

Information Sharing in a Collaborative Environment

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Network Centric File Service for Enterprise

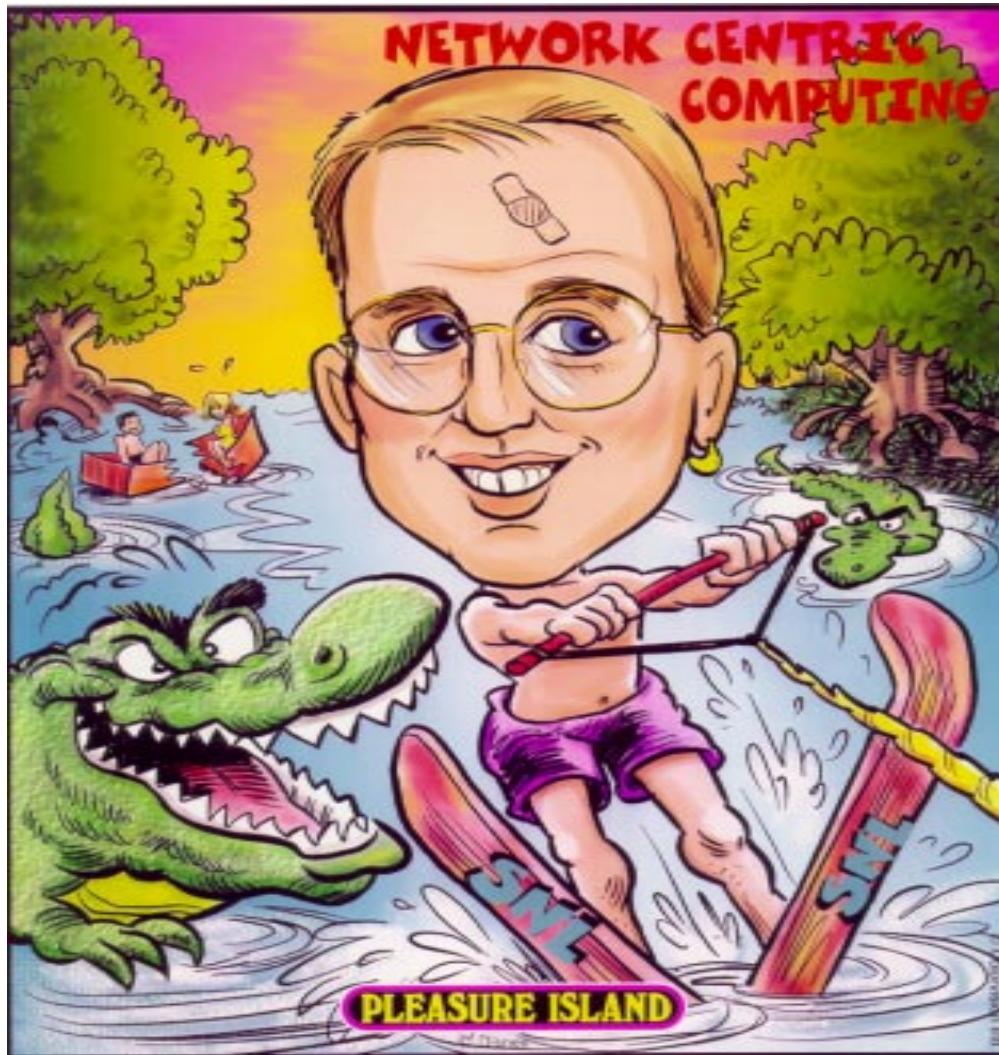
- File service to customer without concern for “server”
- Semi Automated Installation at Desktop
- CCHD fielded customer request
- Integrated with security infrastructure
- Automated management of individual and collaborative accounts
- Data security by daily backup service
- Data recovery from tape on request

Enterprise Windows Storage (NTFS)



Service to customer without concern for “server”

- Diverse number of servers exist across the complex to meet customer needs
- Decentralized management of distributed server resources is not cost effective
- Centralized management ensures uniform approach to resource operation and maintenance
- Centrally managed servers lessen burden on Computer Support Units (CSUs)
- Greater efficiencies thorough team approach to resource management



Production Monitoring

- Constant surveillance of defined parameters
- Performance data collected on each server
 - % Network utilization
 - % Disk time (read & write time)
 - Number of server sessions
- Control limits will be established on system access times

Semi Automated Installation at Desktop

- User space preassigned based on central name service database
- May be used as home directory
- Accessed by “shortcut” or mapped drive
- Create customized synchronization routine for folder backup
- Macintosh issues with permissions issues and Quota Manager
- Virtual LAN issues

Customer request fielded by CCHD

- CCHD generates work orders for collaborative disk configurations
- Central “Clearing House” for problem resolution
- CCHD dispatches appropriate resources to resolve issue
- Problem are initially recorded in ARS by CCHD
- Trouble ticket closed by technician
- Keyword database maintained for analysis

Integrated with Security Infrastructure

- Individual space is accessible to only the directory owner
- Owner can not expand permissions
- Sandia has established next generation security architecture - Distributed Computing Environment (DCE)
- Passwords, groups etc. are automated from DCE database

Purpose of Web Password Utility

- Single password for authenticating web systems
 - Netscape/DCE today
 - Microsoft IIS/ Sandia soon
- Can't assume that a password change client is available to the user.
 - No DCE on every desktop
 - UNIX, Mac don't run Microsoft
- Need to enforce machine generated passwords
 - Internal audit finding against Sandia-NT
- Need a single point where we can synchronize legacy Kerberos, DCE, and NT infrastructures.
- Secure mechanism for NT account activation

Password Generator Program

- Templates generate pseudo-pronounceable passwords.
- Password space of 6×10^6 possibilities
 - Dramatically reduces effectiveness of ‘crack’ tools
 - Defeats login with guessed passwords
- User selects password from an infinite list

Web-based Password Utility

Select an IRN Kerberos Password

Please choose one of the following Kerberos passwords. Click on the **Get New Choices** button below to get a new list of password choices. To select a new password:

- 1) Type your old password in the box provided
- 2) Type your new password choice in the box provided
- 3) Click on the **Change Password** button

Soacpont	rmoencoZ	jzEusyug	onhoaRsy	xoYpdagl
Hoezvoid	pfieqwUs	aywtAmlI	wByyhjuq	bwiIcdas
yuOqi uqc	moizeEsp	kaatroEr	Doihlubn	lyeijtAr
byelooHk	druypYom	poi fbaCv	orQuj zae	mai qfiAw

Get New Choices

Enter your old password:

Enter your new password, from table above:

Warning: The password you choose will not be displayed again. If you don't already have it committed to memory, write it down now.

Change Password

Deployment Strategy

- Pilot the application to small *Motivated* groups
 - OIN and MEDA extranet users
 - Sandia NT users with really weak passwords
 - All users with inactive NT domain accounts
- Transition Carefully
 - Allow use of standard NT desktop to change NT password UNTIL first use of the web tool.
 - Link to intro-promo page carefully explains effect the new utility has on Win95 and NT users.
 - Advise new recipients of Kerberos passwords to visit the new utility
 - Use WebTRAK to find all links to old utility. Request linking to new intro-promo page
 - Replace old utility with a redirect to new intro-promo page

Group Utility

- Meet special requirements for user-managed access groups
 - Not DCE centric
 - Supportable in NT
 - Every Group has exactly one owner
 - Group may have owner-delegates
 - Managed by intuitive web interface
- Supported in DCE by web_groups container
 - Special initial object ACL
 - Full privileges to special DCE admin group
 - Currently full privileges to group owner

Web-based Group Utility

Sandia Group Management

Sandia Groups

alegra
alegrasers
bfortiz-grp
cdbrown-grp
cth
dceweb-admin
dvanwes-grp
emgrose-grp
foo
foo/bar

Create Group...

Support/Feedback

Help



dceweb-admin@sandia.gov

Last Modified: 24 June 1997

Members in group foo

jtjoker
mmmyer1
pcmoore
ptbrook

User Info...

Add Member...

Delete Member

Edit Description...

Edit Delegates...

Delete Group

Owner: pcmoore
Group ID: 33060

Group Description:

A dummy group for testing the web managed groups application.

Passwords

- Elimination of a password that Sandians must remember
 - Users are currently logging into their NT workstation with one password, and accessing secure web apps like Electronic Timecard with another. This project will let them use one password for both.
- Elimination of duplicated password administration efforts
 - Password administration of the Sandia NT domain currently requires separate efforts by Password Administration and the Sandia NT Domain administrators. This project will eliminate almost all of the special effort involved in administering NT domain passwords, allowing NT passwords to be transparently managed using administration tools already in place for Kerberos/DCE password management

Passwords (cont.)

- Enforcement of strong passwords in the Sandia NT domain
 - Recent security audits have found that a ver large proportion of current passwords in the NT domain are very easily guessed. This project will enforce password strength in the Sandia NT domain, using machine generated passwords to make password cracking attempts in the NT domain essentially futile.
- Support secure web servers
 - We anticipate that we may soon be using IBM domino servers or Microsoft IIS servers to serve authenticated, access controlled web pages in the same way that we are currently using Netscape Enterprise servers. These servers authenticate web passwords against the NT domain. By synchronizing passwords and groups we can use either a Netscape, Domino, or IIS secure server, supporting the same password and group based access, making the different security features of the web servers transparent to the end-user

Information is protected by daily backup service

- Incremental and full backups done using Legato NetWorker
- Yet to be determined hierarchical storage practice
- Considering CD ROM for archival data

File Recovery

- Investigating self service recovery of archived files using Web interface

Deployment

- Lab rollout
 - Pilot ends 4/15/98
 - Program review meeting ~ 4/20/98
 - Rollout 5/1/98

The End

A Brief Bio on Rick Harris

Rick Harris was born in Coopersville, Michigan, in 1960. He graduated with a Master of Science degree in Mechanical Engineering from the University of Michigan, 1984.

Upon graduation, Rick joined Sandia National Laboratories as a Member of the Technical Staff. He designed electro-mechanical devices for Nuclear Weapons Safety until 1990. He represented the engineering organizations on the selection of Pro/ENGINEER CAD/CAE toolset for Sandia and Allied Signal. He was promoted to Department Manager of the Computer Service Department in 1995. He is currently the manager of the Enterprise Computing and Messaging Department at Sandia with responsibilities for Central Computing, Intranet and Internet computing, Network Services, Electronic Mail and Voice Mail

Rick has publications on 3D Dynamic Analysis of reconnaissance Vehicles, Environmental Sensing Devices and Computing Service models.