

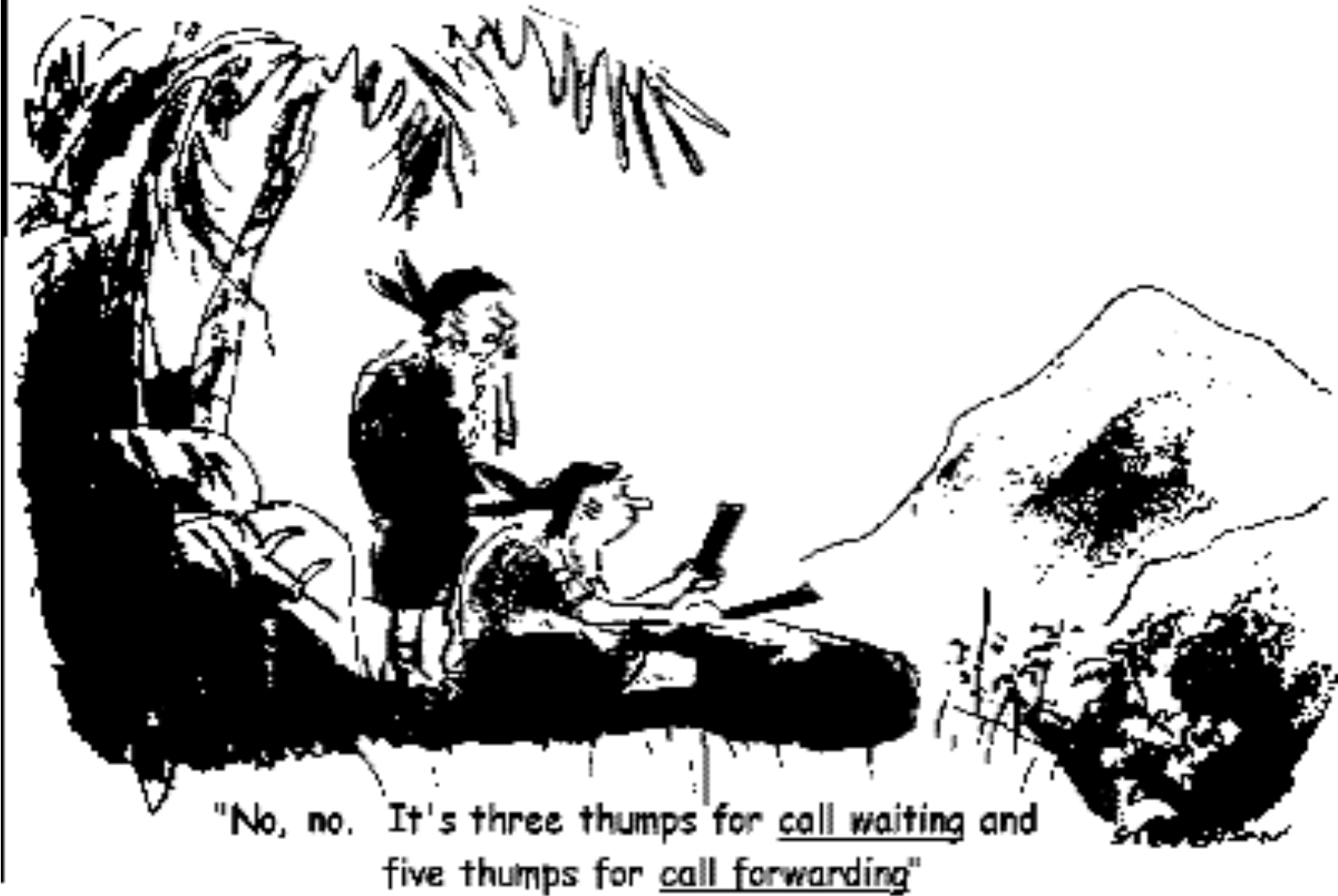
Asterisk : Going Deeper

Stephen Uhler

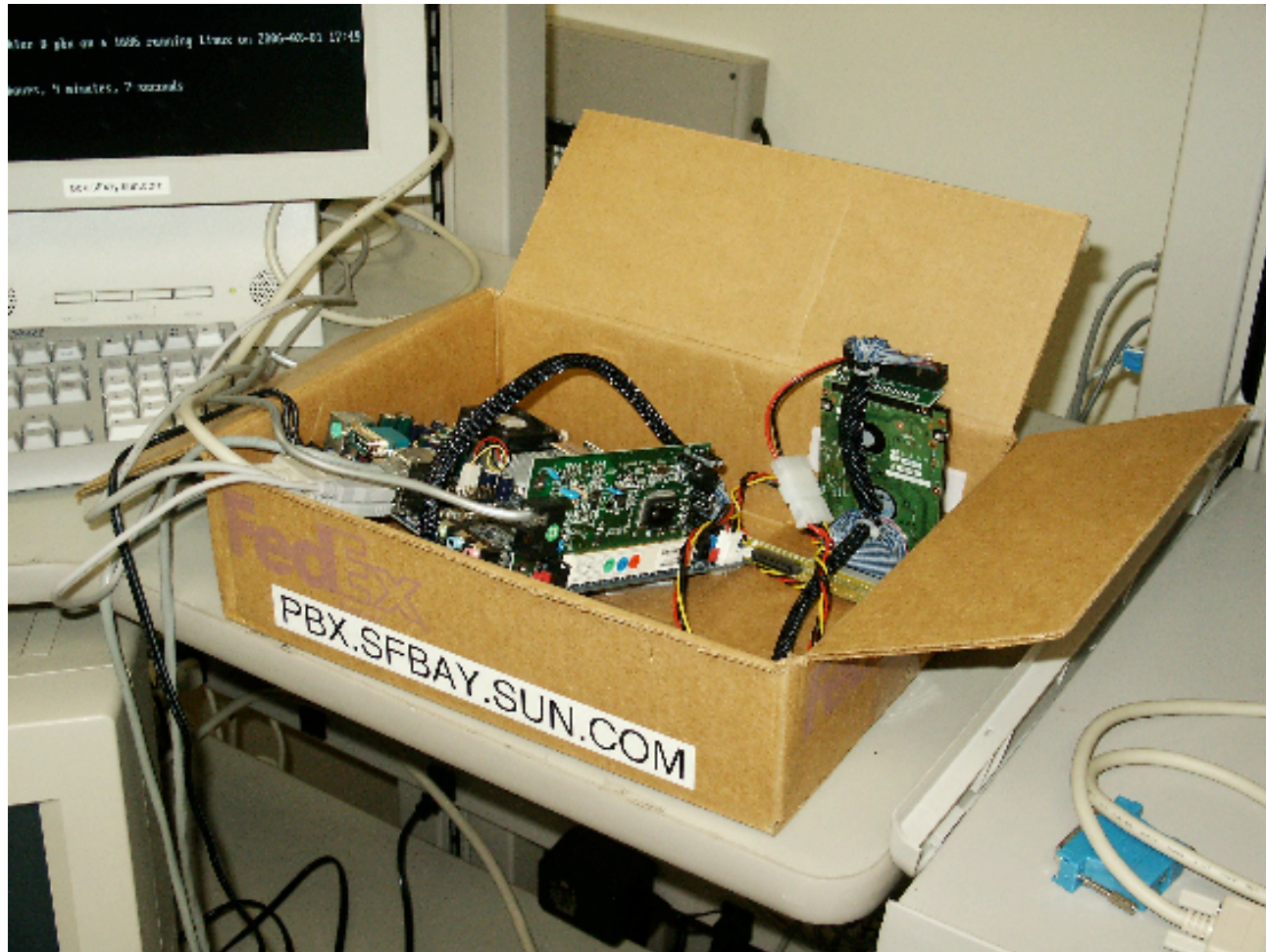
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Outline

- Intro: how I got into the phone business
- Running Asterisk in a Corporate environment
- Running a phone system when you have a day job
- Stuff for me
- Asterisk on Solaris



Asterisk Beginnings at SUN



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How I Got into the Phone Business

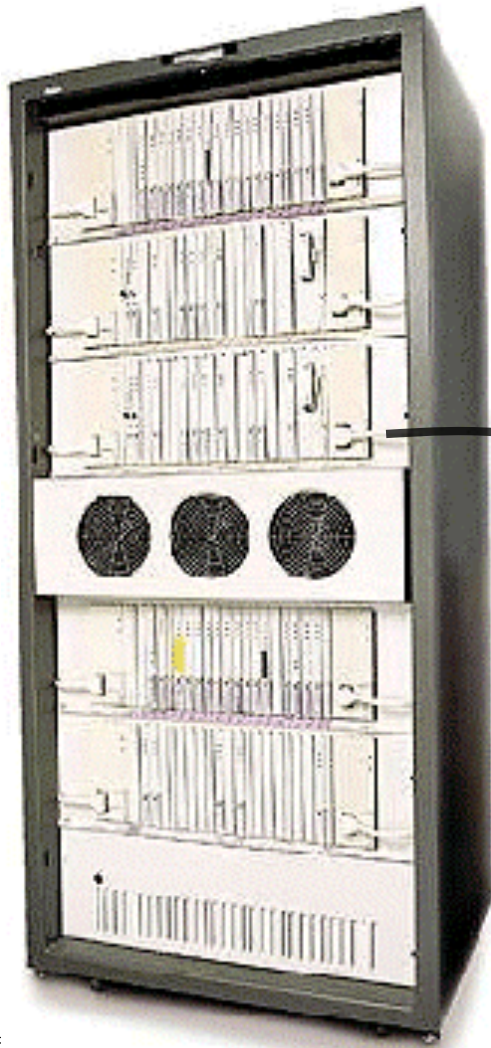


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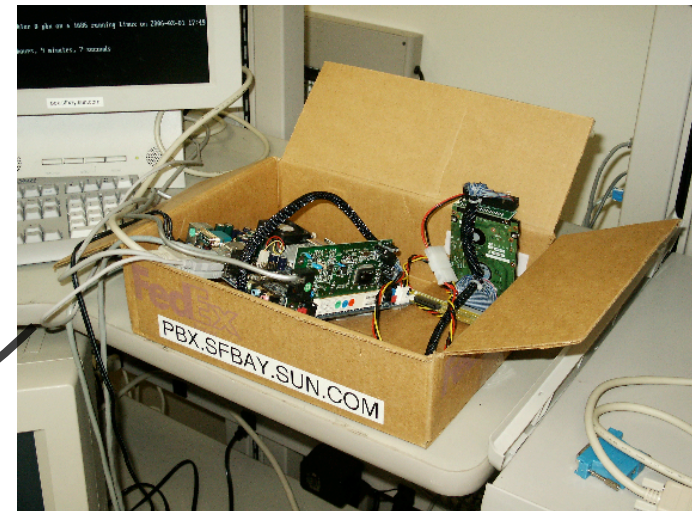
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You Want What?



T1/PRI



Phone-y Expectations

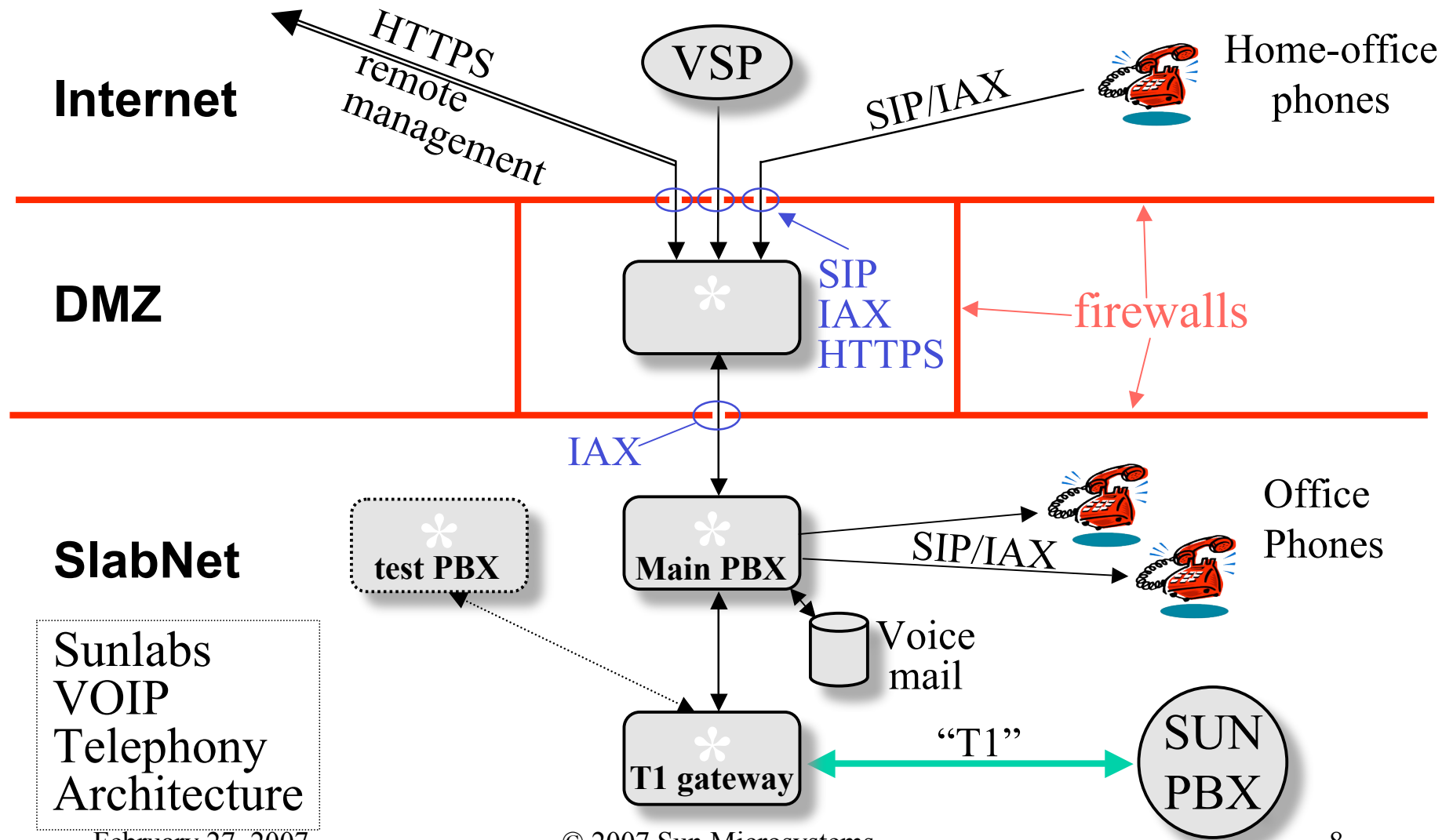


The good-old days, when hanging-up on someone actually meant something



“Can you hear me now?”

Safe Firewall Traversal

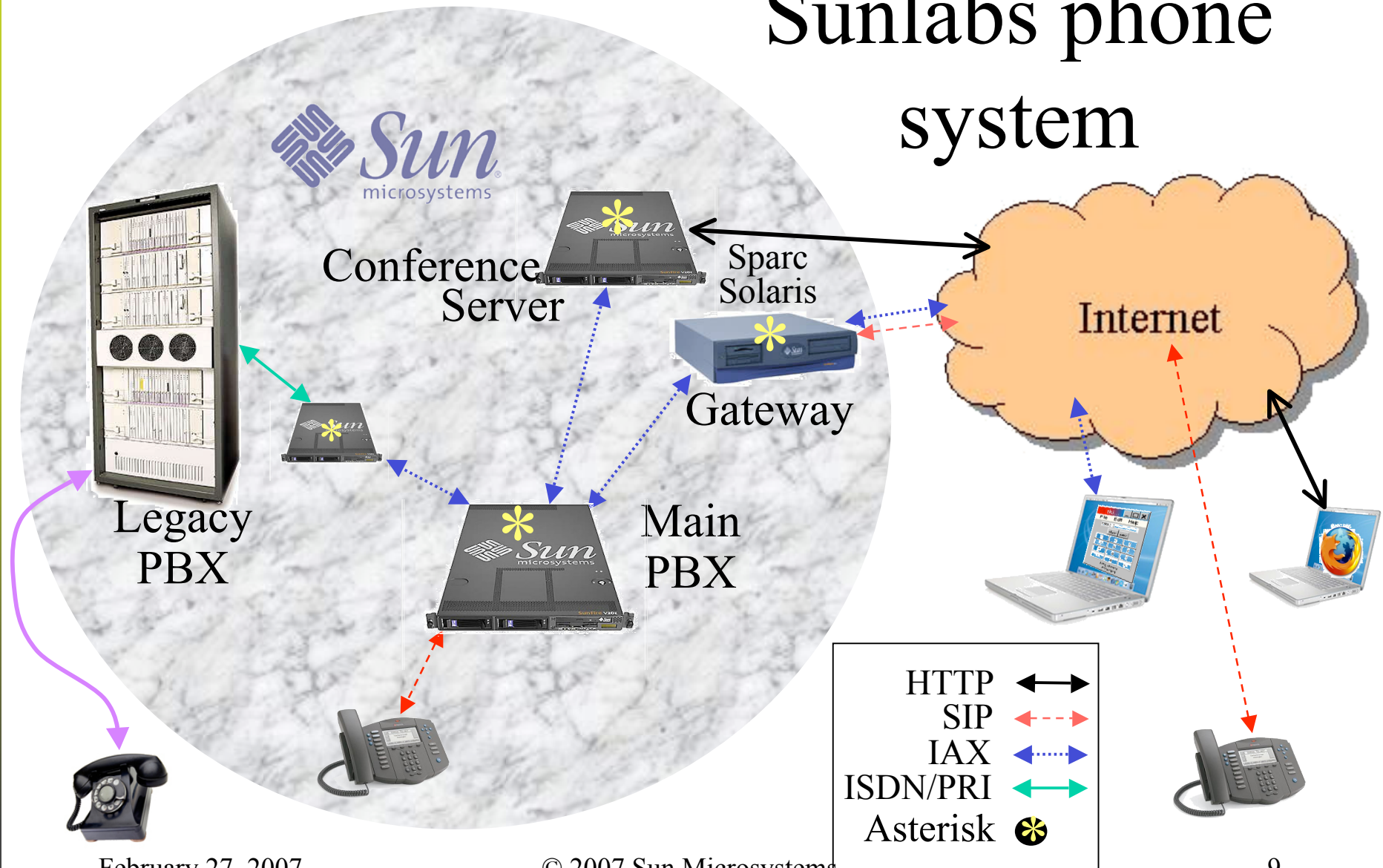


Sunlabs
VOIP
Telephony
Architecture

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Sunlabs phone system

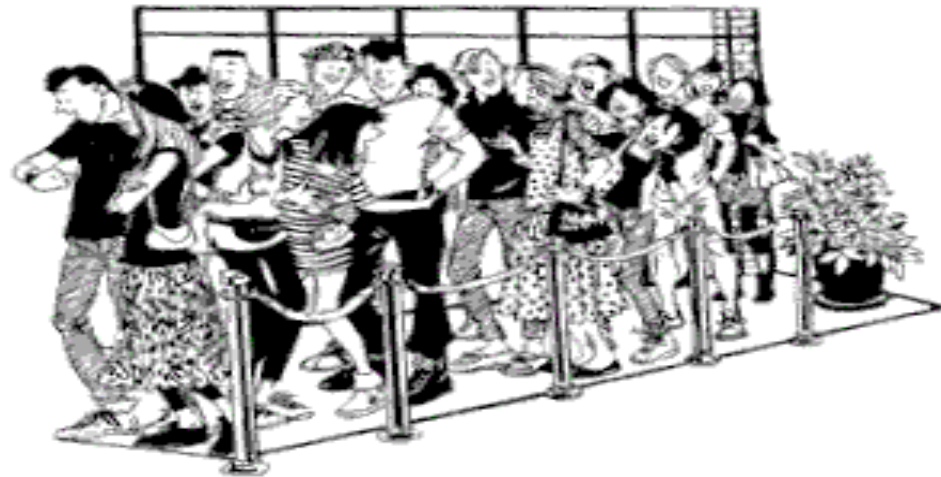


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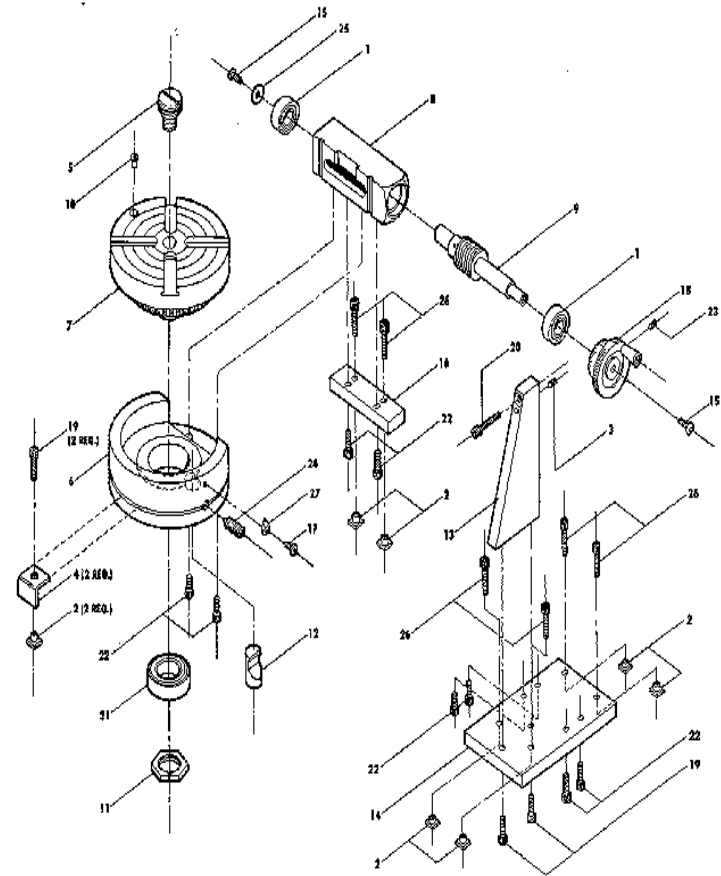
Auto-provisioning

- No fuss phone distribution

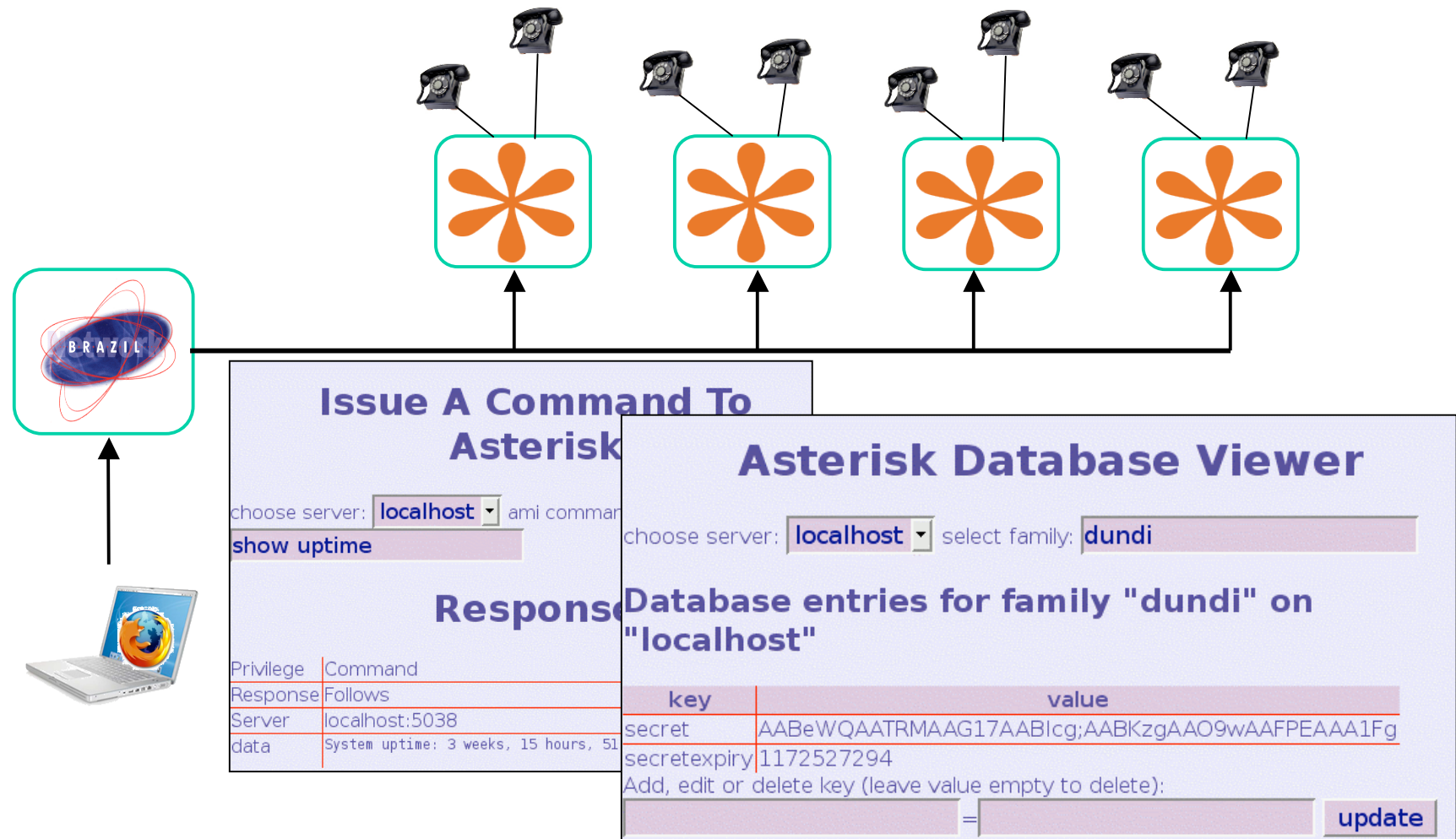


Auto-provisioning: the Pieces

- DHCP server
- FTP boot/configuration server
- Corporate LDAP authentication service
- Asterisk
 - IVR (extensions.conf)
 - Provisioning (AGI)

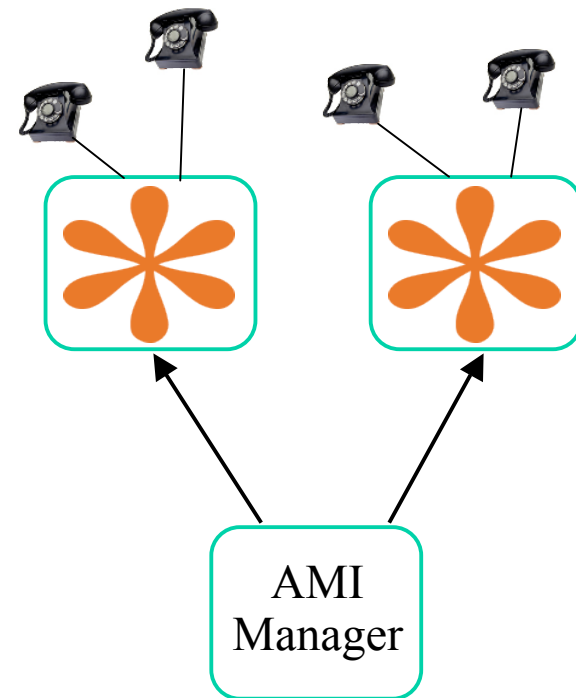


Web Services Interface

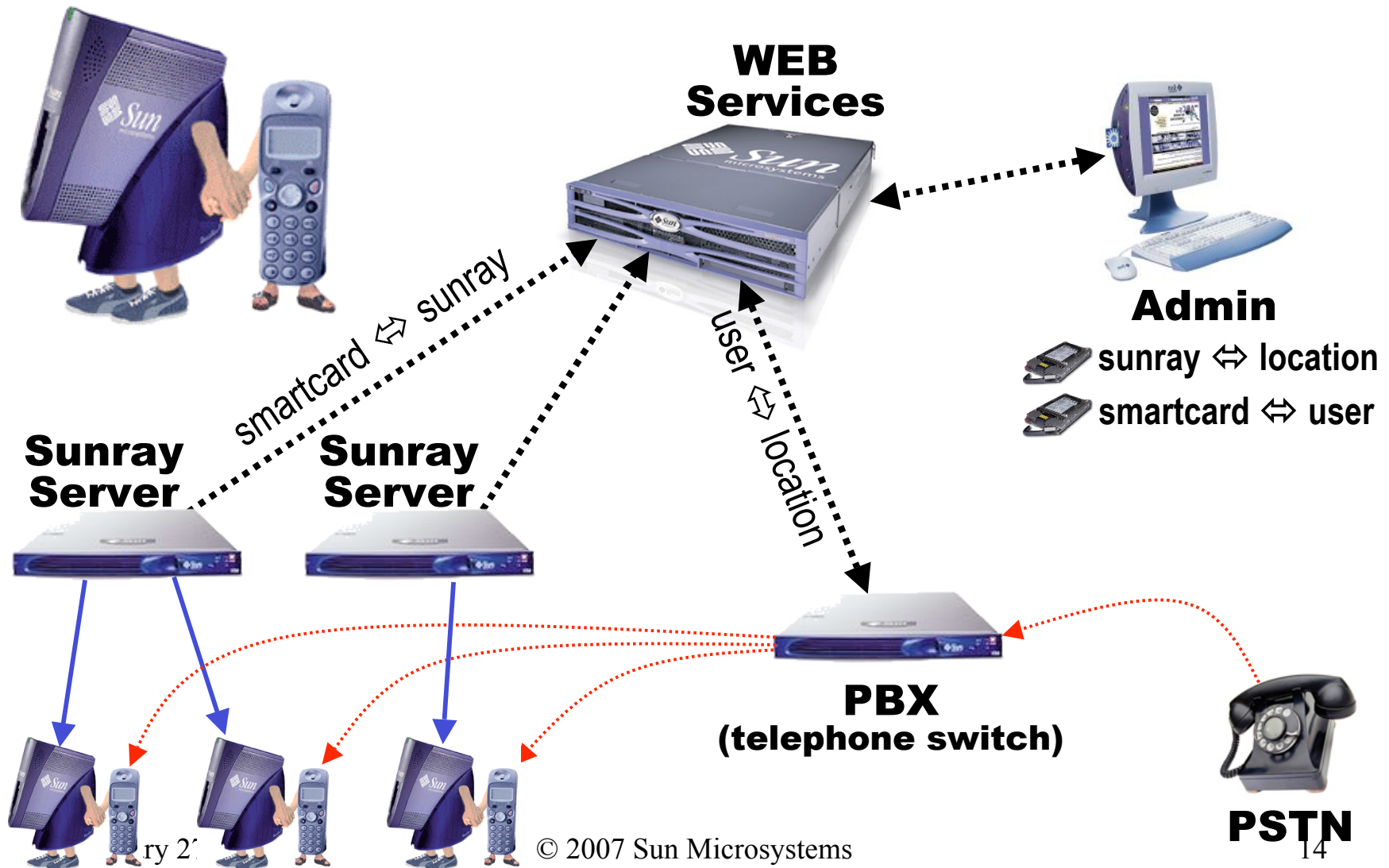


Batch control using the Manager Interface

- Keeping *'s in sync
 - SIP registrations
 - DUNDI
 - DB entries
- Additional phone services

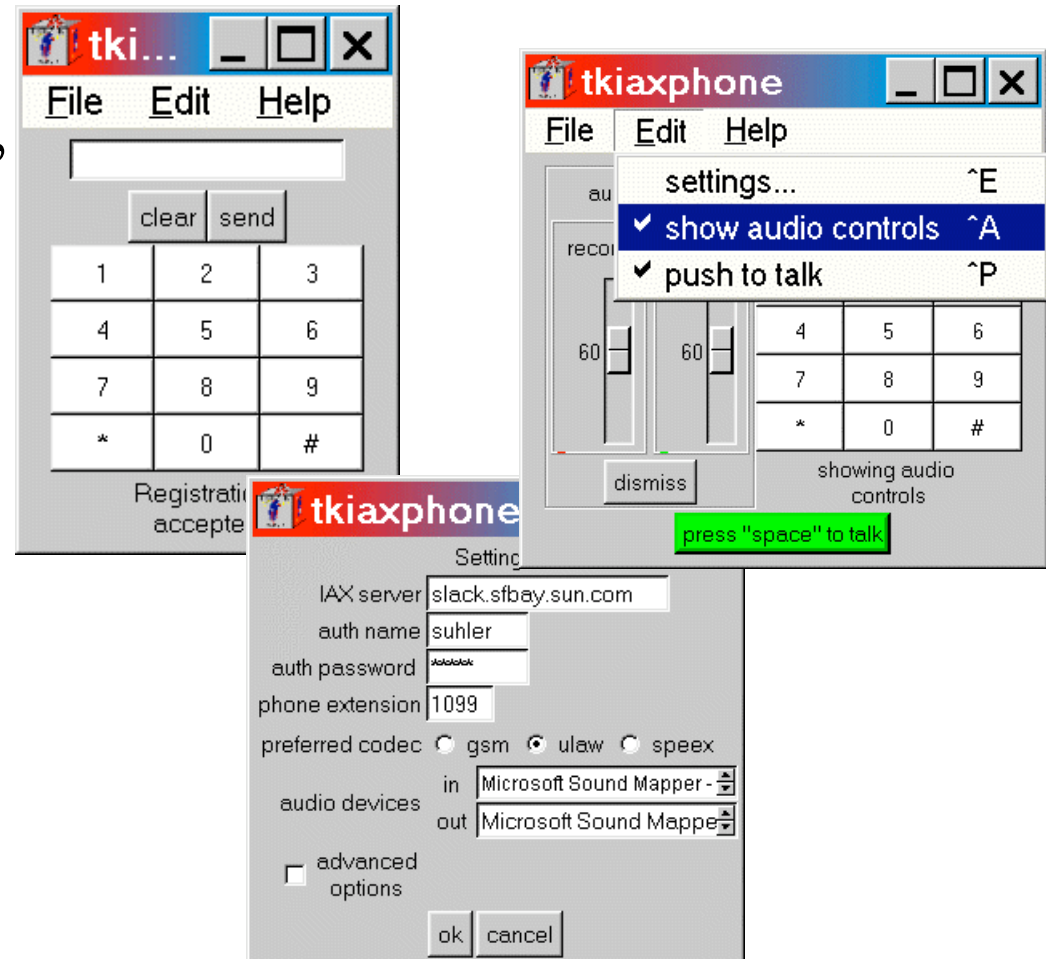


Follow-me Sunray Phone System



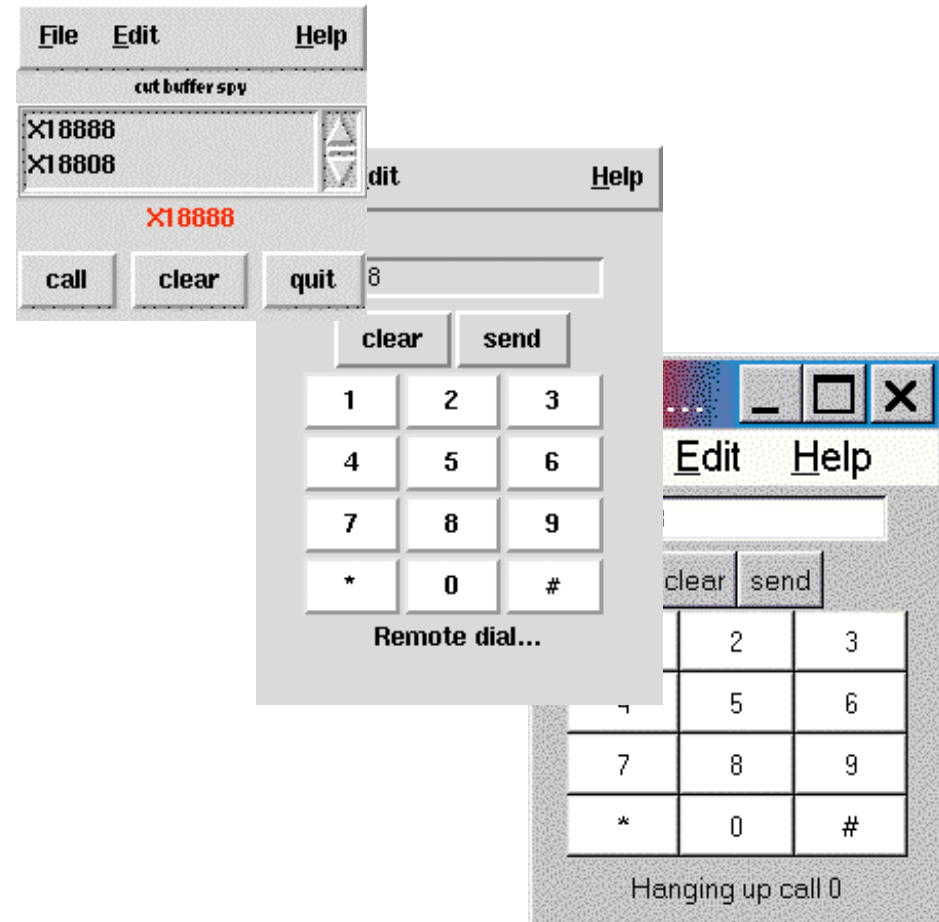
Portable “soft” phone

- Simple, lightweight, and functional
- Uses the IAX protocol
- Runs on Solaris, Sunray, Windows, Linux, and Mac
- Easily customizable GUI



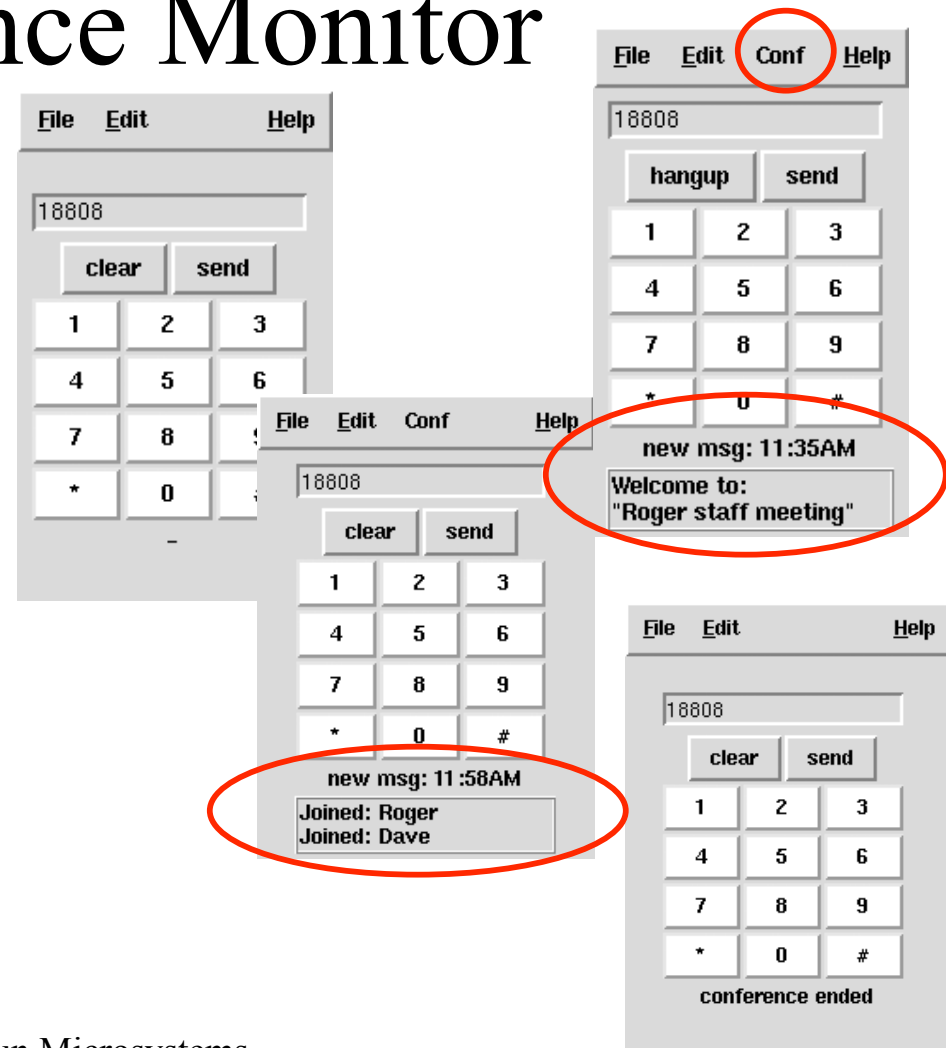
Screen-based Auto Dial

- Watch the clipboard and cut buffer
- Look for phone numbers
- Place the call
 - Use web services interface
 - Use soft phone



Batch AMI service: Conference Monitor

- Watch Conference “joins” and “leaves”
- Send text messages to “smart” phones
 - Add “conference” menu for GUI conference controls
 - Display joins and leaves



ConMan Conference Features

Conman: Sign up for a user name

[home](#)
[login](#)
[signup](#)

Sign Up For A Screen Name

screen name
password
password (again)
hint
email

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..... User Administration

Conman: Create a conference You are logged on as suhler

[home](#)
[select](#)
[monitor](#)
[preferences](#)
[conference](#)
[logout](#)

Conference Registration Page

Enter a conference number to create or edit:

General conference options

Conference title
Web Administrators
New participant notification ☐ none ☐ beep ☐ announce
Record conference ☐ yes ☐ no
Play Musak ☐ yes ☐ no
conference availability start date:
duration:
passwords user: host:

Participant options

join mode ☐ normal ☐ muted ☐ talk only

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..... Creation & Management

You are logged on as suhler

To The Asterisk "e" Conference ring System

...e to Co
...e meeti

..... Selection

Choose a conference

conference number	participants goin' for	
222	2	00:02:38
<u>7</u>	1	00:01:45
222	(none)	not running


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Conman: Conference Monitor You are logged on as suhler

[home](#) last update: Oct 03 03:39:24 Tue for suhler
[select](#) conference 222: suhler role: viewer
[monitor](#) Members
[preferences](#) 9999 unprovisioned
[conference](#) 18835 Stephen Uhler
[logout](#) 18888 Stephen Uhler

Events (recent first)

from test1: be nice
Reloaded Oct 03 03:38:33
Joined 222: 18888 Stephen Uhler (Tue 03:33:07)
Joined 222: 18835 Stephen Uhler (Tue 03:32:34)
Joined 222: 9999 unprovisioned (Tue 03:32:23)

Lock:| conference commands:    
send message:

waiting for server data ... (link processing [debugging stuff])
(results of foreground processing [debugging stuff]) [debugging on](#) [debugging off](#)

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..... Monitoring & control

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Asterisk on Solaris



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Asterisk on Big Iron



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A Modest Example: 1000 Calls

1 call = 8000B/sec @ 20ms/pkt = ~200B/pkt
1000 calls = 50,000 pkts/sec = 10,000,000 B/sec

Poll() → [schedule] → read() → [schedule] → write()

100,000 thread schedules
150,000 system calls