



# **Netscape: Delivering the Promise of Java™**

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# Netscape and Java: A Strong Commitment

- ◆ First Java™ Licensee
- ◆ Largest Java installed base: millions of Java users
- ◆ Java Virtual Machine (VM) included in both client and server products
- ◆ Delivering 100% Pure Java™ VM and libraries on 17 OS platforms (including first on Win16)
- ◆ Key element in Netscape ONE



# Netscape's Java Strategy

- ◆ Full support for latest JDK™ features
- ◆ Innovate within Java world
  - ◆ JNI (JRI)
  - ◆ Object Signing
  - ◆ Internet Foundation Classes (IFCs)
- ◆ Serious about JavaBeans™
- ◆ Java everywhere: client and server



# [ In Today's Session ]

- ◆ JDK 1.1 Support
- ◆ Java Object Signing and Capabilities
- ◆ CORBA/IIOP Support
- ◆ Internet Foundation Classes (IFCs)
- ◆ Introducing:  
Netscape Visual JavaScript™



# JDK 1.1 Support in Communicator 4.0

Feature	In
<b>Internationalization</b>	✓
<b>Network Enhancements</b>	✓
<b>I/O Enhancements</b>	✓
<b>RMI</b>	✓
<b>Object Serialization</b>	✓
<b>JAR Files</b>	✓
<b>Reflection</b>	✓
<b>Inner Classes</b>	✓
<b>JNI (Java Native Method Interface)</b>	✓
<b>Performance Enhancements</b>	✓
<b>AWT Imaging Improvements</b>	✓
<b>JDBC</b>	✓
<b>AWT Enhancements</b>	
<b>JavaBeans</b>	
<b>Misc. Changes (Bugnum, Short, Byte,...)</b>	✓



# Java and Security

- ◆ Sandbox provides functionality *with* security
- ◆ Limitations on level of functionality for safety
- ◆ When trust is established, more flexible model is needed
- ◆ Solution: Object Signing

# What Is Object Signing?

- ◆ A protocol that enables:
  - ◆ Capabilities-based Java: Ability for applets to request fine grained access to users system resources
  - ◆ Signer identification: User knows who signed
  - ◆ Tamper detection
- ◆ JAR Packager signs, packages--  
Communicator reads objects

# How It Works

- ◆ For the developer:
  - ◆ Create Java applet
  - ◆ Use capabilities API to specify targets
  - ◆ Use JAR Packager (Java applet) to
    - ◆ Envelope: Java Archive file (JAR)
    - ◆ Sign: Object Signing certificate
    - ◆ Compress: Gzip

# How It Works (cont.)

- ◆ For the end user:
  - ◆ Download signed applet
    - ◆ If verified, capabilities can be requested
    - ◆ If not verified, applet stays in sandbox
  - ◆ Object requests capabilities
    - ◆ User sees dialog if
      - ◆ New capabilities requested
    - ◆ User sees no dialog if
      - ◆ Capabilities already granted or denied



# Reasons To Use It

- ◆ Capabilities-based Java
  - ◆ Access outside of sandbox-- user control
- ◆ Tamper detection
- ◆ Sign any object
  - ◆ JAR envelope flexibility
- ◆ Open standards support
  - ◆ PKCS #7, X.509
- ◆ Identification

# To Find Out More

- ◆ Object Signing Home Page
  - ◆ <http://developer.netscape.com/>
- ◆ Object Signing Datasheet
  - ◆ <http://home.netscape.com/assist/security/objectsign/datasheet.html>



# [ CORBA/IIOP Support ]

- ◆ Richer communication between client and server
- ◆ Integrate web into enterprise infrastructure: applications and data
- ◆ Distribute new functionality across the enterprise
- ◆ Flexible, open, standards-based architecture: multiple languages, multiple platforms, multiple vendors

# Bringing CORBA to the Internet and Java

- ◆ Seamless integration with Java
- ◆ Improved interoperability
- ◆ Availability (approaching ubiquity)
- ◆ Security model (firewalls)
- ◆ Internet-wide naming (URLs)
- ◆ CORBA service access to servers
- ◆ Easier to create and manage services



# Netscape Internet Service Broker (ISB)

- ◆ Based on Visigenic ORB
- ◆ Client: Integrated ISB (Java)
- ◆ Server:
  - ◆ VisiBroker for C++ and Java
  - ◆ IDL compilers (IDL2Java, IDL2C++)
- ◆ Standard CORBA services
  - ◆ Interface Repository
  - ◆ Naming

# To Find Out More

- ◆ Marc Andreessen's Vision Paper
  - ◆ <http://home.netscape.com/comprod/columns/techvision/iiop.html>
- ◆ Object Management Group (OMG)
  - ◆ <http://www.omg.org/>



# Netscape Internet Foundation Classes (IFC)

- ◆ Java application frameworks for next-generation Java applications
  - ◆ Focus on *industrial strength* apps
- ◆ 100% Pure Java, built on top of the AWT, run anywhere
- ◆ Consistent look and feel across all OSs
  - ◆ Easily customizable



# IFC Roadmap: 1.0

- ◆ Released in December, 1996
- ◆ Full framework
- ◆ Drag and drop
- ◆ Windows
- ◆ Rich text support
- ◆ And much more...
- ◆ URL: <http://developer.netscape.com/library/ifc>



# IFC Roadmap: 1.1

- ◆ Beta available now, release in late spring
- ◆ NOT dependent on JDK 1.1, but uses some of its features (e.g. clipboard)
- ◆ Pure Java Menus
- ◆ Keyboard UI control
- ◆ Internationalization
- ◆ TextView enhancement
- ◆ Constructor Utility

# Netscape Constructor for IFC

- ◆ A utility for creating IFC user interfaces
- ◆ Creates “plan” files which specify a UI
- ◆ “Freeze dried” approach to UI programming and maintenance
- ◆ Written with IFC, 100% Pure Java

# Building “Crossware” Applications

- ◆ Distributed on demand
- ◆ Runs across networks, platforms, OSs
- ◆ Built from open, standard building blocks
  - ◆ HTML + Java + JavaScript
- ◆ Tied into enterprise (relational data & legacy apps)
- ◆ Leveraging dynamic server-side services
  - ◆ Messaging/Collaboration
  - ◆ Directory
  - ◆ Security
  - ◆ CORBA/IIOP
- ◆ Extended to employees, partners, customers



# How to Build Real Crossware?

- ◆ Lots of elements to tie together
  - ◆ Client-side *and* server-side functionality
  - ◆ HTML/Java/JavaScript
  - ◆ Relational data and legacy applications
  - ◆ Services across the Networked Enterprise
- ◆ Tools?
  - ◆ HTML editors or NotePad
  - ◆ Other tools
    - ◆ Tied to proprietary architectures
    - ◆ Client-centric or server-centric
- ◆ Need a real, open, comprehensive tool

# Netscape Visual JavaScript

*The visual tool for rapid crossware development*

- ◆ For enterprise application developers
- ◆ Quickly and easily build crossware applications without writing code
- ◆ Ready-to-use HTML, Java and JavaScript components
  - ◆ Full support for JavaBeans
  - ◆ Standard components included
  - ◆ Rich array of third-party components
- ◆ Simple visual programming model
- ◆ Leverage SuiteSpot server capabilities
- ◆ Completely open and standards-based



# Visual JavaScript Key Features

- ◆ Project Manager
  - ◆ Manage HTML files, images, Java classes, etc.
- ◆ Component Palette
  - ◆ Built-in and third-party components
  - ◆ Component Developer's Kit
- ◆ HTML Page Builder
- ◆ Inspector and Connection Builder
  - ◆ Embed “standard” components and customize by viewing and editing properties and events
- ◆ JavaScript debugger
- ◆ Written in 100% Pure Java with IFC

# [ Netscape Visual JavaScript ]

## Demonstration



# Pricing and Availability

- ◆ Netscape Visual JavaScript 1.0 Preview Release 1
  - ◆ Available to DevEdge Gold members: Today
  - ◆ Available to the public: Next week
  - ◆ URL: <http://home.netscape.com/>
- ◆ Extended beta period
  - ◆ Collect feedback from partners and customers
  - ◆ Build up third-party component support and tool integration
- ◆ Netscape Visual JavaScript 1.0
  - ◆ Estimated final availability: Q4, 1997
  - ◆ Price: \$495 per developer seat



# Summary

- ◆ Netscape delivers the promise of Java to millions of users on 17 OS platforms
- ◆ JDK 1.1 full support
- ◆ Object Signing and CORBA/IIOP
- ◆ Internet Foundation Classes (IFCs)
- ◆ JavaBeans support in Netscape Visual JavaScript

