Executive Summary

System Center Configuration Manager (SCCM) 2007 is a significant release for current SMS owners. There are several new features that have been added and updated.

The new features of SCCM include:

- Desired Configuration Management
- Network Access Protection
- Wake On LAN

Features that used to only be available via Feature Packs:

- Mobile device management
- Operating system deployment
- Transfer site settings wizard
- Manage site accounts tool (MSAC)
- Asset Intelligence

The following features have changed significantly:

- Backup and recovery
- Software updates

The following features have been improved but still function similar to how they did in SMS 2003:

- The administrator console
- Collections
- Software distribution
- Software metering
- Remote tools

The following features either have not changed or have only very minor changes:

- Discovery
- Inventory
- Queries
- Reporting

Based on this list from Microsoft, there are very little capabilities that SCCM provides that Altiris has not provided for years. Microsoft will try to sell their <u>future</u> "vision" instead of what they can actually do today. It is important to remember that by 2009 when Microsoft releases other System Center products, Altiris will be just that much further ahead.

Altiris offers a better ITLM strategy and asset management remains strong in it's Application Management Solution, Asset Control Solution, Contract Management Solution, and Service Desk (Microsoft is working on a Service Desk). Customers can leverage Altiris's CMDB for automation of configuration management, asset, and security. This is still untouched by Microsoft as they do not have a CMDB.

Products such as Recovery Solution and Wise Package Studio remain a differentiation. Windows Backup is still not enterprise ready and InstallShield Admin Studio or the "featureless" SMS Installer is still required for packaging needs. It is also worth noting, that despite Microsoft's progress with a PE-based OS migration (WDS), Altiris remains a recommended Vista migration partner for Microsoft.

Security is also a huge differentiator for Altiris with SecurityExpressions, Local Security Solution, and Application Control Solution as Microsoft currently has nothing that competes with them. Endpoint Protection from Symantec also raises the bar for complete end point risk mitigation.

For heterogeneity, Microsoft has stated that they will continue to rely on partners for this functionality. These 3rd party "add-on" products help SCCM become a more competitive package, but they also add to the complexity of the overall solution. Many of the 3rd party vendors - while adding functionality to the over all SMS product - provide this functionality in a separate console or tool.

The number of vendors involved is a cause for concern to a customer and creates an opportunity for Altiris. There is the potential for miscommunication and finger pointing when problems occur when multiple companies are involved.   Additionally, there is the potential that any one of the Alliance partners could be bought, taken over, or go out of business at any time which could put the entire solution in jeopardy. Some of these 3rd party Microsoft Alliance members have been acquired in the past by other companies such as Altiris (Wise).

Product upgrades are also a concern when multiple companies are involved since any individual component that is upgraded has to be tested and coordinated to make sure they work with all of the other products. The more products that are involved, the more complex this gets!

When considering SCCM, customers should consider the following issues:

1) **Active Directory Integration –** Are you willing to update the Active Directory Schema in your organization?
   a. How will the schema update impact the current Active Directory layout (is more capacity needed?)
   b. If not willing to update the schema, is there a plan to address "Global Client Roaming?"
   c. Without extending AD, SCCM 2007 will require WINS and Computer Browsing service so that clients can identify the management points. Microsoft estimates this chatty traffic to account for up to 40% of all network traffic.
2) **Hidden Costs** – While going with SMS/SCCM through an EA agreement may appear to be free, customers must analyze other costs such as human overhead, training, hardware, desktop performance for end-users, and software upgrades required such as SQL Server.
3) **Heterogeneous Environments** – SCCM does not natively support non-Windows OS's. In order to manage other operating systems, third party add-ons must be purchased. This is another hidden cost to consider in a heterogeneous environment.
4) **Hardware Requirements** – The amount of hardware required to manage an SMS environment compared to Altiris has been proven with customers to be a ratio of ~ 5 servers to 1. This is proven by Mellon Bank who had been a SMS customer until they pushed the product to its limits. After switching to Altiris they went from 19 servers for the infrastructure down to 5 and that costs to use Altiris were 55% that of SMS. Link

Feature Review

Of the new features with System Center, the one that has been getting the most attention is Wake-on-LAN functionality. Do a Google search for System Center and Wake-on-LAN (WoL) and one will find plenty of websites excited about this feature. WoL is a feature that has been in Altiris products for years and is useful for working up machines to perform common tasks such as patch management or imaging.

There is actually one major drawback with System Centers implementation of WoL, and that is that it can only wake up machines through a direct broadcast from the server. This means that a SCCM server must be present on the network segment in order to wake up machines. With Altiris' implementation, a client can forward WoL packages so that it is not dependent on the server. One factor to take into consideration is that there is no secure way to replicate data between servers without opening up file sharing. This could be a big discussion with the security administrators.

Another useful method of waking up systems is through Intel's Active Management Technology (AMT). AMT can manage systems that are in a powered down state and perform remediation or other management tasks without having to boot to the operating system. In the current release of SCCM, AMT support is not available. Microsoft has said that this will be made available in a later Service Pack. Altiris presently supports AMT technologies with its products and has one of the most advanced AMT offerings on the market.

With the latest release of WDS that will be available with Windows Server 2008 (currently in beta), Microsoft will introduce multicasting technology for imaging. A unique feature of this imaging technology is the ability for machines to join the multicast session at anytime because of the file-based nature of the imaging. If a machine has missed a part of the multicast session then it will continue to loop through the broadcast until all computers have their files. Although this may seem like a powerful feature at first glance, it does have its drawbacks. For example, if a computer misses the very end of an imaging session then it must wait until the entire session is multicasted again. If for some reason, it cannot receive part of the session then it will continue to broadcast forever (all night) until it is stopped.

Finally, Microsoft still does not offer a single console. With System Center, they dropped the integration of SCCM and System Center Operations Manager (SCOM) in favor of a non-integrated approach. According to Gartner:

> *"Microsoft has changed the product bundling strategy of its management products. System Center is now a family name of several modular management products that will have little or no integration in the first version. Additionally, the potential benefits of the System Center management products as part of Microsoft's Dynamic System Initiative are still several years from being proven and accepted. Therefore, companies should evaluate the individual products under the System Center umbrella as stand-alone, tactical products and compare their features, functionality and return on investment with those of similar products from competitors. While System Center does represent a more comprehensive product suite beyond Microsoft's desktop management offering (System Management Server) and its server and application monitoring tool (Microsoft Operations Manager), it remains Microsoft-centric and late to the market compared with its competitors."*
>
> **Gartner Research - Microsoft's System Center Emerges as Collection of Stand-Alone Products**

Architecture	Altiris	Microsoft
Features or Functions		
Single Integrated Console	✓	✘
Web Console Access for Management	✓	✘

Web Console Access to Reports	✓	✓
Multicast OS Deployment	✓	**Server 2008 WDS**
Multicast Software Delivery	✓	✗
Intel AMT	✓	✗
Wake-On-LAN support	✓	✓
Dynamic Bandwidth Throttling	✓	**BITS**
Role/Scope Based Security	✓	✓

Application Metering & Management

Application Metering with System Center is simply to monitor usage data and build reports. A major drawback is that the administrator cannot add the number of licenses bought to the database so the reporting on usage must be correlated to the licenses by hand.

Feature or Function	Altiris	Microsoft
Application Metering & Management		
Discovery of Applications	✓	✓
Tracks the length of time an application is used	✓	✓
Track the starting and stopping times of applications	✓	✓
Tracks the number of times program is executed	✓	✓
Blocks the use of unauthorized applications	✓	✗
Integration with License Management for Harvesting	✓	**Reports**
Granular License Data	**Contract Mgmt**	✗
Monitor usage by Organizational Groups (Collections)	✓	✓
Web-based Reporting	✓	✓

Hardware/Software Inventory

Microsoft's inventory lacks some of the detail that Altiris is able to provide. There is no zero-footprint inventory capability and they lack certifications such as with Pink Elephant for ITIL compliance. Heterogeneous platform support for inventory is also lacking. There is no way to add custom information to inventory (such as warranty data). Discovery is also weak because it cannot browse subnets without requiring SNMP.

Feature or Function	Altiris	Microsoft
Web Access		
Hardware/Software Inventory (with client)	✓	✓
Network Device Discovery	✓	✗
Zero Footprint Inventory	✓	✗
Standards Compliance (ITIL, SOX, HIPAA)	✓	✗
Multiple Methods to Deploy and Post		
Post data through files and HTTP	✓	✓
Works with computers with no IP connectivity	✓	✗
Deploys through e-mail, URL, login scripts	✓	**Login script**
Inventory Solution Data		

Application Recognition Database	✖	✔
PC Serial Number and BIOS details	✔	✔
Disk, operating system, and system configuration settings	✔	✔
Registry settings	✔	✖
Full end user information (with Microsoft Exchange profiles)	✔	✖
WMI objects	✔	✔
Platform Support		
Windows 95B, 98, ME, NT	✔	✖
Windows 2000, 2003, XP, Vista	✔	✔
UNIX		
• Sun Solaris	✔	✖
• HP-UX	✔	✖
• AIX	✔	✖
• SGI RIX	✔	✖
Linux		
• Red Hat 7+	✔	✖
• SuSE Linux 8.2	✔	✖
• SuSE Linux Enterprise Server 8, 9	✔	✖
• United Linux 1	✔	✖
Macintosh OS X	✔	✖
Novell Netware 3.11+	✔	✖
Handheld		
• Pocket PC 2002/2003	✔	✔
• RIM Blackberry	✔	✖
• Palm 3.5+	✔	✖

OS Deployment & Management

Microsoft has made significant improvements with their operating system deployment technology. Microsoft replaced the Remote Installation Services (RIS) with Windows Deployment Services (WDS) for PXE and image management capabilities. WDS is basically RIS with the ability to handle the WIM image format. OSD provides the following functionality: a) Image Capture, b) User State Migration using the User State Migration Tool (USMT), c) Image Deployment, d) Task Sequences to automate personality capture, application deployment, and imaging.

The strength of the Microsoft imaging tools is the ability to integrate drivers and patches into the imaging process. Altiris does not yet have the ability to integrate patches into the imaging process but we can integrate drivers. One of the major differences between Altiris and Microsoft is that by using our HII solution we can pull from inventory what drivers are being used by which machines and build a driver catalog. With SCCM, the drivers must be researched per machine manually and then downloaded from the manufacturer manually.

SCCM can only image Windows 2000 and above systems using the NTFS file format. Altiris provides a heterogeneous solution and can image Windows, Linux, UNIX, and Macintosh. Altiris supports the WIM

format as well as Ghost and RapidDeploy. Altiris also supports HTTP imaging which has some advantages. These include:

  a. **Image Capture/Deployment only supports SMB –** Only supports image acquisition from an SMB source. Altiris has the ability to use either an SMB source or an HTTP source. There are several advantages to using HTTP.

     i. **Performance:** HTTP is a light protocol that can often be more efficient. If SMB signing is required, then HTTP has even more performance advantages as the SMB signing can further increase SMB overhead. "…for very large file transfers the overhead could get extremely high – up to 40 percent in some situations" http://www.microsoft.com/technet/community/columns/secmgmt/sm0905.mspx

     ii. **Security:** Using HTTP as the network transport for imaging does not require firewalls to open potentially dangerous SMB ports. Most environments will already have a policy in place that allows HTTP traffic. Additionally the security of the HTTP image data store could now be controlled independent of the DS data store. – *Consequence:*

        1. Ports need to be opened which may increase exposure to major security threats.

        2. Planning and execution takes longer and costs more.

        3. Roll-out suddenly becomes a "cross departmental affair", etc.

     iii. **Ease-of-Use:** HTTP allows for the use of IP addresses in all pre-boot environments. This eliminates the need to configure name resolution mechanisms that can often be confusing or problematic (especially in DOS). No special pre-boot configuration is needed to image to/from alternate data-stores. Using SMB requires that a drive be mapped to the network share.

Other Altiris advantages include server management. In fact, MSN Labs uses Deployment Solution to manage their servers. Link Altiris has partnerships with HP, Dell, IBM, and Fujitsu Siemens for managing their servers. I

OS Deployment and Management	Altiris	Microsoft
Features or Functions		
Bare-metal OS Deployment	✓	**WDS**
Remote OS Deployment for non-PXE enabled PCs	✓	✗
Image Editing Capability	✓	✓
Disaster Recovery Integration	✓	✗
Automated Response Code Handling	✓	✓
Windows Imaging (Cloning) x86 and x64	✓	✗
Windows Imaging (File-Based) x86 and x64	✓	✓
Windows Scripting (sysprep) x86 and x64	✓	✓
Integration of Windows updates with the imaging process	✗	✓
Integration of drivers with the imaging process	**Limited**	✓
Automated collection of drivers for PCs	**HII**	✗
Support for 3rd Party Images	✓	✗
Non-Windows Imaging (Linux)	✓	✗
DOS Pre-Boot	✓	✗

	Altiris	Microsoft
WinPE Pre-Boot	✓	✓
Linux Pre-Boot	✓	✗
Insertion of Database Tokens for dynamic automation	✓	✗
Thin Client Support (HP, Fujitsu Siemens, Neoware)	✓	✗
Server/Blade support from major hardware manufacturers such as Dell, HP, Fujitsu-Siemens, and IBM	✓	✗

Software Deployment

SMS provides a strong, basic set of software deployment capabilities.   Like many features of SMS, it is "good enough". Application packaging for Microsoft though is provided through a 3rd party product called Macrovision AdminStudio.

Software Deployment	Altiris	Microsoft
Features or Functions		
Ability to Push Software Packages	✓	✓
Support for NT/AD Authentication	✓	✓
Ability to Define Software Package Pre-requisites	✓	✓
Package Chaining	✓	✓
Handle Multiple Reboots in Packages	✓	✓
Policy Based Management	✓	✓
Web Software Portal	✓	✗
Automated Response Code Handling	✓	✓
Rollback Capability	✓	✓
Package Servers (or similar)	✓	✓
Blackout Times for Software Delivery	✓	✓
Application Healing	✓	✗
OS Support		
Windows 95B/98SE/NT/2000/2003/XP	✓	✓
Mac OS X 10.2.x and 10.3.x	✓	✗
UNIX Support	✓	✗
Linux Support	✓	✗
Handheld Support	✓	✓

Patch/Vulnerability Management

SCCM uses the same mechanism as WSUS for patching. There is no support for 3rd party OS patching or vulnerability scanning.

Patch Management	Altiris	Microsoft
Features or Functions		
Windows 95-XP, NT4-2003	✓	✓
UNIX	**Security Expressions**	✗
Linux	✓	✗
Dell Patch (BIOS, Hardware Drivers, Linux, etc for Dell)	✓	**Manual**
Patch Management Features		
Integration with Disaster Recovery	✓	✗
Integration with Wise (Risk & Impact Assessment, Pre-Flight)	✓	✗
Full Rollback Capability	✓	**Patch Specific**
Alerts for patch deployment failure	✓	**Reports**
Quarantine: i.e. Network Access Protection (or similar)	**Not part of CMS**	✓

Personality Migration

Microsoft Windows User State Migration Tool (USMT) is a free utility that can migrate user files and settings during deployments of Windows 2000 or Windows XP. USMT can capture desktop, network, and application settings and migrate them to another Windows PC.

While USMT could assist with migrations, it has many drawbacks that could be expected from a free tool. These drawbacks include:

- **USMT is Difficult to Use –** USMT is a command-line tool for personality migrations.

- **No User Interface:** USMT is a command-line tool that has no user interface. In order to customize migrations the user will have to edit XML files.

- **Limited Application Support:** USMT only supports about 20 applications out of the box (mostly Microsoft). To create custom applications for migration, a time consuming process of editing XML files is required. This will include manually entering file locations, registry locations, etc.

- **No Cross Version Migrations:** USMT can not migrate applications between versions other than Microsoft Office.

- **Slow Ramp up Time:** USMT does an ok job of same PC transfers. But on a new PC, the ramp up time is slow.

Personality Migration	Altiris	Microsoft
Features or Functions		
Native Support for 125+ versions of 60+ applications out-of- box	✓	✗
Personality capture for "homegrown" applications	✓	✓
Undo option to revert all changes back to pre-migration state	✓	✗
Automatic user mapping (new domain/username after migration)	✓	✗
Integration with a backup/recovery application	✓	✗

	Altiris	Microsoft
Integration with a software delivery (automatic deployment)	✓	✗
Integration with Imaging Process	✓	✓
Automatic response code handling	✓	✓
Deployment to Windows 2000, XP, and Vista	✓	✓
Deployment to Windows 95, 98, ME, NT	✓	✗
Self Extracting Personality Files	✓	✗
Cross Application Version Migration	✓	**Office Only**
Personality Migration Wizard (A2i Builder)	✓	✗

Remote Management

SCCM remote control capabilities are derived from the remote control agent that is inherit with the OS. When using the SCCM remote control the administrator has a choice of remote tools to use, (1) Remote Desktop Protocol (RDP), (2) Windows Assistance, or (3) SMS remote control. Each remote tool has there own unique abilities, settings, and required knowledge for each tools.

Remote Control	Altiris	Microsoft
Features or Functions		
Support to remote control Windows 98/NT/2000/2003/XP	✓	✓
Support to remote control Macintosh (with VNC)	✓	✗
Support to remote control Linux (with VNC)	✓	✗
Strong integration with other products such as help desk	✓	✗
File Transfer/File Sync	✓	✓
Voice/Text Chat	✓	✓
Remote Clipboard	✓	✗
Stretch to Window mode	✓	✓
Ability to enable watch/share/control modes on the fly	✓	✗
View only mode (watch a screen without actually controlling it)	✓	✓
Synchronous/Asynchronous mode options	✓	✗
Security		
Password Protection (client-side configurations)	✓	✓
Remote Session Logging	✓	✗
User connection acknowledgement	✓	✓
Encryption	✓	✓
Integration with NT security	✓	✓
Logoff computer when disconnected	✓	✗
Activity timeout	✓	✗
Disable mouse/keyboard/display	✓	✗
Lockout security to limit the # of login attempts	✓	✗

Desired Configuration Management

Desired Configuration Management (DCM) – DCM allows the user to define desired hardware, operating system, and application configuration settings in multiple configuration data sources. DCM compares desired settings with the actual settings and reports configuration compliance.

Limited Scope – Altiris can provide not only the capabilities of DCM but also a full desired state of a machine at a more granular level. With the Wise Software Repository we can ensure that all applications remain in their desired state, not just the hardware or OS as in DCM. With the integration of Altiris Solutions and Wise, if an application is found to be outside the desired state then we can automatically fix it, without user interaction and without rerunning the application install or repair option (which does not always work).

Difficult for the average user – To use DCM, the user will be required to have extensive knowledge of the OS and applications including WMI, metadata, and other settings to create policy "manifests". AuditExpress and SecurityExpressions comes with many out-of-box templates that can be used for policy scans to quickly get up and running with little to no effort. Customers can even take the default policies and tweak them with their own customizations rather than starting from scratch. We also support Linux and UNIX, whereas DCM is a Windows only tool.

DCM is a reactive approach – In addition to taking a "reactive" approach (meaning that for a customer to be out of compliance it has to "break" first), Altiris has the ability to offer customers the capability to take a "proactive" approach. With a proactive approach, things can be prevented from breaking in the first placing using Altiris technologies such as Protect or SVS.

Desired Configuration Management	Altiris	Microsoft
Features or Functions		
Baseline Monitoring	**Security Expressions**	✓
Compliance Templates (SOX and other regulatory compliance)	**Security Expressions**	✗

Reporting

A common gripe among Microsoft customers had been the inadequate reporting in SMS. Microsoft has made many strides in increasing the number of pre-canned reports. However, they still do not have a common reporting engine (SQL Reporting Services) for consistency with other Microsoft products. Until the reports have a common database (a central CMDB), many customers may find its usefulness limited.

Feature or Function	Altiris	Microsoft
Reporting		
Web based reporting	✓	✓
Windows client for reporting	✗	✓
Real-time reporting	✓	✓
Export to 8+ data types	✓	✗
Custom Reports	✓	✓
1,500+ Pre-defined out-of-the-box reports	✓	✗