

European AFS & Kerberos Conference 2014



Report of Contributions

Contribution ID: 4

Type: **not specified**

CERN Site report

Wednesday 26 March 2014 12:10 (20 minutes)

News from CERN since the Edinburgh workshop.

Authors: Dr WIEBALCK, Arne (CERN); Dr VAN DER STER, Daniel (CERN); Dr MOSCICKI, Jakub (CERN)

Presenter: Dr WIEBALCK, Arne (CERN)

Session Classification: Site Reports (Part 2)

Contribution ID: 5

Type: **not specified**

AFS deployment and activities of IHEP

Wednesday 26 March 2014 11:30 (20 minutes)

This presentation will introduce the deployment status and activities of AFS at IHEP. AFS (Andrew File System) is a distributed file system that provides namespace architecture aimed at dispersed computing environments and a set of tools geared toward ease of use and manageability. AFS was firstly deployed in IHEP 10 years ago, which worked as home directory for all users in IHEP. During recent years, many activities related to AFS were launched, including performance tuning, upgrading, data migration, data backup and so on. Also, integration of torque and AFS was developed and applied to part of computing farm. And we have developed authorization services for web portals of cluster like monitoring system, Clouds platform and accounting system. It is integrated AFS authentication flexibly eliminating the complexity of account management, which has greatly improved the efficiency of operation. In addition, AFS and IPV6 estimation and evaluation are carried out.

Author: Ms HUANG, qiulan (Institute of High Energy Physics, Chinese Academy Science)

Presenter: Ms HUANG, qiulan (Institute of High Energy Physics, Chinese Academy Science)

Session Classification: Site Reports (Part 2)

Contribution ID: 6

Type: **not specified**

OpenAFS Status Report

Wednesday 26 March 2014 14:00 (30 minutes)

A summary of the changes to the OpenAFS software and the community that have taken place since the 2012 EAKC.

Author: BRASHEAR, D (Your File System, Inc)

Presenter: BRASHEAR, D (Your File System, Inc)

Session Classification: OpenAFS Updates (Part 1)

Contribution ID: 7

Type: **not specified**

OpenAFS for Windows Deep Dive: Reparse Points, Path Processing, and Implications for Namespace Design

Wednesday 26 March 2014 15:00 (30 minutes)

Microsoft Windows differs from UNIX/POSIX in significant ways with regards to the management of directories, symlinks, mount points (aka junctions) and file system object metadata. This talk will describe the design of the OpenAFS Windows client with a focus on reparse points and path processing. The real world designs of publicly visible cells will be examined with a focus on those that can be efficiently processed and those that cannot be.

Author: ALTMAN, Jeffrey (Your File System Inc.)

Presenter: ALTMAN, Jeffrey (Your File System Inc.)

Session Classification: OpenAFS Updates (Part 1)

Contribution ID: 8

Type: **not specified**

Heimdal 1.6

Thursday 27 March 2014 09:00 (30 minutes)

An overview of the major changes in the Heimdal 1.6 release series.

A discussion of the problems experienced in Heimdal 1.5 when sites attempted to upgrade AFS cells to use non-DES keys.

Author: ALTMAN, Jeffrey (Your File System Inc.)

Presenter: ALTMAN, Jeffrey (Your File System Inc.)

Session Classification: Kerberos

Contribution ID: 9

Type: **not specified**

The Road to IPv6

Thursday 27 March 2014 11:30 (30 minutes)

Many individuals have expressed interest in IPv6 support for AFS, although it has never reached the top of the development priority list.

This talk will discuss the necessary protocol and code changes to support IPv6 across the AFS suite, highlight some of the more challenging areas. We will detail the progress that has been made in producing an IPv6 capable RX library, and rxperf test application.

Author: WILKINSON, Simon (Y)

Presenter: WILKINSON, Simon (Y)

Session Classification: AFS Evolution

Contribution ID: **10**Type: **not specified**

AFS Performance

Wednesday 26 March 2014 17:00 (30 minutes)

Many users, administrators and developers have observed that OpenAFS scales badly on multi-core machines. On some platforms we not only fail to take advantage of additional cores, but run slower than we would on an equivalent single core machine.

This talk will examine the reasons for this. We will present recent work profiling the AFS server suite and discuss ways of using this information to improve server throughput. We will discuss both coding improvements and configuration alterations they can be used to improve performance on today's multi processor systems.

Author: WILKINSON, Simon (Y)

Presenter: WILKINSON, Simon (Y)

Session Classification: OpenAFS Updates (Part 2)

Contribution ID: 11

Type: **not specified**

AFS Salvager and Large Volumes

Friday 28 March 2014 10:00 (30 minutes)

The AFS salvager is one of those programs (like the restore part of backup/restore) that are only needed when something has already gone wrong, and must be set right as quickly as possible. In a perfect world, there would be no need for recovery tools like the AFS salvager; servers would always come down cleanly, and filesystems would always be in a consistent and correct state. But we don't live in a perfect world: hardware fails, servers crash, and AFS has bugs. Undiscovered bugs are more likely to lurk in code paths that are 1) complex and 2) rarely exercised, e.g. salvaging very large AFS volumes. This presentation will discuss the AFS namei partition format and how salvager identifies and repairs damage in it. We will conclude with a real-world case study that was used as a starting point for a test suite to identify and fix remaining bugs in AFS large volume support. We'll also briefly discuss possible alternatives to the salvager.

Author: Mr VITALE, Mark (Sine Nomine Associates)

Presenter: Mr VITALE, Mark (Sine Nomine Associates)

Session Classification: AFS Operations

Contribution ID: 12

Type: **not specified**

OpenAFS and IPv6

Thursday 27 March 2014 12:00 (30 minutes)

Institutions and businesses are increasingly mandating IPv6 compatibility from their networked applications and systems. The day is approaching when OpenAFS must be able to work with hosts that exclusively use IPv6 addresses. This involves a variety of changes to the OpenAFS codebase and how OpenAFS operates over the wire. This talk will identify the areas where the work to implement IPv6 is understood and there is community agreement on how to proceed. We will also survey the areas that will require additional discussion to achieve community consensus on how to proceed with implementing IPv6 for OpenAFS.

Author: Mr DEASON, Andrew (Sine Nomine Associates)

Co-author: Mr MEFFIE, Michael (Sine Nomine Associates)

Presenters: Mr DEASON, Andrew (Sine Nomine Associates); Mr MEFFIE, Michael (Sine Nomine Associates)

Session Classification: AFS Evolution

Contribution ID: 13

Type: **not specified**

AFSmin - an AFS dashboard

Friday 28 March 2014 09:00 (30 minutes)

Many sites have created site-specific AFS dashboards for their administrators and to address their site-specific needs. In this talk, I will present AFSmin, an open, redistributable dashboard solution that anyone in the community can use.

AFSmin is a work in progress, open source AFS dashboard, featuring a modern UI and easy setup. It can be used for basic monitoring and basic AFS volume administration by seasoned and novice AFS administrators.

Author: Mr MEFFIE, Michael (Sine Nomine Associates)

Presenter: Mr MEFFIE, Michael (Sine Nomine Associates)

Session Classification: AFS Operations

Contribution ID: 14

Type: **not specified**

OOB Update

Wednesday 26 March 2014 17:30 (30 minutes)

In 2012, I presented about the prototype “Out of Band” project, a project to allow OpenAFS bulk network communication over protocols besides Rx/UDP (such as TCP). Per the original plan, OOB has since been partially redesigned in order to address shortcomings in the original design. This new implementation fixes various problems, allows OOB to be more easily used for other arbitrary services (such as volume operations), and improves long-term maintainability, making it hopefully easier to integrate into OpenAFS. This presentation will briefly cover the history and current state of the project, walk through the new architecture, and discuss what is envisioned for the future.

Author: Mr DEASON, Andrew (Sine Nomine Associates)

Presenter: Mr DEASON, Andrew (Sine Nomine Associates)

Session Classification: OpenAFS Updates (Part 2)

Contribution ID: 15

Type: **not specified**

Getting started with AFS code

Friday 28 March 2014 11:00 (30 minutes)

Anyone currently administrating AFS who wanted to “look under the hood/bonnet” as it were, will find this review of some the hurtles encountered getting started supporting AFS code helpful. Where is the code, how do you build from the source, simple debug techniques and how to develop/apply a test fix and eventually pushing it upstream will be covered. To drive AFS adoption going forward, the AFS ecosystem needs many more people familiar with the internals. Get started today! Perry is a recent addition to the SNA AFS team. He had many years experience supporting large, complex pieces of software, but no previous experience with open source projects, AFS, or Linux/Unix.

Author: RUITER, Perry (Sine Nomine Associates)

Presenter: RUITER, Perry (Sine Nomine Associates)

Session Classification: AFS Code

Contribution ID: **16**

Type: **not specified**

DESY Site Report

Wednesday 26 March 2014 10:40 (20 minutes)

Report on the DESY sites' AFS cells.

Author: WIESAND, Stephan (CERN - PH/UAT)

Co-author: Mr VAN DER REEST, Peter (DESY)

Presenters: Mr VAN DER REEST, Peter (DESY); WIESAND, Stephan (CERN - PH/UAT)

Session Classification: Welcome & Site Reports (Part 1)

Contribution ID: 17

Type: **not specified**

A week in the life of the OpenAFS release manager

Friday 28 March 2014 11:30 (30 minutes)

A look behind the scenes of the OpenAFS stable release process.

Author: WIESAND, Stephan (CERN - PH/UAT)

Presenter: WIESAND, Stephan (CERN - PH/UAT)

Session Classification: AFS Code

Contribution ID: **18**Type: **not specified**

Deploying Secure NFS v3 / v4 in a Large Enterprise

Thursday 27 March 2014 10:30 (30 minutes)

The talk will share our experience of deploying Secure NFS v3, Secure NFS v4, as well as just NFS v4 throughout a large enterprise with hundreds of NAS appliances and thousands of hosts. The NAS appliances are NetApp filers and the clients are mainly RedHat Linux systems; the problems encountered with the NFS v4 protocol however are not Operating System specific. The challenges of managing Kerberos credentials for thousands of non-interactive service accounts running business applications must be well-known to the AFS community and I will present how we are approaching the problem.

Author: WILLERS, Moritz**Presenter:** WILLERS, Moritz**Session Classification:** Kerberos

Contribution ID: **19**

Type: **not specified**

OpenAFS on Solaris

Wednesday 26 March 2014 15:30 (30 minutes)

tbs

Author: MILKOWSKI, Robert (M)

Presenter: MILKOWSKI, Robert (M)

Session Classification: OpenAFS Updates (Part 1)

Contribution ID: 20

Type: **not specified**

Current status of afspy

Friday 28 March 2014 12:00 (30 minutes)

In this talk, I will present the status of high-level python bindings including a database cache and detached job execution.

Most features are explained by example.

Author: HANKE, Christof (RZG)

Presenter: HANKE, Christof (RZG)

Session Classification: AFS Code

Contribution ID: 21

Type: **not specified**

AFS-OSD current state and future

Wednesday 26 March 2014 18:00 (30 minutes)

AFS-OSD is currently used at two sites with totally more than 1 PByte of data. Some file servers are still openafs 1.4 based, others already 1.6 based. The 1.6-based source is kept in github. For the integration into openafs 1.9 a stripped version is being prepared for openafs's git master which is compatible to the 1.6 version in github, but not to the old 1.4 based clients and servers.

Author: REUTER, Hartmut (M)**Presenter:** REUTER, Hartmut (M)**Session Classification:** OpenAFS Updates (Part 2)

Contribution ID: 22

Type: **not specified**

Rx security issues: OpenAFS and the rxkad k5 and kdf updates

Wednesday 26 March 2014 16:30 (30 minutes)

Some discussion on what led to the rxkad updates and what value they bring to the table... and what they do not.

Author: BRASHEAR, D (Your File System, Inc)

Presenter: BRASHEAR, D (Your File System, Inc)

Session Classification: OpenAFS Updates (Part 2)

Contribution ID: 23

Type: **not specified**

CERN AFS Backup System

Friday 28 March 2014 09:30 (30 minutes)

Design, evolution and experience with CERN AFS Backup System (ABS).

Author: Dr MOSCICKI, Jakub (CERN)

Co-authors: Dr WIEBALCK, Arne (CERN); Dr VAN DER STER, Daniel (CERN)

Presenter: Dr MOSCICKI, Jakub (CERN)

Session Classification: AFS Operations

Contribution ID: 24

Type: **not specified**

OpenAFS: Linux client update

Wednesday 26 March 2014 14:30 (30 minutes)

This talk will give an overview of the current status of the Linux OpenAFS client, focusing on recent changes in the Linux kernel and on the impact for the OpenAFS client code.

Author: Mr DIONNE, Marc (Your File System Inc.)

Presenter: Mr DIONNE, Marc (Your File System Inc.)

Session Classification: OpenAFS Updates (Part 1)

Contribution ID: 25

Type: **not specified**

USGS AFS Site Report

Wednesday 26 March 2014 11:50 (20 minutes)

- What is the USGS organization like
- How does USGS use AFS
- What is the size and architecture of the cell
- Recent improvements
- Why does USGS use AFS in 2014
- Things that are difficult about AFS for USGS
- Things that we would love to do in the future

Author: Mr DREYER, Ken (USGS)

Presenter: Mr DREYER, Ken (USGS)

Session Classification: Site Reports (Part 2)

Contribution ID: 26

Type: **not specified**

Accessing AFS through the s3 protocol & A glance at RestFS

Friday 28 March 2014 12:30 (30 minutes)

The myS3 permits accessing to AFS cells from everywhere with a simple S3 client or an http request. The main function of myS3 is the conversion of the S3 requests in local filesystem requests. This solution has many advantages like: multi platform and multi device (s3 clients exist for everything), not intrusive (no kernel module is required on the client side), standard port used (http protocol), simple to install.

The talk will explain the architecture, the implementation and different possibilities of installation.

Author: Mr MANFREDI, Fabrizio (-)

Presenter: Mr MANFREDI, Fabrizio (-)

Session Classification: AFS Code

Contribution ID: **28**

Type: **not specified**

Storage at CERN

Wednesday 26 March 2014 10:10 (30 minutes)

This presentation will give an overview about the CERN IT storage solutions.

Author: IVEN, Jan (CERN)

Presenter: IVEN, Jan (CERN)

Session Classification: Welcome & Site Reports (Part 1)

Contribution ID: 29

Type: **not specified**

Welcome at the CERN IT Department

Wednesday 26 March 2014 10:00 (10 minutes)

Author: PACE, Alberto (CERN)

Presenter: PACE, Alberto (CERN)

Session Classification: Welcome & Site Reports (Part 1)

Contribution ID: **30**

Type: **not specified**

Logistics

Wednesday 26 March 2014 12:30 (15 minutes)

Presenter: Dr WIEBALCK, Arne (CERN)

Session Classification: Site Reports (Part 2)

Contribution ID: **31**

Type: **not specified**

MIT Kerberos update (?)

Contribution ID: 32

Type: **not specified**

Update on the OpenAFS Foundation

Friday 28 March 2014 14:00 (30 minutes)

Author: Mrs ZIEMER

Session Classification: Summary and Outlook

Contribution ID: 33

Type: **not specified**

Summary & Conference Wrap-Up

Friday 28 March 2014 14:30 (1 hour)

Author: THE OPENAFS ELDERS

Session Classification: Summary and Outlook

Contribution ID: 34

Type: **Talk**

rxgk status update

Thursday 27 March 2014 10:00 (30 minutes)

A status report will be given on the standardization process for the rxgk security class and its use with the AFS-3 protocol, and the implementation and use of rxgk in OpenAFS. Numerous internal updates and additional features are needed in the OpenAFS codebase in order to make full use of rxgk universal, and these will be discussed as well.

Author: KADUK, Benjamin (Massachusetts Institute of Technology)

Presenter: KADUK, Benjamin (Massachusetts Institute of Technology)

Session Classification: Kerberos

Contribution ID: 35

Type: **Talk**

MIT Kerberos status update

Thursday 27 March 2014 09:30 (30 minutes)

A report will be given on the new features introduced in recent versions of MIT krb5, and what is on the horizon for upcoming releases. Changes in the development workflow will be briefly mentioned (and how they affect contributors), as will some ongoing IETF standardization work.

Author: KADUK, Benjamin (Massachusetts Institute of Technology)

Presenter: KADUK, Benjamin (Massachusetts Institute of Technology)

Session Classification: Kerberos

Contribution ID: **36**

Type: **not specified**

YFS Deep Dive

Thursday 27 March 2014 17:30 (20 minutes)

Presenter: ALTMAN, Jeffrey (Your File System Inc.)

Session Classification: YFS Deep Dive (Part 1)