Cooperating Applications through Tcl/Tk and DCE

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Introduction

- Mechanism for cooperation and communication
- Based on OSF's Distributed Computing Environment (DCE)

Inter-application communication

- Go beyond Tk's single display restriction
- Allow un-modified applications to participate
- Simplify application cooperation

A Session Manager

- Facilitates communication through proxies
- Simplifies cooperation through user profile

Some DCE Background

- Services:

  Threads, RPC, Local & Global Directory, Time, Files

- Names such as:

  `/.../umich.edu/fs/home/normanb`

  junction

Tk - Session Manager

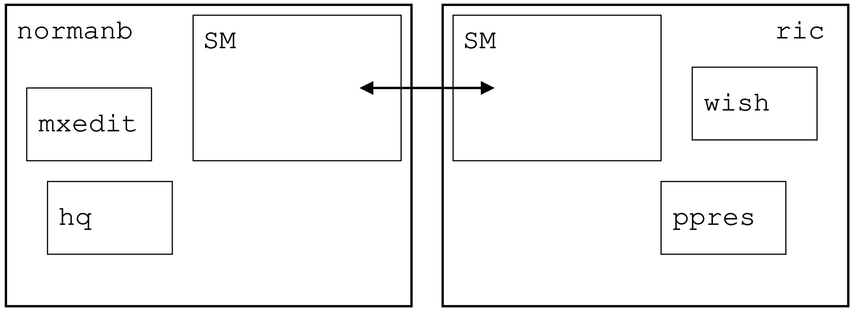
- A Tk application with DCE extensions
- Manages well known location in DCE name space

  `/.../umich.edu/users/normanb`

Tk - SM (cont.)

- Creates proxies for communication
- Uses DCE RPC for security

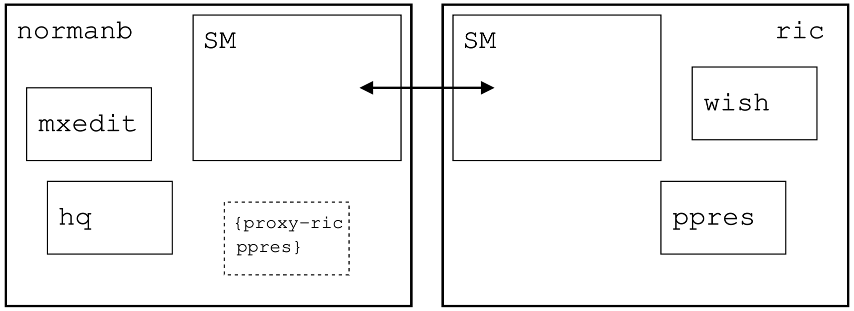
Proxies




```
Registry:
 SM, mxedit, hq
```

```
Registry:
 SM, wish, ppres
```

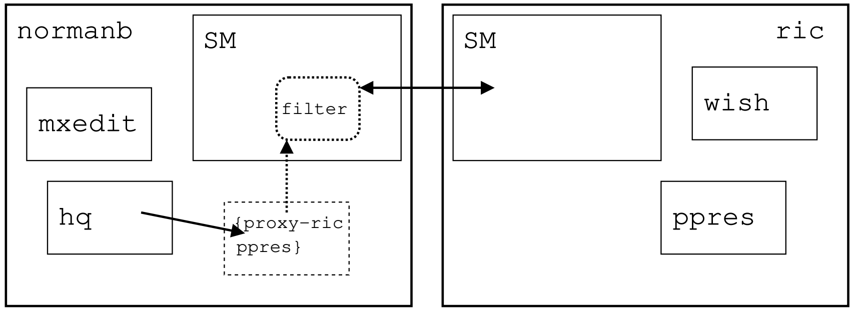
Proxies (cont.)




```
Registry:
 SM, mxedit, hq,
  {proxy-ric ppres}
```

```
Registry:
 SM, wish, ppres
```

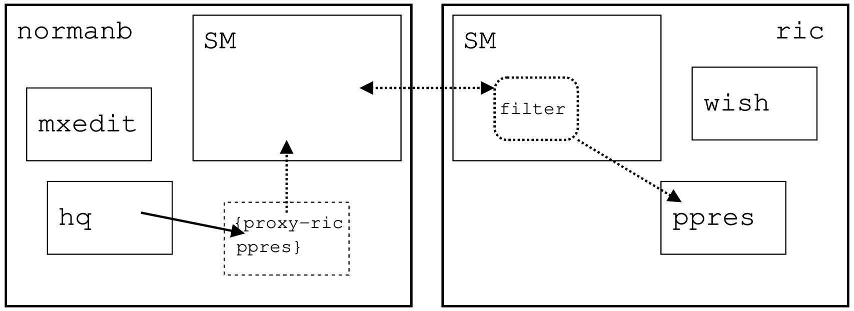

Proxies (cont.)




```
Registry:
 SM, mxedit, hq,
  {proxy-ric ppres}
```

```
Registry:
 SM, wish, ppres
```


Proxies (cont.)




```
Registry:
 SM, mxedit, hq,
  {proxy-ric ppres}
```

```
Registry:
 SM, wish, ppres
```


Tk - SM (cont.)

- A user profile for common requests

```
send SM EDIT foo.c line 96
send SM DEBUG foo.c break-pt 96
```

- Interaction with ToolTalk, SoftBench, COSE, etc.

Implementation

- Automate Tcl wrappers for RPC stubs
- Take advantage of DCE services
- Current prototype based on TclDP