

Unit 10: Interoperability

10.3. The Interix Subsystem for Windows 2000

The Interix Subsystem for Windows 2000

- Interix - a full POSIX subsystem for Windows 2000
 - Interix replaces the original POSIX subsystem on Windows 2000
 - Full network support
 - Interoperability between POSIX and Win32 subsystems (CreateProcess())
 - Bundled with many essential UNIX tools (including X11R5 clients)
- Microsoft acquired Softway Systems, the makers of Interix on Sept. 17, 1999
- Interix allows to run UNIX applications and scripts on Windows.
- Microsoft Interix 2.2 was released to manufacturing on Jan. 26, 2000.

What is Interix?

- A complete, high-performance environment to run UNIX applications and scripts on Window NT and Windows 2000.
- The easiest way for customers to take advantage of their previous investments in UNIX-based legacy applications as they move to the Windows platform.

Interix Benefits

- Easily run UNIX-based applications and scripts on Windows
- A Single Enterprise Platform to run all Windows, UNIX, and Internet applications
- Take advantage of existing UNIX expertise

Easily Run UNIX Applications and Scripts on Windows

- A complete environment
 - Over 300 utilities and tools
- High-performance environment
- Software Development Kit
 - Supports over 1900 UNIX APIs

Single Enterprise Platform

- Full integration with Windows
 - Desktop, security model, file system
- Lower TCO
- Enhanced application development

Leverage Existing UNIX Experience

- Extensive Scripting support
- Familiar administration tools
- UNIX look and feel

Interix Features

- A complete environment to run UNIX applications and scripts on Windows
 - Fully integrated with Windows
- Over 300 utilities and tools
- A complete software development kit
 - Support for more than 1900 UNIX APIs

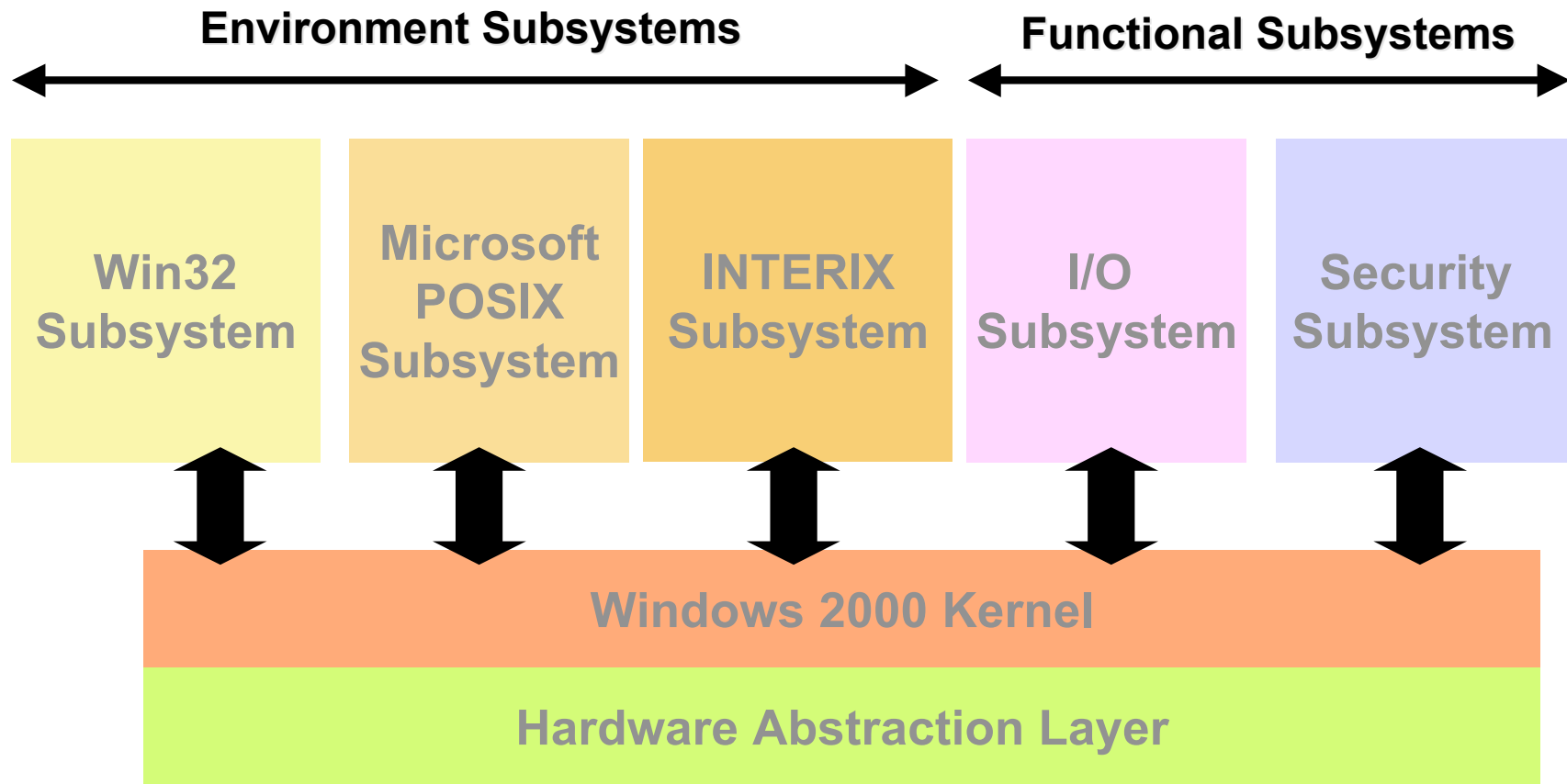
Interix 2.2 Features

- Shells: KornShell and C Shell
- Scripting languages: awk, perl, sed, and Tcl/Tk
- Admin tools: rsh, rlogin, telnet and xterm
- Batch tools: At, cron and batch

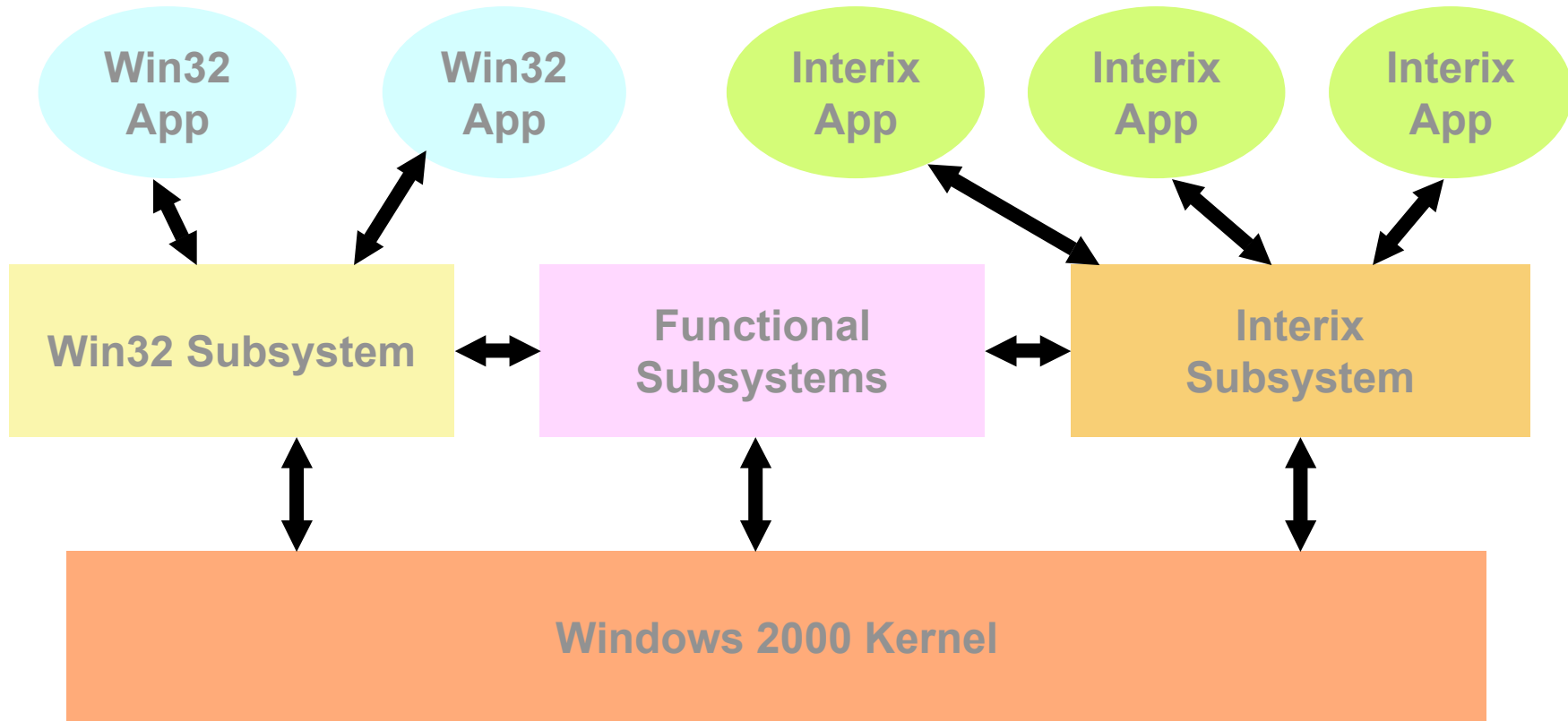
Interix 2.2 SDK

- Support for 1900+ interfaces
 - ANSI C, POSIX.1 and POSIX.2 interfaces
- Development tools: make, RCS, lex, yacc, cc, c89, nm, ar, strip
- Compilers: gcc, g++, g77
- Color curses library
- BSD-style sockets library support
- X11R5 libraries and header files
- MS Visual C/C++ 4.0 & 5.0 support

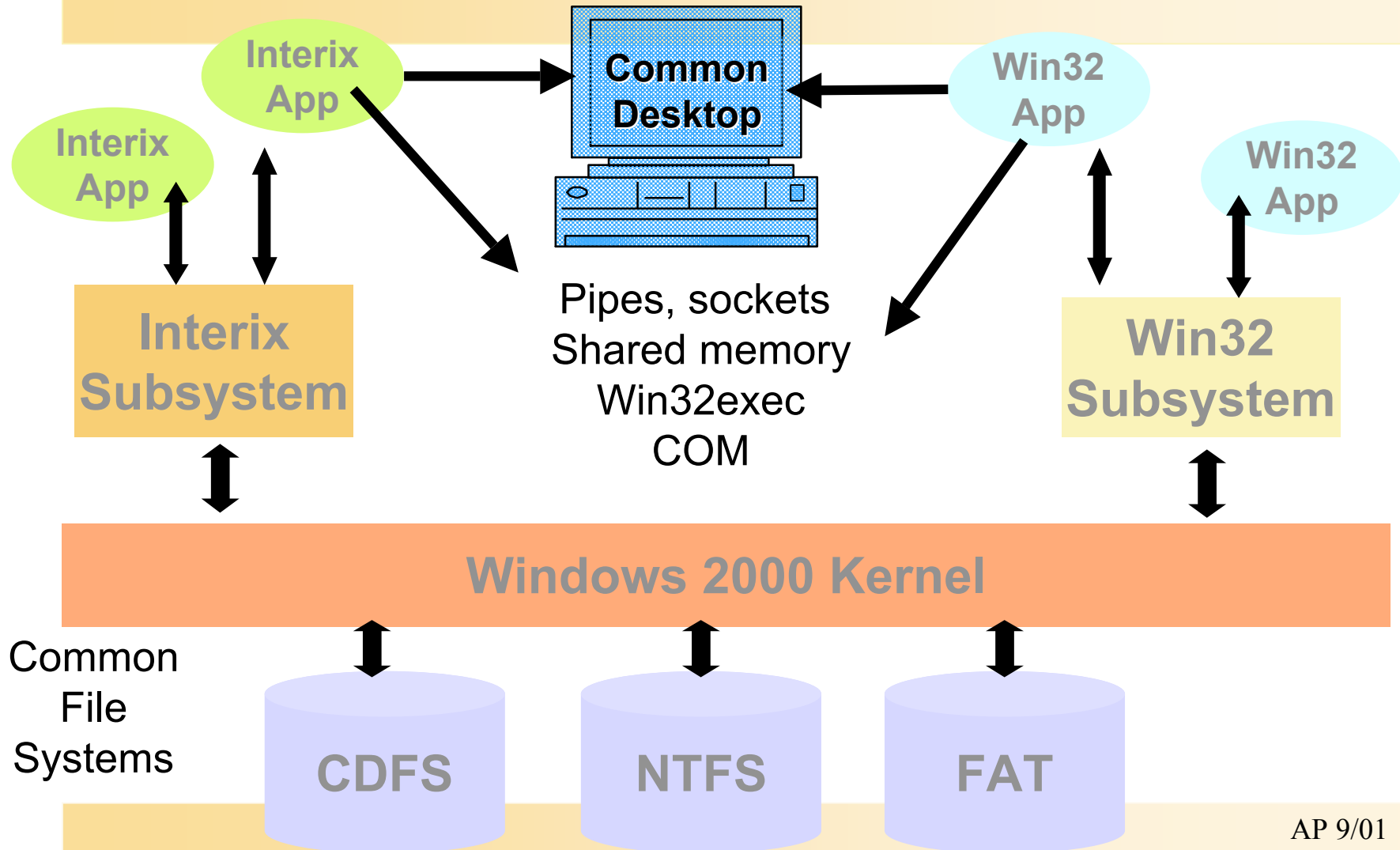
The Windows 2000 Architecture



Applications and Subsystems



Interix/Win32 Integration



Common Desktop

- Interix shell appears in a console window with standard controls
- Cut-and-paste support between Interix, Windows, & X11 applications
- Launch Interix applications from a desktop icon or menu
- Standard Windows tools apply
 - InstallShield, etc.

Common File System

- Interix supports NTFS, FAT, CDFS.
- NTFS provides case sensitive filenames, group ownership, file modes (ACLs) and hard links
- NTFS I/O operation audit features are now available to ported UNIX apps on Interix

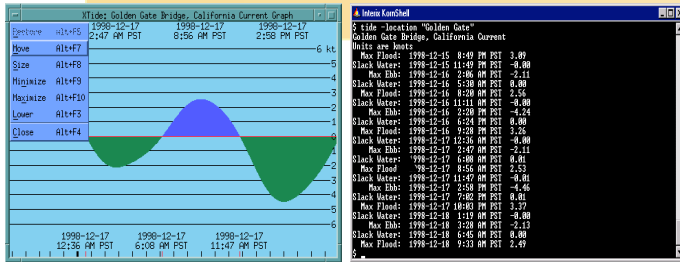
Common Execution Environment

- Interix applications can exec() Win32 applications
- Can shell script Win32 apps
 - Used in the product in lp and cc
- Write Win32 apps explicitly for the “UNIX” environment

Interprocess Communication

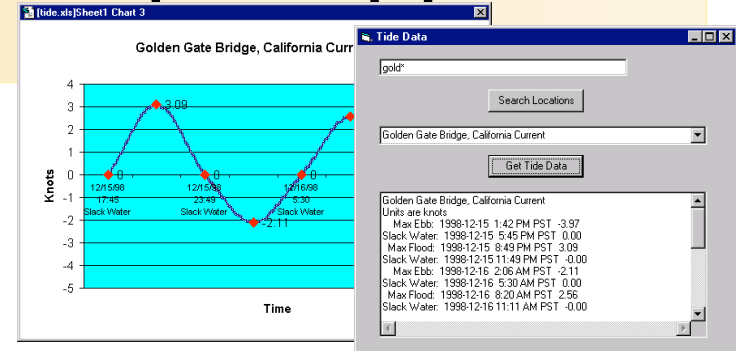
- Applications can share data between subsystems via
 - Pipes
 - Sockets (Local and Remote)
 - Shared Memory (Win32 mapped files to SVI shared memory)

INTERIX COM Example App

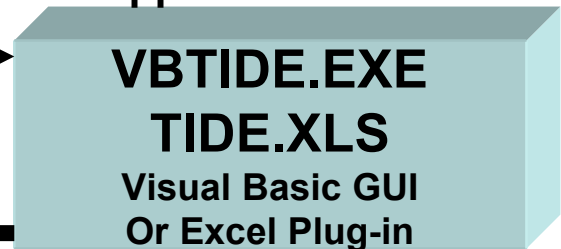
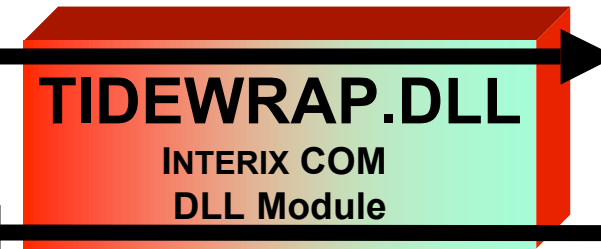
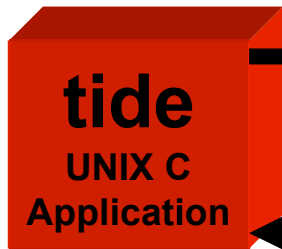


Existing X11
Graphical
Application

Existing UNIX
Character-based
Application



New Windows
Graphical
Application



Interix Futures

- The Interix subsystem to be improved
- Interix and Services For Unix to merge
 - One comprehensive UNIX interoperability and application migration solution.
- For more information
 - www.microsoft.com/windows/sfu