



| z/TPF V1.1

TPF Users Group Fall 2008

Title: *z/TPF Support for OpenLDAP*

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Venue: Main Tent

AIM Enterprise Platform Software
IBM z/Transaction Processing Facility Enterprise Edition 1.1.0

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Agenda

What is it?



How does it work on z/TPF?

Why do I want to use it on z/TPF?

How well does it work on z/TPF?

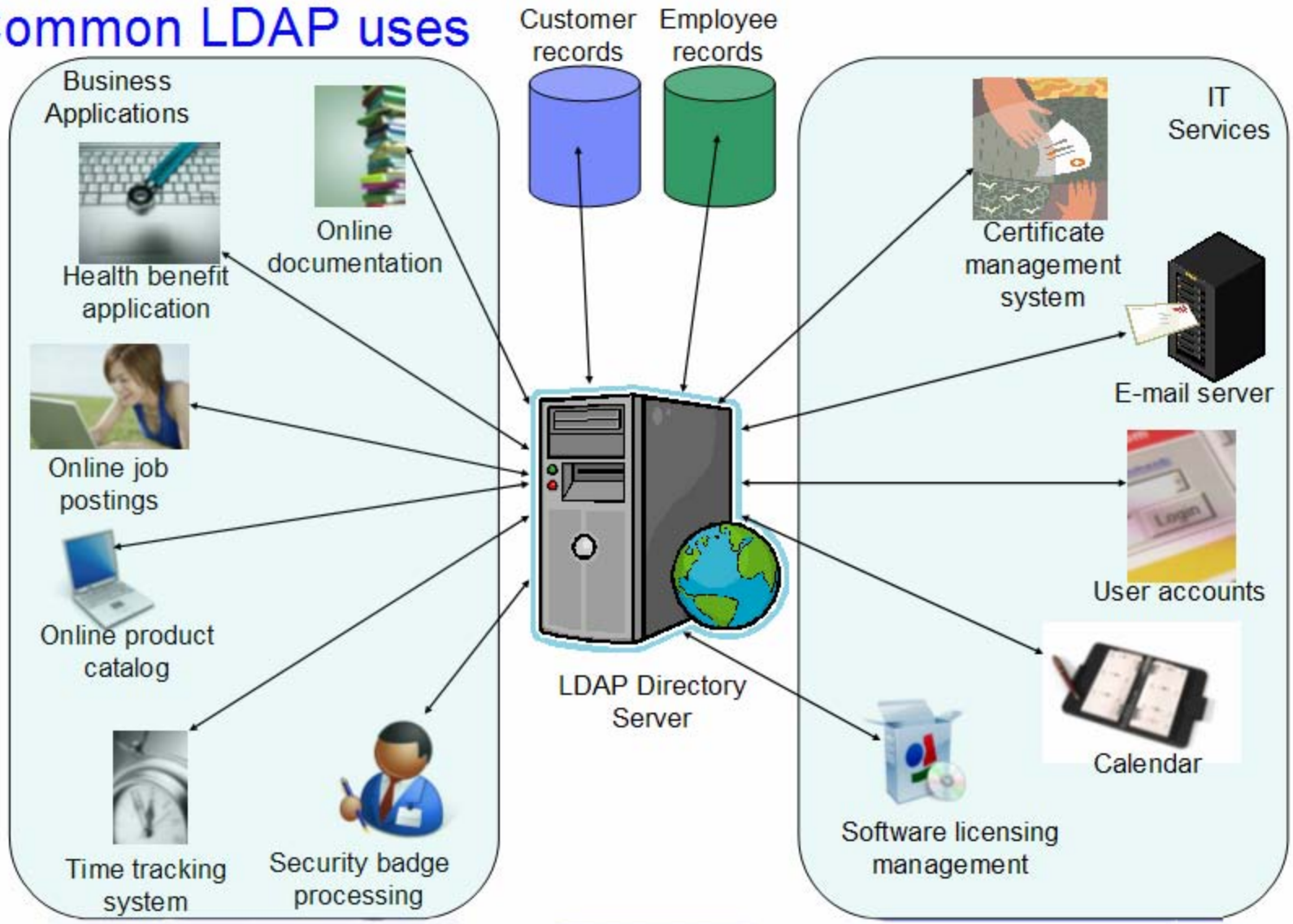


What is it?

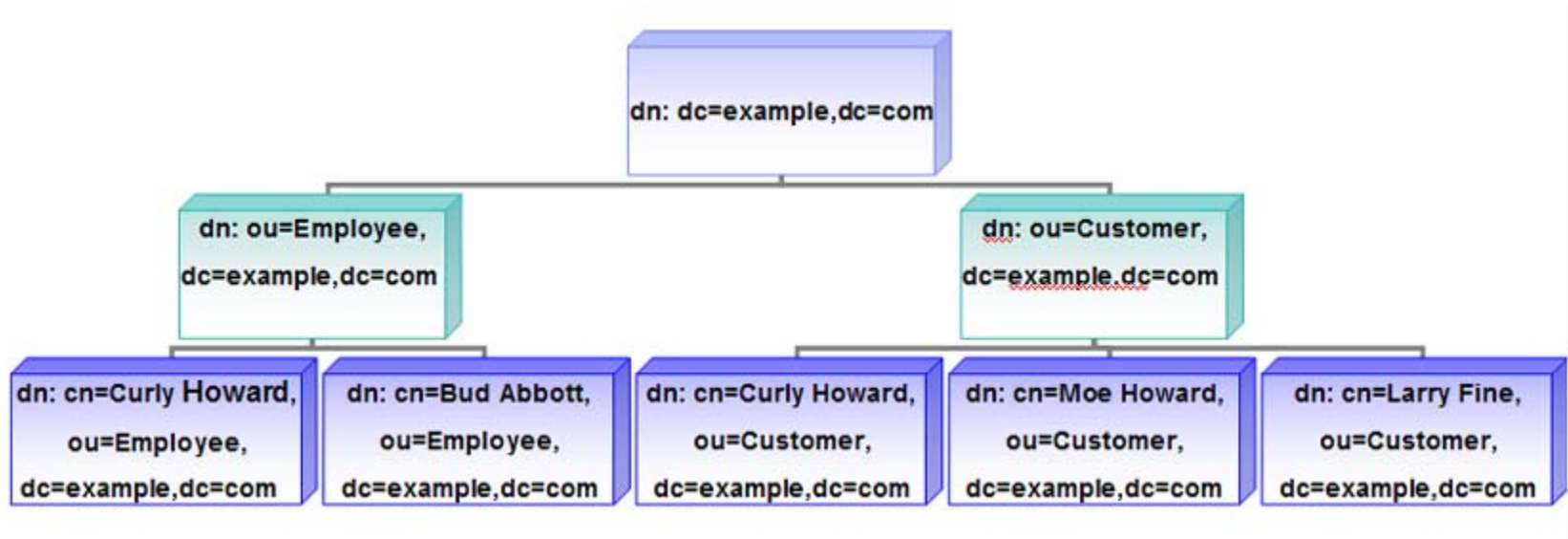
- “A directory is a specialized database specifically designed for searching and browsing, in addition to supporting basic lookup and update functions.”
- Directories can have the ability to replicate information in order to increase availability and reliability, while reducing response time.
- OpenLDAP is software that provides directory services. Specifically, it is an open source software package that provides support for the Lightweight Directory Access Protocol (LDAP) Internet standard.
- www.openldap.org



Common LDAP uses



Simple example



Directory Levels

Domain component (**dc**) or organization (**o**)

Organizational Unit (**ou**)

Common names (**cn**)

Distinguished name (dn) is a unique name in the Directory tree.

dn: dc=example,dc=com

dn: ou=Employees,dc=example,dc=com

dn: cn=Curly Howard,ou=Employees,dc=example,dc=com

dn: cn=Curly Howard,ou=Customer,dc=example,dc=com

Project Description – PJ34025/PJ34027/PJ34028

- Enable z/TPF to run OpenLDAP software:
 1. Support z/TPF as an OpenLDAP directory server.
 2. Support z/TPF as an OpenLDAP directory client.
- Two packages ported to z/TPF:
 1. OpenLDAP
 2. Oracle Berkley DB
- Both packages can be downloaded from <http://tpf.ncsa.uiuc.edu/>



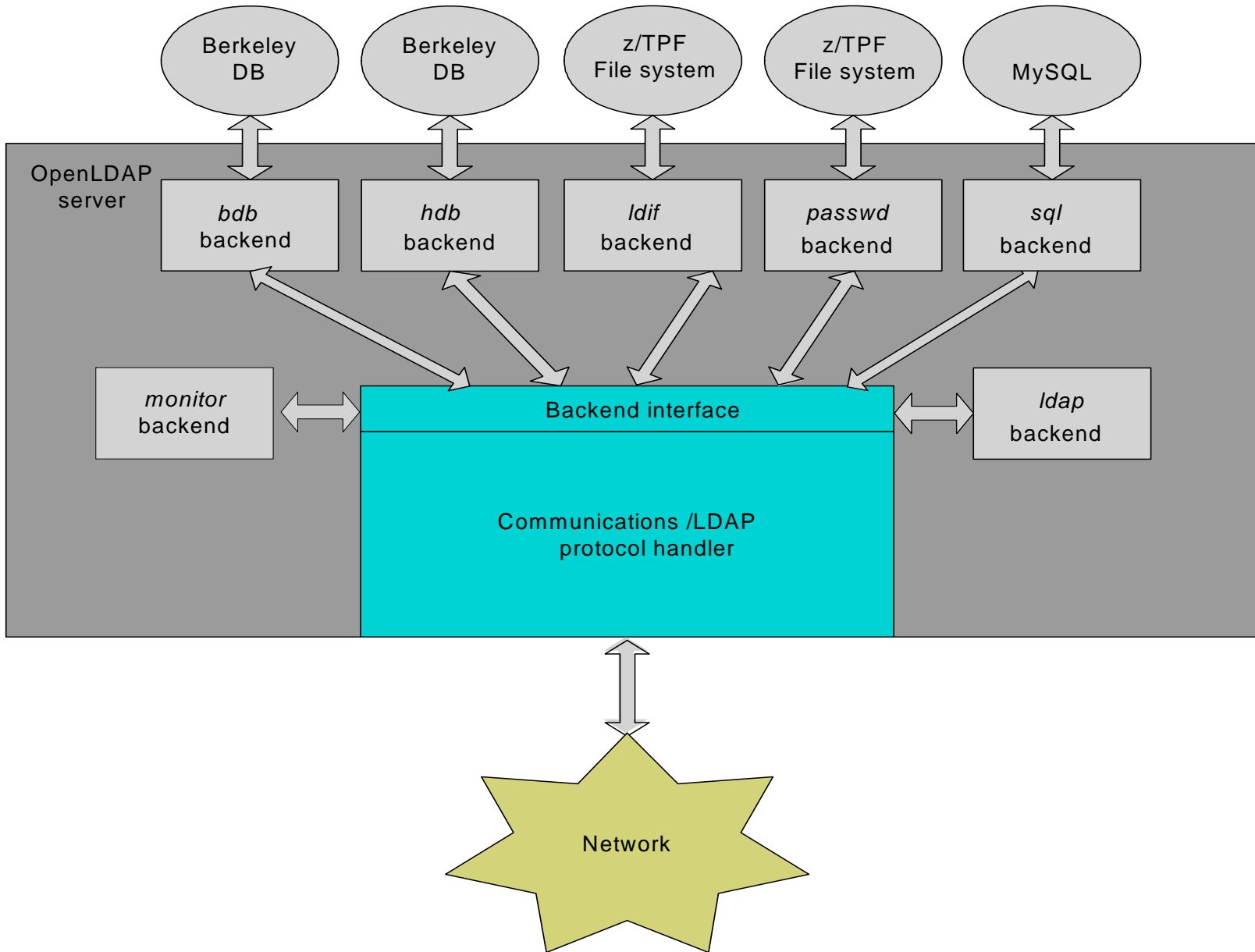
How does OpenLDAP work on z/TPF?

1. OpenLDAP server (daemon)
2. OpenLDAP client library
3. OpenLDAP command line tools
4. OpenLDAP administrative tools
5. OpenLDAP security

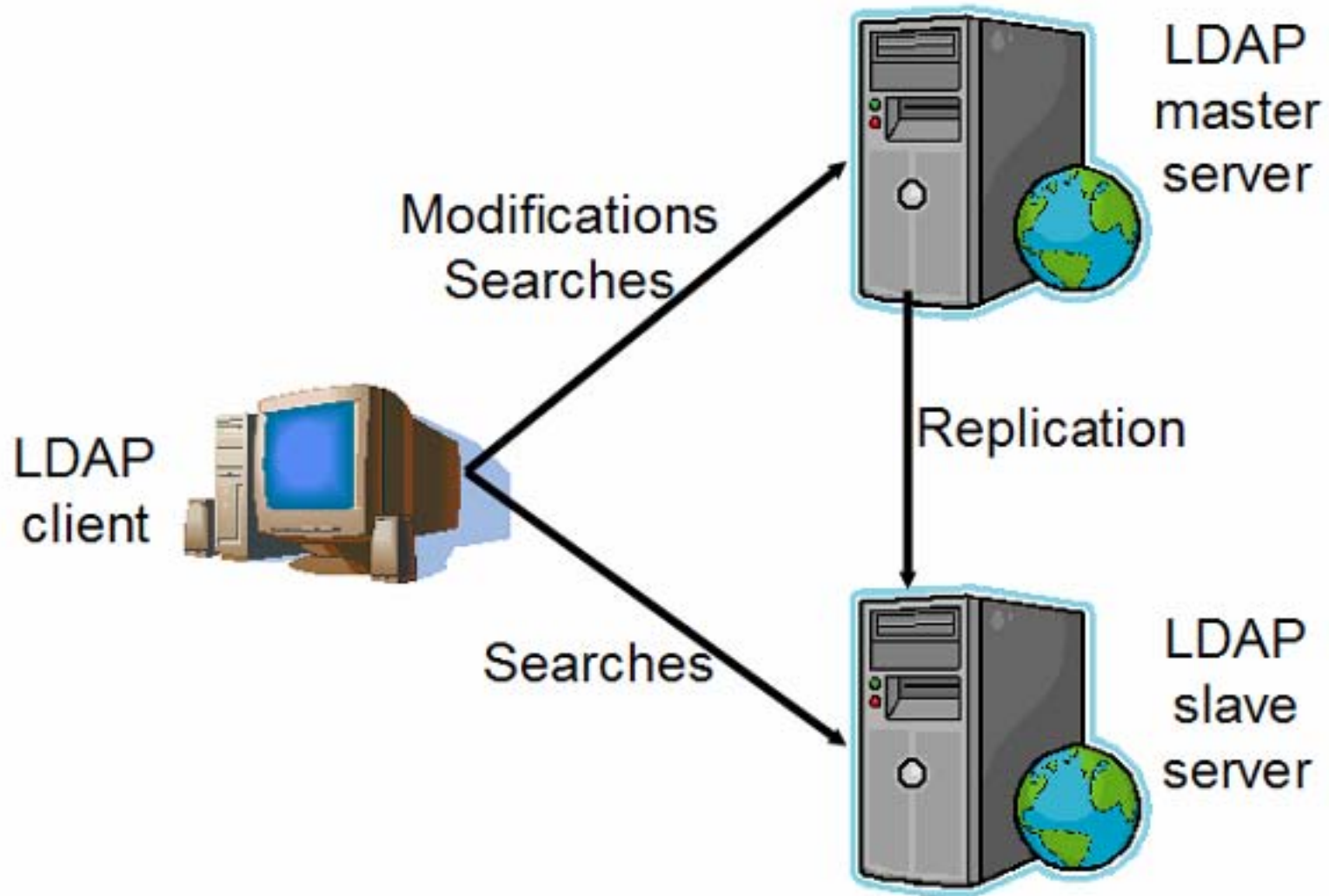


OpenLDAP server (daemon)

1. Stand-alone OpenLDAP daemon called slapd.
2. Accepts connections from local z/TPF clients and remote clients.
3. Data stored in one or more databases (backends).
4. slapd.conf configuration file – defines ldap options and backends.
5. Performs replication.



Replication



OpenLDAP client library

1. Standard APIs
2. Flexibility for applications:
 - OpenLDAP provides synchronous and asynchronous APIs to access directories.
 - OpenLDAP provides APIs to parse results returned from the server.
3. Applications can be compiled in ASCII or EBCDIC:
 - ASCII – Parameters passed in ASCII format.
 - EBCDIC – Parameters passed in EBCDIC format. z/TPF will convert parameters to/from ASCII.

OpenLDAP command line tools

1. Operator (command line) client interface to access OpenLDAP server
 - Local z/TPF server
 - Remote server
2. Use ZFILE interface to call the command

OpenLDAP administrative tools

1. Operator (command line) interface to manage/access OpenLDAP server
 - Local z/TPF server only
2. Use ZFILE interface to call the command

OpenLDAP security

- “simple” authentication method
 1. Anonymous
 2. Unauthenticated
 3. User/password
- Transport Layer Security (TLS) or Secure Socket Layer (SSL) support – Used by OpenLDAP clients and servers to provide integrity and confidentiality of data and to support LDAP authentication.

Why use OpenLDAP?

- Heavily used in the industry.
- Open system standard APIs.
- Application productivity improvement.
- Common data management across platforms.

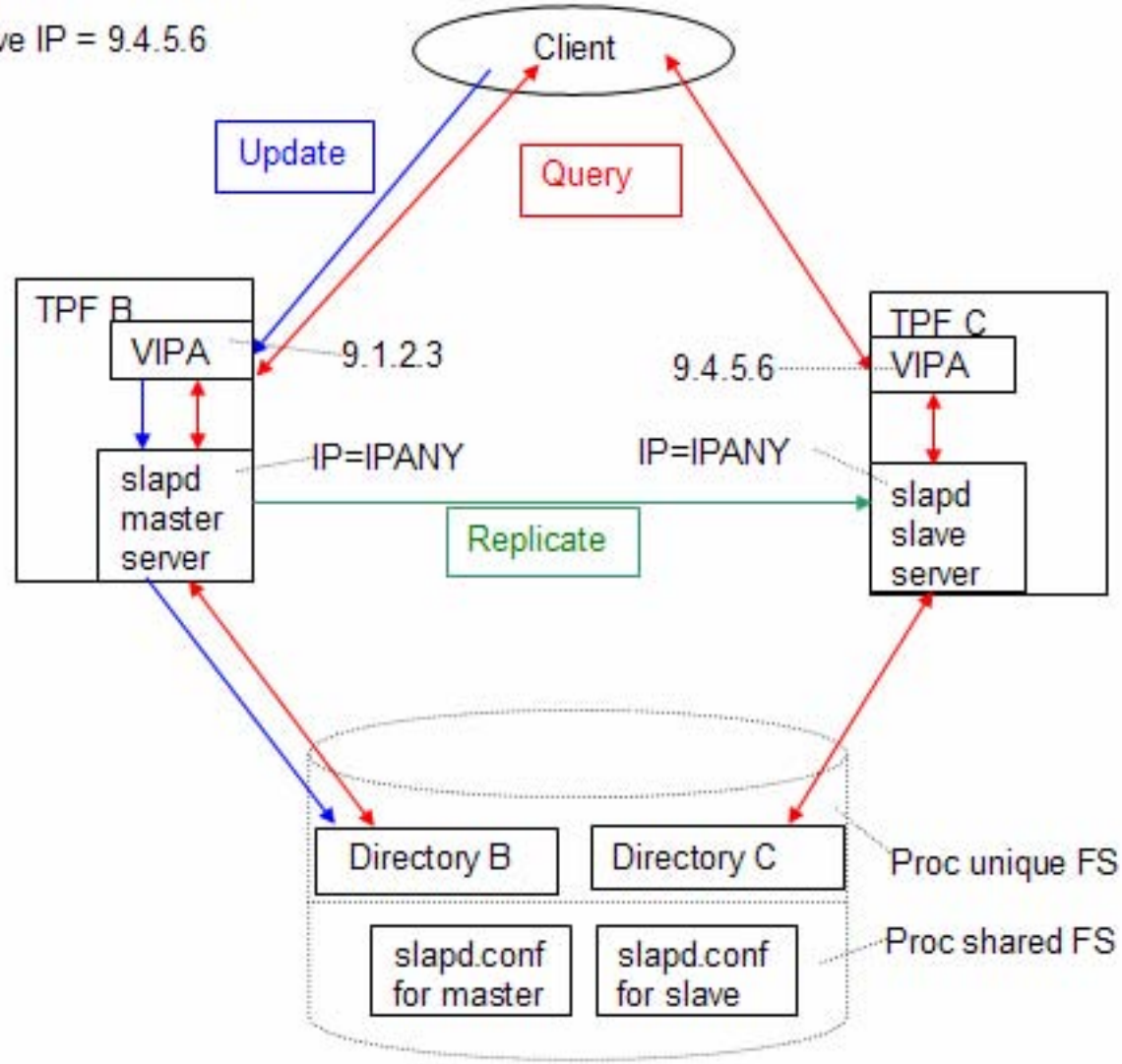
Why use OpenLDAP on z/TPF ?

1. Provide z/TPF application programmers with open standard APIs.
2. Enterprise directories can be accessed by z/TPF applications.
3. Better availability OpenLDAP server.
4. Ability to make local OpenLDAP client calls on z/TPF. Local fast response time if server on z/TPF.
5. Potential to leverage z/TPF advantages with OpenLDAP – driven by customer requirements.

Loosely Coupled

slapd master IP = 9.1.2.3

slapd slave IP = 9.4.5.6



How well does OpenLDAP work on z/TPF?

- OpenLDAP is expected to perform roughly the same on z/TPF as on Linux.
- OpenLDAP search rate on z/TPF, on a single engine System z9 server, where OpenLDAP data is cached and indexed:
 - 17,000 search requests/second



OpenLDAP demo on Monday night



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