



Java Naming and Directory Interface™ (JNDI)

Birds-of-a-Feather

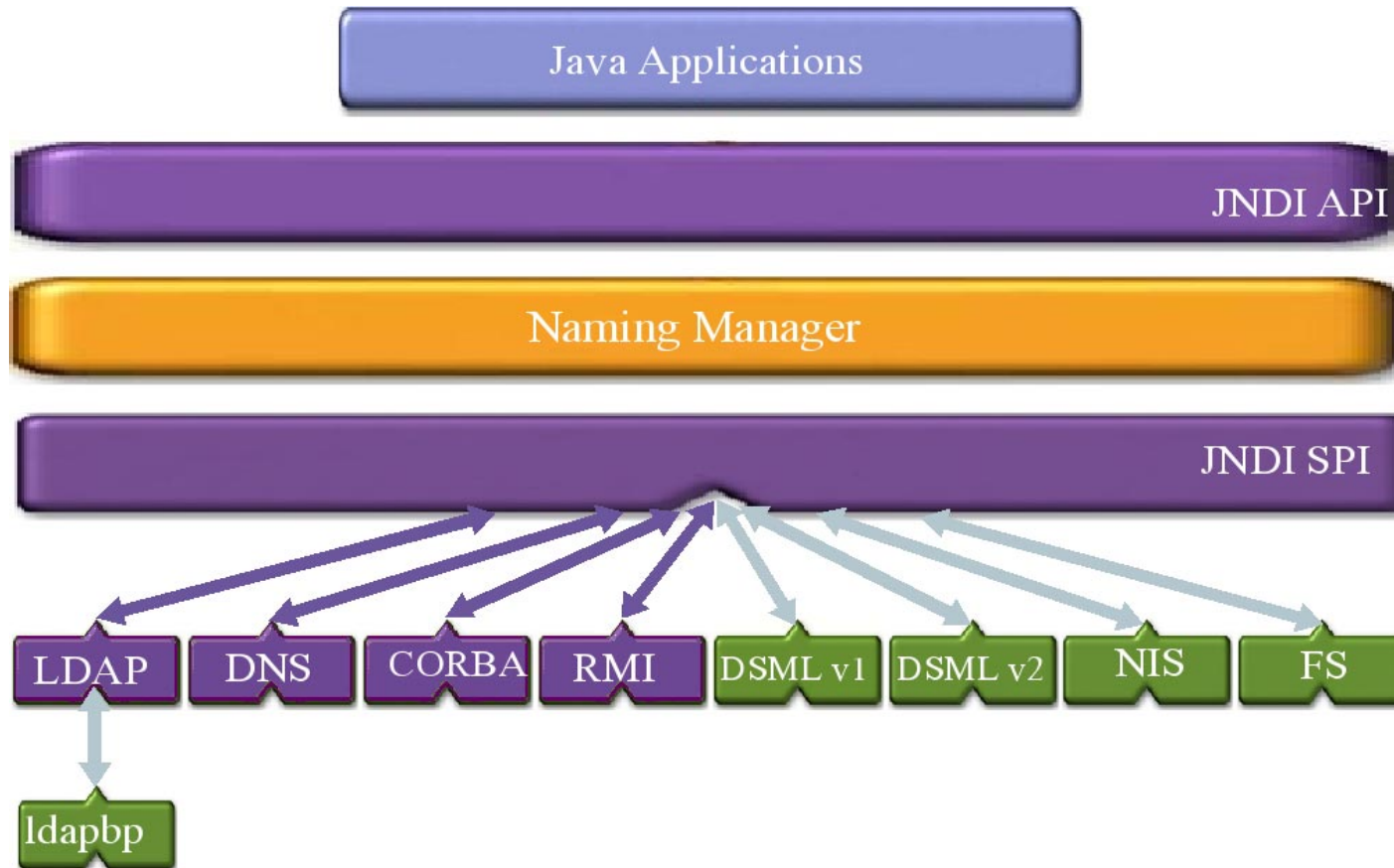
Scott Seligman Jaya Hangal
Rosanna Lee Vincent Ryan

Sun Microsystems, Inc.

Overview

- JNDI and the Java™ 2 Platform
 - J2SE™ 1.4.1
 - J2SE 1.4.2
 - Tiger (J2SE 1.5)
- Other releases
- Future Directions
- Q&A

JNDI Architecture



LDAP Service Provider in J2SE

1.4.1

- Support connection pooling

```
//enable Connection pooling
env.put("com.sun.jndi.ldap.connect.pool","true");

// Create an initial context (Get connection from
// the pool)

DirContext ctx = new InitialDirContext(env);
ctx.close();

// Create another initial context (Get connection
// from the pool

DirContext ctx2 = new InitialDirContext(env);
```

LDAP Service Provider in J2SE 1.4.1

- Configurable to use multiple LDAP servers
 - RFC 2255 LDAP URL format enforced

```
env.put (Context.PROVIDER_URL,  
        "ldap://host1/dc=example,dc=com" +  
        " ldap://host2/dc=example,dc=com");
```

- Support automatic location of LDAP servers via DNS

```
env.put (Context.PROVIDER_URL,  
        "ldap:///dc=example,dc=com");
```

DNS Service Provider in J2SE 1.4.1

- Automatic location of DNS servers

```
env.put (Context.PROVIDER_URL,  
        "dns:///domain1");
```

- Allows control of timeout used in UDP queries

```
env.put ("com.sun.jndi.dns.timeout.initial",  
        "2000");  
env.put ("com.sun.jndi.dns.timeout.retries",  
        "3");
```

J2SE 1.4.2 – Maintenance release

- LDAPS URL support

- Default port for SSL connections is 636

```
// when port is not specified, defaults to 636  
// for LDAPS
```

```
Env.put(Context.PROVIDER_URL,  
        "ldaps://myhost/dc=example,dc=com");
```

```
DirContext ctx = new InitialDirContext(env);
```

Other JNDI Releases

- DSML v1 Service Provider FCS Release
- DSML v2 Service Provider Early Access Release
- LDAP Booster Pack 1.0 Release

LDAP Booster Pack- Controls and Extensions

- Sorting and paging of results
- Proxy authorization
- Password expiry notification
- Authorization identity
- WhoAml extension

LDAP Booster Pack- LDAP Group Support

- Static groups
 - Membership is defined in multivalued attributes
 - LDAP groupOfNames object class
 - LDAP groupOfUniqueNames object class
- Dynamic groups
 - Membership is defined by LDAP URL(s)
 - LDAP groupOfURLs object class

Upcoming Enhancements for J2SE 1.5

- Incorporate use of standard Java SASL API (JSR-28)
- Standard LDAP controls in J2SE
 - Paged Results (RFC 2696)
 - Server-Side Sorting (RFC 2891)
- Monitoring of LDAP provider
- Obtain full DN from search results

Upcoming Enhancements for J2SE 1.5

- Support manipulating LDAP names
- Support manipulating LDAP URLs
- Track LDAPbis standards

Future Directions

- Monitoring of DNS provider
- Support internationalized domain names
- Support dynamic DNS updates
- Support secure DNS
- Maintenance release of NIS and DSML v2 providers

Further Information on JNDI

- Sun™ Open Net Environment (Sun ONE) Directory Client Programming **BOF-2667**
- JNDI Home Page
 - <http://java.sun.com/jndi/>
- The JNDI Tutorial
 - <http://java.sun.com/jndi/tutorial/>
- JNDI-INTEREST mailing list and archive
 - <http://java.sun.com/jndi/staytouch.html>

Q&A

JAVA™