

Altiris Paves the Way for the Virtual Desktop

Abstract

In late November of 2005, Altiris will release a new product, Altiris Software Virtualization Solution 2.0 (SVS) that enables organizations to deploy and manage desktop applications in an entirely new way. Using a patent-pending technology, Altiris deploys software via a layering technique that provides each installed application with its own protected environment, ending forever the registry and system file clashes that are a constant source of aggravation with traditional Windows setups. Further, this virtual technology gives administrators the capability to instantly activate, deactivate or reset applications without touching the PC or altering the base Windows installation.

SVS can be deployed using the Altiris Notification Server or Deployment Solution and by products from other vendors including Microsoft's SMS, LANDesk, and other similar tools. Application Program Interface (API), Windows Management Instrumentation (WMI) and command-line interfaces are supported, insuring that SVS client-side activities can be managed by most desktop management products. The November, 2005 release will focus on applications, while a later release in the first half of 2006 will add virtualization of Operating System (OS) updates, enabling nearly instantaneous deployment of patches and security fixes.

Virtual provisioning technology has the potential to revolutionize the Windows installation process by making traditional setup obsolete for most software packages. One outcome of this will likely be a drastic decrease in administrative overhead required for provisioning and managing Windows environments. As software licensing strategies evolve and on-demand computing becomes increasingly pervasive, there may be implications for cost cutting in these two areas as well. Early reports from Beta customers indicate a high degree of satisfaction with the product.

Issues

Desktop provisioning has been vastly simplified over the past few years because of the maturing of tools enabling large-scale imaging and centralized software deployment. However, software management is still a significant administrative undertaking that can be very expensive and

risky if software packages are not thoroughly tested in the environments where they will be installed. Administrative costs are a significant piece of the total cost of ownership for Windows-based personal computers (PC's), and to date, even though provisioning tools have continued to improve, the sheer scale of Windows enterprises keeps administrators busy and administration costs difficult to contain.

Provisioning the desktop is only the beginning. Installation and upgrading of desktop applications, deployment of new applications, and testing new products for conflicts with existing products (integration testing) is an ongoing cycle. Medium to large organizations typically employ full time staff just to maintain their Windows installations.

One reason why testing is such a big issue is because of a Windows design decision in which key files required for applications to run are installed to the Windows registry. "DLL Hell" is a rather colorful colloquialism used to describe what happens when different software packages require different versions of the same system file, called a Dynamic Link Library (DLL) file. When Package A is installed, everything works fine. When Package B is installed, the original DLL is overwritten with a new one. The result is that Package B works fine, while Package A no longer functions, because a file it needs to execute has been overwritten by a version different from the one it requires. This ill effect can be mitigated by thorough integration testing prior to roll out. However, integration testing can be extremely time consuming and resource intensive, especially in organizations where numerous software packages, potentially hundreds, are installed to a single desktop.

Context

Altiris was one of the first companies to introduce desktop provisioning product sets into the marketplace. Founded in 1998, its goal was to develop products that simplify management of the Information Technology (IT) lifecycle. Via acquisitions and development, Altiris has added web-based Windows management, data recovery and restoration, IT lifecycle management, network device management, configuration management, and asset management products to its offerings. While many other vendors concentrated on product offerings that encompassed a wide range of functionality and were complex to deploy, Altiris' approach has been to develop simple, modular tools that

enable organizations to purchase, install and use only that functionality they require.

Altiris is now introducing a totally new way to deploy and manage desktop applications that complements its existing Altiris Software Delivery Solution. Based on patent-pending core technology (internally called “Fortress”) Altiris’ new Software Virtual Solution 2.0 provides a way to vastly simplify deployment and administration of desktop applications.

Leveraging the Altiris Extensible Management Architecture, SVS deploys applications and data in managed units called Virtual Software Packages (VSPs). These packages are not installed to the desktop like traditional software applications; instead, they are installed in virtual layers, each of which exists in its own isolated portion of the file system. As the application runs, these virtual layers sit above the desktop. The user sees a normal desktop and applications look and act normally. Virtual files and registry keys are functionally correct, though they are not physically installed to the Windows hierarchy. Since each software package runs in its own layer, new software installations never interfere with existing ones, multiple versions of the same software can coexist on the same desktop, and integration testing is virtually eliminated. Deployment of applications is almost instantaneous, as is removal.

Installation of VSPs requires no user system rights and no reboot. Services spin up automatically when the application is activated. The technology behind SVS is completely invisible to the user, the system and to other applications on the “virtual desktop.” The layered applications consume about the same amount of disk space as they would if conventionally installed, with a small overhead for duplicates of what would be shared files in a typical setup. No additional RAM is required and the filter driver, the software that actually manages the application layers, consumes less than 1 MB of kernel memory.

Because multiple application versions can coexist and because software can be deployed and removed very quickly, integration testing effort can be minimized. The traditional testing cycle for new products and versions, and the accompanying costs, can be drastically reduced.

Key Ramifications

It is important to be clear on what this product is and is not. It is a new concept in desktop management. It does not rely on partitioning, as Unix systems do, and it is not built over Virtual Machines like VMware. It is new architecture, based on new technology that builds on Altiris’ grasp of

desktop deployment solutions gained over 7 years of solid success in its niche area. In a very real sense, this is the next generation of imaging technology.

With provisioning and deprovisioning simplified, testing time considerably reduced, rollback of applications easily enabled, system file conflicts and the resulting broken applications a thing of the past, Windows deployment becomes significantly simpler and the pain of desktop support is decreased. With the release of the next version during the first half of 2006, functionality for managing server applications and Operating System (OS) patches will be added.

In addition to having the potential to drastically lower the total cost of ownership of Windows installations, this product could at some point have very real implications for license cost savings. Although Microsoft currently requires individual licenses for each desktop, as this technology matures the functionality will exist to provide “on demand” access to software resources. With enough user demand, vendors may be persuaded to provide new licensing scenarios for organizations deploying the “virtual desktop” technology. Especially when server functionality is introduced in 2006, there will also be implications for on-demand computing. This technology could definitely be a factor in supplying the immediate provisioning such systems require.

EMA’s Perspective

Virtual provisioning has tremendous potential to become a major software deployment methodology within the next two to three years. Especially as this product evolves to support OS updates and patches, it has serious implications for on demand computing. Taken to its logical conclusion, it could conceivably introduce an “install once, update never” philosophy, where the OS is laid down on the image and all subsequent software is installed and activated virtually. With the capability of turning application functionality on and off in seconds, the potential for enabling true “on demand” computing becomes a reality.

From the standpoint of ROI, the savings on administration costs alone could be significant. With administrators freed up from routine tasks, their expensive time can be put to use on projects that improve service and impact the bottom line, rather than simply trying to maintain the status quo and keep up with current security patches. The potential for further savings on software licensing if “virtual application” licensing eventually becomes a reality could make this technology an even more attractive investment. In addition, the ability of SVS to run independently of the

Altiris framework adds value for organizations that require the functionality but don't want to invest in a totally new software distribution toolset.

While researching this paper, EMA contacted a Beta customer and solicited his impressions on the product. His comments were very positive, indicating that SVS exceeded his expectations and enabled him to upgrade 1000+ computers in a matter of days instead of weeks.

With the release of the Altiris Software Virtualization Solution 2.0, Altiris has updated its deployment product set with functionality that will be welcomed by the Windows community. EMA believes that there is a very bright future for this product.



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