AFS Tools Review

Michael Meffie <mmeffie@sinenomine.net>
Sine Nomine Associates

2010 AFS & Kerberos Best Practices Workshop

Agenda

New tools in the OpenAFS project

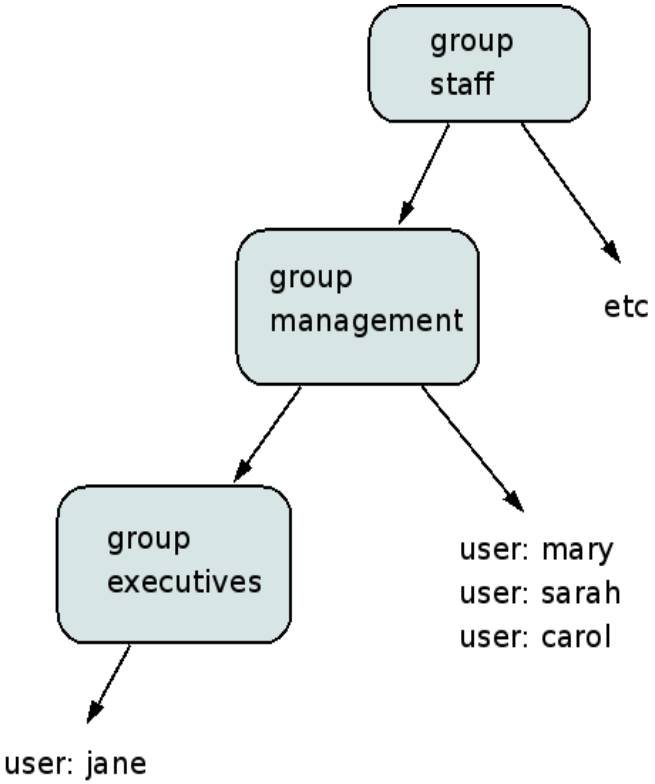
Community contributed tools

What's new in OpenAFS (toolwise)

SINE NOMINE ASSOCIATES

- We have some new vos commands
  - setaddr: manually set server address
  - endtrans: manually end volume transaction
- fs option to assist in restoring acls
- afsmonitor – show more fs stats
- Improved pts support for supergroups

Example: -expandgroups




```
pts mem management
 -expandgroups

Expanded Members are:
   jane
   mary
   sarah
   carol
```

A new tool, afsio

- High throughput i/o of data to and from afs files.
- Requires a cache manager to create and stat files
- write, append, read data
- Author: Hartmut Reuter

SINE NOMINE ASSOCIATES

Some useful bits,

- vldb_check, prdb_check
- volinfo, voldump, restorevol
- twiddle – adjust (some) cm parameters
- afscp – basic afs file copy (testing)
- fsx – stress testing
- afsdump_scan – CMU dumpscan

Contributed Tools

- A few sites have made their tools available
- Some assembly may be required

The Stanford Toolset

SINE NOMINE ASSOCIATES

- Well documented, well maintained AFS and Kerberos tools used at Stanford University
- Authors: Russ Allbery, Neil Crellin, et al
- License: GPL and Artistic
- http://www.eyrie.org/~eagle/software

The Stanford Toolset (cont)

SINE NOMINE ASSOCIATES

- Volume Management
  - smart move, create, remove
  - delegated administration
  - balancing*
- Monitoring and Reporting
  - meta-data and mount point database
  - nagios plugins, partition usage
  - read/write vs read-only tree diff

* requires IBM CPLEX

The Stanford Toolset (cont)

SINE NOMINE ASSOCIATES

And more!

- recursive fs command wrapper
- PAM modules
- k5start for daemons and cron jobs
- remctl for kerbertized remote control

UNC Toolset

- University of North Carolina
  at Chapel Hill
- Author: Steven Joyce
- License: GPL*
- http://www.physics.unc.edu/~stephen/

UNC Tools (cont)

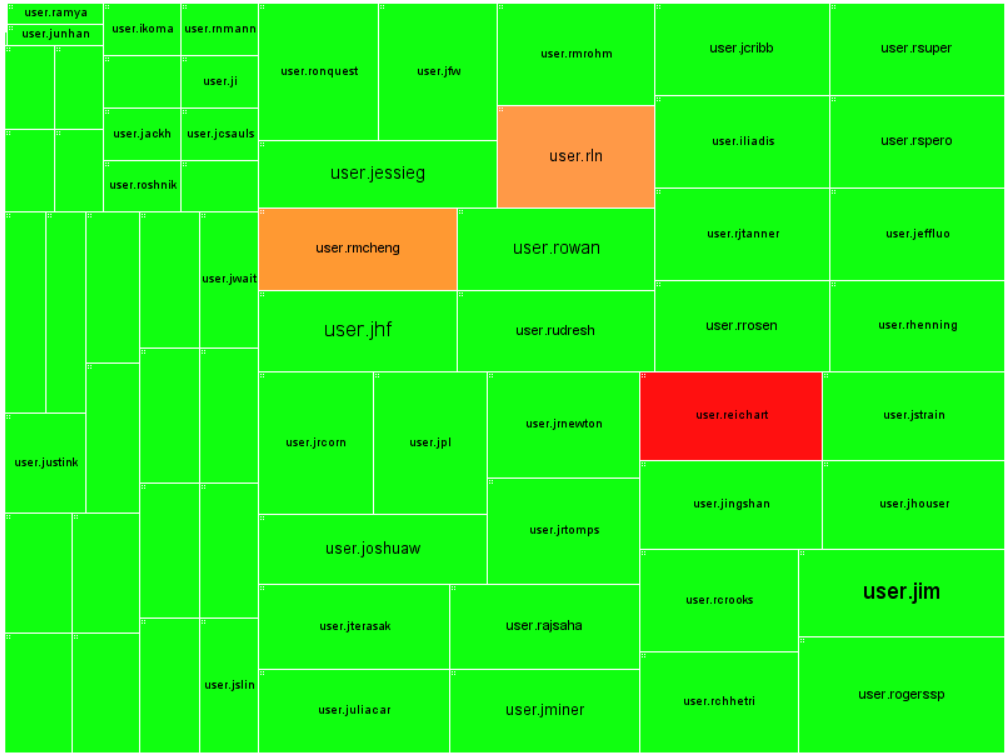
SINE NOMINE ASSOCIATES

- AFS Disk Space Allocation
  - Visualize quota allocation of volumes for each partition, web based
  - Show volumes close to reaching quota limit
  - Show quota over commit (deficit)
- This is an in-house UNC tool, Steven offered to release

AFS Disk Space Allocation

SINE NOMINE ASSOCIATES

lithium.physics.unc.edu /vicepc



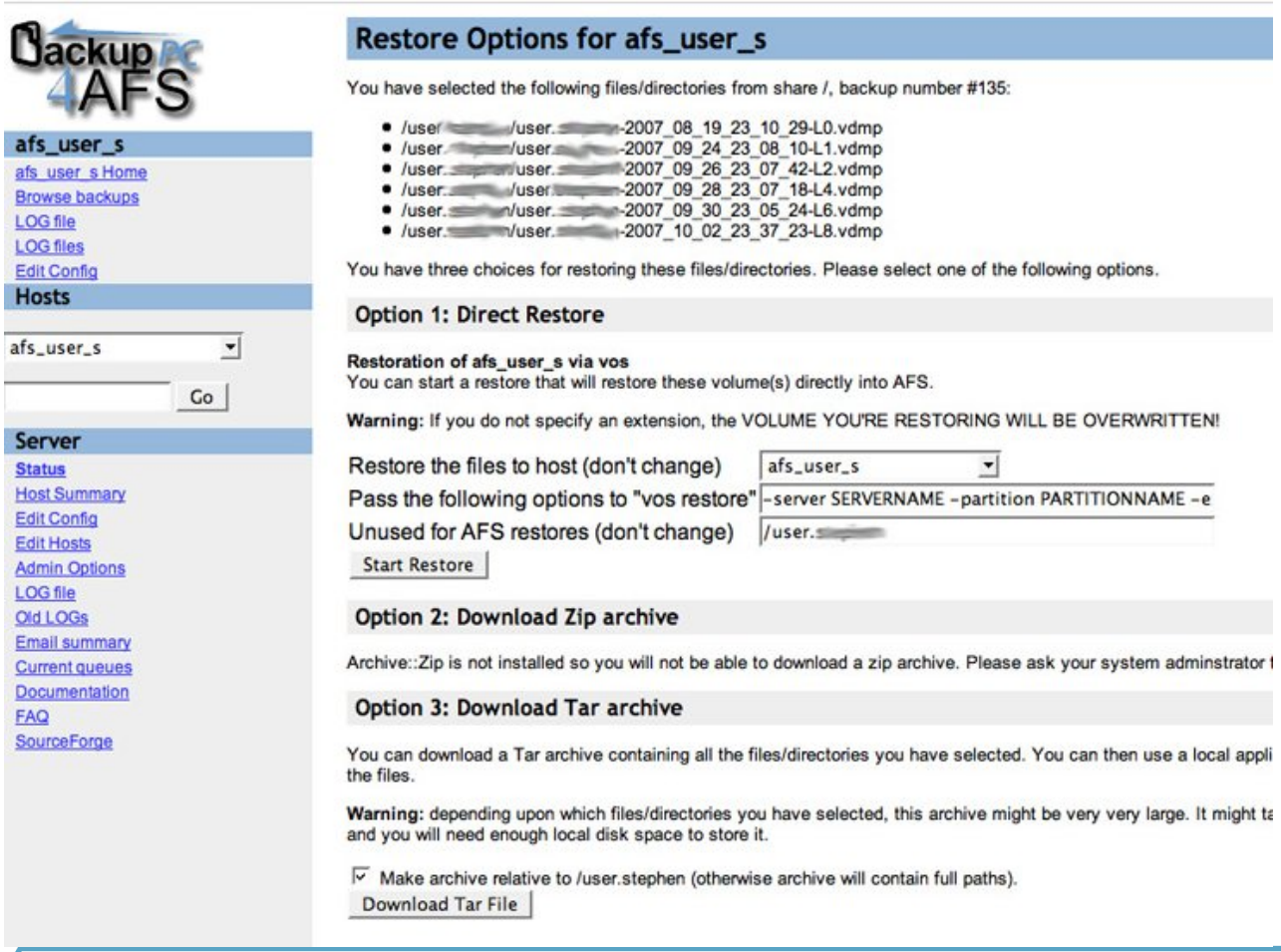
UNC Toolset (cont)

SINE NOMINE ASSOCIATES

- phpafsfree
  - web-based AFS disk utilization
  - inspired by the tcl program afsfree
- BackupPC4AFS
  - use BackupPC to backup AFS volumes
- http://www.physics.unc.edu/~stephen

BackupPC4AFS

SINE NOMINE ASSOCIATES



CMU AFS Tools

- Authors: Many and various
- License: BSD-type
- ftp.andrew.cmu.edu/pub/
- /afs/grand.central.org/dl/software/dumpscan

CMU Tools

SINE NOMINE ASSOCIATES

- dumpscan
  - tools and libs to examine and construct AFS volume dumps
- balance
  - auto-balance by size, volumes, access
  - needs a maintainer
- ws – walk subtrees

University of Michigan Tools

SINE NOMINE ASSOCIATES

- Filedrawers – web-based AFS access
  - http://www.filedrawers.org
- Apache modules
  - mod_waklog, mod_cosign
- webafsman – web-based admin
  - http://rsug.itd.umich.edu/cgi-bin/cvsweb.cgi

Mitre AFS Tool Suite

SINE NOMINE ASSOCIATES

- A set of python tools for AFS admin
- Author: Jeff Blaine
- License: GPL v2
- http://ats.sourceforge.net

Mitre AFS Tool Suite (cont)

SINE NOMINE ASSOCIATES

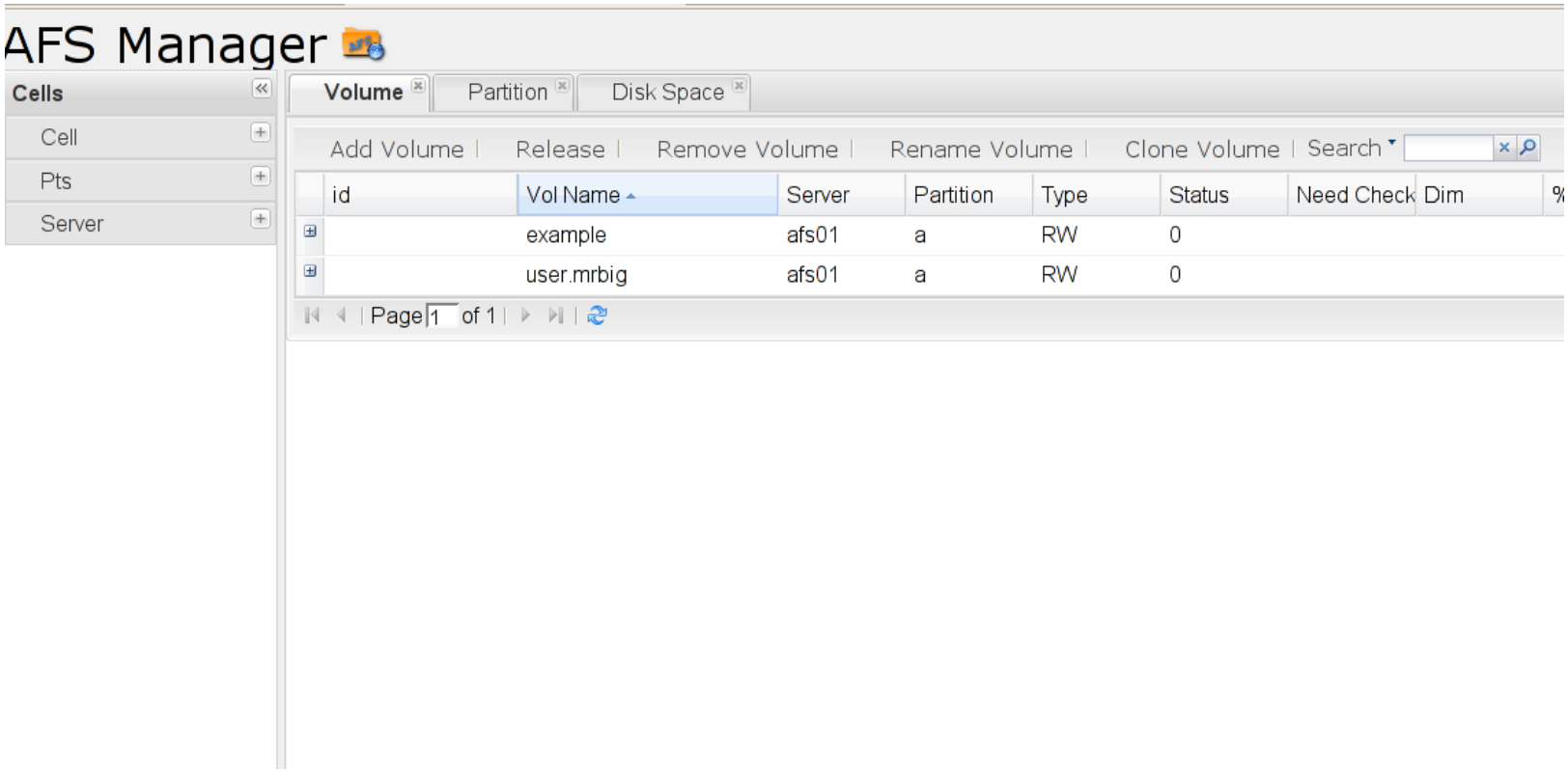
- smart remove
- volume sanity check
- replication policy check
- assist in placing volumes by space
- report quota commitments by partition

AFS Manager

SINE NOMINE ASSOCIATES

- Web-based AFS administration tool
- Authors:
  - Fabrizio Manfredi, Peppe Guarino
- License: TBD
- Contact:
  - Fabrizio Manfredi (manfred)
  - fabrizio.manfredi at gmail.com

AFS Manager (cont)



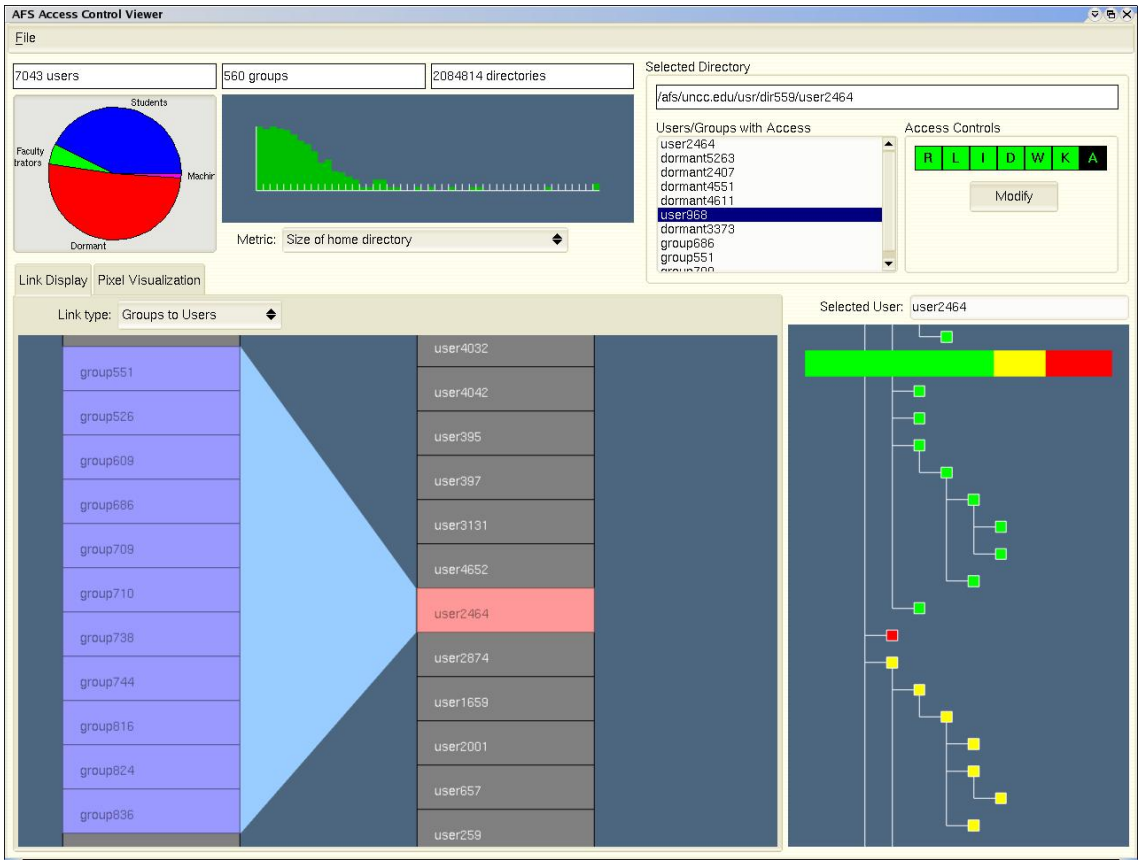
AFS Access Control Viewer

SINE NOMINE ASSOCIATES

- Vizualization tool developed as a masters project at UNC
- Paper: Interactive Exploration of the AFS File System
- Author: Joshua Foster, et al
- License: TBD
- Contact: TBD

AFS Access Control Viewer (cont)

SINE NOMINE ASSOCIATES



AFS Access Control Viewer (cont)

SINE NOMINE ASSOCIATES

- Series of visualizations of AFS volumes, directories, files
- Levels of granularity, overview to details
- Pixel visualization of users

AFS Space Statistics (afsss)

SINE NOMINE ASSOCIATES

- Perl script to generate reports about AFS fileserver partitions and volumes
- Author: Stephan Wiesand
- http://www-zeuthen.desy.de/~wiesand/AFS/

AFS Audit Volumes

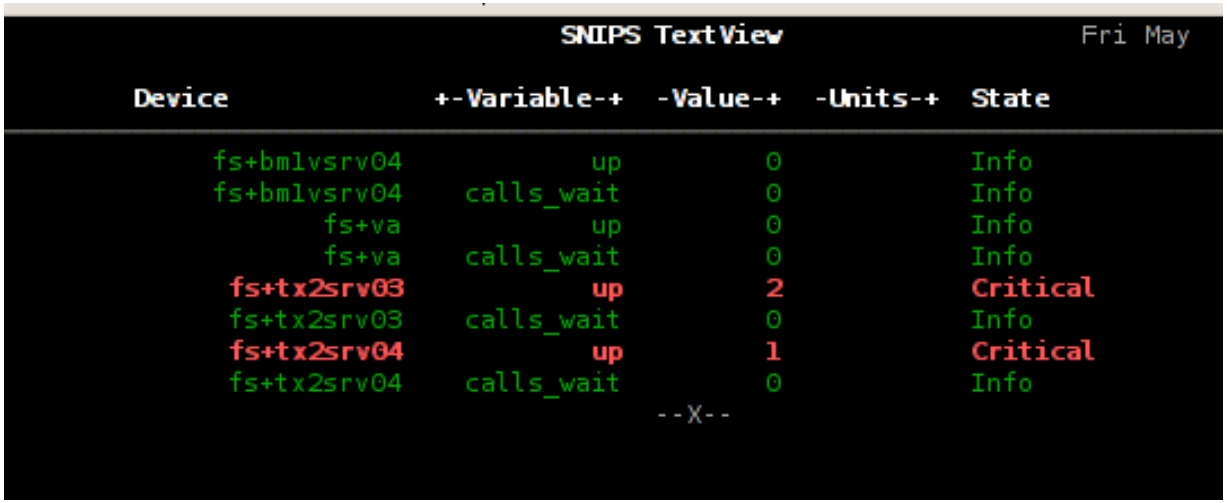
SINE NOMINE ASSOCIATES

- Perl script to report volume inconsistencies or errors.
- License: Perl
- http://git.sinenomine.net/git/

AFS Monitor for SNIPS

SINE NOMINE ASSOCIATES

- AFS plug-in for SNIPS monitoring tools
  - fileserver up/down, fileserver busy
  - http://git.sinenomine.net/git/



AFS Tools for Mac OS Clients

SINE NOMINE ASSOCIATES

- AFS Commander
- afsinstall
- Contextual Menu for finder
- afstokens

http://www.ibiblio.org/macsupport/afs/afstools.html

Thank you

SINE NOMINE ASSOCIATES

Michael Meffie <mmeffie@sinenomine.net>