Microsoft Solutions for UNIX Customers

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UNIX Solutions

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Business Needs ...

Interoperability & Application Integration

- Heterogeneity is the standard
  - The reality is that mixed UNIX/Windows environments are a fact of life for our customers
- Interoperability is a key concern for customers
  - The increased existence of UNIX and Windows-based environments requires a greater need and demand for interoperability
- Customers want to leverage existing investments
  - Although IT spending is slowly gaining momentum, customers continue to need to do more with less

Microsoft Interoperability Solutions

Network

Management

NetWare

Macintosh

Services for NetWare

Services for Macintosh

Active Directory

IPX

TCP/IP

Kerberos

PKI

MIIS

Windows
Built on Interoperability Standards

LDAP

DHCP

App services: OLE DB, ADO, ODBC, JDBC XML, SOAP

Host Integration Server

DNS

HTTP

XML

WBEM

BizTalk

Services for UNIX

Novell NDS, Exchange, UNIX NIS, iPlanet, Novell Groupwise, Lotus Notes

SQL Server, Oracle, Informix, IBM DB2 XML/SOAP web services

IBM, Amdahl, Hitachi

Application

Data

Sun Solaris, HP/UX, Linux, Tru64, IBM AIX
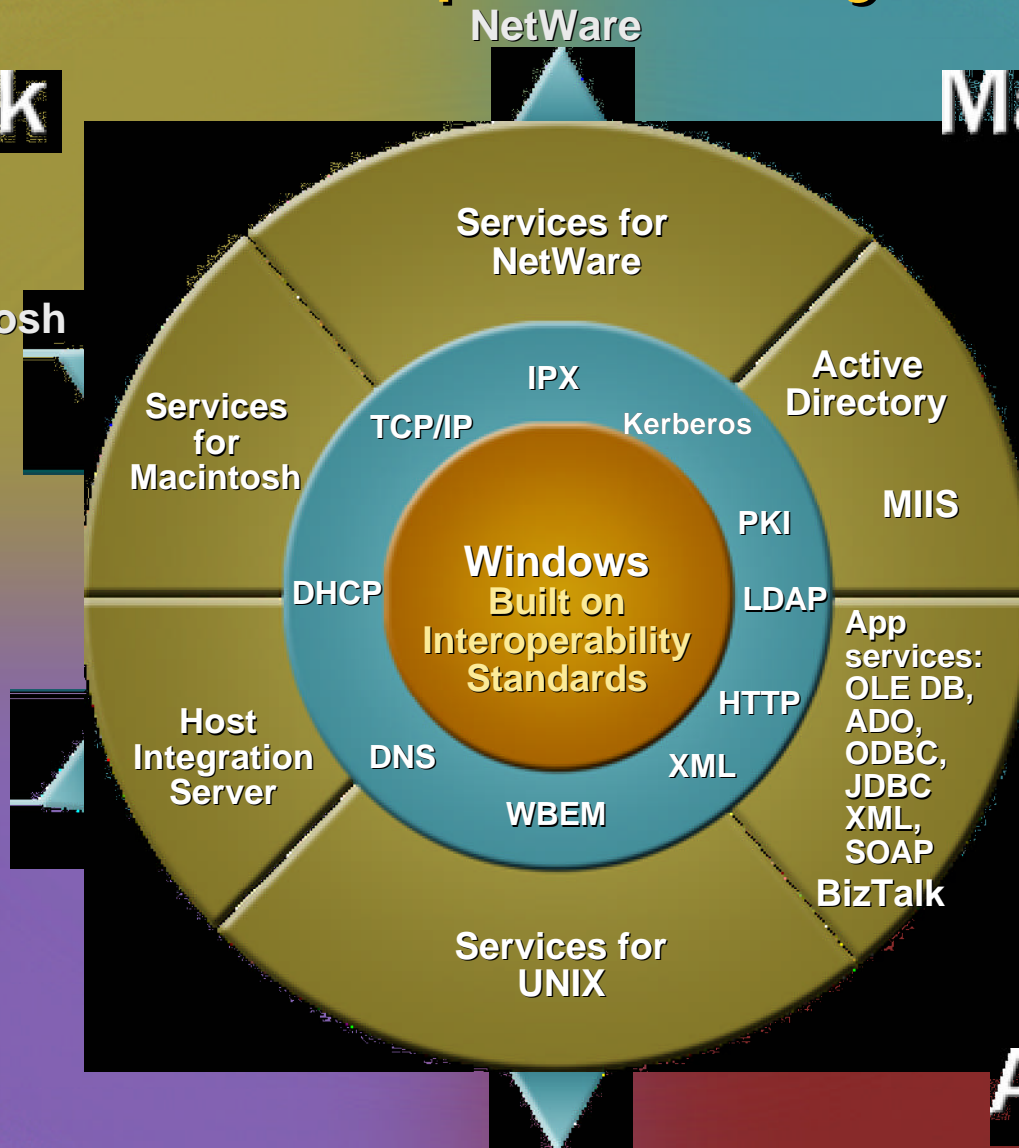
Microsoft Solutions for UNIX Customers

- Technology
  - Visual Studio
  - Services for UNIX 3.5
  - Windows Server 2003, Windows XP
  - 3rd parties: Rogue Wave, Hummingbird, Interop Systems ...

- Services & content
  - Patterns & Practices: UNIX migration & integration guides
  - Training: focused training for UNIX IT pros & devs
  - End-to-end service solutions
  - From Microsoft and partners
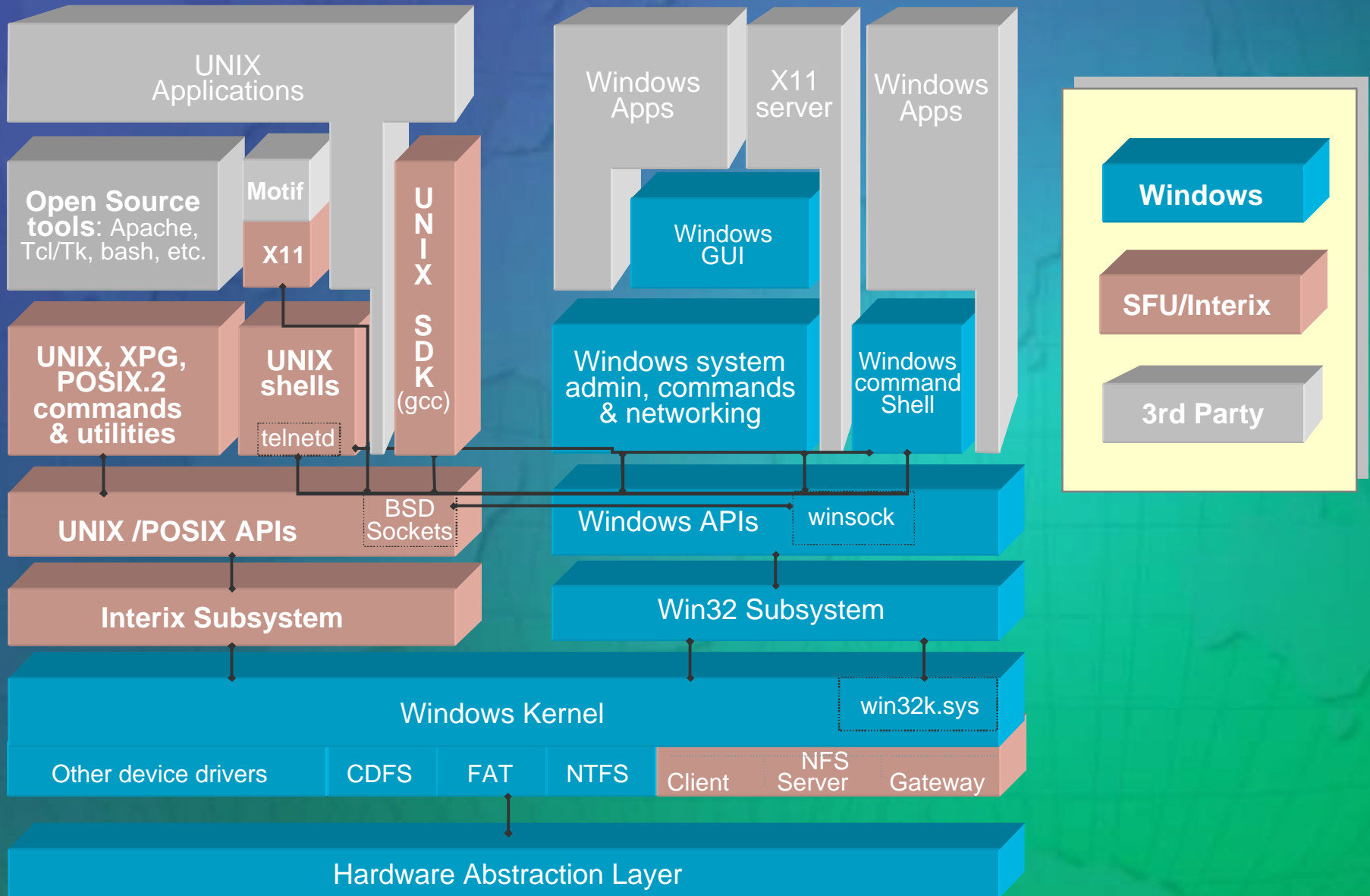
Services For UNIX 3.5

- Focused on two major customer "pain" areas
  - Seamless UNIX / Windows Interoperability
    - File & data sharing
      - NFS (Client, Server, Gateway)
    - UNIX / Windows cross-platform management
      - AD / NIS server directory services & interop
      - Bidirectional Password Sync, user name mapping
      - Remote exec tools, rlogin, xterm, telnet, UNIX scripting, Perl
  - UNIX to Windows Application Portability
    - UNIX Tools: C, C++, Fortran, scripts, build tools
    - Interix UNIX subsystem

- Leverage existing UNIX skills, methods and code

"Best System Integration" Award - LinuxWorld 2003

SFU and Windows Architecture

Interoperability

Server For NFS

UNIX Workstation

UNIX Server

Server for NFS

Windows Server

Windows Workstation

UNIX Workstation

Windows Workstation

UNIX Workstation

UNIX Server

Server for NFS

Windows Server

Windows Workstation
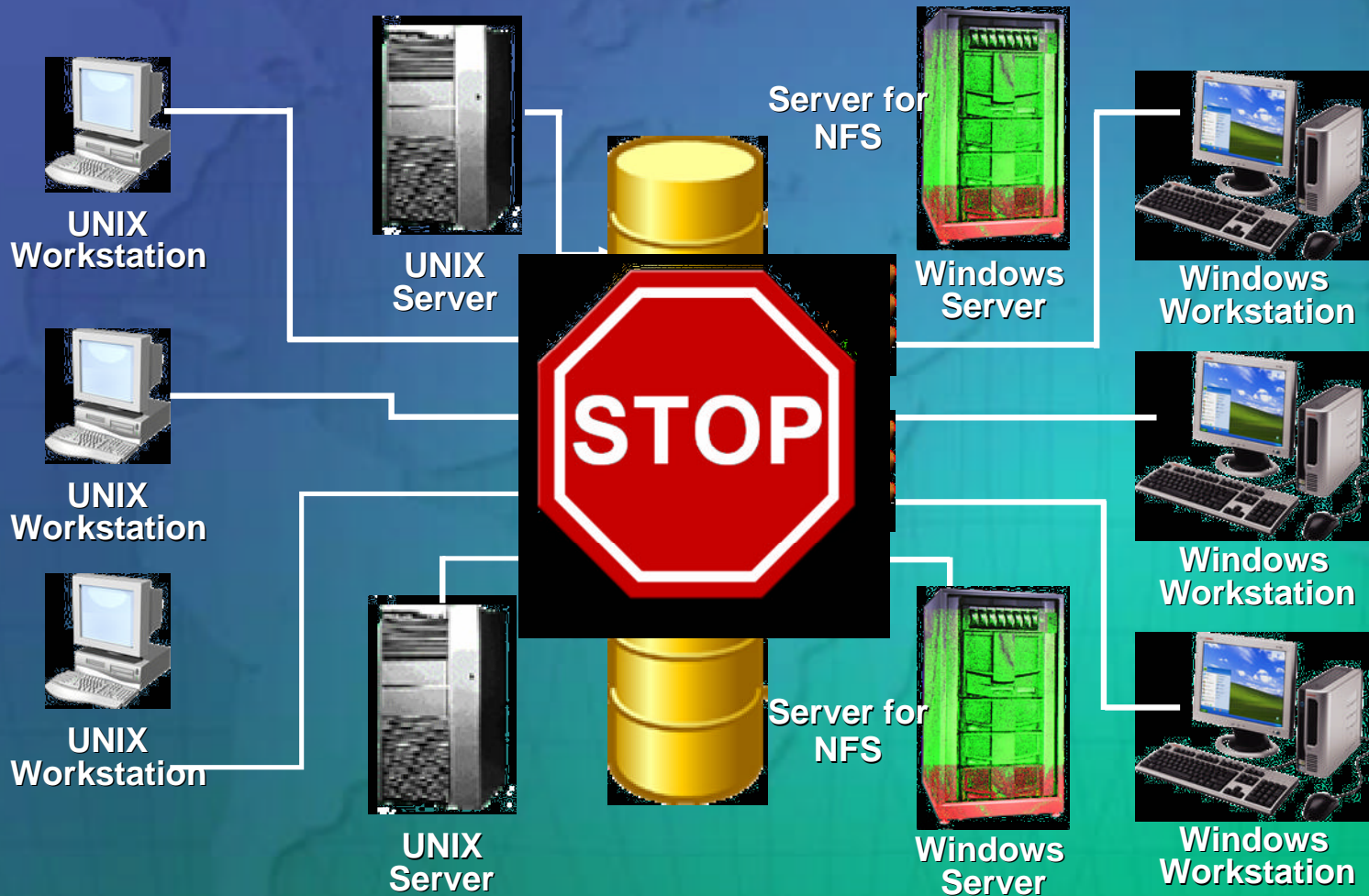
Server for NFS allows a UNIX network access to shared files and folders on a Windows server

Client For NFS

UNIX Workstation

UNIX Workstation

UNIX Workstation

UNIX Server

UNIX Server

Client for NFS

Client for NFS

Windows Server

Windows Server

Client for NFS

Client for NFS

Client for NFS

Client for NFS

Windows Workstation

Windows Workstation

Windows Workstation
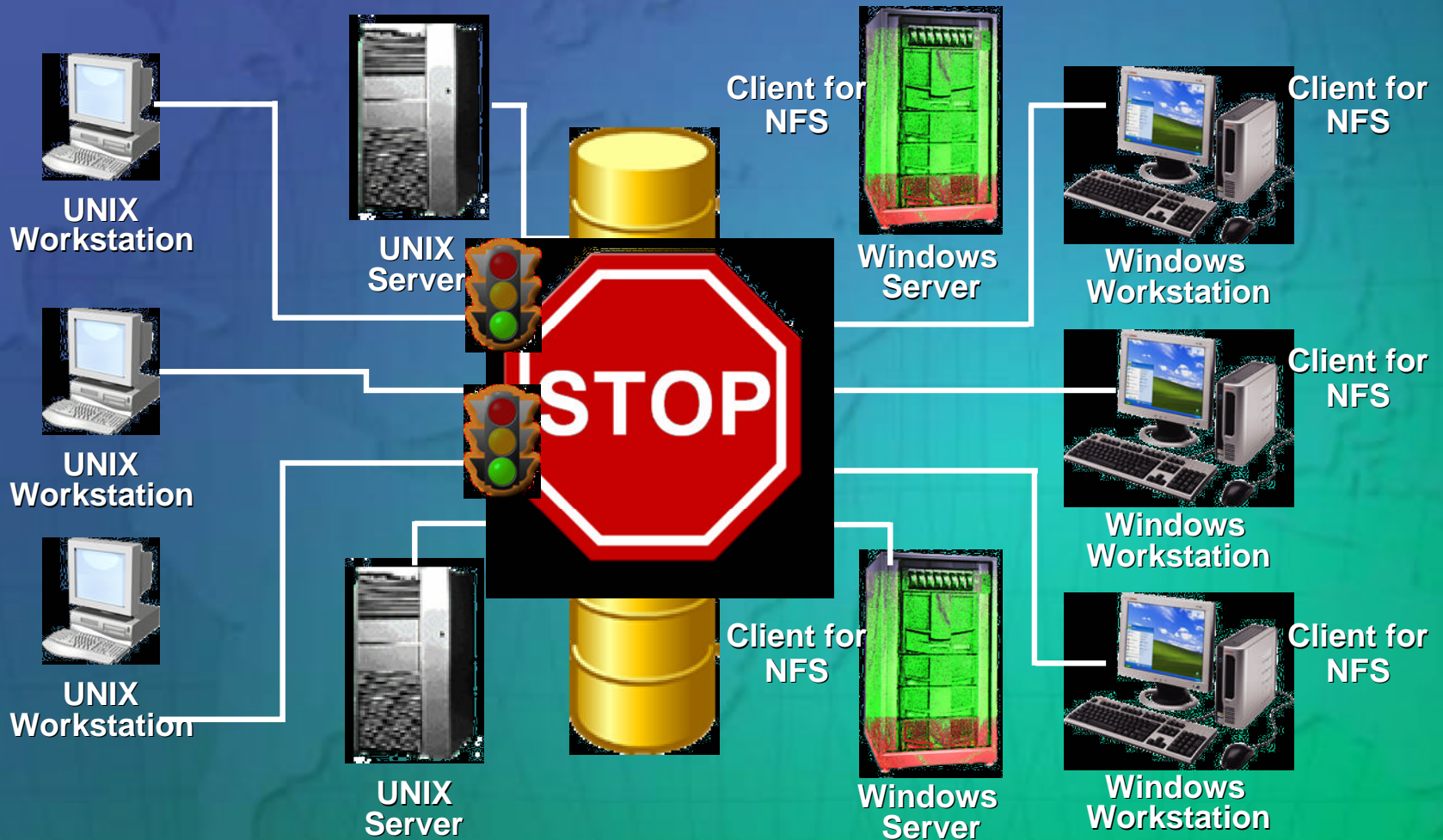
Client for NFS allows a Windows network access to shared files and folders on a UNIX server

Gateway For NFS

UNIX Workstation

UNIX Server

NFS Gateway

Windows Server

Windows Workstation

UNIX Workstation

STOP

Windows Workstation

UNIX Workstation

UNIX Server

Windows Server

Windows Workstation
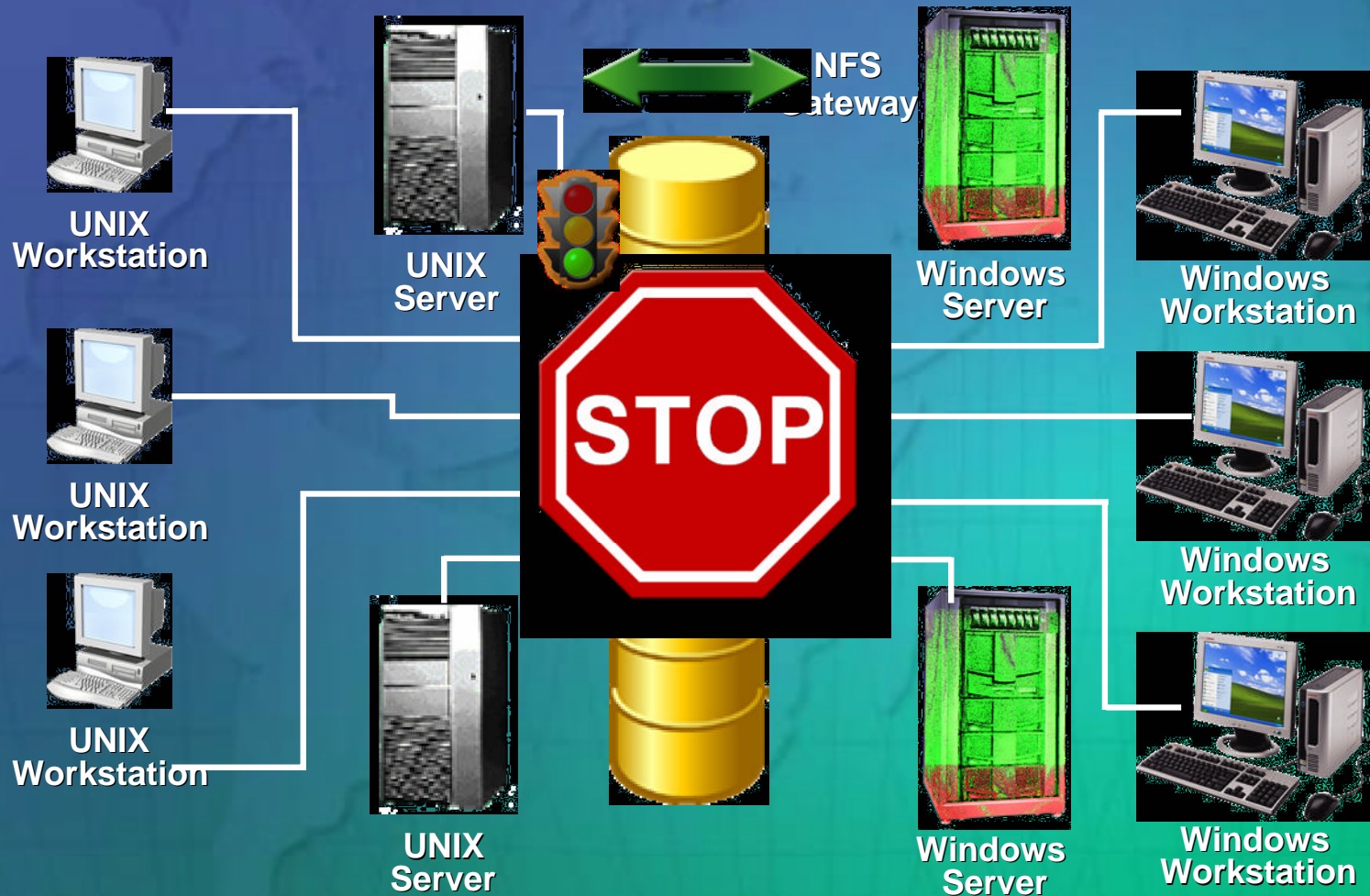
Gateway for NFS translates NFS to SMB, eliminating the need for Client for NFS on many computers

Server For NIS

Makes a Windows 2000 or Windows Server 2003 Active Directory a NIS master server

UNIX NIS Servers
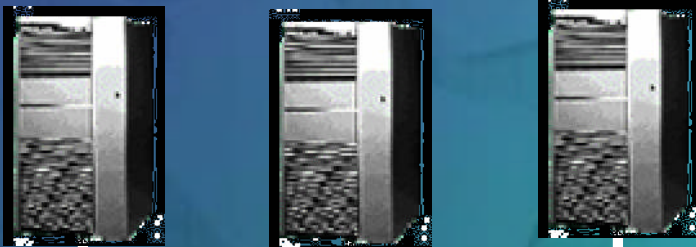
Windows Servers

Master   **Slave**   **Slave**

NIS Clients

Server For NIS

UNIX NIS Servers	Windows Servers
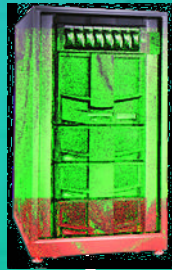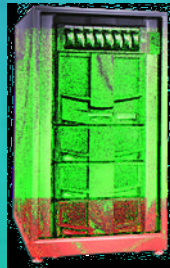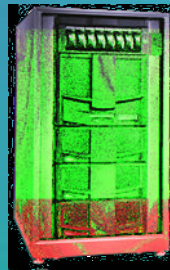
Slave   **Slave**   **Slave**   **Master**

NIS Clients

User / Password Management

- Password Synchronization
  - Two-way between Windows and UNIX
  - Supported Platforms
    - HP-UX 11i
    - Sun Solaris 7, Solaris 8
    - IBM AIX 5L 5.2
    - Red Hat Linux 8.0 and higher
  - Benefits
    - Logging
    - Debugging
    - MD5 Support
    - Supports 65,000 users
    - Improved data migration times
    - Reduced administration leading to lower TCO
- Mapping Server
  - Map Windows User and Group Accounts to UNIX
  - Performance Improvements
  - Cluster Aware
  - Group Membership Limit
    Dynamically set

Telnet Server and Client

- Telnet Server
  - Windows-based
    - Command prompt (DOS prompt) as the shell
  - Interix shell
    - telnetd, rlogind, rshd, rexecd
- Telnet Client
  - Windows-based
    - Stream Mode / Console Mode
  - Interix shell
    - telnet, rlogin, rsh, xterm

Application Portability

Interix Shells and Utilities

- Shells
  - Korn shell
  - C shell
  - Bash (via web)
- File & Text Processing
  - ls
  - cp, mv, dd
  - tar, cpio, pax
  - grep
  - more, less
  - awk
  - sed
  - pr, fmt
  - tr
- Batch Processing
  - at
  - cron
  - batch

- Development
  - gcc, g++, g77, VS C
  - gdb
  - make, lex, yacc
  - ActiveState Perl 5.8
  - Perl 5.6
- Connectivity
  - bind
  - sendmail
  - ftp
- Job Control
  - ps
  - nice
  - kill
- X11R6 Graphics
  - xterm
  - xrdb
  - xset

UNIX Tools for Windows

UNIX / Windows / .NET Integration

Integration Methods
- Direct invocation
- Pipes
- Sockets
- Shared memory
- COM
- XML web service

UNIX App

.NET App

Windows App

Interix Subsystem

Win32 Subsystem

.NET Framework

Windows OS Kernel

Common Services
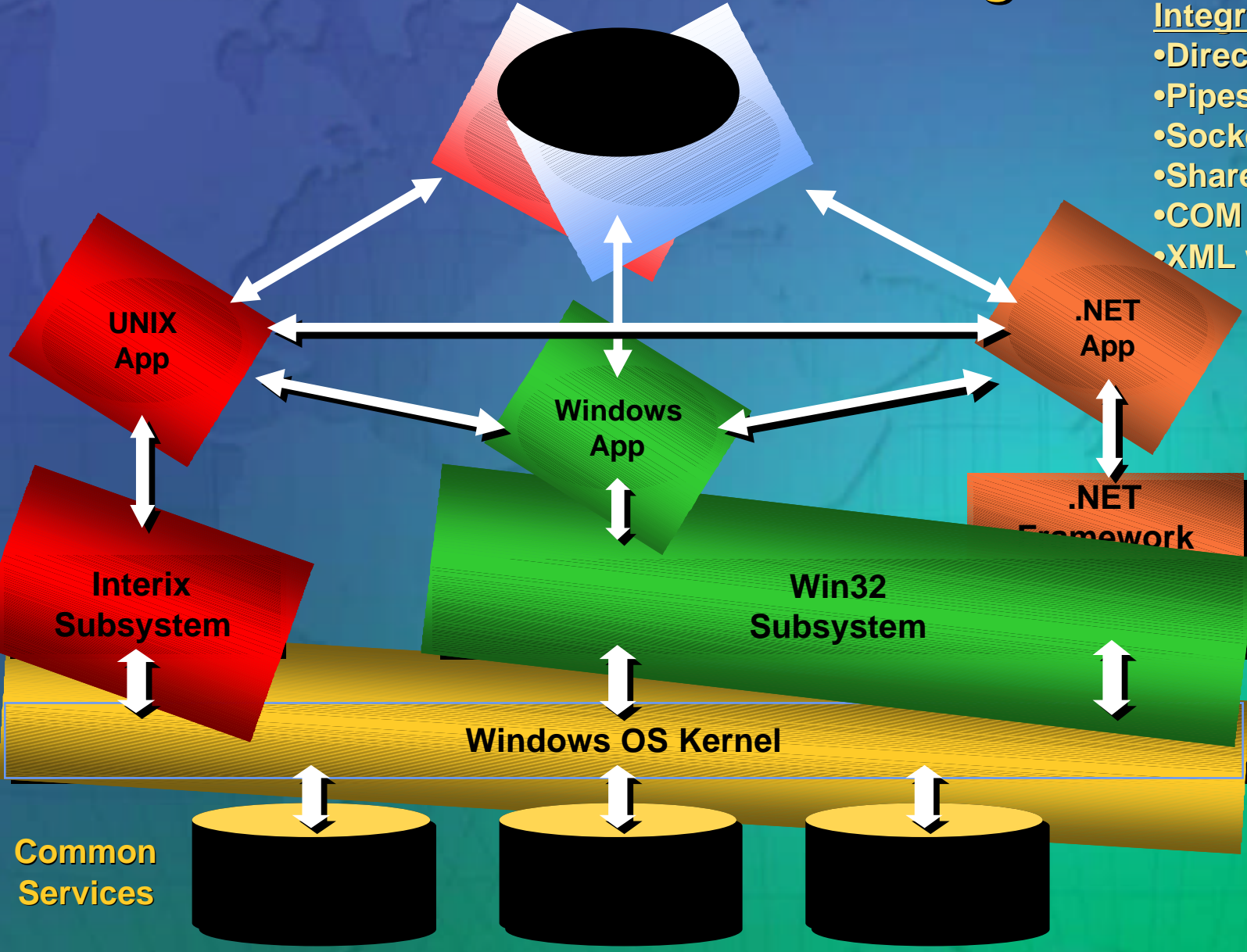
UNIX Integration & Migration
Prescriptive Guidance
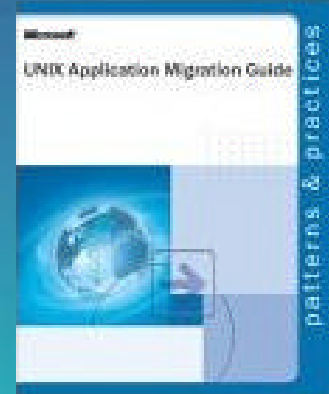
- **Application Portability & Integration**
  - **UNIX Application Migration Guide**
    Migrating UNIX application code to the Windows platform.
  - **UNIX Migration Project Guide**
    Applying the principles of the Microsoft Solutions Framework
    (MSF) to a UNIX migration project.
  - **Solution Guide for Migrating UNIX Build Environments**
    Migrating UNIX application projects based on make to Windows and Visual Studio using a variety of UNIX toolsets
  - **Solution Guide for Migrating High Performance Computing Applications from UNIX to Windows**
    Migrating a High Performance Computing environment from UNIX or Linux to Windows and in depth information about HPC on Windows.
  - **.NET & J2EE Interoperability Guide**
    Methods and best practices for designing application solutions for interop between J2EE and .NET

UNIX Integration & Migration
Prescriptive Guidance

- ## Infrastructure
    - ### [Solution Guide for Windows Security and Directory Services for UNIX](#)
      Using Active Directory and Kerberos for authentication and identity store in a heterogeneous UNIX and Windows IT environment.
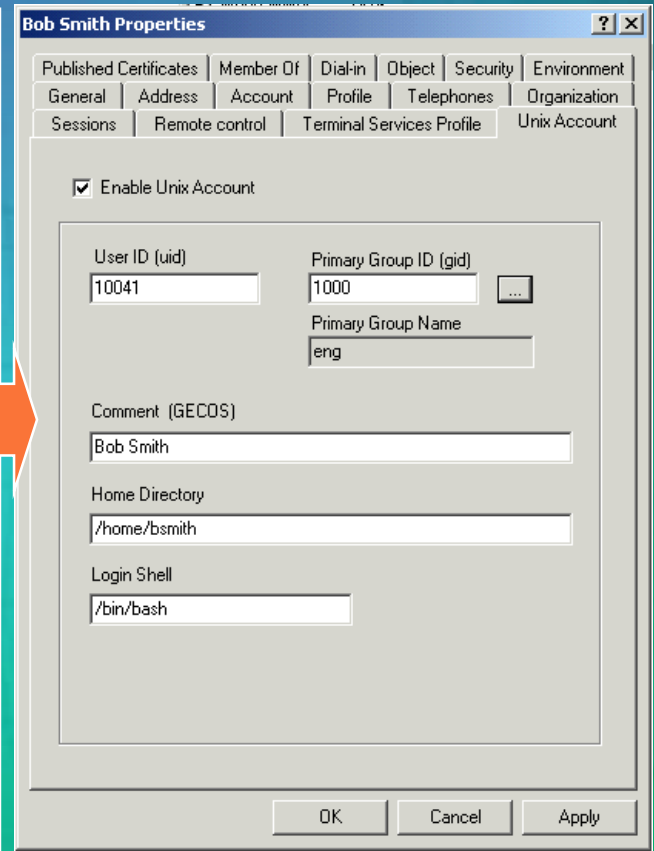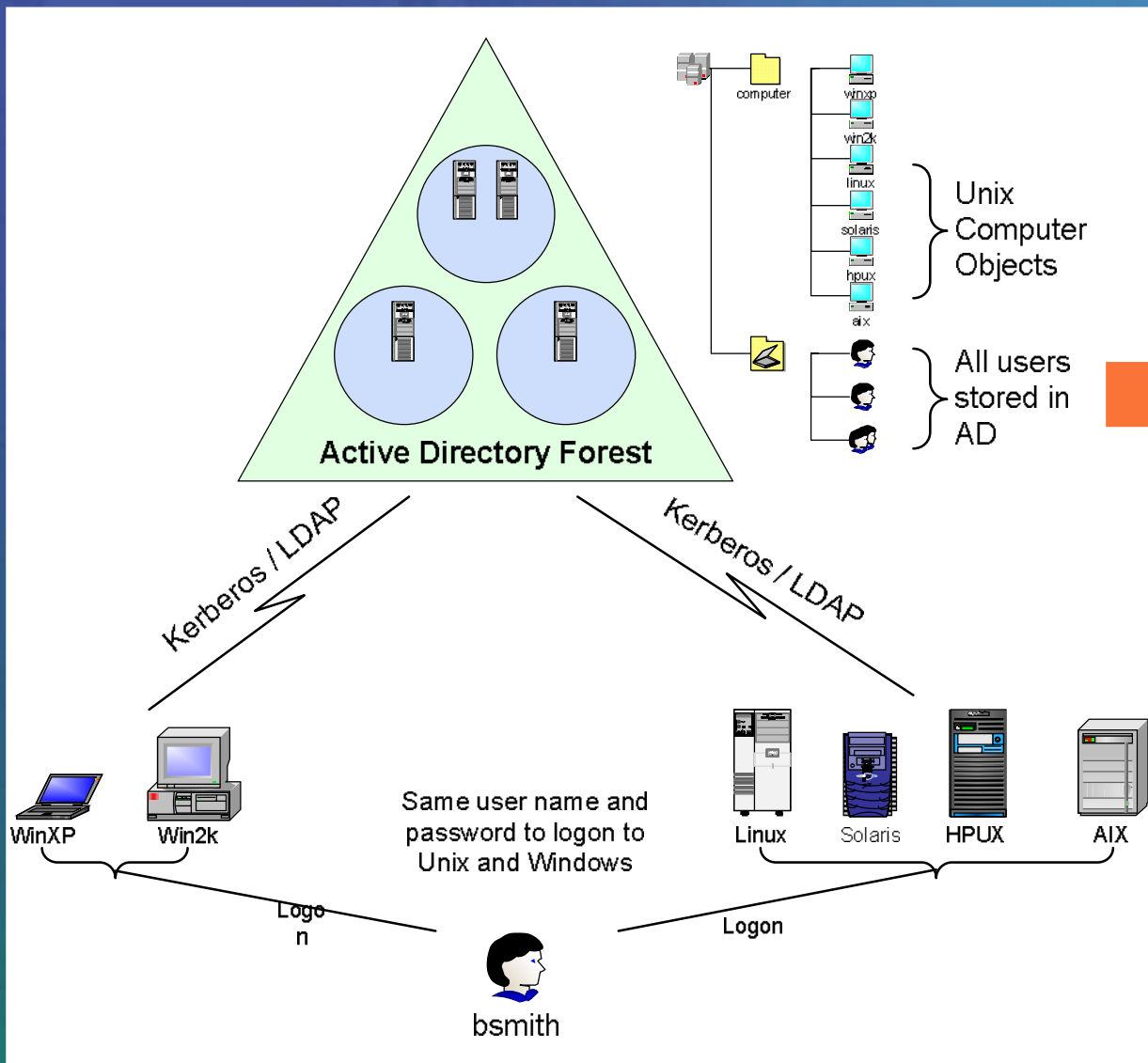
- ## Database
    - ### [Solution Guide for Sybase/UNIX to SQL Server 2000](#)
      Migrating a Sybase / UNIX database environment to SQL Server on Windows with focus on the backend server.

Vintela Authentication Service
Active Directory / Kerberos support for UNIX

customer

- **Situation**
  - Italian insurance company
  - 1,750 branch offices, each with a UNIX business app server
  - Reliance on Progress database, custom business app
- **Requirements**
  - Desired integrated solution
    - Windows for new business solutions
    - Run existing UNIX based solutions
  - Must have their UNIX business apps & moved quickly
- **Solution**
  - SFU / Interix for porting custom UNIX apps
  - SFU for interop connectivity, management & UNIX scripts
  - Windows 2000 Server for application deployment
  - Total project time: concept to roll out è 30 days!

Pricing and Licensing

SFU 3.5

- Free download and orderable (with registration) from http://www.microsoft.com/windows/sfu
- TechNet & MSDN disc kits
- Volume Licensing Disc Kits (Open, Select, EA)
- Volume Licensing and MSDN download centers

Microsoft Solution for UNIX Migration Guides

- Free download from http://www.microsoft.com/technet
- MSPress for Application Migration Guide

Resource CDs Available …

- Pick up a free set of resource CDs for yourself and your customers
  - Services for UNIX v3.5
    - Full licensed copy
  - Microsoft Solution for UNIX Migration Guides
    - Migration and integration prescriptive guidance
  - Interop Tools Sampler
    - Open Source tools, more on http://www.interopsystems.com
  - Vintela Authentication Services v2.2
    - 60-day eval for UNIX to AD

Summary

- Microsoft recognizes the importance of interoperability to our customers

- Microsoft Windows Services for UNIX 3.5 improves the interoperability between Windows and UNIX-based environments

- Microsoft Solution for UNIX Migration to help customers with cross platform application portability between UNIX and Windows

Microsoft® **Solution for UNIX Migration**

INTEGRATE

MIGRATE

EVOLVE

More info …

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