# Internet Information Server

# Internet Information Server

- Introduction
- Features
- Competition
- Additional Resources

# Introduction

- What is IIS?
- Purpose of an IIS
- Differences between 4.0 and 5.0 versions

# What is IIS?

- IIS is a protocol server.
- It is implemented as a set of several system services that use the most common Internet protocols including HTTP, FTP, NTTP and SMTP.
- The Microsoft IIS is built into the Microsoft Windows NT Server operating system.

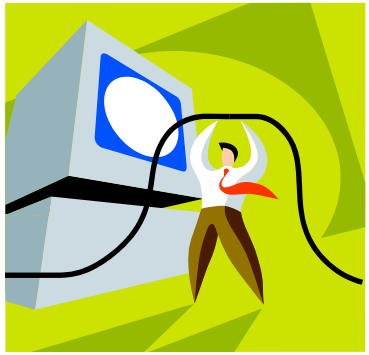
# Purpose of an IIS

- The Microsoft Internet Information Server is designed to deliver high speed and secure information publishing, while also serving as a platform for developers and independent software vendors to extend the Internet's standard communication capabilities.

# Differences Between 4.0 and 5.0

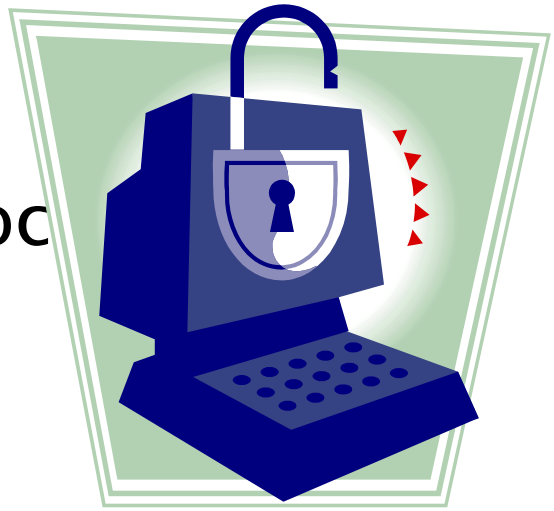
- Administration: Applications can now be grouped into pooled processes for increased performance and improved scalability
- Security: Many of the security features available in IIS 4.0 have been simplified in IIS 5.0, which has new security task wizards
- Performance: Socket pooling has been enabled to decrease memory use and increase performance

# Features of IIS 5.0



# Security

- Digest Authentication
- Secure Communications
- Server-Gated Cryptography
- Kerberos v5 Authentication Protoc
  Compliance



# Administration

- Restarting IIS
- Backing up and restoring IIS
- Improved Custom Error Messages
- Remote Administration
- Terminal services
- Centralized Administration

# Programmability

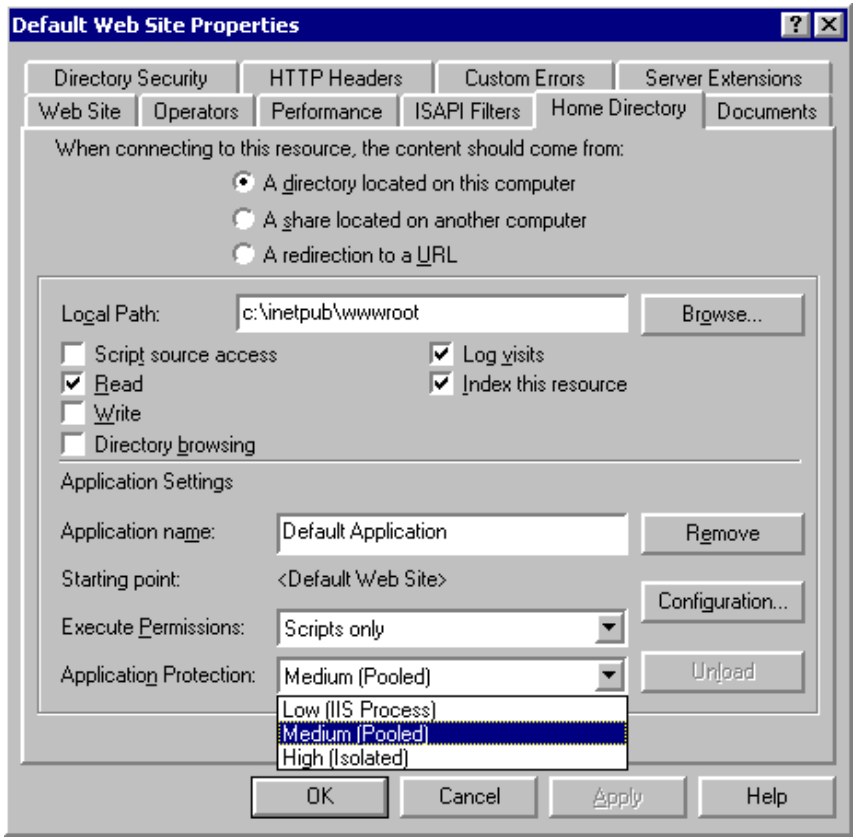
- Active Server Pages
  - Create dynamic content
  - Provides an alternative to CGI and ISAPI
  - Provides access to all of the HTTP request and response streams, as well as standards-based database connectivity
  - The ability to customize content for different browsers

# Programmability (cont.)

- Application Protection
  - Starting-Point
    - The default Web site that is created when you install Internet Information Services is an application starting point.
    - An application can share information among the files in the application.

# Protection

- Application protection refers to the process in which applications are run.
- IIS 5.0 offers three levels of application protection.
- applications can be run in a pooled process (another instance of DLLHost.exe).



# Performance

- There is a trade-off between performance and level of application protection.
- The recommended configuration is to run inetinfo.exe in its own process, run mission-critical applications in their own processes, and run remaining applications in a shared, pooled process.

# Programmability (cont.)

- ADSI 2.0

  – Administrators and Application developers have the ability to add custom objects, properties, and methods to the existing ADSI provider, giving more flexibility.

# Internet Standards

- Standards Based
  - Complies with the HTTP 1.1 standard, including features such as PUT and DELETE
  - The ability to customize HTTP error messages, and support for custom HTTP headers
- Multiple Sites, One IP address
  - Host multiple Web sites on a single computer running Win2000 Server with only one IP address
- News and Mail
  - Use SMTP and NNTP Services to set up intranet mail and news services that work in conjunction with IIS

# Internet Standards (cont.)

- PICS Ratings
  - Apply Platform for Internet Content Selection ratings to sites that contain content for mature audiences.
- Web Distributed Authoring and Versioning
  - Enable remote authors to create, move, or delete files, file properties, and directory properties on your server over an HTTP connection.

# Internet Standards (cont.)

- FTP Restart
  - File Transfer Protocol file downloads can be resumed without having to download the entire file over again if an interruption occurs during data transfer.
- HTTP Compression
  - Provides faster transmission of pages between the Web server and compression-enabled clients.
  - Compresses and caches static files, and performs on-demand compression of dynamically generated files.

# Distributed Authoring and Versioning (WebDAV) Support

- Allows  multiple people collaborate on a document using an Internet-based shared file system
- Addresses issues such as file access permissions, offline editing, file integrity, and conflict resolution when competing changes are made to a document
- Expands and organization's infrastructure by using the Internet as a central location for storing shared files.

# Microsoft Active Server pages (ASP)

- ASP provides an easy-to-use alternative to Common Gateway Interface (CGI) and Internet Server Application Program Interface (ISAPI) by allowing content developers to embed any scripting language or server component into their HTML pages
- ASP now senses when executing requests are blocked by external resources and automatically provides more threads to simultaneously execute additional requests while continuing processing
- ASP also includes new script encoding utility using Vbscript and Microsoft Jscript 5.0

# FrontPage Server Extensions Support

- With FrontPage Server extensions, administrators can view and manage a Web site through a graphical interface
- Creating Web sites with FrontPage Web site creation and management tool is as easy as clicking a check box on a property page for the Web Site
- Authors can create, edit and post Web pages to IIS remotely

# Fortezza

- IIS 5.0 supports U.S. government security standard
- This standard satisfies the Defense Message System security architecture with a cryptographic mechanism that provides message confidentiality, integrity and authentication
- Implementation by both server browser software and PCMCIA card hardware

# Competition for IIS

# Web Server Competition

- Apache
  - Linux
  - Costs around $180, but can be downloaded for free from Red Hat website
- iPlanet
  - Solaris
  - Costs around $1,500
- Internet Information Server
  - Windows 2000
  - Costs about $800 for Windows 2000 license

# Performance

- Speed
  - IIS serves up static documents a little faster than iPlanet, while Apache lags behind both.
  - Both IIS and iPlanet exhibit excellent speed.
  - Apache's lag is due to its lack of multithreading and the scalability problems of Linux.
  - In terms of CGI-Bin processing, Apache performed very well.  iPlanet performed slow, and IIS is somewhat sluggish and occasionally inconsistent.

# Performance (cont.)

- Stability
  - Due to Windows 2000 user-friendly interface, it is easy for experienced admin to fine-tune and manage an IIS Web server, which can make it very reliable
  - An experience admin can set up iPlanet or Apache to be bulletproof and still experience better uptime than an optimized IIS server can achieve

# Performance (cont.)

- Scalability
  - iPlanet on Solaris currently blows away both IIS and Apache
  - IIS does scale respectably, and it supports clustering and symmetrical multiprocessing (SMP)
  - Apache on Linux doesn't scale very well due to limitations of Linux in enterprise computing
  - Apache can scale fairly well on more robust operating systems such as Solaris

# How do the platforms stack up?

| | Apache on Linux | iPlanet on Solaris | IIS on WinNT/2000 |
|---|---|---|---|
| Performance | Good | Excellent | Good |
| Dynamic content | Good | Good | Excellent |
| Total cost of ownership | Good | Fair | Good |
| Strengths | Low up-front costs; open source extensibility; stable; best CGI performance | Most robust and scalable; very stable; JSP and Java integration | Excellent scripting with ASP; cost-effective; fast with static content; easy to administer |
| Weaknesses | Weak support and documentation; expensive, difficult administration | Most expensive; poor CGI capability | Less stable; requires more administration |