Deloitte.

Preparing for Change
The Vista Migration Roadmap

Contents

Vista: The Future of Computing

Microsoft's recently released Windows Vista operating system will change the computing environment for users across the globe. Over time, organizations will need to migrate to be compatible with the outside world and not be left behind.

Change can introduce benefits, as highlighted by Microsoft's "Easier. Faster. Safer." campaign. Vista will impact users at all levels of an organization by introducing new equipment, capabilities, even a completely different look to the computing environment. All of the these new and enhanced functionalities within Vista can help users increase productivity and improve security.

Highlights of Productivity Enhancements	
Feature	**Description**
Integrated Search	An integral part of Vista, this feature provides quicker and context-sensitive searches from within Outlook, Explorer, the Start Menu, etc., that can be saved.
Interface Enhancements	The new Windows Aero interface supports visual improvements that allow users to see greater detail and more information simultaneously, provide quicker information for just-in-time data and can support RSS feeds, tickers, Outlook information, etc.
Network Enhancements	Network and Sharing Center show all PCs and devices on a user's network and provide information such as IP and MAC address. Sync Center allows basic synching of files and folders between networked PCs and devices.
Gadgets	Gadgets are small applets that "sit" on the desktop to present content or information and can include clocks, slideshows, tasks, appointments, RSS feeds, alerts, etc.
Instant "On" Experience from Sleep Mode	Microsoft states Vista will go from sleep to resume in two seconds.
Tagging, Sorting and Grouping Files	Maintain files in logical groups or search for specific types of files. Files can be tagged with specific information, sorted by standard fields or tags, then grouped by fields or tags.
Fewer Reboots	Updates or application hangs should reduce the number of reboots.
SuperFetch	Should reduce launch times by preloading frequently used applications into memory. More advanced than XP's PreFetch, it recognizes the likely usage days and times of frequently used applications.
ReadyBoost	Uses a USB 2.0 drive to "boost" memory, which should augment system RAM and should improve performance by working with SuperFetch to keep frequently used applications and files on the faster Flash drive.
Intelligent Platform Management Interface (IPMI)	Hardware monitoring and diagnostics should reduce calls to the help desk due to arcane messages.
Built-in help-desk diagnostics	Should resolve issues quicker by automatically diagnosing and recovering unbootable systems to a usable state. In case of service crash, Vista automatically restarts system services.

An anticipated benefit of Vista is the automation of processes that maintain the health and security of the computing environment. Vista will introduce dynamic security protections designed specifically for Internet use and can help guard against threats like malware, fraudulent Web sites, and online phishing scams. In addition, new technology will minimize pop-ups, slow performance, and security threats posed by spyware and other invasive programs.

Highlights of Productivity Enhancements	
Feature	**Description**
Internet Explorer Protected Mode	Limits unauthorized changes to system files or settings and protects against many threats.
BitLocker Encryption	Full-volume encryption with hardware integration with Trusted Platform Module (TPM) v1.2 chips (where applicable).
Vista Firewall	Enhancements from previous versions include new outbound filtering capabilities.
User Account Control (UAC)	Requires a user password or authorization before certain actions, such as running certain applications or removing user accounts, to protect against malware running unchecked.
Network Access Protection (NAP)	Allows PCs to be isolated and scanned for health before accessing network. Requires Windows Server 2007 (Longhorn).
Patching	Fewer and smaller patches with the technology to optimize network distribution. Windows Update Agent should be more reliable and should minimize reboots. WSUS 3.0 will allow all updates to be distributed from WSUS server.
Windows Resource Protection (WRP)	Automatically protects system registry settings and system files against inadvertent changes.
Smart Card Support	Vista supports Smart Card, an integrated circuit card (ICC) that stores certificates and private keys, and performs public key cryptography operations. This feature isolates critical security computations involving authentication, digital signatures, and key exchange; and enables information to be moved among computers.

The Challenges of Change

Migration will be accompanied by some inevitable bumps and surprises as the rollout of Microsoft's ninth major operating system is more than just an upgrade. Any Vista migration program should be considered a replatforming of the entire desktop computing environment. Going to Vista will require reviewing all aspects of desktop computing – including office productivity tools, system applications, hardware configurations and enterprise infrastructure – and the impact of migration will be far-reaching throughout an organization.

Take Action Now

Preparation will help manage and mitigate the challenges involved with the transition. Deloitte Consulting LLP ("Deloitte Consulting LLP") recommends that IT executives take a proactive approach and provides an overview of the issues and questions that need to be considered as part of Vista migration efforts.

What You Won't See with Vista

A number of features from Windows XP, Vista's predecessor, have been dropped or changed.

» Help files with .hlp extension are no longer available. Vista presents Windows Help in a different format.

» NetMeeting is replaced by the new Windows Meeting Space.

» Internet Explorer 7 is no longer integrated with Windows Explorer.

» Removed: Windows Messenger, HyperTerminal, and Version 6.4 of Windows Media Player.

» No longer supported: IPX networks, the Gopher protocol, and built-in H.323 Voice Over IP (VOIP) capabilities.

» Older motherboards supporting only Advanced Power Management will not work with Vista, as well as other "legacy" hardware technologies: EISA buses, game ports, MPU-401, AMD K6/2+ Mobile Processors, Mobile Pentium II, and Mobile Pentium III SpeedStep.

» No longer provided: IP over 1394 (FireWire) support, the MS-CHAP v1 protocol for VPN authentication, and Macintosh connectivity services, which provided file and print sharing via AppleTalk.

Licensing Changes

The new Vista licensing model is significantly different. Activation is no longer a one-time event limited to installation. Vista requires reactivation every six months – something not required with any previous Windows versions. Failure to properly activate an installation of Vista will cause the operating system to enter a reduced functionality mode. This may impact productivity by limiting the tasks and actions users can perform, as well as the amount of tie they can access Vista. Reduced functionality may be felt throughout an organization if failures occur within the activation infrastructure and reactivations were due.

Volume Activation Tools

There are two methods for enterprise licensing:

» Volume Activation Management Tool (VAMT) – Allows enterprise users to manage Vista activation using Multiple Activation Key (MAK) keys. A limited number of activations is provided and Microsoft's servers will be contacted directly to complete activation requirements.

» Key Management Server (KMS) – Enterprise users will set up and host KMS, the internal activation server, on Windows Server 2003 and activate Vista using the KMS key. Reactivation can vary from 30 to 120 days and is set on the server.

First Steps Toward Vista Migration

Unlike previous Windows upgrades and typical product lifecycle migrations such as NT4.0 to Windows 2000, Vista may not fit a natural progression strategy. Therefore, an organization needs to appropriately adjust and prepare its computing environment for introduction of Vista – and as preparation will take time, it is best to start early.

For example, an organization will need to consider whether new equipment requirements make Vista a better candidate for the operating system of choice during a hardware refresh rather than a pure operating system upgrade program. To make such a key decision, an organization will need to assess whether its workstations have the ability to handle the hardware upgrades needed for Vista (at present, the vast majority of the hardware design for Windows 2000 and earlier versions will fail to be suitable). The assessment of existing assets may reveal that it is more cost efficient to purchase new hardware rather than upgrade existing machinery. An unforseen consequence of a large-scale hardware refresh are the ripple effects throughout an organization, impacting budgets, training, scheduling, protocols, etc.

Minimum Requirements for a "Premium Ready Workstation"

» 1 GHz processor

» 1GB system memory

» 128 MB of discrete graphics memory

» 40 GB hard drive

» DVD-ROM drive

Refresh or Upgrade? Costs and Considerations

Most organizations lease their hardware for two- or three-year periods. Coordinating Vista migration to the end of a lease period can be more economical than a major hardware upgrade and provide new equipment that will likely be Vista compatible. One caveat: The IT department will need to be able to support multiple platforms and environments until Vista migration is completed organization-wide.

Another consideration to make the migration as cost-effective as possible: Organizations should consider scheduling a rollout of Office 2007, or alternatives like Openoffice, to coincide with the Vista project.

The Vista Migration Roadmap

Investing time and resources now to the project of migrating will help save time – and possibly avoid challenges – in the future.

Deloitte Consulting suggests beginning with a study of Vista's new offerings, an assessment of the current environment and identification of what the transformation will entail. A dedicated project team, along with sub-teams and representatives from each business unit, can lead development of a plan — the Vista Migration Roadmap. The Roadmap will provide an overview of the activities and approximate timeframes to be considered and can be adjusted according to specific situation and environment. The inclusion of a concrete timeline, milestones, deliverables, and a comprehensive test plan can make the Roadmap a valuable strategic guide.

Planning the Roadmap – An Overview

Planning Phase (3 months)	Preparation Phase (3-6 months)	Development Phase (6-9 months)	Testing Phase (12-18 months)	Pilot and Training Phase (9 months)	Rollout Phase (12-36 months)
» Build PMO » Communicate » Construct teams	» Assess current environment	» Develop standards and configurations	» Conduct variety of necessary testing	» Conduct training for various user groups	» Different for each organization

Planning Phase (3 months)

Build a Project Management Office (PMO) – Building a PMO for the Vista migration project will help coordinate activities and develop leading practices and procedures to improve the project as it progresses. A single management and governance team can help distribute lessons learned and reduce duplication of efforts.

Communicate – Making the user community aware of the project early in the planning phase achieves organization-wide buy-in and cooperation. Such a large-scale IT initiative will impact the way all employees perform their daily functions and preparing them for the change – and any issues they may experience – will help achieve end-user satisfaction. An effective communication and education program will also help achieve many of Vista's productivity benefits.

Construct teams – Sub-teams should include representatives from each technical and business unit to study Vista's implications, build appropriate test plans, communicate project status and resolve issues efficiently. Application owners should create their own testing and validation plans as component activities within the overall project.

Ideally, participation will be full time for the core team, as migration is inherently time-consuming and part-time participation could delay the project and migration readiness date.

The Enterprise Learning Framework (ELF) Tool

Microsoft's ELF tool can help corporate IT departments develop a communication plan for employees. The tool can also be helpful during the Pilot and Training Phase as it provides training content in a concise format, ready for use by corporate training departments.

Preparation Phase (3 - 6 months)

Assess current environment – Understanding the existing hardware and software inventory is critical in preparing for the migration effort. An evaluation of the standard software builds, systematic interdependencies, and the platforms on which they run will identify what changes need to be planned for and conducted before actual installation of Vista. It will also be necessary to inventory all equipment – desktop computers, laptops and servers – to determine what will be impacted by the migration project. The collected data should include the current CPU, memory, graphics memory, installed operating system version and projected retirement date of each asset. Ultimately, as-built system data this information will help determine the equipment's Vista compatibility and when it should be replaced with a Vista-ready device.

Application Compatibility

The issue with the greatest scope and implications is the Vista compatibility of existing applications. Assessing how an organization's standard enterprise application portfolio performs under Vista will take significant time and should be conducted before migration. Microsoft offers tools that can help.

The Microsoft Vista Upgrade Advisor
» Analyzes the hardware and software on a current installation.
» Identifies potential Vista issues.
» Identifies conflicts with COTS (commercial off-the-shelf) packages (custom-developed applications will have to be specifically tested).

Application Compatibility Toolkit (ACT)
» Identifies, tests and manages the applications portfolio.
» Should resolve incompatibility issues.

Vista Hardware Assessment
» Scans and assesses computers in the network for ability to run the new operating system.

Application Support

Once an application is verified to be Vista-compatible, it needs to be ensured that the relevant vendor supports the software's operation in Vista. As well, vendors may need to adapt applications to support the new features (as in the example of the User Account Control). Delays on vendor support could impact the progress of migration.

User Account Control (UAC)
Microsoft's UAC feature can increase security by reducing the ability of malicious application attacks to run in administrator mode. All users (including administrators) will be required to run in standard mode; however, UAC could impair the ability of legitimate applications. For most users, UAC will be the most visual change and have the greatest potential functional impact. Any end-user training and communication plan will need to address this issue.

Development Phase (6 - 9 months)

Develop standards and configurations – The opportunities that Vista opens for users will also present challenges for application owners and developers, and network administrators. Many in-housedeveloped applications will need to be renovated to be able to work in the Vista environment. The infrastructure enhancements needed by the migration to Vista require organizations to address infrastructure issues and the related development of administrator and user configuration standards, and deployment image configuration.

MultiLingual User Interface (MUI)

The MUI enables multinational organizations to create a single configuration that can tailored for the local language.

» Eliminates the need for localized operating system customization.
» Should allow for better configuration, rollout and maintenance of operating versions.

Expected benefits…	can lead to bigger needs.
Enhanced multimedia functionality will become available throughout an organization, e.g., all users can create mp3 audio memos, video e-mails, and white board picture captures – but do users need this and can the network support it.	» Greater workstation horsepower » More network bandwidth » Increased incidence of user performance issues if network capacity is inadequate » Greater storage capacities » Revision of size restrictive data policies » Greater learning curve with this release

Testing Phase (12 - 18 months)

Conduct variety of necessary testing – The time invested during the testing phase will be well spent. The testing phase is where the period during which the success of the preceding changes will be revealed — and any glitches can be addressed. Comprehensive testing will support a smoother migration. The length of this phase is determined partly by the wait for Vista-ready COTS software and drivers — testing cannot begin until these are available. It is recommended that testing include:

» validation of existing software compatibility
» verification of both new COTS software versions and modified in-house applications
» testing of image deployment, applications functionality and overall performance
» consideration of using virtual environments to improve testing efficiency and reduce testing costs and duration

Pilot and Training Phase (9 months)

Conduct training for various user groups – As previously noted, the migration to Vista will impact all users throughout an organization, requiring users to perform their daily tasks differently, get used to a different-looking computing environment and learn to use new equipment. It is critical to provide users support and hands-on training to build their comfort level because their adoption of the migration plan will largely determine its success.

Groups of less than 50 users are recommended for pilot training. Training scheduling is recommended on a rolling basis, beginning with those whose daily functions are most dependent on their technical knowledge (e.g., super-users and call supports) and working through to mainstream users.

Rollout Phase (12 - 36 months)

Scheduling and duration of the Vista rollout will be different for each organization and affected by decisions made in the preceding phases. For example, whether an organization has selected an upgrade strategy or migration strategy that coincides with a hardware

refresh cycle will be key in determining the rollout schedule. Strategy selection will depend upon the investment required to bring existing workstations to minimum Vista hardware specifications – as it may not be worth upgrading older equipment only to have new hardware rolled out according to a pre-existing plan.

As the aforementioned example illustrates, each phase of the Roadmap depends upon decisions and actions made in the preceding stages. So while the actual arrival day of new equipment may seem far into the future, it is necessary to take preparatory steps now. The Vista Migration Roadmap organizes those steps and actions into a process that can guide an organization up to and through the rollout.

Careful planning and a solid communication plan is critical during the rollout phase to mitigate the impact and address the incompatibility issues between Office 2007 and previous releases.

Virtual PC

This tool can help users avoid delaying deployment just because of application incompatibility.

» Use virtual machines to run legacy applications, provide support, train users, and enhance quality assurance.
» Run multiple operating systems at the same time on the same physical computer.

Solution Accelerator for Business Desktop Deployment (BDD)

Microsoft provides this tool to guide overall desktop deployment and the management lifecycle.

» Includes imaging technologies, XML-based migration scripts, and a deployment workbench.
» Can be performed using Lite Touch Installation (LTI) and Zero Touch Installation (ZTI) with System Management Server 2003.

Final Tips for Getting Started

The scale of the migration project may seem daunting. Deloitte Consulting recommends an organization develops its own Vista Migration Roadmap — it can be valuable in beginning the process and achieving success. In summary, the Roadmap details the considerations and issues of migration and guides an organization through the phases of enterprise-wide deployment.

A concluding overview of key considerations:

- Review standard hardware and software platforms and images.
- Review installed end-user computing and server assets.
- Identify and conduct end-user training in advance of Vista and Office 2007 rollout.
- Prepare internal IT support organization for Vista rollout readiness.
- Create test programs to validate supported applications and server components' compatibility.
- Create migration, upgrade or refresh of applications that are not Vista compatible.
- Create and test deployment processes and deployments.
- Broaden existing hardware refresh cycle plans to include Vista, Office 2007 and third-party package rollout.

Deloitte Consulting LLP

Our unmatched combination of skills, experience and broad capacities makes Deloitte Consulting a valuable strategic partner in large-scale deployment projects.

For more information, contact:

Lucian Lipinsky de Orlov
Senior Manager
Deloitte Consulting LLP
333 Ludlow Street
Stamford, CT 06902
Tel: +1 (203) 905-2679
Email: llipinsky@deloitte.com

Ron Pondiscio
Manager
Deloitte Consulting LLP
1 Prospect Street
Summit, NJ 07901
Tel: +1 (908) 673-5356
Email: rpondiscio@deloitte.com