Introduction to CIFS/9000

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Lecture Summary

This document is a summary of a lecture to be presented at InterWorks 2000. In order to bring you the best and most up to date and relevant information possible a decision was made to postpone inclusion of the full paper in the CD and make the paper available at HP's web site: http://www.hp.com/visualize/programs/interex. This paper will be posted throughout 2000 for your use, reference, and referral to collegues.

This paper introduces a leading distributed file system. Known as the Common Internet File System, CIFS is not actually a file system. CIFS is a remote access protocol, providing access to files on remote file systems. This provides for much better integration between the Unix and Windows based operating environments. CIFS defines both server and client access schemes.

Outlining this lecture, the speaker begins with a brief history of the Common Internet File System. The CIFS/9000 product structure is then presented including four specific areas. 1) Server side features for HPUX, 2) Client side features running on HPUX, 3) A Pluggable Authentication Module (PAM), which allows an HPUX machine to authenticate a login using the NT Domain database, and 4) the support of the new Journaled File System JFS3.3 from Veritas with POSIX based access control lists.

Software installation instructions will be presented. Specific configuration examples needed for implementing each feature will be presented.

1) Server Configuration:
   Security levels will be compared: "Share, User, Server, Domain"
   Set up of the main CIFS/Server configuration file: "smb.conf"
   Verifying the configuration file: "testparm"
   Joining the NT Domain: "smbpasswd'
   Starting and Stopping the services: "startsmb" "stopsmb"
   Mapping between NT login needs and HPUX login needs: "passwd" and "group"
   Locations of NT user profiles. "roaming profiles"
   Obtaining status of services: "smbstatus"

2) Client Configuration:
   Set up of the CIFS/Client configuration file: "cifsclient.cfg"
   Mounting a native NT share: "cifsmount"
   Mounting a CIFS/9000 server share: "cifsmount"
   What it means to Log In to the CIFS/Client environment: "cifslogin"
   What CIFS extensions for Unix are supported? "links"
   Mapping between NT login needs and HPUX login needs: "passwd" and "group"
   Obtaining status of services: "cifslist"

3) Pluggable Authentication Module (PAM):
   Description of how the PAM gets inserted into the Unix Authentication scheme.
   Set up of the PAM to join in to the CIFS/9000 environment: "smb.conf"
   Set up of the PAM specific configuration file: "pam.conf"
   Logging in to HPUX with an NT Domain account.
   Logging in to HPUX without an NT Domain account.
   What the authentication means to accessing local file systems on HPUX.
   What the authentication means to accessing remote file systems.
   Password changing.
   Screen Lock – Unlocking

4) Support for JFS3.3 ACLS:
   Installation for support of JFS3.3 and its POSIX ACLs support
   Conversion from Vxfs version 3 to version 4: "vxupgrade"
   What it means to support JFS ACLs versus NTFS ACLs.
   Non-Separation of ACL meta data and file content data.
   Using HPUX command line ACL commands and their effect on NT's view
   Changing Security/Permissions using NT and their effect on the HPUX ACLs

Diagnosing problems and trouble shooting will be presented. Location and use of CIFS/9000 server log files will be explained. ("/var/opt/samba") Techniques and configuration examples for PAM debugging and logging will be explained. ("syslog.log")

Testing and lab experiences will be presented. CIFS/9000 limitations and constraints will be described. A chart comparing CIFS with other remote file access protocols such as NFS and DFS will be shown. A brief roadmap of future product enhancements will be outlined.

Finally, a presentation specific to file access and locking will be given.

A Questions and Answers period will follow the presentation.

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