

ALTIRIS PARTNERING WITH DELL FOR SERVER UPDATE MANAGEMENT

A White Paper Prepared for Altiris and Dell
March 2005



ENTERPRISE MANAGEMENT
ASSOCIATES



Altiris Partnering with Dell for Server Update Management

EXECUTIVE SUMMARY

Server management continues to be a complex, time consuming and daunting task, even more so in distributed enterprise environments. While manufacturers' have been providing basic tools for years they still have not solved the problem of fully automating the update process required to maintain their servers at optimum levels because of the time, labor and possible errors than could occur. Most enterprises' follow the edict of "if it ain't broke..." which inevitably raises vulnerability risks.

Altiris Corporation has offered server management software specifically for Dell servers called the *Management Suite for Dell Servers* for quite some time. This module incorporates management code from Dell into the Altiris architecture, providing a management environment for Dell blades, racks, and towers. A newly announced partnership initiative between Dell and Altiris enhances the hardware management capabilities for Dell Servers by adding a new product that can be integrated into the Management Suite for Dell Servers or act in unison with other Altiris suites. The new product is called *Patch Management Solution for Dell Servers*.

All hardware in any given server also has some software code written for it in order to make it perform its functions. Sometimes this software is called *firmware* because it is actually written directly to a hardware device. Other times software is needed to rally all the hardware components together into one intact system, or to act as a device driver for a particular piece of hardware. Administrators with the new Patch Management Solution for Dell Servers product can now perform software updates to their Dell server hardware even after the Operating System (OS) has been installed. Potential software updates to a server's hardware include the Basic Input Output System (BIOS), device drivers, and firmware (for peripherals such as Redundant Array of Inexpensive Disk [RAID] controllers and Dell Remote Access Cards [DRAC]).

The Management Suite for Dell Servers enables administrators to perform bare-metal hardware configurations, and run scripted installations of Windows and Linux on Dell server gear. Additionally, Altiris software allows one-to-many patching for Windows and Linux environments, as well as role and scope-based security. Prior to development of the new Patch Management Solution for Dell Servers product, the Management Suite for Dell Servers could not inventory, evaluate or update the servers' BIOS, drivers or firmware once the OS was installed. This resulted in post-OS upgrades to the hardware firmware having to be done manually—a time-consuming and complex task.

The Altiris/Dell joint effort is complementary to Dell's Scalable Enterprise model, allowing for more centralized and granular control of Dell servers, and the firmware and software loaded on them, throughout the product lifecycle—all through the Altiris management console.

INTRODUCTION

In today's rapid-paced IT environment, system administrators require tools equipping them to do their jobs with efficiency and ease. Integration of server management tools is a key element, enabling administrators to manage large numbers of servers. Using the same user interface, administrators should be able to manage their server hardware, OS, and installed software throughout the product life cycle. For some time, Altiris suite of server management tools has included a Management Suite for Dell Servers module. This module incorporates Dell's own server management code into the Altiris architecture



TABLE OF CONTENTS

- 1 Executive Summary
- 1 Introduction
- 2 The Dell-Altiris Solution
 - 2 The Dell Side of the Equation
 - 3 Altiris Participation
- 4 Methodology
 - 4 Alerting
 - 4 Installing
- 5 Beta Test Stories
- 5 EMA's Perspective
- 6 Corporate Bios



for the purpose of enhancing server management capabilities. For example, the *Management Suite for Dell Servers* is used to upgrade a brand new server's firmware, install the OS and applications, and begin monitoring the server—all from the Altiris console.

However, despite all of the capabilities described above, administrators with the Altiris module for managing Dell servers have not been able to easily patch a server's BIOS, device drivers or firmware *after* the server OS has been installed. Once the OS is installed on the servers, administrators must manually visit each server in order to update the server hardware's firmware, BIOS and/or device drivers or use some other management method.

A device's TCO can be significantly improved by patching its firmware: eliminating known issues, increasing security, improving server performance, and adding support for new elements in the form of new software or support for new standards.

However, due to the current complexity and time-consuming nature of such a task, it is highly probable updates are simply not installed unless there is a compelling reason to do so.

THE DELL-ALTIRIS SOLUTION

Altiris and Dell's new partnership arrangement combines Dell's strength of hardware-level management with Altiris software management solutions into a seamless solution for centralized server management. This combination of hardware and software management spans from basic hardware-level firmware updates to bare metal OS installs, through the server life cycle. Prior to this Dell and Altiris integration, multiple tools and consoles were required to manage the server hardware and software. The integration of these two solutions reduces the complexity and cost of managing Dell servers by combining Dell's server hardware management code with Altiris software management capabilities into the Altiris console.

The Dell servers in a given enterprise's server inventory might range in number from a handful to tens of thousands. Bringing congruity to the server inventory through routine hardware maintenance patching can be

a complex, and time-consuming task, especially when the task must be done manually. Consider, for example, updating the BIOS on a thousand Dell servers from version A02—the BIOS version originally shipping with the servers—to A06. Without automated management capabilities, this task represents a complex project requiring many hours of at least one administrator's time to complete, not to mention the additional cost of travel for highly dispersed environments. Faced with such an issue and its associated cost, technical managers may be tempted to say "if it isn't broken, don't fix it."

The Altiris Management Suite for Dell Servers has already solved this problem from the *pre-OS* perspective. With this tool, Altiris Corporation has provided systems administrators with the ability to update their Dell servers' BIOS, firmware and device drivers *before* installing the OS. Administrators can patch their server hardware, deploy the OS and then install commonly known applications.

However, apart from monitoring—in the form of Simple Network Management Protocol (SNMP) traps and other alerting mechanisms—the Altiris management suite has not included automated *post-OS* upgrade support for server hardware. The new Altiris/Dell venture is unique because the new Patch Management Solution for Dell Servers, when combined with Altiris Patch for Windows, allows the user to perform updating of Dell servers' BIOS, firmware and drivers, as well as operating system and application software updates, all from the Altiris console.

In considering the overall impact of this Dell/Altiris initiative, it is important to understand how each vendor benefits from the arrangement. We will begin with Dell then talk about Altiris.

The Dell Side of the Equation

Dell's goal is to simplify server operations by embedding standardized, high-quality systems management tools in their products for information and control—a goal they enable through their OpenManage architecture. Further, the company seeks to improve server utilization and to drive down the Total Cost of Ownership (TCO) by providing IT stakeholders the tools to consolidate where appropriate. Dell also sees efficient



Altiris Partnering with Dell for Server Update Management

cies in cost-effectively scaling the server inventory with just-in-time resource allocation (*provisioning*) and capacity management. Dell sees these management elements as a strategic approach to server management: they call the approach *The Scalable Enterprise*.

In its commitment to protect its customers' investments through interoperability, Dell is focused on standards-based server management. Dell servers currently support Intel's Intelligent Platform Management Interface (IPMI) specification as well as the SNMP and Pre-boot Execution Environment (PXE) protocols. Dell is heavily involved with the Distributed Management Task Force's (DMTF) Server Management Working Group (SMWG) in the development and standardization of the Common Information Management Object Model (CIMOM) profiles for server hardware. Dell is also involved in Microsoft's implementation of the DMTF standards, dubbed Windows Management Instrumentation (WMI), as well as Intel's Extensible Firmware Interface (EFI) specification, and the Storage Networking Industry Association's (SNIA) Storage Management Initiative Specification (SMI-S).

Dell has strong partner relationships with a variety of well-known companies. Altiris is one of these partners and represents a key strategic alliance for the implementation of Dell server management technologies

Altiris Participation

Altiris is a known player in the server software management market. The company shares Dell's commitment to standards-based, open integration platforms and is dedicated to the Information Technology Infrastructure Library (ITIL) operations management standards. IT leaders interested in bringing their software development shops into higher levels of the Capability Maturity Model for Software (SW-CMM) may be interested in the Altiris method of uniformly deploying software packages created with the industry-leading packaging tool—Wise Packaging Studio from Altiris—to groups of computers. Automated package delivery using a deployment tool from Altiris addresses the notion of uniform, consistent software delivery and configuration management.

Additionally, Altiris offers an extensible modularized architecture, allowing for IT personnel to add additional management capabilities as required. Altiris packages its product offerings into *management suites*. For example, there are the *Asset Management*, *Client Management*, and *Server Management* suites, each comprised of several products (see the Server Management Suite example Figure 1).



Figure 1 – Altiris Server Management Suite Solutions Pyramid

Additionally, there are specialized suites such as *Compliance Suite*, among others.

Further, Altiris has denoted various levels of a given management paradigm. As you can see from Figure 1, Level 3 management provides basic services, Level 2 adds a little more functionality and Level 1 brings very granular management capabilities to the table. Pricing varies according to the type of management desired. The Management Suite for Dell Servers includes pre-OS hardware updating, OS and application software provisioning capabilities, monitoring, role and scope-based security management, and one-to-many patching capabilities for Linux and Windows servers.

The Management Suite for Dell Servers also includes pre-built scripts for deploying common applications such as Microsoft SQL Server, Apache and Dell's OpenManage Server Administrator (OMSA), among others. Administrators currently using the suite can also proactively monitor key hardware events on their Dell



servers, and can launch the OMSA application from within the Altiris console. Thermal, voltage or other environmental events can be sent to the administrator through the Altiris console or by email.

The new Patch Management Solution for Dell Servers product is made available in a variety of ways:

- As an individual solution able to be plugged into Altiris' *Notification Server*
- As part of the Management Suite for Dell Servers (which also contains *Deployment Solution for Dell Servers* and *Monitor Solution for Dell Servers*)
- Free to purchasers of the Server Management Suite

While product suites may at first seem daunting, once understood, it provides decision-makers with the flexibility in choosing the suites and combinations of products right for their enterprise.

In predominantly-Dell environments, a technical decision-maker might procure the Management Suite for Dell Servers for the server inventory, and consider adding on the *Asset* and *Client* management suites. Decision-makers in shops with a lot of Personal Digital Assistant (PDA) devices might also consider the *Handheld* suite. For a customer-care environment, Altiris also has a Help-desk solution.

Let's now turn to the question: How does the alerting and patching relationship in a post-OS environment operate? Note the operations described below are already available for pre-OS firmware updating through the Management Suite for Dell Servers.

METHODOLOGY

It is interesting to consider the plan Dell and Altiris have designed for alerting systems administrators about new Dell hardware updates to deploy. In this process, there are two primary operations: Alerting and Installing.

Alerting

The Dell catalog of product offerings and the various system sets are downloaded once a quarter (more often for important updates) to the Altiris system. The suite of product offerings is an important element because an enterprise could potentially have a wide variety of old

and new deployed Dell systems. The system sets represent known Dell hardware combinations. A PowerEdge 2650, for example, has a variety of available hardware configuration choices associated with it. (Those interested can simply visit Dell's web site at www.dell.com to try configuring a server using the online configurator for an illustration of the point.)

Altiris systems administrators are notified through the Altiris console when new catalog information is available. Administrators are notified about the availability of various version levels and the patched or upgraded elements contained within a new version level. (See Figure 2)

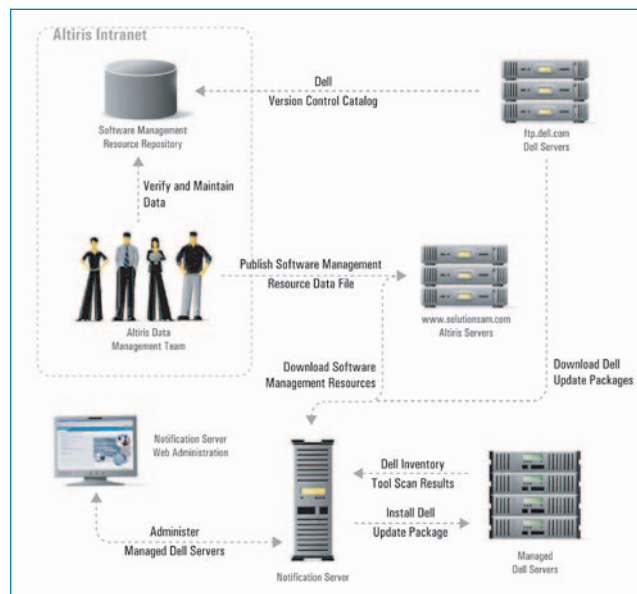


Figure 2 – The Alerting/Installing process

Installing

First a comparison operation is undertaken. The comparison capability is a very interesting one. The Patch Management Solution for Dell Servers allows an administrator to compare the inventory results—BIOS, firmware, and driver versions on the servers—to a list of the most current versions for those servers. Administrators know whether they need to push out new updates or not. It enables targeted updating versus just pushing out patches on an ad-hoc basis—proactive rather than reactive administration.



Altiris Partnering with Dell for Server Update Management

Previously there was no way to see if the server was compliant across the entire software stack. This meant even though administrators patched the OS and thought they had patched security holes, an old outdated BIOS version *still* meant a security hole could exist.

After comparing the IT department's deployed fleet of Dell servers to the recommended BIOS, driver and firmware revision levels, package bundles including the recommended updates are made available to the administrator. Administrators interested in updating only a few servers can run a check on selected devices to validate for compliance, and then request the appropriate package downloads.

It is also possible for packages to be sent to an internal test lab for regression testing prior to updating the production servers. Update packages can be applied to individual servers or groups of servers. With scheduling and bandwidth throttling features available in the Altiris product, deployment can occur during off-hours when network use is minimal. Altiris Notification Server (a required but free component shipping with the Management Suite for Dell Servers) sends alerts to administrators regarding the status of package deployment efforts.

BETA TEST STORIES

The following stories readily demonstrate the significance of the problem administrators face when the need arises to update multiple servers. The product has been through an extensive customer beta test cycle, and several interesting ideas about routine patching of server hardware have filtered out of the beta customers' situations and their subsequent reports:

- One customer currently has about 85 servers. Their goal is to update these servers on a 6-month maintenance window. In order to perform this task, it takes one administrator 2 days to fully update only 4 to 6 servers. Given optimistic expectations everything will go smoothly and barring the administrator is not pulled away for other duties, the customer can expect to have all servers updated in a little over a 14-day timeline. This is far too much time for an administrator to be unavailable.

- One customer with about 80 servers only performs server updates when there is a problem necessitating the application of a patch. This "waiting for a disaster" method of reactively patching servers is not the best operations management technique—it is probably the most popular method.
- One energetic customer actually custom-developed scripts to make mass hardware updating practical. Figures were not given for the amount of time required to develop scripting of this nature, but it is feasible to infer the time required to develop the scripts was substantial and they must be routinely customized for new patch releases.
- One customer has over 1000 servers. They developed a hodge-podge system for semi-annually updating their server hardware, using a collection of various tools and custom scripts. The customer believes they invest 2000 hours (50 person-weeks) for this project every 6 months.
- Many customers see routine proactive hardware updating as a part of their broader security strategy because drivers and firmware are not immune to vulnerabilities.

EMA'S PERSPECTIVE

There are so many high-quality and competitive players in the hardware server market, profit margins are substantially narrowed. Because of this, hardware vendors must find innovative ways to effectively compete and differentiate their products. EMA believes the key differentiator in this market is the sophistication of management capabilities a vendor can provide as compared with their competition. Dell's partnership with Altiris to integrate Dell's post-OS management code into Altiris' suite builds on Dell's commitment to systems management technologies and puts them ahead of their chief competitors – HP and IBM. Because of Dell's broad customer base, Altiris gains a strong partner, broader recognition in the industry, and expanded awareness of Altiris' products on the part of IT technologists.

From a technical perspective, this new initiative completes Altiris' efforts for managing Dell servers, by

Altiris Partnering with Dell for Server Update Management



offering systems administrators with granular management capabilities. Most software vendors competing in the management space are keenly aware of IT's desire for a *Single Pane of Glass* management viewpoint of their enterprise. By bringing the management of server hardware and software into an integrated Altiris console, systems administrators with Dell servers in their environments have gained deeper Dell hardware-specific lifecycle management of their Dell servers.

innovative, tailored systems that provide customers with exceptional value. Company revenue for the past year was \$49.2 billion. For more information about Dell and its products and services, visit www.dell.com.

CORPORATE BIOS

About Altiris: Altiris, Inc. (NASDAQ: ATRS) 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.

About Dell: Dell, Inc. (NASDAQ: DELL) is a trusted and diversified information-technology supplier and partner, and sells a comprehensive portfolio of products and services directly to customers worldwide. Dell, recognized by Fortune magazine as America's most admired company and No. 3 globally, designs, builds and delivers

About Enterprise Management Associates, Inc.

Enterprise Management Associates, Inc. is the fastest growing analyst firm focused on the management software and services market. EMA brings strategic insights to both vendors and IT professionals seeking to leverage areas of growth across e-business, network, systems and application management. Enterprise Management's vision and insights draw from its ongoing research and the perspectives of an experienced team with diverse, real-world backgrounds in the IT, service provider, ISV and publishing communities.

This report in whole or in part may not be duplicated, reproduced, stored in a retrieval system or retransmitted without prior written permission of Enterprise Management Associates, Inc. All opinions and estimates herein constitute our judgment as of this date and are subject to change without notice. Product names mentioned herein may be trademarks and/or registered trademarks of their respective companies. © 2005 Enterprise Management Associates, Inc. All Rights Reserved. 2000_0903 04222005

Corporate Headquarters:
2585 Central Avenue, Suite 100
Boulder, CO 80301
Phone: 303.543.9500
Fax: 303.543.7687
Email: info@enterprisemanagement.com
Web: www.enterprisemanagement.com



ENTERPRISE MANAGEMENT
ASSOCIATES