

Practical Remote Connectivity

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What is Remote Connectivity?

- **Connecting live to a server from a location off the LAN**
- **Working from home, from remote location, even allowing clients sites access to the system**
- **For “practical” remote connectivity, the computer station will remain at a fixed location**

Goals

- **Use Datafax just like in the office**
- **Use the Validation Tool**
- **Run reports and view forms**

- **Reasonable system performance**
- **The system should perform exactly as in the office**

Considerations/Concerns

- **Do we have the technical knowledge to set up the systems?**
- **How much will the system cost to implement?**
- **What is the performance and reliability of system?**
- **How will I train persons using the system?**

Methods of Connectivity

- **Datafax on Solaris 2.7 for Intel over ISDN**
- **X terminal**
- **Dial-in on analog modem (mobile)**
- **Off Line**
- **VPN**
- **Other... see first bullet it works**

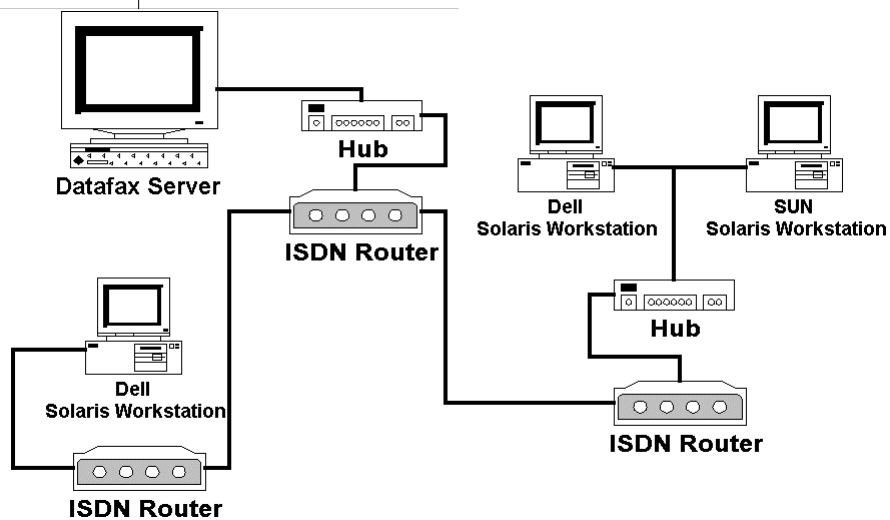
List of Components

- **Solaris-compatible desktop*** **\$1,200.00**
 - 500 MHz Pentium CPU or greater
 - 64 MB RAM
 - 6.4 GB Hard Disk IDE or SCSI
 - CDROM
- **19" to 21" Monitor** **\$1,000.00**
 - Solaris Compatible Video card*
 - Ethernet Card (3 Com Card)
 - Three Button Mouse

More Equipment

- Sun Solaris 2.7 for x86 (UNIX OS) \$340.00
- Ascend Pipeline 50 ISDN router \$430.00
- ISDN Installation \$195.00
- ISDN wired to the building \$ 50.00
- Flat Rate Per Month \$ 35.00
- Per minute Local Connect Charge .3 cents
- Per minute additional minute .1 cents
- Per minute Long Distance .26 cents
- Total hardware and install charges \$3215.00

A Look at the WAN



Configure ISDN routers

- **Get the ISDN routers communicating**
 - Have someone on each end to configure the routers
 - Name the routers something meaningful
 - May need to use 1 + area code to dial local numbers
 - Use same long distance carrier if you can
 - Spelling counts

Ascend Pipeline 50

```

Telnet - pra3
Connect Edit Terminal Help

lqqqqqqqqq PRA3 EDIT qqqqqqqqqqk lqqqqqqqqqqqqqqqqqqqqqk lqqqqqq
xConfigure... x x10-100 1 x x00-200
x>Switch Type=NI-1 x x Link D x x>H31
x Chan Usage=Switch/Switch x x B1 - x x LAN s
x My Num A=5599062 x x B2 - x x elan
x My Num B=5599184 x lqqqqqqqqqqqqqqqqqqqqqqqk lqqqqqq
x SPID 1=65055990620101 x x20-100 Sessions x x20-500
x SPID 2=65055991840101 x x> 0 Active x x Qual
x My Name=pra3 x x x OK
x My Addr=63.72.233.7/25 x x x CLU
x Rem Name=CRA x lqqqqqqqqqqqqqqqqqqqqqqqk lqqqqqq
x Rem Addr=63.72.233.201/29 x x20-300 WAN Stat x x20-400
x Dial #-14153390248 x x>Rx Pkt: 13803^x x>Rx Pk
x Route=IP x x Tx Pkt: 13645 x x Tx Pk
x NAT Routing=No x x CRC: 0vx x Co
x NAT Profile=N/A x lqqqqqqqqqqqqqqqqqqqqqqqk lqqqqqq
x Bridge=No x x00-100 Sys Option x x00-400
x Send Auth=CHAP x x>Security Prof: 1 ^x x>BRI I
x Send PW=***** x x Software +5.0Ap13+ x x Adrs:
x Recv Auth=CHAP vx x S/N: 6535412 vx x Enet
    
```

Datafax Server Configuration

- **Let the Datafax server know about the new workstation**
 - add the IP address and name of the workstation to the `/etc/hosts` file
 - example `63.72.233.201 meaningful`
- **Tell the Datafax server who can have access to what file system**
 - edit the `/etc/dfs/dfstab` file
 - `share -F nfs -o rw=company1:meaningful -d "datafax dir" /opt/datafax`
 - `share -F nfs -o rw=company1:meaningful -d /studies/bigstudy`

More Server Configuration

- **Share the file systems with the workstation**
 - example `# shareall`
- **Set a route to the workstation through the ISDN router**
 - example
 - `# route add net 63.72.233.7 63.72.233.201 1`
 - You may want to add above command to `/etc/rc2.d/S69inet`

Installation of Solaris on a Dell

- **Check Hardware Compatibility Lists**
 - <http://access1.sun.com/>
 - <http://soldc.sun.com/support/drivers/hcl/hcl.html>
- **Do you want dual boot? If yes, Get PartitionMagic 5.0 (Choose Linux file system)**
- **Is the video card on the approved list Examples**
Matrox Millennium, ATI Expert@Work

Configure the Solaris Station

- **Creating a Cache file system**
 - The caching file system is what gives Datafax good performance
 - `# cfsadmin -c /opt/cache`
- **Tell the workstation which directories on the Datafax Server to mount**
 - **Edit the /etc/vfstab file**
 - `ruby:/opt/datafax /opt/cache /opt/datafax cachefs 3 yes`
`backfstype=nfs,cachedir=/opt/cache`
 - `ruby:/studies/bigstudy /opt/cache /studies/bigstudy cachefs 3 yes`
`backfstype=nfs,cachedir=/opt/cache`

The Power of Cache

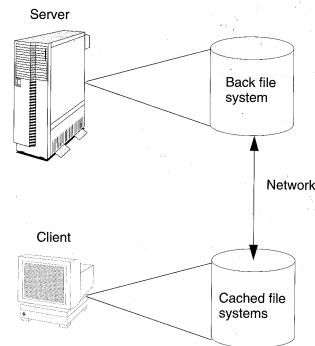


Figure 29-1 How CacheFS Works

More Configuration Workstation

- **Create a mount point on the workstation**
 - `mkdir /studies/bigstudy`
- **Let the workstation know about the server**
 - Add the IP number and name of the Datafax Server
 - Edit the Hosts file `/etc/hosts`

Breath Deeply

- **Set up a route to the server hop through the ISDN router**
 - Add a file `/etc/defaultrouter`
 - enter IP number of the ISDN router
- **Mount the Datafax servers file system**
 - `# mount /opt/datafax`

Training on the system

- **Datafax for non-Datafax users**
 - Remote systems tend to attract attention
 - Datafax users should be trained in the office
 - Additional accounts will be required
- **Printing challenges**
 - Need a PostScript printer
 - Set up the remote printer in `.cshrc` file
 - `setenv PRINTER hp_1`

Helpful Suggestions

- **Have a phone next to the Datafax workstation**
- **Keep a list of IP numbers and ISDN numbers to troubleshoot problems**
- **Keep a list of contact information of end users so you can notify them when Datafax server will be down**
- **Buy more Datafax licenses**

Disadvantages

- **Getting everyone out of a study to run a report can be a challenge**
- **Expectations are the system will be operational all the time**
- **Validation tool can lock sometimes**
- **Additional support is required**
- **The remote system is a bit slower**

Advantages

- **Clients or co-workers can work offsite, run reports, validate forms**
- **No other system I know offers this service**
- **Read only accounts can be established**
- **Multiple stations can use one ISDN router**

Thank You

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