



Intel Active Management Technology Use Case

Serial over LAN

Revision A

September 2006

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Introduction

Desk side visits are costly in administrator time, productivity loss for the user and in some cases require travel to off site locations. When desktop systems require remote resolution at a pre-operating system level the IT administrator is required to make that desk side visit.

This is no longer an issue when the administrator has deployed desktop systems that utilize Intel's AMT and manage them using SyAM Software.

SyAM Software has integrated extensive support for the Intel AMT management capabilities, a key feature being Serial over LAN, this enables out of console access to the AMT enabled systems even as it boots up before going into an operating system state.

Now the administrator with SyAM Software can have remote control of the system as it boots from anywhere across the network using a Web Browser. This allows corrections in BIOS setting or pre-os devices to be made remotely, saving time, reducing desk side visits and increasing productivity.

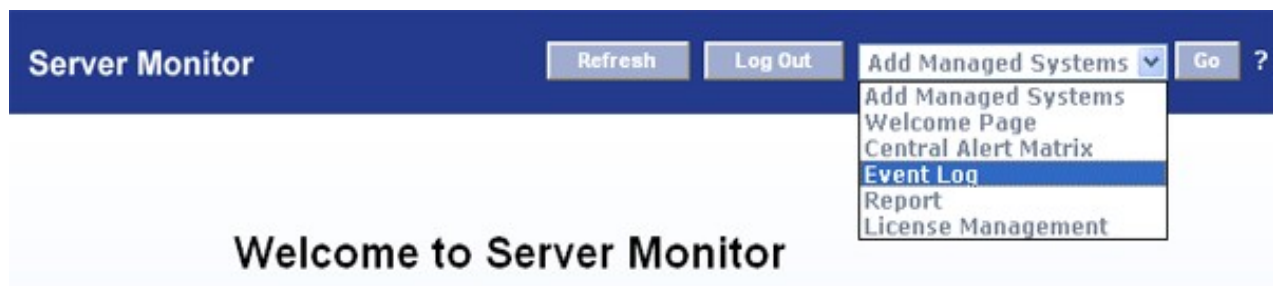
This use case provides simple instructions on how to use SyAM Software and an Intel AMT enabled system to perform this Serial Over LAN management function.

Serial over LAN

Serial over LAN (SOL) enables an IT administrator to remotely reboot a system allowing them to repair it. When a user reboots with SOL enabled, the SOL session is presented in the user's browser allowing them to have full keyboard functionality with the rebooting system.

For example, a customer's Intel AMT system is rebooting from a CD which which had been left in the machine. After leaving a CD in any managed system for 8 hours, a hardware notification event will occur and is sent out to the specified addresses in the alert matrix and the event will be logged in the event log for reference.

Once the technician has been alerted to the event, he can log into the SMC and search for the event in the event log for further detail.



In the event log, you can sort by date, IP address, event number, machine type or event type to easily locate events. In the example below, the technician sorted by the event type since he was alerted to a storage event, and then he sorted by IP address. After clicking on an event you can view a detailed description of it. In this case, it explains that a removable device has been present in the system for 8 hours.

The screenshot shows an 'Event Log' window with a table of events and a 'Details' pane below it.

Event Number	Date	Event Type	IP Address	Machine Name
814	Mon Sep 25 18:23:10 EDT 2006	Storage Events	10.10.200.69	D945GCZ-22
784	Mon Sep 25 08:23:04 EDT 2006	Storage Events	10.10.200.69	D945GCZ-22

The 'Details' pane shows the following text: 'D945GCZ-22 (10.10.200.69) Mon Sep 25 18:23:10 EDT 2006: Removable device [D:] has been present for 8 hours'.

Below the details pane is the 'Event Log Filtering Options' section, which includes:

- Event Number: [] ~ []
- Machine Name: []
- Event Type: Storage Events (dropdown)
- IP Address: 10.10.200.69

At the bottom of the filtering options are three buttons: 'Retrieve', 'Delete Events', and 'Export Events'.

Next, the technician can find the system on the Central Management tree which is now in an amber color due to the alert. After clicking on the system you can see that there is an amber bar below the storage icon indicating the alert came from that area on the machine.



After clicking on the icon to go to the Storage screen, you can easily see the amber coloring on the D drive of the system. This confirms the disk is still located in the machine.

System Hardware Network **Storage** Software

Storage Details

Logical Disks

Name	Type	Total Size	Free Space	Space Used	Utilization
(A:)		0 MB	0 MB	0 MB	0%
(B:)		0 MB	0 MB	0 MB	0%
(C:)	NTFS	14.65 GB	10.61 GB	4.03 GB	27%
(D:) WXPVOL EN	CDFS	488 MB	0 MB	488 MB	100%

Physical Disks

Device ID	Device Information	SCSI ID	Bus	Port	Logical Unit	Size
\\.\PHYSICALDRIVE0	ST3802110A (#5LR21B9N)	0	0	2	0	74.53 GB

Controllers

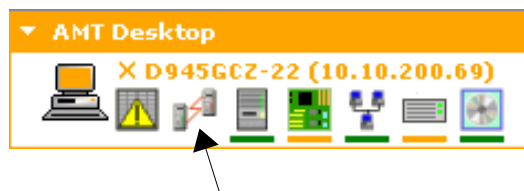
Manufacturer	Description
(Standard IDE ATA/ATAPI controllers)	Standard Dual Channel PCI IDE Controller
(Standard IDE ATA/ATAPI controllers)	Primary IDE Channel
(Standard IDE ATA/ATAPI controllers)	Secondary IDE Channel
Intel	Intel(R) 82801G (ICH7 Family) Ultra ATA Storage Controllers - 2

Removable Devices

Name	Description
Intel Virtual CD	Intel Virtual CD
ATAPI 48X CDROM	ATAPI 48X CDROM

Since the technician is not near the site to remove the CD, he will need to resolve the issue remotely by changing the boot order in the BIOS configuration.

First will need to go into the Remote Management section of that particular system by clicking on the remote management icon.



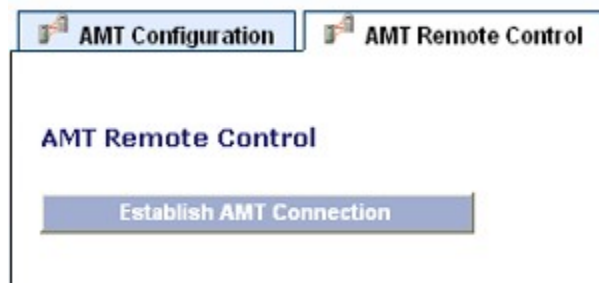
Here you will again notice that the system is in a degraded health state. Next click on the AMT tab.

The screenshot shows a web interface with two tabs: "System State" and "AMT". The "AMT" tab is active. Under "System State", there is a section for "Shutdown / Restart" with a "Current system state" of "Degraded". Below this are "Shutdown" and "Restart" buttons. The "Wake on LAN" section includes input fields for "IP Address" (10.10.200.69), "Subnet Mask" (255.0.0.0), and "MAC Address" (00 - 13 - 20 - E9 - 9F - A0), along with a "Wake System" button. The "Remote Console" section shows a "Current State" of "Stopped" and buttons for "Enable", "Disable", and "Launch Console".

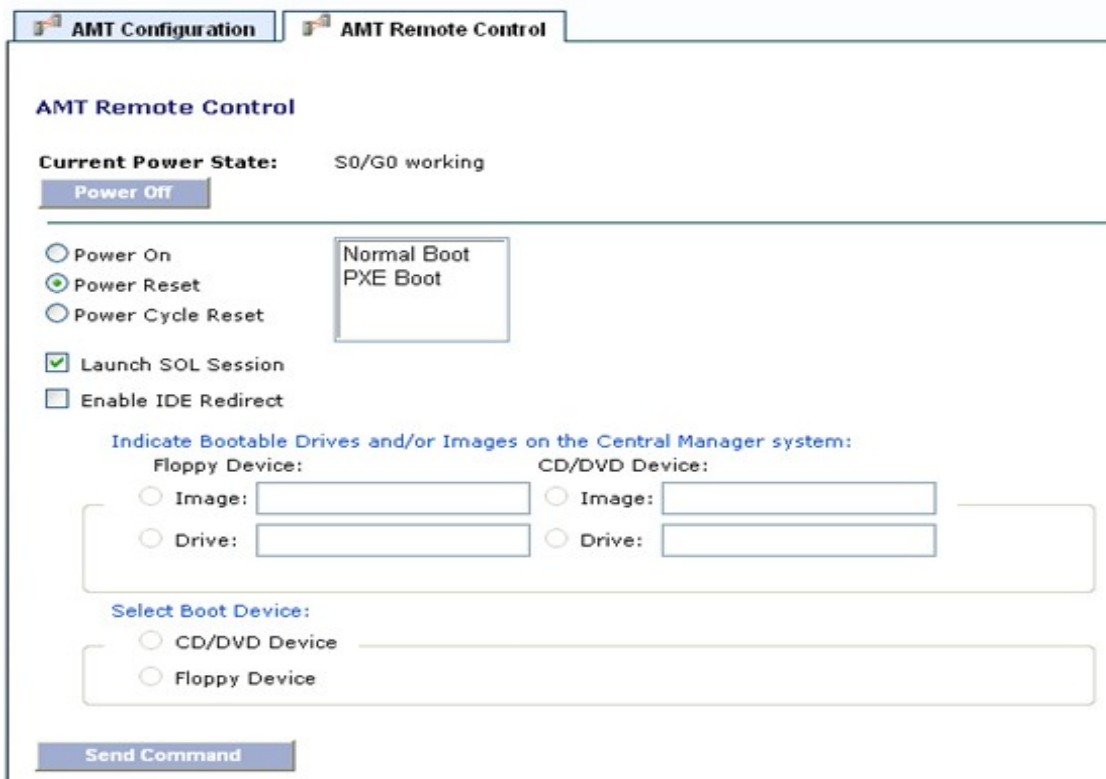
Next under the AMT Configuration tab, the technician must type in the AMT Hostname/IP Address, username and password of the system he is going to fix and click on apply.

The screenshot shows the "AMT Configuration" tab. Under "AMT Connection Information", there are three input fields: "Hostname / IP Address" (192.168.100.223), "Username" (admin), and "Password" (represented by dots). Below these fields are "Apply" and "Launch AMT Console" buttons.

Then under the AMT Remote Control tab click 'Establish AMT Connection' which will connect him to the AMT system.



Once logged into the remote console screen, the technician can create a SOL session on the AMT system by clicking in 'power reset', then clicking in the 'Launch SOL Session' box, and then clicking on 'Send Command'.

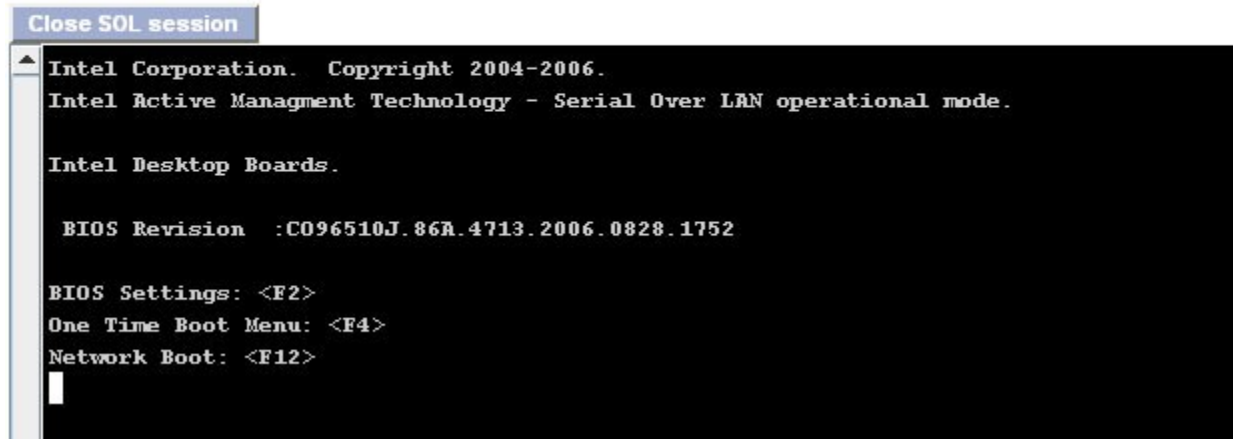


Once the SOL Session is created, the black boot up screen will appear and then enter the key to go into the system's Bios.

Press the key to go into BIOS settings, in this example you press the F2 key.

AMT Remote Control

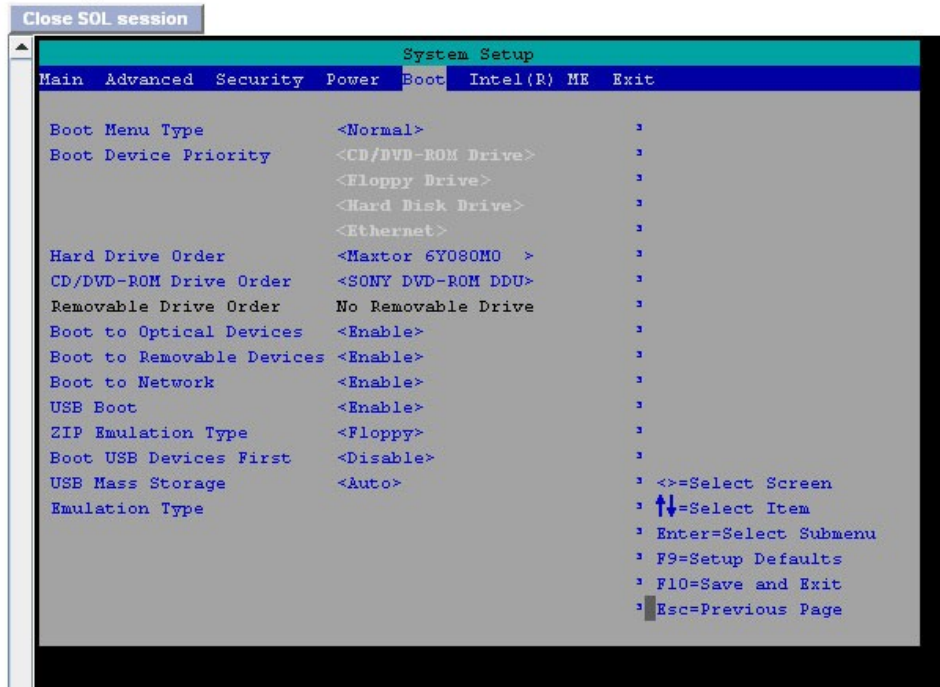
You may need to click on the SOL screen to ensure it is the active window.



Once in the system's Bios you can reconfigure the Boot Order settings to your specifications, such as having the hard drive boot before the CD ROM.

AMT Remote Control

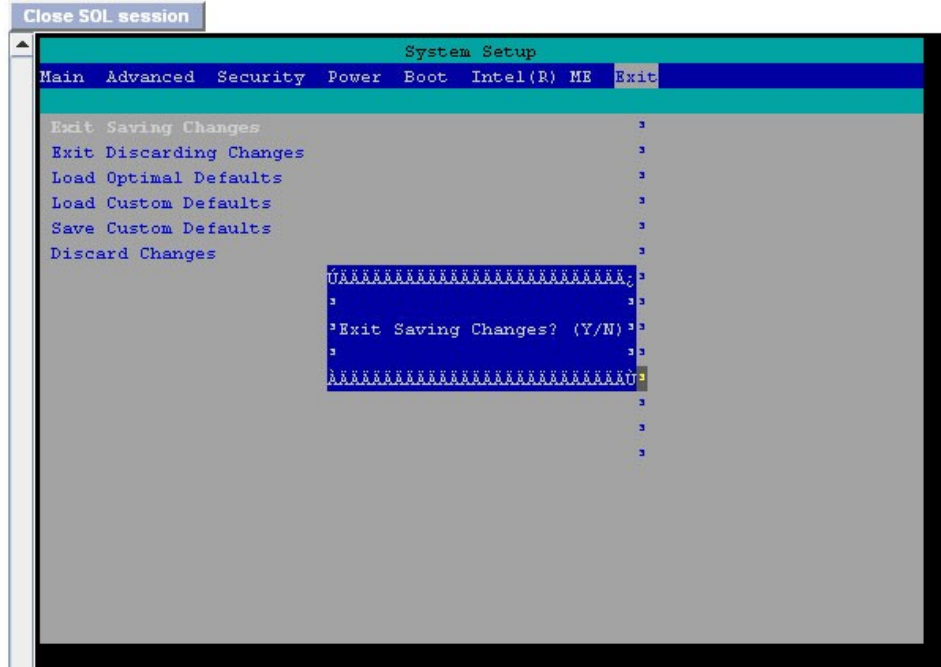
You may need to click on the SOL screen to ensure it is the active window.



Once you have made your changes, save the new BIOS settings. The system will now reboot and you must close the SOL session by clicking on the Close SOL Session button.

AMT Remote Control

You may need to click on the SOL screen to ensure it is the active window.



By utilizing SyAM Software on Intel AMT enabled platforms, IT administrators can access the system remotely to fix an issue which will dramatically limit the number of desk side visits.