Toward The ActiveX™ Server

J Allard
Group Program Manager
Internet Platform And Tools Division
Microsoft Corporation

Agenda

- The Web Server opportunity
- Internet Information Server overview
- ISAPI Demo - Win32® on the Web
- What's ahead
  - Information Server '96
  - ActiveX Server Framework
- ActiveX Server Demo - OLE and Visual Basic® on the Web

The Web Server Opportunity

New opportunities, new markets

- Industry analyst predictions
  - 150,000 servers in 1995
  - 2MM servers by 1998
- Our strategy - integrate Web facilities with the Windows NT and Microsoft® BackOffice™ platform
  - Create horizontal and vertical opportunities
  - Integrate with Intranet management process
  - Leverage existing Win32/OLE investments
  - "No compromise" architecture

Web Server Application Spectrum

Active is inevitable

- Linked (static) content: most of what you experience today
- Dynamic HTML: higher-impact content, simple server-driven dynamic elements
- Databound applications: data-driven Web applications
- Interactive applications: active server applications built on reusable components
- Personalization: fully synthesized content based on user preferences and behaviors

Static

Internet Information Server 1.0

Scalable, integrated, extensible

- Meets performance, security, and manageability requirements
  - The workgroup
  - The enterprise
  - Commercial Internet sites
- Meets extensibility requirements
  - Solution Providers
  - Corporate developers
  - Professional ISVs

Information Server Scalability

Workgroup

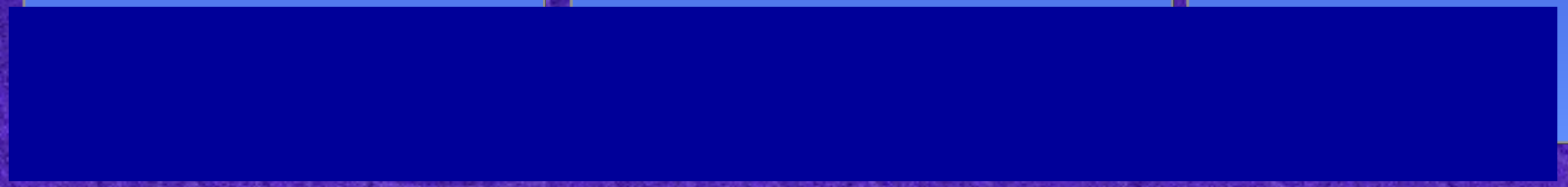
- Installs in minutes
- Integrated with easy-to-use Windows NT Server tools
  - Performance Monitor
  - User Manager
  - Windows Explorer
  - Event Viewer
- Internet Explorer bundled

Enterprise

- Remote administration
- Single network logon via Windows NT Server directory
- Secure access control via challenge/response
- SNMP management
- ISAPI and Database Connector for legacy integration
- Exchange integration for discussion forums
- Internet Explorer bundled

Commercial sites

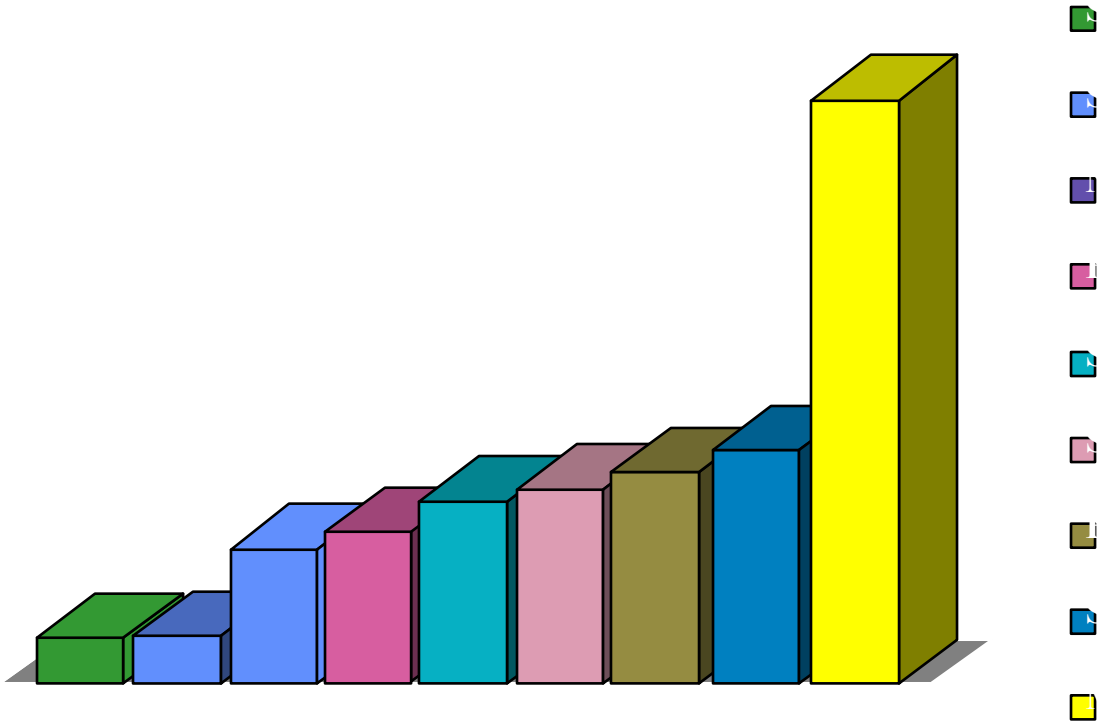
- Secure remote administration
- World-class performance
- Usage logging to ODBC databases
- Great Perl Support
- CGI/ISAPI Support
- SSL Support
- Database Connector for catalog publishing



Performance Is Critical
Headroom for innovation

- Intranets: no bandwidth constraints, multi-purpose servers, integration to legacy systems
- Server applications: trend toward active Web
- Synthesized content: personalized and dynamic
- Internet infrastructure improvements: ISDN, cable modems, telecom reform
- Peak planning: dramatic traffic fluctuations are common on commercial sites

Published Benchmarks (WebStone)

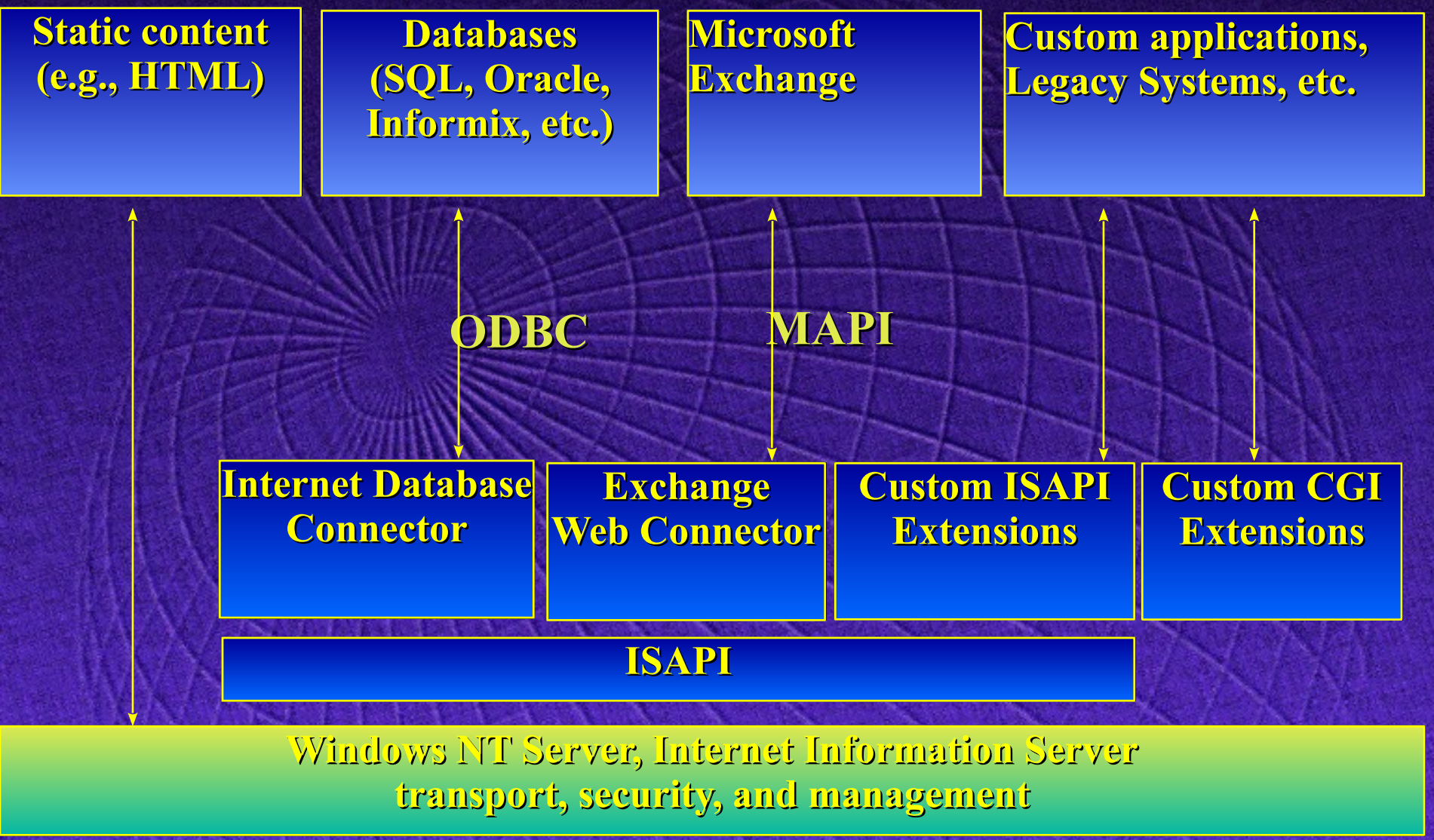


Scalable Extensibility

Compatible options to add value

- CGI (Common Gateway Interface)
  - Simple, compatible
- ISAPI applications
  - Simplicity of CGI
  - High-performance
- ISAPI filters
  - Flexible, high-performance
  - Full access to HTTP request/responses

Internet Information Server 1.0



ISAPI Development Info

"With Microsoft ISAPI we can leverage Cold Fusion's multithreaded system service architecture to offer incredible performance."

Kevin Lynch

- **ISAPI SDK available online**
  - **www.microsoft.com/intdev/iis**
- **MFC 4.1 includes built-in classes for rapid ISAPI development**
- **Support for ISAPI by other Web server vendors, including UNIX**

Internet Information Server Momentum

Strong customer and industry response

"IIS enables us to plan for the future by allowing us to count on Microsoft's flexibility, tight integration, and compatibility with other Microsoft products as our Web sites evolve and change"

Brian Boyd, Prevue Networks

- Over 30,000 copies downloaded since launch
- Over 50 ISVs and SPs shipping ISAPI solutions today
- Over 1,000 commercial IIS servers deployed on the Internet in first two weeks
- Over 13 server OEMs bundling IIS

Automap ISAPI Demo

www.investorsedge.com www.judds.com www.ntn.com
www.nba.com www.msn.com www.microsoft.com
oscar.guide.org, www.dealerner.com www.nascar.com
www.websters-online.com channel.cyberiacafe.net
www.ftvision.com www.gw2k.com www.weston.ca
www.[illegible].com
www.microage.com www.thegroup.net www.zylab.com
www.owens-corning.com www.scifi.com www.dsi.org
www.backoffice.bhs.com internet.microsoft.com
www.prevuenet.com www.uvtv.com www.spacecom.com
www.ypo.com www.winntmag.com www.windows95.com
www,webmall.com www.autobid.com www.corel.com
www.bestseller.com www.brickstone.com www.zia.com
www.vsn.nl www.vtech.fr www.twu.ca www.toggle.com
www.sony-computer-peripherals.de www.sfd.com

Internet Information Server 1.1

Meeting customer demand

- Windows NT™ 4.0
  - Windows NT Server: full product integrated
  - Windows NT™ Workstation: "Developer Version" bundled
  - Performance improvements
  - Web-based admin

Internet Information Server 2.0

The next generation Web server platform

- Intranet improvements
  - Integrated content indexing
  - Management improvements
  - Great integration with Microsoft BackOffice, FrontPage, and Internet Studio
- Platform improvements
  - Enhanced ISAPI
  - ActiveX Server Framework runtime

ISAPI Extensions '96

Extending the core platform

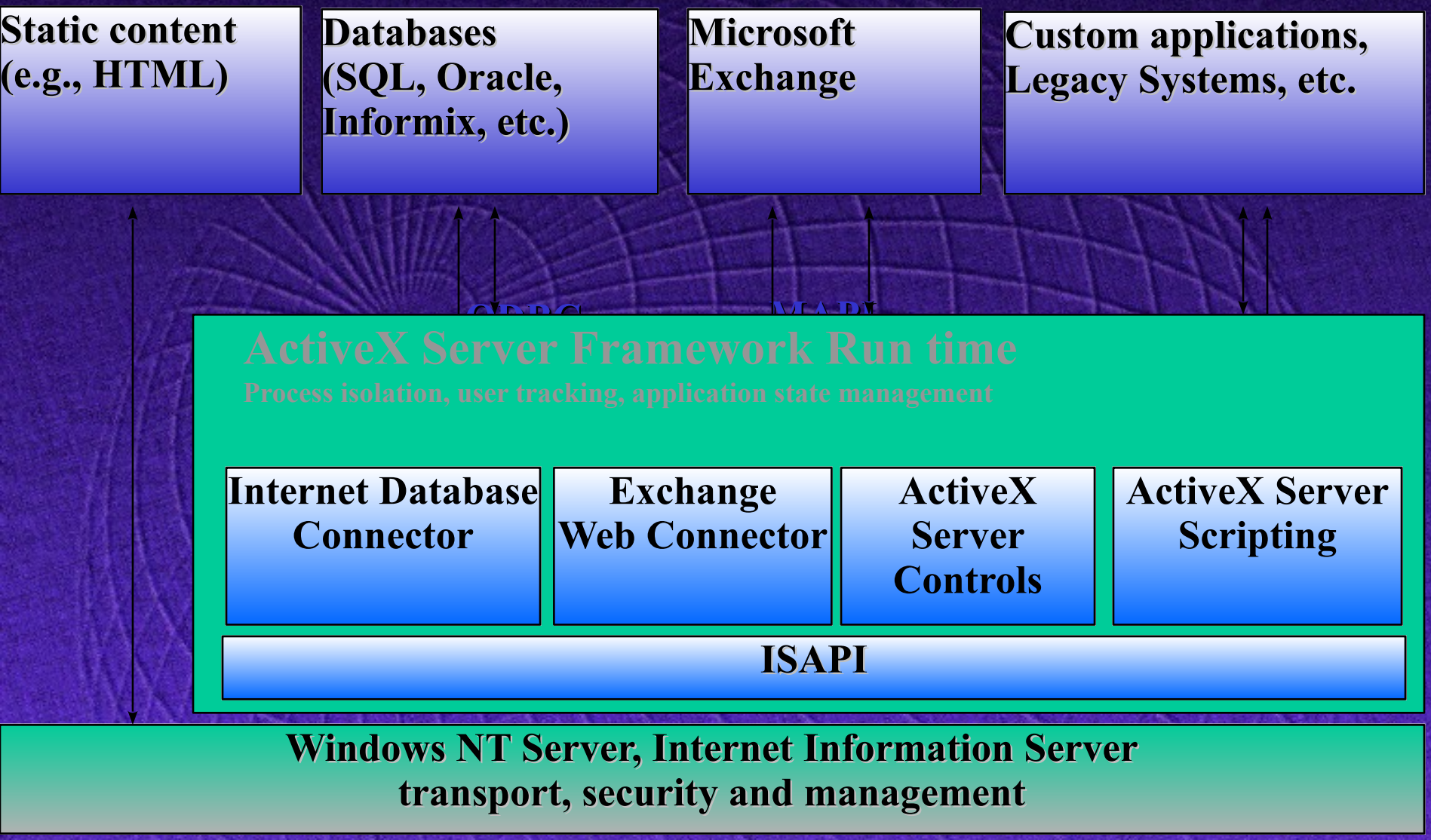
- Open design process
- COM-based ISAPI
- ISAPI application process isolation
- Performance improvements
- Finer-grained logging facilities
- Administration integration

ActiveX Server Applications

Getting the Web to Active

- Situation (today)
  - Static content
  - High cost to build, maintain dynamic
- Opportunity
  - Make server programmability approachable
  - Rapid development via reusable components
- Action
  - Complement ISAPI with the ActiveX Server Framework in '96

The ActiveX Server



ActiveX Server Framework

Build Active sites using Visual Tools

- ActiveX Server Scripting
  - Hosts Visual Basic Script natively
    - Perl, JavaScript also supported
  - Enables scripting of ActiveX Server Controls
- ActiveX Server Controls
  - Built on standard tools: Visual Basic, Visual C, Visual C++®, Java Language
  - Objects compatible with OLE Automation
  - Leverage DCOM for true client/server
- Database connectivity is native

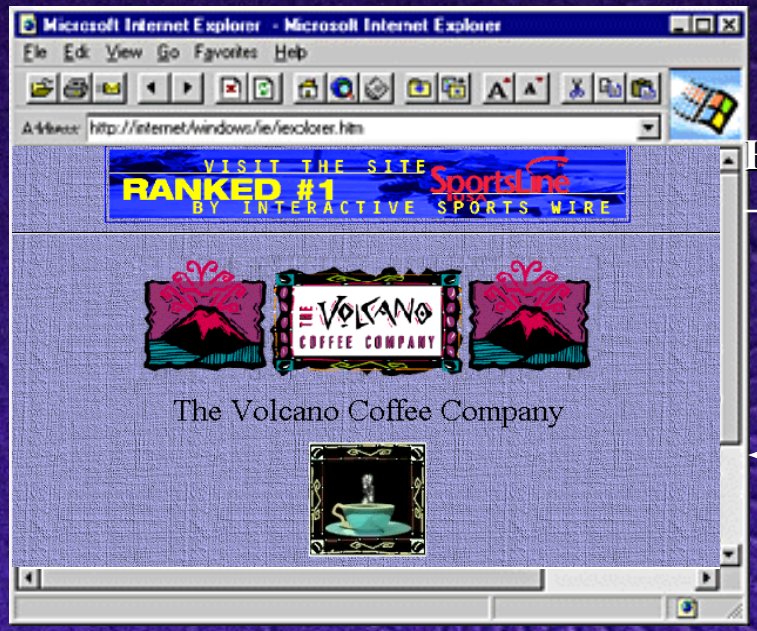
ActiveX Server Demo

Embrace new client capabilities, maximize reach

- User experience is driven by client capabilities
  - Adaptive content
  - Validation and other logic assumed by server in absence of ActiveX Client
- Database integration
- State and preference management

Client

Server



HTTP "GET"

HTTP response

ActiveX Server Framework Run time

Processes Page

Invokes Server Control

Volcano Page

Ad Rotator

Active Server Framework Demo

www.investorsedge.com www.judds.com www.ntn.com
www.nba.com www.msn.com www.microsoft.com
oscar.guide.org, www.dealerner.com www.nascar.com
www.websters-online.com channel.cyberiacafe.net
www.ftvision.com www.gw2k.com www.weston.ca
www.microage.com www.thegroup.net www.zylab.com
www.ypo.com www.winmag.com www.windows95.com
www.owens-corning.com www.scifi.com www.dsi.org
www.backoffice.bhs.com internet.microsoft.com
www.prevuenet.com www.uvtv.com www.spacecom.com
www,webmall.com www.autobid.com www.corel.com
www.bestseller.com www.brickstone.com www.zia.com
www.vsn.nl www.vtech.fr www.twu.ca www.toggle.com
www.sony-computer-peripherals.de www.sfd.com

ActiveX Server Scripting

```
<B>This is HTML</B>

{if InStr(Request("HTTP_USER_AGENT") ,
     "MSIE 3.0") > 0) then}

<OBJECT … ></OBJECT>

{else

   set ad = CreateObject("ASC.AdRotator")

   Request.Write(ad.GetAdvertisement
      ("/ads/adrot.txt"))

end if}

<B>This is more HTML</B>
```

ActiveX Server Timeline

- Internet Information Server 1.1
  - Windows NT 4.0
- ActiveX Server Framework (beta)
  - Summer
- Internet Information Server 2.0 and ActiveX Server Framework
  - Q4 ’96

Activate Your Server

Write to ActiveX!

- Support for today's standards
  - Full support for today's Web content
  - Extend via CGI and ISAPI
- ActiveX Server Framework
  - Enables next generation of server applications
  - Rapid development using reusable components
- Result - choice and opportunity
  - Leverage existing investments: Visual Basic, Win32, OLE
  - Activates your business!

Microsoft®

Start