Depot

A tool for managing collections
and how we use it in CMU-SCS
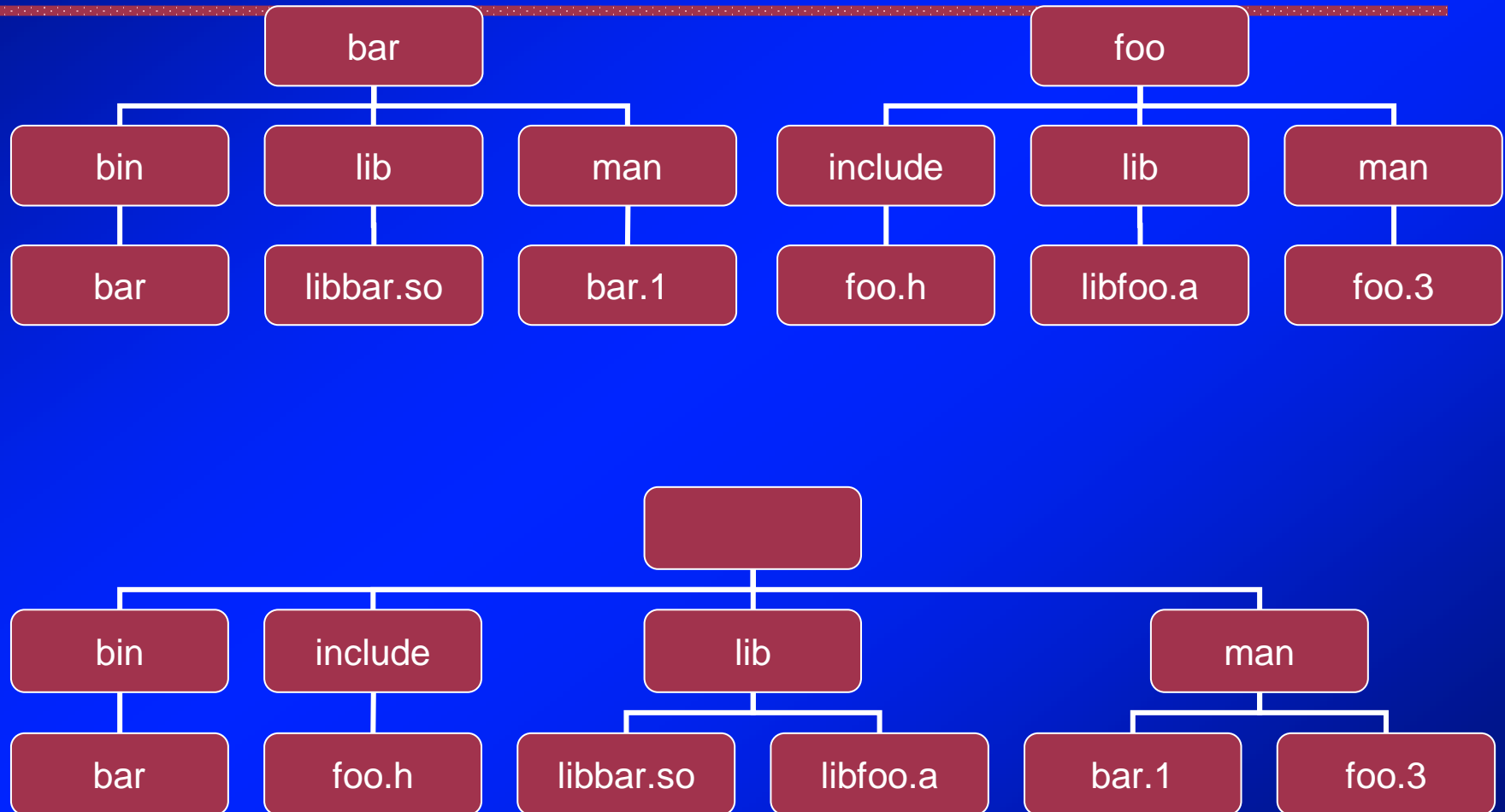
http://www.cs.cmu.edu/~moore/depottalk.pdf

Part 1 Intro to Depot

- What does depot do?
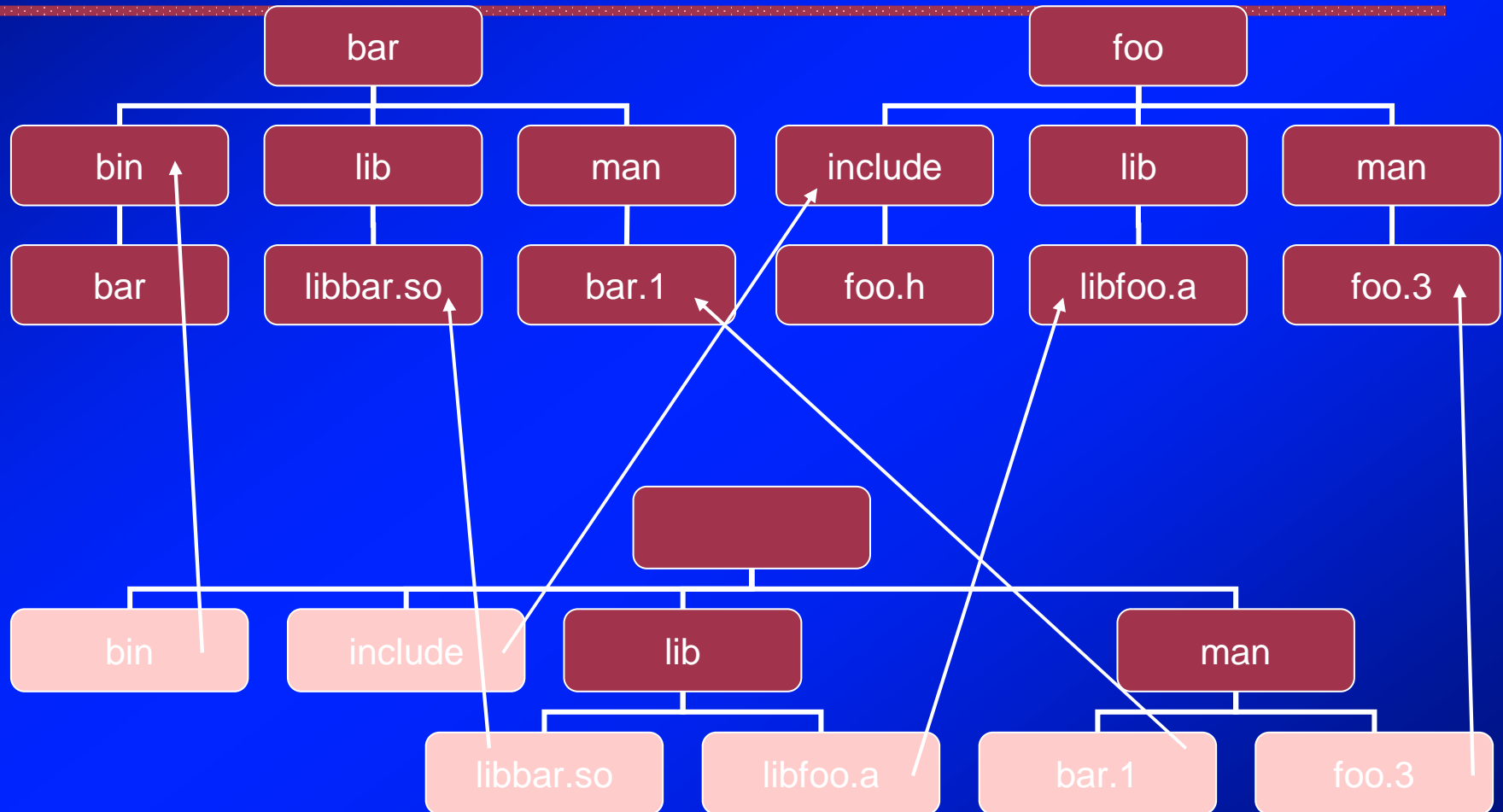- What files does it use?

Merge Collections (copy)

Merge Collections (link)

Files used by Depot

depot.pref

Describe the collections to be managed by depot and instructions on how to manage them.

depot.conf

Adjusts mapping of files in a collection

depot.image

Hints (or cache) of files and modification times

depot.pref basics

- **path** *collection-name collection-path*

  `path less/0 /afs/cs.cmu.edu/local/less/i386_rh71/381`

- **override** *pimary-coll collection-list*

  `override zlib/0 X11`

- **target.installmethod** [**copy**|**link**] *path-list*

  `target.installmethod copy bin/login`

- **collection.installmethod** [**copy**|**link**] *coll-list*

  `collection.installmethod copy linux/0,linux/1`

depot.pref basics cont'd

- **target.setuid** *username path*

```
target.setuid root bin/su
```

- **target.modemask** *mask path*

```
target.modemask 4755 bin/su
```

- **command** *command-label command args*

```
command resolvconf etc/mkresolvconf /usr/local/lib/resconf.spec
```

- **target.command** *command-label path*

```
target.command resolvconf lib/resconf.spec
```

For additional resources on depot.pref see **man –s 5 depot.pref**

depot.conf

- One depot.conf file per *collection-path*
- Not required - default mapping will apply
- Adjust default mapping
- Default is to map *collection-path dest-path*

depot.conf contents

- **~delete** *path*

  This collection will not provide info/dir

  ```
  ~delete info/dir
  ```

- *from-path to-path*

  Map *collection-path/from-path* to *dest/to-path*

  ```
  usr/local /
  ```

- *path*

  Short for *path path*. Useful for enumerating a select subset of directories.

  ```
  bin
  lib
  man
  ```

depot.image

- One depot.image file per *collection-path*
- Not required, but improves performance
- Contains stats on each file in *collection-path*
- Generated with **fsi_generate**
- Caches information about files
  - TeX collection has ~10,000 files
  - About 1000 machines run depot nightly
  - Without depot.image, that's more than 1,000,000 stats/hour

Part 2 How SCS uses Depot

- How depot is used with /usr/local
- How /usr/local/depot/depot.pref is created
- How to manage a private collection
- How to maintain public collection
- Common problems and mistakes

/usr/local

- The common target path for commonly supported depoted collections
- Updated by nightly script that runs /usr/local/bin/dosupdepot
- If you don't play by depot's rules when mucking with /usr/local, you will lose

/usr/local/depot/depot.pref

Generated by dosupdepot from

- Collection list

  `/afs/cs.cmu.edu/data/swmaint/Collections`

- Collection configuration

  `/afs/cs.cmu.edu/local/`*`collection`*`/common/conf/coll.conf`

- Facilities standards (must not touch)

  `/usr/local/depot/depot.pref.global`
  `/usr/local/depot/depot.pref.system`
  `/usr/local/depot/depot.pref.special`
  `/usr/local/depot/depot.pref.group`

- Per machine additions (modify this one)

  `/usr/local/depot/depot.pref.local`

/usr/local/depot/depot.pref.local

Common Customizations

- Make collection local

```
# Make it tex local   moore 04-Sep-2003
collection.installmethod copy tex
```

- Subscribe to a named release. Check coll.conf for the collection.

```
# testing new tex software, moore 13-Aug-2002
collection.release alpha tex
```

- Don't install a particular collection

```
# Dont install acrobat    moore 04-Sep-2003
ignore acrobat/0,acrobat/1,acrobat/2
```

Making a Private Collection

- Build for /usr/local install

  ```
  configure --prefix=/usr/local
  ```

- Install in common area

  ```
  make install_prefix=/somewhere install
  make DESTDIR=/somewhere install
  ```

  - Project afs space is ok
  - /usr/local/depot/host-*name* is ok
  - /usr/local is not backed up.

- Customize depot.conf if needed
- Add path to depot.pref.local file
- Test & resolve conflicts

Maintaining a Public Collection

- Request space from **Help@cs.cmu.edu**
  - Collection name and purpose
  - Names and userids of maintainers
  - Size estimate for **common** and **src** volumes
- Build for /usr/local install
- Use Jeeves to
  - create machine specific volumes
  - adjust quota
  - release volumes
- Install in
  /afs/.cs.cmu.edu/local/_collname_**/@sys/**_vers_

Public Collection cont'd

- Build depot.conf if needed
- Build common/conf/coll.conf
- Test by using dosupdepot -extralist
- Ask help@cs.cmu.edu to upgrade collection list.

common/conf/coll.conf

- use **systypes** to enumerate system types
- **contents all | {alpha|beta|omega} mandatory**
- Avoid symlink at top level
- Use numbered releases where appropriate
- Use coll.conf to stage your releases

```
# foo/common/conf/coll.conf
# moore 04-Sep-2003
systypes i386_rh71 i386_rh80 \
    sun4x_59

contents all @sys/V5.3
contents V5.3 @sys/V5.3

on i386_rh80 contents all \
    i386_rh71/V5.3
on i386_rh80 contents alpha \
    @sys/V6.1
on i386_rh80 contents V6.1 \
    @sys/V6.1
```

Common Mistakes

- Hand installing files into /usr/local
- Using depot for log or config files
- Out of date depot.image files
- Unreleased afs readonly volumes
- Missing systypes in coll.conf
- Missing release level in coll.conf
- Missing release area
- Software not built for /usr/local
- Files conflicting with another collection

Conclusion

- Depot is flexible tool for merging collections
- At CMU-SCS we use depot to populate /usr/local
- /usr/local belongs to depot not to you
- To get your software safely into /usr/local you must play depot's game
- See http://www.cs.cmu.edu/~help and man pages for additional details