# SYSTEM ADMINISTRATION

**EMD Training**

625-EMD-004

# System Administration Topics

- Secure Shell (SSH)
- System Startup and Shutdown
- Checking the Health and Status of the System
- Tape Operations
- System Backups and Restores
- User Administration
- Commercial Off-the-Shelf (COTS) Software Administration
- Security

# Secure Shell (SSH)

## Improves Network Security

- **Passwords not sent in the clear**
- **Encrypts entire session**

**sshsetup** = Local Host Setup

**sshremote** = Remote Host Setup

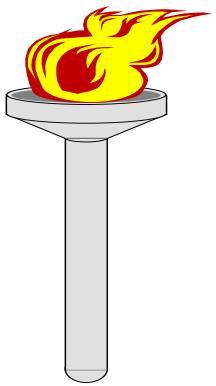
**sshchpass** = Change Password

# System Startup

## Cold Startup

**No Subsystems Running**

- Power failure
- Following system maintenance
- Power switch OFF?



## Warm Startup

**Some Subsystems Running, Others Off**

- Operator intervention
- External malfunction

# Cold Startup Procedure

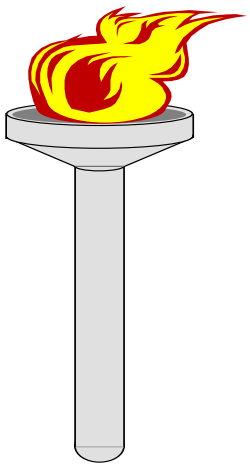
- **Determine existence of following systems:**
  - Domain Name Server (DNS) Master
  - Name Information Server (NIS) Master
  - Mail Hub Server(s)
  - Automount Servers
  - ClearCase Server
  - Communication Subsystem (CSS)
  - Other License Servers
  - Sybase SQL Servers
  - Data Server Subsystem (DSS)
  - Planning & Data Processing System (PDPS)
  - Client Subsystem (CLS)

- **Turn on power for each one IN ORDER**

# Cold Startup Boot Order

DNS Master Server
NIS Master
CSS Server
ClearCase Server
Interface Server(s)
MSS Server(s)
DSS Server(s)
Ingest Server(s)
PDPS Server(s)
Client Server(s)
Data Management Server(s)

# Warm Startup Procedure

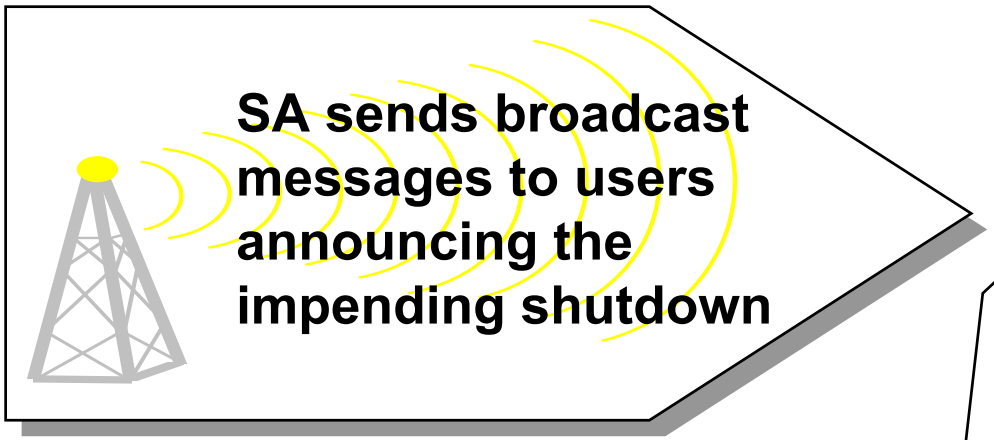


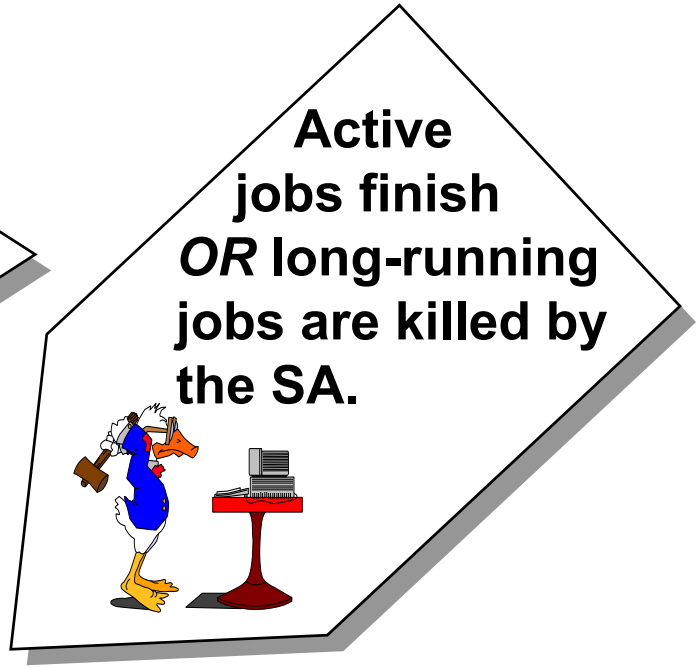
- Determine which server is down
- Determine order in which servers are to be booted
- Determine the interoperability dependencies among the machines
- Turn on machines in an order consistent with the dependencies

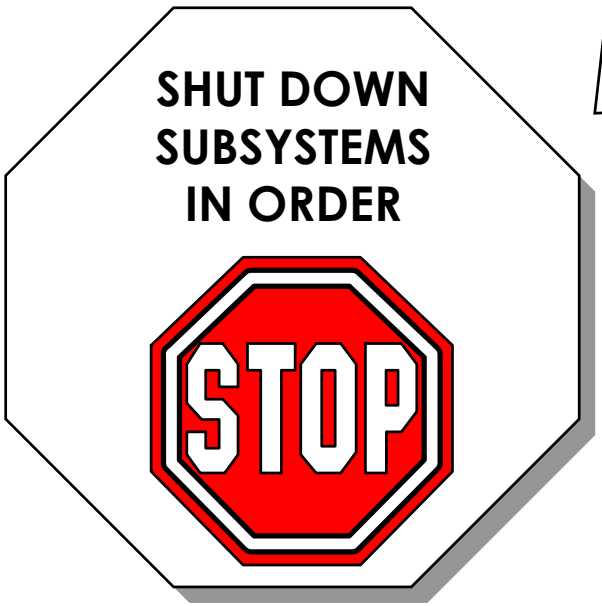
# Normal Shutdown

- Turn off power to FULL system
- Turn off power to a component subsystem
- Scheduled by Resource Manager
- Approved by DAAC Manager
- Minimal disruption to system users
- NO loss of data

# Normal Shutdown Procedure



# Normal Shutdown Order

**Normal shutdown order is the reverse of the start-up order**

# Emergency Shutdown

- **Indications**
  - **System or Subsystem is locked up**
  - **Unable to access or maneuver through the system**
  - **Impending or actual power failure**
  - **Hardware or Software failure**
- **Verify need to shutdown**
  - **Resolve subsystem and user problems first**
  - **Shutdown is a last resort**
- **Minimize loss of data**

# Emergency Shutdown Procedure

- Type sync and press Return/Enter to flush buffers
- Repeat the first step
- Shutdown Subsystems IN ORDER

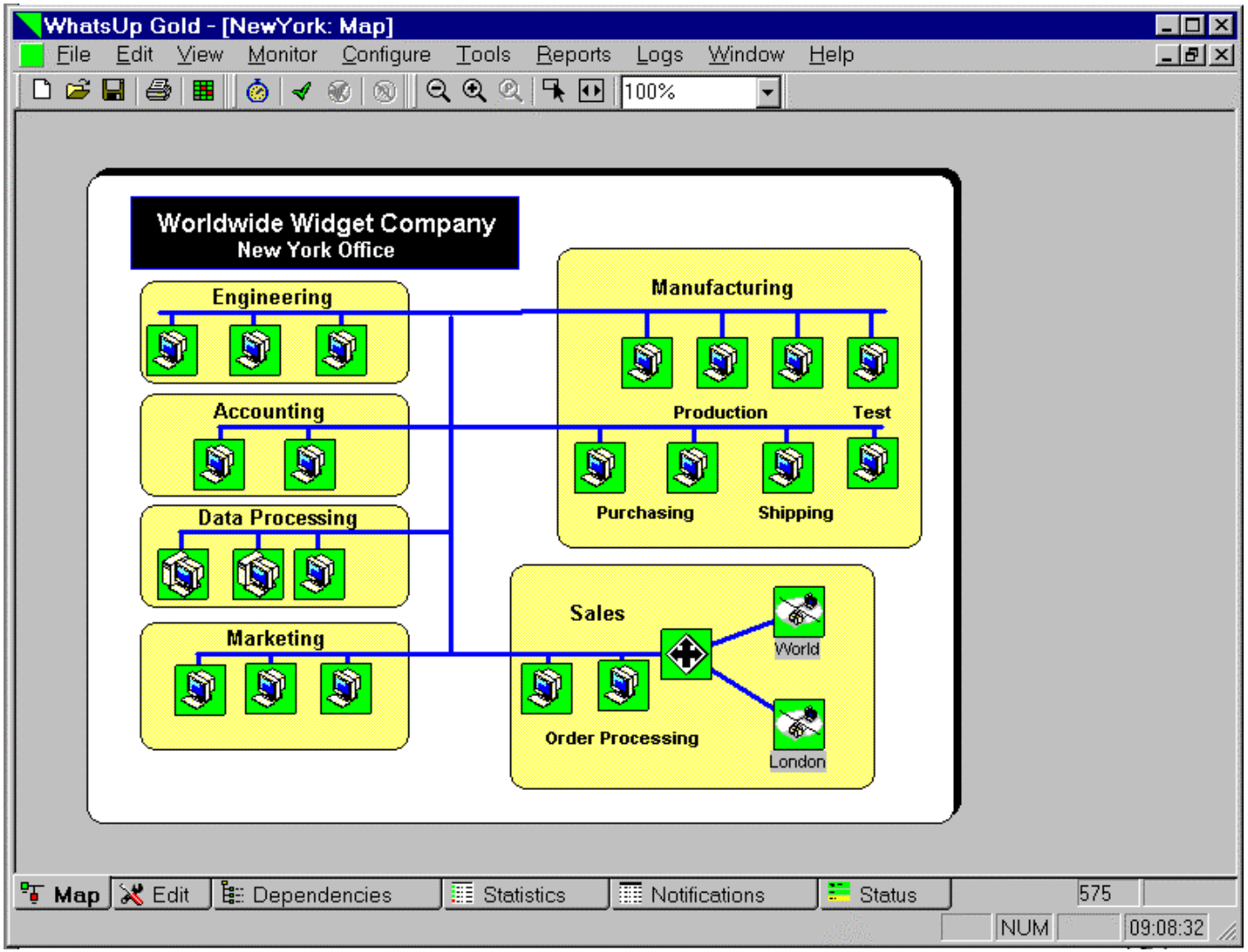
# System Status and Health

- What's Up Gold
- Whazzup????
- ECS Assistant

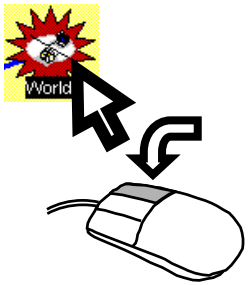
# Checking Network Health & Status

- WhatsUp Gold graphic network monitoring tool
- Installation establishes network map and initial notifications, device properties, and polling
- Color alerts indicate status of mapped nodes
  - highlighted name: an event has been logged
  - green square background: device is up
  - light green diamond background: one poll missed
  - yellow diamond background: two polls missed
  - red elongated diamond background: device is down (after eight polls are missed, background is red starburst)
  - light purple octagon background: a service is down
  - gray square background: monitoring turned off

# Checking Network Health & Status: WhatsUp Gold Network Map



# Checking Network Health & Status: WhatsUp Gold Status Display




Check Now
1 Connect
2 Ping
3 Traceroute
4 Browse
Customize Menu...
Performance Graphs...
Quick Status...
Properties...

Quick Status : SQL1

Categories
Status
History
Up-Time
Log

Status

Status: 0 Active and responding
Count: 2621 RTT: 0

ICMP Status

| Down Count | Total | Last Response Time: |
|---|---|---|
| 123 | 2620 | Not since initialization |

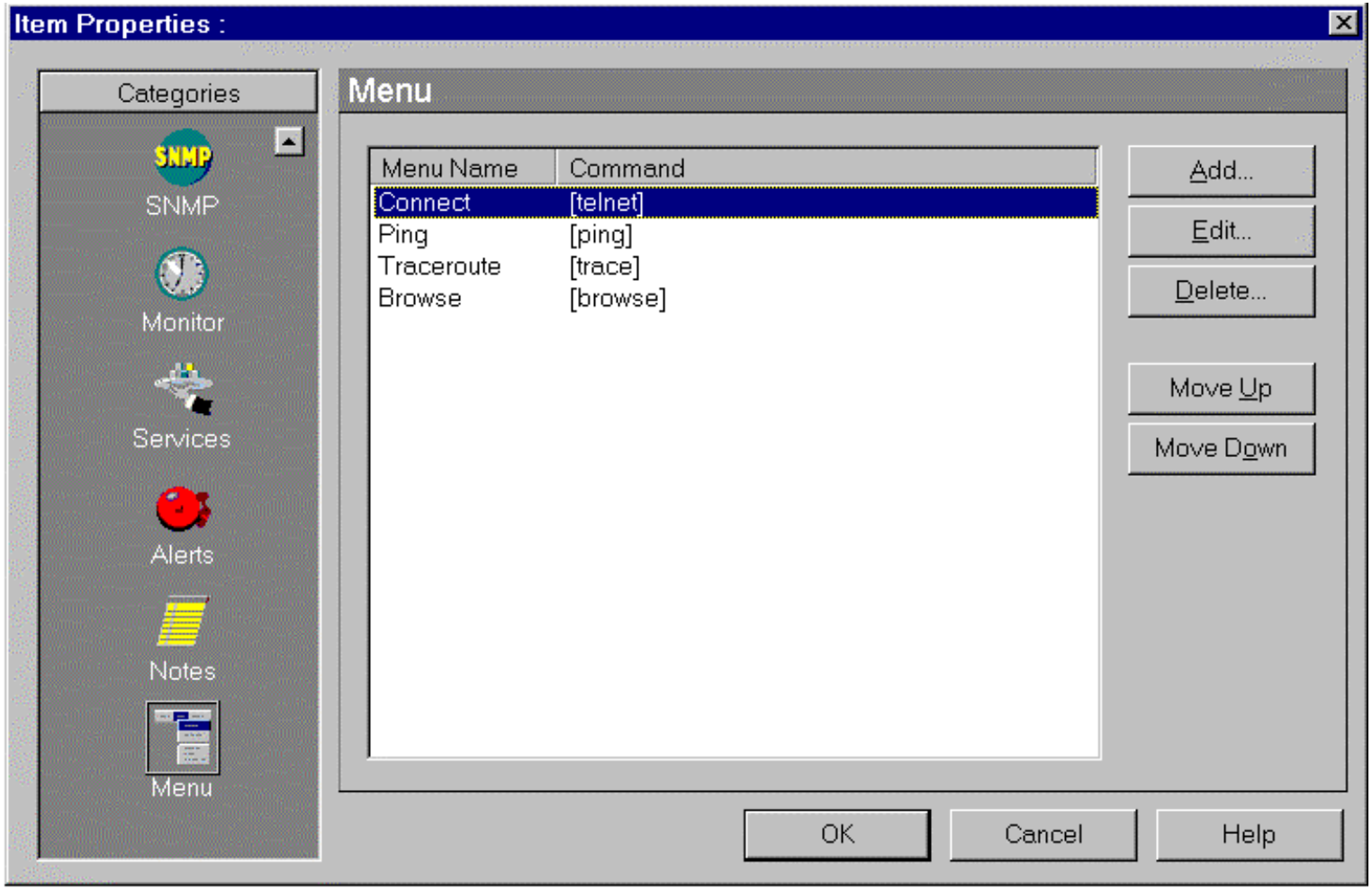
Service Status

| Down Count | Total | Last Response Time: |
|---|---|---|
| 123 | 123 | Not since initialization |

DNS FTP

OK Cancel Help

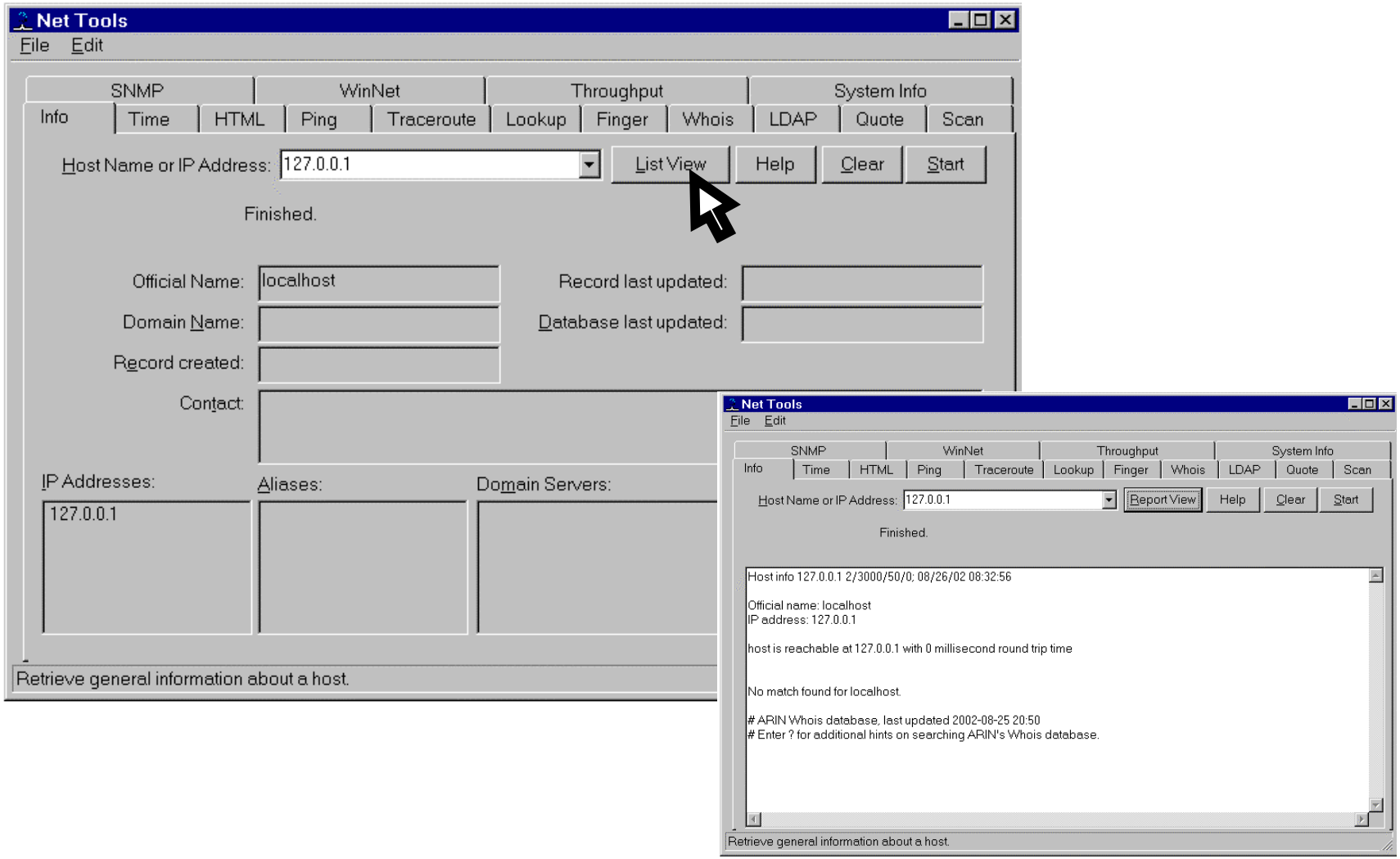
# Checking Network Health & Status: WhatsUp Gold Item Properties Box



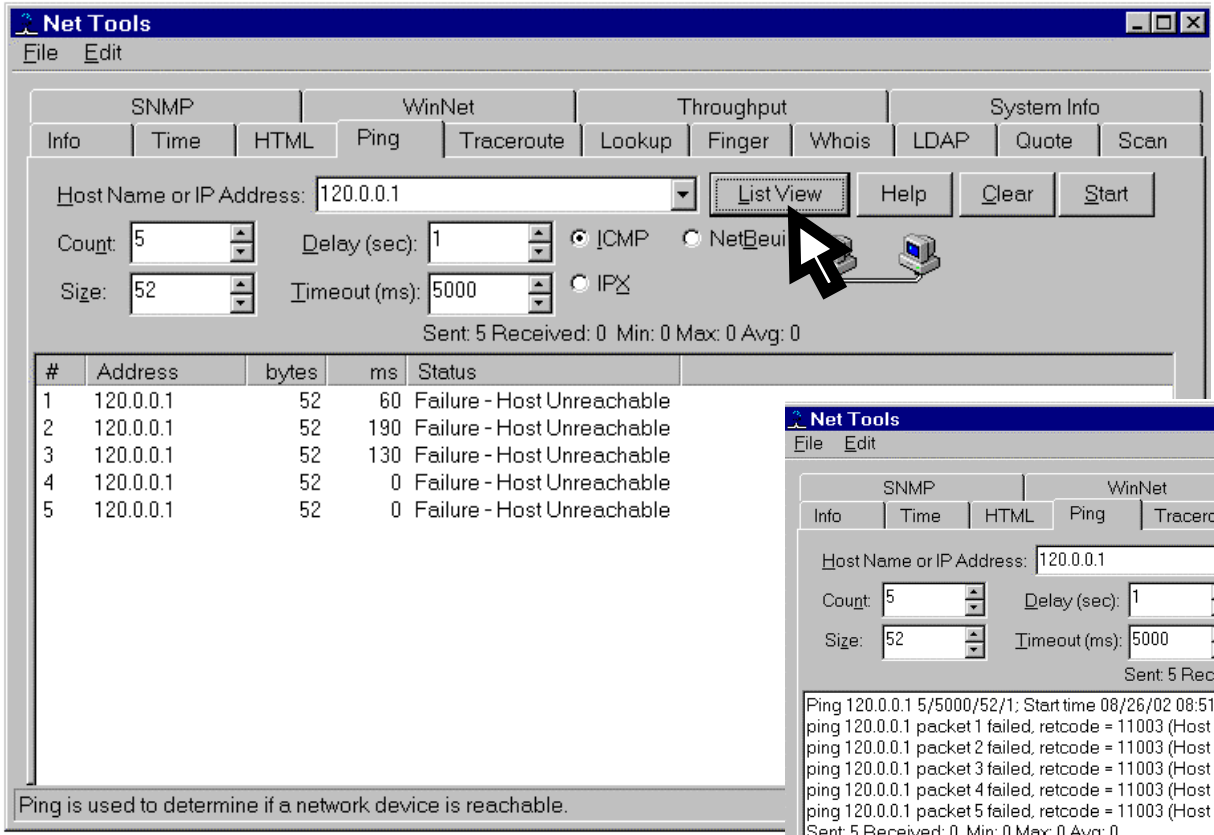
# Checking Network Health & Status: WhatsUp Gold Net Tools

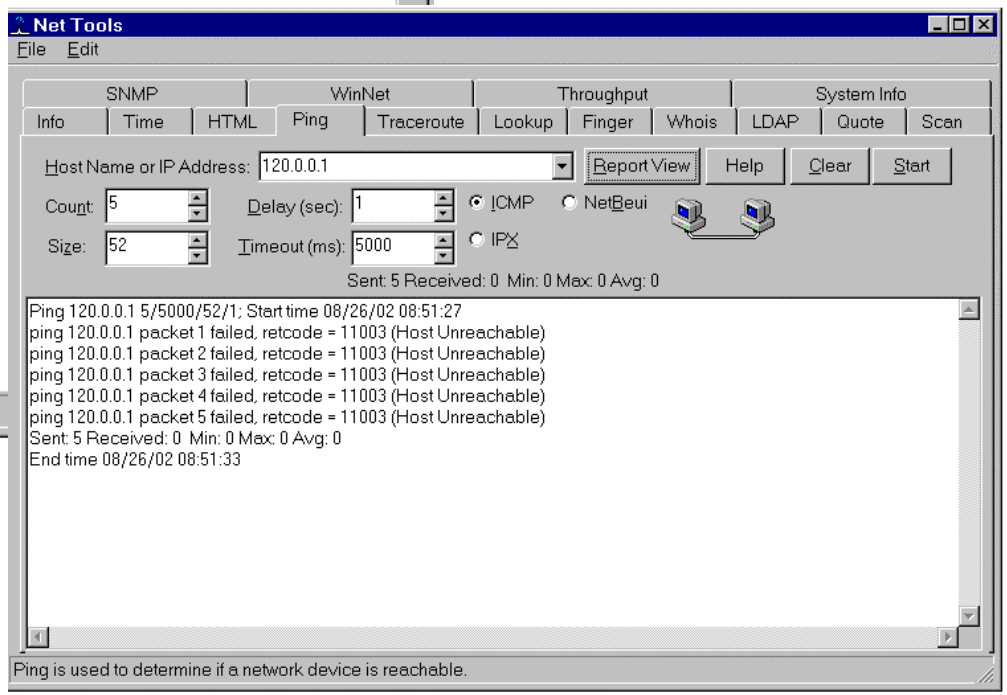
- **Info**
  - display a summary of device information
- **Time**
  - synchronize your computer's clock with a remote time server
- **HTML**
  - query a web address
- **Ping**
  - verify connectivity to a host
- **TraceRoute**
  - trace and view the route to an Internet host
- **Lookup**
  - query Internet domain name servers for information about hosts and name servers
- **Finger**
  - display information about users on a host
- **Whois**
  - display information about Internet domain ownership and groups
- **LDAP (Lightweight Directory Access Protocol)**
  - search directories for names and information on another computer
- **Quote**
  - view quotations from a quote server
- **Scan**
  - scan a range of IP addresses to create a network map
- **SNMP**
  - view and graph Simple Network Management Protocol (SNMP) values for a device
- **WinNet**
  - View Windows Network domains, hosts, and workstations
- **Throughput**
  - test data throughput on the connection between your computer and a remote computer
- **System Info**
  - information about your local system

# Checking Network Health & Status: WhatsUp Gold Net Tools - Info



# Checking Network Health & Status: WhatsUp Gold Net Tools - Ping



# Checking Network Health & Status: WhatsUp Gold Net Tools - Traceroute

Net Tools

File Edit

SNMP | WinNet | Throughput | System Info

Info | Time | HTML | Ping | Traceroute | Lookup | Finger | Whois | LDAP | Quote | Scan

Host Name or IP Address: 155.157.124.147 | List View | Help | Clear | Start

Maximum Hopcount: 3 | Map Results | Resolve Addresses

Timeout (ms): 5000 | Set Dependencies

Completed

| Hop | RTT | Diff | Address | Host Name | Status |
|---|---|---|---|---|---|
| 1 | 0 | 0 | 155.157.93.2 | | |
| 2 | 0 | 0 | 155.157.124.147 | | |

Trace the path through the network to a host or network device.

Net Tools

File Edit

SNMP | WinNet | Throughput | System Info

Info | Time | HTML | Ping | Traceroute | Lookup | Finger | Whois | LDAP | Quote | Scan

Host Name or IP Address: 155.157.124.147 | Report View | Help | Clear | Start

Maximum Hopcount: 3 | Map Results | Resolve Addresses

Timeout (ms): 5000 | Set Dependencies

Completed

```
Trace 155.157.124.147; Start time 08/26/02 09:03:12
Tracing route to 155.157.124.147
50 bytes from 155.157.124.147: time=0 ms
Hop     Avg     Diff     Address
1       0       0        155.157.93.2
2       0       0        155.157.124.147
End time 08/26/02 09:03:12
host reached
```

Trace the path through the network to a host or network device.

# Checking Network Health & Status: WhatsUp Gold Logs

- **Syslog**
  - logs standard UDP messages sent from devices (e.g., routers, switches, UNIX hosts)
- **Event Log**
  - logs events (changes to network status, such as a device going down or a device coming back up)
  - provides a history of what has occurred on the network
  - associated Debug Log window permits viewing events as they occur
- **Statistics Log**
  - records polling statistics (accumulated round trip times, or RTT, of polls sent to a device) to measure the availability and performance of a device
- **SNMP Trap Log**
  - displays all SNMP traps that have been received. To enable SNMP traps, the SNMP trap handler must be specifically enabled (refer to User's Guide)

# Whazzup???
## Initial Screen

Netscape: Whazzup?? v2.0

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: http://tlins01:5150/ What's Related

Members WebMail Connections BizJournal SmartUpdate Mktplace

**EcMsWz-Whazzup???**

**@ecs**

### Welcome to Whazzup...

This tool is designed to allow SysAdmins to view at a glance the current status of both the ECS Custom code and any performance issues with the UNIX servers.

The recommended display is to select "What's Down" from the "Verify Mode" pulldown menu and then right click on "Performance" and select "Open Link in New Window". This will provide the operator with a view of Custom Code and System performance on the same screen.

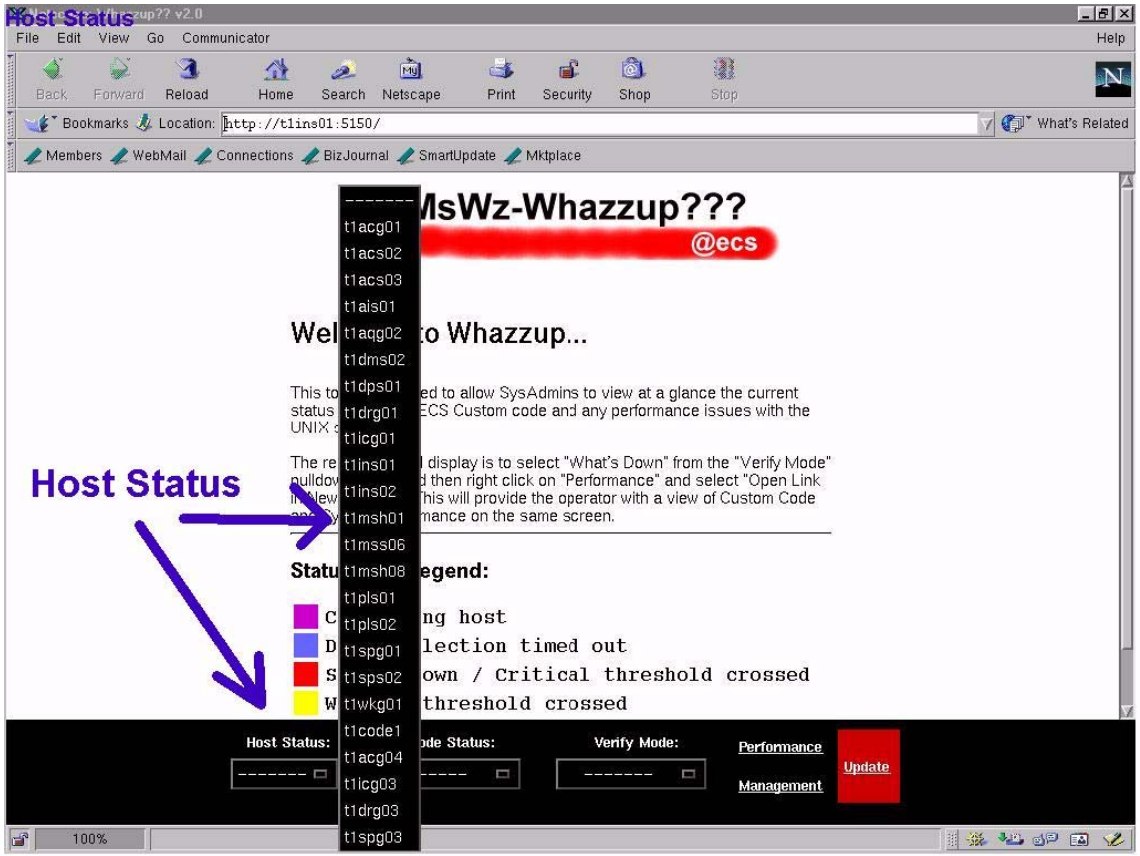
**Status color legend:**

- Can't ping host
- Data collection timed out
- Server down / Critical threshold crossed
- Warning threshold crossed

Host Status: -------- Mode Status: -------- Verify Mode: -------- Performance Management Update

100%

# Whazzup???
## Host Status Select



# Whazzup???
## Host Status Data

Netscape: Whazzup?? v2.0

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: http://t1ins01:5150/ What's Related

Members WebMail Connections BizJournal SmartUpdate Mktplace

**t1msh01**

**Last update:** Jul 25, 2000 – 08:35:26 [[Update]] | [[Details]]

| Performance Stats | | | | | |
|---|---|---|---|---|---|
| CPU used | Load | Swap Free | Mem Free | Most Full Disk | Disk IO |
| 0% | 0.14,0.32,0.35 | 17273 K | 6260 K | 92% | 0/sec |

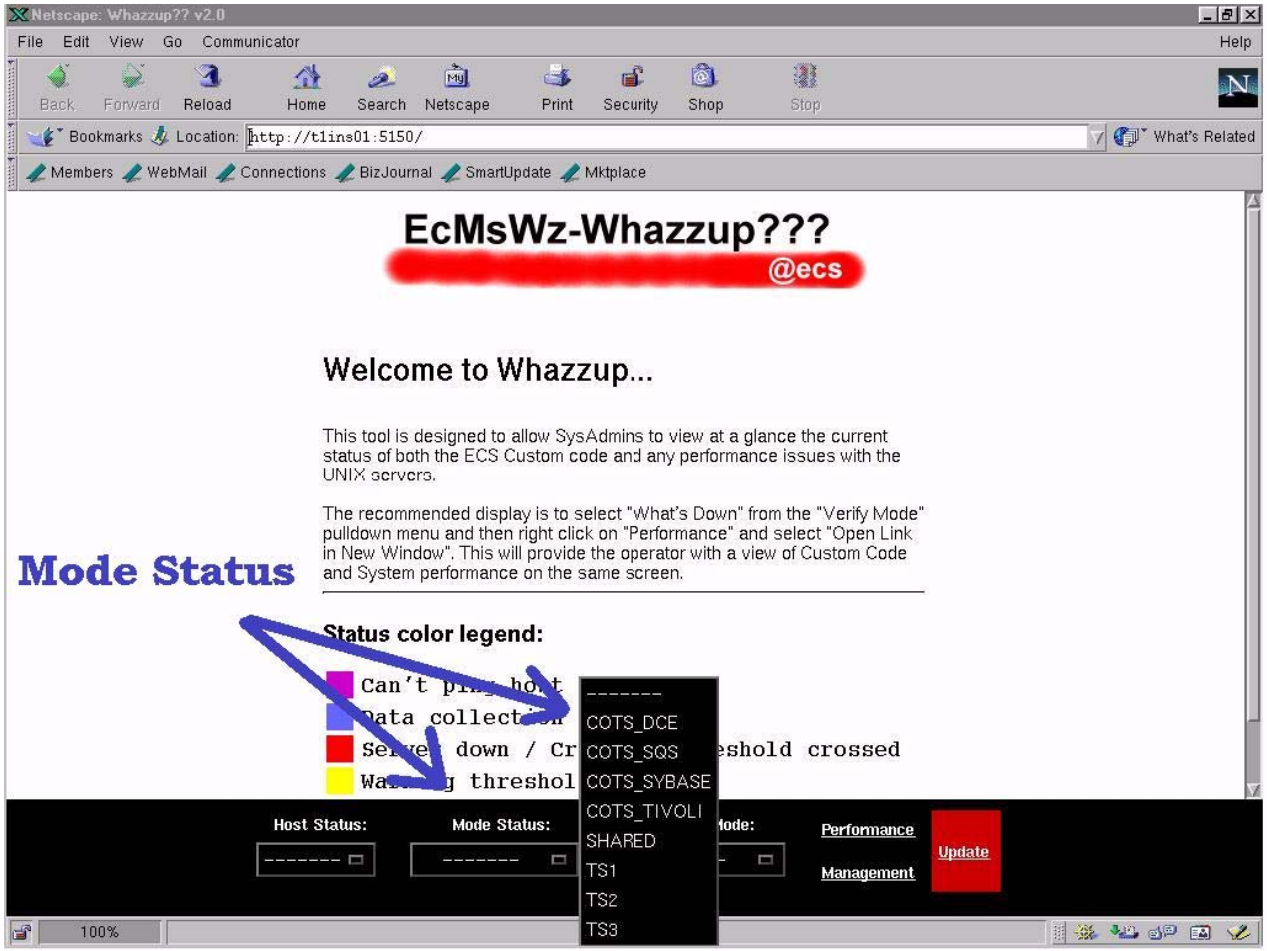
| COTS_SYBASE | | | | |
|---|---|---|---|---|
| Server | UID | PID | STime | Size |
| dataserver | sybase | 1160 | Jul_08 | 3376 |

| SHARED | | | | |
|---|---|---|---|---|
| Server | UID | PID | STime | Size |
| EcMsCmEcsd | root | 1974 | Jul_08 | 0 |

Host Status: ------- Mode Status: ------- Verify Mode: ------- Performance Management Update

100%

# Whazzup???
## Mode Status Select



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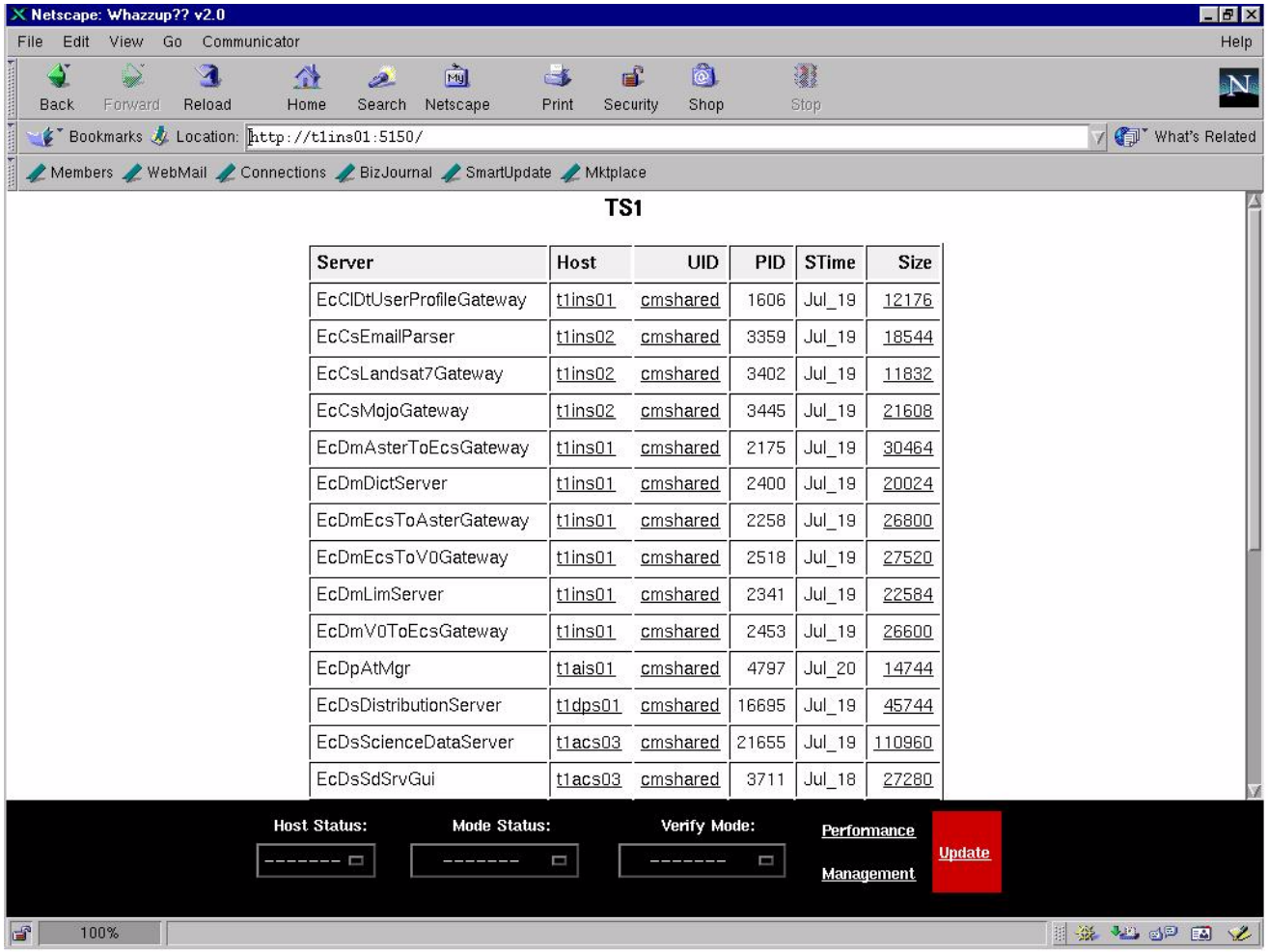
## Mode Status Data




| Server | Host | UID | PID | STime | Size |
|---|---|---|---|---|---|
| EcCIDtUserProfileGateway | t1ins01 | cmshared | 1606 | Jul_19 | 12176 |
| EcCsEmailParser | t1ins02 | cmshared | 3359 | Jul_19 | 18544 |
| EcCsLandsat7Gateway | t1ins02 | cmshared | 3402 | Jul_19 | 11832 |
| EcCsMojoGateway | t1ins02 | cmshared | 3445 | Jul_19 | 21608 |
| EcDmAsterToEcsGateway | t1ins01 | cmshared | 2175 | Jul_19 | 30464 |
| EcDmDictServer | t1ins01 | cmshared | 2400 | Jul_19 | 20024 |
| EcDmEcsToAsterGateway | t1ins01 | cmshared | 2258 | Jul_19 | 26800 |
| EcDmEcsToV0Gateway | t1ins01 | cmshared | 2518 | Jul_19 | 27520 |
| EcDmLimServer | t1ins01 | cmshared | 2341 | Jul_19 | 22584 |
| EcDmV0ToEcsGateway | t1ins01 | cmshared | 2453 | Jul_19 | 26600 |
| EcDpAtMgr | t1ais01 | cmshared | 4797 | Jul_20 | 14744 |
| EcDsDistributionServer | t1dps01 | cmshared | 16695 | Jul_19 | 45744 |
| EcDsScienceDataServer | t1acs03 | cmshared | 21655 | Jul_19 | 110960 |
| EcDsSdSrvGui | t1acs03 | cmshared | 3711 | Jul_18 | 27280 |

# Whazzup???
## Verify Mode Select

Netscape: Whazzup?? v2.0

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: http://tlins01:5150/ What's Related

Members WebMail Connections BizJournal SmartUpdate Mktplace

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- Server down / Critical threshol
- Warning threshold crossed

Host Status: -------

Mode Status: -------

Verify Mode: -------

-------
COTS_DCE
COTS_SQS
COTS_SYBASE
COTS_TIVOLI
OPS
TS1
TS2
TS3
All Modes
What's Down
Custom Down
COTS Down

Update

100%

# Whazzup???
## Verify Mode Data

Netscape: Whazzup?? v2.0

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: http://t1ins01:5150/ What's Related

Members WebMail Connections BizJournal SmartUpdate Mktplace

**TS1**

Last Update: Jul 25, 2000 – 08:15:27 [[ Update ]] Servers: 54, Up: 21, Down: 27, ??: 6

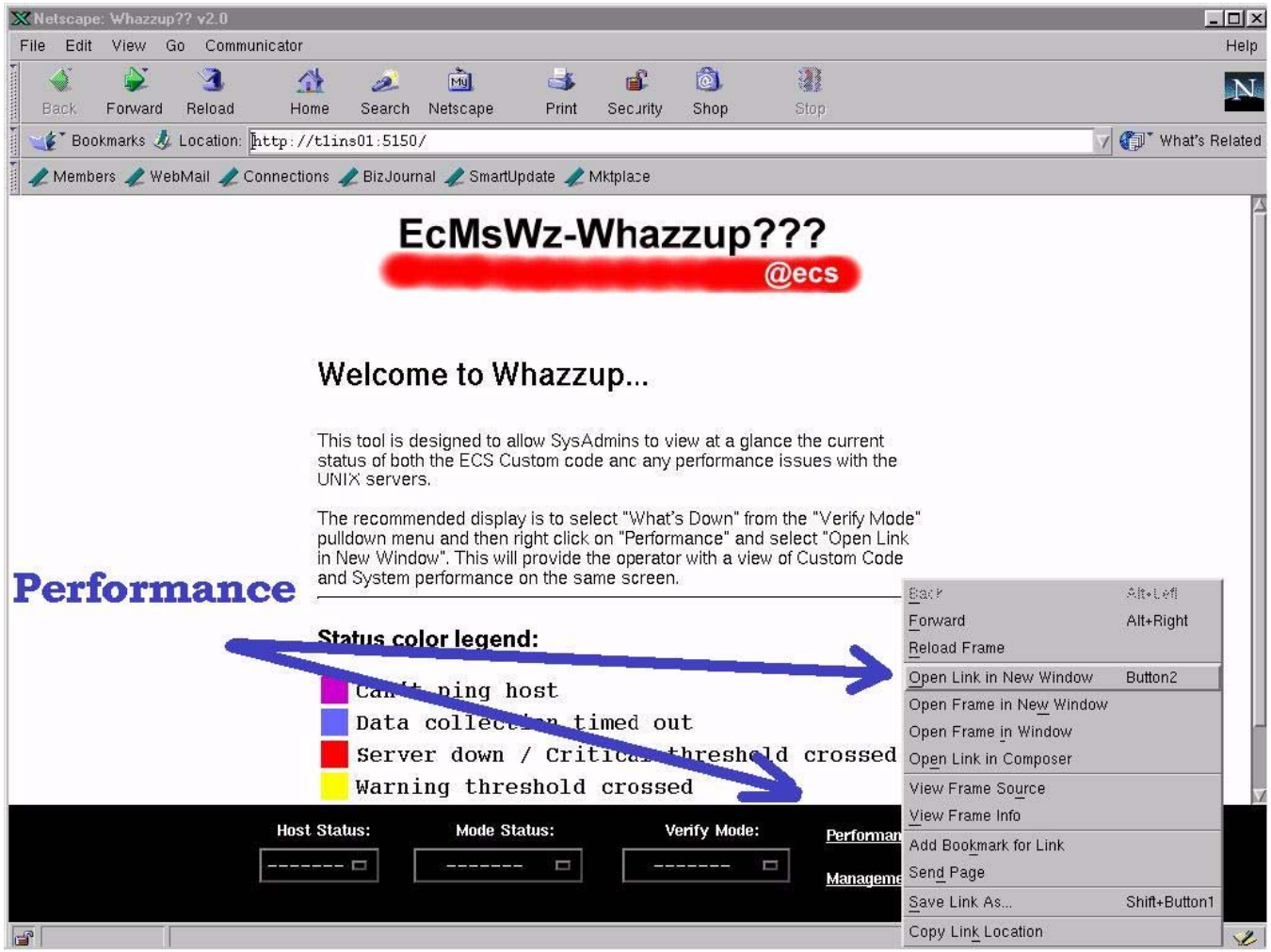
| Server | Host | UID | PID | STime | Size |
|---|---|---|---|---|---|
| EcCsEmailParser | t1ins02 | cmshared | 3359 | Jul_19 | 18544 |
| EcCsLandsat7Gateway | t1ins02 | cmshared | 3402 | Jul_19 | 11832 |
| EcCsMojoGateway | t1ins02 | cmshared | 3445 | Jul_19 | 21608 |
| EcCsRegistry | t1icg01 | – | – | – | – |
| EcDmAsterToEcsGateway | t1ins01 | cmshared | 2175 | Jul 19 | 30464 |
| EcDmDictServer | t1ins01 | cmshared | 2400 | Jul_19 | 20024 |
| EcDmEcsToAsterGateway | t1ins01 | cmshared | 2258 | Jul_19 | 26800 |
| EcDmEcsToV0Gateway | t1ins01 | cmshared | 2518 | Jul_19 | 27520 |
| EcDmLimServer | t1ins01 | cmshared | 2341 | Jul_19 | 22584 |
| EcDmV0ToEcsGateway | t1ins01 | cmshared | 2453 | Jul_19 | 26600 |
| EcDpPrDeletion | t1sps02 | – | – | – | – |
| EcDpPrJobMgmt | t1sps02 | – | – | – | – |
| EcDsDistributionServer | t1dps01 | cmshared | 16695 | Jul_19 | 45744 |
| EcDsHdfEosServer | t1wkg01 | – | – | – | – |

Host Status: -------- Mode Status: -------- Verify Mode: --------

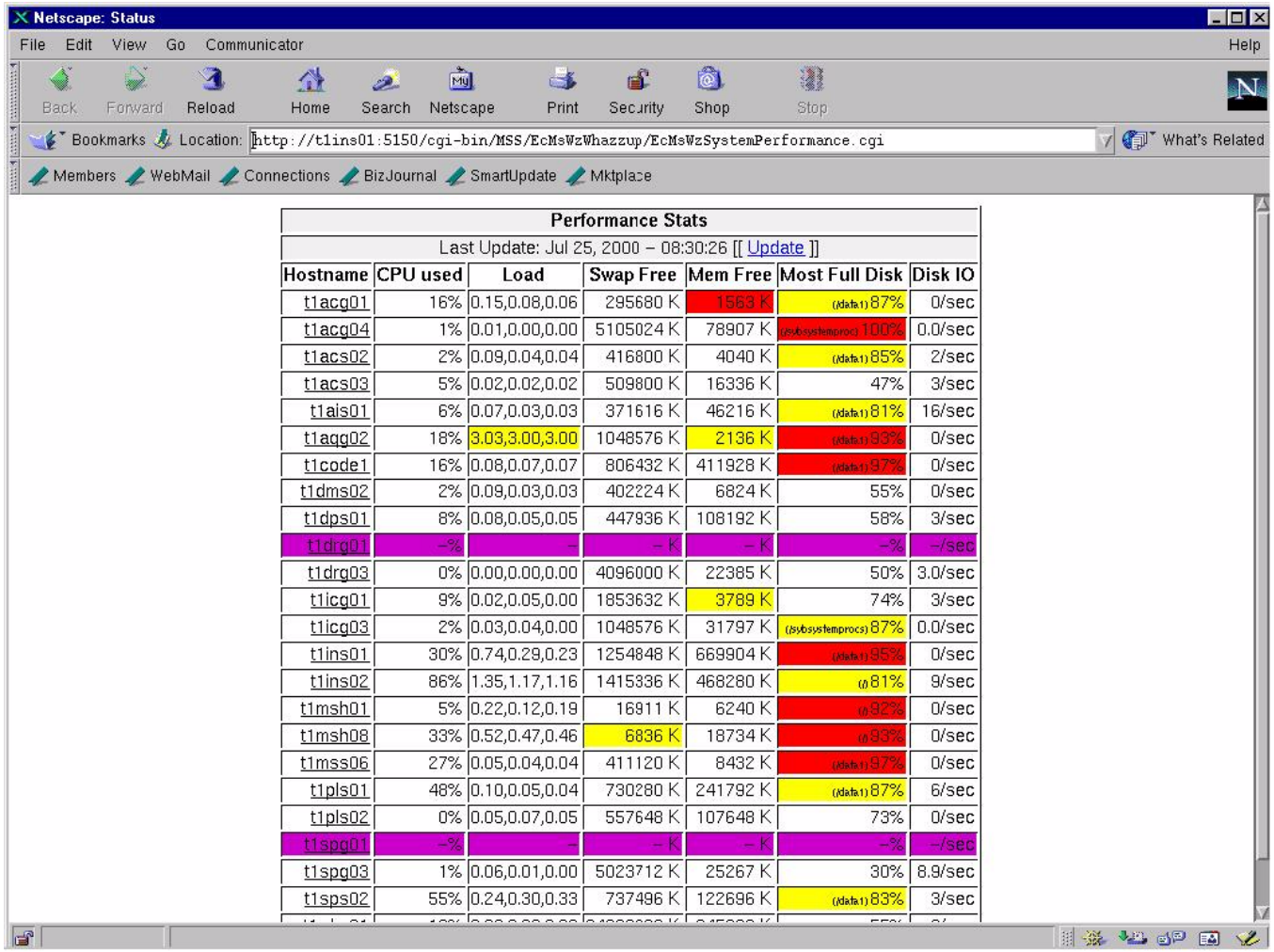
Performance Management Update

100%

# Whazzup???
## Performance Management Select



# Whazzup???
## Performance Management Data




**Performance Stats**

Last Update: Jul 25, 2000 – 08:30:26 [[ Update ]]

| Hostname | CPU used | Load | Swap Free | Mem Free | Most Full Disk | Disk IO |
|---|---|---|---|---|---|---|
| t1acg01 | 16% | 0.15,0.08,0.06 | 295680 K | 1563 K | (/data1) 87% | 0/sec |
| t1acg04 | 1% | 0.01,0.00,0.00 | 5105024 K | 78907 K | (/sybsystemproc) 100% | 0.0/sec |
| t1acs02 | 2% | 0.09,0.04,0.04 | 416800 K | 4040 K | (/data1) 85% | 2/sec |
| t1acs03 | 5% | 0.02,0.02,0.02 | 509800 K | 16336 K | 47% | 3/sec |
| t1ais01 | 6% | 0.07,0.03,0.03 | 371616 K | 46216 K | (/data1) 81% | 16/sec |
| t1agg02 | 18% | 3.03,3.00,3.00 | 1048576 K | 2136 K | (/data1) 93% | 0/sec |
| t1code1 | 16% | 0.08,0.07,0.07 | 806432 K | 411928 K | (/data1) 97% | 0/sec |
| t1dms02 | 2% | 0.09,0.03,0.03 | 402224 K | 6824 K | 55% | 0/sec |
| t1dps01 | 8% | 0.08,0.05,0.05 | 447936 K | 108192 K | 58% | 3/sec |
| t1drg01 | –% | – | – K | – K | –% | –/sec |
| t1drg03 | 0% | 0.00,0.00,0.00 | 4096000 K | 22385 K | 50% | 3.0/sec |
| t1icg01 | 9% | 0.02,0.05,0.00 | 1853632 K | 3789 K | 74% | 3/sec |
| t1icg03 | 2% | 0.03,0.04,0.00 | 1048576 K | 31797 K | (/sybsystemprocs) 87% | 0.0/sec |
| t1ins01 | 30% | 0.74,0.29,0.23 | 1254848 K | 669904 K | (/data1) 95% | 0/sec |
| t1ins02 | 86% | 1.35,1.17,1.16 | 1415336 K | 468280 K | (/) 81% | 9/sec |
| t1msh01 | 5% | 0.22,0.12,0.19 | 16911 K | 6240 K | (/) 92% | 0/sec |
| t1msh08 | 33% | 0.52,0.47,0.46 | 6836 K | 18734 K | (/) 93% | 0/sec |
| t1mss06 | 27% | 0.05,0.04,0.04 | 411120 K | 8432 K | (/data1) 97% | 0/sec |
| t1pls01 | 48% | 0.10,0.05,0.04 | 730280 K | 241792 K | (/data1) 87% | 6/sec |
| t1pls02 | 0% | 0.05,0.07,0.05 | 557648 K | 107648 K | 73% | 0/sec |
| t1spg01 | –% | – | – K | – K | –% | –/sec |
| t1spg03 | 1% | 0.06,0.01,0.00 | 5023712 K | 25267 K | 30% | 8.9/sec |
| t1sps02 | 55% | 0.24,0.30,0.33 | 737496 K | 122696 K | (/data1) 83% | 3/sec |

# ECS Subsystem Manager GUI

ECS ASSISTANT: Subsystem Manager User: cmshared Host: t1ins01 Site: VATC

File Tools Utilities Help

Database | Install | Shutdown Servers | Keytabs | Configuration | Stage Area Installation | Start Servers | View Task Output

Frame 1

Mode: TS1

- SUBSYSTEMS
  - CLS
  - CSS
    - EcCsId
      - EcCsEmailParserApp
      - EcCsLandsat7GatewayApp
      - EcCsMojoGatewayApp
      - EcGwAsterGatewaysApp
      - EcSbSubServerApp
        - EcSbSubServer
        - EcSbGui
    - EcCsRg
  - DM
  - DPS
  - DSS
  - INGEST
  - IOS
  - MSS
  - PLS
  - TOOLKIT
  - VOC

Settings

ClearCase View: NULL
Selected Subsystem: CSS
Selected Component:
Selected Application:

Installation Statistics

```
_____________ Install Record Entry _____________
Installed by          : uid=5088(cmts1) gid=60(cmts1)
Date/Time             : 06/28/2000 20:17:12
Clearcase view        : NONE
Stage Location        : MODE
Staging Mode          : /net/t1code1/codedrop/5B_03/SUN
Installation Type     : NONDEV
Subsystem installed   : CSS
Component installed   : EcCsId
```

Legend

- No: Installed
- Successfully Installed
- Installation Warnings
- Installation Errors

CSS is installed

ECS ASSISTANT (3.1.1)

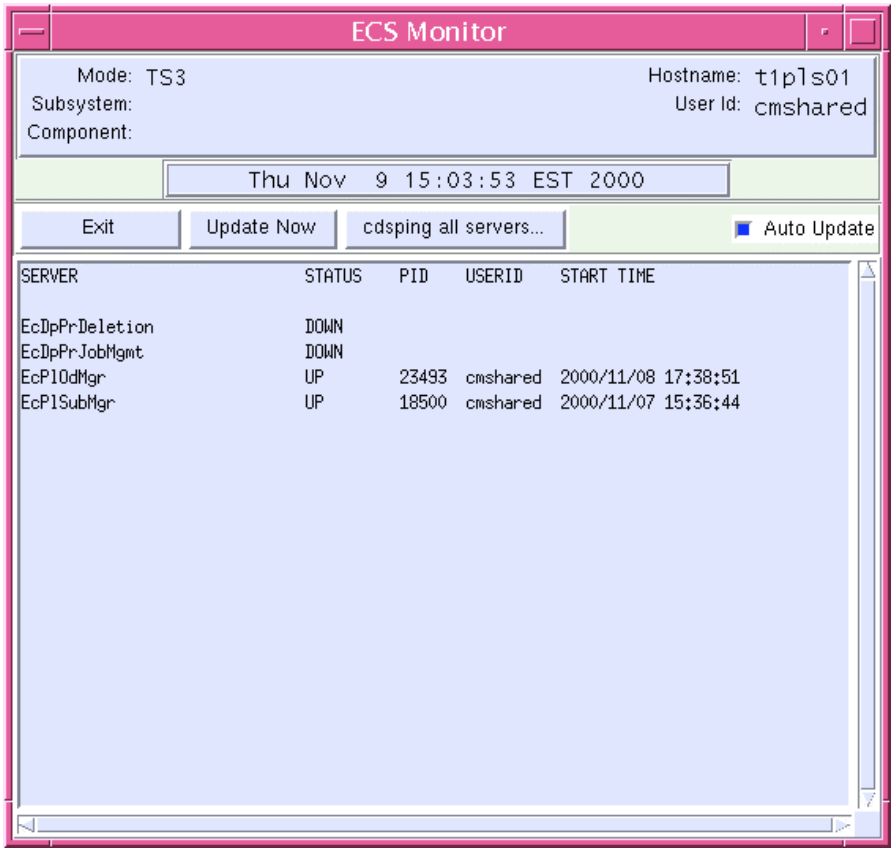
File Help

Subsystem Manager
ESDT Manager
E. A. S. I.
DB Viewer
Help
Exit

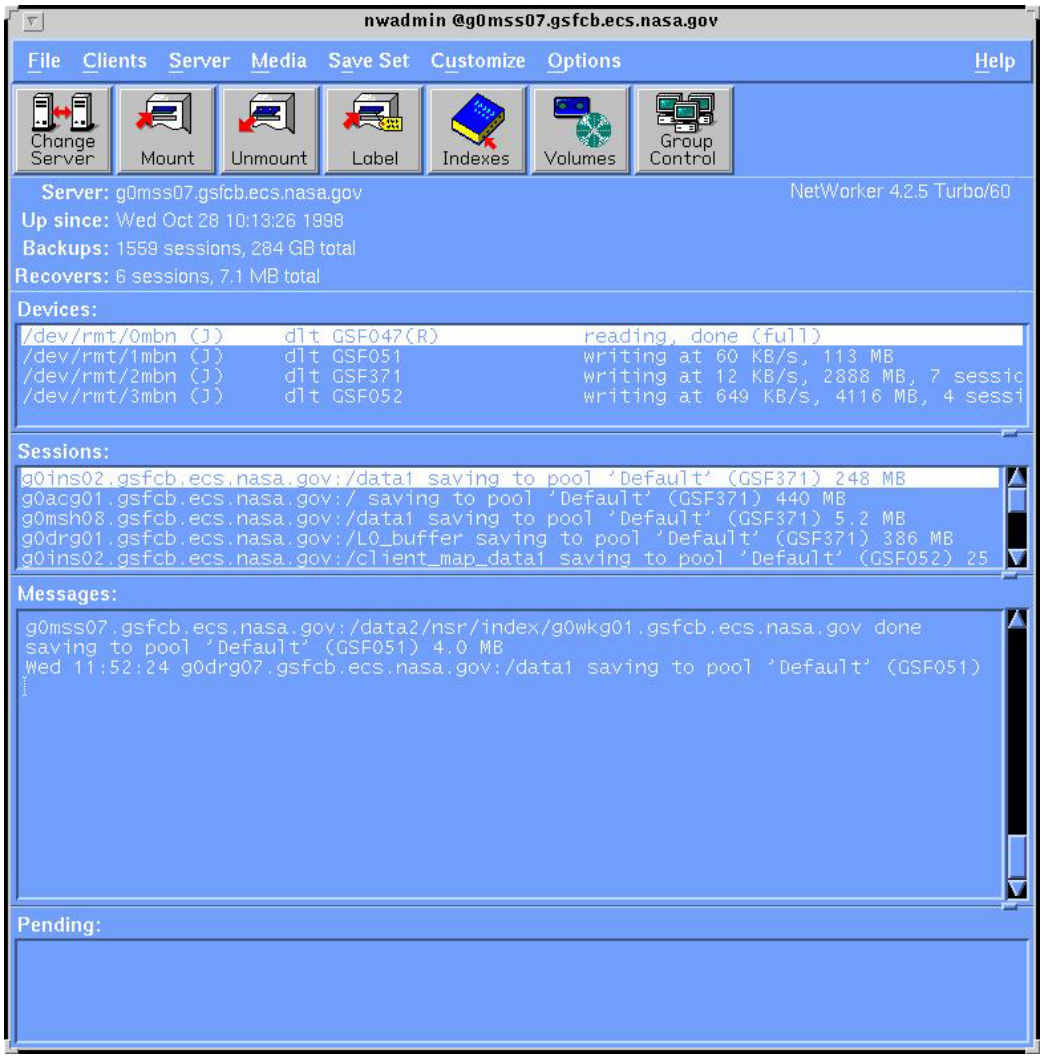
USER: cmshared
HOST: t1ins01
SITE: VATC
VIEW: NULL

Exit this application.

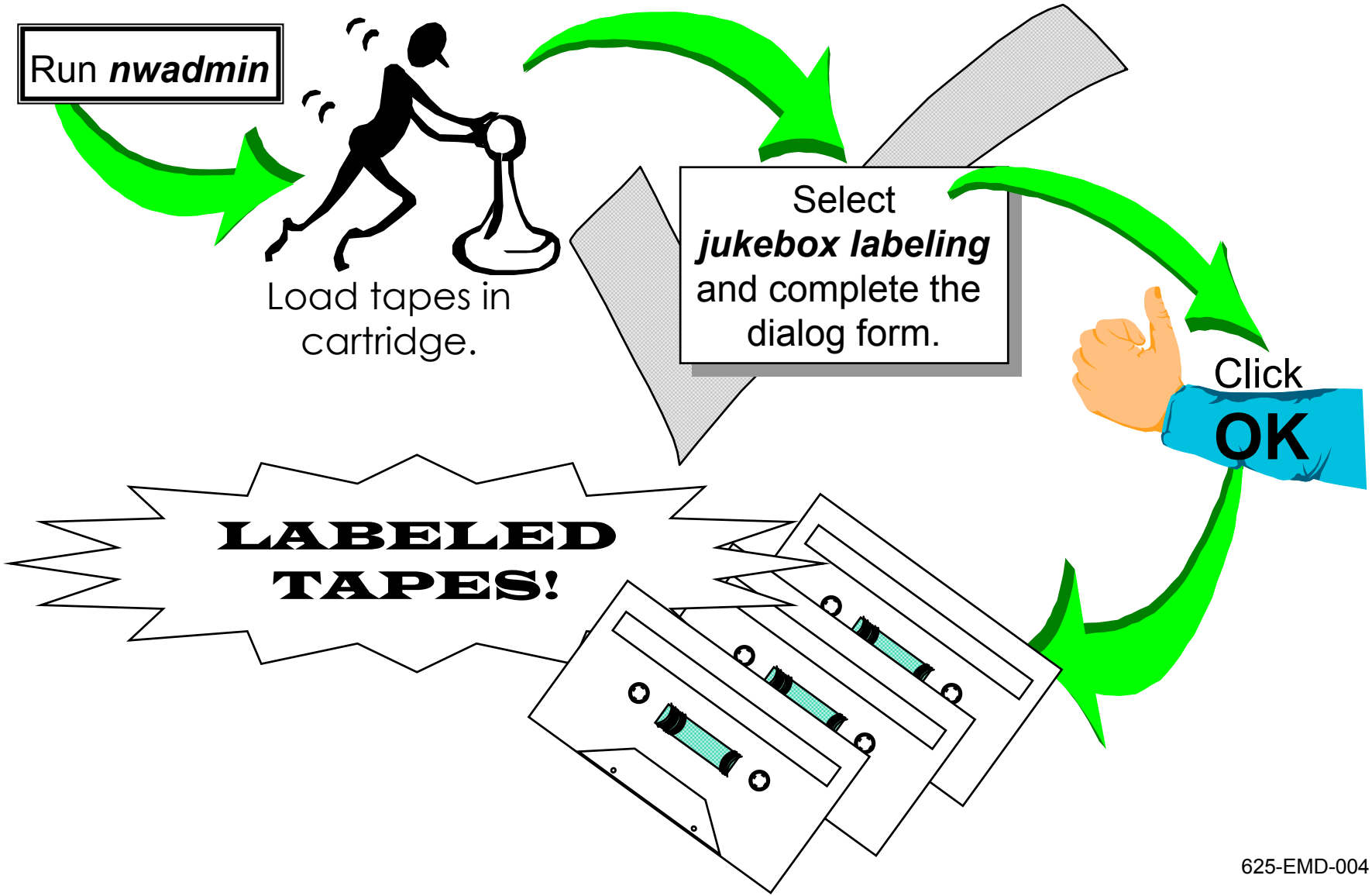
# ECS Assistant Monitor



# Networker Administrator Main Screen

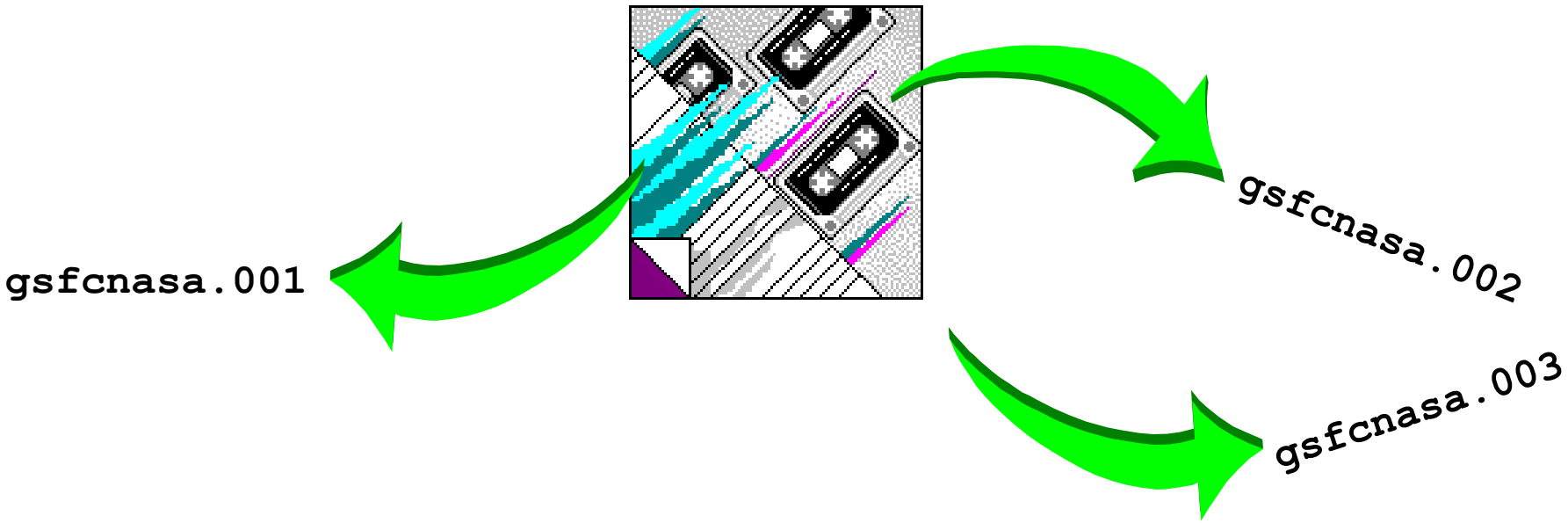


# Tape Labeling Procedure



# Tape Labeling

- Creates a unique name for each tape
- Identifies tape to Networker
- Stores list of labels in memory (index)



# Jukebox Labeling Window

nwadmin @g0mss07.gsfcb.ecs.nasa.gov

File Clients Server Media Save Set Customize Options Help

Change Server | Mount | Unmount | Label | Indexes | Volumes | Group Control

Server: g0mss07.gsfcb.ecs.nasa.gov NetWorker 4.2.5 Turbo/60
Up since: Wed Oct 28 10:13:26 1998
Backups: 1559 sessions, 284 GB total
Recovers: 6 sessions, 7.1 MB total

Devices:

| | | |
|---|---|---|
| /dev/rmt/0mbn (J) | dlt GSF047(R) | reading, done (full) |
| /dev/rmt/1mbn (J) | dlt GSF051 | writing at 60 KB/s, 113 MB |
| /dev/rmt/2mbn (J) | dlt GSF371 | writing at 12 KB/s, 2888 MB, 7 sessic |
| /dev/rmt/3mbn (J) | dlt GSF052 | writing at 649 KB/s, 4116 MB, 4 sessi |

Sessions:
g0ins02.gsfcb.ecs.
g0acg01.gsfcb.ecs.
g0msh08.gsfcb.ecs.
g0drg01.gsfcb.ecs.
g0ins02.gsfcb.ecs.

Messages:
g0mss07.gsfcb.ecs
saving to pool 'D
Wed 11:52:24 g0dr

Pending:

**Jukebox Labeling**

Server: g0mss07.gsfcb.ecs.nasa.gov
Device: /dev/rmt/0mbn
Starting with: Bar Code Label
First slot: 1
Last slot: 405

Pool: ◆ Default ◇ Archive Clone ◇ Migration
◇ Default Clone ◇ PC Archive ◇ Migration Clone
◇ Archive ◇ PC Archive Clone

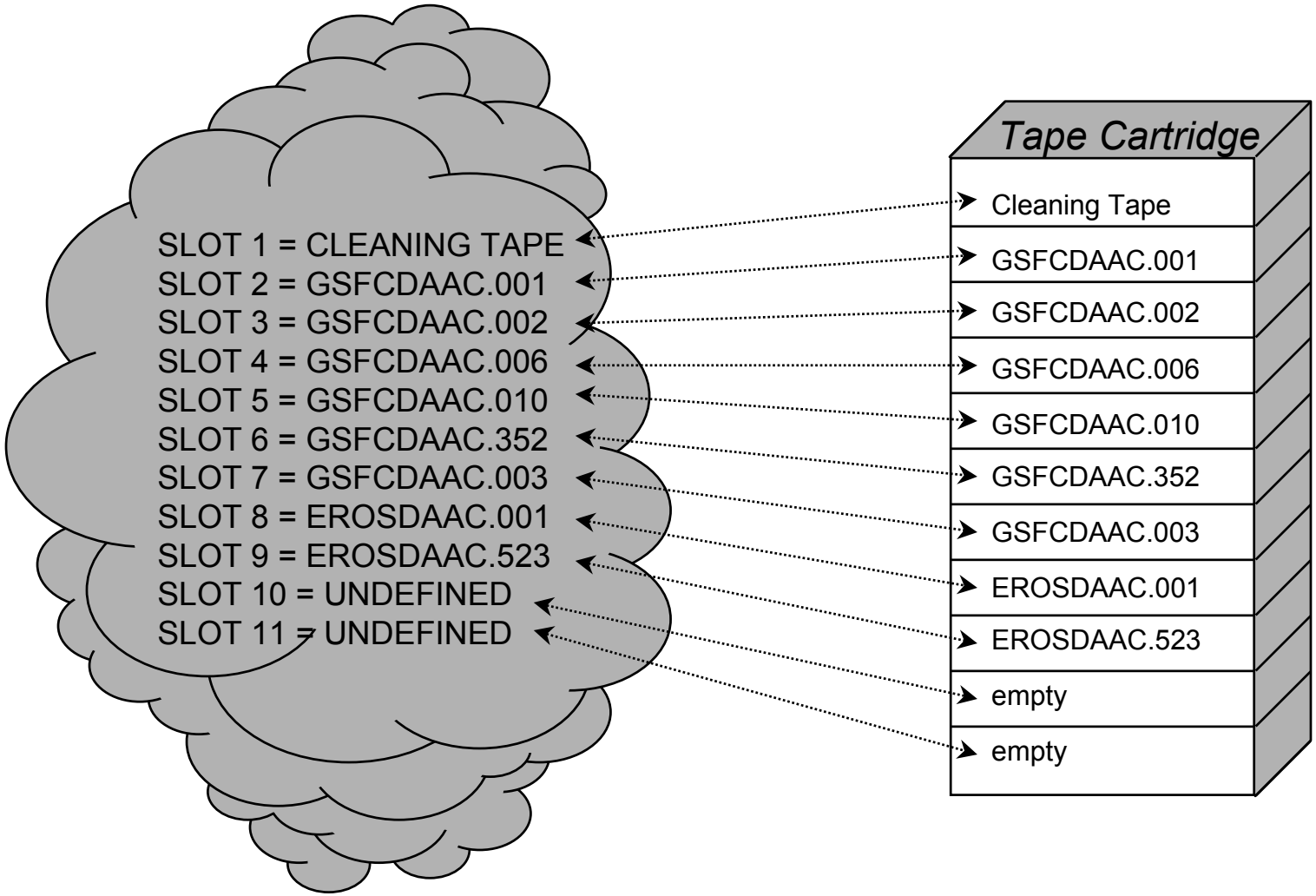
☐ Manual recycle

Ok Cancel Help

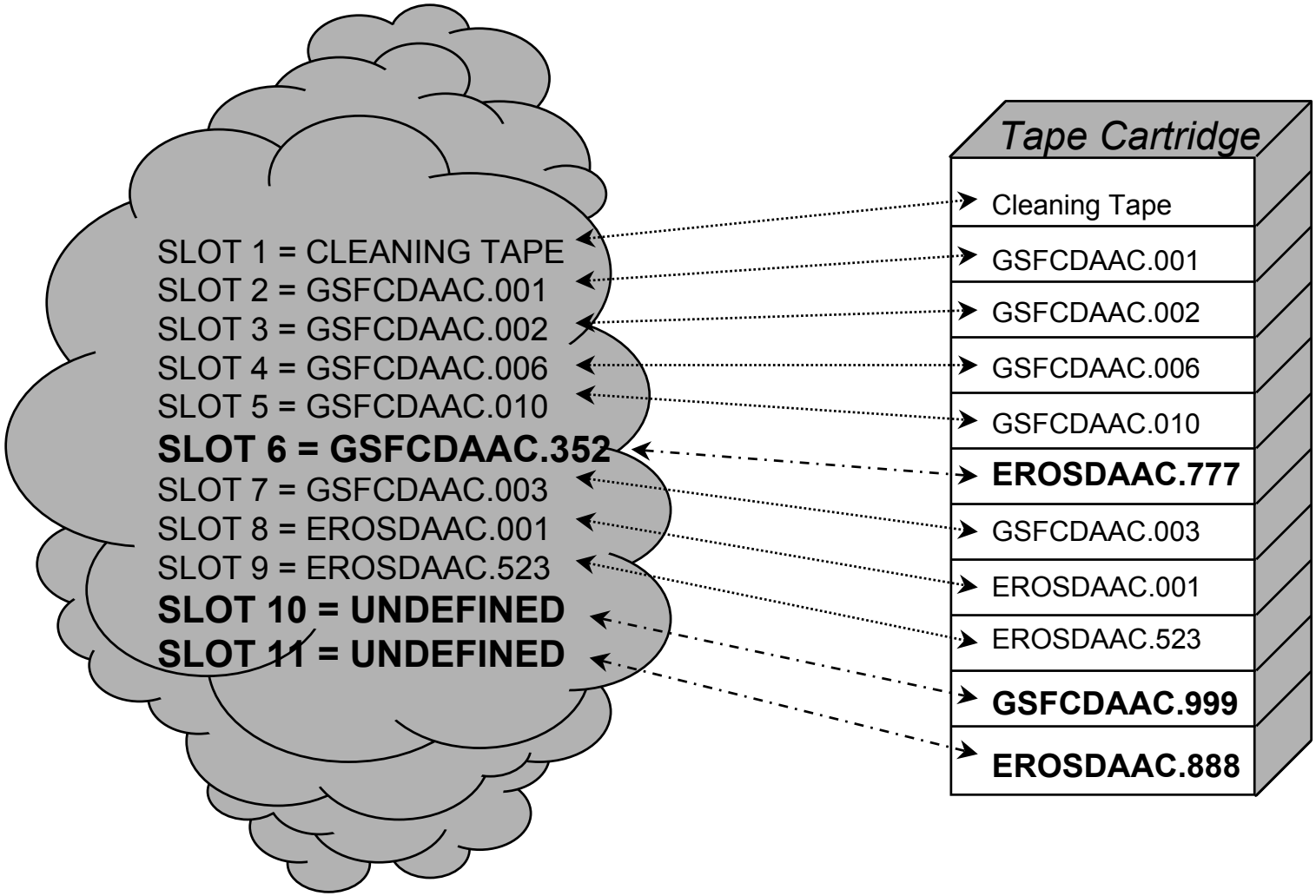
# Tape Indexing

- Networker's way of identifying each tape's location in the jukebox
- Reads each tape's label and matches it to the jukebox slot
- Can be time consuming (2-3 minutes per tape)
- Must be performed after tapes are added, removed, or changed

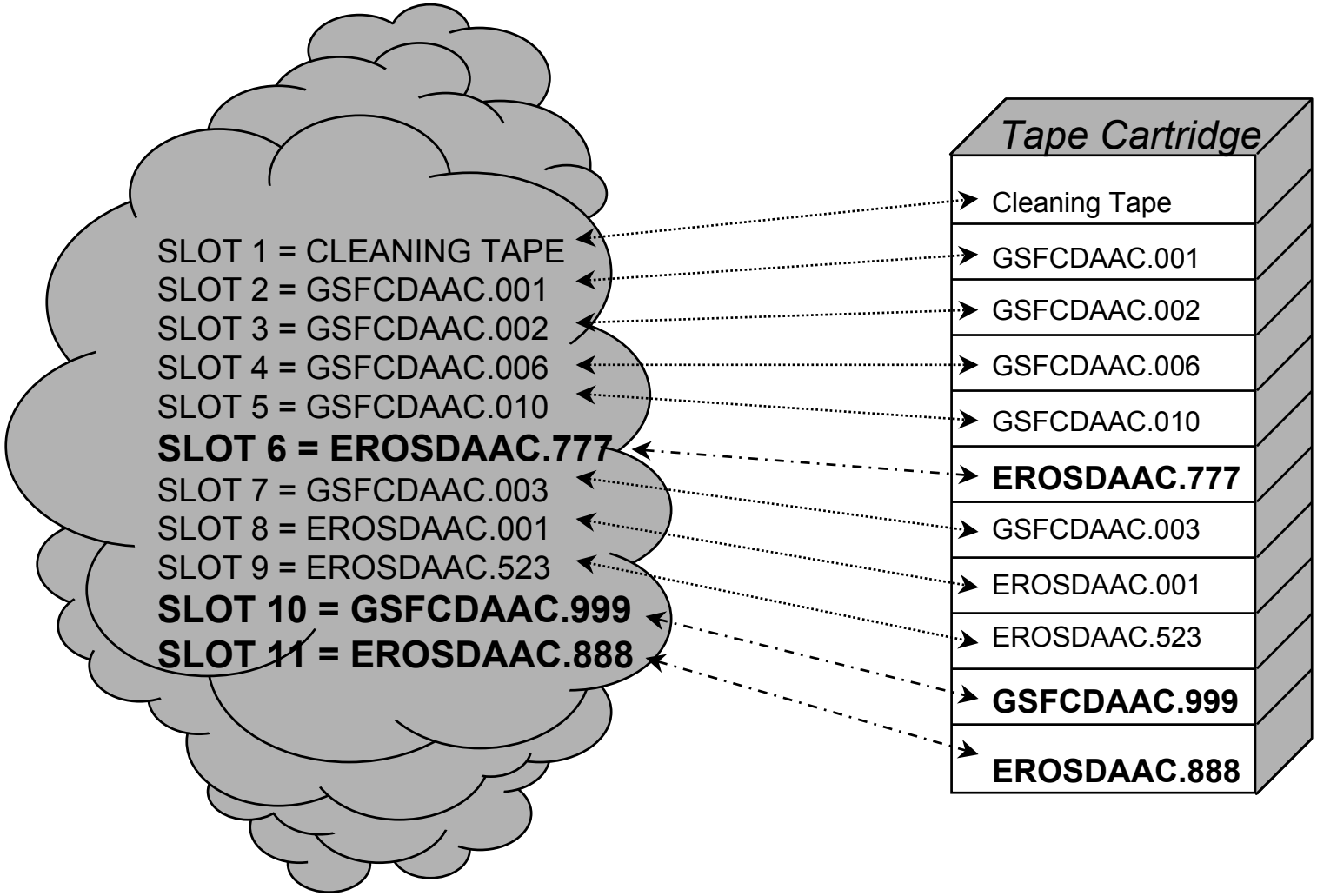
# Tape Indexing
# After Initial Inventory



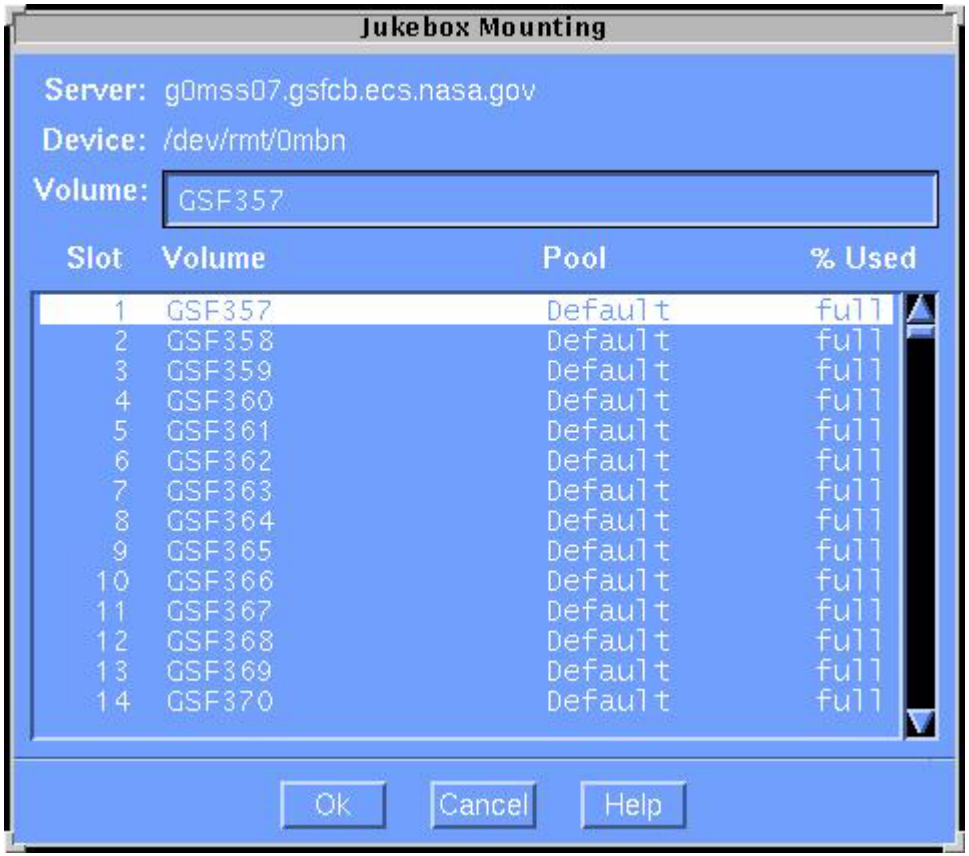
# Tape Indexing
## Tapes Changed But Not Re-Inventoried



# Tape Indexing
## After Re-Inventory



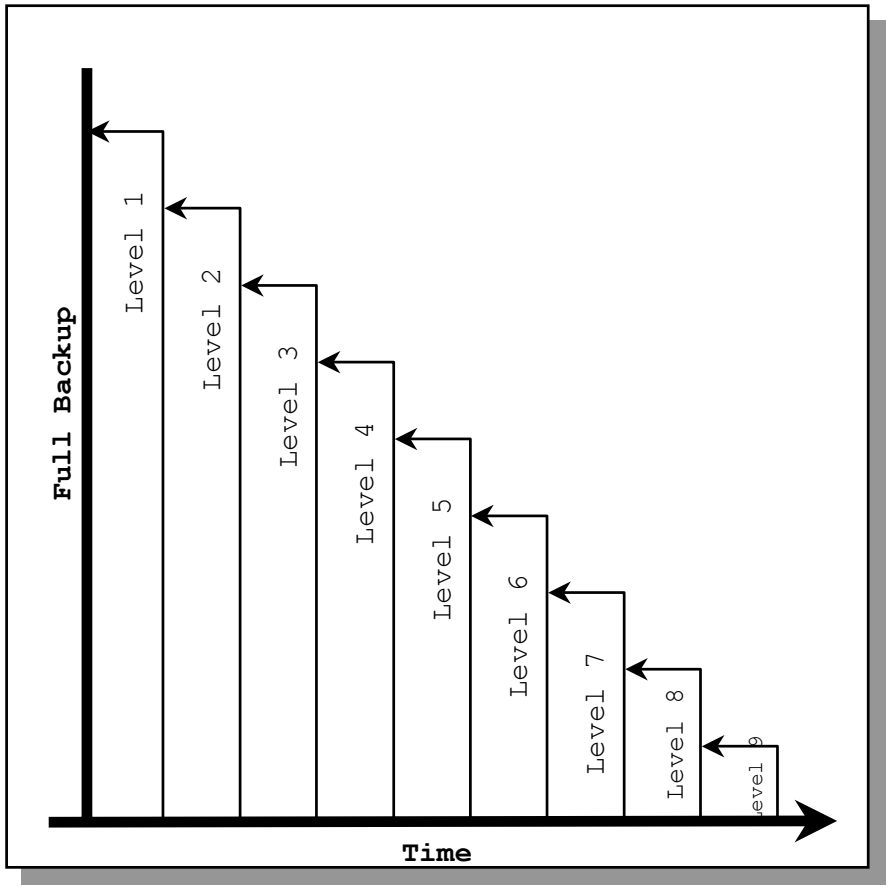
# Jukebox Mounting Window



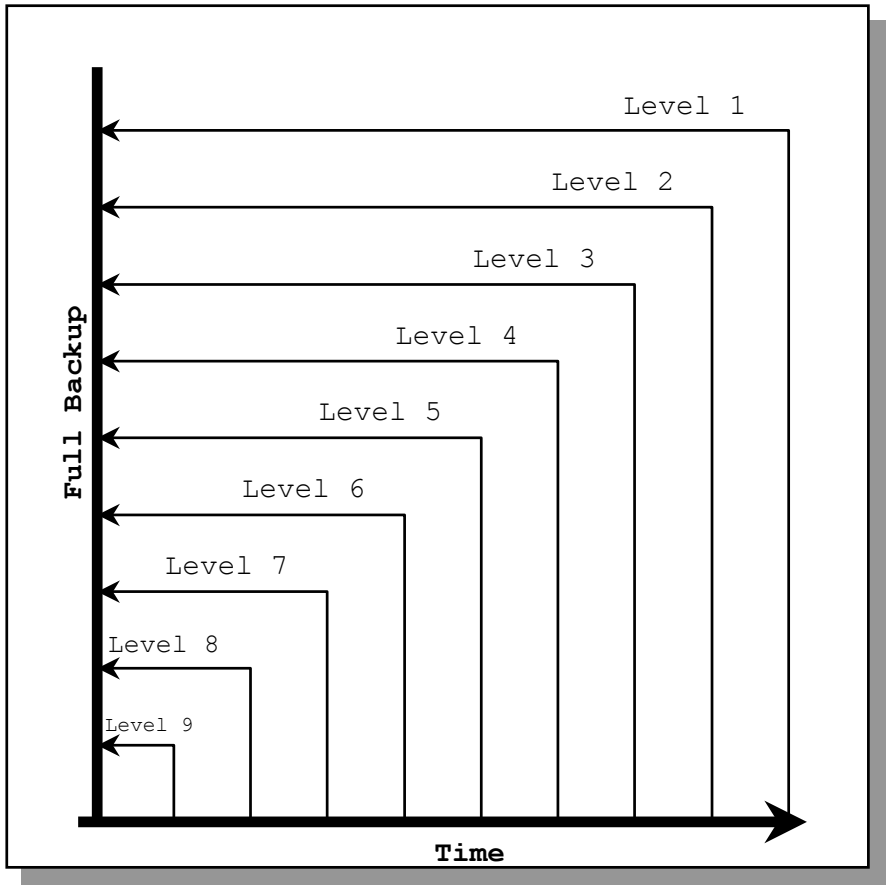
# Jukebox Inventory Window

# Backup Levels Overview

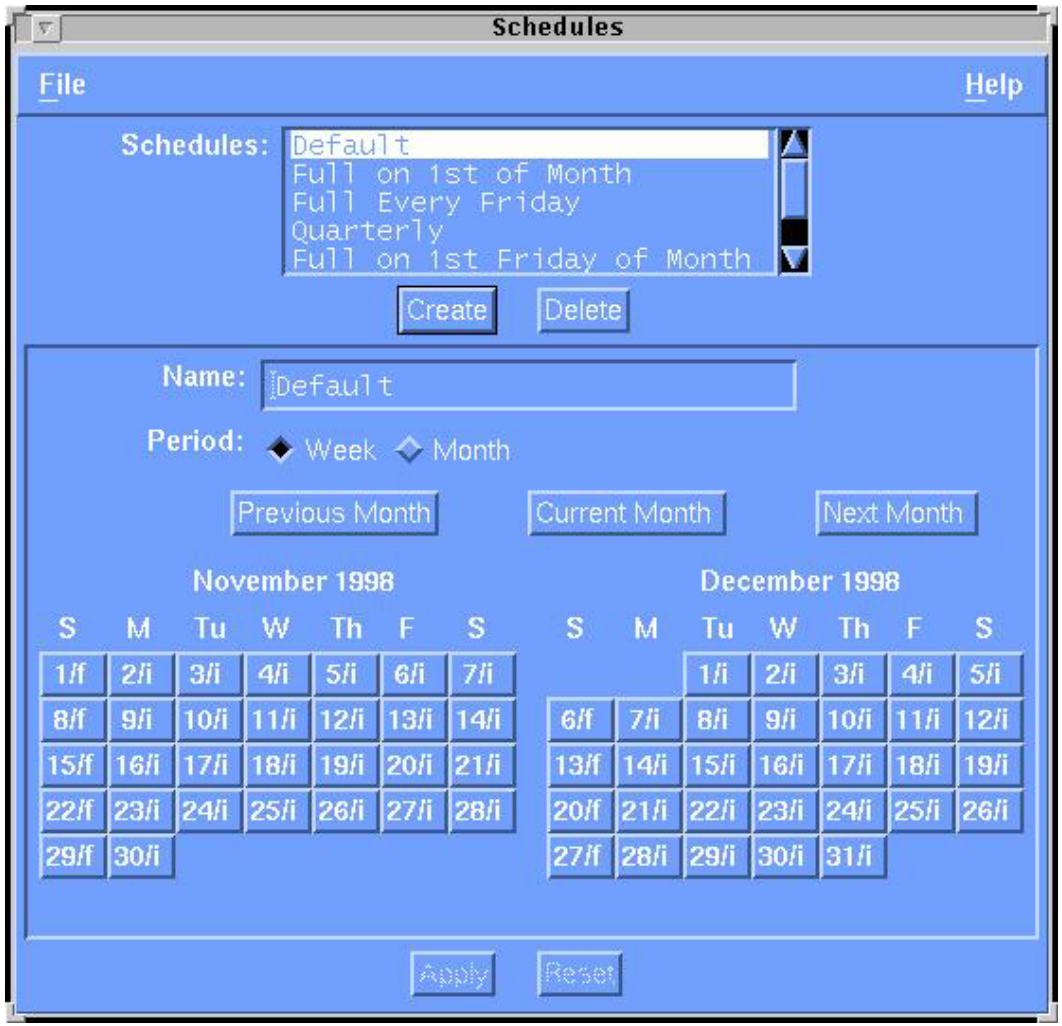
## More incremental



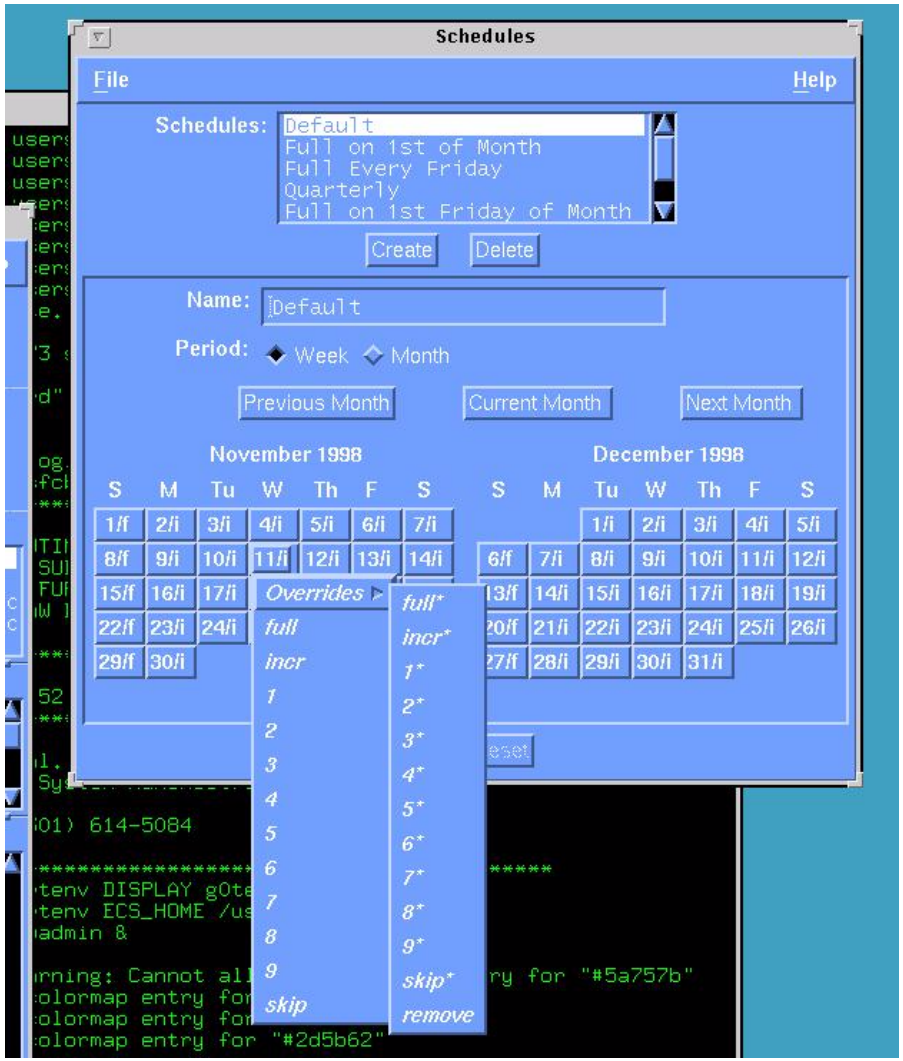

## More cumulative



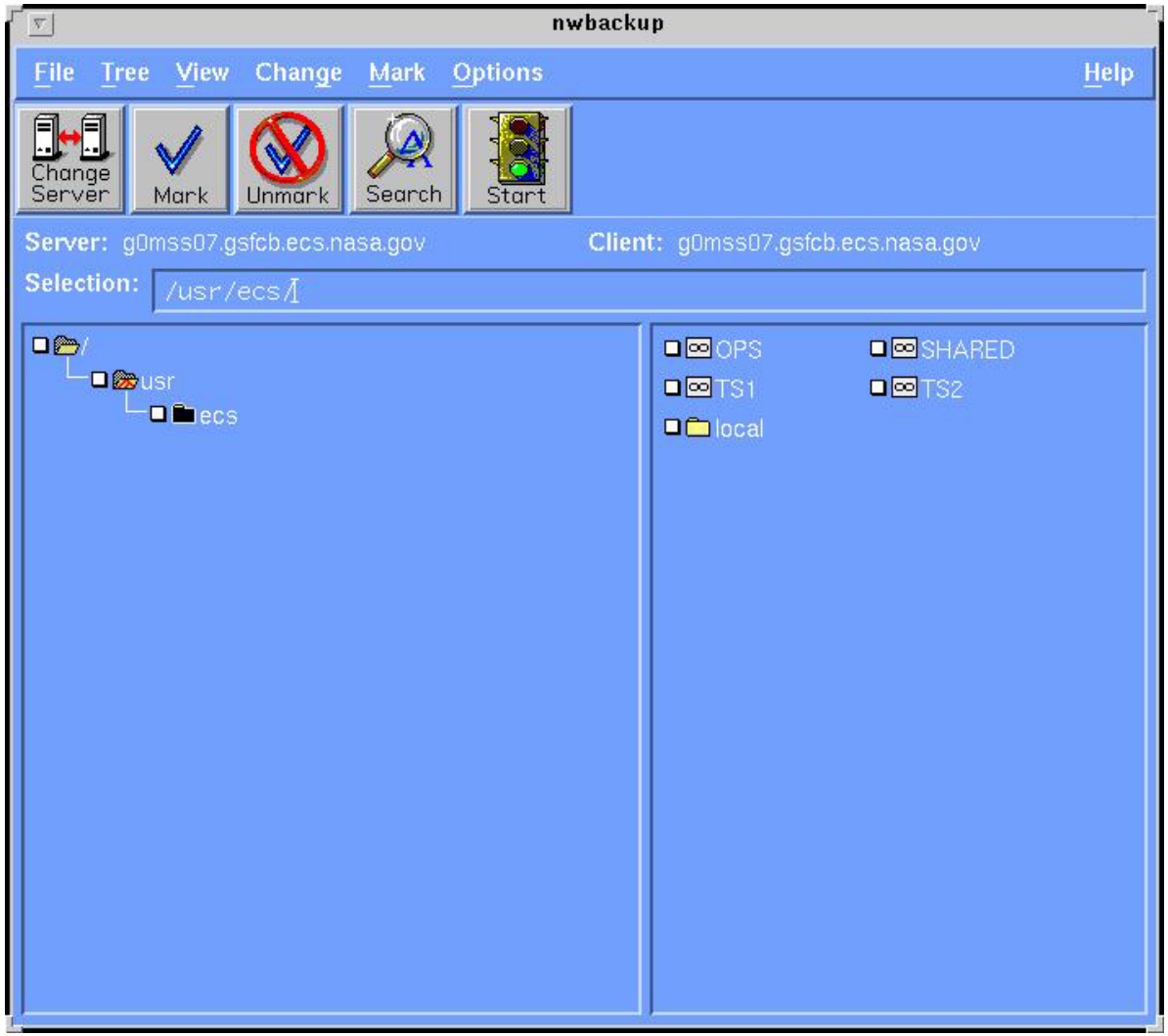
# Networker Backup Scheduler



# Networker Backup Scheduler Overrides Menus

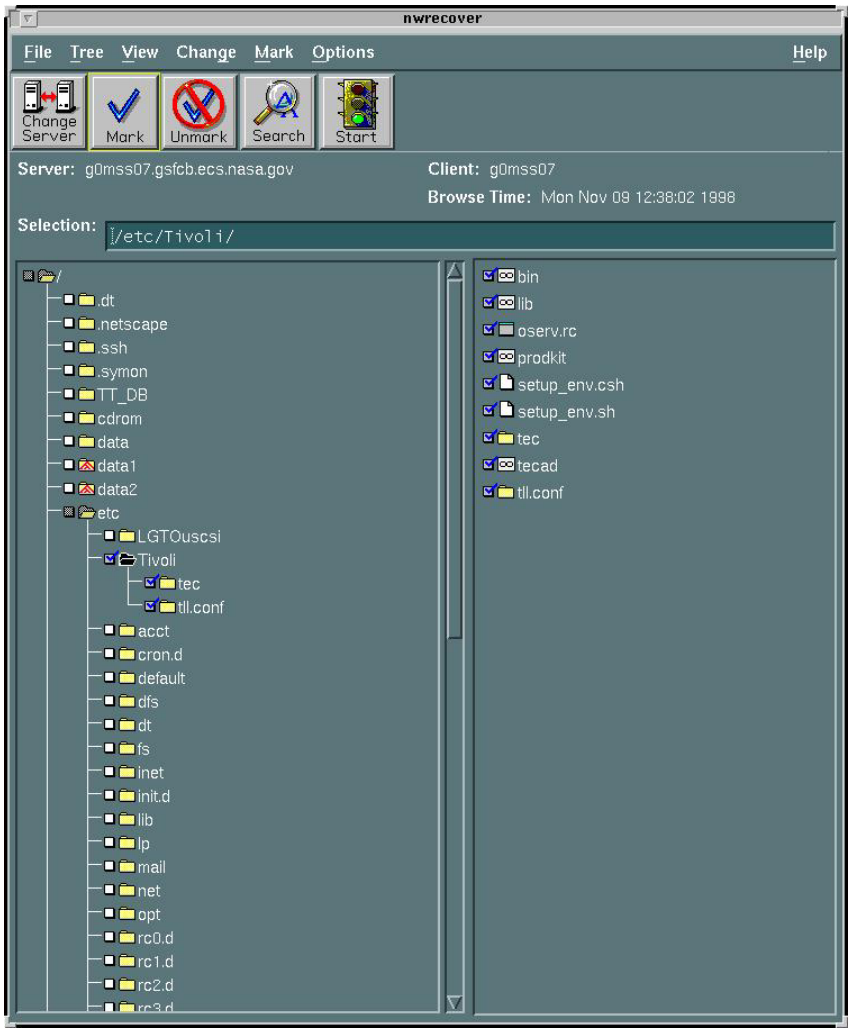


# Networker Backup Window

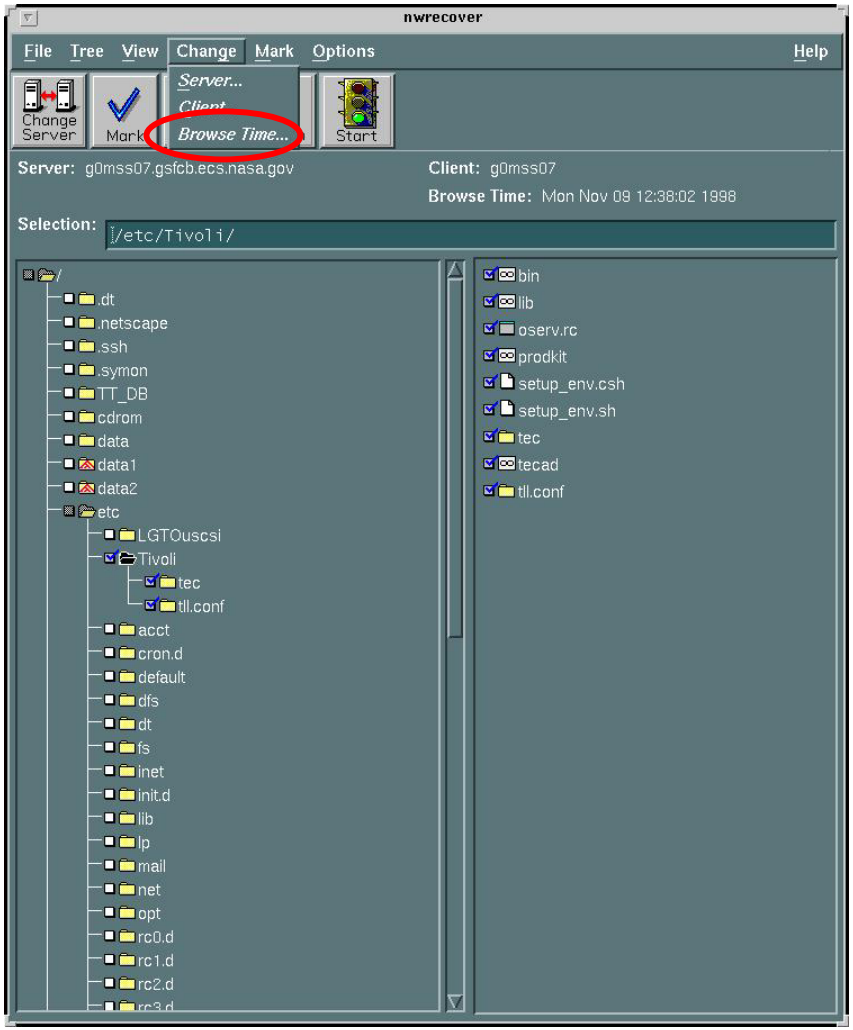


# Networker Recover Window

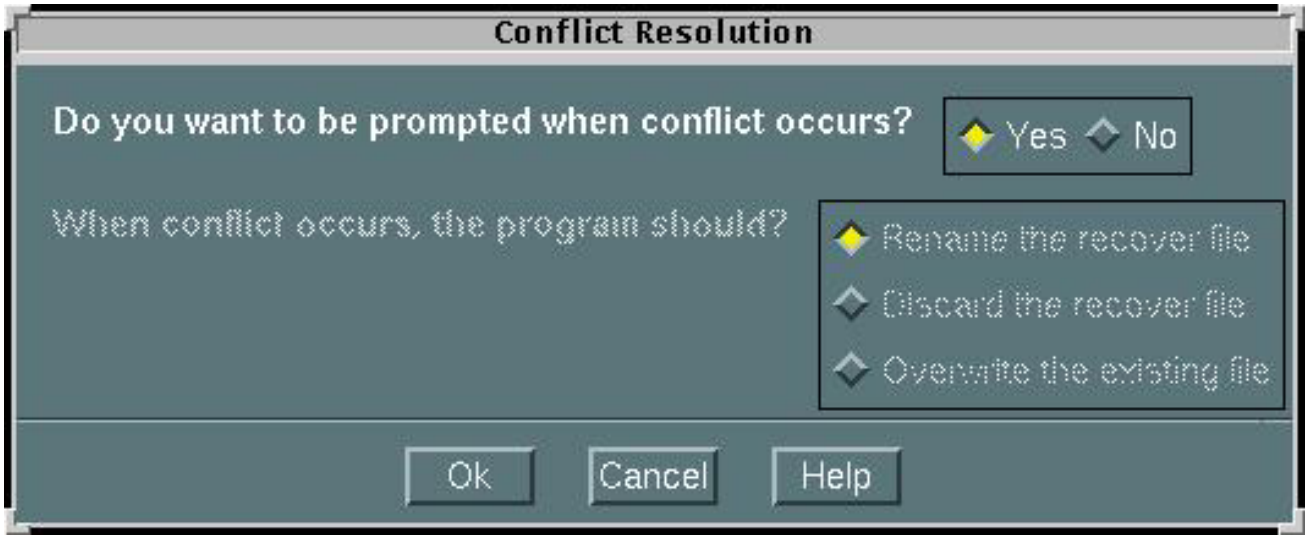
# Networker Recover Window with Files Selected



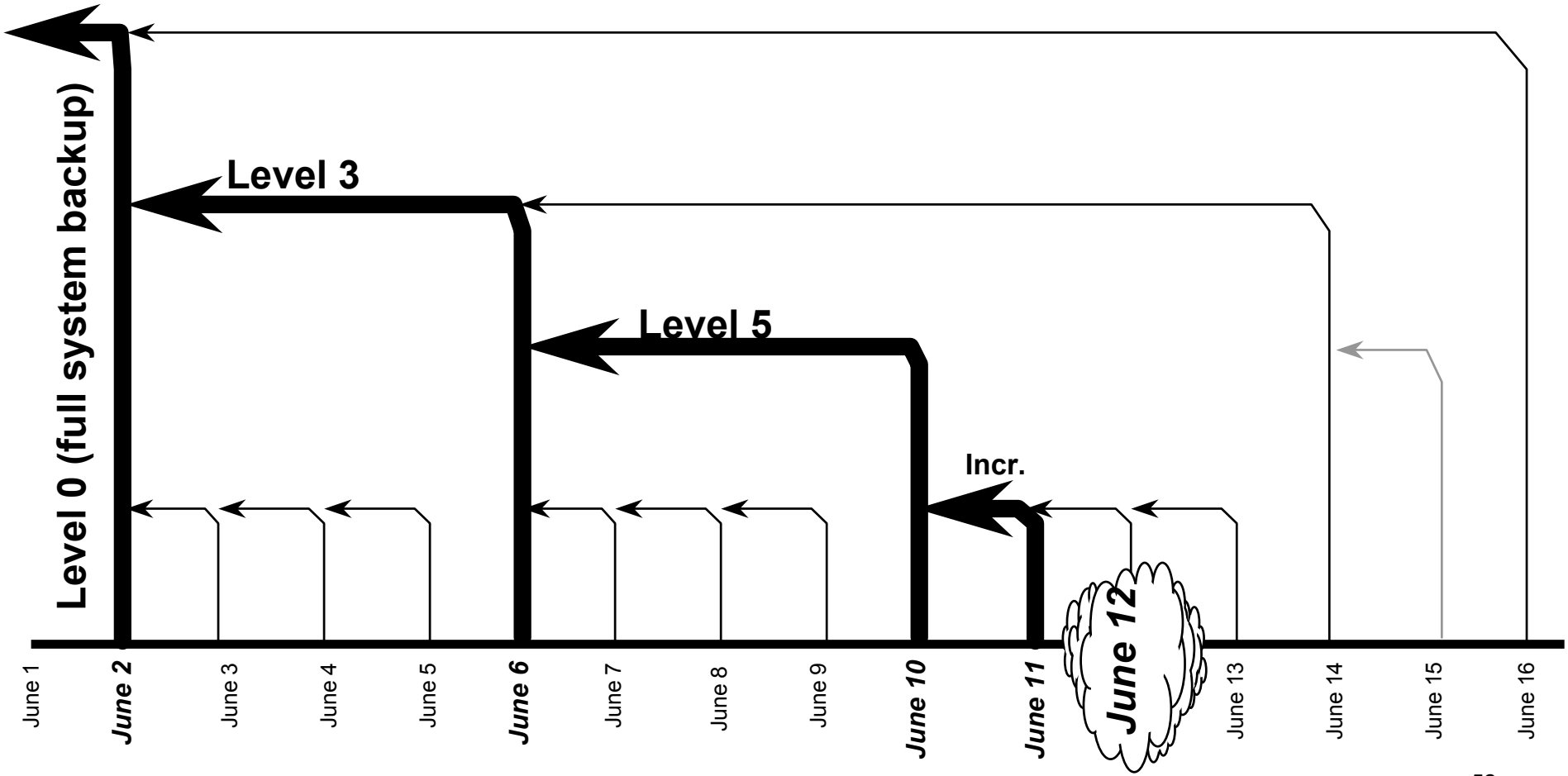
# Networker Browse Time Window



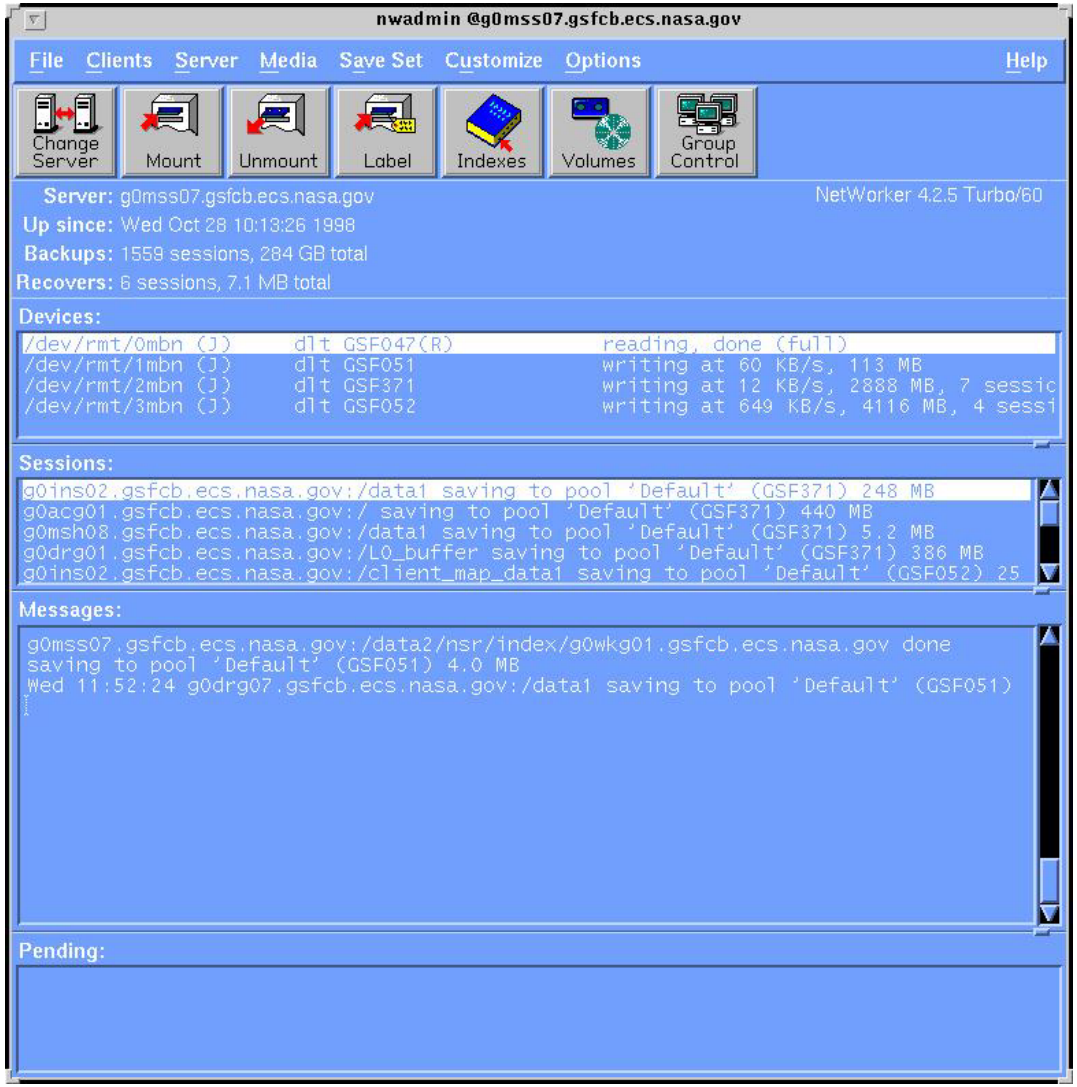
# Networker Conflict Resolution Window



# Tapes Required for Full System Restore



# Networker Administrator Main Screen



# Networker Save Set Screen

Save Set Recover

File Help

Client

g0mss07.gsfcb.ecs.nasa.gov

Save Set

```
/
/data1
/data1/nsr/index/g0acg01.gsfcb.ecs.nasa.gov
/data1/nsr/index/g0acs02.gsfcb.ecs.nasa.gov
/data1/nsr/index/g0acs03.gsfcb.ecs.nasa.gov
/data1/nsr/index/g0acs04.gsfcb.ecs.nasa.gov
/data1/nsr/index/g0ais01.gsfcb.ecs.nasa.gov
/data1/nsr/index/g0aqg01.gsfcb.ecs.nasa.gov
/data1/nsr/index/g0aqg02.gsfcb.ecs.nasa.gov
/data1/nsr/index/g0css02.gsfcb.ecs.nasa.gov
```

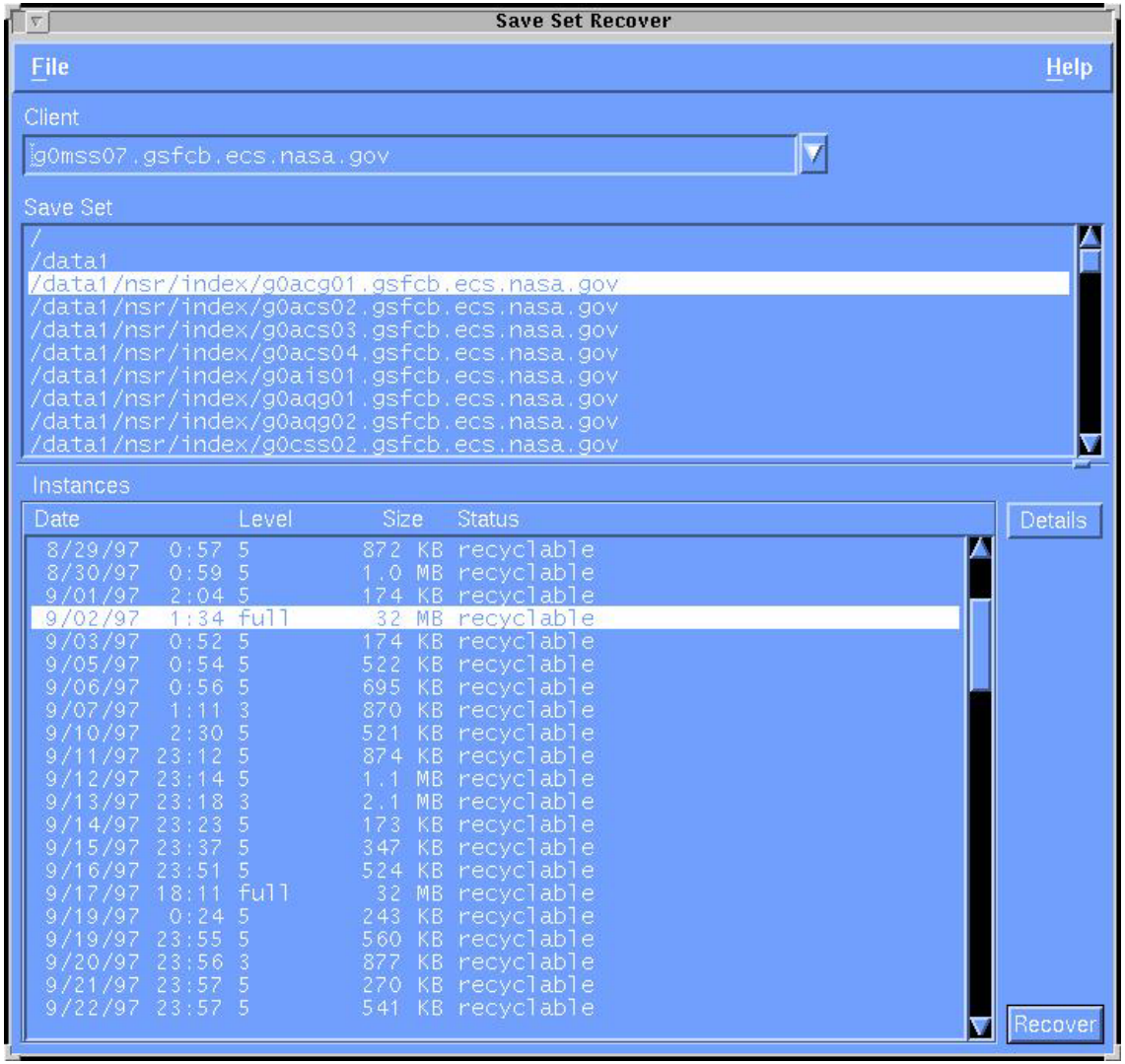
Instances

| Date | Level | Size | Status |
|---|---|---|---|
| 8/29/97 0:57 | 5 | 872 KB | recyclable |
| 8/30/97 0:59 | 5 | 1.0 MB | recyclable |
| 9/01/97 2:04 | 5 | 174 KB | recyclable |
| 9/02/97 1:34 | full | 32 MB | recyclable |
| 9/03/97 0:52 | 5 | 174 KB | recyclable |
| 9/05/97 0:54 | 5 | 522 KB | recyclable |
| 9/06/97 0:56 | 5 | 695 KB | recyclable |
| 9/07/97 1:11 | 3 | 870 KB | recyclable |
| 9/10/97 2:30 | 5 | 521 KB | recyclable |
| 9/11/97 23:12 | 5 | 874 KB | recyclable |
| 9/12/97 23:14 | 5 | 1.1 MB | recyclable |
| 9/13/97 23:18 | 3 | 2.1 MB | recyclable |
| 9/14/97 23:23 | 5 | 173 KB | recyclable |
| 9/15/97 23:37 | 5 | 347 KB | recyclable |
| 9/16/97 23:51 | 5 | 524 KB | recyclable |
| 9/17/97 18:11 | full | 32 MB | recyclable |
| 9/19/97 0:24 | 5 | 243 KB | recyclable |
| 9/19/97 23:55 | 5 | 560 KB | recyclable |
| 9/20/97 23:56 | 3 | 877 KB | recyclable |
| 9/21/97 23:57 | 5 | 270 KB | recyclable |
| 9/22/97 23:57 | 5 | 541 KB | recyclable |

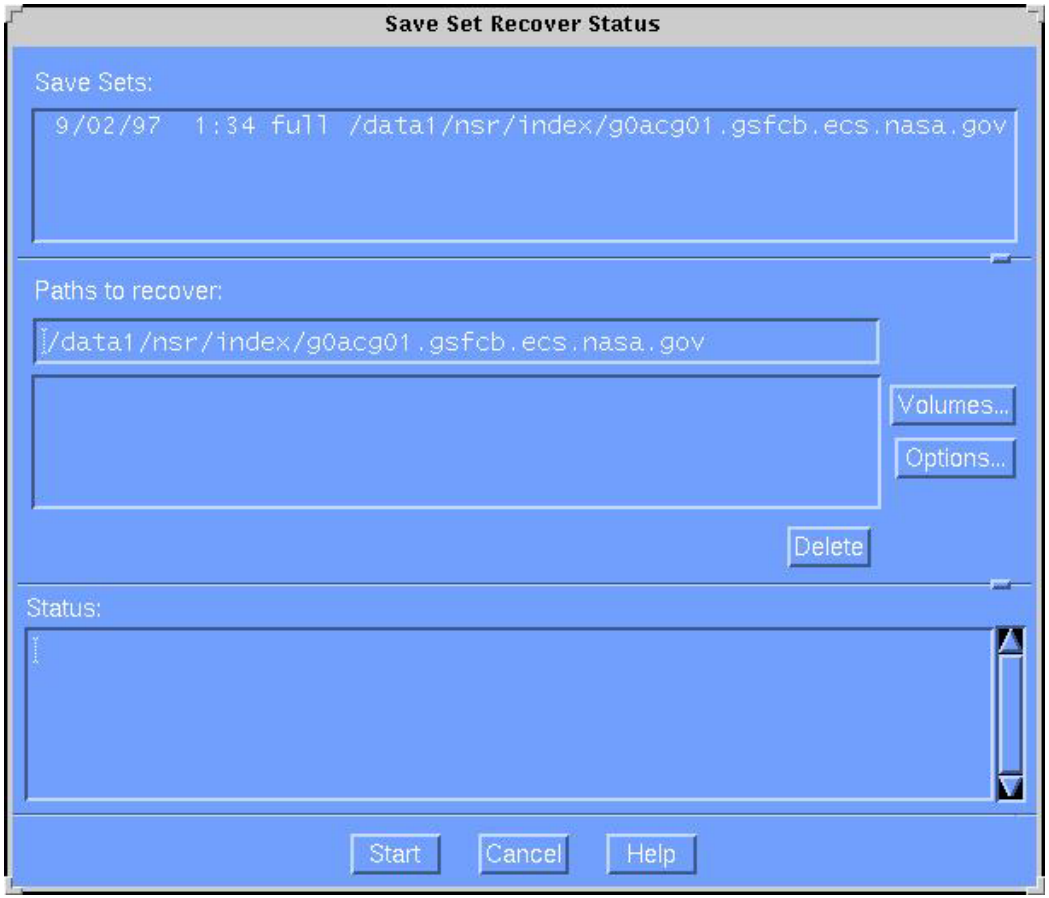
Details

Recover

# Networker Save Set Screen (Cont.)



# Networker Save Set Screen (Cont.)



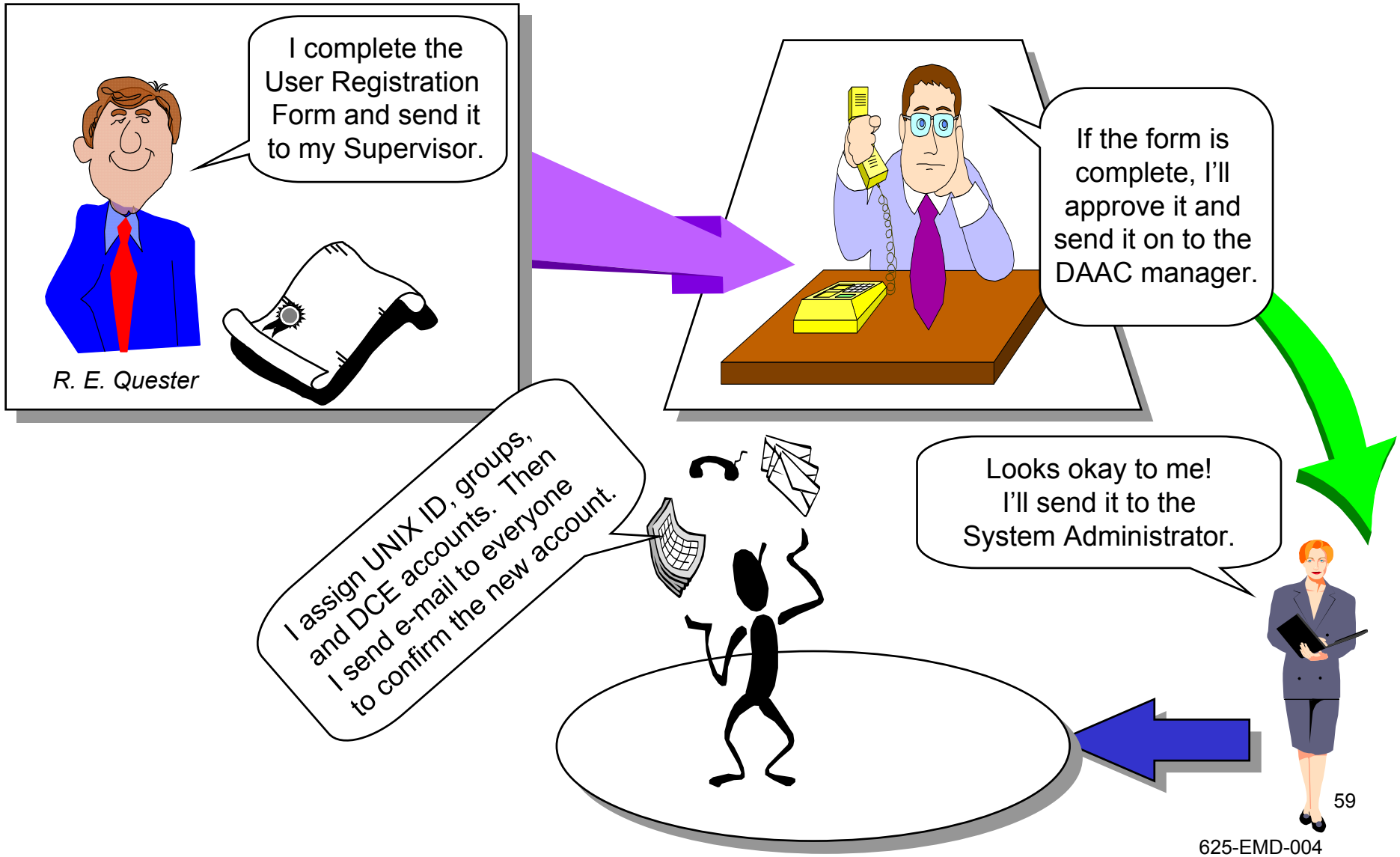
# Personnel Screening

- **OMB Circular A-130, Appendix III and NPR 2810.1 and Internet Protocol Operational Network (IONet) Access Protection Policy and Requirements 290-004 together require screening for:**
  - **All employees who require privileged access or limited privileged access to a Federal computer system or network**
  - **All employees who require privileged access, limited privileged access, or access to the Closed Segment of the Internet Protocol Operational Network (IONet) (formerly NASCOM)**
  - **All employees having access to IONet network control devices**

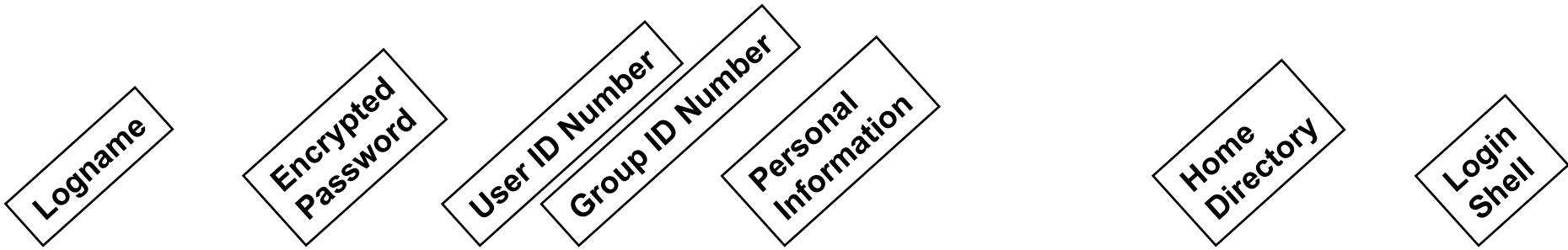
# Personnel Screening (Cont.)

- **NPR 1620.1 requires that all employees granted unescorted access to a NASA Resource Protection (NRP) facility or area and/or a NASA-designated Limited Area undergo screening**

# New User Approval



# /etc/passwd File




```
mresnick:$sy732az)[xyzz:510:1:Michael Resnick {x4076}:/home/mresnick:/bin/csh
jsmith:hY%dd98dwWrxPnm:511:1:Janet Smith {x0821}:/home/jsmith:/bin/csh
rknickerb::512:1:Robert Knickerbocker {x4111}:/home/rknickerb:/bin/csh
```

**Empty field (no password)**

# /etc/group File

Group ID Number

Logname

```
root::0:root
other::1:root,hpdb
bin::2:root,bin
sys::3:root,uucp
adm::4:root,adm
daemon::5:root,daemon
mail::6:root
lp::7:root,lp
users::20:root
nogroup:*:-2:
eb:*:10:
```

Group Member Lognames

Group Password Encrypted

# /etc/auto.home File

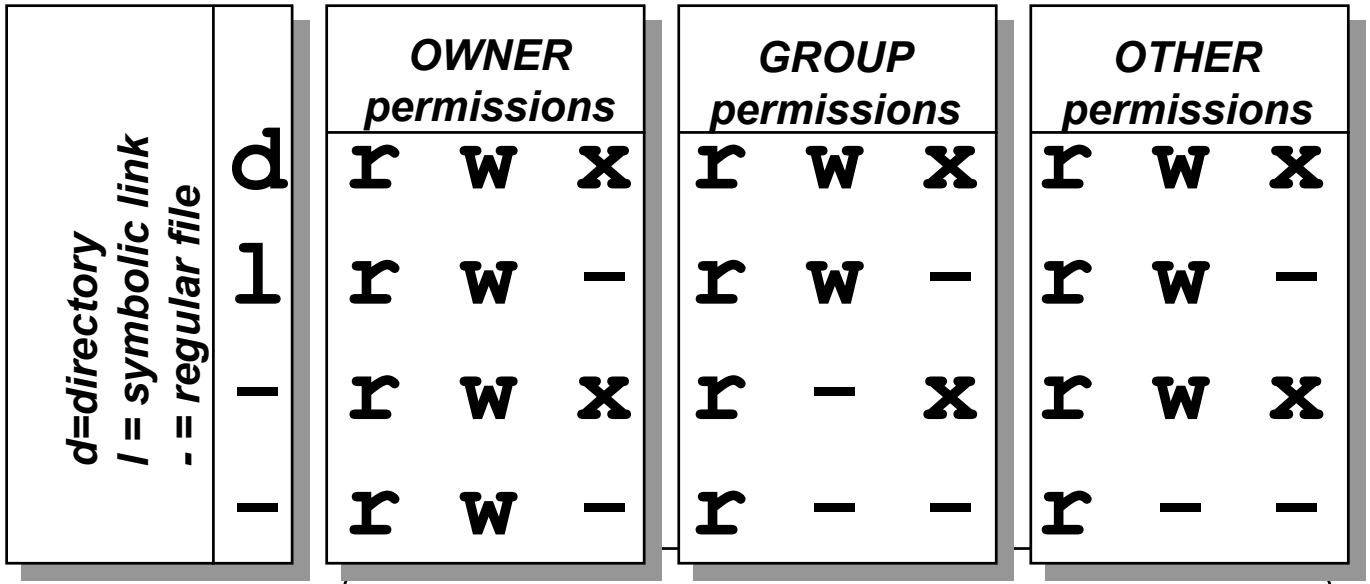
| Logname | Permissions | Location of Home Directory |
|---|---|---|
| dwashing | -rw,intr | acmn1sgi:/vol0/users/dwashing |
| jmangum | -rw,intr | acmn1sgi:/vol0/users/jmangum |
| mlynch | -rw,intr | acmn1sgi:/vol0/users/mlynch |
| ddavis | -rw,intr | acmn1sgi:/vol0/users/ddavis |
| rcampbel | -rw,intr | acmn1sgi:/vol0/users/rcampbel |
| spete | -rw,intr | acmn1sgi:/vol0/users/spete |
| kkleis | -rw,intr | acmn1sgi:/vol0/users/kkleis |
| echeung | -rw,intr | acmn1sgi:/vol0/users/echeung |

# *ls -l* Output Explanation

File permissions | Links | File Owner | Group | File size in bytes | Modification date/time | File name

```
drwxrwxrwx    3    mresnick    training    8192    Jun 14 08:34    archive
drwxr-xr-x   11    mresnick    training    4096    Jul 03 12:42    daacdata
-rw-rw-rw-    1    mresnick    training     251    Jan 02 1996     garbage
lrw-r--r--    2    jjones      admin      15237   Apr 30 20:07    junk
-rwxr--rw-    1    mresnick    training    5103    Oct 22 1994     trash
```

# Access Permissions



| d=directory<br>l = symbolic link<br>- = regular file | OWNER permissions | GROUP permissions | OTHER permissions |
|---|---|---|---|
| d | r w x | r w x | r w x |
| l | r w - | r w - | r w - |
| - | r w x | r - x | r w x |
| - | r w - | r - - | r - - |

4 r=read *Look/copy/print*

2 w=write *Change/save/delete*

1 x=execute *Run commands/ use directory*

# User Account Configuration Change Request Form

**USER ACCOUNT CONFIGURATION CHANGE REQUEST FORM**

**Name of Requester:**_____

**Reason for request:** _____

| CURRENT INFORMATION | | CHANGE TO: |
|---|---|---|
| User ID: | | |
| Office Address: | | |
| Office Phone: | | |
| Home Phone: | | |
| E-Mail Address: | | |
| UNIX Group ID: | | |
| DCE Group ID: | | |
| Login Shell: | | |

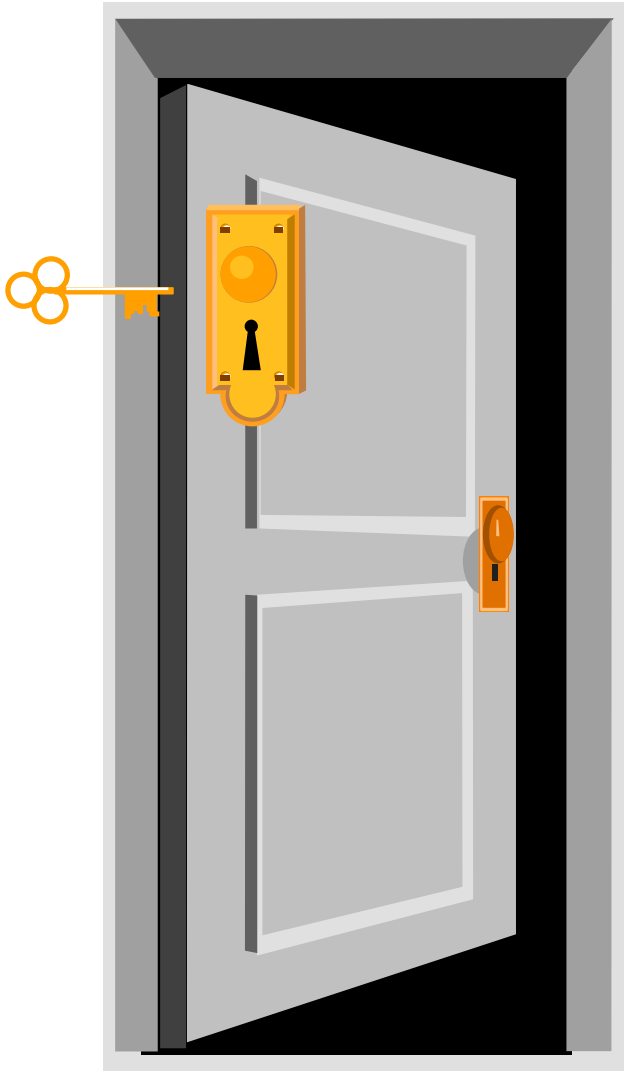
**Date of Request:** / / **Required by:** / /

**Approval:** _____ **Date:** _____

# Commercial Off-The-Shelf (COTS) Software Administration

- The EMD Project software consists of various architectures in addition to customized code, science software and COTS products
  - The project maintenance philosophy for software is to provide ECS centralized support for developed items and vendor-directed support for COTS software
  - Log files are to be maintained for documenting all COTS installations and modifications
  - Because each DAAC site is unique, COTS patches may be provided by the vendor to resolve a DAAC specific problem
  - CCB approval is required before COTS software upgrades can be loaded on any platform
    - DAAC CCB must be informed via CCR

# Security



- ANLpasswd, Crack, SATAN for password protection, local and network access
- Tripwire for flagging unauthorized file changes
- TCP Wrappers for network access control