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Microsoft and Windows XP

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Microsoft is launching its newest Windows product this week. Windows XP and Windows XP Professional will make their debut on October 25, in what could be considered less than auspicious market conditions. While these market conditions will surely impact the sales volume of this latest offering in the Windows family in the short term, we see a number of features that will make this OS readily adopted over the course of time.

In a nutshell, Microsoft is offering a very user-friendly OS with industrial-grade internals that will make the computing experience not only less arduous for the end user, but also more consistent and reliable. The core components of XP are the descendents of the Windows NT code base, in the form of Windows 2000, which represented a significant step forward in its own right in areas of stability and reliability.

The revamped user interface is the first thing most users will notice, especially on the consumer side along with the wide array of more "fun" applications now included in the OS. Video editing and CD burning are sure to capture consumer user's attention, as will audio and MP3 features. Gaming features will appeal to yet another section of the consumer base. But for the most part, we will ignore these features in this report, and focus on the more industrial strength attributes of Windows XP, and specifically Windows XP Professional Edition.

While we believe there are significant features of value in the XP package – many that we will discuss later in this report – we also believe it is important to point out exactly where this version of the OS resides on the larger continuum of evolving operating systems.

Where We Are Going

In our mind, the XP Pro iteration sits astride a tectonic shift in computing. XP Pro represents the last of the desktop-centric computing platforms. As the computing environment moves ever more quickly to a Service Computing-based model – like that of .NET or SunOne, we see the overwhelming focus of the computing environment on OSs like Windows 2000 or XP Pro diminishing.

But not entirely, and not instantaneously. In fact, the XP Pro offering begins to show us just where computing is headed, and itself is built to participate – at least initially – in this new computing environment. By way of analogy we would offer up the following: XP Pro represents the last of the great steam locomotives. It is fast, powerful and largely self-sufficient. It provides the user all that is needed, yet is bound by certain limitations in the areas of speed, efficiency and demand *vis à vis* external market factors (air travel).

Looking ahead, the Service Computing environment by contrast is much more like a high-speed bullet train, such as the French TGV. This train performs many of the same functions as its steam-based predecessor, yet it does so with greater speed, more comfort, greater efficiency and with competitive aspects to market conditions (i.e., it's more convenient and less expensive than flying yet takes only a fraction longer).

Like the TGV, the Service Computing model will require much more fastidious attention be placed on the support infrastructure. Just as the TGV tracks, communication system and safety features are deployed to allow for such high-speed ground travel, so the network infrastructure in the Service Computing environment will have to be substantially upgraded from its present condition.

That being said, we want to make it clear that XP Pro is no wood-fired single stacker trundling down a single, narrow gauge railroad track while the engineer shoos away buffalo with his whistle. Instead, XP Pro would be more akin the highest refinements of steam engine travel, with multiple tracks, first rate communications and signaling, and the comfort, speed and reliability that

those earlier trains simply could not match. Essentially, Windows XP Pro can run on both kinds of rails. It can run on old "tracks," as it were, yet is able to operate on a limited basis on a TGV system as well.

Service Computing in the Enterprise

Service Computing offers a wide range of benefits and challenges to enterprises and vendors seeking to sell products into this computing environment. For most enterprises, the opportunity afforded by the Service Computing model to customize applications on a departmental level, and to do so on an ongoing and ad hoc basis, will bring real computing efficiencies to bear. In the Service Computing environment, relatively low-level employees will be creating applications for departments using collections of modular components. Those applications will be built within a common architecture (like .NET or SunOne) and can be distributed to the appropriate people as needed. The applications will run offline as well as online.

In addition to more granular application development, Service Computing will also provide users with the ability to capture their work environment from virtually any computer attached to the network. This feature will give users greater flexibility, and reduce redundant configurations on multiple machines. For users, their digital self will follow them around.

The Service Computing environment will give power back to Line of Business personnel, allowing them to innovate in much the same ways they did when they side-doored PCs and ad hoc networks on a departmental level. What we saw in these early examples of grass roots enterprise IT deployment, we will see in full force within a Service Computing environment. Perhaps the only difference will be that such behavior will be officially sanctioned and supported.

How XP Pro Takes Us There

While XP and XP Pro have a wide range of features that are quickly and easily noticed, we are going to focus most of our attention on more mundane, but important, features of the new OS.

First and foremost of these features is reliability and stability. XP and XP Pro are descended from the Windows 2000 code base, giving them superior reliability compared with Windows 95, 98 or ME. In essence, it brings enterprise desktop reliability requirements to the home or desktop business user. This improvement in reliability has been a long time in coming for users, who have had to suffer though Windows 95, 98 and ME instability for longer than is really acceptable.

Microsoft has also taken great pains to ease the set-up process for most users. This time-consuming and often painful process has resulted in substantial hair loss and tooth chipping in the past among Microsoft users. The emphasis on improving the general experience of the more technical parts of using a computer represents a continued effort to make computing less of a specialized skill than it has been in the past.

Furthermore, startup, reboot and hibernate response times have been greatly reduced, allowing the user to get to, or get back to work, much more quickly. (This might seem a minor issue until one considers the time wasted over the course of a year in finger drumming and mouse shaking.)

The Dynamic Update feature, which provides easier setup by allowing for the collection of necessary drivers and software patches from the Microsoft Web site, is also a feature that has caught our eye. Here, we see the first glimpses of the future of computing; where much of one's needed componentry is assembled on an ad hoc basis using connectivity instead of excess disk space. Automatic Update is also in effect during the general use of the computer,

offering ongoing updates and fixes. Such fixes in an enterprise environment could be distributed either from Microsoft or from within the firewall as well. While technically not a particularly difficult implementation, its inclusion indicates that such features are only the beginning of a much broader Service Computing model to come. To refer to our analogy earlier in this report, we would argue that here we see XP Pro bridging the gap between the advanced steam engine to the more modern TGV model.

XP Home and Pro also offers the ability to set up home or small office networks, allowing for a single Internet connection on a primary computer to be shared by with others in the same immediate location. As broadband in all its forms continues to penetrate more broadly in the market, such a feature is a necessity in many circumstances; Microsoft's inclusion of this feature recognizes that reality. As a result of this growing awareness of home and small office networking demand, Microsoft has included a lightweight firewall product that sits on the primary computer. While far from meeting the full spectrum of enterprise firewall needs, it does provide a modicum of protection to the novice user that was not there before.

XP Pro Most Notable Features

Windows XP Pro takes this migration from a steam engine to a high-speed bullet train several steps further.

Most notable is the IntelliMirror set of features. These features alone provide another set of coordinates on the computing continuum that leads to Service Computing.

IntelliMirror essentially allows a user's profile, data, settings and applications to migrate with the user within a distributed computing environment. Essentially, the user's computing self is stored on a server; the user can then bring up his or her computing environment on any compatible machine within the network. While this is an extension of features found in Windows 2000, its inclusion in a more consumer-focused product pushes the computing model – and demand for this model – out through the ranks. As more and more people experience the benefits of accessing their desktop from a range of non-personal machines, the value proposition of Service Computing will make itself ever more visible. In this regard, we see XP Pro as a substantial step forward.

Advanced users can take the XP Pro experience even further down the path of Service Computing. Remote Desktop features allow users to access to a desktop machine running Windows 95 or later. Such a feature allows a mobile worker to maintain a single desktop environment without the hassles of synchronizing all elements of two or more computers. This feature, like IntelliMirror, offers a user a computing experience that transcends the steam locomotive-like earlier Windows offerings.

Another feature that has caught the attention of many is the product activation process. For the first time in North America, a specific licensed copy of the operating system is registered to a specific combination of hardware, thus enforcing the one license, one computer rule. While some react negatively to the thought that they are being forced to comply with the long-standing licensing terms, we find it hard to shed many tears over this, as most bulk or subscription service customers would not receive activation-required software, and those who have been double or triple dipping will simply be required to pay for what they use.

However, this does raise an issue that will become very important in the increasingly networked focus of computing, i.e., enforcing licensing terms of Web Services and the other distributed components that will ultimately com-

prise Service Computing. While these components by nature would likely not be tied to a specific combination of hardware, they will most likely need to be tied to a combination of identifying factors such as hardware, personal profile, location, encryption keys, etc. Hence, we believe the notion of software activation is a reality that will be become more prevalent, albeit hopefully automated, as Web Services and Service Computing unfolds. Just where in the network architecture these activations or authentications will take place is not necessarily known; however, it would stand to reason that some form of user directory would likely play a role. How Microsoft will ultimately position its Active Directory and product activation technologies with respect to this need remains to be seen.

On the Outside

Microsoft has not hidden all of the changes to this offering from the user. While substantial changes under the hood have been discussed earlier, it is important to note that XP offers an improved user experience as well.

The company claims its has made great efforts to simplify the user experience graphically by improving various common function views like Control Panel, document folders and the like. The Start Menu, for example, has been simplified to do away with the cascading columns of subfolders and directories that pop-up on screen and only complicate selection of the desired item. Users will be able to customize start menus allowing their most heavily-used applications and files to be presented in a less cluttered environment. Improving the bandwidth between the monitor and the user's eyeballs is both a necessity and a notable accomplishment.

What It All Means

XP Pro is going to be a revelation to many users. And by this we do not refer to the new user experience, the cool widgets and toys contained within XP Pro. Something much more fundamental is afoot here.

We believe that as users become more comfortable with the various features that make XP Pro so network friendly – including IntelliMirror, Roaming User Profiles, automated software updates, networking and desktop management – the broader concept of Service Computing is going to gain mind share. In fact, in many ways, XP is an excellent bridge between the outgoing model of desktop-heavy, fixed, non-roaming computing and the more mobile, user-centric and granular computing model that is waiting in the wings. In many ways, Microsoft is chumming the water in a very effective manner for its next big thing, the .NET initiative with XP.

XP Pro will drive more than mind share in enterprise desktop users. As it offers glimpses of the opportunities afforded by Service Computing, it will also highlight the necessary changes needed in infrastructure and application development that must be in place for Service Computing to take hold. While Windows XP Pro can use the network to provide software updates and the like, it doesn't have to. For now, it can function on a stand-alone basis. But from what we've seen, we believe that XP Pro's most exciting features are those that integrate the desktop OS with the networking demands of the computer user in the 21st century.

And make no mistake about it; Microsoft is looking into the future. The XP Professional edition is a clear attempt to begin not only painting a picture of that future but implementing it as well. .NET is one of the architectures that will support our vision of Service Computing and we believe Microsoft's initial chumming of the .NET waters with XP Pro is a well calculated move.

As XP becomes a more broadly disseminated operating platform, it will bolster Microsoft's attempts to bring a tighter focus on the .NET initiative. In doing so,

we see Microsoft stealing some of archrival's Sun's thunder in this area, one that Sun has long claimed as its own. While Microsoft is nowhere near declaring "the network is the computer" as Sun has for the past five years, it is acknowledging that the desktop is greatly enhanced and expanded by integration with, and leverage of, the network.

Microsoft's ability to continue to leverage its ownership of the desktop gives it a powerful tool in evangelizing its Service Computing architecture as a viable if not more desirable alternative to Sun's SunOne offering. As we move more toward the Service Computing model, we see the ability of line-of-business personnel to make more comprehensive IT decisions as growing substantially. While IT's role will not diminish overall, it will change dramatically. LOB people will begin deciding what applications run where and for whom, while IT will be increasingly consumed with the task of making sure the infrastructure is there to support the Service Computing environment. As such, ownership of the desktop – where LOB people live – will become increasingly important. The value of Microsoft's ownership of this part of the network will only increase over the course of time as we move ever closer to the eventuality of Service Computing.