Status Report

AFS & Kerberos
Best Practice Workshop
2006

What a difference a year makes

- 26 releases
- New stable and development branches
- A reorganization of the Elders
- Celebrated our Fifth Anniversary
- Hundreds of modifications and improvements
- New Platforms

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Release Summary (1.4.0) November 1, 2005

- First Stable Microsoft Windows release for 32-bit systems
- RX library optimizations
- Audit Logs
- Improved Mobile Client support
- Callback Break Later
- Large File Support
  - Client defaults on and Server defaults off
- vos copy, vos convertROtoRW, -vattachpar
- linux changed to use system inodes instead of treating afs "vcaches" as a private inode pool
- aklog
- **File Server is not stable – Upgrade if you are running anything post 1.2.x and pre-1.4.1**

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Release Summary (1.4.1) April 24, 2006

- MacOS X 10.4 (Tiger) – Thanks Chaskiel Grundman
- File Server stability and improvements
  - Resource leaks, deadlocks, and reference errors removed
  - More mobile client improvements but there is still a delay if a callback was broken while the client was in transit
  - Fairer algorithms used for recycling callback registration
- asetkey
- Large File Support – Server defaults to on
- New man pages (Thanks Russ)
- Windows client improvements
  - Byte Range Locks in the CIFS Server
  - Improvements in CIFS Server Virtual Circuit management
  - ICMP response no longer hamper RX performance

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Release Summary (1.4.2 Beta 1) June 13, 2006

- Windows
  - Removes race condition and deadlock introduced in 1.4.1
  - Dynamic adjustment of thread priorities based on age of CIFS Request
  - Improved CIFS Server performance due to finer grained locking
  - Improved resource recycling
  - Works with Microsoft Vista Beta 2
- File Server
  - Final mobility improvement – no longer delays if callbacks were invalidated during transit
  - write locks are controlled by 'w' and not 'k'
- ability to bind rx to a single ip address on a multihomed host (-rxbind)
- posix file lock tracking fixes for linux
- pag garbage collection enabled by default on linux
  - to lessen vmalloc pool memory pressure

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Release Summary (1.5.2)
June 13, 2006

- Windows
  - CIFS Byte Range Locking Backed by File Server Locks
  - Support for AMD 64-bit Windows XP, 2003, R2
- ?????

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Supported Platforms

- AIX 4.2, 4.3, 5.1, 5,2, 5.3
- HP-UX 11i (pa-risc), 11.22 (pa-risc), 11.23 (ia64)
- Solaris 7 (sparc,x86), 8 (sparc,x86), 9 (sparc,x86), 10 (sparc,x86,amd64)
- MacOS X 10.3 and 10.4 (ppc, intel)
- Microsoft Windows 2000, XP (x86, amd64), 2003 (x86, amd64), 2003 R2 (x86, amd64), Vista Beta 2 (x86, amd64)
- Linux 2.4 kernel: x86, x86-uml, amd64, ia64, pa-risc, ppc, ppc64, s390, s390x, sparc, sparc64
- Linux 2.6 kernel: x86, x86-uml, amd64, ia64, ppc, ppc64, s390x, sparc64
- OpenBSD (x86) 3.3, 3.4, 3.5, 3.6, 3.7, 3.8
- NetBSD (x86; server only) 1.5, 1.6, 2.0, 2.1, 3.0
- FreeBSD (x86; server only) 4.7, 5.3, 6.0-beta
- SGI Irix 6.5

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Elders Reorganization

- Thanks to the original Elders who retired
  - Travis Broughton
    - Intel
  - Craig Everhart
  - Peter Honeyman
    - University of Michigan
  - Ted McCabe
    - MIT
  - Philip Moore
  - Bob Oesterlin
    - IBM Rochester
  - Garry Zacheiss
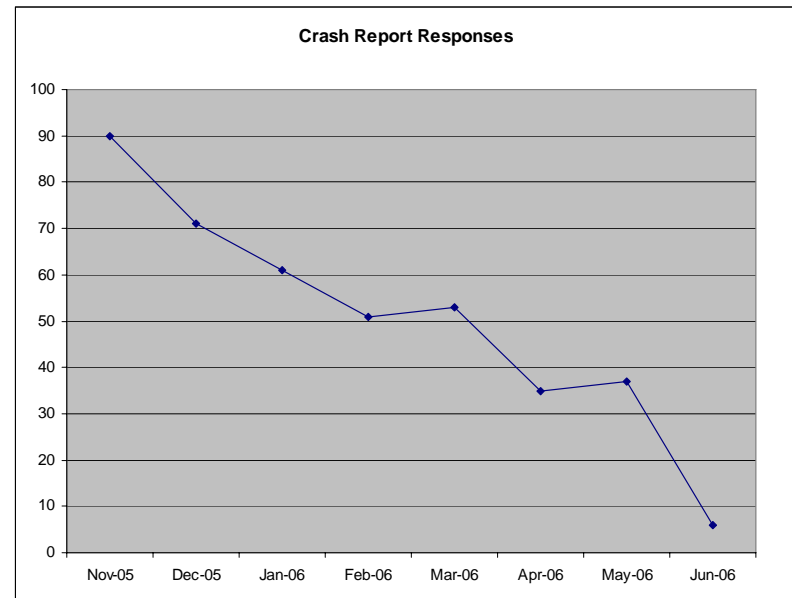   - MIT

- Current Elders
  - Russ Allbery
    - Stanford University
  - Jeffrey Altman
    - Secure Endpoints Inc.
  - Harald Barth
    - Kungliga Tekniska högskolan [Royal Institute of Technology] Stockholm
  - Derrick Brashear
    - Sine Nomine Associates
  - Todd DeSantis
    - IBM Pittsburgh Labs
  - Jim Rees
    - University of Michigan
  - Jeffrey Schiller
    - MIT
  - Laura Stentz
    - IBM Pittsburgh Labs
  - Warren Yenson
    - Google

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Windows Crash Reports

- Starting in November 2005 Microsoft began providing access to Windows Crash Reports for AFS (IBM and OpenAFS)
- Users are referred to a web page providing upgrade information for non-current releases
- The number of reports has steadily decreased

Crash Report Responses

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06
Responses	90	71	61	51	53	35	37	6

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Windows Specific Known Issues

- No support for UNICODE
  - adverse impact on roaming profiles and redirected folders
- No integration with Microsoft Dfs
- No support for files greater than 2GB
- No disconnected mode functionality
- No support for DOS and Extended Attributes

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Plans for 1.5/1.6

- Protection Server
  - AFS ID aliases
- Capabilities RPC for all services
- Lock upgrades and downgrades
- Fast fileserver restart/online salvage
- Split cache by volume type
- Online salvager and demand attach
- Multiple realms
- Hash based inode numbers
  - to work around linux libc issues
- Large File Support for Windows
- Better configuration tools for MacOS X

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Things to come (post 1.6)

- Windows
  - Installable File System
    - Eric Williams, U. Michigan (CITI)
  - New Credential Manager
    - KFW 3.x Network Identity Manager
  - Removal of Submounts
- RX
  - rxgk
  - rxtcp
  - ipv6

- File Server
  - Mandatory Locks
  - Unicode path names
- Other
  - proactive monitoring
  - a good admin suite

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Mobility Demo

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Got Questions About Windows?

- OpenAFS for Windows Status Reports available at
  - http://www.secure-endpoints.com/
- Mailing List
  - openafs-win32-devel@openafs.org

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Contact Information

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