WHITEPAPER

Macs in the Enterprise: Are you ready?

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Macs in the Enterprise

In 1980, Apple was the darling of the computer industry. The firm commanded 15.8% worldwide share of the computer market as reported by Gartner. Apple's flagship product, the Apple II, extended the reach of the microcomputer to business users, schools, and families. Apple went public in December 1980, generating more capital at the time than any IPO since Ford Motor Company in 1956.

Although Apple experienced a downturn in the 1990's, its recent resurgence marks a new golden era for the firm. While the elegance of Apple's design initially appealed to the consumer market, it has begun to penetrate the enterprise space with strong momentum. A principal at ITIC declared "corporations are deploying Macs and Mac OS X at a rate not seen since the late 1980s".[1] In fact, 68% of respondents in a recent ITIC survey stated that they will allow end users to deploy Macs as their corporate desktops, doubling the number of respondents from the previous year.[2]

Whether you already have Macs in your organization or not, there are strong indications that many organizations will need to provide centralized systems management for the platform. Three key drivers have led to the rapid growth of Macs in the enterprise, and will continue to push growth moving forward.

Consumer Space Momentum

Apple has seen its dominance in the consumer space translate into momentum in the enterprise. Apple owns 21% U.S. consumer market share and is the largest supplier of notebooks to US universities. Both new and experienced hires in the workplace are asking for Macs due to the positive experience they enjoyed at home and/or school. As a result, Apple quadrupled its enterprise market share in 19 months[3] and 21% of businesses roster at least 50 Macs[4].

Failure of Vista

The adoption rate of Vista has been markedly less than that of Windows 2000 and XP. Vista's adoption rate is 6%. At the same point of the product lifecycle (18-24 months after release), Windows 2000 had an adoption rate of 12%, while Windows XP had an adoption rate of 14%. In May 2009, 51% of Vista-equipped Lenovo PCs and 38% of Dell PCs run Windows XP instead[5].

Enterprise Support in Mac OS X

Macs have become more enterprise friendly over time. What started out with the development of features like easy network and Active Directory integration has been taken to another level with the release of Mac OS X Snow Leopard. Mac OS X Snow Leopard comes with applications such as iCal, address book, and Mail that are pre-

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[1] http://www.itic-corp.com/highlights/new-2009-global-it-and-technology-trends-forecast

[2] http://itic-corp.com/category/itic-survey-results/page/2/

[3] http://www.macwindows.com/apple_quadruples_news.html

[4] http://www.infoworld.com/d/mobilize/survey-8-in-10-businesses-now-using-macs-737

[5] http://infoworld.com/d/windows/year-after-windows-xps-death-users-keep-it-alive-and-kicking-247?page=0,0

configured for Microsoft Exchange 2007, making it easier to integrate the operating system into the enterprise. An expanded connectivity feature set includes the ability to automatically detect the next earliest meeting time in case an invitee has a conflict. Such functionality brings Exchange Server support for the Mac platform at a closer level of parity to Windows.

Importance of Mac Management

While Macs have steadily gained traction in the enterprise, it is fair to question whether the momentum is significant enough to warrant the attention of IT administrators. Analyst estimations of Apple's enterprise market share range between 4-5%, which may seem like a small portion on the surface. However, a number of challenges make centralized Mac management vital:

Sneakernet

In the past many organizations have managed Macs manually or simply ignored them. However recent research shows that 21% of businesses own more than 50 Macs[6], and while manual methods may be sufficient for a handful of machines, doing so for larger populations of machines is prohibitively expensive. Administrators can't afford to manually cater to machines based on the mindset that Mac management is a one-off type of requirement.

Compliance

Businesses need to ensure that all machines on their network, irrespective of platform are compliant with license and regulatory standards. Regulatory standards such as SOX, GLBA, FISMA, HIPAA, PCI, and FDCC require extensive auditing, reporting and enforcement capabilities and apply equally to Mac and Windows.

Security

It only takes one vulnerable system to compromise an entire network, and viruses, malware, and spyware can attack endpoint systems at any point. With Macs gaining in popularity, hackers have more incentive to spread viruses, worms, and other malicious code to corrupt systems running on this platform. Even Apple has altered its stance and now recommends using Anti-Virus software to manage the security of Macs.

Mac Systems Management Challenges

While the case can be made for the need for centralized Mac systems management, finding an effective solution is easier said than done. IT administrators should be cognizant of whether a solution can help them clear the following hurdles:

Systems Deployment

Each additional platform introduced into a corporate network brings an additional set of operating systems and applications to deploy and manage. Running outdated software

[6] http://www.infoworld.com/d/mobilize/survey-8-in-10-businesses-now-using-macs-737

can impact end-user performance, cause system crashes, and result in file incompatibilities.

In order to provision bare metal machines and allow endpoint systems to boot into a network, administrators rely on network boot environments. While the network boot environment PXE (Pre-Execution Environment) supports Windows and Linux, the Mac platform requires NetBoot. The need to create, manage, and utilize two separate network boot environments introduces additional complexity for IT administrators.

Systems Management

After the initial deployment of OS X and relevant applications, Macs require the same level of systems management as Windows endpoints. Administrators need to distribute patches and software, assess inventory, and access machines remotely in the most efficient way possible to optimize the entire systems management lifecycle. Treating Macs as "second-class citizens" and not supporting the same features as those provided for Windows will make it difficult to instill policies and standards across an organization.

Mac Systems Management Best Practices

The number of imposing cross platform systems management challenges makes it essential for IT administrators to become familiar with Mac systems management best practices.

Cross Platform Systems Management

It's essential that IT administrators utilize a tool that supports both Mac and Windows platforms seamlessly. There are a number of solutions on the market that manage Macs well, but that's all they do. These pure-play solutions can't handle other platforms, requiring organizations to deploy separate systems management solutions for Windows and Mac, which increases infrastructure and training costs. Certain firms go so far as to have different IT teams to manage Mac and Windows platforms. Having two separate systems limits an organization's flexibility to utilize administrators across platforms and makes coordinating changes and application updates across platforms much more difficult.

Optimize the Entire Systems Management Lifecycle

The entire systems management lifecycle consists of a number of important steps from initial operating system deployment all the way to ongoing management and analysis. An ideal cross-platform systems management solution should optimize the key elements of the systems deployment lifecycle, while providing full support across both Mac and Windows platforms.

Best Practice	Key Criteria
Disk Imaging	Manage images from a central library. Eliminate hardware and software prerequisites (i.e. Apple Xserve).
Hardware and Software Inventory	Assess current inventory efficiently and regularly. Minimize bandwidth consumption during inventory queries.
Centralized Software Deployment	Deploy software for both Mac and Windows from a single console.

	Deploy appropriate software dynamically as new systems are brought on line. Provision machines on headquarter and remote networks.
OS and Application Patching	Configure and schedule patches across platforms. Deploy patches to both headquarter and remote networks.
Configuration Management	Standardize power management and desktop settings. Enforce application security settings (i.e. browser security, virus scans).
Self-Service User Portal	Allow end users to download software on-demand.
Remote Site Support	Provide convenience of centralized management. Leverage performance of a local network.
Device Discovery	Discover machines connected to corporate network.
Reporting and Dashboards	Assess network at a high-level through graphical dashboards. Generate audit reports for baseline configuration compliance. Monitor network in depth through customized reports.

Centralized, Policy Based Management

Centralized, policy based systems management allows you to execute key systems management and deployment activity from an integrated library based on pre-defined policies. This proactive approach dramatically reduces the cost and complexity of systems management versus manual and reactive break-fix models.

First, manual methods result in assets such as images and scripts being stored in several different locations, both on servers and on removable media. Certain organizations group assets separately by platform (Mac vs. Windows). This makes it difficult for organizations to manage assets, and can result in an out-of-date or incorrect asset being applied to a system. A centralized library allows organizations to effectively archive and manage assets and helps ensure that the right one is always applied – increasing success rates and reducing user down time.

Secondly, manual provisioning often cannot effectively manage systems in remote locations. Centralized management allows administrators to manage machines on both headquarter and remote networks, saving shipping and travel costs.

Additionally, manual management and provisioning results in administrators physically visiting the desks of end users in order to control and repair them. Centralized provisioning tools often include remote control and recovery capabilities, allowing you to quickly and efficiently control, recover and re-deploy systems that failed upon initial deployment. Ideally, machines should boot into the recovery environment over the network through PXE or Netboot services, allowing both Windows and Mac platforms to be provisioned. A solution that features an easy-to-use interface, without the necessity for complicated syntax commands allows administrators of all skill levels to execute remote control and recovery.

Lastly, policy based systems management allows you to dynamically deploy software, enforce computer settings and install patches based on any hardware, software, user or network characteristic such as computer location or operating system. It might make sense to execute certain actions based on geography or based on the state of a machine, such as those that have newly received images. Effective cross-platform management allows software deployment, configuration, and patching to be managed through policies across multiple platforms.

Purchase Considerations

The analysis of cross-platform systems management solutions should include the following comparison points.

Total Cost of Ownership

In addition to the initial cost of the solution make sure to take into account:

- Recurring software license fees (i.e. Windows Server licenses, SQL Server licenses)
- Professional services to install and maintain solution
- Hardware and software prerequisites (i.e. does the solution require Apple Xserve to provision Macs?)
- Labor costs for deployment, implementation and ongoing maintenance activities

Single User Interface with Web-Based Flexibility

Administrators need a single user interface (UI) to manage both Mac and Windows endpoint systems. Separate UI's result in disjointed support, making it difficult to enforce security and compliance with policies and standards. A single UI allows administrators to assess, manage, and deploy to their network from a single location.

While a single UI is essential for management reliability, it's important for the UI to be accessible from anywhere. A browser-based UI allows administrators to execute systems management functionality regardless of their location. Furthermore, administrators can bypass the need to install heavy console clients with a browser-based solution.

Extra Training

Systems Management features such as software distribution, patching, and imaging should work the same irrespective of platform. Otherwise, organizations will need to invest in training administrators in a separate skill set. Minimizing extra training breaks down a key barrier that tends to prevent organizations from adopting multiple platforms in their networks. An easy-to-use solution will allow administrators of all skill levels to execute systems management functions.

Conclusion

With Macs making their presence in the enterprise at a growing rate, it won't be unusual to see the glow of the Apple logo lighting up corporate meeting rooms around the world. IT Professionals need to realize that systems management doesn't apply to only Windows anymore. With an entirely new platform to manage, an optimal cross platform systems management solution that adheres to best practices is more important now than ever.

About KACE™

KACE™ is the leading systems management appliance company. The award-winning KBOX™ family of appliances delivers easy-to-use, comprehensive systems management capabilities. KACE customers usually install in one day and enjoy the lowest total cost compared to software alternatives.
KACE is headquartered in Mountain View, California. To learn more about KACE and its product offerings, please visit **http://www.kace.com** or call **1-877-MGMT-DONE.**

Helpful Links:

- KBOX Systems Management Appliances <http://www.kace.com/products/systems-management-appliance/index.php >
- KBOX Systems Deployment Appliances <http://www.kace.com/products/systems-deployment-appliance/index.php >
- Cross Platform Management < http://www.kace.com/solutions/cross-platform-management.php >

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