

Altiris: Now Part of Symantec

Use Cases: Remote Diagnostics and Repair

White Paper

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ABOUT ALTIRIS

Altiris, Inc. is a pioneer of IT lifecycle management software that allows IT organizations to easily manage desktops, notebooks, thin clients, handhelds, industry-standard servers, and heterogeneous software including Windows, Linux, and UNIX. Altiris automates and simplifies IT projects throughout the life of an asset to reduce the cost and complexity of management. Altiris client and mobile, server, and asset management solutions natively integrate via a common Web-based console and repository. For more information, visit www.altiris.com.

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INTRODUCTION

This document presents use cases for remote remediation and shows how Intel® Active Management Technology (Intel® AMT) and the Altiris Agent work together to improve help desk efficiency by reducing the number of desk side visits. The audience for this document includes IT professionals, help desk personnel, and service providers.

Remote diagnostics and repair

This document explains how remote repair and diagnostics work in PCs with Intel® Core™2 processor with vPro™ technology (PCs with Intel® vPro™ technology), with the Altiris Agent. Remote remediation can be done in both in-band and Out of Band Management (OOBM).

Overview of remote diagnostics and repair

Remote diagnostics and repair are focused on the following:

- Remotely boot, troubleshoot, repair, and restore PCs – regardless of the power state (except for wireless) or operating system condition.
- Remotely boot a down system from a good image on an IT management drive, so that the Altiris agent can be used.
- Reduce costs by remotely repairing PCs.
- Prepare technicians for desk side visits by remotely accessing system configuration information, even if the operating system is down, so that technicians can be dispatched with the correct parts on the first visit.

Remote remediation can be done for one or multiple systems. This process is controlled by sending remediation tasks to a collection using the RTCI (Real-Time Console Infrastructure) in combination with the Task Server.

Serial Over LAN (SoL)

Serial over LAN (SOL) is used for remote remediation. It provides the ability to remotely view text mode or a console real-time while it is in text mode, before and after the POST of the operating system. Presently, it is limited to text only and does not support graphical characters, but it does allow for remote BIOS entry/modification over the network without requiring a desk side visit.

Integrated Drive Electronics-Redirection (IDE-R)

IDE-R provides the ability to remotely boot a managed system into an operating system image stored on the network (or on a CD or other device). This is extremely useful for remote debugging down systems. IT creates the following types of images that can be used for remediation purposes:

- Recovery images – ‘toolkit’ of utilities to resolve common problems/issues
- Rebuild images – remotely rebuild a system with a ‘fresh’ operating system install.

- Temporary ‘work’ images – Streamlined image that provides web browser, application software, etc. It can be used to provide temporary access for a crashed system (to be repaired after hours).
- Ad-hoc grids – Where applicable, an image to perform a specific dedicated task (batch processing), typically used against many systems at once after hours.

IDE-Redirection enables the use of different boot devices by overriding the BIOS boot order settings. These boot devices are defined in Table 1.

Table 1: Boot devices that can be used with remote remediation

Boot Device	Definition
CD image	An IMG file on the network, whose location is specified by its UNC path.
Floppy image	An ISO image file on the network whose location is specified by its UNC path.
A:	The A: drive on the machine running your management console. A bootable disk is required.
D:	The D: drive on the machine running your management console. A bootable disk is required.
Client optical drive	The optical disk drive on the target client. A bootable disk is required.
Client hard drive	The hard drive on the target client. No access/control of partitions or MBR
Client PXE boot	PXE-boot target client. Requires PXE server

View a sample scenario at

<http://www.youtube.com/watch?v=KkJlp7pCACs>

In Figure 1, the redirection options in Real-Time System Manager allow the user to choose from the boot device, whether from a CD image, One Time PXE boot, Client Optical, Server Optical, floppy or image.

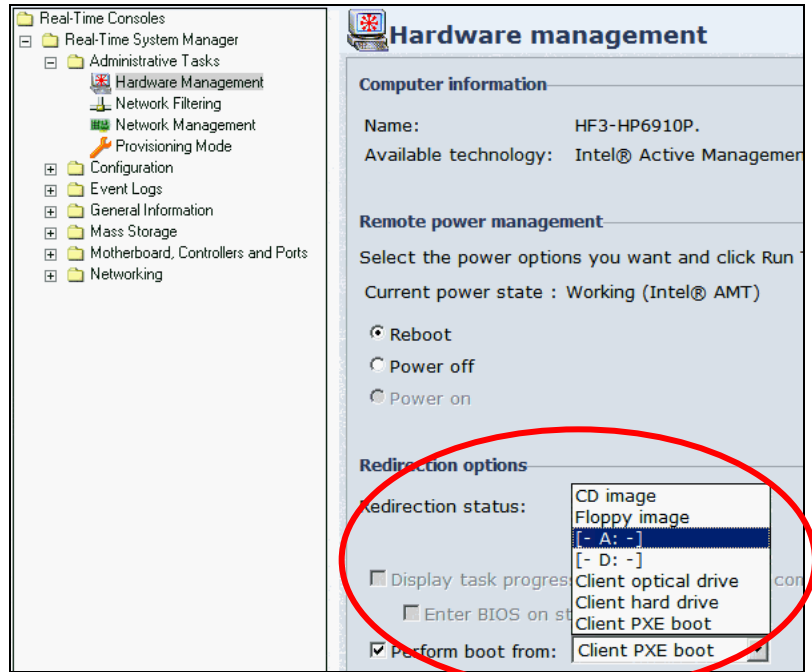


Figure 1: Real-Time System Manager 1:1 example

In Figure 2, the Altiris Task Server is used to boot a collection of systems using IDE-Redirection. IDE-Redirection does have limits on number of simultaneous sessions. Also – a reduced set of options are listed since the expectation is one to many.

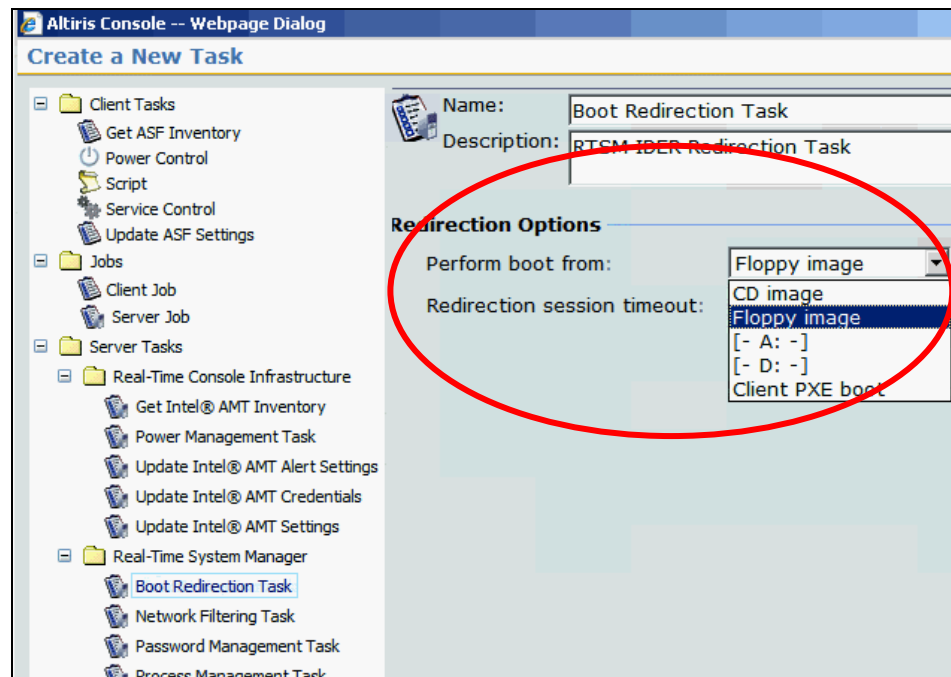


Figure 2: Altiris Task Server One to many Remediations

Remote Remediation in use

As a tool, IDE-R is the most flexible of all the vPro technologies. It is limited in many cases to the user base and what they would like to automate across the wire. Given a problem scenario, there can be ways to automate a fix or do one to one management without ever relying upon a functioning client operating system. Listed below are some potential use cases:

- Make a BIOS change in the client
- Use Serial over LAN (SOL) to watch the computer post
- Make temporary boot order adjustment
- Use a Custom ISO
 - Recovery Disk
 - Drive Defrag
 - Low-level Virus Scan
 - Create your own

Make a BIOS change in the client

Making a BIOS change to a client commonly requires a desk side visit. Although a BIOS change may be a rare item to encounter, when it does happen it is capable of becoming an expensive fix. With vPro-enabled technology, you can reboot the client directly into the BIOS and make the changes remotely with Serial over LAN (SOL).

Use SOL to watch the computer post

Serial over LAN is a unique tool within vPro-enabled hardware that allows you to watch what is happening on the client at boot time. Commonly a person may have a failed IDE device, but not realize that is the root of the problem. Through vPro and reboot of the client, the boot process can be observed from the console and an error such as a failed device can be detected remotely. Short of a KVM, the only way to verify a situation such as this may require a desk side visit.

Make temporary boot order adjustment

There are times when an administrator needs to trigger a different boot order than what is currently configured on the client. Both permanent and temporary boot order changes can be made through vPro and the Altiris Management Console.

Suppose the administrator wants to trigger a network boot to PXE (Pre-Execution Environment), but does not want that to be the first boot option permanently. Through the Altiris Management Console, they can select

PXE as the option, trigger a reboot and the client will now boot from the LAN for that one boot time.

Use a Custom ISO

An administrator may have a custom disk to which he or she wishes to boot the client. Through vPro and the Altiris Console you can tell the client to boot from either a CD placed in the Altiris Server or from an ISO on the network. By far, this will have tremendous power for the administrator because it is only limited to what an admin can create for a boot disk and let it perform its task. For example, Symantec's Backup Executive System Recovery product has a recovery disk that allows many common tasks for an administrator from mapping a network drive, moving files to and from the client, loading a graphical interface through PCAnywhere thin client, and initiate a full recovery for a BESR snapshot.

A custom boot option can also be used to defragment a drive out of band or perform a low-level virus scan. Some of the customization is best done on a one to one basis for management, but you can also use some of these ISOs with Task Server to send over the wire for a large environment. Ultimately, the customization is up to the admin, but as you can see there is tremendous power and value to be able to trigger a boot for a client with a unique custom operating system.