

Best Practices in Lifecycle Management: Comparing Suites from Dell KACE, Symantec, LANDesk, and Microsoft

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Executive Summary

Given the complexity of today's dynamic IT infrastructures and the broad range of management disciplines necessary to support them, choosing a lifecycle management solution can be a difficult and bewildering project. To assist in the evaluation of automated lifecycle management platforms, Enterprise Management Associates (EMA) has conducted a side-by-side functional and financial comparison of solution suites from four of the leading vendors in this market space: Dell KACE, LANDesk, Microsoft, and Symantec. Key best practices in lifecycle management are explained and used as a framework for identifying critical points of comparison and a detailed financial evaluation goes beyond just license costs to help determine total cost of ownership of each platform.

The EMA analysis includes a comparison of over 45 features across seven key areas – Discovery, Inventory, and Asset Management; Bare Metal Provisioning; Software Distribution; Security and Patch Management; Configuration Compliance and Remediation; Process Automation and Service Desk; and Interfaces and Reporting. The results of the review show the Dell KACE Appliances compare well in functionality across most disciplines. Yet, when factoring in total infrastructure expenses, the Dell KACE Appliances cost roughly a quarter of their primary competitors. With such a strong value proposition, EMA recommends any business considering solutions for lifecycle management should include the Dell KACE appliances in their product evaluations.

Best Practices in Lifecycle Management

Lifecycle management involves a number of key disciplines, aimed at achieving efficiency, productivity, and cost reduction within IT and across the business. Key disciplines that EMA recommends when considering a solution for lifecycle management include:

- **Asset Management** – Automatic discovery of hardware and software assets allows organizations to accurately identify the types and locations of devices and software connected to the network. This helps in cost accounting, and feeds accurate planning for provisioning, security, compliance, and more.
- **Inventory Management** – Keeping up-to-date inventory allows businesses to reuse existing systems instead of buying new ones, reduce their hardware inventory software upgrades and license costs, and avoid fines and other penalties by ensuring license compliance.
- **Bare Metal Installation** – Provisioning new software into a system that has no operating system or boot agents installed reduces on-site visits and gets new users and systems up and running faster. EMA research shows that lack of bare metal installation can double or triple the time taken to get users productive.
- **Software Distribution and Provisioning** – Installing software from a central location allows new employees to contribute faster, and ensures existing employees can do their job by having the software they need, when they need it. EMA research has found that centralized management halves the time it takes to provision new applications.
- **Security and Patch Management** – Detecting and protecting against security risks at the edge of the network is critical to protecting the network as a whole. Centralized management can prevent potential vulnerabilities such as private FTP or Web servers, unauthorized software, or unauthorized configurations, and detect and quarantine insecure systems out of the network.

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- Configuration Compliance and Remediation – Centralized maintenance of software versions, settings, patches, etc. helps compliance by detecting, preventing, and removing unauthorized software, malware, pirate software, exposures, and other malicious changes. EMA research shows that it also halves the amount of time it takes to deploy patches, and reduces virus and spyware management by an average of 80%.
- Process Automation – Automating and connecting IT management processes saves time and money. EMA research has shown, for example, that process automation can reduce software deployment time on average by two-thirds, and halve the time taken for patch management.
- Service Desk – An integrated mechanism to report problems and service requests improves response to end users and reduces administrative roadblocks. An easy-to-use portal interface to such a system reduces telephone calls, manual intervention, help desk staff costs, and errors, and allows automation to add more value to the process.
- Reporting – Reporting on status and activity allows businesses to identify and avoid potential problems, provides the ‘audit and control’ required for compliance to regulations like SOX, HIPAA, GLBA, and NASD, as well as to best practices like ITIL and COBIT.
- Alerting and Messaging – It is important for administrators to detect and respond quickly to problems, to reduce exposure, cost, and downtime. EMA research shows that it takes an hour on average before an administrator finds out about a critical problem. Automated alerting reduces this delay, and allows administrators to correct problems before end users and customers are even aware of the problem.

Functional Comparison

EMA conducted a comparison of features in the most critical lifecycle management disciplines. While it is not a complete comparison, the following section identifies availability of several essential characteristics in four of the most popular solutions on the market today:

- The Dell KACE Systems Management and Deployment Appliances
- LANDesk Management Suite 9
- Microsoft System Center Configuration Manager 2007 R3
- Symantec Altiris Client Management Suite 7.0

EMA identified the feature sets included in each solution suite based on publically available sources and then invited all four vendors to review and comment on the evaluation of their respective solutions. Any input provided was incorporated into the analysis as long as it met two essential criteria:

- The features needed to be documented as existing in the current release of the solution suite. Claims of meeting a feature requirement without supporting documentation were rejected.
- The features needed to be self-contained within the current release of the solution suite. Features available in a different product set from the same vendor or from a 3rd party vendor were not considered applicable as including these would significantly and unfairly impact the cost analysis.

Due to space limitations, EMA did not attempt to evaluate how *well* each product performs in providing these features, and organizations are advised to perform their own comparison analysis on any functionality deemed critical.

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Key

✓ = Yes	✘ = No	○ = Partial
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Discovery, Inventory, and Asset Management

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Bare Metal Discovery (x86)	✓	✓	✓	✓
Windows OS Discovery	✓	✓	✓	✓
Non-x86 System Discovery	✓	✓	○	✓
Linux OS Discovery	✓	✓	✘	✓
Application Discovery	✓	✓	✓	✓
Asset Management	✓	✓	✓	✓
Inventory Management	✓	✓	✓	✓
License Management	✓	✓	✓	✓
License Enforcement	✓	✓	✘	✓

This is a core competency for all solutions, so it's not surprising that they all score very well in providing these capabilities. Microsoft SCCM is unable to discover most non-x86 platforms (i.e. switches, routers, Macs, handhelds, etc), however it is able to identify 64-bit non-x86 Windows-based architectures. The Microsoft solution is also not able to discover or manage Linux systems natively, but Dell KACE, LANDesk, and Symantec all provide many capabilities in multi-platform discovery, including OS and application discovery and discovery of bare metal devices (by serial number, MAC address, etc.). Although all solutions are able to collect and record software license information, only Microsoft SCCM does not natively include features for ensuring all installed applications are approved and appropriate (however, that capability can be achieved with Microsoft's separate Application Virtualization platform).

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Bare Metal Provisioning

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Windows Provisioning	✓	✓	✓	✓
Linux Provisioning	✗	✓	✗	✓
Mac OS/X Provisioning	✓	✓	✗	✓
Virtual Machine Provisioning	✓	✗	✗	✓
UNIX Provisioning	✗	✗	✗	✓
Integrated User State Management	✓	✓	✓	✗
Integrated Driver Management	✓	✓	✓	✓

All solutions can remotely provision Windows platforms onto bare metal and without an agent. LANDesk and Symantec can deploy to Red Hat and SuSe Linux platforms, and LANDesk also extends this capability to Mandriva and Ubuntu Linux. Mac OS X provisioning can be performed by Dell KACE, LANDesk, and Symantec Altiris, and only Altiris is able to provision UNIX. Virtual machines can natively be deployed by the Dell KACE appliance and Symantec Altiris, though Microsoft includes this capability with its separate System Center Virtual Machine Manager package. All but Symantec offer user state management capabilities for setting and migrating user settings and configurations.

Software Distribution

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Windows Clients (Desktop and Server)	✓	✓	✓	✓
Linux Clients (Desktop and Server)	✓	✓	✗	✓
Apple Mac OS/X Clients	✓	✓	✗	✓
UNIX (HP/UX, Solaris, AIX) Clients	✗	✗	✗	✓

All of these solutions are built for core software distribution and patch management on Windows systems, even for third-party and in-house applications. The Dell KACE appliance and LANDesk also have robust software distribution features for Mac and Linux clients. Microsoft SCCM cannot support non-Windows clients at all. Symantec is the only vendor that can deploy applications on Windows, Mac, Linux, *and* UNIX systems.

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Security & Patch Management

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Windows Clients (Desktop and Server) Patch Management	✓	✓	✓	✓
Linux Clients (Desktop and Server) Patch Management	✗	✓	✗	✓
Apple Mac OS/X Clients Patch Management	✓	✓	✗	✓
UNIX (HP/UX, Solaris, AIX) Clients Patch Management	✗	✓	✗	✗
Vulnerability Scanning with Automated Remediation	✓	✓	✗	✗
FDCC SCAP Validated	○	✓	✓	✗

System patching is essential for ensuring security hardened operating environment, so it is no surprise that all four solutions include automated processes for deploying patches on Windows platforms. Symantec and LANDesk extend patch support to Linux platforms, and Dell KACE joins them in patching Mac clients. LANDesk can also patch supported UNIX clients. Both Dell KACE and LANDesk provide vulnerability scans that can automatically remediate identified problems. Although Microsoft does not natively include vulnerability scans, that capability is included separately in their Forefront security management solution. The National Institute of Standards and Technology (NIST) has validated the LANDesk and Microsoft solutions as conforming to the Federal Desktop Core Configuration (FDCC) Initiatives prerequisite for meeting requirements outlined in the Security Content Automation Protocol (SCAP). Dell KACE has also met SCAP requirements with its management appliance platform, but at the time of this publication is currently pending official validation by NIST.

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Configuration Compliance, and Remediation

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Policy-based Software Configuration Checking, and Enforcement	✓	✓	✓	✓
Administrator-initiated Remediation	✓	✓	✓	✓
Automatic or Scheduled Remediation	✓	✓	x	✓
Password Enforcement (hard disk, power-on, screen-saver, policy)	✓	✓	x	✓
Scanning and Quarantine of Non-compliant Systems	✓	✓	✓	x
User Initiated Remediation (i.e. a user portal)	✓	✓	x	✓
Automated Power Management (Windows)	✓	✓	✓	✓
Automated Power Management (Linux)	x	x	x	x
Automated Power Management (Mac)	✓	x	x	x

All reviewed solution sets are able to monitor and report on endpoint configuration that do not conform to established policies, and all but Microsoft are able to automatically remediate any clients that fail to meet configuration standards. Dell KACE and Symantec both include password policy enforcement capabilities, and all but Symantec can natively protect the network by automatically quarantining systems that are out of compliance. Dell KACE, LANDesk, and Symantec all provide a portal that allows end users to initiate software installations, maintenance activities and repair requests for their workstations.

Automated power management has grown in popularity for its ability to significantly reduce energy costs by powering down systems when they are not actively being used. All the evaluated solutions extend this support to Windows clients, and Dell KACE also supports it in Mac clients. However, none of the solutions currently support automated power management on Linux systems.

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Process Automation and Service Desk

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Includes Process Automation or Orchestration Capabilities	✓	✓	✓	✓
Wizard-based Scripting	✓	✓	x	✓
Integrated Service Ticket Creation, and Tracking	✓	✓	x	✓
Workflow Connects Directly with Integrated Service Desk	✓	✓	✓	✓
Integrated with Community Services	✓	x	x	x

All the reviewed solutions provide some process automation to make routine tasks faster, easier, and more accurate, and all but Microsoft include wizards that assist in the creation of custom scripts. Dell KACE, LANDesk, and Symantec all include built-in end-to-end service desk automation for ticket generation and problem tracking. Although not native to SCCM, Microsoft does offer this functionality in the separate System Center Service Manager solution. Logically organized sets of tasks called “workflows” are creatable with all the solution sets and are integrated with the vendors own service desks in all cases. Only Dell KACE includes a portal that directly integrates with a community service (Appdeploy.com) to deliver easy access to industry IT management recommendations, best practices and expertise.

Interfaces and Reporting

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Web Browser-based Administration GUI	✓	○	x	○
Role-based Administration, with Pre-defined Roles	✓	✓	x	✓
Pre-defined and Customizable Web-based Reports	✓	✓	✓	✓
Data Export for OEM Reporting	✓	✓	✓	✓

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Dell KACE is the only evaluated solution that allows all of its functionality to be accessed via a web console. LANDesk and Symantec both offer a web interface that can perform the majority of essential reporting and management functionality, but advanced features need to be accessed through a Windows-based console. LANDesk has reported that roughly 90% of its users access the system through the web console alone, indicating it to be sufficient in most (but not all) circumstances. Only Microsoft SCCM does not provide role-based access to customize user views based on their job function. Additionally, the SCCM console is not web accessible and an interface needs to be manually installed on clients in order to access reports and management features. However, at the time of this writing, Microsoft is beta-testing a web-based “dashboard” that will enable some of these capabilities.

Financial Comparison

Pricing Models

The chart below identifies license and maintenance costs models for the four evaluated solutions. Pricing information is based on publically available information and manufacturer suggested retail prices (MSRP), though it should be noted that vendors and their channel partners all offer discounts on bulk orders that can substantially reduce the final cost of the solution suites. Check with the individual vendors for an accurate price quote when evaluating solutions.

	List Price	Maintenance
Dell KACE	<p><i>Management Appliance:</i> \$8,900 – includes 100 managed endpoints and can support over 20,000 endpoints. Additional endpoints are \$31 each. An appliance that is unlocked for an unlimited number of endpoints is available for \$89,000.</p> <p><i>Deployment Appliance:</i> \$4,500 – includes 100 managed endpoints. Additional endpoints are \$13 each. An appliance that is unlocked for an unlimited number of endpoints is available for \$39,000.</p> <p><i>Discounted price for purchasing both appliances:</i> \$10,900 plus \$35 per managed endpoint; includes both the management and deployment appliances; Node unlocked for the appliance set is available for \$109,000.</p>	15% purchase price; discounts available for multi-year contracts
LANDesk	\$80 per managed endpoint (MSRP); discounts available	25% purchase price annually
Microsoft SCCM	\$1,321 for Configuration Manager Server 2007 R2 with SQL Server Technology. Can support up to 25,000 managed endpoints at a single location. \$41 per additional managed endpoint.	25% purchase price annually
Symantec Altiris CMS	\$95 per managed endpoint (MSRP); discounts available	25% purchase price annually

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Infrastructure Cost Comparison

License purchases constitute only a portion of the total cost of ownership of a lifecycle management solution. In particular, infrastructure costs should also be considered when evaluating solution suites. The chart below indicates how the most significantly impacting infrastructure cost elements compare across the product sets. As an appliance-based solution, the Dell KACE platform has the advantage of self-containing the majority of infrastructure software and hardware components. Microsoft requires a centralized primary server with remote servers with diminished configurations for each additional supported site. Perhaps the most significant infrastructure cost factor is with the need for Microsoft Client Access Licenses (CALs) which can add up very quickly to extensive costs in large support stacks. Symantec, LANDesk, and Microsoft require a CAL for each supported endpoint in order for them to communicate with the management server.

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Primary Server/Console: Cost estimated at \$2,000 per server to meet common requirements	N/A	\$2,000	\$2,000	\$2,000
Remote Servers Cost estimated at \$1,200 per server	N/A	N/A	\$1,200 per remote site	N/A
Server/Console OS: Windows Server 2008 Standard (\$1000 each)	N/A	\$1,000	\$1,000 per server	\$1,000
Client Access Licenses: Pack of 20 (\$800 each)	N/A	N/A	\$800 for every 20 endpoints	N/A
Server/Console SQL License: Microsoft SQL Server 2008 Standard (\$6,000 each)	N/A	\$6,000	\$6,000 per server	\$6,000
Server/Console Maintenance Microsoft Software Assurance (25% p.a.)	N/A	\$1,750 per year	\$1,750 per server per year	\$1,750 per year

Total Implementation Costs

Bringing together all the disparate cost elements provides a more complete depiction of the total cost of implementing a client management solution. However, it should immediately be evident that the size of a support infrastructure will affect the expected costs since each product scales differently. Below are cost calculations for three different support stack sizes. Maintenance costs have been annualized over a period of three years to show their expense over time. Since each environment will have unique requirements, EMA recommends each business perform its own cost analysis during an evaluation.

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Small Support Stack

Including costs for all infrastructure resources necessary to implement the client management solutions suites to support 500 endpoints at 1 location:

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Client Management Solution	\$24,900	\$40,000	\$21,821	\$47,500
Client Management Solution Maintenance Contract for 3 Years	\$10,458	\$30,000	\$16,366	\$35,625
Infrastructure Costs	\$0	\$14,250	\$34,250	\$14,250
Total Cost	\$35,358	\$84,250	\$72,437	\$97,375

Medium Support Stack

Including costs for all infrastructure resources necessary to implement the client management solutions suites to support 1,000 endpoints at 10 different locations:

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Client Management Solution	\$42,400	\$80,000	\$54,210	\$95,000
Client Management Solution Maintenance Contract for 3 Years	\$17,808	\$60,000	\$40,658	\$71,250
Infrastructure Costs	\$0	\$14,250	\$182,500	\$14,250
Total Cost	\$60,208	\$154,250	\$277,368	\$180,500

Large Support Stack

Including costs for all infrastructure resources necessary to implement the client management solutions suites to support 10,000 endpoints at 50 different locations:

	Dell KACE	LANDesk	Microsoft SCCM	Symantec Altiris
Client Management Solution	\$109,000	\$800,000	\$476,050	\$950,000
Client Management Solution Maintenance Contract for 3 Years	\$45,780	\$600,000	\$357,038	\$712,500
Infrastructure Costs	\$0	\$14,250	\$1,112,500	\$14,250
Total Cost	\$154,780	\$1,414,250	\$1,945,588	\$1,676,750

Operational Costs

There are a number of additional factors that should also be considered when performing a cost analysis related to on-going operational expenses. For instance, the complexity of a solution will directly affect the number of support personnel that will be need to administer the solution as well as the amount of experience and training they will need to meet business requirements. EMA research shows that administrator wage cost averages around \$250 per day, and training costs will cost around

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\$2500 per day or more. Including on-costs (e.g. cost of benefits, vacation time, payroll tax, etc.) of around 25%, one week of training and a two-week deployment (a very conservative timeframe for most software-based solutions) by two administrators will therefore total over \$20,000 (and probably more if vendor professional services are used).

As an appliance-based solution, however, the Dell KACE Appliance incurs no additional hardware or software costs, no procurement delays, and while training is still required, Dell KACE provides 10 hours of Web training for \$4800, which is sufficient for multiple administrators. In addition, on-going patching and software updates are easier. The Dell KACE Appliance automatically downloads updates, and administrators simply press a button to apply patches to all components including the operating system, database, Web server, and application. This is in contrast to software-based solutions where each component must be patched and maintained separately.

EMA Perspective

Since the inaugural edition of this document, KACE has made significant strides in improving functionality to achieve a comprehensive solution on par with Altiris, LANDesk and Microsoft SCCM in critical disciplines, while at the same time managing to actually reduce the cost of its management solution. Despite appreciable cost reductions from both LANDesk and Microsoft and operating environment cost decreases (due to overall reduced hardware and software expenses), Dell KACE still manages to show increased value – cost vs. performance – over its competitors. As an appliance-based solution, Dell KACE avoids the high hardware and software costs (and related maintenance efforts) required by its major competitors. Factoring in these costs, a Dell KACE Appliance can cost as little as one tenth as much as its software-only rivals. With its ease of use and fast time-to-value, KACE appliances present a very attractive alternative to LANDesk, Microsoft SCCM, and Symantec Altiris CMS. Mid-sized organizations in particular will appreciate the superior return on investment KACE provides as they are more often challenged with budget constraints and expensive IT business requirements.

Since the inaugural edition of this document, KACE has made significant strides in improving functionality to achieve a comprehensive solution on par with Altiris, LANDesk and Microsoft SCCM in critical disciplines, while at the same time managing to actually reduce the cost of its management solution.

Of course, it is important to note that this evaluation does not provide (or compare) a complete feature listing from any of these four vendors. Indeed, all four solutions offer some unique features that are not available in comparable products. Additionally, this review did not evaluate how *well* the solutions perform each feature, only if they include the functionality. As such, this paper should be used as a starting point for IT organizations to evaluate products based on their own specific needs, rather than as a definitive and universal recommendation.

Nevertheless, the results of this product review indicate the Dell KACE Appliances as strong contenders for achieving comprehensive lifecycle management automation. EMA recommends any organization looking to achieve enterprise-wide systems management goals investigate the Dell KACE Appliances for their excellent balance of broad functionality and cost effectiveness.

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About Dell KACE

Dell KACE™ is a leading systems management appliance company. The award-winning Dell KACE™ family of appliances delivers easy-to-use, comprehensive systems management capabilities. Dell KACE customers usually install in one day and enjoy the lowest total cost compared to software alternatives.

Dell KACE is headquartered in Mountain View, California. To learn more about Dell KACE and its product offerings, please visit <http://www.kace.com> or call 1-877-MGMT-DONE.

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise IT professionals, lines of business users, and IT vendors at www.enterprisemanagement.com or follow [EMA on Twitter](#).

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