinusIN6HighLimit:REG_DWORD:0xffffef66
│ │ 🔁 Description │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │
│ │ └ 🔁 Intel │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │
│ │ └ 🖻 Microsoft │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │ │
LM78PollFreq : REG_DWORD : 0xa
Program Groups LM78TemperatureHighLimit: REG_DWORD: 0x46
Contraction Contra
📙 🕒 Windows 3.1 Migration Status LM78Temperature Warning High Limit : REG_DWORD : 🗅
LM/81emperatureWarningLowLimit: REG_DWORD:0
RebootSystemEnable : REG_DWORD : 0

To enable the Auto hardware detect function:

 $\label{eq:local_Machine} Hkey_Local_Machine\System\CurrentControlSet\Services\WLM78Drv\Parameter\AutoD ect (for P2B series).$

- $\label{eq:local_Machine} Hkey_Local_Machine\\System\\CurrentControlSet\\Services\\LM78Drv\\Parameter\\AutoDet ect (for P65UP8 & P2L97-DS).$
- Notes: If you want to add addition hardware (like FAN) to system, you can modify the value of AutoDetect from 0 to 1 without re-install the ASMA. After you modify the value of AutoDetect, please reboot your system..



To enable the Chassis Intrusion Exist function:

 $Hkey_Local_Machine\System\CurrentControlSet\Services\WLM78Drv\Parameter\ChassisIntrusionExist$



To turn ON/OFF the Chassis Intrusion function:

Hykey_Local_Machine\Software\ASUS\ASUSMIB\ChassisIntrusion

🕅 Registry Editor - [HKEY_LOCAL_MACHINE on Local Machine]
🔣 <u>R</u> egistry <u>E</u> dit <u>T</u> ree <u>V</u> iew <u>S</u> ecurity <u>O</u> ptions <u>W</u> indow <u>H</u> elp
😑 HKEY_LOCAL_MACHINE ASRandRebootGranted : REG_DWORD : 0x1
HARDWARE ChassisIntrusion : REG_DWORD : 0
⊢ 🔁 SAM LM78CPU1TemperatureHighLimit : REG_DWORD : 0x4€
LM78CPU1TemperatureLowLimit : REG_DWORD : 0xfffff
LM78CPU1TemperatureWarningHighLimit : REG_DW0F
LM78CPU1TemperatureWarningLowLimit : REG_DWOP
LM78CPU2TemperatureHighLimit : REG_DWORD : 0x46
ASUS System Monitorind LM78CPU2TemperatureLowLimit : REG_DWORD : 0xfffff
LM78CPU2TemperatureWarningHighLimit: REG_DW0F
LM78CPU2TemperatureWarningLowLimit : REG_DWOP
LM78Fan1LowLimit: REG_DWORD: 0x5dc
LM78Fan1WarmingLowLimit : REG_DWORD : 0x7d0
LM78Fan2LowLimit: REG_DWORD: 0x5dc
LM/8Fan2WarmingLowLimit : REG_DWORD : Uxa8c
LM/8Fan3LowLimit: REG_DWORD : 0x5dc
EM/36Fan3WarmingLowElimit : REG_DWORD : Uxa8c
EM/38INULowEmit: REG_DWORD : 0x94c
EM/8INUWarmingHighLimit: REG_DWORD: Uxc08
Windows 3.1 Migration Status LM/8INUWarningLowLimit : REG_DWORD : 0x9d8
ILM78INTHighLimit : REG_DWORD : 0xc94

2.3 Troubleshooting

1. How to disable the on-board LM78, if you want to install a ASMM.

Current BIOS can not auto-detect the on-board LM78 and LM78 on ASMM card such that a hardware conflict occurs and results in a system warning. <u>Future BIOS</u> will auto-detect these two and automatically disable the on-board one. To disable the on-board LM78 currently, the following operation steps are provided:

- 1) Format a bootable floppy disk (DISKA)
- 2) Copy the PCI control program PCICFG.EXE on to DISKA
- 3) Copy the DOS utility DEBUG.COM onto DISKA
 - note: the version of debug.com must be the same as the DOS version on DISKA or it can not be executed.
- 4) Adjust the BIOS booting sequence to A:, C: (boot from floppy first)
- 5) Insert the DISKA and boot the system note: Ignore the hardware monitor error as a result of LM78s confliction.
- 6) Under prompt sign A>, type *PCICFG*<enter>
- 7) Under prompt sign BUS00>, type *WD 1 3 60 00670290* note: The on-board LM78 is now disabled
- 8) Under prompt sign BUS00>, type Q<enter> to exit from the PCI control program.
- 9) Under prompt sign A>, type **DEBUG**<enter>
- 10) Under prompt sign >, type A < enter >
- 11) Under prompt sign xxxx:0100, type *int 19*<enter>
- 12) Under prompt sign xxxx:01yy, type <enter>
- 13) Remove the DISKA from floppy drive and leave it open
- 14) Under prompt sign >, type G<enter>
- 15) Now, you can see the O.S. from hard disk boots-up and LDSM can work with the LM78 on ASMM.

If your motherboard does not equip with LM78, everything goes fine with LDSM.

2. What kind of environment can be used to monitor the ASMM/ASMA information ?

ASUS LDSM OEM Release, HP Openview, NT performance Monitor, Microsoft SMS Microsoft Web Administration , NT Event Viewer and other SNMP Management Console.



Other SNMP Management Consoles

Chapter 3 NT Performance Monitor

NT Performance Monitor - is a graphical tool for measuring the performance of your own computer or other computers on a network. On each computer, you can view the behavior of objects, such as processors, memory, cache, threads, and processes.

The following overview lists how you use Performance Monitor to view the performance of objects: Simultaneously view data from any number of computers. View and dynamically change charts reflecting current activity and showing counter values that are updated at a user-defined frequency. Export data from charts, logs, alert logs, and reports to spreadsheet or database programs for further manipulation and printing. Add system alerts that list events in the Alert Log and notify you either by reverting to Alert view, logging the event in Event Viewer's Application log, or issuing a network alert. Run a predefined program either every time or only the first time a counter value goes over or under a user-defined value. Create log files containing data about objects on different computers. Append selected sections of existing log files to a single file, forming a long-term archive.

Performance Monitor consists of four main windows, which you display by clicking Chart, Alert, Log, or Report on the View menu. These windows contain different information and have only the menu bar, status bar, and toolbar in common. You can press the F1 key to see Help about any Performance Monitor command. On the Options menu, Data From is available in any of the four windows. Use this command to switch from working with current values for current activity (real time data) to viewing and manipulating existing log files. The default is current activity.

There are two ways that user can monitor system temperature, working voltages and fan speed from NT Performance Monitor.

Method I:

- 1. From the Windows NT desktop, choose **Start** select **Programs**, Select **ASUS System MonitorAgent**, Select **Monitor**.
- 2. From the **Monitor**, you can monitor the status of system's temperature, voltage and fan speed.

Method II:

- 1. From the Windows NT desktop, choose **Start | Programs | Administrative Tools | Performance Monitor.**
- 2. Choose Edit menu, Select Add to Chart
- 3. Select the computer that you want to monitor, click **OK**.
- 4. From the **Object Box**, select **ASUS System Monitor**. It will displays ASUS System Monitor performance list in the **Counter Box**.

- 5. To see a description of a counter, click the **Counter** in the Computer list box, and click the **Explain** button. This displays a **Counter Definition** panel that describes the counter.
- 6. In the **Counter** list box, click a performance counter you want to monitor, and click the **Add** button. Repeat this step for all counters you want to monitor.

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<u>File E</u> c	lit ⊻iew <u>O</u> p	otions <u>H</u> elp					
	90 +						
100							
95							
90							
85							
80	Add to Che	art				×	
75	Computer						
70	<u>Computer</u> .	MASUS_AGENT				Add	
65	01-1	A 81 18 8		La la stances d			
60	Ubject	ASUS System Mo	nitor	Instance:		Cancel	
55						Endaires	
50	Counter:	CPU 1 Voltage	_	<u> </u>		Exhianiss	
45		CPU 2 Fan/Power	r⊢an				
40		System CPU 1 Te	mperature			Help	
35		System CPU2 Ter	mperature/Regulato	r T 💶 🔰			
30							
25				1			
15	Colo <u>r</u> :	<u> </u>	le: Default 👱	Width: I			
10							
5							
n l							
ast	0.000 Aver	rage 0.000	Min 0.000 M	ax 0.000 Gr	aph Time 100	.000	
Color	Scale	Counter	Instance	Parent	Object	Computer	
Data: Cur	rent Activity						
Start	6 🐔 💋	2 Reforma	ance Mon			Ģ	17 AM

7. When you are finished adding counters to the chart, close the **Add to Chart** dialog box., You can now observe the color-codes graphs of the counters you have choosen as they Illustrate current.

📓 Perl	formance Monitor							_ 8 ×
<u>F</u> ile	<u>E</u> dit <u>V</u> iew <u>O</u> ptions	<u>H</u> elp						
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100					1			
95								
90								
85								
80								
75								
70								
60								
55								
50								
45								
40								
35								
30								
25	1							
20								
15								
10								
5								
Last	5769.000 Average	5785.584 Min	5769.000 Max	5818.000 Gi	raph Time	100.000		
Color	Scale Count	er	Instance	Parent	Object	L.	Computer	
L	0.0100000 CPU 2	Fan/Power Fan	-	-	ASUS S	System Mon	it \\ASUS_AGE	INT
Data: C	Current Activity							
🎜 Sta	rt 🛛 🥭 🏪 🌌 🧕 🗍	Performance	Mon				9:1	9 AM

Note: Using Method II, you can monitor another computer that installed ASUS system monitor agent remotely from the network.

To configure the threshold of Fan/Voltage/Temperature in NT performance monitor extension

- 1. From **Start**, Select **Programs**, Select **ASUS System Monitoring Agent**, Select **Alert**, choose the threshold you want to monitor.
- 2. Choose Edit menu, Click Add to Alert
- 3. Select **Computer**, **object**, **counter**, Set Alert threshold value, click **Add**, click **done**.

Terform File Edit	ance Moni ⊻iew Op	tor-FataL00 btions <u>H</u> elp	3.pma					_ 8 >
Alert Inter	/al: 5.0							
Alert Log:	· ·							
	Add to Ale	rt					×	1
	<u>C</u> omputer:	\\ASUS_AGI	ENT				Add	
	O <u>b</u> ject:	ASUS System	m Monitor	-] Instance:		Cancel	
	Counter:	CPU 2 Fan/F CPU 2 Voltag	Power Fan ge				<u>E</u> xplain>>	
		System CPU System Tem	2 Temperatu 2 Temperatu perature	re/Regulator T			Help	
Alert Leg	_		Alert If-		-Run <u>P</u> rogram	on Alert		
Color	Colo <u>r</u> : I		● <u>O</u> ver	60			C <u>F</u> irst Time	
			C <u>U</u> nder				€ E⊻ery Time	ENT
ŏ '	> 1380	0 -12V		_	_	ASUS Syste	m Mon \\ASUS_A0	GENT
0	< 4250.000	0 +5.0∨		-	-	ASUS Syste	m Mon \\ASUS_A0	GENT
	< 2805.000	0 +3.3V		—	—	ASUS Syste	m Mon \\ASUS_A0	GENT
	< 1020	0 +12V		-	-	ASUS Syste	m Mon \\ASUS_A0	GENT
	< 1500.000	U CPU 2 Fan/	Power Fan			ASUS Syste	m Mon \(ASUS_AU	aEINT
)ata: Curre	nt Activity, Sa	ave File: FataL	003.pma					
Start	<u>6</u> 👶 🕅	🔊 🛛 🕅 Perf	ormance M	on				10.48 AM

- 4. Choose **Options** menu, click **Alert**.
- 5. Select **Send network message**, Type the computer name where the alert message you want to sent.

File Edit ⊻iew Options E	aL003.pma Jelp			
	a la b			
Alert Interval: 5.000				
Alert Log:				
	Alert Options		X	
	Switch to Alert View		ОК	
	☑ Log Event in Application Log	1	Canaal	
	Network Alert		Cancer	
	Send network message		Lists 1	
	<u>N</u> et Name:		Teib	
	ASUS_CONSOLE			
	Update Time	al (seconds):	1	
Alert Legend:	Periodic Update 5.000	ar (30001103).		
Color Value Cour	C Manual Update			Computer
> 5750.0000 -5.0V-				m Mon \\ASUS_AGENT
→ 13800 -12∨	-	_	ASUS Syste	m Mon \\ASUS_AGENT
< 4250.0000 +5.0∨	_	-	ASUS Syste	m Mon \\ASUS_AGENT
< 2805.0000 +3.3∨	_	-	ASUS Syste	m Mon \\ASUS_AGENT
< 10200 +12V	—	-	ASUS Syste	m Mon \\ASUS_AGENT
C <1500.0000 CPU 2	Fan/PowerFan —	—	ASUS Syste	m Mon \\ASUS_AGENT
Data: Current Activity, Save File: F	FataL003.pma			
🏽 🕄 🗞 🛃 🕼 🕼 🎉 🕅	Performance Mon			11:01 AM

6. You can stop the CPU fan to generate a alert.

Performanc	ce Monitor	- FataL003.	.pma				
e <u>E</u> dit ⊻i	iew <u>O</u> ption	is <u>H</u> elp	1 med				
	+ 🖻	X Con line					
lert Interval:	5.000						
Jert Loor							
10/15/98	11:02:5.8	AM	0.000 <	1500.000	CPU 2 Fan/Power Fan.	ASUS System Mor	nitor. \\ASUS AGE
10/15/98	11:02:10.	8 AM	0.000 <	1500.000	CPU 2 Fan/Power Fan,	, ASUS System Mor	nitor, \\ASUS_AGE
010/15/98	11:02:15.	8 AM	0.000 <	1500.000	CPU 2 Fan/Power Fan,	., ASUS System Mor	nitor, \\ASUS_AGE
<							<u> </u>
< lert Legend: Color	Value (Instance	Parent	Object Ci	►
< lert Legend: Color	Value (< 0.0000 \$	Counter	perature	Instance —	Parent	Object C: ASUS System Mon \\	omputer ASUS_AGENT
 ↓ Iert Legend: Color ↓ State 	Value (< 0.0000 \$ 5750.0000 -	Counter System Temp	perature	Instance 	Parent _ _	Object C ASUS System Mon \\ ASUS System Mon \\	omputer ASUS_AGENT ASUS_AGENT
< Vert Legend: Color ● > {	Value (< 0.0000 \$ 5750.0000 - > 13800 -	<mark>Sounter</mark> 3ystem Temp 5.0∨ 12∨	oerature	Instance 	Parent 	Object Cr ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\	omputer ASUS_AGENT ASUS_AGENT ASUS_AGENT
< Vert Legend: Color ● > 5 ● < 4	Value (< 0.0000 5 5750.0000 - > 13800 - 4250.000 -	<mark>Sounter</mark> System Temp 5.0∨ 12∨ 5.0∨	perature	Instance 	Parent 	Object CC ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\	omputer ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT
 ✓ ✓	Value (< 0.0000 S 5750.0000 - > 13800 - 24250.0000 4 2805.0000 4	20unter 3ystem Temp 5.0∨ 12∨ 5.0∨ 3.3∨	perature	Instance 	Parent 	Object C ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\	ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT
< Vert Legend: Color ○ > 5 ○ < 4 ○ < 2	Value (< 0.0000 5 5750.0000 - > 13800 - 4250.0000 - 2805.0000 - < 10200 -	20unter 3ystem Temp 5.0∨ 12∨ 5.0∨ 3.3∨ 12∨	perature	Instance 	Parent 	Object C ASUS System Mon \\ ASUS System Mon \\	omputer ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT
< ✓ Legend: Color ✓ > 5 ✓ < 4 ✓ < 4 ✓ < 4	Value (< 0.0000 8 5750.0000 - > 13800 - 4250.0000 4 2805.0000 4 (10200 4 1500.0000 (20unter System Temp 5.0V 12V 5.0V 3.3V 12V 12V 12V	perature ower Fan	Instance 	Parent 	Object CC ASUS System Mon \\ ASUS System Mon \\	omputer ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT
 ↓ ↓	Value (< 0.0000 S 5750.0000 + > 13800 - 2805.0000 + 2805.0000 + 1500.0000 (ctivity Save	Counter System Temp 5.0V 12V 5.0V 3.3V 12V PU 2 Fan/Pt File Fatal 00	oerature ower Fan 13 pma	Instance 	Parent 	Object C ASUS System Mon \\ ASUS System Mon \ ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\	omputer ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT
 √ ✓ ✓	Value (< 0.000 5 5750.0000 - > 13800 - 4250.0000 4 2805.0000 4 < 10200 4 1500.0000 (ctivity, Save	Counter System Temp 50V 12V 5.0V 3.3V 12V FU 2 Fan/Pi File FataL00	oerature ower Fan 33.pma	Instance 	Parent 	Object C ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\ ASUS System Mon \\	omputer ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT ASUS_AGENT

7. Using Event viewer to view this alert message.

	AcroPd32		
Computer		vent Detail	
Internet Explorer	Event Log Vi Date	Date: 10/15/98 Event ID: 2000 Time: 11:02:05 AM Source: PerfMon <u>User:</u> N/A Type: Information Computer: ASUS_AGENT Category: None	Computer SUS_AGENT
Network Neighbor	 10/15 10/15 10/15 10/15 	An Alert condition has occurred on Computer. \\ASUS_AGENT : Object ASUS System Monitor ; Counter: CPU 2 Fan/Power Fan ; Instance: ; Parent ; Value: 0.000 ; Trigger: < 1500.000	SUS_AGENT SUS_AGENT SUS_AGENT
inbox		×	
1		D <u>a</u> ta: 🖲 <u>B</u> ytes C <u>W</u> ords	
Recycle Bin		0000: 22 00 31 00 30 00 2f 00 ".1.0./. 0008: 31 00 35 00 2f 00 39 00 1.5./.9. 0010: 38 00 20 00 31 00 31 00 81.1. 0018: 3a 00 30 00 32 00 3a 00 :.0.2.:.	
My Briefcase		0020: 35 00 2e 00 38 00 20 00 58	
		Close Flexing Hew Heh	
Start	6 🛃 🗹	📎 🗌 📷 Performance Monitor 🕼 Event Viewer - Ap	11:05 AM

8. This alert message will send to CONSOLE.



Chapter 4 NT Event Viewer

Event Viewer - is the tool you can use to monitor events in your system. You can use Event Viewer to view and manage System, Security, and Application event logs.

Event: In the Windows NT operating system, an event is any significant occurrence in the system or in an application that requires users to be notified. For critical events such as a full server or an interrupted power supply, you may see a message on screen. For many other events that do not require immediate attention, the Windows NT operating system adds information to an event-log file to provide information without disturbing your usual work. This event logging service starts automatically each time you start you computer running Windows NT.

System Log: The System log records events logged by the Windows NT system components. For example, the failure of a driver or other system component to load during startup is recorded in the System log.

Security Log: The Security log records security events. This helps track changes to the security system and identify any possible breaches to security. For example, attempts to log on the system may be recorded in the Security log, depending on the Audit settings in User Manager. You can view the Security log only if you are an Administrator for a computer.

Application Log: The Application log records events logged by applications. For example, a database application might record a file error in the Application log. ASUS ASMA will generate some special events in this log.

<u>.</u> og <u>.</u> iew			1	I		
ate	Time	Source	Category	Event	User	Computer
10/15/98	1:51:30 PM	ASUS SNMP Ager	nt None	2008	N/A	ASUS_AGEN
10/15/98	1:51:20 PM	ASUS SNMP Ager	nt None	4001	N/A	ASUS_AGEN
10/15/98	1:43:50 PM	ASUS SNMP Ager	nt None	2005	N/A	ASUS_AGEN
10/15/98	1:43:50 PM	ASUS SNMP Ager	nt None	2002	N/A	ASUS_AGEN
10/15/98	1:43:50 PM	ASUS SNMP Ager	nt None	2000	N/A	ASUS_AGEN
	1:43:50 PM	ASUS SNMP Ager	nt None	1003	N/A	ASUS_AGEN
	1:43:50 PM	ASUS SNMP Ager	nt None	1004	N/A	ASUS_AGEN
10/15/98	1:43:50 PM	ASUS SNMP Age	nt None	1002	N/A	ASUS_AGER

ASMA events information in Event Viewer:

To show a Automatic Server Restart Function Enable/Disable event in Event Viewer:

Event Detail				×
Date: Time: <u>U</u> ser: Co <u>m</u> puter:	10/15/98 1:43:50 PM N/A ASUS_AGENT	Event ID: Source: Type: Category:	2000 ASUS SNMP Agent Information None	
<u>D</u> escription	n:			
ASR (Auto	matic Server Restart) function	is ENABLE	on this computer.	X
Data: 🕫	Bytes 🔿 Words			
				×
Clo	ose <u>P</u> revious	Next	Help	

To show a Chassis Intrusion Function Enable/Disable event in Event Viewer

Event Deta	il			×
Date:	10/15/98	Event ID:	2002	
Time:	1:43:50 PM	Source:	ASUS SNMP Agent	
<u>U</u> ser:	N/A	Type:	Information	
Co <u>m</u> puter	ASUS_AGENT	Category:	None	
<u>D</u> escriptio	in:			
The Chas	sis Intrusion function is ENA	BLE on this co	mputer.	
				7
D <u>a</u> ta: 🕻	© <u>B</u> ytes ⊂ <u>W</u> ords			
				^
<u> </u>				
	lose Previous	Next	Help	
		<u>11</u> 0X(

To show a Reboot Management function Enable/Disable event in Event Viewer:

Event Detail				×
Date: Time: <u>U</u> ser: Co <u>m</u> puter:	10/15/98 1:43:50 PM N/A ASUS_AGENT	Event ID: Source: Type: Category:	2000 ASUS SNMP Agent Information None	
<u>D</u> escriptior	n:			
ASR (Auto	matic Server Restart) function	is ENABLE	on this computer.	×
	i byres i O <u>w</u> ords			4
	ose <u>P</u> revious	<u>N</u> ext	Help	

ASMA will generate the SNMP Trap and a event of NT event log, if an alert occurs.

Event Detail			×
Date: Time: <u>U</u> ser: Co <u>m</u> puter:	10/15/98 1:51:20 PM N/A ASUS_AGENT	Event ID: Source: Type: Category:	4001 ASUS SNMP Agent Error None
An Fatal A item: CPU; Low (Fatal	 lert condition has occured on 2/Power Fan; its value: 0; its F).	this compute 'atal Low Thr	er, The computer system 📄 eshould: 1500; It is too
D <u>a</u> ta: ©	Bytes C Words		
	ose <u>P</u> revious	<u>N</u> ext	× ▶

Chapter 5 NT Web Admin

Web Administration for Microsoft Windows NT Server enables you to remotely administer Microsoft Windows NT Server using existing HTML browsers. Web Administration is not designed to replace existing administrative tools for Windows NT servers; instead, it is to enable you to perform limited administrative tasks when you are roaming, away from your usual workstation. Web administration is a tool that is implemented to work in conjunction with Microsoft Internet Information Server 2.0. User can monitor system temperature, working voltages and fan speed from Web Performance Monitor. You can install the Web Administration software on any server that run Windows NT server 4.0 and Microsoft Internet Information Server (IIS). Installing the Web Administration software on the server causes the server to publish web pages that include forms you can use to administer that particular server. The Web Administration tool is intended for existing Windows NT server administrators who have performed tasks with the regular administrative tools on Windows NT 3.51 and NT 4.0.

You may download the Web Administration program from Microsoft Web site at following URL: http:// www.microsoft.com/ntserver/webadmin/dlnowdl.htm?

To manage the ASMM in Web Administration program:

- 1. Run Web Browser (IE or Netscape).
- 2. Type the address at your Browser such as <u>http://server_name or IP address/ntadmin/ntadmin.htm</u>.
- 3. Click the Status. Type your user name, password.



4. Click Performance Statistics.



5. Select ASUS System Monitor and Click Counter button



6. When prompted, you can observe the status of system's temperature, voltages fan speed, and so on.



Chapter 6 ASUS LDSM OEM Release

LANDesk Server Manager provide administrators with a proactive management solution and emergency-management recovery tools to help maximize business-critical server uptime. From a centralized console, LANDesk Server Manager product monitor critical parameters on either Microsoft Windows NT or Novell Netware Server. Through enhanced alerting features and server health monitoring, LANDesk Server Manager notify the LAN administrator when a server reaches a predefined threshold. (ASUS provides an ASUS OEM version of LDSM in the package. In this LDSM, it added a ASMA patch for LDSM; therefore, you can monitor ASMA information from LDSM console).

The following figure highlights the high level architecture of LDSM with new or changed components shaded.

Management Console Features:

LDSM has been re-architected with a new console GUI that follows Microsoft COM and MMC models. The Management Directory (MD) is the part of Management Console that handles the under-the covers functionality of the console. Management Directory discovers and exposes managed objects with their associated management functionality in a standard and unified manner. One of the key features of the console is the server health view, which offers a color-coded view of pre-defined parameter thresholds and limits. Using Active X technology, it will be easier to create, maintain and enhance.

Managed Server Features:

Data Collection Agent (DCA), allows data from independent data sources registered with the Message System to be grouped together. Data collection agent supports the LDSM enriched abstractions goal, by collecting data from multiple agents, grouping it in a meaningful way and reducing communications overhead. Rather than multiple agents or proxies collecting data and communicating to the console through the message system, now there is just one agent (the DCA) performing this task.

LANDesk Server Manager server side architecture is composed of several agents and specialized pieces that gather, and share information with other agents and management console. It is through these agents and services that the Network Operating System (NOS) and the Server Monitoring Module are monitored, information communicated to the console.

There are two alertable parameter types in LDSM:

Graphable parameters that have three independently configurable thresholds: informational, non-critical and critical.

Event-only parameters that track single operating system event, such as loading and NLM.

The administrator can configure alerts for both Netware and Windows NT servers. The following is a look at where the AMS2 alert occur on the network:

- 1. Message Box
- 2. Broadcast Message
- 3. Windows NT Event Logging
- 4. Send Internet Mail
- 5. Program Execution
- 6. Paging
- 7. SNMP Trap

SNMP Trap Generation

AMS2 supports the configuration of actions based on a given event or alert. One of the action is to generate an SNMP trap. The system may be configured to send the trap to a SNMP management console. SNMP requires that the address (either IP or IPX) for the system receiving the trap be configured in advance. The method for specifying the trap destination address depends on the operation system of the device generating the trap.

Common Base Agent (CBA) is made up of several modules that provide basic common denominator services that are protocol and OS independent.

Message System

The messaging system is the glue that holds the Agent together. Because the native capabilities will differ from NOS to NOS, the Agent messaging API could require features that are not present on some OS. The CBA messaging system is a service library callable by all Agent modules. The way it is packaged will be on each NOS; a DLL on NT, a NLM on Netware. The messaging system has a given set of API function calls making it capable of handing all of the messaging needs for LDSM. Message System is the CBA highest-level module and provides local and remote process-to-process messaging.

Ping Discovery System (PDS)

PDS is a process by which a console node discovers other nodes that are capable of being managed. This service is used by the LDSM console to discover the servers with LDSM installed. This service has two parts:

Full discovery - a ping is sent over the network to which LDSM servers to reply. If a CBA is present on the server, a ping is sent back to the requesting console with its reply information. This information is stored on the console used to populate the discovered server tree for that console.

Refresh discovery - is similar to full discovery option, but rather than sending a packet on the wire to all servers, it uses the information stored at the console as a request list, and send s a ping only to those servers. The discovered server tree list is rebuilt based on the reply from those servers at that moment. If the server fails to reply, its discovered icon is grayed in the tree, indicating it is no longer available.

Network Transport Service (NTS)

Network Transport Service is a set of APIs which shield LDSM from the complexities of networking protocol detail of sending and receiving data. NTS is designed so that it will not have to change for different operating systems. For example, the SMM agent will use the same NTS API whether it is running on Netware or Windows NT. The NTS code is optimized to take advantage of the services available on a particular operating system, and are transparent to the LDSM agents. NTS offers routines, which allow for guaranteed delivery of sequenced packets. The protocol is designed to allow packets to be sent in size of up to 65,535 bytes. NTS will fragment the packet on the network wire and receive the packet into a buffer of at least the same size. NTS consists of three main pieces. A transport layer that communicates to the network. A message system that process information between each of the multiple agents on a server. A proxy which services as a bridge connecting this message system and transport layer.

Before you install the LDSM, please make sure you already installed the ASMM into the server. The ASMM is fully compatible with LDSM, HP Openview, NT Performance Monitor, NT Web Admin, Microsoft SMS and so on.

Installing ASUS LDSM OEM

Step1: installing and configuring SNMP.

- 1. At the Microsoft SNMP Properties dialog, click the Traps tab.
- 2. In the **Community Name** box, type a name for the SNMP community, such as public.
- 3. Click the **Add** button.
- 4. Below the **Trap Destinations** box, click the Add button.
- 5. Type the **IP address** or **computer name** of your network's SNMP management station.
- 6. Click the **Add** button.
- 7. Click the **OK** button.
- 8. Click the **Close** button.
- 9. When prompted, click the Yes button to restart your computer.

Step2: installing Windows NT Service Pack3 (or above).

Step3: installing LDSM.

- 1. Insert the ASUS install CD.
- 2. Click Install LDSM.
- 3. Select Install to install LDSM and Click Next.
- 4. Select Yes to agree the license and Click Next.
- 5. Type the Registration Key and Click Next.
- 6. Click Plan to view installation help, Click Next.
- 7. Select LDSM components that you wish to install, Click Next.
- 8. Select Server to install LDSM Agent. Click Next.
- 9. Specify a Windows NT group or user that can remote control the server , Click **Next**.
- 10. Re-check your setting and Click Install.
- 11. Wait for Transferring files and Click Next.
- 12. Wait for Transferring AMS Services and Click Next.
- 13. Select Reboot now and Finish to restart your computer.

Note1: If you install LDSM Agent to Windows NT, You must install ASMA first.

To configure LDSM Agent for Netware 4.x.

- 1. Edit \SYS\System\AUTOEXEC.NCF.at Netware Agent.
- 2. LDSM default to mask sm_auto.ncf, unmask it.
- 3. In the last line, add asusldsm.ncf
- 4. Edit \SYS\System\ASMM.INI to configure ASMM function at Netware Agent. Default value is as follow.

ASREnable=0 ------ Disable ASR. Set 0 to disable. Set 1 to enable.

ASRTimer=5 ----- ASR Polling Time (unit: Min)

ChassisIntrusionExist=0 ----- ChassisIntrusionExist. Set 0 to disable,

Set 1 to enable photo sensor.

Set 2 to enable micro switch.

5. Restart Netware Server.

To configure the LDSM for monitoring ASMM information:

- 1. From the Windows NT desktop, choose Start | LANDesk Server Manager | Local Network
- 2. Click the Fan Group and Task.

 Intel Management Directory Intel Management D
e ≪ Modern Alerts from Intel EMC1 e ⊈ SNMP Transport ≰

3. Configure the Thresholds step by step. a. Select Threshold type.



b. Set Threshold value.



4. Configure the data collection method. a. Modify the data collection method.



b. Select how the server agent polls the server for data.



5. To configure the Event in LDSM.

a. Choose Task, Select Configure Event Action.

📆 Server Manager 6.0 - [Intel Manag	ement Directory\Local Network\Windows NT Device Group\ASUS_A	_ 8 ×
😴 Eile Edit ⊻iew Window <u>H</u> elp		_ 8 ×
● Intel Management Directory ■ Local Network ■ 10 NetWare Device Group ■ 30 NetWare Device Group ■ 30 ASUS_AGENT ■ 30 Health ■ 30 ASUS_AGENT ■ 30 Health ■ 30 ASUS_10>Disable, 1= ■ 30 Browset Group ■ 30 Chassis Intrusion Grt ■ 30 Data Map Hits %	Fan Group Subitems Properties Tasks Task Name Configure Event Actions Add a Parameter Add a parameter to this group Add a Parameter Group Add a new parameter group Configure Event Actions	
	Use this task to configure the actions Server Manage status changes. What would you like to do? © Configure AMS2 Alerts. © Assign server actions to critical events.	er perk

b. Double Click Fan Group.

<u>File E</u> dit ⊻iew <u>W</u> indow <u>H</u> elp		
Intel Management Directory 🦪 F	an Group	
Local Network	ems Properties Task:	3
🗄 🖞 Windows NT Device Group	< Name	Description
ASUS_AGENT	onfigure Event Actions	Configure event/threshold actions for a
P-@ Health	d a Parameter	Add a parameter to this group
ASR (U=>Disable, 1=)	id a Parameter Group	Add a new parameter group
Browser Group		
Chassis Intrusion Gro	-	
En Group	igure Event Actions	
Chassis Fan (BP)		les this teak to configure platt actions for each threshold
⊕ Ø CPUI Fan (BPM)		parameter or group. To configure an alert action, double
+ Ø CPU2/Power Fan		or group in the tree below.
🕀 🔐 Logical Disk Group		
H- 19 Memory Group		
🕀 🞒 Paging File Group	1	Note: If the primary alert action fails, then the backup actio
🖬 👘 Physical Disk Group	- A	AMS Alert Actions may not be delivered if the server is sh
🕀 👘 Processor Group		
🗄 🕑 System Up Time		
🕀 🞒 Temperature Group		~ × 5 2 3 3 4 4
🗄 👘 Voltage Group		
🗄 🐼 Historical Data		Data Groups
🗄 🙉 Instrumentation		Fen Group
🗄 🜮 Snap-ins		
· B ASUS_AGENT_1		
Modem Alerts from Intel EMC1	into	
SNMP Transport	ine.	

c. Select Send SNMP Trap, Click Next.

Select Action			
Actions:			
Message Box	Write to Event Log		
Send Page	Load an NLM		
Send Internet Mail	Send EMC Page		
Run Program			
((+)) Broadcast			
Send SNMP Trap			
	< <u>Back</u> Next> Cancel Help		

d. Select Action Computer, Click Next.

Select Action Computer	Select computer to perform action. Action computer Microsoft Windows Network ASUS_AGENT ASUS_AGENT_1 ASUS_CONSOLE	<u>Options</u> Di <u>s</u> cover
	<back next=""> Cancel</back>	Help

e. Select valid severities for alert action.



f. Type Action name, Select Message, Click Finish.

Send SNMP Trap Action name: snmptest	_
Message: Alert: <alert name=""> Computer: <host name=""> Date: <date> Time: <time> Severity: <severity> Source: <source/></severity></time></date></host></alert>	Alert garameters:
< <u>B</u> ack	Finish Cancel Help

- g. Then Configure Event Action is OK.
 - <mark>73 Server Manager 6.0 [Intel Manage</mark> 70 Eile Edit ⊻iew <u>W</u>indow <u>H</u>elp nent Directory\Local Network\Windows NT Device Group\ASUS_A.. _ 8 × - 🗗 × Intel Management Directory 🞒 Fan Group 🛃 Local Network Subltems Properties Tasks 🗍 🕅 NetWare Device Group Hi NetWare Device Group
 Windows NT Device Group
 JASUS_AGENT
 D' ASUS_AGENT
 D' Health
 ⊕-Ø ASR (0->Disable, 1=>Ena
 ⊕@ Browser Group
 ⊕-Ø Chassis Intrusion (0=>Inval
 ⊕-Ø Data Map Hits %
 D @ Data Comm % Task Name Description Configure Event Actions Configure event/threshold actions for a... Add a parameter to this group Add a Parameter Group Add a new parameter group Configure Event Actio Use this task to configure alert actions for each threshold parameter or group. To configure an alert action, double or group in the tree below. Logical Disk Group
 Memory Group
 Paging File Group
 Physical Disk Group Note: If the primary alert action fails, then the backup action AMS Alert Actions may not be delivered if the server is st Processor Group
 Processor Group
 System Up Time
 Temperature Group
 Oltage Group ୰⋉⋤⋩⋑⋬⋬⋞ B Data Groups ⊕ A Default Alert ⊨ A Fan Group └☆ Send SNMP Trap [snmptest] (ASUS_AGE) 🗄 🚱 Historical Data Modem Alerts from Intel EMC1 SNMP Transport intel ř.
- 6. To configure a history log for ASMM information.
 - a. Select Star a new History, Click Next



b. Select the kind of history, Click next



c. Set the time period the managed computer uses to collect data.



7. To view a History log for ASMM information.





8. To monitor the DMI information.



9. To Enable ASR

Set the number to 1, it will Enable the ASR



10. To configure Remote Reboot.

Set the number to 1, it will remote reboot the agent.

Server Manager 6.0 - [Intel Manage Elle Edit View Window Help	ment Directory\Local	Network\Windows NT Device Group\ASUS_A
Management Directory	💴 Reboot (1=>Reb	oot system)
Local Network	D r Teska	
NetWare Device Group	Properties Tasks	
Windows NT Device Group	Task Name	Description
E- JASUS_AGENT	😰 Edit Number	Edit the number value
Health	Talia Musukan	
E-G Instrumentation	Ealt Number	
		Use this task to edit the number value
ASUS DMI		
E ASMM		
		Ownerstallumber
. 😐 😐 +3.3∨ (m∨)		Current Number.
		0
		Now Number
⊞-199 -5∨ (-mV)		
		1.00
⊕ 🔛 Chassis Fan (RPI		
Chassis Intrusion		
CPUT Fan (RPM)		
PIII CPUT Verre (mV		
P P CPU2 Vcore (mV		
F 122 CPU2/Power Far	int I	
CPU2/Regulator	ലിപ്പം.	
		To finish, click Apply.
😥 💷 System Tempera		
🗄 🗥 ComponentID 🛛 🚽	Help	<back next=""> Ann! •</back>
	▲	
	p · ·	

LDSM Application Integration Modules:

Application Integration Modules (AIMs) enable you to integrate managed desktop, mobile, and server systems running LDSM and LCM into popular enterprise management consoles, including:

HP Openview – Network Node Manager V5.01 for Windows NT Tivoli TME – NetView V5.0 for Windows NT Computer Associates Unicenter TNG for Windows NT

Key Feature:

- 1. Receiving and interpreting SNMP traps from LDSM/LCM managed nodes.
- 2. At-a-glance summary of **health** for managed nodes.
- 3. Icons that indicate warning and critical alerts on managed nodes.
- 4. Configuring device and send SNMP traps required several steps, as outlined by the enterprise management application.
- 5. For more information, please refer to http://www.intel.com/network/AIMs

Model / Function	P2B-LS P2B-S	P2L97-DS	P2B-DS P2B-D2	P65Up8 / with ASMM card
Chassis Fan	X	X	X	X
CPU 1 Fan	Х	X	X	Х
Speed				
CPU 2 / Power	Х	Х	Х	Х
Fan Speed	(Power Fan)	(CPU 2 Fan)	(CPU 2 Fan)	(CPU 2 Fan)
CPU 1 Vcore	Х	Х	X	
CPU 2 Vcore		X	X	
+3.3V	X	X	X	X
+5V	X	X	X	X
-5V	X	X	X	X
+12V	X	X	X	X
-12V	X	X	X	X
System	v	v	v	v
Temperature	Λ	Λ	Λ	Λ
CPU 1	Y		v	
Temperature	Λ		Λ	
CPU 2 /	Х		Х	
Regulator	(Regulator		(CPU 2 Temp.)	
Temperature	Temp.)			
ASR	Х		Х	Х
Chassis Intrusion	X		X	Х
Remote Reboot Management	Х	Х	X	Х

ASUS LDSM OEM function Table

(Notes: X is mean its VALUE is VALID in this mainboard)

Chapter 7 SNMP Management Station

7.1 HP Openview

The Openview SNMP program broadens the capabilities of SNMP-based management applications to control basic network devices and critical systems and applications. In addition to managing devices like routers, bridges, and hubs, the Extensible SNMP Agent allows you to manage applications, printers, users, and databases that are central to business success. The ability to control access to network and system resources and effortlessly monitor important network components gives you unprecedented visibility and control of your network infrastructure.

User may use HP Openview program to compile the ASUS MIB file, then user adds the compiled ASUS MIB file module to Openview to manage and operate the ASUS private Enterprise MIB with the computer system has installed ASUS System Monitoring Agent

To install a ASUS MIB file on HP Openview

The Manage Database option is accessed from the SNMP Manager command under the Control menu. Manager Database accesses a compiler that adds ASUS MIB file to the MIB database; also adding to the list of variables displayed in the Defined Query window.

Installing ASUS MIB file to HP Openview

- 1. Click Control menu.
- 2. Select **SNMP Manager**.
- 3. Select Manage Database.
- 4. Click Import.
- 5. Select ASUS MIB file into File Name, Click OK button.

Add File		? ×
File <u>n</u> ame: asusp2b.mib asusall.mib asusp2b.mib asusp21.mib asusup8.mib	Eolders: d:\asmamib	OK Cancel Network
List files of type: MIB Files (*.mib)	Dri⊻es: ▼ ⊠ d: ASMA11_LDSM601	

6. From Available MIB files box, select ASUSMIB.MIB and click ADD button.

SNMP Manager - Mana	ge Database			X
G Files succe	essfully adde	d to database.		
Available <u>M</u> IB Files:			<u>F</u> iles in MIB Databa	ase:
ASUSP2B.MIB	09/25/98		ASUSP2B.MIB	09/25/98
IANAIF.MIB	09/11/97		RFC1213.MIB	09/11/97
RFC1213.MIB	09/11/97			
RFC1229.MIB	09/11/97			
RFC1230.MIB	09/11/97			
RFC1231.MIB	09/11/97			
RFC1232.MIB	09/11/97			
RFC1233.MIB	09/11/97			
RFC1238.MIB	09/11/97			
RFC1243.MIB	09/11/97			
RFC1253.MIB	09/11/97	•		
			,	
Import	Clear Dat	ahase	Close	Heln
Tuboven			0.000	<u> </u>

Using HP Openview to monitor ASUS Server

1. From Control menu, Select SNMP Manager, Select Defined Query.

2. Using Up and Down to \iso\org\dod\internet\private\enterprise\asus\systemMonitor

SNMP Manager - Define	Query			2
Device			Display	
<u>N</u> ame:	ASUS_AGENT		• <u>T</u> able	Options
Network Address.	132.72.120.104			
Variables				
A <u>v</u> aila	ble		Selec	ted
[systemMonitorComp [systemMonitorAlarm [systemMonitorASR] [systemMonitorRebo [systemMonitorCPUT [systemMonitorCPUT	onent]] ot] emp] empAlarm] Down	Add ->	[systemMonitorComp	ponent]
Iso.org.dod.internet.pri 1.3.6.1.4.1.2623.1.2	vate.enterprises.t	asus.systemMonit	or.systemMonitorCom	ponent -
<u>P</u> erform	<u>S</u> ave.		Close	<u>H</u> elp

- 3. Select the Server name from **Name** box.
- 4. From **Available** box, Select **systemMointorComponent**, Click Add, Click **Perform.** Then you can view the information about ASMA

🕷 SNMP Table - A	SUS_AGENT	_ 🗆 ×
Read-only	/ variable.	Close
AsusTek	Computer Corporation	<u>S</u> tart
Variable	Value	Set
smManufacturer	AsusTek Computer Corporation	
smModelNumber	AsusTek SNMP Extension Agent for Windows NT (Server-M	<u>C</u> opy
smManufacturerA	4FI,.No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, ROC.	
smManufacturerC	Tel:886-2-8943447, Fax:886-2-8943449, WWW site: http://ww	Log
smPollFreq	10	
smTemperature	37	Options
smTemperatureH	70	
smTemperatureL	-10	<u>H</u> elp
smTemperatureV	60	
smTemperatureV	0	
smVoltVcore1	592	
smVoltVcore1Hid	3220 💌	

(View / Monitor ASMA Information)

5. Select the systemMonitorReboot, Click Add, Click Perform.

SNMP Manager - Define	e Query				X
Device			Di	splay	
<u>N</u> ame:	ASUS_AGENT		-	• <u>T</u> able	Ontines
Network Address:	192.72.126.184		_	0 <u>G</u> raph	Options
Variables					
Availa	able			Se <u>l</u> ecte	d
[systemMonitorCom	ponent]	_	[systemM	onitorReboo	[]
[systemMonitorAlarr	n]	<pre></pre>			
IsystemMonitorASR					
IsveternMonitorCPU	Juu				
[systemMonitorCPU]	⊺empj TomnAlarm]				
	rempzianij	<u>R</u> emove			
<u>U</u> p	Down				
iso ora dod internet n	riveto ontornricos s	acue evetomMoni	tor evetomM	onitorRehog	t -
136141262315	ivute.enterprises.t	usus.systemiitom	tor.systemm		
<u>P</u> erform	<u>S</u> ave.		Close		<u>H</u> elp

6. Modify the rmRebootSystemEnable variable from 0 to 1 and click SET.

SNMP Table - AS	SUS_AGENT	
•		Close <u>S</u> tart
Variable smBebootSystem	Value	Se <u>t</u>
smRebootSysten	0	<u>С</u> ору
		<u>L</u> og
		Options
		<u>H</u> elp

(Configure ASMA information)

Configing SNMP Trap for HP Openview:

- 1. From Auto Discovery menu, Select Layout, Select Do Basic Layout
- 2. From **Options** menu, Select **Customize Trap**
- 3. Select Unconfigured/Default, Default, Click Add.

ustomiz	e Trap Alarms		l l
Device	e <u>C</u> lass Name:	Ignore?: Enterprise:	
Uncor	nfigured/Default	DefaultSection	bbA
HP Vi	sual OpenView	1.3.6.1.4.1.11.2.17.3.2	
			Delete
			Ignore
			Load
I			<u>L</u> odd
No [.]	Tran Name [.]	Type: Map: Log: Bell: Severi	tv:
<u></u>	Dofault	Default v v Inform	ational
0	Cold Start	Generic x x Maior	Add
ĩ	Warm Start	Generic x x Norma	1 Edit
2	Link Down	Generic x x Warnii	ng
3	Link Up	Generic x x Norma	Delete
4	Auth Failure	Generic x x Inform	ational
5	Neighbor Loss	Generic x x Inform	ational
,	ОК	Cancel	2

4. From **Extended Description box**, Type \$*, Click **OK**.

dit Trap			
Trap Type © De <u>f</u> ault O <u>G</u> eneric O S <u>p</u> ecific	Nu <u>m</u> ber: <u>N</u> ame: <u>S</u> everity:	Default	OK Cancel Help
Description: Extended Description:	Trap #\$S Fro \$*	m OID \$E	×
Action IX Update Map IX Log I Sound <u>B</u> ell	Status	Acknowledge on Matching Trap and Trap: NONE Variable: NONE	Variable

Receiving SNMP Trap

1. From Monitor menu, Select Alarm Log

📲 HP Ope	nView Alarm	Log					_ D >
Acknow Ackno	ledge <u>A</u> ll wiedge	<u>M</u> ore Info <u>G</u> o To	Curren Sh	t Display Options ow All Alarms All Objects		Current: History: Display:	2 6 2
Status	Date	Time	 Description	IC	Object		
Info. Info.	10/15/98 10/15/98	15:46:15 15:46:05	Trap #51 From OID 1.3.6 Trap #53 From OID 1.3.6	1.4.1.2623 A5 1.4.1.2623 A5	SUS_AGENT SUS_AGENT		
	Eilter	s	H <u>i</u> story <u>P</u> rin	t <u>C</u> lose	Ŀ	<u>t</u> elp	

2. Click **more info** to view the detail information.

More Alarm Info	ormation	×
Object:	ASUS_AGENT	
Date/Time: Status: Description:	10/15/98 15:46:15 Info. Trap #51 From OID 1.3.6.1.4.1.2623	OK <u>H</u> elp
1.3.6.1.4.1.262 1.3.6.1.4.1.262	23.1.3.47.0-OCTSTR:The Fan 3 (CPU2 or Powe 23.1.2.52.0-INT:2777	r Fan) is back to l
		•
•		

7.2 Microsoft SMS

Microsoft Systems Management Server (SMS) is a solution for centralized management of Windows-based environments. SMS offers features that can help administrators streamline their work and increase user productivity, and Microsoft has included the product in its Zero Administration Initiative for Windows — an effort designed to help companies lower the total cost of owning and operating technology.

The session describes how to configure SMS to be a SNMP trap receiver. In 7.2.1, we discuss how to set up a SNMP filter to filter which SNMP traps we are interested. In 7.2.2, we introduce how to view the SNMP traps in your site. Finally, in 7.2.3, we provide another method (Query your site database) to get the traps that we are interested.

7.2.1 Create an SNMP trap filter

1. Start your SMS administrator, and open sites window.



2. Click the site name, and select the properties from File menu.

😭 Microsoft SMS Administrator		_ 8 ×
<u>Eile E</u> dit <u>T</u> ree <u>V</u> iew <u>O</u> ptions Too <u>l</u> s <u>W</u>	⊻indow <u>H</u> elp	
Open Ctrl+O) COBS 24 5 EEE 8#	
Ljose All		-
New Ctrl+N		
Proper <u>t</u> ies Alt+Enter		
Execute Query		
Define Query Result Formats		
Add to Group		
Print Ctrl+P		
Print Setup		
Page Setup		
Exit		
No. Sites		
Sp Tname	Name Type	
	ASUSTEST_DOMAIN Domain	
View or modify site or domain properties	1 item(s) selected of 1	

3. In the Site properties dialog box, choose and press SNMP Traps button, and then the SNMP trap dialog box will be shown.

Microsoft Sk Eile Edit Iree	15 Administra View Option	ator ns Tools <u>)</u>	<u>W</u> indow <u>H</u> elp 조제 도제 조제	লাকা কাক		
Site code Site name Site version Site server Site server Last report a Last report a Inactive don Inactive server	lomain ory It (GMT) It (Local) nains: vers:	111 Tname 786 ASUSTES ASUSTES C:\SMS 5/9/98 1:5 5/9/98 9:5 0 0	T T_DOMAIN 18:59 PM 18:59 PM		Cancel <u>H</u> elp	J Domain
	nponents: ders:		9 %7 0%	YEBS CR		▶
	s Cint Site Parent Site	Domair	B Ser			
) <u>O</u> utt		Senders			
<u> • </u>					1 itom(a) aal	ested of 1

4. Check the proposed properties box and press the Create button, the other window (SNMP Trap Filter Properties) will be popped up.

😭 Microsoft SM	S Administrator				_ 8 ×
<u>F</u> ile <u>E</u> dit <u>T</u> ree	⊻iew <u>O</u> ptions Too <u>l</u> s <u>W</u> indow	Help			
ലെകികിക	ചെപ്പെടിമെതി പ	ി ഹിഹി രി.	≪ി (≂ി െംൈറിം.	HI SI	
Site Properties					
			_ пк		
Site code	TTT				уре
Site name	Tname		Cancel)omain
Site version	785 ACUCTECT			- 1	
Site server	NMP Traps				×
Install dire					
Last report					ОК
Last report	C Current Properties	Proposed Propertie	\$		
Inactive se					Lancel
Inactive c	Trap Filters at Site TTT (Tn	ame):			
Inactive se	Active Description		Enterprise	Generic 1	Help
	Active Description	II Address	Enterprise	uchene i	
(BLAN					
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Microsoft SMS Admin File Edit Tree View O	istrator ptions Tools Window Help		_ @ ×
Site Properties			<u>8;;</u> 0=-
Site code Site name Site version Site server Site server Site se SNMP Tro Last re Last re Last re Last re	NMP Trap Filter Properties Description: When a trap meets the for IP Address:	ollowing conditions:	OK Cancel <u>H</u> elp
Inactiv Inactiv Inactiv Inactiv Inactiv Inactiv Inactiv Inactiv	Enterprise: © OID © NT Event Source Generic Trap Type: IV Gold Start IV Warm Start	F Authentication Eailure	
	F Link Down F Link Up Perform this action: ⓒ Wgite to Database	C Discard	
		1 item(s) selected (

5. Fill out the conditions that traps will be caught and their description. In additions, choose the action type is either Write to Database or Discard, and then press OK button, a filter has been generated.

S 1	licrosof	t SM	S Adminis	trator	_ 8 ×
Eile	<u>E</u> dit <u>T</u>	ree	⊻iew <u>O</u> p	ions Too <u>l</u> s <u>W</u> indow <u>H</u> elp	
Site	Proper	ties			
				SNMP Trap Filter Properties	×
	Site coo Site nan Site ver Site ser	le ne sion ver		Description: Monitor the host status	OK Cancel
	Site ser Install d	ver S irec	NMP Tra	When a trap meets the following conditions:	Help
	Last rep Last rep	ort	Cu	IP Address: 192 .72 .126 .154	
	Inactive	se		Enterprise:	
	Inactive	20	Trap Fi	© OID *	
	maomo		Active	ONT Event Source	
		_		Generic Trap Type:	
	(13 L 4	-		✓ Cold Start ✓ Authentication Failure	
	Inve	ntc		✓ Warm Start ✓ EGP Neighbor Loss	
	1			Link Down Enterprise Specific ID:	
				✓ Link Up	
	(A)	22		Perform this action:	
	Addr	est	Proper	≪ Write to Database C Discard	
<u> </u>		_			

6. Press OK button in SNMP Traps and Site properties window, SMS will require you to confirm the settings you has generated mentioned above.

G Microsoft SMS Administrator	≂i×i
File Edit Iree View Options Tools Window Help	
RL0&040650 0060 246 8 # # # # # # # # # # # # # # # # # #	,
💽 Sites	٦×
Name Type	
ASUSTEST_DOMAIN ASUSTEST_DOMAIN ASUSTEST_DOMAIN Domain Microsoft SMS Administrator Are you sure you want to update this site? Yes No	Þ
1 item(s) selected of 1	

7. SMS updates the site database for this filter rule.

7.2.2 View SNMP traps in a Site

1. Start your SMS administrator.



2. Open SNMP Trap window, and then all the traps recorded in the site's database will appear.

600	Minner & CMC Ad		D T1									
	MICIOSOIC 5M5 AU	ministrator - Lonm	r trapsj									
	<u>File Edit View I</u>	Uptions Loois Wir	ndow <u>H</u> elp									
B	<u>. R 0 8 0</u>) <u>~ ~ 5</u>	2 2 9 5	88 🗄 🔠 🚳							
(0)	(•) 1127 'SNMP Traps' items at 4/2/98 4:17:00 PM											
	IP Address	Enterprise	NT Event Source	Generic Trap Type	Specific Trap ID	Time Ticks						
	192.072.126.186	1.3.6.1.4.1.2623		6	13	34023 🔺						
۲	192.072.126.186	1.3.6.1.4.1.2623		6	48	34023						
()	192.072.126.186	1.3.6.1.4.1.2623		6	13	35024						
(••)	192.072.126.186	1.3.6.1.4.1.2623		6	46	35024						
()	192.072.126.186	1.3.6.1.4.1.2623		6	13	36024						
()	192.072.126.186	1.3.6.1.4.1.2623		6	13	37025						
	192.072.126.186	1.3.6.1.4.1.311.1.1.		0	0	0						
(192.072.126.186	1.3.6.1.4.1.2623		6	13	1015						
	192.072.126.186	1.3.6.1.4.1.2623		6	13	2015						
	192.072.126.186	1.3.6.1.4.1.311.1.1.		3	0	3001						
	192.072.126.186	1.3.6.1.4.1.311.1.1.		3	0	3001						
	192.072.126.186	1.3.6.1.4.1.2623		6	13	3016						
(••)	192.072.126.186	1.3.6.1.4.1.2623		6	13	4016						
	192.072.126.186	1.3.6.1.4.1.2623		6	13	5017						
()	192.072.126.186	1.3.6.1.4.1.2623		а.	13	6017						
	192.072.126.186	1.3.6.1.4.1.2623		6	13	7018						
(192.072.126.186	1.3.6.1.4.1.2623		6	13	8018						
	192.072.126.186	1.3.6.1.4.1.2623		6	13	9019						
100	192.072.126.186	1.3.6.1.4.1.2623		6	13	10019						
	192.072.126.186	1.3.6.1.4.1.2623		6	13	11019						
(••)	192.072.126.186	1.3.6.1.4.1.2623		6	13	12020 💌						
						•						
Re	ady			1	item(s) selected of 1	127						

3. The traps list shows every trap in different aspect (parameter) such as IP address, Enterprise, NT Event Source, Generic Trap Type, Specific Trap ID, Time Ticks, Time and Date Received, Number of Variables and Variable N Data.

-								
🚮 Microsoft SMS Ad	minist	trator - [SNMP	Traps]				_ 6	Л×
🐲 <u>E</u> ile <u>E</u> dit ⊻iew !	Option:	s Tooļs <u>W</u> indo	w <u>H</u> elp				_ 5	$\mathbb{N} \times$
		\$ 6 6 6	64 6	¥ 📽 🚈	246	8:8: 8= 8= 0	3 淡 🖬 🖻	
(•) 1127 'SNMP Trans	'iterr 😫	SNMP Trap De	tail				×	â
	En							
(*) 192.072.126.186	13			192 072 1	26 154		Close	
(•) 192 072 126 186	1.3	IF Address.		132.072.1	20.134			
(•) 192.072.126.154	1.3	Enterprise:		1.3.6.1.4.	1.2623		Previous	
(•) 192.072.126.186	1.3	NT French C						
(•) 192.072.126.154	1.3	NT Event S	ource:				Next	
(•) 192.072.126.186	1.3	Generic Tra	р Туре:	Specific T	rap			
(•) 192.072.126.154	1.3	о <i>ч</i> гт		42			<u>H</u> elp	
(•) 192.072.126.186	1.3	Specific Ira	pID:	43				
(•) 192.072.126.154	1.3	Time Ticks:		7062				
(•) 192.072.126.186	1.3							
(•) 192.072.126.154	1.3	Time Receiv	/ed:	4/2/98 3:	00:00 PM			
(•) 192.072.126.186	1.3	Mariable	Mariable	a ID	Data Tuno	Data		
(•) 192.072.126.154	1.3			4 1 262	Data Type	The Ear 1		
(•) 192.072.126.186	1.3	2	1361	A 1 262	Integer			
(•) 192.072.126.154	1.3		1.5.0.1		Integer			
(•) 192.072.126.186	1.3							
(*) 192.072.126.154	1.3							
(*) 192.072.126.186	1.3							
(a) 192.072.126.194	1.3					Þ		
(a) 192.072.126.166	1.3							-
102.072.120.134	1.1.9		-					Ť
L'I Readu	_				11	item(a) selected a	6 11 27	-

- 4. Double click in the trap you want to investigate in detail.
- 5. Choose either Previous or Next button to get the proceeding or following detail trap message.
- 6. Press Close button, and then return to the original SNMP Traps window.

7.2.3 Query the database for SNMP traps

1. Start your SMS administrator.

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File Options Tools	Window Help			
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	Nancen Na	グ ウ ⁽ 氏 子		
Ready				

2. Open Queries window.

<u>(1</u>	Microsoft SMS Administrator	- [Queries]				_ 8 ×
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	Name	ID	Architecture	Comment		
2	All Personal Computers	SMS001	Personal Computer	Finds all pers	onal computers.	
3	All Servers	SMS002	Personal Computer	Finds person	al computers with the Server	
3	Computers by Last User	SMS003	Personal Computer	Finds person	al computers with the specifi	
3	Computers by Name	SMS004	Personal Computer	Finds person	al computers with the specifi	
3	Computers by Operating System	SMS005	Personal Computer	Finds person	al computers with the specifi	
3	Computers by Processor	SMS006	Personal Computer	Finds person	al computers with the specifi	
3	Computers by System Type	SMS007	Personal Computer	Finds person	al computers with the specifi	
8	Computers with Nearly Full Disk:	SMS008	Personal Computer	Finds person	al computers with disk space	
-	Inactive Personal Computers	SMS009	Personal Computer	Finds person	al computers that last scann	
Rea	ady				1 item(s) selected of 9	

3. Choose New from File menu and fill out these fields such as Query Name and Comment.



4. Choose SNMP Traps from Architecture field.

S							_ 8 ×
\otimes	<u>File Edit View C</u>	Options To	ojs <u>W</u> indow	Help			_ 8 ×
12	ില് തി കി കി	ചെകി	.	ഷ്ഷ		8:8: 8:= 8::	** (57 5. 67
س						1 10-0-1 X 101 1CO	
	Name	ID	query riope	IGS			<u>A</u>
Ð	All Personal Comput	SMS001			r		ПК
2	All Servers	SMS002	Query N	lame:	Low Fan Speed		
1	Computers by Last U	SMS003	<u>C</u> om	ment:	Fan speed is low		Cancel
1	Computers by Name	SMS004			l .		
2	Computers by Upera	SMSUU5			1		Add AND
2	Computers by Proce	SMSUUE			, []		
	Computers by Syste	SMSUU7	Archited	cture:	SNMP Traps		Add <u>U</u> R
	Inactive Personal C	SMS000	<u> </u>	SNMP	Traps'items where:		Properties
- 22	mactive r ersonar ci	3143003					
							Delete
							<u>775</u> 0110110
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							uroup rro <u>r</u>
							Ungroup
			1 I.				<u>H</u> elp
Bei	adu					1 item(s) selected of 9	

5. Press Add AND or AND OR button to add your query conditions, and then the Query Expression Properties dialog box will be shown.

	Microsoft SMS Admin File Edit View Optic Edit Diew Optic Edit Diew Optic Mame ID All Personal Comput SM	istrator - [Queries] ons Tools <u>Window Help</u> Tools (%) (%) (%) Query Properties	16:2 24 3 2 2 2	-8× -8× 3000 -800 ×
8 8 8	All Servers SM Computers by Last USM Computers by Name SM	MS002 Query <u>N</u> ame: MS003 <u>Comment:</u> MS004	Low Fan Speed Fan speed is low	Cancel
Que	ery Expression Prope	rties	×	Add <u>A</u> ND
	Group Identification Identification Identification Identification Identification Identification Identification	Class MICROSOFTIIDENTIF MICROSOFTIIDENTIF MICROSOFTIIDENTIF MICROSOFTIIDENTIF MICROSOFTIIDENTIF MICROSOFTIIDENTIF MICROSOFTIIDENTIF MICROSOFTIIDENTIF	Attribute 1 IP Address Enterprise I Enterprise I Generic Trap Type I Specific Trap ID Time Ticks Time and Date Rec Number of Variable:	Add <u>D</u> R <u>Properties</u> <u>Delete</u> <u>Copy</u> Pagte
	Identification ↓ optification Dperator: is ↓ alue:	MICROSOFTIDENTIF	I Variable 1 Data	Group Group NOT Ungroup Help
Hea	ady		1 item(s) selected of	э

6. Select the Attribute column you want to operate with your expression, and fill out the condition as the expression form (Operator and Value).

😭 Microsoft SMS Administr	ator - [Queries]			_ & ×
A Eile Edit View Options	Tooļs <u>W</u> indow <u>H</u> elp			_ <u>= </u> = ×
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Name	Query Properties			2
All Personal Comput SMSC All Servers SMSC Computers by Last U SMSC Computers by Name SMSC	01 02 03 04 Query Name: Comment:	Low Fan Speed Fan speed is low		OK Cancel
Query Expression Propertie	s		×	Add <u>A</u> ND
Group	Class	Attribute	ок	Add <u>0</u> R
Identification	MICROSOFTIDENTIF	IP Address	Cancel	Properties
Identification	MICROSOFTIDENTIF	Enterprise		
Identification	MICROSOFTIDENTIF	NT Event Source	Help	Delete
Identification	MICROSOFTIDENTIF	Specific Trap ID		Conu
Identification	MICROSOFTIDENTIF	Time Ticks		coby
Identification	MICROSOFTIIDENTIFI	Time and Date Rec		Paste
Identification	MICROSOFTIDENTIFI	Number of Variable:		
Identification	MICROSOFTIIDENTIFI	Variable 1 Data		Group
1	- Mil-Orienterinke Briter			Group NOT
Operator: is		-		Ungroup
<u>V</u> alue: 192.072.12	6.154	•		<u>H</u> elp
Ready			1 item(s) selected of 9	

7. Press OK button in Query Expression Properties and Query Properties dialog boxes, and then the query condition is added in Query window.

<u> (</u>	Sim Microsoft SMS Administrator - [Queries]						
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	Name	ID	Architecture	Comment			
8	All Personal Comput	SMS001	Personal Computer	Finds all personal computers.			
8	All Servers	SMS002	Personal Computer	Finds personal computers with the Server			
8	Computers by Last L	SMS003	Personal Computer	Finds personal computers with the specifi			
8	Computers by Name	SMS004	Personal Computer	Finds personal computers with the specifi			
8	Computers by Opera	SMS005	Personal Computer	Finds personal computers with the specifi			
8	Computers by Proce	SMS006	Personal Computer	Finds personal computers with the specifi			
8	Computers by Syste	SMS007	Personal Computer	Finds personal computers with the specifi			
8	Computers with Nea	SMS008	Personal Computer	Finds personal computers with disk space			
8	Inactive Personal C	SMS009	Personal Computer	Finds personal computers that last scann			
*	Low Fan Speed	TTT00001	SNMP Traps	Fan speed is low			
Rea	idy			1 item(s) selecte	ed of 10		

8. Choose Execute Query from File menu.

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Fue			ot they dist in				T timo(a) antonio	d et 10
Exe	cute a quer	y again	ist the data	abase			1 item(s) selecte	

9. SMS confirms you whether the query action will be done.

S	😭 Microsoft SMS Administrator - [Queries]						
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10. The events you are interested will be queried out from SMS database.

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	Queries	1							
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		192.072.126.1	54	1.3.6.1.2.1.11.0	<u>. 7.1</u>		3	10	
		192.072.126.1	-4	1.3.6.1.2.1.11.0	.7.1		3		
		192.072.126.1	54	1.3.6.1.4.1.262	3		ь	43	
		192.072.126.1	54	1.3.6.1.4.1.262	3		ь	43	
		192.072.126.1	54	1.3.6.1.4.1.262	3		ь	43	
		192.072.126.1	54	1.3.6.1.4.1.262	3		ь	43	
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7.3 Solaris Solstice Site/SunNet/Domain Manager

In this section, we will firstly introduce how to convert our ASUS MIB to schema file that Solstice knows, and then introduce how to load the schema file into the runtime database of Site/SunNet/Domain Manager. Finally, we will introduce how to get/set the values of attributes of the SNMP agent and describe how to view the SNMP traps from Site/SunNet/Domain Manager.

7.3.1 Convert ASUS MIB to schema file

In order to use our SNMP agent characteristic, firstly you should convert our MIB to schema file that Solstice knows. Furthermore, we also prepare our schema file, so you can skip the step except that upload the schema file from our CD to the UNIX via the ASCII mode of FTP and then copy the schema file into /opt/SUNWconn/snm/agents directory.

For example, you can type as follows in command line environment.

- 1. cd /opt/SUNWconn/snm/agents
- 2. cp /(our asusmib.mib path)/asusmib.mib .
- 3. mib2schema asusmib.mib
- * If you find the schema file translated from asusmib.mib that contents of ^A (Ctrl+A) character, replace it with the space character in the entire file.

7.3.2 Load the schema file from your Domain Manager console

1. From the File menu, choose LOAD, and then choose Management Database....

P.S. If you see the following error message in the footer of Domain Manager console, and the detail error message shown in error report is **duplicate attribute name**, you can ignore it.

Load of asusmib.mib failed - see error report for details.



2. Select the file name you want to load.



7.3.3 Get/Set the values of attributes of the SNMP agent.

1. Over the target machine icon, press the right button, and choose the Set Request $\rightarrow ASUS-MIB \rightarrow systemMonitorComponent$

Set Request \rightarrow ASUS-MIB \rightarrow systemMonitorComponent.
SunNet Manager Console: 192.72.126.128
(File τ) (View τ) (Edit τ) (Props) (Requests τ) (Tools τ) (Gotor τ)
192.72.126.11322.72.126.11432.72.126.11432.72.126.11432.72.126.11532.72.127.127.127.127.127.127.127.127.127
192.72.126.11392.72.126.11392.72.126.11492.72.126.11492.72.126.11592.125.125.125.125.125.125.125.125.125.12
0
Image: Second Request. Image: Second Reques
<u>] « _] »</u> -]

2. Press the Get button on the top.

Get Set Unset Agent v ASUS-MIB Group v systemMonitorComponent Options :		SunNet Manager -	- Set - 102 72 126 182					
Agent v ASUS-MIB Group v systemMonitorComponent Sm5V 4986 Sm5VHighLimit 5750 Sm5VLowLimit 4250 Sm5VWarningH S500 Sm5VWarningLo M 4500 Sm12V 12736 Sm12VHighLimit 13800 Sm12VHighLimit 10200 Sm12VWarningH 13200 Set Information: File v Delete v	Get) (Set)	(Unset)	- 36(.192.72.120.102	الكراكر				
Agent v H363 MB Group ▼ systemMonitorComponent sm5V 4986 sm5VHighLimit 5750 sm5VLowLimit 4250 sm5VWarningHi ₱ 5500 sm5VWarningHi ₱ 5500 sm12V 12736 sm12VLimit 13800 sm12VLowLimit 10200 sm12VWarningH ₱ 13200 Set Information: File ▼								
Group ▼ systemMonitorComponent Options : sm5V 4986 sm5VHighLimit 5750 sm5VLowLimit 4250 sm5VWarningLip E 5500 sm5VWarningLo F 4500 sm12V 12736 sm12VLowLimit 13800 sm12VLowLimit 10200 sm12VWarningH F 13200 Set Information: File ▼ Delete ▼ Image: State To	Agent V HSOS Mile							
Options:	Group 🔻 syster	mMonitorComponent						
options:								
sm5V 4986 sm5VHighLimit 5750 sm5VLowLimit 4250 sm5VWarningHi 5500 sm5VWarningLo 4500 sm12V 12736 sm12VHighLimit 13800 sm12VLowLimit 10200 sm12VWarningH F 13200 sm12VWarningH F 13200	Options :							
sm5V 4986 Details sm5VHighLimit 5750 Details sm5VWarningH 5500 Details sm5VWarningLo 4500 Details sm12V 12736 Details sm12VLowLimit 13800 Details sm12VLowLimit 10200 Details sm12VWarningH 13200 Details								
sm5VHighLimit 5750 Details sm5VLowLimit 4250 Details sm5VWarningH ▷ 5500 Details sm5VWarningLo ▷ 4500 Details sm12V 12736 Details sm12VHighLimit 13800 Details sm12VLowLimit 10200 Details sm12VWarningH ▷ 13200 Details set Information: File ▼ Delete ▼	sm5V	4986		Details				
sm5VLowLimit 4250 sm5VWarningH ► 5500 sm5VWarningLo ► 4500 sm12V 12736 sm12VHighLimit 13800 sm12VLowLimit 10200 sm12VWarningH ► 13200 Set Information: File ▼ Delete ▼	sm5VHighLimit	5750		Details				
sm5VWarningHi ► 5500 sm5VWarningLo ► 4500 sm12V 12736 sm12VHighLimit 13800 sm12VLowLimit 10200 sm12VWarningH ► 13200 Set Information: File ▼ Delete ▼	sm5VLowLimit	4250		Details				
sm5VWarningLo ► 4500 sm12V 12736 sm12VHighLimit 13800 sm12VLwiLimit 10200 sm12VWarningH ► 13200 Set Information: File ▼ Delete ▼ Set Information: File ▼ Delete ▼	sm5VWarningHi 📄	5500		Details				
sm12V 12736 sm12VHighLimit 13800 sm12VLowLimit 10200 sm12VWarningH ► 13200 Set Information: File ▼ Delete ▼	sm5VWarningLo 🖻	4500		Details				
sm12VHighLimit 13800 sm12VLowLimit 10200 sm12VWarningH ► 13200 Set Information: File ▼ Delete ▼	sm12V	12736		Details				
sm12VLowLimit 10200 Details sm12VWarningH F 13200 Details Set Information: File T Delete T	sm12VHighLimit	13800		Details				
sm12VWarningH ► 13200 Details)	sm12VLowLimit	10200	·	Details				
Set Information: File Delete	sm12VWarningH 🖻	13200		Details				
	Set Information:	File v Delete v						
L								

3. Input the new value of attribute that you want to modify on the middle portion.

	SunNet Manager -	- Set: 192.72.126.182	-				
Get) Set)	(Unset)						
(Agent v) ASUS	-MIB						
Group V Syste	in Monitor Component						
Options :							
sm5V	4986		(Details)				
sm5VHighLimit	5750	5700	Details				
sm5VLowLimit	4250		Details				
sm5VWarningHi 💌	5500	·	Details				
sm5VWarningLo 🖻	4500		Details)				
sm12V	12736		Details)	-			
sm12VHighLimit	13800		(Details)				
sm12VLowLimit	10200		(Details)				
sm12VWarningH 🖻	13200		Details				
Set Information:	(File v) (Delete v)						
				-			
ASUS-MIB/systemM	IonitorComponent/sm5VHighL	imit New Value = 5700					
				-			
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í l							

4. Press the Set button and then the following message will be shown in the footer. Set request of agent **ASUS-MIB** done successfully.

	SunNet Manager –	Set: 192.72.126.182	- 🗆				
Get Set	(Unset)						
(Agent ⊽) ASUS-	-мів						
(Group =) systemMonitorComponent							
Options:			-				
sm5V	4986		(Details)				
sm5VHighLimit	5750		(Details)				
sm5VLowLimit	4250		(Details)				
sm5VWarningHi 🖻	5500		Details				
sm5VWarningLo 🖻	4500		Details)				
sm12V	12736		Details 🗨				
sm12VHighLimit	13800		Details				
sm12VLowLimit	10200		Details				
sm12VWarningH 🖻	13200		Details				
Set Information:	File v Delete v						
Set request of agent	'ASUS-MIB' done successfully.						

7.3.4 View the SNMP Trap

1. Over the target machine icon, press the left button. And then from the View menu, choose Alarm Reports....



2. Choose the trap that you want to view in detail.

-	SunN	et Manager Consc	le: Alarm Reports			
	Device:19	2.72.126.182				
Event/T	rap/Error Reports:			Total: 607		
Туре	Agent Tin	ne Stamp	Priority			
Trap	Thu	1 May 14 03:18:33	1998			
Trap	Thu	1 May 14 03:18:33	1998			
Trap	Thu	May 14 03:18:33	1998			
Trap	Thu	1 May 14 03:18:43	1998			
Trap	Thu	i May 14 03:18:43	1998			
Trap	Thu	1 May 14 03:18:43	1998	-		
	Event	Priority: 0 High, 0	Medium, O Low			
source-time=00:22:30.07 trap-type=enterprise enterprise=asus trap-no=48 trap-name=enterprise specific trap: 48 priority=low						
smFan2LowLimitAlarm=The Fan 2 (CPU1 Fan) is too Low! (Fatal) smFan2=0						
		View v) (Save)	(Print v)			

7.4 CA-TNG

Unicenter TNG addresses today's most pressing IT management challenges through a tightly integrated set of core solutions. The breadth of these management solutions and their ability to work together delivers true end-to-end management of the environment and sets Unicenter TNG apart from other enterprise management offerings. Unicenter TNG's ability to manage the entire enterprise from a business process perspective renders it the industry's only practical solution for today's unwieldy environments. In fact, Unicenter TNG is widely recognized as the standard for enterprise management.

To monitor the ASMA in CA-TNG: Step 1: Copy ASUS MIB file to \tngfw\schema\excluded

Step 2: Choose the ObjectView Schema Builder and In excluded box, please select ASUSMIB and click >> button.

🖳 CA-ObjectView Schema	3uilder	
Excluded CPQHLTH CPQHOST CPQIDA CPQIDA CPQRECOV CPQSCSI CPQSINFO CPQSINFO CPQSTSYS CPQTHRSH CPQUPS ETHER LICSW Select All Deselect	All Select All Deselect All	OK <u>H</u> elp Compile Schemas

Step 3: Click the ASUSMIB in included box and fill in the name in Model Name. Than click the RUN MOSY tab.

MIB Properties		×
MIB Information MIB Name File Date File Size	asusmib 5/8/98 9:05:02 PM	OK <u>H</u> elp
Schema Inform Schema Name File Date	ation asusmib.sch 5/14/98 2:00:24 PM	Run Mosy Edit Schema Edit Mib
File Size Model Name	ASUSMIB	Update Model

Step 4: Return to the screen of CA-ObjectView Schema Builder and click the Complier.

Step 5: Choose the ObjectView and fill in the IP address and ASUSMIB. Monitor the System Temperature from ASMA



Step 6: Monitor the value of Reboot Management System

👷 Unicenter TNG ObjectView - [Obje	ctView1]		_ 🗆 ×
📲 File View DashBoard Monitor Ob	ijectView <u>W</u> indow <u>H</u> elp		_ B ×
	<u>?</u>		
192.72.126.184 💌	ASUSMIB	-	
23 -5VLow Limit 23 -5VWarning High Limit 23 -5VWarning Low Limit 23 Fan1 23 Fan1 Low Limit 23 Fan1 Warning Low Limit 23 Fan2 23 Fan2 Low Limit 23 Fan3 Warning Low Limit 23 Fan3 Uwarning Low Limit 23 Fan3 Warning Low Limit 33 systemMonitorAlarm 3 systemMonitorARS 66 systemMonitorReboot 123 Enable 123 Now	Enable		
For Help, press F1			