

## *Rapid Microsoft Operating System Deployment*

### A Benefits Guide for IT Decision Makers

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#### **Abstract**

Eurodata Systems has released **Velocity** – a lifecycle management strategy for designing, delivering and managing a Microsoft desktop environment. **Velocity** comprises a comprehensive set of tools, processes and guidance to assist in the process of planning, building, and deploying Microsoft desktop operating systems such as Microsoft *Windows XP Professional*, *XP Tablet PC Edition* and *Windows Vista*.

This document discusses the complexities traditionally associated with desktop deployment projects and explores the benefits that **Velocity** offers organisations of all sizes.

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## 1. Introduction

A migration to new desktop technology is perhaps one of the most demanding projects that an organisation can undertake. Desktop deployments are typically time-consuming and intricate projects that require careful planning and management to ensure that an organisation gains maximum benefit from the new technology, whilst minimising business disruption during the implementation.

A new operating system can offer a myriad of benefits to an organisation, from lower total cost of ownership (TCO) to greater integration and security. Unfortunately, the transition is all too often one that strains resources, hinders productivity and is expensive. For these reasons, deploying a new desktop is an undertaking that organisations tend to postpone for as long as possible. In addition, when a desktop refresh is carried out, rarely is this achieved in a manner that facilitates the ongoing support effort or indeed the inevitable requirement to replace the desktop operating system again at some point in the future.

Eurodata Systems has developed *Velocity* – a highly effective desktop deployment framework that ensures that desktop transitions can be completed rapidly and can deliver the promised benefits reliably and in an agreed timeframe. Not only does *Velocity* cater for organisations of all sizes, but – crucially – *it establishes mechanisms that enable both the maintenance and refreshing of the desktop on an ongoing basis.*

This document presents an overview of *Velocity* and details the processes that Eurodata Systems employs during these complex migrations, as well as explaining the key deployment options that an organisation would be faced with during a desktop migration project. The following areas will be discussed in this document:

- **Desktop Deployments Past, Present and Future** – A look at traditional problems associated with a desktop rollout
- **Eurodata Systems' *Velocity*** – Eurodata Systems' desktop deployment strategy explained
- **Conclusion** – A summary and references to further information.

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## 2. Desktop Deployments Past, Present and Future

Microsoft has released seven desktop operating systems in the last twelve years:

- Windows 95 (1995)
- Windows NT 4.0 Workstation (1996)
- Windows 98 (1998)
- Windows Me (2000)
- Windows 2000 Professional (2000)
- Windows XP Professional (2002)
- Windows Vista (2006)

Already Windows Vienna, the successor to Windows Vista is in development. Excluding Windows Millennium Edition (Me) – which was targeted specifically towards home rather than corporate use – the list above illustrates that organisations that wish to employ the latest Microsoft desktop operating system would be required to carry out, on average, a desktop refresh *every two years* over the past decade, and already there are future operating systems in the pipeline. This can be seen as a somewhat depressing prospect for organisations that have yet to make widespread use of the current offering. However, Windows XP has been available for six years and as such this raises a question: *why do organisations postpone the desktop refresh?*

The reality, for most organisations, is that even the idea of carrying out a desktop refresh every two years represents an unwanted proposition at best, and a practical impossibility at worst. There are a good number of reasons for this, for example:

- A deployment cycle for some organisations may take longer than 2 years.
- Return on Investment (ROI) may not have been recouped from the previous desktop refresh, making another refresh politically unattractive.
- The previous refresh may have only recently finished or may still be underway.
- A refresh introduces a cost 'spike' that may well draw upon more than 2 years' IT budget.

To compound these *organisational* considerations, a number of very real *technical* barriers also exist that have traditionally proven very difficult to address, as discussed next.

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## 2.1. *Why We Dread the Desktop Refresh*

From a technical perspective, a number of challenges exist that must be overcome before any desktop refresh can proceed: desktop PCs typically host user data locally – in the form of user data files and also application configuration settings – that must be retained during any upgrade. A mechanism must therefore be developed that allows *valuable* local data and settings to be identified and retained during the upgrade procedure. Developing such a mechanism has traditionally been very difficult.

Organisations must determine whether their current network and desktop infrastructure is capable of supporting the increase in demands that each new operating system invariably presents. For example:

- PCs typically require more RAM, hard disk space and processing power in order to support each new operating system released.
- Large amounts of network bandwidth are also required if a new operating system is to be distributed over the network, especially if multiple installations are to occur in parallel.

Aside from local data and performance issues, arguably the single largest challenge that organisations face when considering performing desktop upgrade concerns application compatibility and a number of questions must be considered in this respect:

- Will current applications work with the new operating system?
- What action should be taken if applications are found to be incompatible?
- Is the business actually aware of which applications are currently employed throughout the organisation? If not, how can this information be gathered?

Traditionally, organisations have struggled to address these application compatibility concerns in an effective manner.

These problems all contribute to a very inefficient desktop refresh that makes the exercise much more expensive and time consuming than is necessary. Worst of all, the very significant expenditure that organisations commit to the upgrade process is most often concentrated wholly on completing the current refresh; little, if any regard is given to the requirement to perform ongoing desktop maintenance operations – such as installing or removing applications – or to perform the next desktop refresh. In other words, there is very little return for the organisation on this outlay over the longer term.

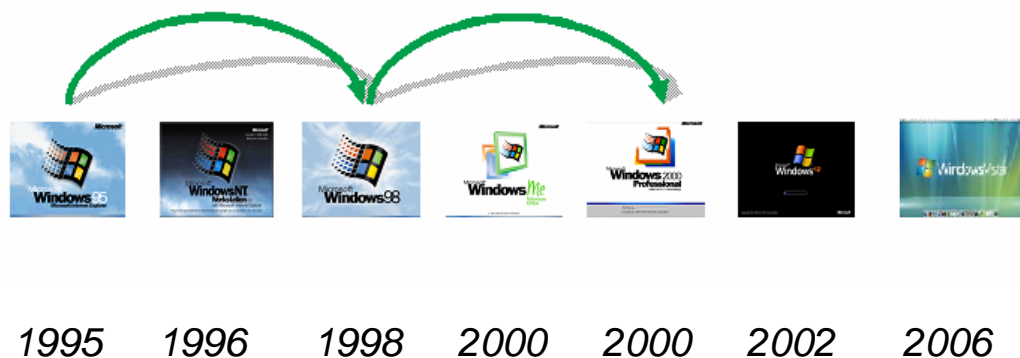
## 2.2. The Need for a Standard Operating Environment

Many organisations run a mix of operating systems, rather than employing a single, standard operating system. This *diversity* promotes complexity in the desktop environment that increases demand for support skills and therefore increases associated support costs. As desktop diversity increases, the cost to the organisation increases in step. Gartner estimates that each additional operating system version in the desktop environment can increase an organisation's TCO by £73–£110 per PC per year<sup>1</sup>. Furthermore, limiting Windows operating systems in deployment to the most current version (currently Windows Vista) and the immediately prior version (Windows XP) can reduce yearly TCO by up to £181 per PC<sup>2</sup>.

Desktop diversity can arise for number of reasons: ad-hoc upgrades may be carried out across the user base on an 'as and when' basis, resulting in desktops that are out of step with each other. Also, if there is little automation when the initial operating system or applications are introduced, desktops are unlikely to evolve along standard paths.

## 2.3. The Reality

The desktop refresh issues introduced previously – coupled with the lack of a standard organisational desktop – have traditionally presented many organisations with problems that are very difficult to overcome. Given this, organisations determine to *postpone* desktop refreshes or to *forgo* certain operating system versions altogether; companies would rather go without certain operating system versions rather than suffer the pains they have come to associate with the rollout process.



Skipping operating systems in this way and also *delaying their introduction means that organisation's are missing out on technology benefits*, which often translates to a loss in competitive advantage. Also, delaying refresh projects does nothing to address the perennial issues that a desktop refresh presents or to mitigate the associated cost 'spike'.

<sup>1</sup> Source: *Recommended Practices: Strategic Management of the PC Installed Base*, Michael A Silver, Gartner Group

<sup>2</sup> Source: *The Cost of Client-OS Diversity*, Mark Driver, Gartner Group

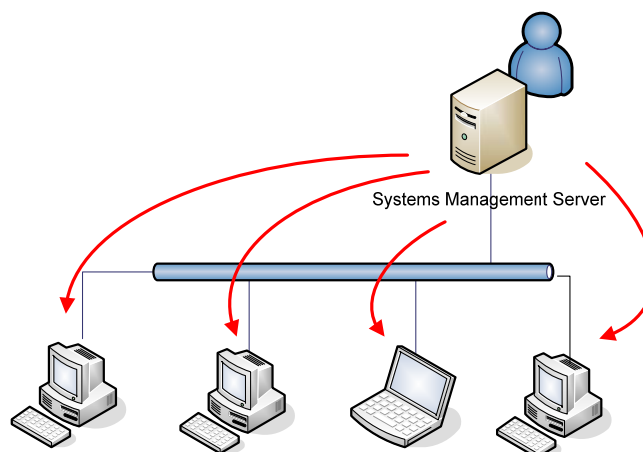
## 2.4. *Windows XP or Windows Vista?*

Windows Vista is now the current desktop operating system from Microsoft, with Windows XP mainstream support due to end in April 2009. Due to the changes in Windows Vista and its recent introduction, hardware requirements and application compatibility may at present be an issue making the migration to Windows Vista now, an unrealistic proposition. The Velocity infrastructure, however, supports the simultaneous deployment of Windows XP and Windows Vista, so if you choose to standardise on a Windows XP desktop now, the infrastructure will be in place for when you decide to migrate to Windows Vista.

### 3. Eurodata *Velocity*

Eurodata has developed *Velocity* – a highly effective desktop deployment strategy that combines Eurodata’s proven project methodology with the most advanced tools for automating desktop deployments. *Velocity* allows organisations of all sizes to carry out rapid and effective desktop software transitions.

Eurodata *Velocity* is a sophisticated strategy for desktop deployment that employs Microsoft® Systems Management Server 2003® together with Microsoft® Business Desktop Deployment Solution Accelerator 2007®. The solution is oriented towards organisations that wish to increase the level of deployment automation to very high levels and to reap system management benefits beyond the desktop deployment project timeline. *Velocity* allows administrators to deploy desktops using a fully-automated ‘Zero-Touch’ Installation (ZTI) technique. For example, an administrator may issue a command from a central console that automatically instigates the upgrade of 100 PCs simultaneously<sup>3</sup>.



*Client installations are instigated centrally and are fully automated*

It is estimated that – when properly employed – ZTI tools can help reduce deployment tasks by up to 75%<sup>4</sup>.

Eurodata’s *Velocity* not only enables the deployment of the latest Microsoft Windows® operating system, but also enables all business applications to be delivered to the desktop, whilst simultaneously preserving any local data or ‘personality’ of the client machine. The solution is completely Microsoft-compliant, ensuring the seamless deployment of Windows XP and/or Windows Vista – and subsequent Microsoft OS releases – in an automated fashion. As the technology adopted enables multiple system deployments to be carried out in parallel, the overall length of the deployment is greatly reduced over traditional methods which are often time consuming, expensive and limited by the availability of skilled personnel.

<sup>3</sup> Note that the exact number of simultaneous deployments that are possible is dictated by physical constraints such as the amount of network bandwidth available to support the software distribution and the specification of server and desktop hardware.

<sup>4</sup> Source: [RealLive.net](http://RealLive.net) August 2004.

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## 3.1. *Velocity Features*

### 3.1.1. Standard Image

A tenet that is central to the *Velocity* strategy is the creation of a designed, standard desktop operating system image for distribution to all PCs. The image is customised to meet the functional and security requirements of the organisation and is kept very 'light' in that only the operating system, service pack, drivers and necessary hotfix files are included. By keeping the image separate from business applications, the image does not age quickly and does not therefore require frequent updating. A light image can also be deployed very rapidly and places less demand on network resources.

In designing an image for the business, the end user experience with the operating system is one that has been anticipated and can be readily catered for in terms of support provision. This also drastically limits diversity in the desktop in order to reduce TCO dramatically.

### 3.1.2. Group Policy Design

Group Policies provide a mechanism for not only securing the deployed operating system but for altering the look and feel of the operating system on a departmental or organisational unit level. Group Policies also provide a mechanism for the deployment of logon scripts to further customise the end user's experience.

An effective Group Policy and Organisational Unit design will enable the business to use the standard image across all departments within the business.

### 3.1.3. Packaged Applications

*Velocity* provides a means by which organisational applications are 'packaged' in such a way that allows them to be dynamically installed and removed from PCs without the requirement for manual intervention. This greatly reduces the burden that would otherwise rest with a helpdesk support function and also maintains uniformity across the desktop by ensuring installations are performed to a common standard.

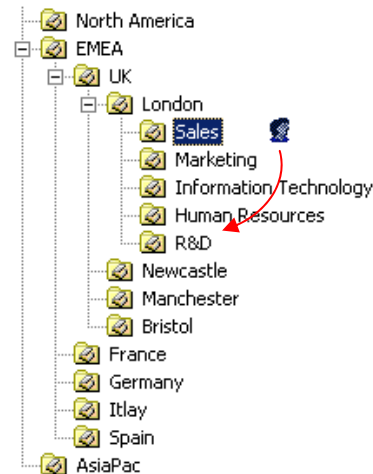
### 3.1.4. Dynamic Desktop Configuration

Each end user 'experience' can be thought of as being determined by four components:

- The standard operating system image design
- The applications installed
- The configuration of operating system and application settings
- Group Policies applied to the machine and user accounts

After the standard image has been deployed to users, *Velocity* allows applications to be installed and for configuration settings to be applied automatically according to each user's affiliation with various organisational groups and departments. This configuration is entirely *dynamic* – if a user moves between groups or departments then their desktop

can be reconfigured entirely automatically by making a simple administrative change to reflect the move.



### 3.1.5. User Data Preserved

As mentioned previously, user data is typically stored on desktops in two formats: user files and configuration settings. *Velocity* allows for all user data to be identified, backed up and reapplied seamlessly after the desktop image deployment completes. The 'personality' of each PC is thus retained and carried forward to the new operating system.

### 3.1.6. Software Updates

Velocity allows for the ongoing maintenance of the deployed operating system by providing administrators the ability to centrally approve and deploy software updates and security patches. As the operating system has been deployed from the 'standard image', the target state is known which greatly simplifies the patch testing process.

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## 4. Conclusion

Eurodata Systems has leveraged existing technologies and has integrated them with a proven project methodology to create *Velocity*.

*Velocity* is a **high-speed; low-risk; high-return** solution that offers organisations a cohesive strategy that addresses the perennial problems associated with desktop deployment and management. *Velocity* allows a desktop operating system and business applications to be packaged and distributed to PCs using 'Zero-Touch' technology. In this way, *Velocity* enables organisations to:

- Create a software and hardware inventory to assist in deployment planning.
- Test applications for compatibility with the new operating system and mitigate compatibility issues discovered during the process.
- Customise and package core and supplemental applications.
- Automate desktop image creation and deployment.
- Maintain software and security updates of the deployed operating system.
- Manage processes and technologies to produce a comprehensive and integrated deployment

The solution is completely Microsoft-compliant, ensuring the seamless deployment of Windows XP, Windows Vista and subsequent releases in an automated fashion. This means that the overall cost is far lower compared with traditional, manual deployment methods. This automated technology approach also enables multiple system deployments to occur in parallel, greatly reducing the overall length of traditional deployments which are often vastly expensive or limited by the availability of personnel.

*Velocity* manages change in a way that minimises business disruption. In adopting the technologies and processes that *Velocity* delivers, organisations are able to realise a rapid return on their investment while also setting new standards for reliability, performance, security, and ease of use of the desktop going forward.

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## 5. About Eurodata Systems Plc

Eurodata Systems has become one of the few truly end-to-end service providers. Established in 1990, the company is now a mature business with more than 100 highly-skilled technical professionals offering solutions across the complete IT spectrum from network audit to full network security.

The company's end-to-end capability allows clients to pick and choose from an unrivalled range of skill sets and expertise. A single point of contact saves you time, effort and money, eliminating the problems of dealing with multiple service providers, warranties and agreements.

Eurodata Systems develops and implements comprehensive IT strategies and integrated business solutions to help organisations make a successful transition to new technology.

As one of only a few IT services companies to achieve the prestigious dual competency status of Microsoft Gold Certified Partner for Advanced Infrastructure; Security Solutions and Networking Infrastructure Solutions. With years of experience in designing, implementing and supporting complex Microsoft environments Eurodata Systems has a complete end-to-end understanding of these world-leading applications, and advise our clients on how they can gain maximum business benefit through their professional implementation and management.

Eurodata System offers core services for the following solutions:

- Operating System Migration
- Active Directory Design
- Messaging and Collaboration Solutions
- Mobile Solutions
- Security
- Ongoing Support
- Management Solutions

### 5.1. Project Methodology

Introducing successful change means identifying the processes that will transform organisational performance, gaining the commitment of people and developing the right technology solution. Our "People, Process and Technology" approach ensures an effective environment for change.

Eurodata delivers business benefit to clients through its close working partnership with Microsoft, an in-depth knowledge of the Microsoft infrastructure solutions technology and a refined implementation methodology developed over many years. This tried and tested methodology ensures a smooth and seamless transition that minimises business disruption, from concept through to solution delivery and support. Eurodata Systems manages your solution through four straightforward phases:

- **Analysis**
- **Design**
- **Implementation**

- **Review**

The key to a successful deployment is in the preparation. Eurodata Systems' comprehensive planning process will establish a sound definition of the work to be performed and generate a solid understanding of the commitments to be undertaken before work commences. As always the focus is on the business enablers of the technology, rather than a technical functionality. Deployment projects are always driven by commercial needs.

Eurodata Systems project methodology includes proven risk minimisation techniques incorporated into the management of each of the complex elements that make up a project. Eurodata employs a simplified Prince 2 project management methodology that identifies the following key elements, collectively referred to as *RAID*:

- **Risks**
- **Assumptions**
- **Issues**
- **Dependencies**

Eurodata Systems draws on more than 15 years' experience of delivering IT solutions to ensure each migration project is completed smoothly and successfully. The company's Consultancy and Engineering teams comprise of IT professionals with multi-faceted skills as well as industry and professional accreditations that span numerous disciplines. Knowledge transfer is an essential part of the migration project – by ensuring clients have the appropriate post installation knowledge, skill set and system management capability.

Eurodata Systems complete end-to-end migration expertise includes:

- **Flexible, scalable and manageable solutions**
- **A tried and tested migration methodology**
- **A focus on delivering business benefits, not just technological functionality**
- **Tailored support contracts to meet clients' precise needs**
- **Automated and escalated helpdesk facility**
- **Microsoft Gold Certified Partner for Advanced Infrastructure; Security Solutions and Networking Solutions with access to Microsoft resources and early product information**

Eurodata Systems commitment to its clients does not end when implementation is complete. The importance of continuous support is underlined with a comprehensive portfolio of end-to-end services designed to give you flexible support whenever you need it.

## 5.2. *Partnerships and Accreditations*

Eurodata Systems have built strategic relationships with all the leading IT vendors and have achieved some of the industry's toughest accreditations, so you can be confident of receiving qualified, independent technical advice.

Some of Eurodata Systems key partnerships and accreditations include:

- **Microsoft Gold Certified Partner for Advanced Infrastructure; Security Solutions and Networking Infrastructure Solutions**
- **HP Enterprise Partner**
- **Cisco Elect and Premier Partner**
- **Whale Communications Master Partner**
- **Check Point Consulting Partner**
- **CHECK Accredited**
- **ISO 9001 compliant**

## 6. Further Information

Working with our clients, we have found more and more the need for precise and relevant information that is easy to digest whether you are a non technical business decision maker or an IT Director who doesn't have the time to wade through mountains of technical and business links on new Microsoft technologies.

For these reason we have developed a number of precise information guides, please visit our website for further information at [www.eurodatasystems.com](http://www.eurodatasystems.com) or call 020 7549 3000.