Apache DS 2.0

What's new?

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Agenda

• Introduction
• What's already in the box
• New features
• ADS and other OSS LDAP servers
• Tooling
• Summary
• Q&A
Introduction
What is ADS?

- An LDAP server
- Written in Java
- Compliant
- Extensible
- Embeddable
- With tooling
What is ADS?

- 5th biggest ASF project (SLOC)
- Vivid community
- 160 downloads a day for the server
- 320 downloads a day for Studio
What's already in the box?
Standards

- RFC 225x and 451x
- X.500
- Controls
- Extended operation
Compliant LDAP server
ApacheDS' specials

- Full X500 ACIs
- Triggers and Stored-procedure
- Modular architecture allowing server extension
- Embeddable
- Kerberos, DNS, DHCP, DNS, ...
New features
ChangeLog

• A logging facility storing versions of your modifications
• Changes can be reverted
• Works a bit like SVN
• Mainly used for tests atm
Journal

- Logs all the modifications done in a file
- LDIF format
- Used for Replication and DRS
Entry API

- We don't use JNDI within the server anymore
- A new Entry API has been designed
- Client and Server API
- Uses varargs and Generics

```java
EntryAttribute attrOC = new DefaultClientAttribute( "objectClass", "top", "person" );
EntryAttribute attrCN = new DefaultClientAttribute( "cn", "test1", "test2" );
EntryAttribute attrPWD = new DefaultClientAttribute( "userPassword", BYTES1, BYTES2 );

Entry entry = new DefaultClientEntry( "dc=example,dc=org", attrOC, attrCN, attrPWD );
```
Cursors

- Total rewrite of the search engine
- Cursors can be read forward ...
- ... and backward.
- Make it easier to implement paged search operation!
MINA 2.0

- Switched from MINA 1.1 to 2.0
- Better scalability
- Better performance
Better test environment

• Annotations are now used
  – Ldif injection
  – Factory definition
  – Revert strategy

@RunWith (CiRunner.class)
@CleanupLevel (Level.CLASS)
@Factory (SearchWithIndicesITest.MyFactory.class)
@ApplyLdifFiles({"test.ldif"})
public class SearchWithIndicesITest
...

Leading the Wave of Open Source
Installers

• We now have native installers for a lot of platforms
  – Windows (Vista/XP)
  – Debian (32/64)
  – RedHat (32/64)
  – Solaris (SPARC/i386)
  – Mac OS X
  – No architecture (ZIP, tar.gz)
Performances

• Lot of improvements done
• Around 4500 random search requests per second on a laptop (OpenLDAP does 9000)
• Around 13 000 random search requests per second on a 4 ways CPU, with 5 millions entries
Replication

• Based on RFC 4533
• Syncrepl in OpenLDAP
• Multi-master replication system
• Will replicate with OpenLDAP
• Hopefully available very soon...
DRS

- Disaster recovery system
- Based on the Journal
Config in DIT

- Easier configuration
- Easier integration
- Easier evolution
- Configuration stored as LDIF
- Can be handled by Studio
ADS and other OSS LDAP servers
OpenLDAP

- The reference when it comes to OSS LDAP server
- Written in C
- A bit complex to install ...
- We are collaborating with OpenLDAP
OpenDS

- Written in JAVA
- Quite recent
- Future ?
- Collaboration ?
- Sun ?
FDS

- Netscape source base
- Stable
- Does the job
- Does not evolve a lot ...
- Brittle C code base
Tooling
Apache Directory Studio

- Award winning, De-facto Standard
  - Eclipse Community Award 2009
  - Best Open Source RCP Application

- Works with any LDAP server
  - OpenLDAP ... even Active Directory

- Works especially well with ApacheDS
  - It even runs inside, if you like
Studio Features

• LDAP Browser/Editor
• Embedded ApacheDS
• ApacheDS Configuration Editor
• Schema Editor (for ApacheDS and OpenLDAP)
LDAP Browser/Editor

Attribute Type
Please enter or select the attribute type.

Attribute type: jpegPhoto

- Show subschema attributes only
- Hide existing attributes

Preview: jpegPhoto
Embedded ApacheDS

- Leverage the fact that ApacheDS is embeddable
- Create/Setup/Run an LDAP server in less than 10 seconds, several instances
ApacheDS configuration

Supported Authentication Mechanisms
- SIMPLE
- CRAM-MD5 (Sasl)
- DIGEST-MD5 (Sasl)
- GSSAPI (Sasl)
- NTLM (Sasl)
- KERBEROS (Sasl)
- KERBEROS (Sasl)
- LM (Sasl)

SASL Settings
- SASL Host: ldap.example.com
- SASL Principal: ldap/dap.example.com@EXAMPLE.COM
- Search Base DN: ou=users,ou=system
- SASL Quality Of Protection

Apaches Con

Leading the Wave of Open Source
Schema editor

General information
Specify general information (aliases, OID, etc.).

Aliases: departmentNumber

OID: 2.16.840.1.113730.3.1.2

Description: RFC2796: identifies a department within an organization

Schema: inetorgperson

Superior type: (None)

Usage: User Applications

Syntax: Directory String - (1.3.6.1.4.1.1466.115.121.1.15)

Syntax length:

Matching Rules
Specify matching rules (Equality, Ordering & Substring).

Equality: caseIgnoreMatch - (2.5.13.2)

Ordering: (None)

Loaded from: OrganizationUnit

Overview: Source Code Used By

Projects:

Sofinco

tl

to
toto
tto

Problems ?

Search

Servers
Summary
Summary

• Should be ready by June-September
• We will work on performance improvement
• Production ready
• Easy to install, easy to use.
Q&A