



JavaOneSM

Sun's Worldwide Java Developer Conference



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The Internet Desktop

*Amy Pearl,
Engineering
Manager,
JavaSoft*

Network Computing Today: System Issues



- A major leap over individual desktop productivity computing
- Network focus is primarily on file transfer
- Existing desktop and server OS's:
 - Full-featured, powerful BUT
 - Proprietary, limited interconnectivity

Network Computing Today: User Model



- Assumes desktop environment
- Primarily focused on evolving file transfer functionality
 - Alternative to sneaker-net
 - Email, bboard
 - Workflow applications
- Text oriented, limited representation of people and places



The Internet Today as Alternative Platform

- System advantages
 - Open architecture
 - Global, wide-area coverage
 - Scalable
 - Open evolution processes



The Internet Today: Distributed File System

- Emerging standards make the Internet a viable alternative:

	Traditional Unix Storage model	Internet Storage model
Structure	File system	HTML
Addresses	Inodes	URLs
Storage	Disks	Hosts

ftp

http

The Internet Today: User Model



- The World Wide Web with Mosaic was a breakthrough!
- Standard media types
- People represented (web pages)
- Places represented (web sites)

Internet Limits Today: System



- Incomplete alternative to existing network OS's. Lacks
 - Process scheduling and management
 - Distributed processes/object connectivity and communication
 - Comparable performance of local area networks

Why People Use “The Net” Today



- Despite lower performance, millions use the Internet
 - Currency of information
 - People interactivity
 - Free access to information, interaction
 - Currency of software
- Dynamic: serendipity, surprise



Internet Potential: System

- Ubiquitous access
 - Platform independent → scalable
 - Context sensitive
 - Secure
- Timely distribution of data and *programs*
- Internet has processes (NIC, IETF) to evolve itself in an open forum



New Platforms: Beyond the Internet

- New access devices
- Evolving system capabilities
 - Virtual, ubiquitous platforms
 - Security
 - Downloadable executables
 - Commerce, enterprise, and growing multimedia support



New Platforms: Beyond the Internet

- The Java runtime evolving: new APIs
 - Enterprise, Media, Security, and Commerce
- Java platform evolving: new platforms
 - JavaOS, HotJava, and Jeeves (web server)

Internet Potential: User Model



- Individual productivity work, but
 - Easily shared
 - Location-independent
- Private and public commerce
- Context sensitive user presentation on range of platforms



New Platforms: Beyond the Desktop

- Network terminals not just underpowered PC, but a viewport onto “the net”
- Common principles needed for “web access devices”
 - Formal and ad hoc standards
 - Write once, run everywhere
 - Scalable, extensible, context-sensitive



New Platforms: Beyond the Desktop

- Common web functionality
 - Multimedia display
 - Web navigation
 - HTML parsing
 - Dynamic content (applets)