Strategies and Best Practices for Evaluating and Deploying Mac Computers in the Enterprise

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Introduction

Most executives are familiar with a Mac computer's superior user experience, powerful performance, and wide range of applications. Yet as more and more organizations are integrating larger numbers of Mac systems, many IT decision makers are asking: How does the Mac fit in?

The Mac integrates seamlessly into enterprise environments, which means your teams can take advantage of all the well-known benefits of the Mac as it integrates into your network. This white paper provides a brief overview of how the Mac fits in to the enterprise. It also outlines the key steps in implementing a successful evaluation and deployment of Mac computers in business, government, and nonprofit organizations.

Working in Your Environment

The Mac integrates easily into Active Directory environments. OS X is designed to fit smoothly into existing enterprise directory services. Its extensible Open Directory architecture supports industry-standard Lightweight Directory Access Protocol (LDAP) services and Kerberos authentication. It also supports Microsoft Active Directory authentication policies, replication, and failover, which means Mac clients work with Active Directory in much the same way that Windows clients do. The Mac can use existing Active Directory networks as well as mail servers, Virtual Private Network (VPN) servers, and enterprise applications. So whether you have Mac or PC systems on your network, you can set up and manage a single directory; and you don't need to maintain a separate directory or separate user accounts for each platform.

Mac computers come standard with robust tools for centralized management of users, groups, and computers. These tools allow your organization's IT staff to centrally support client systems throughout the organization and provide proactive upgrade, patch, and security services while keeping costs low. Proven third-party client management solutions for OS X are also available.

When it comes to security, OS X has been designed from the ground up with an eye toward providing and maintaining system security. The Apple approach focuses on providing security at each layer of the operating system and a commitment to making security features as automatic and easy to use as possible. Apple strives to ensure that the core of the operating system provides critical protection to services, applications, and data without the need for advanced user configuration or complex interaction.

When users need to run Microsoft Windows (or other operating systems) on a Mac, OS X offers various virtualization solutions to run Windows applications. The Mac also runs Microsoft Office and many other popular third-party applications natively on OS X.

The Mac enables high-quality collaboration with the enterprise. OS X comes standard with a suite of tools that are based on open collaboration

standards and popular technologies. These tools will enable you to immediately and easily integrate OS X into your enterprise collaboration environment.

Apple offers a range of enterprise support options. Whether you have occasional questions or you need assistance on a regular basis, Apple has a plan to fit your requirements and serve your users where and when they need support.

Some of the greatest cost savings behind Mac computers are directly related to their lower support costs. Many organizations with large Mac deployments have experienced fewer help-desk calls, reduced virus and malware downtime, and less need for resource-intensive patch management. A typical Mac user in a well-managed environment will generate about half as many support tickets as a PC user.

With these benefits in mind, many organizations are evaluating and deploying Mac systems. The following section outlines the key steps for a successful Mac evaluation and deployment.

Planning and Executing a Successful Evaluation and Deployment

Apple provides a set of tools to enable organizations to quickly evaluate and deploy Mac computers within their existing environment. The process is outlined below. For more information feel free to contact your Apple Authorized Reseller or account team.

Completing a successful evaluation and deployment usually involves a straightforward process for testing, integrating, and deploying Mac computers in diverse environments. During this process, you may want to consider undertaking these four steps:

- Gap analysis and success criteria definition
- Proof-of-concept development, typically within an IT organization
- Pilot project deployment, typically with a large number of users
- Decision to support Mac computers for the entire organization or a major subset

Gap Analysis and Success Criteria Definition

Before engaging in an IT proof of concept, it's important to have a clear plan outlining questions to resolve before adopting Mac computers as a valuable part of your organization's infrastructure. Determining where Mac computers can best fit in an organization is critical before beginning a full-scale pilot project.

The best place to start is with a gap analysis by collecting a list of the business tasks and applications that target what applications user populations are currently running on existing computers. This enables

organizations to assess how best to accomplish those tasks on a Mac. Usually the same applications are available for the Mac, yet there are instances when you may need to look for equivalent alternatives or consider running some applications under virtualization as part of a transition.

Defining and documenting success criteria in advance is an often overlooked, but critical step for successful pilot projects. More resources and best practices for deployments are described in detail in other technical whitepapers.

Completion of the gap analysis and success criteria definition step has been the single most important factor in successful pilot projects of deploying Mac computers in large organizations.

Scope Definition

For the proof-of-concept and pilot evaluation, it's best to select a group of employees that resembles the population that will eventually be part of Mac systems' deployments. The population to look for in these proof-of-concept and pilot groups includes power users, recent graduates or other new employees who have used Mac computers in school or other organizations, employees familiar with Mac computers at home, and employees with a willingness to try new products. It's also a good plan to match the type of work this group accomplishes to the key strengths of the Mac.

The proof-of-concept group is typically on the scale of 10 to 20 users, whereas the pilot group should be large enough to be able to estimate eventual cost savings from a wider-scale deployment. Pilot projects consisting of 100 to 500 Mac computers have yielded good results for many larger commercial and government customers.

Keep in mind that it's quite possible that not all people in an organization are a good initial fit for using Mac computers. By no means should it be expected that every person in an organization will receive a Mac immediately. Typically, employees have very high interest and demand for using a Mac at work, but it is critical to scope the proof of concept and pilot carefully to ensure a manageable project and successful conclusion. The full scope of Mac usage should be identified during the proof-of-concept and pilot programs.

Apple products are used successfully in all types of job functions and usage models across a wide range of commercial and government organizations—from mobile-focused tasks, general productivity work, and engineering functions to traditional creative solutions and beyond. The Mac is an especially good fit for the following types of workgroups:

- Mobile professionals (such as sales teams and executives)
- Recent graduates who have joined the workforce (Apple has been the market share leader in the education market for K–12 schools and higher education institutions)

- Those that work with rich media—both video and graphics

- Employees responsible for internal and external communications (training, marketing)

- Areas where you want or need to reduce help-desk calls, virus and malware downtime, and resource-intensive patch management

- Staff who develop and test software or web-based content (IT, engineering, web design)

- Employees that regularly use multiple operating systems or open source applications

Software and Hardware Selection

Documenting the software and hardware that employees currently use is the first step in performing a gap analysis. This is probably also the hardest step of any evaluation. It is important to document the software capabilities that are mandatory and/or optional in the proof-of-concept and pilot groups' typical work. Most traditional productivity and enterprise applications are available for OS X, including Microsoft Office and most client-based versions of enterprise-class Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) applications. Web-based applications work well with Safari, Firefox, or Chrome browsers running on the Mac.

Custom-developed applications can usually run or easily be recompiled to run under OS X. In addition to supporting the typical computer programming environments, such as C and C++ that are available to developers creating Mac-based tools, many open source languages, tools, and development environments are built into OS X, including Java, Perl, Ruby on Rails, AJAX, and many more. OS X is a fully POSIX-compliant development environment, which allows developers to recompile and run existing UNIX code.

Software applications that are unavailable today for the Mac often have similarly functioning equivalents available from third-party vendors or may be in the midst of being ported to the Mac. With the various virtualization options available, users can also run key Windows-, Linux-, or Solaris-based solutions directly on a Mac in a virtualized environment.

It is important to identify the critical and optional software products necessary for the pilot group and to decide how they will be accessed, either with a version for the Mac, an equivalent alternative solution, or through virtualization.

The selection of Apple products also depends on the nature of the work and the employee population. Apple offers a range of hardware choices as well as configure-to-order options, so organizations can get the desktop or portable computer that best fits different users' needs. For more information about available Mac models, visit www.apple.com or contact your Apple Authorized Reseller or account team.

If your organization (or segments of it) has a specific set of applications (including custom-built applications) that you would like installed on your systems before you receive them, or if you would like unique asset tags placed on your equipment, contact your Apple Authorized Reseller or Apple account team. There are a variety of customization options that enable you to tailor systems before they are shipped—helping to lower the cost of acquiring and distributing Mac computers by reducing the time to deployment after your new Mac systems arrive.

Success Metrics Identification

Setting success metrics and obtaining internal approval for them before the project begins is critical to the success of most pilot projects. Organizations typically get the best results when they use multiple milestones and success metrics enabling them to track progress over time and assess a project against a variety of criteria.

Large enterprises can rest assured that existing and new Mac computers deployed for a proof of concept or pilot project can be managed using the same client management policies and techniques used for their PCs. Some organizations prefer to use advanced image and application deployment capabilities while others find it best to work without special images or custom deployments. Some organizations use a centralized directory services capability while others have only local directory services or none at all. Some organizations rigorously enforce various policies on their computers while others do not.

Mac computers can function effectively in an organization whether in a highly controlled and managed IT environment or in a very loosely controlled environment. There is no single, correct answer for how to manage the Mac in any environment. Organizations must balance costs, benefits, and risks to determine the level that best suits their needs. Metrics that have worked well for commercial and government customers in evaluating the success of their user pilot projects include:

Support/cost savings from using the Mac

Track the number of help-desk calls, and evaluate the overall cost savings from reduced support calls, client access licenses, software updates, virus and malware updates, and hardware issues.

Checklists of key capabilities

Assess how well the Mac can work within an Active Directory or other LDAP environment, adhere to security policies, use VPNs, and provide the ability for remote management (asset tracking, deployment, maintenance, and control) similar to that available on other platforms.

User surveys

Conduct a pre- and post-evaluation survey of user satisfaction and productivity to compare scores with the previous systems used.

Risk/security assessment

Evaluate how the deployment of Mac computers lowers the risk to IT infrastructure due to cyber-diversity and reduced impact of viruses.

Proof-of-Concept Development

After completing the gap analysis and success criteria definition step, it's time to begin the proof of concept (PoC). This often involves purchasing and distributing 10 to 20 Mac computers mainly to IT staff. This is the time when basic functionality of the systems can be tested and proven to work with existing infrastructure. PoC participants should use the systems on a daily basis and exercise as many of the proposed applications as possible using the gap analysis as a guide to ensure feature parity between the Mac and existing computers.

During the PoC, it is crucial to test the new capabilities provided by OS X and determine the best approach to manage and deploy new Mac computers in an organization. Some organizations prefer to use their existing processes, while others have taken advantage of this opportunity to build a new and improved client management and deployment topology to further reduce costs.

At the end of the PoC, the original success metrics are revisited and possibly refined based on lessons learned. These metrics are then used going forward into the pilot project.

Pilot Project Deployment

After a successful PoC, the next step is to roll out a larger pilot project using the techniques that proved successful during the PoC. While still limited in scope, the pilot project should be run as closely as possible to how a full-scale deployment would. Other whitepapers from Apple cover a wide variety of technical and IT process guidelines to help train your IT staff in best practices for this rollout.

A key task in a successful pilot project is to designate an owner for the project—someone assigned from your organization or hired as a temporary project manager. This person should conduct regular status meetings with all parties involved to review progress against the defined metrics and to resolve any issues.

General Availability Support

After the pilot has been successfully completed, your organization will be fully capable of scaling further to support general availability of Mac computers to either all of your users or large groups of them. All the technology and control processes will have been tested and proven during the PoC and pilot project.

Timeline

The timeline for an evaluation of Mac computers within an organization can vary dramatically, depending on the size of the pilot project and the

nature of the organization. Although no single approach is correct, a typical enterprise customer might implement the following timeline for a successful pilot evaluation project:

Preparation Stage: Three to four weeks

- Identify the scope of the deployment.

- Determine software and hardware needs for the gap analysis.

- Determine success metrics.

- Develop a detailed evaluation rollout and test plan.

- Gain management support for the plan.

- Get an onsite demo of OS X.

- Meet with your Apple Authorized Reseller or Apple account team to discuss evaluation plans.

Proof of Concept: Three to six weeks

- Configure and distribute computers to IT staff and power users.

- Deploy necessary user communication and training.

- Consult with your Apple Authorized Reseller or Apple account team for best practices, knowledge transfer, and any additional resources required.

- Gather feedback on what works, and quickly address any technical issues that arise.

Proof-of-Concept Analysis: Two to three weeks

- Assess results of proof of concept against previously determined success criteria.

- Measure both quantitative and qualitative factors while still fresh.

- Plan next steps.

- Summarize findings and recommendations for internal decisions.

Pilot Project: One to three months

- Distribute Mac computers to 100 to 500 users that fall within the previously determined scope.

- Deploy user communication and training.

- Exercise best practices to ensure that the methodology used during the pilot can be easily scaled to larger numbers.

Pilot Project Analysis: Two to three weeks

- Make any final tweaks necessary based on feedback from the pilot group.

- Refine the scope of general availability based on lessons learned from the pilot.

- Move into large-scale deployment.

- Announce availability of Mac computers as a standard widely within your organization.

Lessons Learned

Three major stumbling blocks have caused some enterprise Mac evaluation projects to progress more slowly than expected—all of which can be avoided with proper planning.

Scope Definition

Organizations that don't properly define the project scope often waste resources trying to make the Mac work in ways that may not make sense. A large number of users in your organization may want to be part of this pilot process. It is important to select those who meet the characteristics previously described and to work toward a clear set of success metrics. Without an initial focused effort, you may not achieve the potential cost savings or user satisfaction.

A well-developed gap analysis, success criteria definition, and project plan can go a long way toward helping ensure that you have properly defined the scope for a successful pilot.

IT Staff Training

Mac computers can work within your existing IT infrastructure, and many of the same methodologies and techniques that you use with other computers can be applied to the Mac. However, there may be some differences. A variety of resources are available to train and support your IT staff, including guides and documentation from Apple, titles included in the Apple Pro Training Series, and in-depth classes offered through Apple Authorized Training Centers—you can find more details on the Apple training website at www.training.apple.com. The willingness of IT staff to learn and use new techniques and tools has been a key factor in the success of large-scale deployments.

User Training

Although Mac computers are easy to use and typically offer a more productive environment than other computers currently in use, they may not provide the same familiar experience for users.

Customers who have had the most successful pilot projects have developed a plan to train their pilot users for an easy transition. A wide variety of onsite and online training options, user guides, and other resources are available to support your users. The more productive users become, the fewer calls the help desk will receive, and the more quickly you will achieve the cost savings possible with a Mac deployment in your organization.

Conclusion

The Mac can easily integrate into your existing environment, support Active Directory, offer centralized management options, provide and maintain robust system security, run Windows and Linux operating systems and applications, support enterprise collaboration, and reduce overall costs through lower support requirements. Apple also offers a wide range of enterprise support options. By planning ahead as well as implementing a successful evaluation and deployment project, your organization can realize the benefits and savings associated with integrating the Mac.