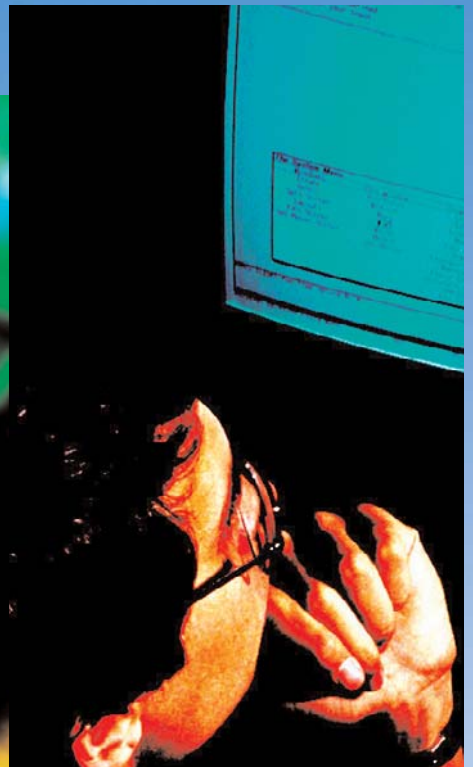
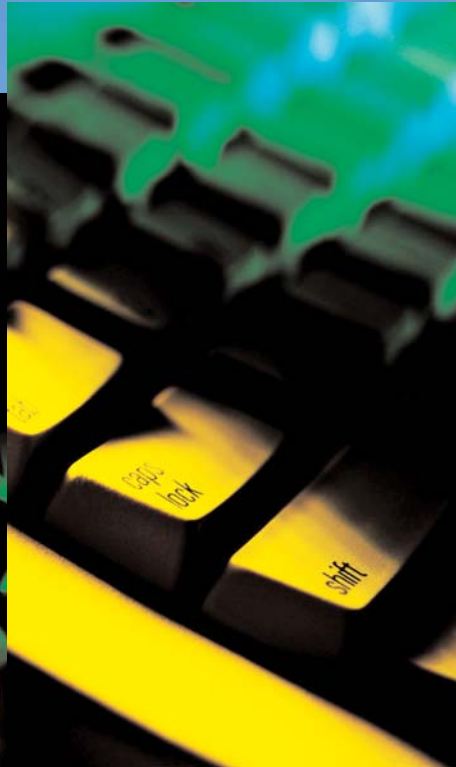


Cutting the Cost of Technology Rollouts Across the Global Enterprise: Fasttrack from Zipper AB



Solution Overview



Microsoft[®]

intel[®]

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1. Meeting new Market Demands

Investments in technology underpin the successful growth strategies of many leading global corporations. Web Services and Microsoft* .NET* technologies offer companies a way of bringing new products to market more quickly, expanding their services at lower cost and improving their business agility. But while companies accept the principle of technology innovation they are asking hard questions about why they should upgrade existing systems and platform that are stable and work well. They want clear evidence of a substantial return on investment for a proposed technology upgrade.

Zipper AB, a Swedish infrastructure support company, has developed Fasttrack*, a software solution which simplifies the task and cost of deploying innovative operating systems from Microsoft. Using Fasttrack, major corporations in Europe have cut the cost of maintaining complex hardware and software systems for thousands of users by more than \$1,000 per workstation. Fasttrack has also cut the cost of deploying new operating systems like Microsoft* Windows* XP*, by significant amounts.

Windows XP brings corporations rich functionality and a robust operating system for Web Services. Fasttrack makes use of Intel's open specification for the PXE environment, a technology which allows remote booting of systems and the automatic upgrade of systems out of working hours. Fasttrack makes use of Microsoft's IntelliMirror, a technology which allows users data, applications, and settings to follow them, whether or not they are connected to the network.

The combination of Windows XP and Intel® processor-based servers brings several advantages to the enterprise. Intel Xeon® with the Intel NetBurst® micro-architecture and HyperThreading technology deliver outstanding price/performance for DP server platforms for both application and Internet infrastructure deployment.

2. The Business Challenge

Enterprises accept that new technology will improve the functionality and efficiency of their businesses. But faced with a cautious investment environment, IS departments are taking a close look at the implications of changing operating systems and hardware platforms. Rather than take the latest version of the operating system from a software house, IS departments are choosing to wait, effectively shipping an upgrade.

While this approach saves money in the short term, it will cause problems for the company's future IS strategy. The company misses out on the technology improvements immediately available on offer. Old versions of operating systems and applications inevitably cost the enterprise more to support. And when a company does decide to upgrade to the latest operating system on offer from the software vendor, the upgrade will represent a major change to systems and processes. Smaller incremental changes to operating systems cost less than major revisions.

Fasttrack technology enhances the migration tools available from Microsoft. By consolidating their legacy systems, moving to Windows XP and deploying the latest Intel-based servers, enterprises have cut their operating costs and benefited from the flexible deployment options and wider configuration choices.

3. The Solution Overview

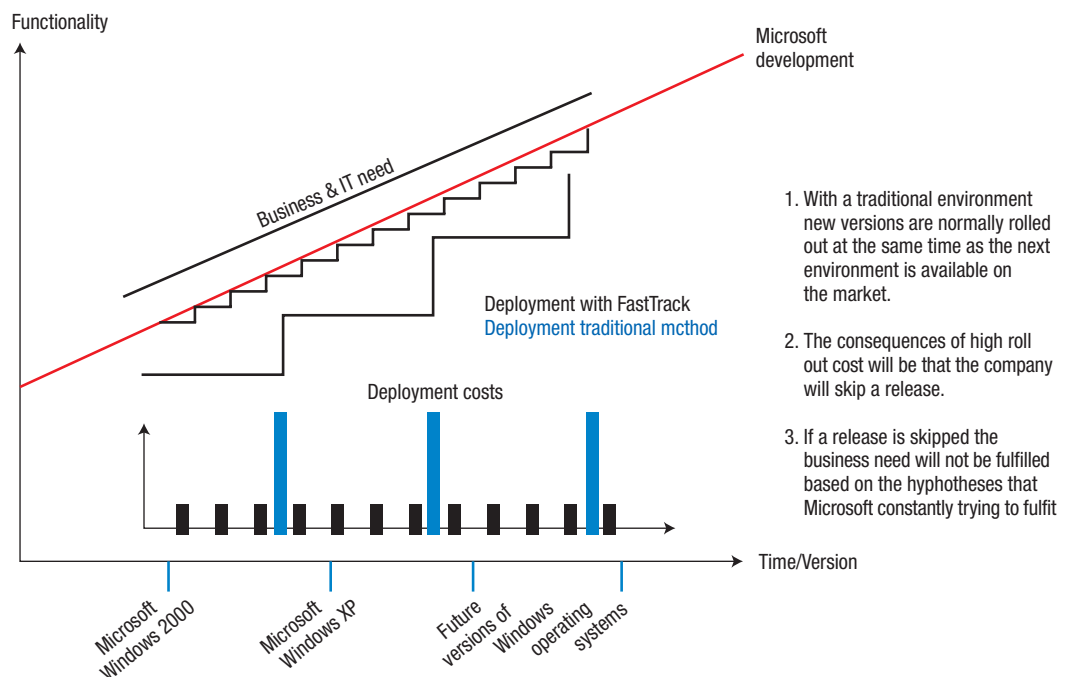
Fasttrack makes full use of Microsoft's Windows 2000 server infrastructure, Active Directory and Microsoft Windows XP. Its enhanced functionality reduces the cost of rolling out new PCs and operating systems, as well as the on-going maintenance of applications and user configurations. Through its mobility solution, a transparent environment between PC and terminal server, a user can log into any PC to reach their desktop environment. They can also log in from a thin client environment and Web-browser, with limited performance and functionality.

Several important issues for the IS department are addressed by the Fasttrack solution. Rather than using valuable support staff to install new workstations, Fasttrack allows the enterprise to automate PC installation and software distribution. Fasttrack makes use of Microsoft's Remote Installation Services, a feature that remotely installs Windows XP on a new computer, or rebuilds a computer as part of a disaster recovery scenario and Windows Installer service.

User administration across the organization is automated. Major cost savings are introduced through simplified system management and the need for hardware upgrades. System access is made more flexible from both thick and thin environments

Enterprises with Fasttrack and Windows XP in place are strongly positioned to take advantage of Microsoft .NET technology and Web Services. New applications developed using .NET, for instance, based on 'out of the box' system components, cut the amount of code needed for development. When combined with Intel® Itanium® architecture, companies acquire world-class capability for large databases, business intelligence, security transactions and high performance computing.

The following diagram shows how Fasttrack technology smooths the cost of major software rollouts. The cash flow requirement on the IS budget is eased, since changes to the operating system are minor rather than major. The company is also more strongly positioned to take advantage of future operating systems releases from Microsoft, and the Microsoft tools that already exist to help system deployment across the enterprise.



4. Technology

Fasttrack brings a number of advantages to the enterprise. Moving from Microsoft Windows 2000 to Windows XP can reduce IT infrastructure costs by between three and five per cent. Microsoft Windows XP and the Intel® Pentium® 4 processor – the world's highest performance desktop microprocessor – create a richer PC experience for corporate users, with broadband audio and video content. Pentium 4 processor-based systems are a compelling way to make the most of Windows XP's enhanced multitasking environment. Businesses that replace older PCs and operating systems enjoy decreased capital costs, labor costs and help-desk calls.

4.1. PC/server-installation

The PC/server-installation in Fasttrack is fully automatic. It is based on Intel's industry standard PXE technology and **Microsoft's Remote Installation Services** which lets a system manager boot a PC remotely over a network. When a new PC is started it will automatically prompt the manager for installation. When the type of installation is chosen the PC starts to install all the operating system/hardware specific components and applications needed over the network. The installation requires no intervention during the process. The same installation can be forced onto any PC in the network by a Wake-on-LAN/reboot command. This means that a PC can at any time be reinstalled or upgraded remotely.

4.2. User administration delegation

The user administration is totally linked to the Active Directory (AD). A Web-interface makes the administration easier and reduces the number of tasks needed to build and maintain a user account. To create an account, an administrator only has to fill in a Web form with basic information about the user. The account, group memberships, mailboxes and home-directories will automatically be created by the Web-application. There is also a separate Web-interface where the user himself can enter information (AD-attributes) and make himself a member of a selected group.

4.3. Software distribution

Software distribution is totally based on Windows Installer

The Windows Installer feature is built into Microsoft Windows XP and Windows 2000 Server operating system.

Smart technologies included in the Windows Installer service allow installation, repair, updating, and removal of applications to occur when needed. This reduces the support burden and increases availability of the user's computer.

MSI-packages, the Microsoft standard package for Windows Installer, will be built in a way that allows for the same software package to be used on PCs as well as a terminal server. Packages can be sent to the PC/server, or to the user, depending on how the application is licensed and used. Functionality is built into the program to run pre/post installation scripts and pre/post run scripts if needed.

4.4. Mobility

Because the environment is built to be transparent between PCs and terminal servers the user can login and access his environment on any PC as well as from any terminal server client.

The user gets the same desktop and data access while moving around with his laptop, logging on to any PC or from any Web-browser (through the terminal server Web-interface).

4.5. Logging and inventory

All actions such as PC/user/software installations are logged into a central SQL database. The start of applications is also logged allowing for comprehensive analyses and billing for installation or usage. Information on PC hardware is collected through a configurable WMI application and consolidated to a central SQL database.

5. Who The Solution Will Benefit

Several major corporations across a wide number of industry sectors have already deployed the Fasttrack solution successfully. They have rolled out major changes to operating systems and hardware with little disruption to every day operations, maintaining business efficiency.

Fasttrack technology has been used in rollouts of new Microsoft platforms at several large companies, including an 80,000 user site at ADB-kontoret, a Swedish service delivery company; a 15,000-user site at Akzo Nobel, a chemicals company, and two 20,000-user sites at power companies Sydkraft and Vattenfall have also benefited from Fasttrack technology.

The best of breed technologies from Fasttrack, Microsoft and Intel have created an optimal scalable platform for new business services.

Chief executive officers have seen profits increase through efficiencies in new business operations modeled on the Web. They have also begun to plan for a more mobile workforce, since Fasttrack allows flexible logons within the network from any PC. It also encourages mobility by facilitating logon from remote workers' laptops, terminal services and Web portals.

In some of Fasttrack's customers, the **chief financial officers** have seen support staff overheads cut by 25 per cent. The return on investment for new technology roll-outs is improved, as is cash flow.

Chief technology officers are free to concentrate on developing IS strategy by using Fasttrack. A number of routine tasks are automated, including operating system upgrades, and the distribution and upgrading of applications.

CTOs have also seen better cost control and cost reduction. They can employ a cheaper workforce where appropriate, reduce volume tasks through high levels of automation, and follow up on system usage by extensive logging of application startup and installation.

IS managers have redeployed highly trained support staff, since PC, server and application installation is automated, and can be managed remotely. Users can install their own PCs.

They have also benefited from increased operational stability through the standardization of trouble shooting routines and handled application environments. Emergency startups can use PXE remotely in a terminal server window.

Departmental administrators can assign email distribution lists and project groups easily.

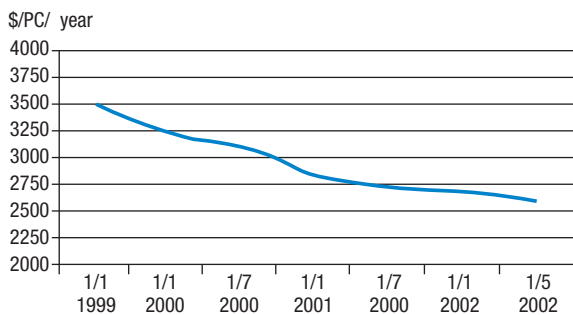
6. Case Study / Proof Points

Fasttrack aims to provide a business with current technologies and functionality, as well as reduce PC and server maintenance costs.

This is a costly area for most of the companies. Gartner Group has carried out several TCO studies showing how enterprises can manage their IS environments more effectively.

The diagram below shows how a Fasttrack customer who deployed this kind of standard solution in 1999 has saved money. The diagram shows the actual costs (billed by the external vendor) for the PC hardware, software and maintenance over a period of time.

The Fasttrack solution is a natural extension of Microsoft technology.



“The Zipper Corporation and its Fasttrack solution provide an efficient deployment model for the Windows platform,” says Jens Gorne, Microsoft’s Enterprise and Partner Group Business Productivity Manager in Sweden

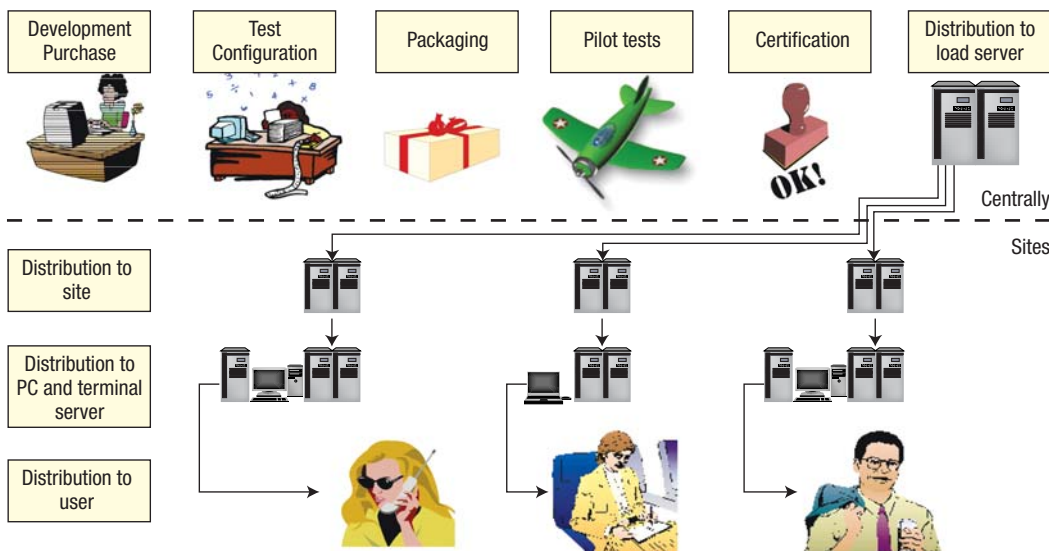
“Working with Zipper, we help our mutual customers realize the true business value of Microsoft solutions.”

7. Functional Business Concept

Fasttrack’s customer goal is to make sure that the thousands of PC users within large corporations have an optimized PC at all times. This is normally a difficult operation for the IS department. With Fasttrack, users at any PC have the latest version of the operating system and properly configured applications. The upgrading and maintenance process is as simple as possible.

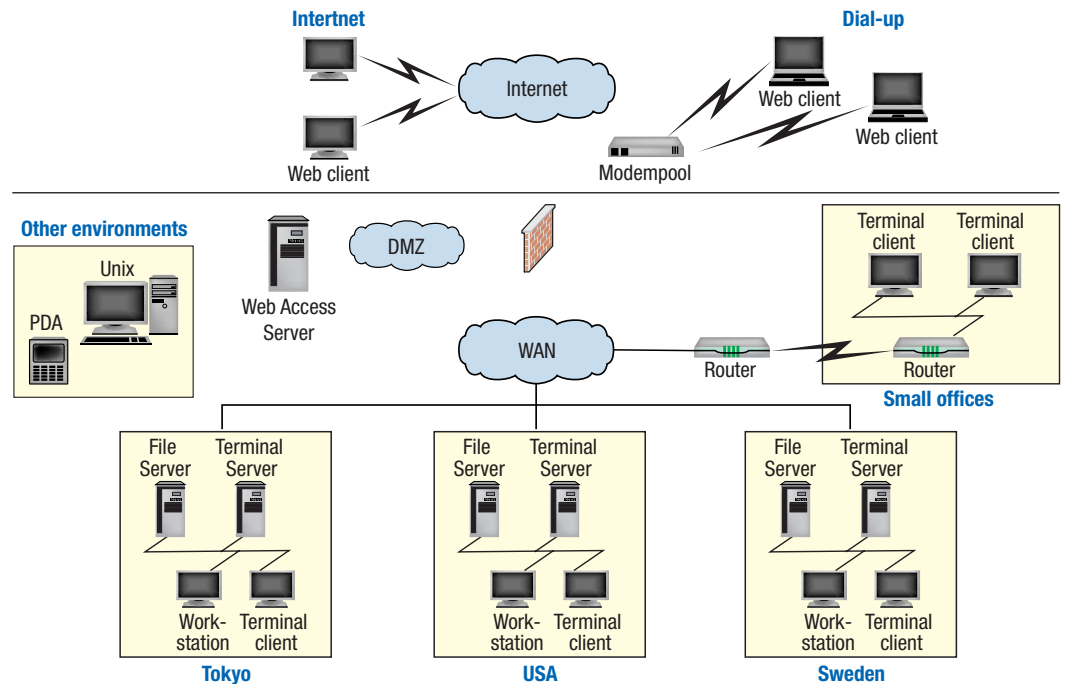
Users should always expect to find the correct software tools on their desktops. Software distribution of this kind is based on Microsoft Active Directory, which assigns user privileges. Microsoft Installer Services helps to install applications.

The diagram below illustrates how an application purchase moves through an organization. The flow from central servers to the users is fully automatic.



Another important feature of Fasttrack's functionality is the ability of users to reach the enterprise environment/desktop from any PC in the world, restricted only by security policies and concepts. This feature is built on Microsoft's IntelliMirror. The user can reach the desktop and all his applications from any PC within the company and from external PCs through terminal server access. He can even reach his desktop from other devices such as PDAs, or other operating systems such as Apple OS and Unix.

External roaming access to desktop



8. User Experience

IT support staff, administrative personnel and users themselves are the three principal users of Fasttrack tools.

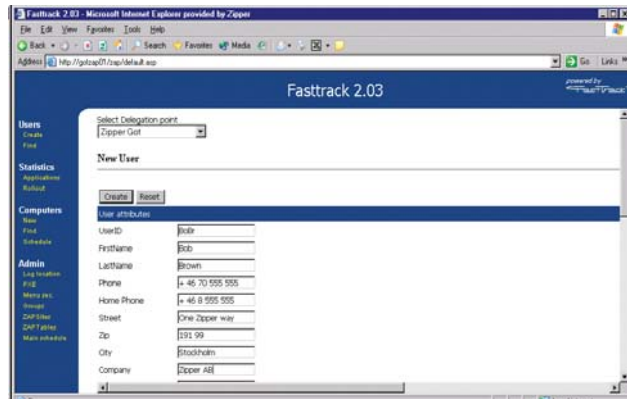
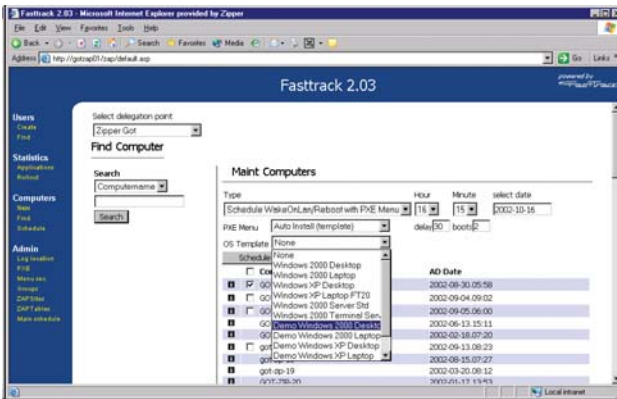
IT support staff use Fasttrack to initiate and re-install PCs, and to put application distribution packages into the system.

Administrative personnel within the enterprise can create new user accounts, including home directories and mail boxes. They can also edit user information (AD attributes) and assign applications, distribution lists and project groups.

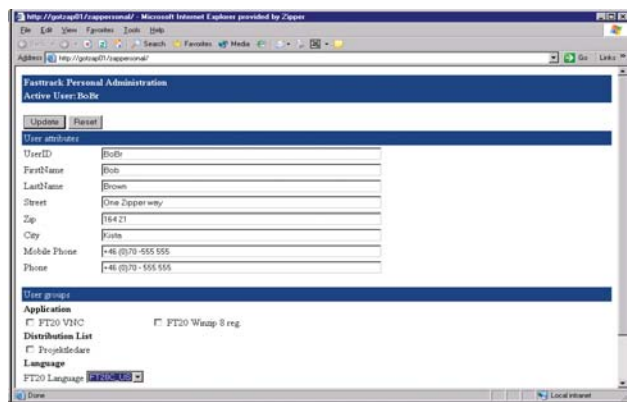
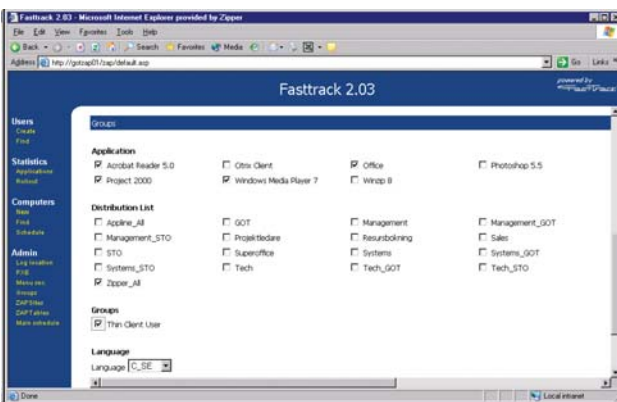
Where permitted, **users** themselves can edit their own details and join other groups or applications.

Users have different system interfaces. All menus and forms can be tailored depending on work-task and access rights.

IT support staff will see the following form on screen when one or several PCs is to be installed/re-installed. The staff can chose among several different installation procedures including different operating systems and server installations. When one or more computers are scheduled for installation the process will be fully automated, as is the installation of basic applications such as Microsoft Office*, anti-virus software and local language packs.



Administrative personnel will see the following forms when adding or editing a user's properties or group memberships



The user will see the following form when editing details about himself, or joining other groups.

9. Software Architecture

The software is build around two main applications

- The Fasttrack ZAP for user access
- The Fasttrack Wake-on-LAN/PXE server for initiating installations

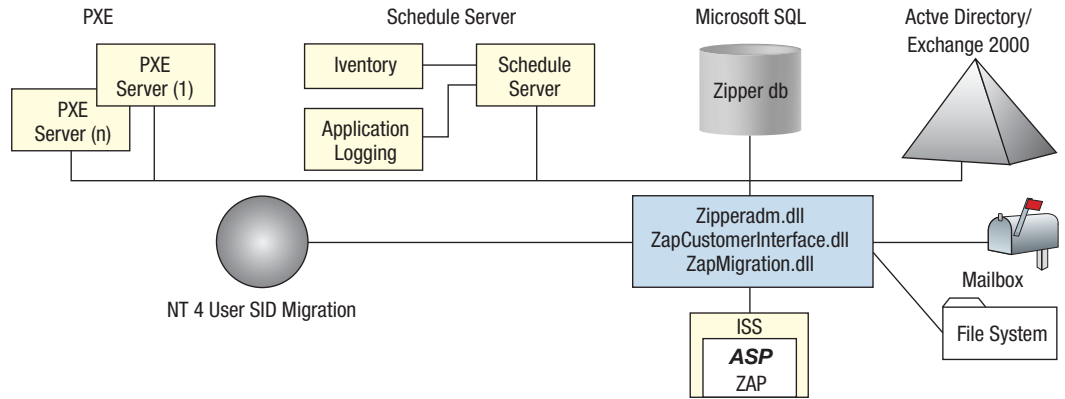
9.1. Fasttrack ZAP

Fasttrack ZAP is a Web portal that simplifies tasks for personnel who administer user configurations, applications and PC installations. It is tailored to the specific user's task, showing only information that is relevant to that specific user.

A user who is allowed to assign group memberships for organizational units in the Active Directory will only see the information that relates to the group membership of that organizational unit.

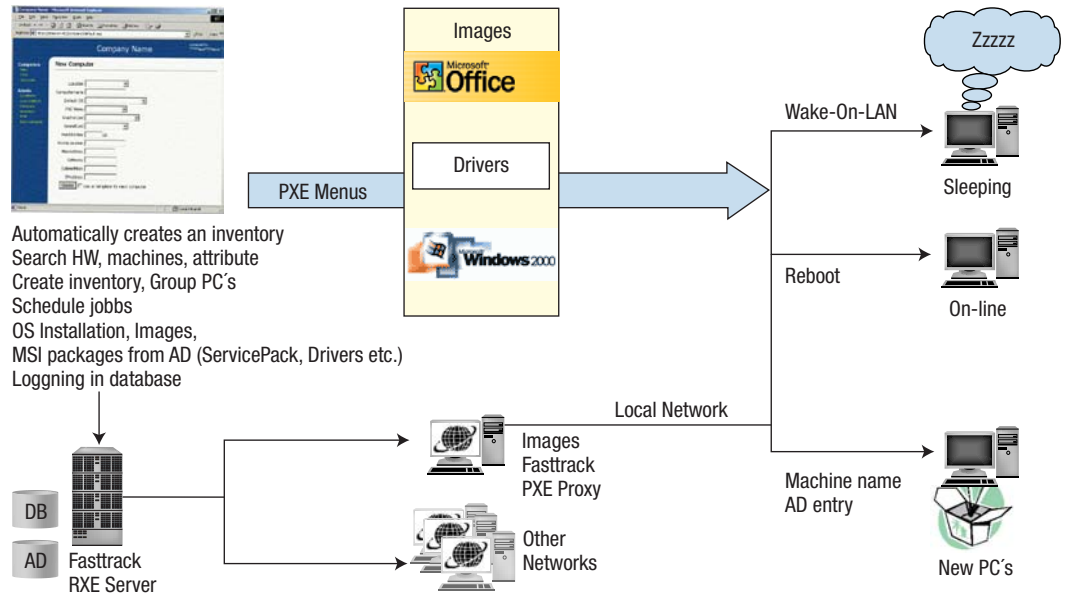
The ZAP is an application that runs in a central server and automates a number of tasks, such as the creation of user accounts, the creation of mailboxes, and the assignment of groups and user properties.

It is totally based on Microsoft development tools using Microsoft's API to perform the tasks. The basis for ZAP is a configuration database with information on the forms design and the default values. The architecture can be seen in the drawing below.



9.2. Fasttrack Wake-on-LAN/PXE server

The Fasttrack Wake-on-LAN/PXE server is based on Intel's specifications for the PXE environment and Microsoft Remote Installation Services. A PXE service is built around the server, allowing for scheduled Wake-on-LAN/reboot. It also allows for the management of services over a WAN. All PCs in the network can be managed and installed from one central point. The basic architecture of this service can be seen below.

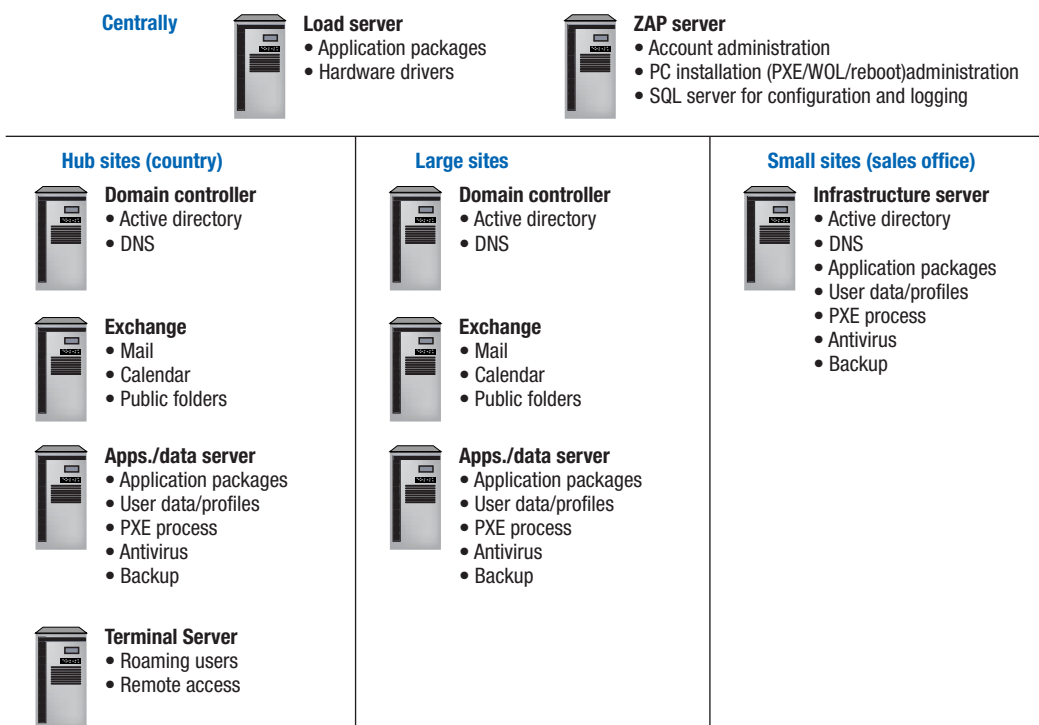


10. System Architecture

Fasttrack system architecture is totally based on Microsoft technology. Microsoft Windows 2000 Servers and Microsoft Windows XP on clients and Active Directory should be rolled out across the enterprise.

A company that relies on Fasttrack can be confident that it will be able to implement future operating system changes easily, since Fasttrack is committed to following Microsoft technology.

The server side is based on Intel architecture servers with at topology as shown in the picture below.



For more Information

Fasttrack technology from Zipper AB is a proven method of introducing new operating system and platforms to thousands of users across major enterprises with low roll-out costs.

Microsoft and Intel support the Fasttrack concept, ensuring its future development. Enterprises which migrate to the latest Microsoft technology and platform stand to benefit from a rich multi-media experience that will enhance the staff efficiency and business processes. Intel architecture underpins the Fasttrack approach, supporting a broad choice of interoperable, flexible hardware and software building blocks for the customization and optimization of enterprise solutions.

For general information about the products described in this Solution Overview, visit:

www.microsoft.com

www.intel.com/ebusiness

www.zipper.se

If you have a specific question about implementing this solution within your organization, contact your Intel representative.

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