Complete open source IAM solution

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Current:

- Software Architect at Evolveum
- Architect of Evolveum midPoint
- Contributor to ConnId and Apache Directory API

Past:

- Sun LDAP and IDM deployments (early 2000s)
- OpenIDM v1, OpenICF
- Many software architecture and security projects

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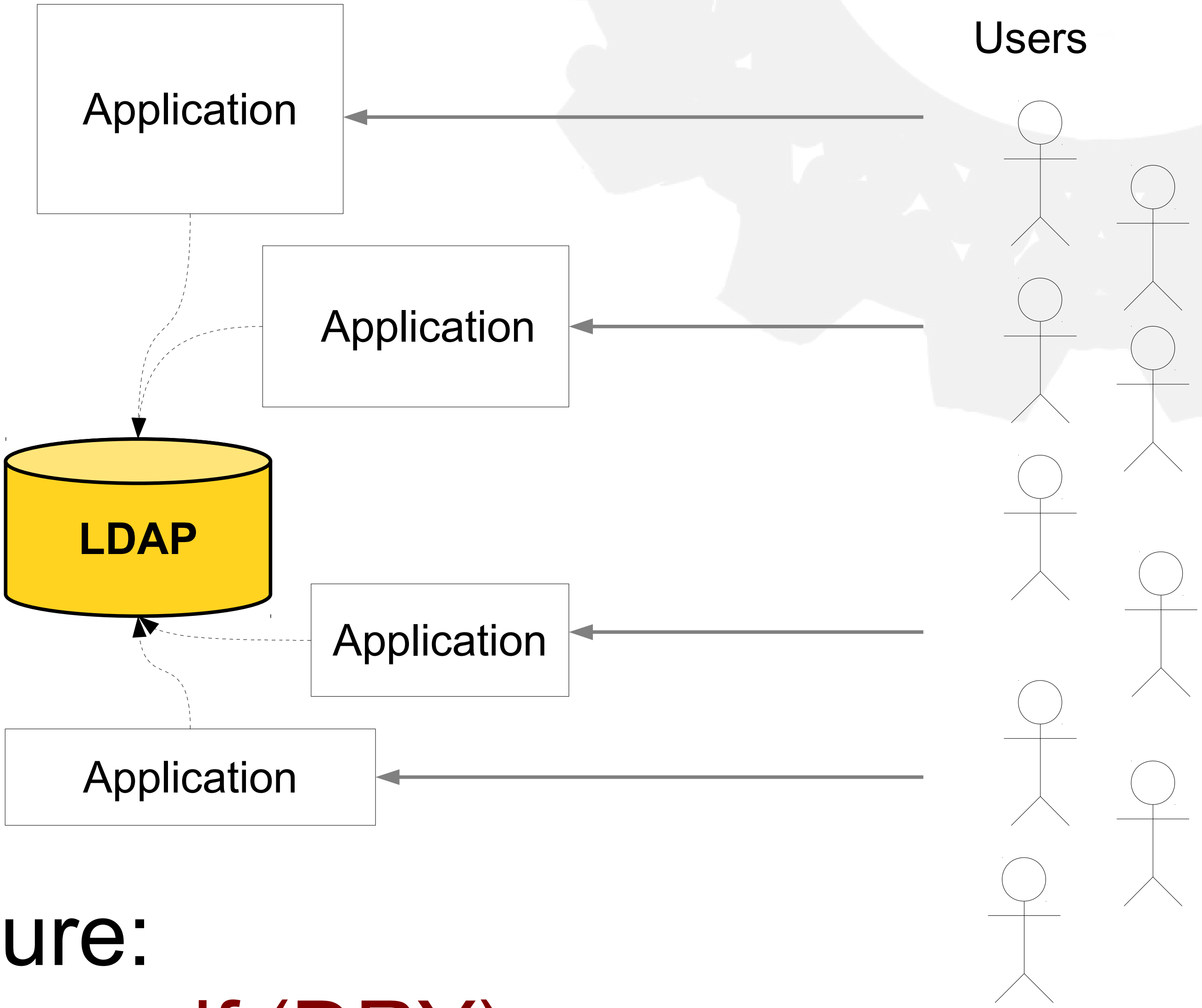
Complete solution? Why? Is LDAP not enough?

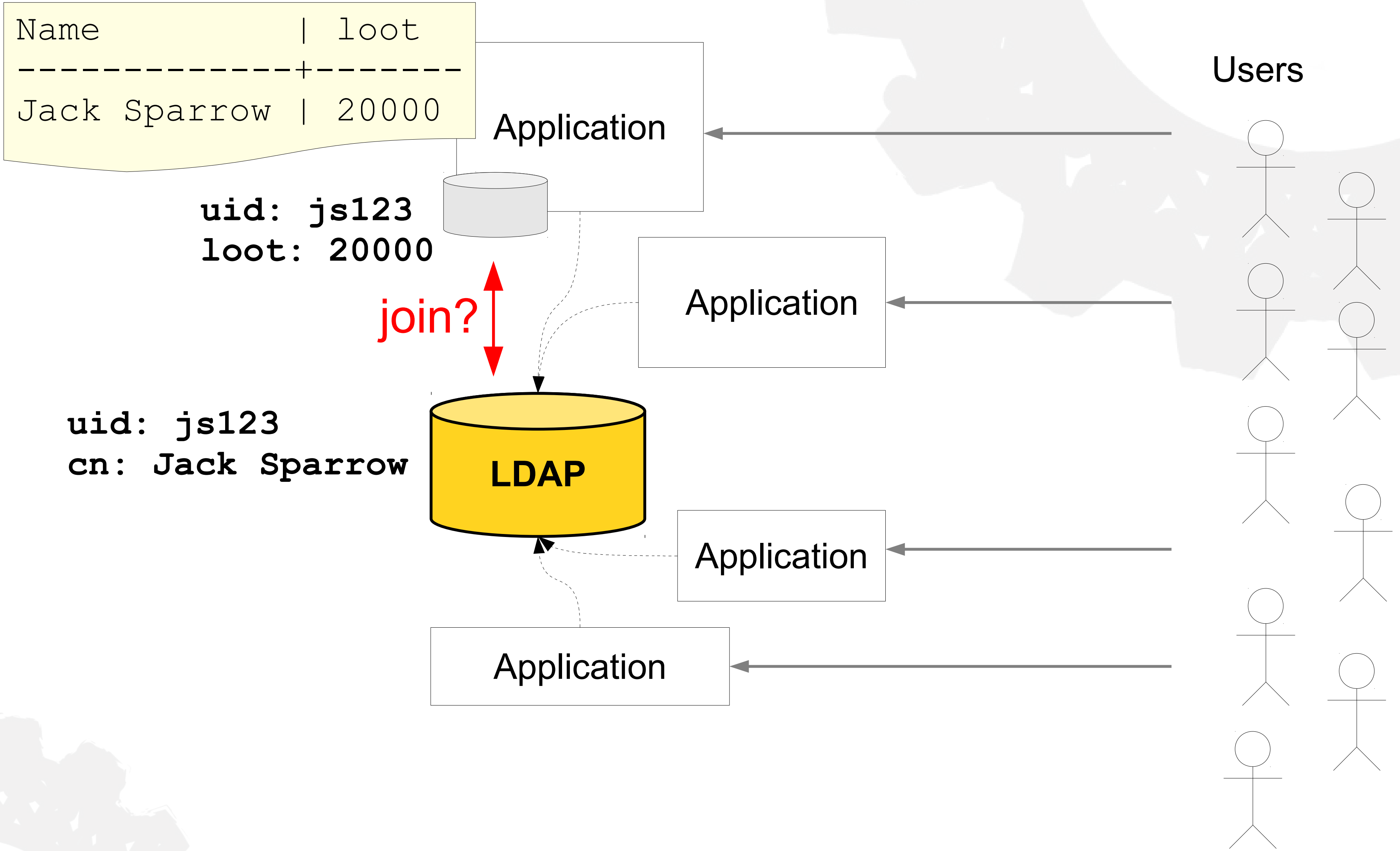
Yes, theoretically ...



Good architecture:

Don't repeat yourself (DRY)

Practice: Application-Local DB

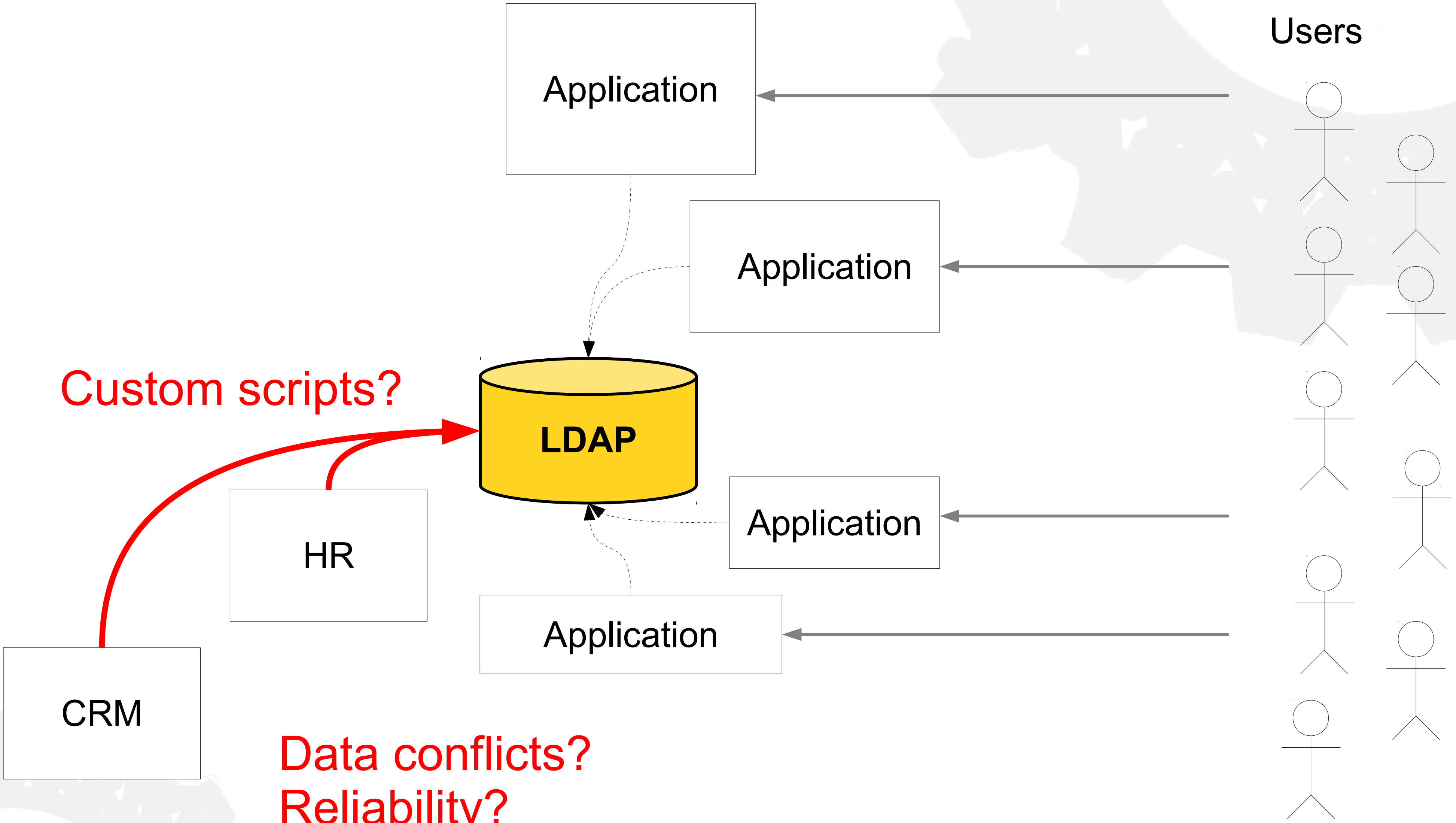


```
Name          | loot
--------------+--------
Jack Sparrow | 20000
```

```
uid: js123
loot: 20000
```

```
uid: js123
cn: Jack Sparrow
```

Practice: Data Sources



Custom scripts?

Data conflicts?
Reliability?
Maintenance?

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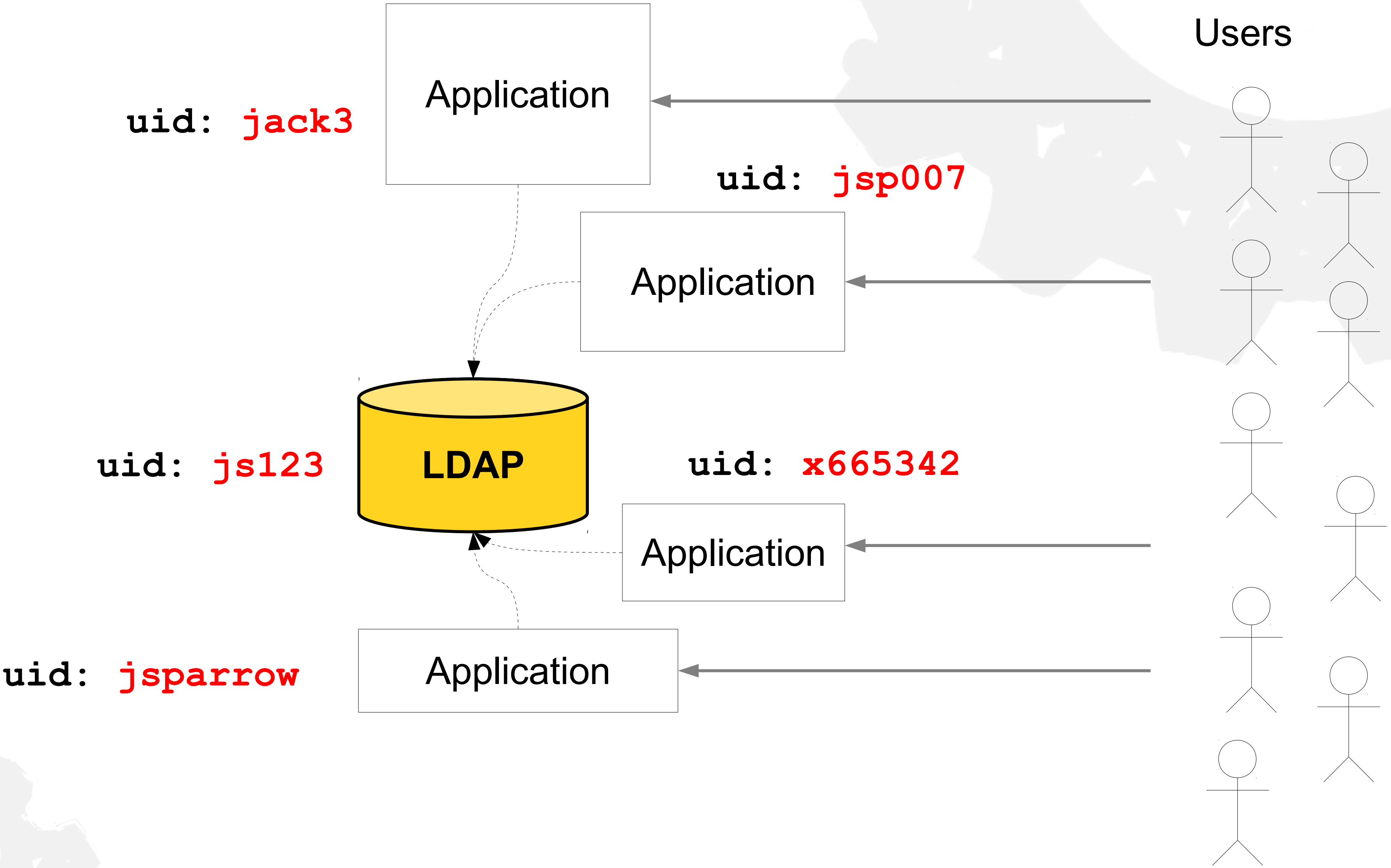
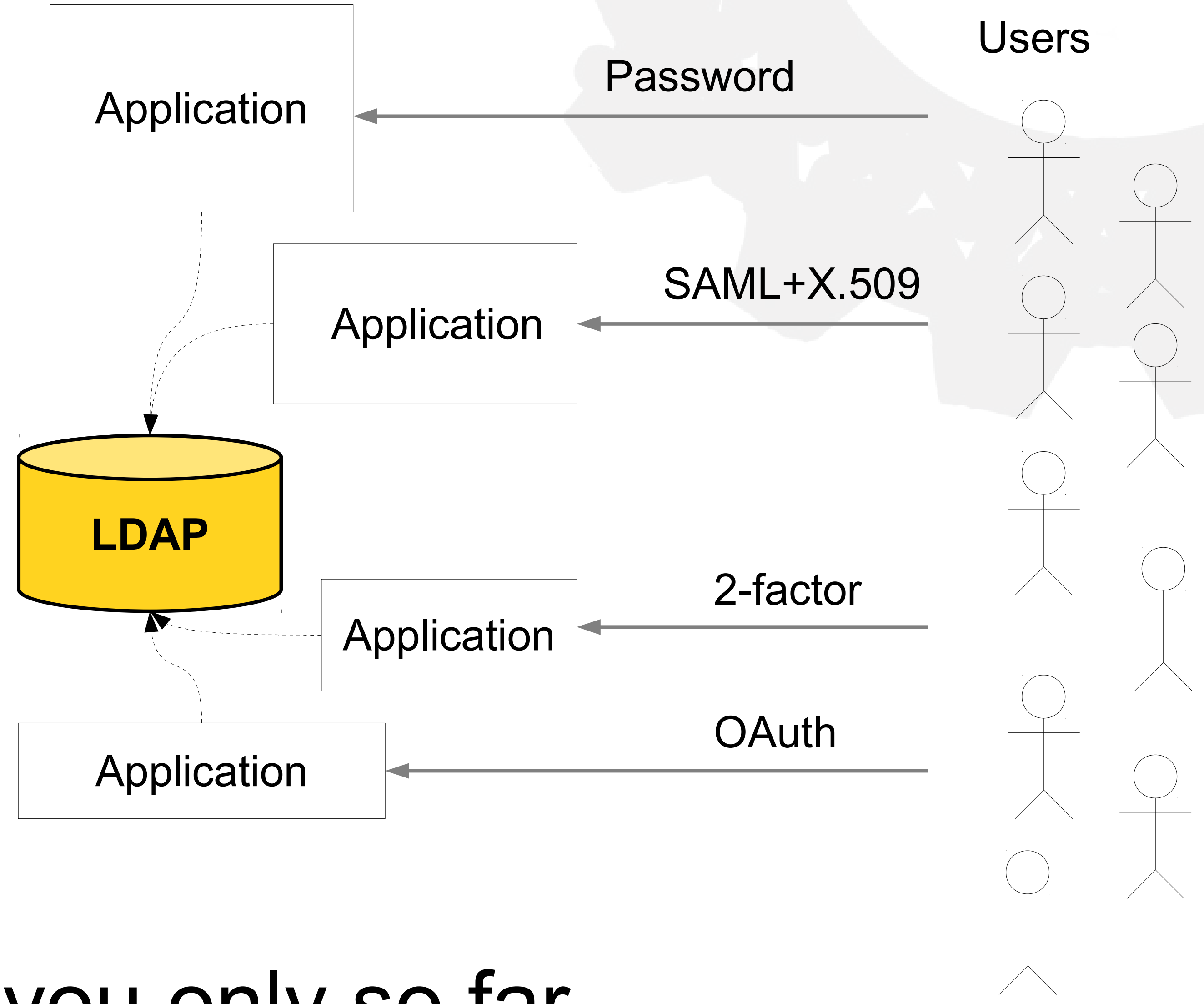
Practice: Legacy



Practice: Authentication



SASL will get you only so far ...

But … these are **application problems**! Let's fix the appliations and **standardize**. We'll be fine.

Standardization? Really?

```
dn: cn=foo,ou=groups,o=example
objectclass: groupOfNames
member: uid=bar1,ou=people,o=example
member: uid=bar2,ou=people,o=example
```

```
dn: cn=foo,ou=groups,o=example
objectclass: groupOfUniqueNames
uniqueMember: uid=bar1,ou=people,o=example
uniqueMember: uid=bar2,ou=people,o=example
```

RFC2256 (1997)

mandatory(!!!)

(Examples are simplified)

Standardization? Really?

```
dn: cn=foo,ou=groups,o=example
objectclass: groupOfNames
member: uid=bar1,ou=people,o=example
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```
dn: cn=foo,ou=groups,o=example
objectclass: groupOfUniqueNames
uniqueMember: uid=bar1,ou=people,o=example
uniqueMember: uid=bar2,ou=people,o=example
```

RFC2256 (1997)

```
dn: cn=foo,ou=groups,o=example
objectclass: posixGroup
memberUid: bar1
memberUid: bar2
```

RFC2307 (1998)

(Examples are simplified)

Practice: more problems

- Password reset
- Adaptive authentication
- SSO
- Session management
- ACLs
- Account activation (enabled/disabled status)
- “memberOf”
- Roles / RBAC
- Password policies
- Access policies (autz)
- Paging (SPR vs VLV)
- Audit
- Reporting
- Data consistency
- Management tools
- User experience
- Schema consistency issues
- Standard violations
- Common sense violations
- Too many data types
- … most of them unsupported
- DN case sensitivity
- Synchronization

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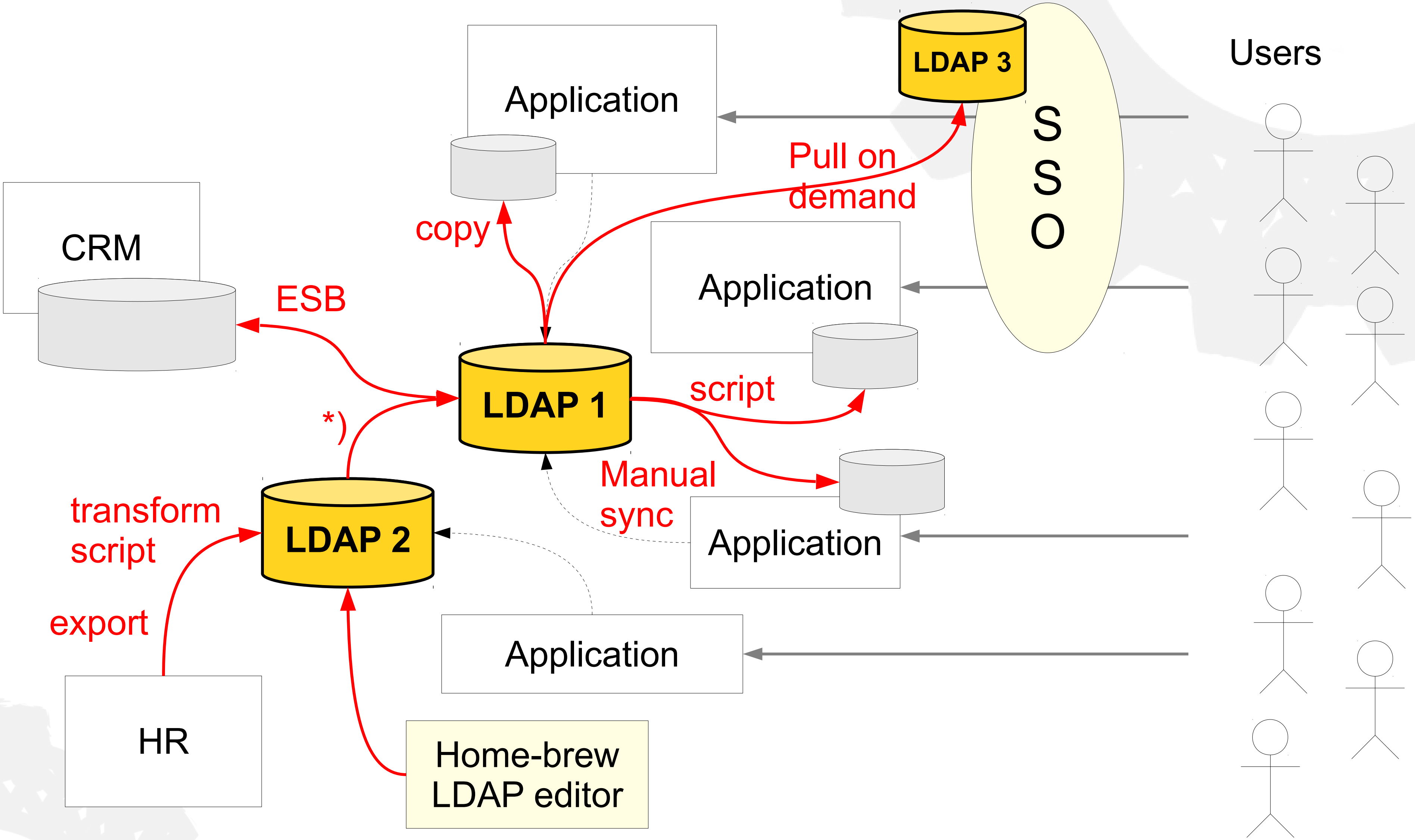
Practice: really messy



*) nobody really knows how this part works because the guy that did it left 3 years ago

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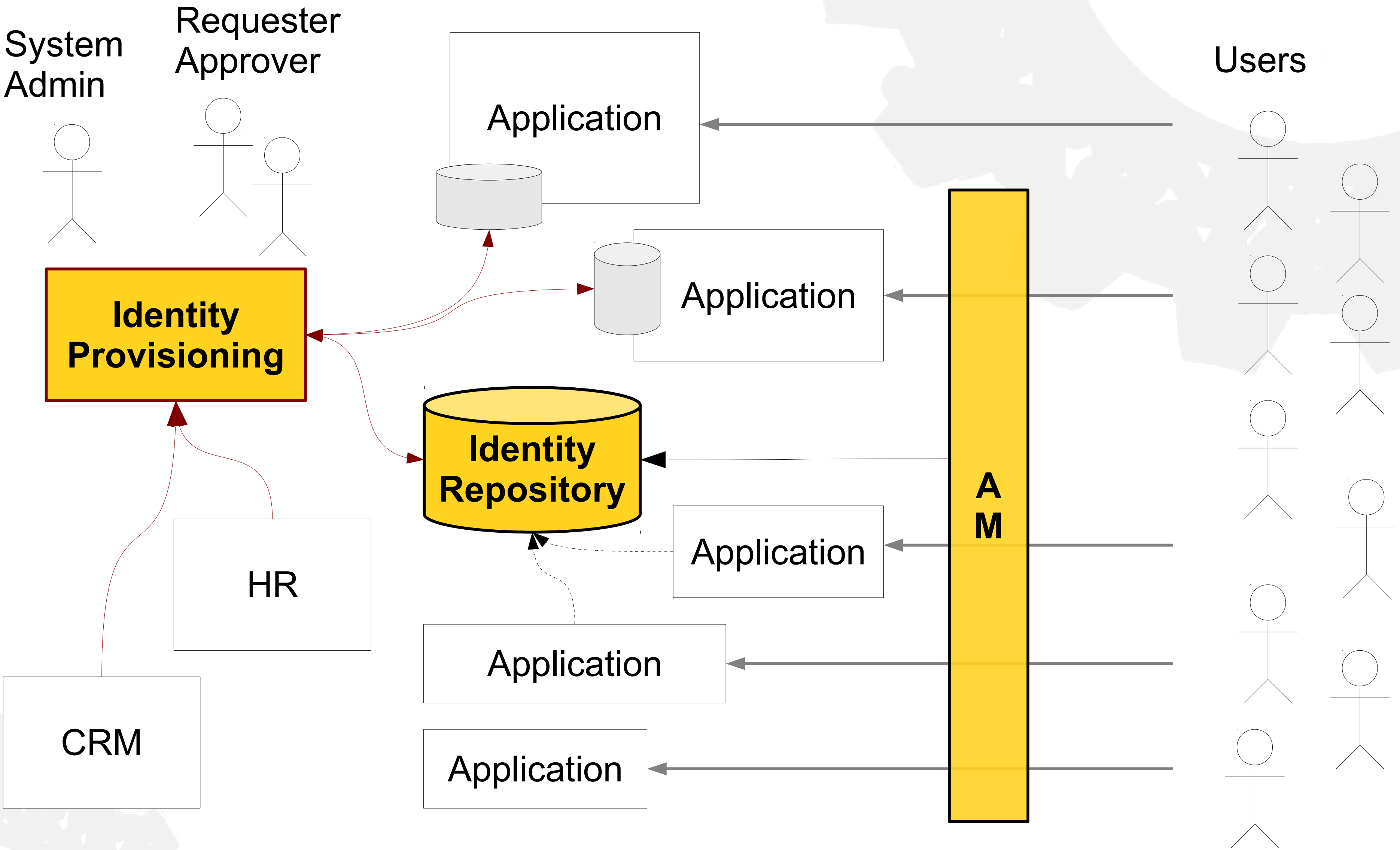
LDAP-only solutions work only in simple cases.

IAM needs more components



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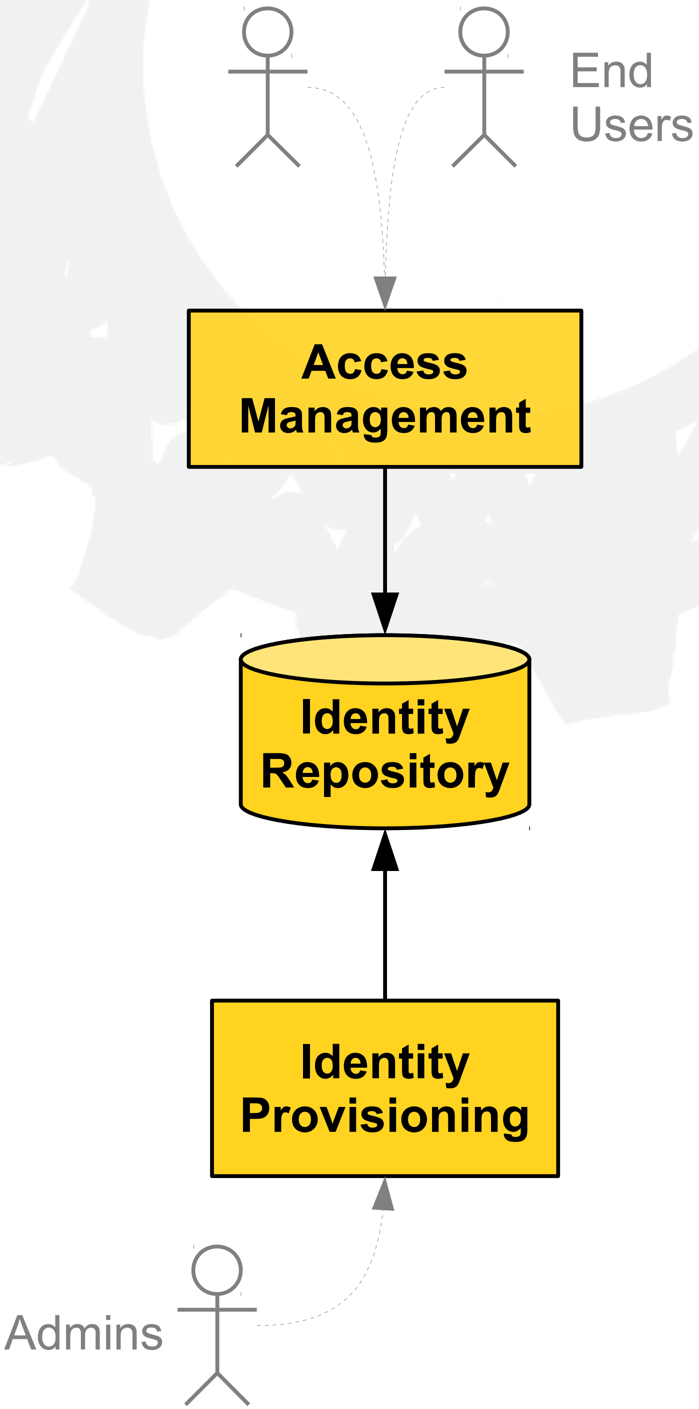
Basic IAM Components

- **Access Management**
  - Authentication, single sign-on
  - Basic authorization
- **Identity Repository**
  - Storage of identity data
- **Identity Provisioning**
  - Management (data, policies, workflows)
  - Synchronization



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Interoperability

- The components should work together

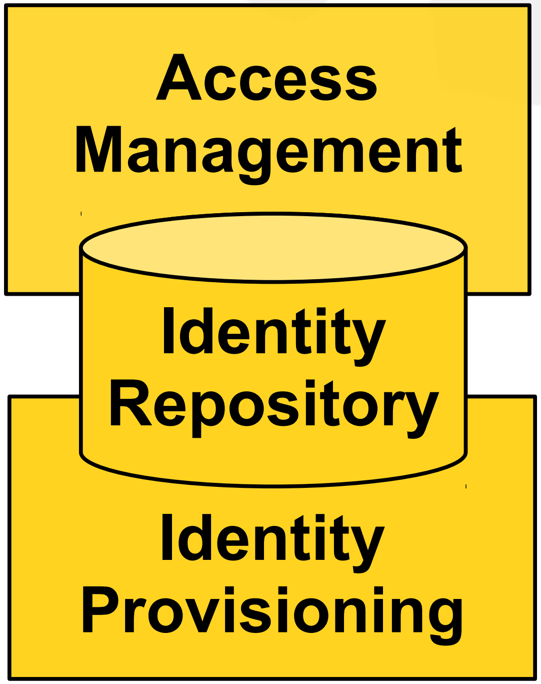
  as one system

- Easy product integration
- Smooth user experience
  - The user should not see component boundaries

Technology stacks

“Stack” is the obvious answer to interoperability problem.

… or … is it?



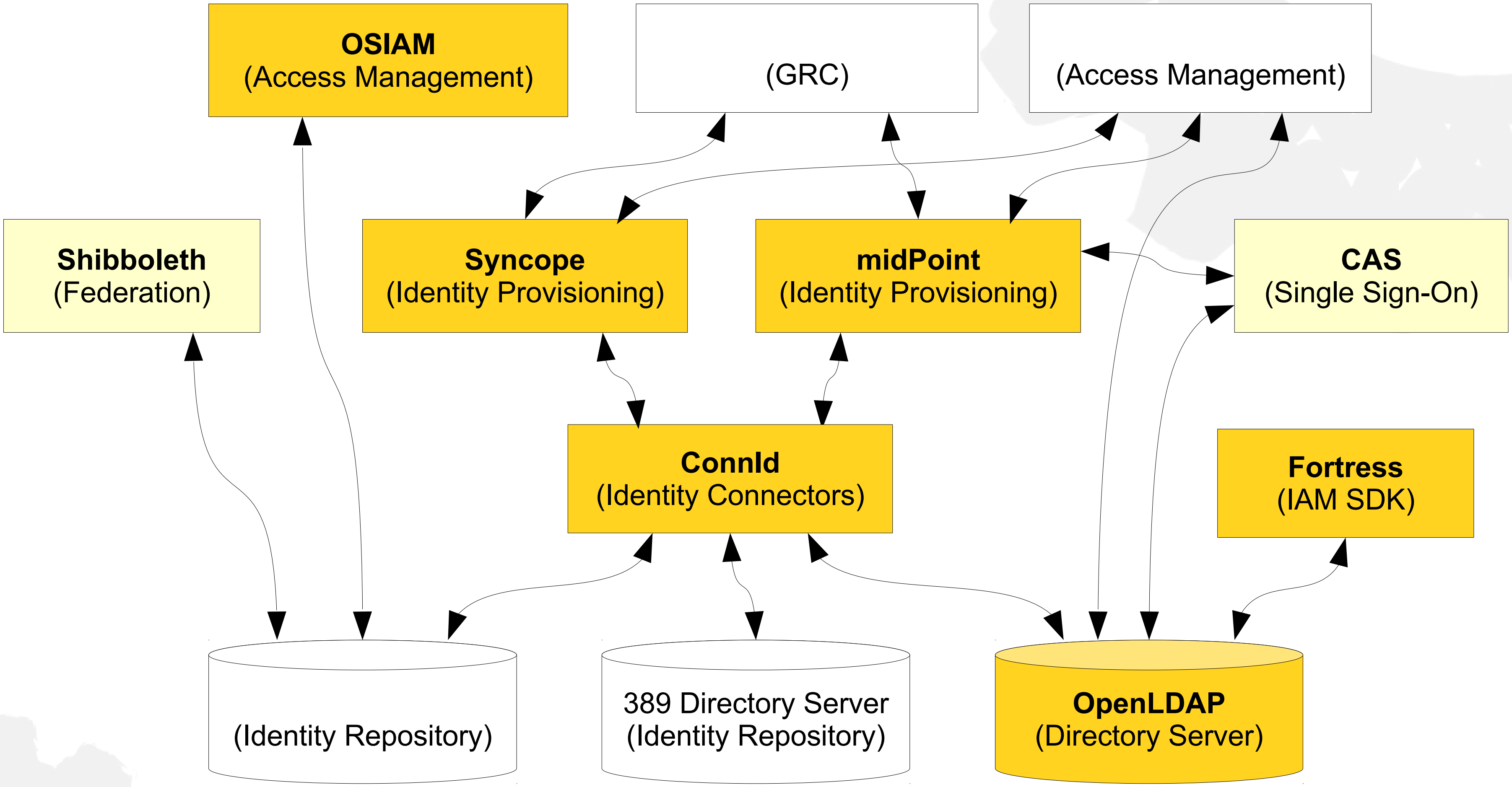
What's wrong with stacks?

- Usually single-vendor stacks
- Still quite heterogeneous due to acquisitions
- Vendor lock-in
  - You can check out any time you like, but you can never leave
- Limited integration options
  - Just one option for each component
  - Proprietary interfaces

Is there any better way?

The Ecosystem

Open Source Identity Ecosystem



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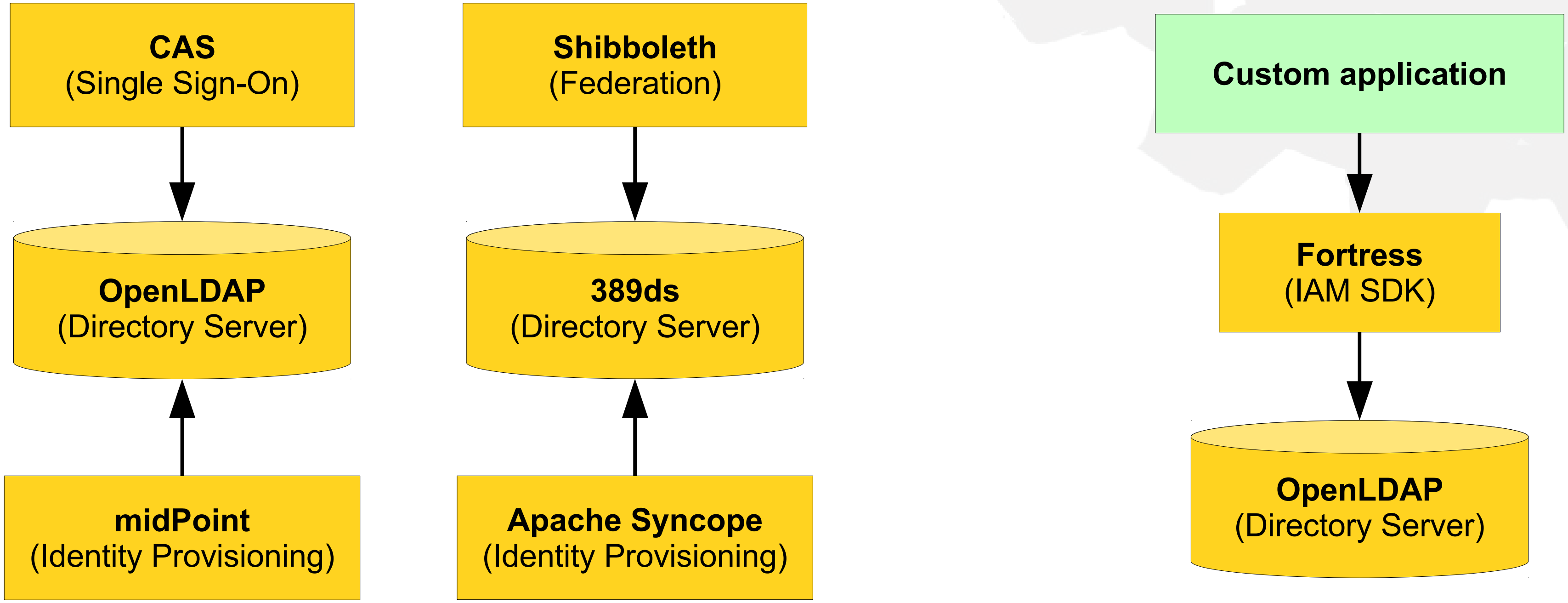
Open Source Identity Ecosystem

- Pure open source model
  - Any engineer can have complete understanding of the technology
  - Technological excellence and efficiency
- Standardized or open source interfaces
  - Unlimited integration options
  - Replaceable components → no vendor lock-in
- Cooperation instead of domination
  - Trade influence for control to get substantial benefits

Ecosystem Deployment Examples



CAS
(Single Sign-On)

OpenLDAP
(Directory Server)

midPoint
(Identity Provisioning)

Shibboleth
(Federation)

389ds
(Directory Server)

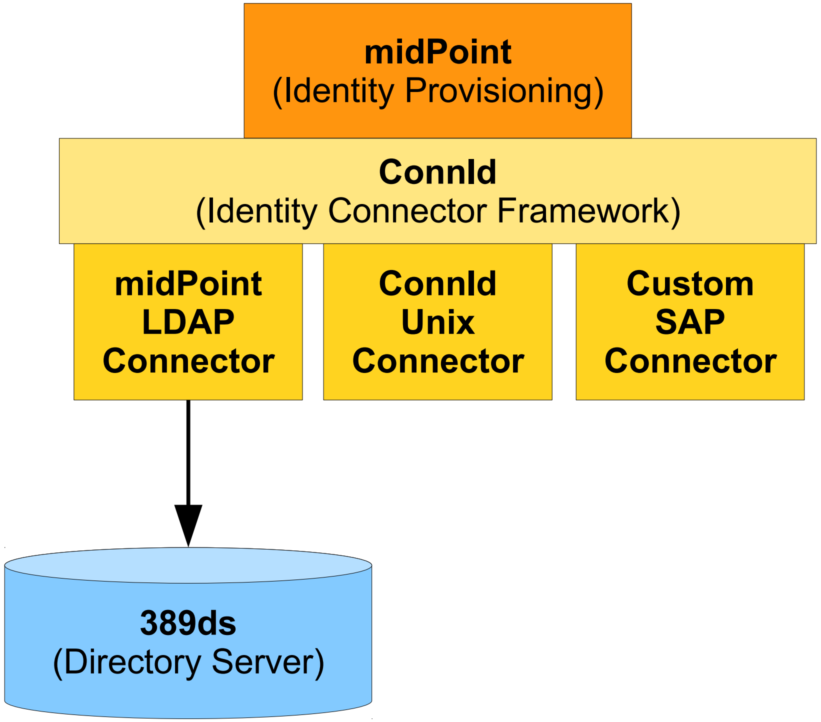
Apache Syncope
(Identity Provisioning)

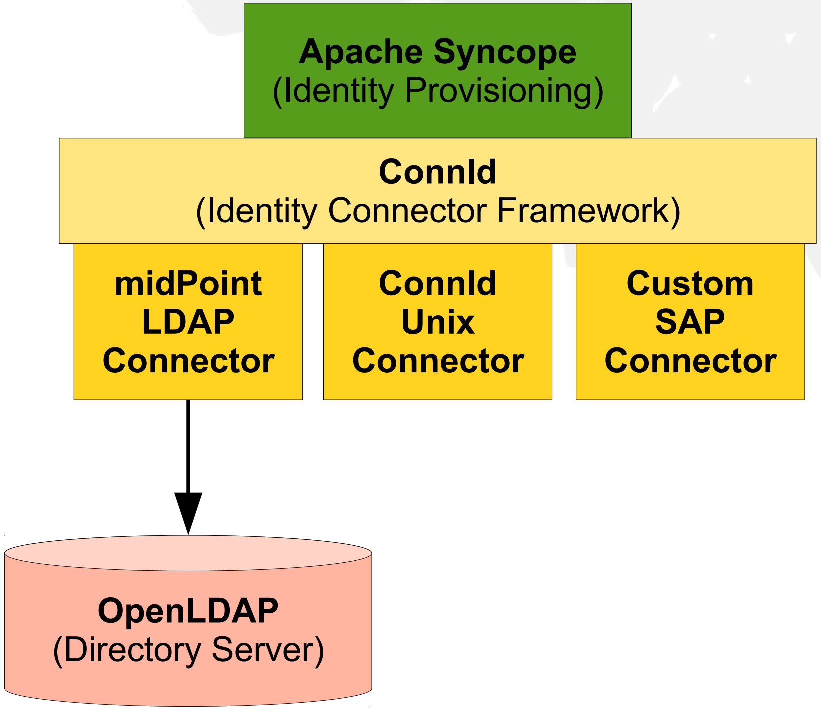
Custom application

Fortress
(IAM SDK)

OpenLDAP
(Directory Server)

Ecosystem Deployment Examples





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We know that it works, because ...

- we have tested the technology
  - test suites, pilots, real projects
- we share the same goal
- there are business agreements in place

Join the Ecosystem now!

Questions and Answers

Thank You

Radovan Semančík

www.evolveum.com