AFS in 10 minutes…

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AFS is a distributed filesystem product, pioneered at Carnegie Mellon

It offers a client-server architecture for federated file sharing and replicated read-only content distribution, providing location independence, scalability, security, and transparent migration capabilities.

AFS is available for a broad range of heterogeneous systems including UNIX, Linux, Mac OSX, Microsoft Windows

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Brief history of AFS

- **1983** • Andrew Project started at Carnegie Mellon University (CMU)

- **1988** • First use of AFS version 3   First use of AFS outside Carnegie Mellon University

- **1988** • Institutional File System project at University of Michigan –

- **1989** • Transarc Corporation founded to commercialize AFS,

- **1993** • Arla project started at Kungliga Tekniska Högskolan

- **1998** • Transarc Corporation becomes wholly owned subsidiary of IBM

- **2000** • IBM releases opeAFS as OpenSource (IBM License),

- **2000** • OpenAFS release version 1.0 based on Transarc 3.6

- **2001** • OpenAFS release version 1.2 first release with better support of new operating system and fix several memory leak

- **2005** • OpenAFS release version 1.4 with a lot of new feature

- **2005** • AFS was discontinued from IBM

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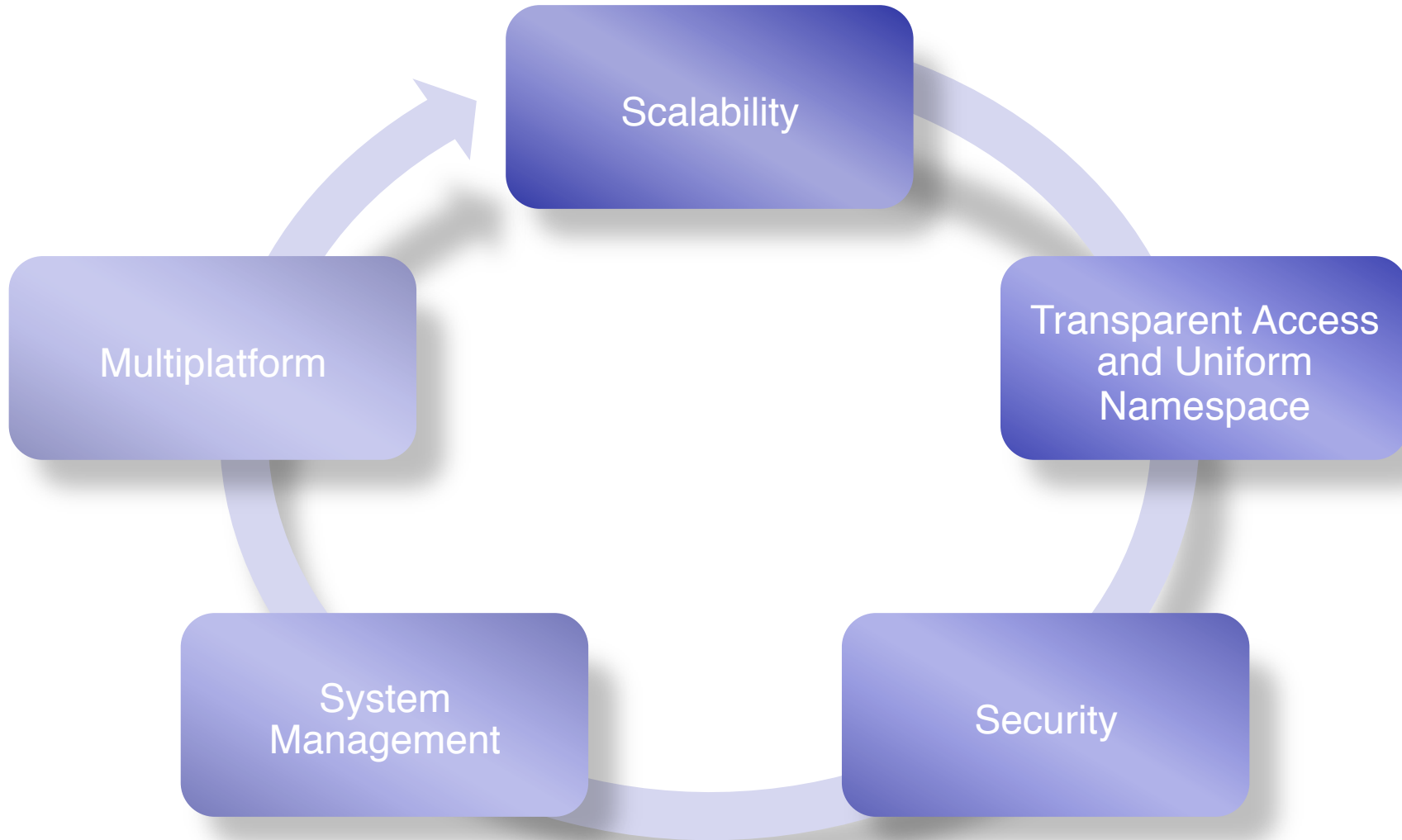
Cache Manager (Client Side)

- Maintain information about identities users
- Retrieve data from fileserver (1000:1 rate)
- Keeps chunks of retrieved files on local disk (cache)

Replication

- Frequently accessed data can be replicated (read-only) on several server
- Cache Manager make use of replicate volumes first

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Authentication

- Kerberos IV native (kaserver)
- External Kerberos V
- Unique identity
- Encryption communication on data transfer (crypt option)

Authorization

- Access control list with 7 types permissions
- Groups definition by user

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Single system interface

- Configuration changes can made from any client
- Move volume in transparent way
- On-line upgrade and extend system

Delegation

- Group delegation
- Admin delegation

Backup

- Backup volume and file
- Built in backup function
- User direct access (backup mounted)

Morgan Stanley IT

- Internal usage
- Storage: 450 TB (ro)+ 15 TB (rw)
- Client: 22.000
- Server 5000
- 100 office

Pictage, Inc

- Online picture album
- Storage: 450 TB
- Volumes: 800,000.
- Files: 200 000 000.

Embian

- Internet Shared folder
- Storage: 500TB
- Server: 200 Storage server
- 300 App server

RZH

- Internal usage 210TB

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XVI European AFS meeting 2009
## Rome: September 28-30

Who should attend:

- Everyone interested in deploying a globally accessible file system
- Everyone interested in learning more about real world usage of Kerberos authentication in single realm and federated single sign-on environments
- Everyone who wants to share their knowledge and experience with other members of the AFS and Kerberos communities
- Everyone who wants to find out the latest developments affecting AFS and Kerberos

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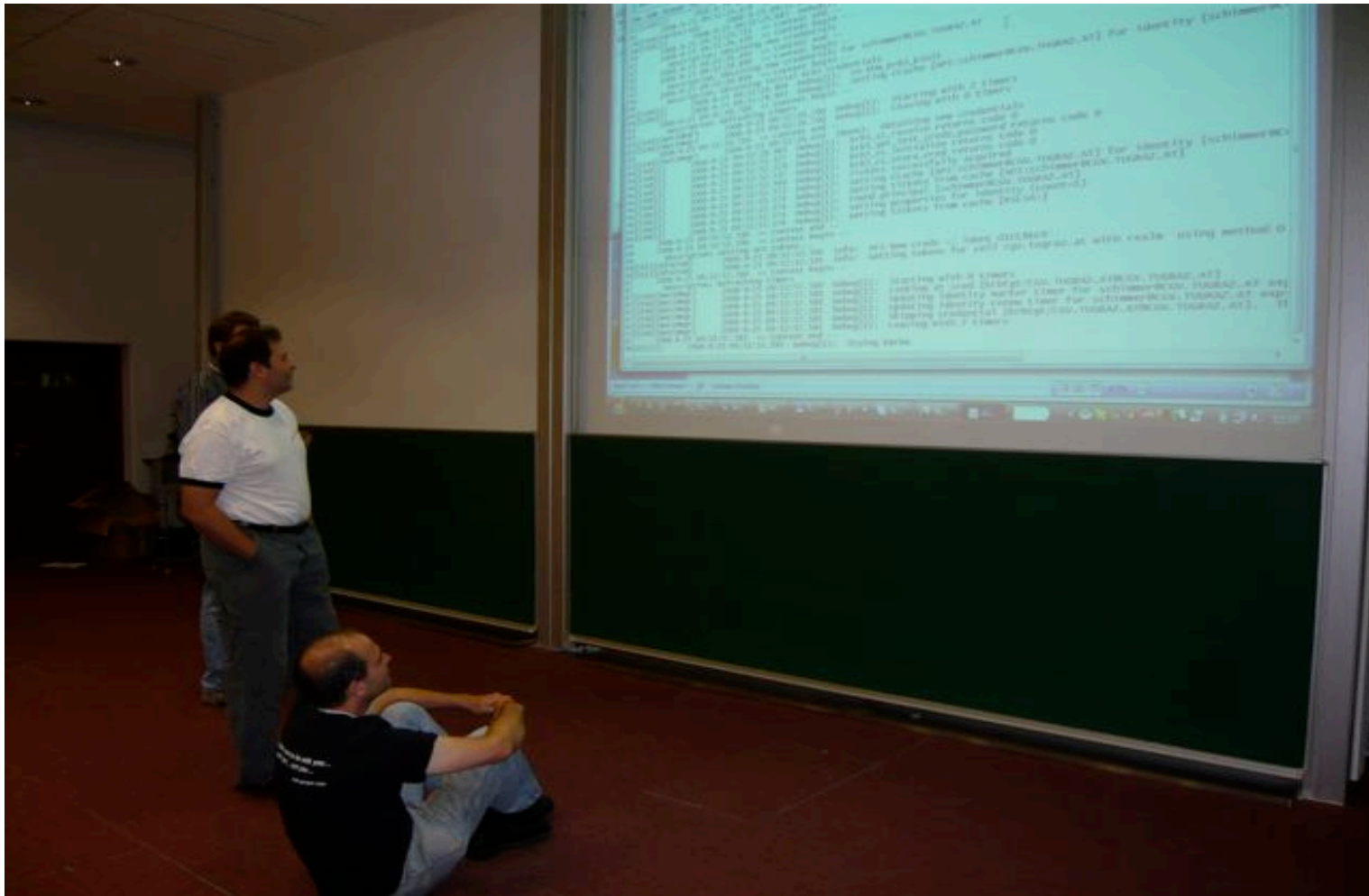
- **Cost : Free of charge**
- **Language : English**
- **When : 28-30 September**
- **Where : Rome, Uniroma3**
- **Registration:**
  - **http://www.openafs.it**
  - **http://www.dia.uniroma3.it/~afscon09/**

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Thank you !

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