Give me back my mainframe. A plan C?

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Roadmap

- The Problem
- Plan B
- Examples
- Lessons learned
- Plan C: Octopus?

The target environment

The problem

System for environments:

- Heterogeneous
- Distributed,
- Dynamic
- Ubiquitous

Antecedents

Plan 9

- (Almost) everything is a file
- Network file system protocol (9P)
- Per-process name spaces

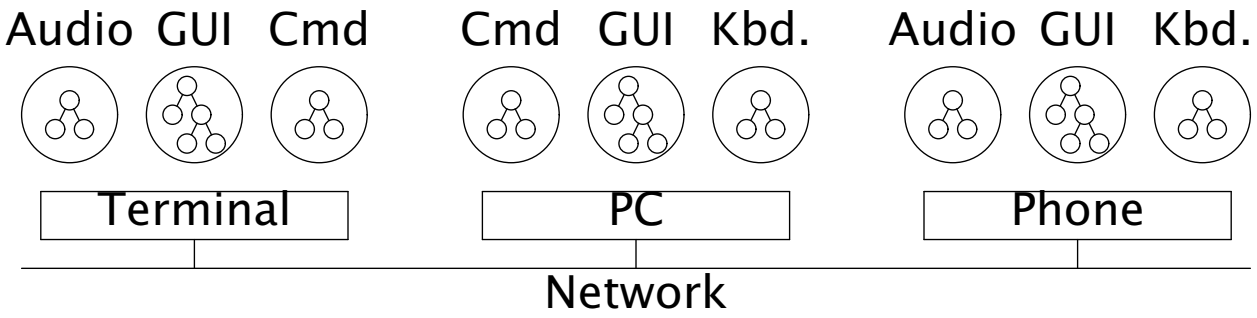
Our current approach

Plan B

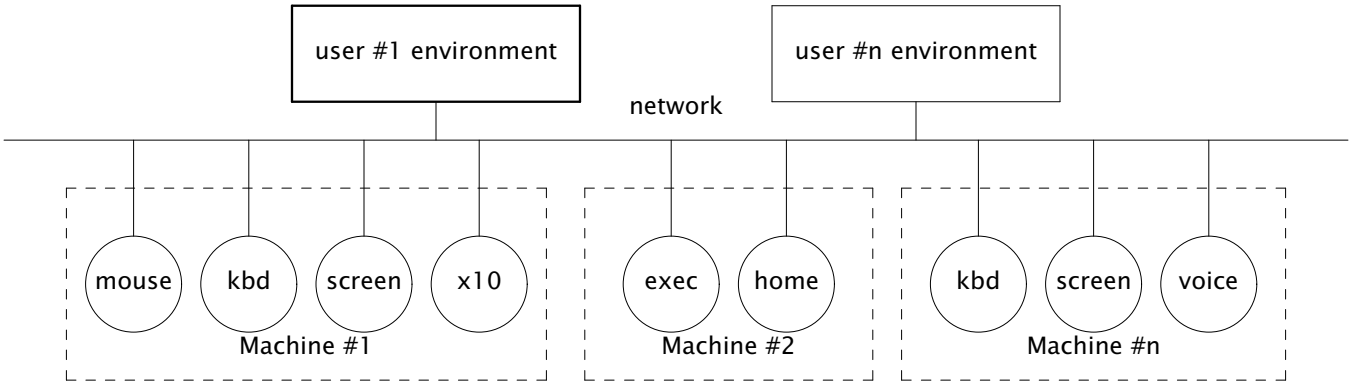
- Abstract resource interfaces as files
- ...including location, context, etc.
- Users say what they want

System architecture

A system built out of dynamic vols.



Computing Environment

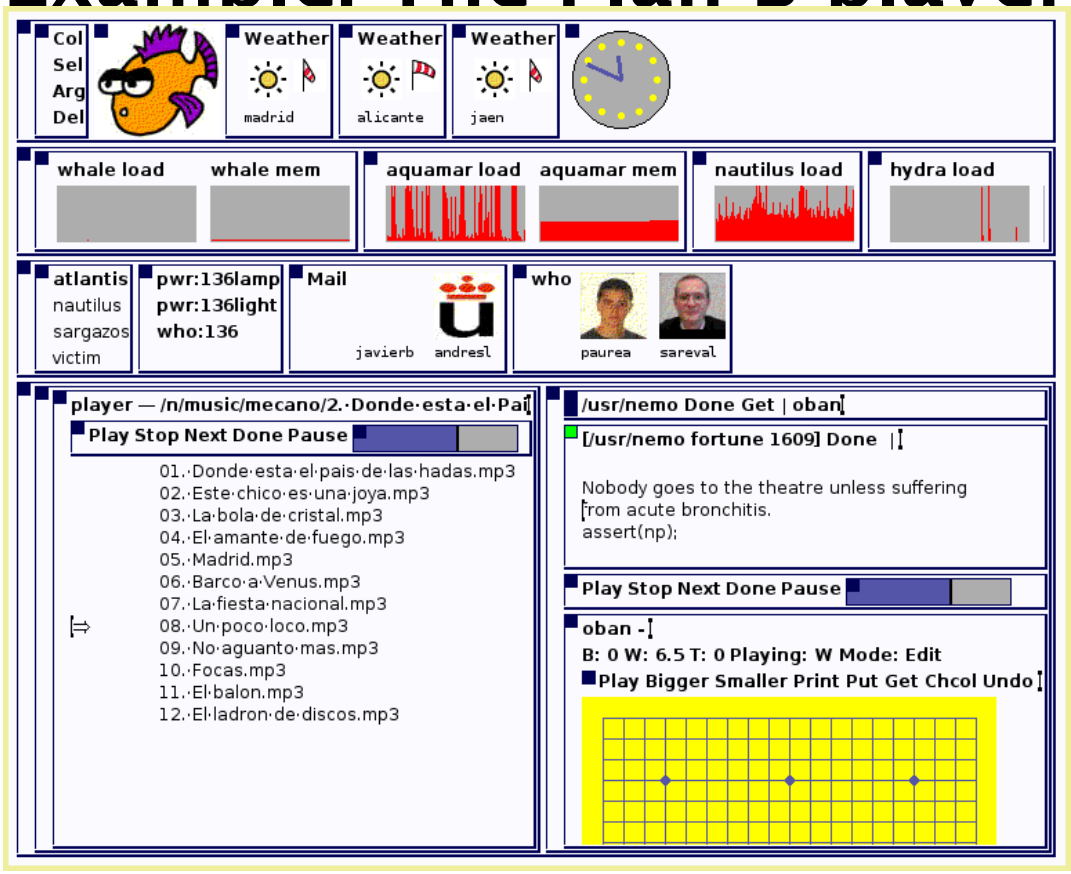


Computing Environment

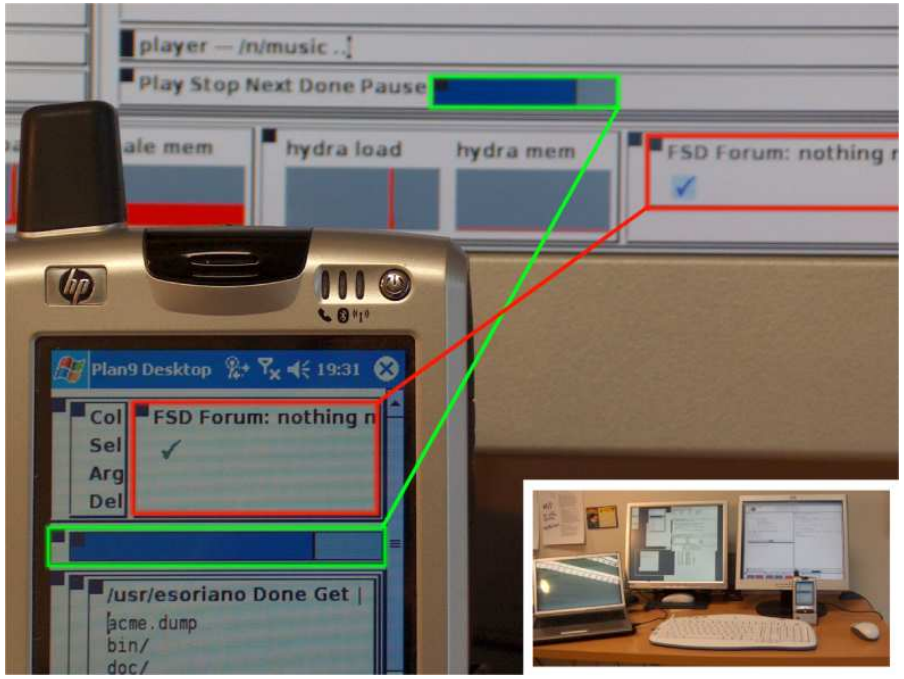
How?

```
mount -V /devs/voice!L136!Unemo /voice
mount -a -V /devs/voice!L136 /voice
```

Example: The Plan B player



Example: The Plan B player



Example: The Plan B player

- Audio device:
  `/devs/audio/audio`
  `/devs/audio/output`
- User interface:
  `/devs/xxxui/..../col:player/`
  `etc.`
- Music files:
  `/n/music/`
- Displaying poster for CD:
  `/mnt/plumb/poster`

Example: tell

The Plan B intercom

```
location=‘{cat /who/nemo/where}
mount -V /devs/voice!L$location
echo hi there! >/devs/voice/out
```

Example: Zip'ing a room

- Store room UIs, lights, volume

```
mount -V /devs/ui!L$location
mount -V /devs/x10!L$location
mount -V /devs/voice!L$location
cd /devs
tar c *ui x10 voice >/tmp/room.tar
```

- Unzip'ing a room

```
tar xf /tmp/room.tar
```

So, what did work?

- Abstract interfaces (eg. widgets vs draw)
- Files for application data (editor as Mail)
- Location is powerful
- Indirection between ns and devices
- central registry of volumes

What did not work?

- peer-to-peer
- Main FS crash recovery
- Switching / and/or /usr
- Plan B at home

What's the problem again?

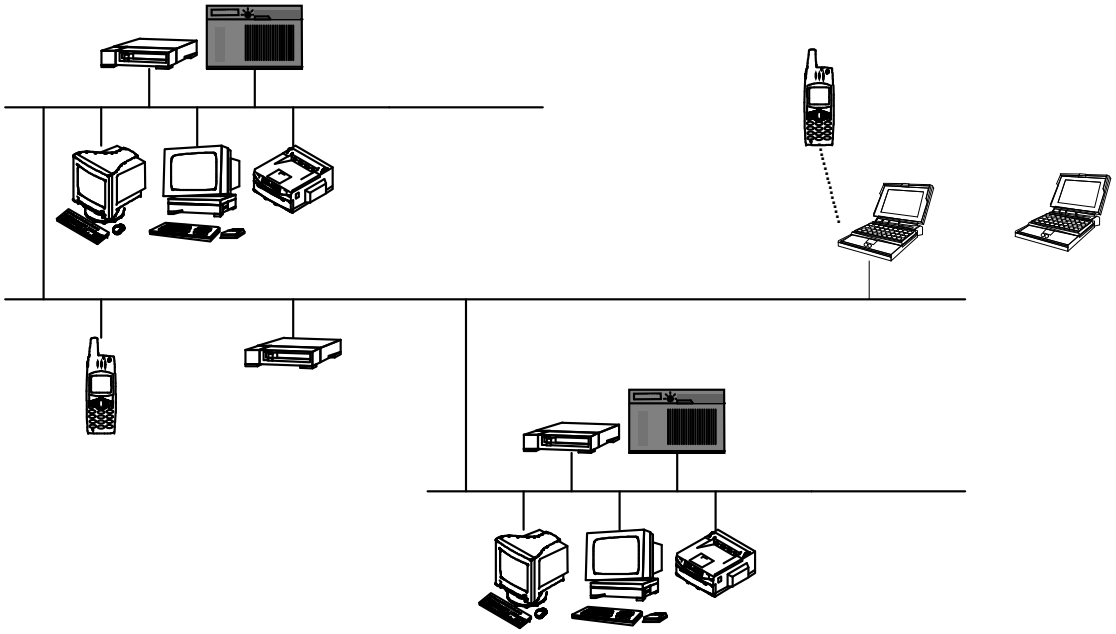
System for environments:

- Heterogeneous
- Distributed,
- Dynamic
- Ubiquitous

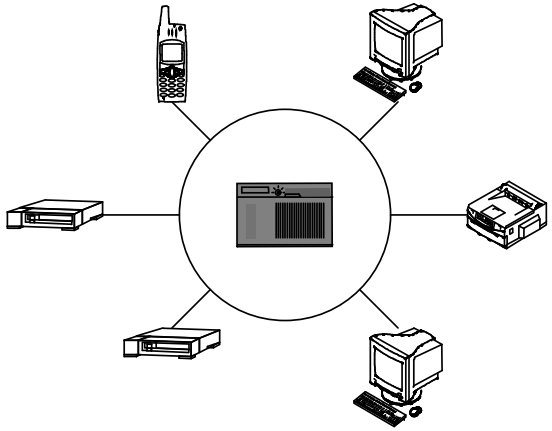
But note: a single system is

- Homegenous
- Centralized
- Not so dynamic
- with ubiquitous access to it.

The octopus environment



The octopus



issues: latency + copy

Questions?

More information via our httpd

http://lsub.org
http://lsub.org/ls/octopus.html