The Name Service Switch

Nalin Dahyabhai
Linux Users Group
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Architecture

- Similar in concept and implementation to PAM.
- Uses demand–loaded shared libraries that implement "back–ends" which returns data in the format the OS expects.
- API for back–ends is OS–specific.
- Configured via `/etc/nsswitch.conf`
- Extensible (simply add new modules).

Sample `/etc/nsswitch.conf`:

```
passwd: files nis dns hesiod
group: files nis djb
hosts: files dns
netgroup: nisplus
services: files nis
ethers: files
```

Example: `getpwnam()`

- User program calls libc's `getpwnam()` function.
- Libc looks up `passwd` line in `/etc/nsswitch.conf` and gets `"files nisplus"`.
- Libc loads `libnss_files.so` and calls a function in the library. If the call fails for any reason, libc tries again with `libnss_nisplus.so`.
- In the shared library, **glibc** calls a function named `_nss_`**`modulename_functionname`**`_r()`.
- **Solaris** calls `_nss_`**`modulename_map`**`_constr()`, which returns an array of pointers to functions, which it then calls

Third–party modules

DCE:
http://www.intranet.csupomona.edu/~henson/www/pro
LDAP (as described in RFC 2307):
http://obsidian.xedoc.com.au/~lukeh/
hesiod:
http://www2.ncsu.edu/eos/project/linux/lug-devel