WebNFS on the Desktop

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Outline

- **Diagram of Extended Filesystem API**

- **WebNFS Bean**

    - **Definition of Bean**

    - **Features of WebNFS Bean**

    - **Java Studio Demo of Initial Prototype of WebNFS Bean**

- **WebNFS Tool**

    - **NFSTool Demo Version Features**

    - **Demo of NFSTool**

    - **Enhancements to NFSTool (aka WebNFS Tool)**

- **References**

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Sun
microsystems

Java Bean/App

Extended FileSystem API

nfs	cifs	file	native "io"

Java Bean Definition

- **What is a Java BEAN?**

  - **Reusable software component that allows developers to manipulate and customize them without having to recompile and change the software.**

  - **Analagous to a Hardware Integrated Circuit**

- **Java Bean consists of :**

  - **Properties - private data fields that other beans have access to.**

  - **Events - ability of beans to send event notifications of internal property changes to other beans**

  - **Methods - methods accessible to other beans (e.g get/set methods)**

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WebNFS Bean Features

- **Should provide the following:**

  - **EVENTS:**

    - **a) Events generated by the bean will include: file selection, file input/output stream, error conditions, file objects.**
    - **b) Events received by the bean will include: file selection, desired operation (e.g. read, write, delete, rename, etc), error messages, interrupt event, data to write.**

  - **INTROSPECTION: applications external to the bean should be able to analyze the bean's properties, public methods and events.**

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WebNFS Bean Features (cont'd)

- CUSTOMIZATION: developers should be able to customize the look and feel and behavior of the component.

- PERSISTENCE: the bean should be able to retain it's properties until they are explicitly modified via customization.

• Should be able to incorporate and use in a bean aware development toolkits (e.g. Java Studio).

NFSTool Demo Version

- **NFSTool is a client-side GUI tool that allows users to access files on a local and remote server. It provides users with the following capabilities:**

  - **Delete Files**

  - **Make Directories**

  - **Copy Files**

  - **Rename Files**

  - **View directories and file listings**

- **The tool is written in JAVA and uses the Java Extended FileSystem Package for file access.**

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Enhancements to NFSTool

- **Will use the WebNFS Bean**

- **GUI Interface:**

  - **Use the Java Foundation Classes (SWING) for the look and feel components. (e.g. folders, directory layout)**

- **Functionality:**

  - **Multithreaded operations such that tool can process requests concurrently.**

  - **Ability to Drag and Drop files.**

  - **Add an interrupt operation**

  - **Ability to do searches on current connection.**

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Enhancements to NFSTool (cont'd)

- **Statistics**

  - **Progress Bar - actually displays the percentage completion of operation as well as numeric**

- **Other Requirements**

  - **Should be Internationalized and follow the I18N policy**

  - **Performance of WebNFS Bean/Tool when doing file operations should be comparable to FTP and HTTP.**

References

[1] One-pager: 950907_brent.callaghan, "Public NFS",
    http://sac.eng/cgi-bin/onepagers/950907_brent.callaghan

[2] RFC 2054: WebNFS Client Specification,
    http://www.internic.net/rfc/rfc2054.txt

[3] WebNFS Whitepaper,
    http://www.sun.com/solaris/networking/webnfs/webnfs.html

[4] Extended FileSystem API Javadoc
    http://sac.eng.sun.com/sac/LSARC/1997/201/commit.materials/
javadoc/Package-com.sun.xfile.html

[5] WebNFS Bean/Tool Project Plan
    http://jurassic.eng/home/ajacob/webnfs/projects/plan.html

[6] WebNFS Bean/Tool One Pager
    http://sac.eng/cgi-bin/onepagers/980205_agnes.jacob