NETWORK OPERATOR'S GUIDE

The Network Director

North Ridge Software, Inc.

Special Notices

This document contains proprietary information associated with a generalized software product named **The Network Director**, which is a VTAM based terminal security and productivity product developed, maintained, and marketed by North Ridge Software, Inc.

Information contained herein that is associated with other proprietary products (as identified below) is also subject to copyright law and may not be reproduced without the express written permission of the appropriate company.

All rights are reserved. No portion of this document may be reproduced, copied, distributed, transmitted, transcribed, or translated into any human or computer language, or otherwise disclosed to third parties without the express written permission of:

North Ridge Software, Inc. can be contacted via any of the following mechanisms:

Telephone	425/814-9000
FAX	425/823-9636
InterNet	support@nrsinc.com
Homepage	http://www.nrsinc.com

North Ridge Software, Inc. makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of fitness for any particular purpose.

Acknowledgements

References within this manual to the following products should be recognized as references to proprietary products and trademarks of the following firms:

Computer Associates	TOP SECRET, ACF2, UCC7, ROSCOE, EMAIL, IDMS/DC, TPX
IBM	ACF/VTAM, ACF/TCAM, NMPF, NPDA, VM/GCS, OS/VS1, NETVIEW, NLDM, NPA, CMS, MVS, DOS/VSE, CICS/VS, TSO, IMS, RACF, NPDA, and NCCF
Software AG	Com-plete
Sterling Software	VM/SECURE

Table of Contents

List of Illustrations

Introduction

The Network Director's *Network Operator's Guide* is intended to be utilized by an individual responsible for the monitoring and operation of a network managed by The Network Director.

The Network Director is a VTAM Network Management Facility intended to make the network more manageable for you and easier to utilize by the end users (the terminal operators).

This manual discusses the various commands and displays the can be utilized to monitor the network and to identify what the terminal operators are doing. The Network Director offers multiple commands that you can use to control what it is doing and to diagnose any problems that may occur.

This manual will make many references to the **Network Administrator**. This is a term used to describe the individual or individuals responsible for the operation of the terminal network.   The Network Administrator function can be accomplished by a single individual, but in larger installations the responsibility is distributed across many individuals.   Regardless, whenever a reference is made to a Network Administrator, assume that it is to any of the individuals responsible for keeping the network functioning as required at your installation.

"Operator Commands" on page 3 describes and discusses the various operator commands available for you to manage and interrogate the network.

"Interactive Network Maintenance" on page 37 discusses how to go about making dynamic changes to the network.

"Miscellaneous Examples" on page 81 provides some examples of the types of activities you can expect to occur while operating The Network Director and what you can do to respond to the activities.

Finally, a Glossary of Terms and a manual Index are included to aid the reader in the use of this manual.

The Manual Set

This manual is one of a set related to The Network Director. The set consists of:

Number	Manual Title
TND-0201	General Information Manual
TND-0202	Network User's Guide
TND-0203	Network Administrator's Guide
TND-0204	Quick Reference Guide
TND-0205	Internals
TND-0206	Messages and Codes
TND-0210	Network Operator's Guide
TND-0219	Installation Guide
TND-0220	Single System Image
TND-0226	SecureNet Key Interface Reference
TND-0420	Version 4.2 Release Guide

Figure 1.   The Manual Set

Each Network Director installation is provided with a complete set of base documentation for The Network Director. The base set consists of the *General Information Manual, Network User's Guide, Network Administrator's Guide, Quick Reference Guide, Internals, Messages and Codes, the Network Operator's Guide, Single System Image,* and the *Installation Guide*. Additional documentation is available, as requested.

Operator Commands

This portion of the manual is committed to describing and discussing the operating characteristics of The Network Director as they pertain to daily operations within a computing facility. This includes defining the Operator's Console, identifying Operator Commands, discussing The Network Director's dynamic modification capabilities, internal debugging tools, Execution Requirements, and general Problem Reporting.

Identifying the Operator's Console

The Network Director will not respond to standard OS Stop/Modify commands, the GCS REPLY command, or the DOS MSG facility unless CONSOLE=YES was specified on the GLOBALS statement. Presuming the default (GLOBALS CONSOLE=YES), The Network Director will enable the internal Operator Interface.

Once the Operator Interface is active, the operator's console will be managed by The Network Director exactly as any other TERMINAL would be. Thus, the console must be defined with a specialized TERMINAL statement within the Configuration Parameters in order to obtain authorization to manage The Network Director.

The Network Administrator must provide a TERMINAL statement with the terminal name set to the character string *OPERATOR*. A typical set of Configuration Parameters would be:

```
    APPLICATION NETADMIN,TARGET=TNDADMIN,
            TITLE='Network Adminstration',
                UPDATES=YES
    *
    APPLICATION MESSAGES,TARGET=TNDMSG,
            TITLE='Messages'
    *
    *
    TERMINAL OPERATOR,APPLICATIONS=(NETADMIN,MESSAGES),
            MESSAGES=(BROADCAST)
```

 Figure 2.   Operator Console Definition

This authorizes the Operator's Console to initiate Broadcast Messages and to control the network as a Network Administrator. It is this Network Administration authorization that

is necessary to allow the operating system console to issue Network Director Operator Commands.[1]

_____

[1]   The Network Director will always honor a OS STOP command from the console operator.

Operator Commands

The Network Director Operator Commands can be used by any Network Administrator with UPDATES=YES authority. They can be used to manage the logical network as well as terminating The Network Director's execution.

Available Operator Commands are:

Command	Usage
ACF2	Refresh the resident rules loaded from the ACF2 data base
BROADCAST	Send a Broadcast Message to network users
CANCEL	Terminate a network activity or user
CLOSE	Disable an external interface
DISCONNECT	Remove a LU from The Network Director
HOLD	Remove a network entity from availability
OPEN	Enable an external interface
RELEASE	Make a network entity available for use
RELOAD	Obtain network definitions from the External File
SAVE	Store images of the network definitions into the External File
SIMLOGON	Acquire a terminal for processing
STOP	Terminate The Network Director

Figure 3.   Operator Commands

You are only required to enter the necessary number of characters to uniquely identify the command you are attempting to issue (e.g. "H" is sufficient to identify the Hold command).

Operator Command Wild Character Support

The Network Administrator and console operator can affect The Network Director's operational control blocks and definitions via use of the SHOW processor's prefix commands and various administrator keyword commands. Many command and operand combinations support the usage of The Network Director's **wild character** to affect multiple definitions or control blocks, while others do not support the use of wild characters.

The following table summarizes the individual command and operand combinations that are valid and that support wild characters. Entries with a null value indicate that the particular operand does **not** apply to the command. A "*" entry indicates that the operand is valid for the command, but wild characters are not supported (the operand applies to a specific control block). "+" indicates that the operand is valid and wild characters are accepted.

Command	APPLICATIONS	DFBS	GROUP	KEYS	NETWORK ELEMENTS	SITES	TARGETS	TERMINAL	USER
BROADCAST	-					*			
CANCEL		*	+		+			+	+
DELETE	*		*	*	*	*		*	*
DISCONNECT					*				
DUMP	*	*	*	*	*	*		*	*
HOLD	+	*	*		+	+	+	*	*
RELEASE	+	*	*		+	+		*	*
RELOAD	+		+	+		+		+	+
SAVE	+		+	+		+		+	+

Figure 4. Operator Command Wild Character Combinations

To demonstrate the impact of Figure 4 on page 6, consider the following examples:

Command	*Effect*
HOLD USER=++++++++	causes only the USERS definition with a name equal to the literal string of eight plus signs to be held
HOLD APPLICATION=CICS++++	causes **all** APPLICATION definitions with the literal string CICS in the first four bytes of the name to be held
RELEASE NET=AB++++++	causes any device that begins with the letters *AB* to have their sessions with The Network Director restarted
RELEASE TERMINAL=AB++++++	causes only the TERMINAL definition whose name matches the literal string of **AB++++++** to be released (made available for use)

Each command and its effect is described in detail on the following pages.

ACF2

The ACF2 command allows a Network Administrator to cause The Network Director to reissue the ACF2/MVS SVC to accomplish a refresh of the resident rules associated with generalized resource rule interpretation for the Application Selection Panel composition. This option is in effect when you have specified the constant *ACF2* as one of the APPLICATIONS for a network user.[2]

You should consult the *Network Administrator's Guide* (the ACF2 command) for more information.

The format of the ACF2 command is:

```
ACF2
       [ RULES={TRANSIENT|DEMAND|RESIDENT} ]
       [ TYPE={TND|character code} ]
```

Figure 5.   ACF2 Command Syntax

RULES

Controls how The Network Director's associated ACF2 Rules will be managed in the address space.

TRANSIENT   indicates that the resource rules will be loaded and utilized as necessary during execution. After use they will be deleted from storage.

DEMAND   indicates that rules will be loaded and utilized as necessary during execution and will remain loaded until another Directory refresh operation is initiated or The Network Director is restarted. To refresh the contents, simply issue the ACF2 command again.

RESIDENT   instructs ACF2 to load all resource rules associated with The Network Director into main storage and retain them there for use during execution. To refresh the contents of the resident rules, simply issue the ACF2 command again.

The ACF2 command can be issued from a Network Administrator's terminal or can be present in the initialization Configuration Parameters. If it is not issued, ACF2 will schedule I/O operations as necessary to accomplish rule set interpretation, which can create a relatively high overhead for resource rule interpretation.

---

[2]   Support for the mass interpret function associated with this generalized resource rule process requires ACF2/MVS Version 5.0 or higher

TYPE

This operand identifies the three byte ACF2 *Type* that will identify The Network Director's related resource rules within ACF2's data bases. This will default to *TND*, but may be set to any three characters your installation would prefer. If you are operating multiple Network Director's, NRS recommends that you identify each Network Director with a unique TYPE code to separate the ACF2 rules associated with the individual Network Directors.

BROADCAST

The BROADCAST command allows a Network Administrator to create and Send a Broadcast Message with a single command (as an alternative to utilizing the Message Editor).

If you do not provide the TO= operand, The Network Director will broadcast your message to **all users** of the network. Make sure that you separate the broadcast text from the TO operand with a comma and not a blank.

The format of the BROADCAST command is:

```
BROADCAST
        'message text'
        [ TO={+++++++++|alpha value} ]
        [ SITE=alpha value ]
```

Figure 6.   BROADCAST Command Syntax

message text

is the text of the message to be Sent. The text length may not exceed 72 characters.

TO

identifies the network users that will receive the Broadcast. The operand can identify one or more USERs, or TERMINALS, or a single GROUP or APPLICATION. Multiple network entities can be identified via the use of the Wild Character. Omitting this operand will result in ALL network users receiving the Broadcast Message.

SITE

identifies the other Network Director that this message should be sent to for actual Broadcasting. If specified, there must a SITE definition for the designated location. Once the receiving Network Director has received the message, it will be immediately delivered to devices **managed by the receiving Network Director**. and in session with that Network Director.

Examples

```
BROADCAST 'The Payable System is restarting',
            TO=PAY+++++
```

This example will send a simple Broadcast Message to all the terminals, and users, that start with the characters PAY. The Broadcast message will immediately appear in the Broadcast Area on the associated terminals.

CANCEL

The CANCEL command can be used to immediately terminate an activity that The Network Director has in progress. It is typically used to terminate activity that a particular network element has initiated.   The CANCEL command internally schedules the specified DFBs for immediate internal ABEND.

The CANCEL command's format is:

```
CANCEL
        [ DFB=alpha value ]
        [ GROUP=alpha value ]
        [ NETWORK-ELEMENT=alpha value ]
        [ TERMINAL=alpha value ]
        [ USER=alpha value ]
```

Figure 7.   CANCEL Command Syntax

DFB

identifies the Dispatchable Function Block that is to be immediately terminated. The alpha value required can be obtained from the DISPLAY DFBS query. Note that the spacing for specifying this option must be positionally maintained. As an example, the DFB identified via DISPLAY DFBS named "SEL TM03" will have to be specified as the character string CANCEL DFB='SEL   TM03'. This is due to the automatic blank compression occurring during Network Administration LOG displays.

GROUP

specifies the Id of the GROUP whose current member's activity within The Network Director is to be immediately terminated.

NETWORK-ELEMENT

specifies the User id or LU name of the network element whose current activity within The Network Director is to be immediately terminated.

TERMINAL

specifies the Id of the TERMINAL whose current activity within The Network Director is to be immediately terminated.

USER

specifies the Id of the USER whose current activity within The Network Director is to be immediately terminated.

Examples

```
CANCEL TERMINAL=SPA67
```

This will immediately terminate the activity occurring at the TERMINAL named SPA67. Any DFB associated with the device will be scheduled for termination.

```
CANCEL USER=PAY+++++
```

This will immediately terminate the activity occurring at any terminal with a USER signed on whose Id begins with the character string PAY. Caution should be used when utilizing the Wild Character for CANCEL operations to minimize unintended CANCELlations.

CLOSE

The CLOSE command can be used to cause The Network Director to terminate operations against an external interface. It is typically used to CLOSE the VSAM ACB associated with the External File so that maintenance can occur against the file while The Network Director continues to execute.

The CLOSE command's format is:

```
CLOSE
      [ EXTERNAL ]
      [ TAM ]
      [ TNDSAR ]
```

Figure 8.   CLOSE Command Syntax

EXTERNAL

indicates that The Network Director should issue a CLOSE against the External File ACB. This will free the file for use in another partition or address space (providing the VSAM Share Options are set appropriately).

TAM

indicates that The Network Director should issue a CLOSE against the VTAM ACB. This will terminate The Network Director's ability to communicate with any terminals. This may also cause The Network Director to terminate (depending upon the current setting of the GLOBALS TERMINATE= operand).

TNDSAR

indicates that The Network Director should issue a CLOSE against the DCB or DTF associated with the sequential recording medium for the SAR EVENT recording.

Examples

```
CLOSE EXTERNAL
```

This will immediately CLOSE the External File's VSAM ACB. Note that this will disable any DISK Message queueing activity as well as restricting The Network Director's access to HELP information, stored Profiles, and message Text.

The file will remain CLOSEd until an OPEN operator command is issued. Other Network Director facilities will continue to operate in the normal manner.

```
CLOSE TAM
```

This will schedule the CLOSE of the VTAM ACB. Access to The Network Director will only be available through the Operator's Console.

The ACB will remain CLOSEd until an OPEN operator command is issued.

DISCONNECT

The DISCONNECT Operator Command is equivalent to DISC Command Line command except that it is initiated from a terminal other than the one being disconnected. It will cause The Network Director to issue a VTAM CLSDST request with NOPASS as an option. The named LU will immediately be returned to VTAM and in a SSCP session.

The device will not immediately return to The Network Director. It will eventually return if the device has been connected to The Network Director via the LOGAPPL parameter. If it is a ACQUIRE=YES terminal, you will have to SIMLOGON it or the terminal operator will have to request The Network Director to become connected again.

The DISCONNECT command's format is:

DISCONNECT
        [NETWORK-ELEMENTS=] terminal name

Figure 9.   DISCONNECT Command Syntax

NETWORK-ELEMENTS

identifies the terminal that is to be the target of the DISCONNECT operation.

Examples

```
DISCONNECT SPA67
```

This will generate a VTAM CLSDST request for the terminal named SPA67. VTAM will immediately gain control of the device in a normal SSCP-LU session.

HOLD

The HOLD Operator Command provides the facility to the Network Administrator to place a network element in an **unavailable** status. APPLICATIONS placed into HOLD will be displayed as HELD on appropriate Application Selection Panels.

The HOLD command's format is:

```
HOLD
        [ APPLICATION=application name ]
        [ ACCESS=alpha value ]
        [ DFB=alpha value ]
        [ GROUP=alpha value ]
        [ NETID=alpha pattern ]
        [ NETWORK-ELEMENT=alpha value ]
        [ NSI ]
        [ SUBAREAS=numeric value ]
        [ TARGETS=alpha pattern ]
        [ TERMINAL=alpha value ]
        [ USER=alpha value ]
```

Figure 10. HOLD Command Syntax

ACCESS

identifies the AIB that the Network Administrator would like to disable for further logon use. Network elements relying upon this AIB to gain access to the system will not be able to logon successfully (until the AIB is RELEASEd).

APPLICATION

identifies the APPLICATION that the Network Administrator would like to disable for further logical connections. This application will not be available for selection on any Application Selection Panel until it is RELEASEd. Any Application Selection Panels with this application currently displayed will have the status area immediately updated.

DFB

causes the indicated Dispatchable Function Block to be bypassed by The Network Director's dispatcher. It will effectively enter a WAIT condition until RELEASEd.

GROUP

identifies the GROUP whose members will not be allowed to logon to The Network Director until it is RELEASEd. Any network element currently logged on to The Network Director that uses the GROUP definition as a basis **will be logged off** by The Network Director.

NETID

further qualifies the definition to be HELD.

NETWORK-ELEMENT

specifies the User id or LU name for the current network element that should be HELD or placed onto the Inactive List. This will have the effect of disabling the named network element for input to The Network Director until it is RELEASEd.

NSI

disables the Network System Interface. Any attempt to utilize the NSI will be rejected with a *not available* response code.

SUBAREA

further qualifies the definition to be HELD by establishing the origin subarea value.

TARGETS

provides a mechanism to identify one or more APPLICATIONS to be HELD based upon the ACB value (TARGET) instead of APPLICATION name.

TERMINAL

identifies the TERMINAL that should be disabled for use. The Network Director will not allow any activity from any device that has mapped to this definition until it is RELEASEd. This applies to the TERMINALS definition and any device that is logically mapped to it at execution time.

USER

identifies the USERs that will not be allowed to log on. Any attempt to logon as a held USER results in a message on the LOG and counted against the TRIES operand. This applies to the USERS definition and any user that is logically mapped to it at execution time. Any network element currently logged on to The Network Director that uses the USER definition as a basis **will be logged off** by The Network Director.

Examples

```
HOLD    TERMINAL=SYS822,USER=SYSTEMS
```

This example causes all devices that map to the definition for SYS822 and the USER named SYSTEMS to be HELD until reinstated with a RELEASE command.

HELD network elements are maintained on The Network Director's Inactive List, which may be display via DISPLAY INACTIVE.

Network elements that are on the Inactive List will not be available for use until they are RELEASEd or until The Network Director restarts.

OPEN

The OPEN command can be used to cause The Network Director to restart operations against the External File or the VTAM ACB. It is typically used to OPEN the VSAM ACB associated with the External File so that Message and HELP activity may begin again. It is also used to reactivate the VTAM ACB after is has been closed (due to a CLOSE TAM command or a VTAM termination) and The Network Director has continued to execute because of the TERMINATE=OPERATOR option on the GLOBALS statement.

The OPEN command's format is:

```
OPEN
      { EXTERNAL|TAM|TNDSAR }
```
Figure 11.   OPEN Command Syntax

EXTERNAL

indicates that The Network Director should issue a OPEN against the External File ACB. This will allocate the file for use within The Network Director's partition or address space.

TAM

indicates that the VTAM ACB that identifies The Network Director to VTAM should be OPENed and processing should resume.

TNDSAR

indicates that the DCB or DTF representing the external recording medium for the SAR EVENT recording should be made available for use

Examples

```
     OPEN   EXTERNAL
```

This will immediately OPEN the External File's VSAM ACB. Note that this will enable DISK Message queueing activity as well as enabling The Network Director's access to HELP information, and stored Profiles.

The file will remain OPEN until The Network Director is STOPped or another CLOSE command is processed.

```
     OPEN   TAM
```

This will immediately schedule the OPEN of the VTAM ACB. If the OPEN is successful, The Network Director will begin acquiring any terminals with the ACQUIRE=YES option specified as well as dealing with terminals entering its LOGON queue.

RELEASE

The RELEASE Operator Command provides facilities for the Network Administrator to restart or reactivate an element within The Network Director. It is the effective opposite of a HOLD request.

The RELEASE command's format is:

```
RELEASE
        [ ACCESS=alpha value ]
        [ APPLICATION=application name ]
        [ DFB=alpha value ]
        [ ERRORS ]
        [ GROUP=alpha value ]
        [ HELD-APPLS ]
        [ HELD-DEVICES ]
        [ INACTIVE ]
        [ INTERVAL ]
        [ ITERATION ]
        [ MONITOR ]
        [ TARGETS=alpha pattern ]
        [ NETWORK-ELEMENT=alpha value ]
        [ NEWS ]
        [ NSI ]
        [ REJECT ]
        [ SECURITY ]
        [ SUBAREA=numeric value ]
        [ TARGETS=alpha pattern ]
        [ TERMINAL=alpha value ]
        [ USER=alpha value ]
```

Figure 12.   RELEASE Command Syntax

ACCESS

identifies the AIB that the Network Administrator would like to reinstate for logon use. This is the opposite of a HOLD command against the AIB.

APPLICATION

identifies the APPLICATION that the Network Administrator would like to activate. The application's status will be immediately updated on any Application Selection Panel that is authorized for the APPLICATION.

DFB

modifies the Dispatchable Function Block back to an available status. This allows The Network Director's Dispatcher to dispatch the DFB as normal.

ERRORS

requests that all devices on the inactive list for "input errors" be released.

GROUP

identifies the GROUP whose members are to be allowed to logon to The Network Director.

HELD-APPLS

permits the Network Administrator to release all Applications that are in a Held status with a single command. Upon completion of the command, all Applications will be in a "ready for status" state. Their actual status will be set according to the related Network Director STATUS operand.

HELD-DEVICES

requests that all devices on the inactive list via "Operator HOLD" be released.

INACTIVE

instructs The Network Director to internally issue a RELEASE NET= command for every device currently on the Inactive List. Devices that are still in a position where they cannot be used will be placed back on the Inactive List by a subsequent action.

INTERVAL

requests that all devices on the inactive list for "Time or Day values" be released.

ITERATION

requests that all devices on the inactive list for "Iteration reasons" be released.

MONITOR

initiates the immediate dispatch of the MNTR DFB, which is the internal task that checks on the current status of the defined APPLICATIONs.

NETID

is used to qualify exactly which definition should be RELEASEd by including the network id.

NETWORK-ELEMENT

identifies the User id or LU name of the device that is to be removed from a HELD status or removed from the Inactive List. This command causes The Network Director to CLSDST and to SIMLOGON the named LU. Thus, REL N=xxxx can also be utilized to force The Network Director to establish a new session with the LU.

NEWS

requests that the System Directory NEWS viewed characteristic be reset for the entire network. The next time each user logs onto The Network Director, the NEWS panel (if applicable) will be displayed to the user.

NSI

enables the Network System Interface. The NSI will begin to respond to requests immediately.

REJECT

requests that all devices on the Inactive List for "BID Reject" reasons be released.

SECURITY

requests that all devices on the Inactive List for "Security reasons" be released.

SUBAREA

is used to qualify exactly which definition should be RELEASEd by including the origin subarea.

TARGETS

identifies the APPLICATIONs to be HELD based upon their specific ACB names (APPLICATION TARGET) instead of the APPLICATION name.

TERMINAL

identifies the TERMINAL that should be enabled for use. The Network Director will place the terminal's default panel back onto the device.

USER

identifies the USERs that will be allowed to log on to The Network Director.

Examples

```
RELEASE GROUP=PAYROLL,NSI
```

This example allows the members of the GROUP named PAYROLL to begin logging on and enables the Network System Interface.

The changes associated with the RELEASE command take place immediately within the network.

```
RELEASE NET=TM03
```

This example causes The Network Director to restart the session with the LU named TM03, reset the TRIES counter, and remove the device from the Inactive List.

RELOAD

The RELOAD command allows the Network Administrator to designate which items in an operational or initializing Network Director should be retrieved from the External File. These entities, control blocks, or definitions are identified by a NAME and have been previously SAVEd into the External File by a SAVE operation.

The format of the RELOAD command is:

```
RELOAD
      [ ALL ]
      [ APPLICATIONS [ =alpha pattern ] ]
      [ DEFAULTS ]
      [ EXTENSION [ =alpha pattern ] ]
      [ GLOBALS ]
      [ GROUPS [ =alpha pattern ] ]
      [ KEYS [ =alpha pattern ] ]
      [ NAME={name|applid} ]
      [ PROFILES [ =alpha pattern ] ]
      [ REPLACE ]
      [ RESOURCE [ =alpha pattern ] ]
      [ SITES [ =alpha pattern ] ]
      [ TERMINALS [ =alpha pattern ] ]
      [ USERS [ =alpha pattern ] ]
      [ VERSION={name|0} ]
```

Figure 13.   RELOAD Syntax

ALL

instructs The Network Director to initiate the RELOAD operation for **all** definitions in the identified set of definitions (NAME and VERSION).[3]

APPLICATIONS

as a positional parameter, instructs The Network Director to RELOAD all the APPLICATION definitions in the identified set of definitions. If a keyword is present, this operand identifies the APPLICATION definition to RELOAD.

---

[3]   There is an implied RELOAD ALL operation if there is no PARMS file defined (GCS FILEDEF or OS DD statement for TNDPARMS).

DEFAULTS

as a positional parameter, instructs The Network Director to RELOAD all the DEFAULT definitions in the identified set of definitions.

EXTENSION

This operand can be utilized to qualify USERS and TERMINALS definitions (if necessary) to identify the precise definition to RELOAD.

GLOBALS

as a positional parameter, instructs The Network Director to RELOAD all the GLOBALS definitions in the identified set of definitions.

GROUPS

as a positional parameter, instructs The Network Director to RELOAD all the GROUP definitions in the identified set of definitions. If a keyword is present, this operand identifies the GROUP definition to RELOAD.

KEYS

as a positional parameter, instructs The Network Director to RELOAD all the KEY definitions in the identified set of definitions. If a keyword is present, this operand identifies the KEY definition to RELOAD.

NAME

establishes the 1 to 8 character identifier for the set of control blocks that are to be RELOADed.

PROFILES

as a positional parameter, instructs The Network Director to RELOAD all the PROFILE definitions in the identified set of definitions. If a keyword is present, this operand identifies the PROFILE definition to RELOAD.

REPLACE

indicates that the current definitions in storage should be released from usage before loading the incoming definitions. If REPLACE is not specified, the definitions being RELOADed will be **added to the end of the current definitions**. New definitions loaded with the same identifier will overlay existing definitions.

RESOURCE

as a positional parameter, instructs The Network Director to RELOAD all the RESOURCE definitions in the identified set of definitions. If a keyword is present, this operand identifies the RESOURCE definitions to RELOAD.

SITES

as a positional parameter, instructs The Network Director to RELOAD all the SITE definitions in the identified set of definitions. If a keyword is present, this operand identifies the SITE definition to RELOAD.

TERMINALS

as a positional parameter, instructs The Network Director to RELOAD all the TERMINALS definitions in the identified set of definitions. If a keyword is present, this operand identifies the TERMINALS definition to RELOAD.

USERS

as a positional parameter, instructs The Network Director to RELOAD all the USERS definitions in the identified set of definitions. If a keyword is present, this operand identifies the USERS definition to RELOAD.

VERSION

establishes an additional single character identifier (in addition to NAME) that can be utilized to uniquely identify the set of definitions being reloaded. The default is <u>0</u>, but must be specified to match what was utilized when the SAVE operation was accomplished.

Examples

```
RELOAD GROUP=TEST++++,NAME=TEST,REPLACE
```

All the current GROUP definitions will be deleted, and the GROUP definitions that match the pattern TEST++++ in the set named TEST will be loaded into storage.

SAVE

The SAVE command provides a manner in which the Network Administrator can designate which items in the operational Network Director should be saved onto the External File. These entities, control blocks, or definitions receive an identifier (called the *name*) and can have a specific *version* associated with them to allow the installation to maintain slightly differing *generations* of each saved named set of control block definitions.

The SAVE command should be specified with one or more of the definition operands (APPLICATIONS, etc.) or it will result in an *empty set* that will have no use.[4]

The format of the SAVE command is:

```
SAVE
      [ ALL ]
      [ APPLICATIONS [ =alpha pattern ] ]
      [ DEFAULTS ]
      [ EXTENSION [ =alpha pattern ] ]
      [ GLOBALS ]
      [ GROUPS [ =alpha pattern ] ]
      [ KEYS [ =alpha pattern ] ]
      [ NAME={name|applid} ]
      [ PROFILES [ =alpha pattern ] ]
      [ REPLACE ]
      [ RESOURCE [ =alpha pattern ] ]
      [ SITES [ =alpha pattern ] ]
      [ TERMINALS [ =alpha pattern ] ]
      [ USERS [ =alpha pattern ] ]
      [ VERSION={name|0} ]
```

Figure 14.   SAVE Syntax

ALL

instructs The Network Director to initiate the SAVE operation for **all** current definitions. All TERMINALS, USERS, GROUP, PROFILE, DEFAULT, GLOBALS, SITE, KEYS, and APPLICATION definitions will be saved.

---

[4] Specification of ALL is **not** a default for the SAVE command. You must specify the item(s) you want SAVEd.

APPLICATIONS

as a positional parameter, instructs The Network Director to SAVE all the APPLICATION definitions. If a keyword is present, this operand identifies the APPLICATION definition to SAVE.

DEFAULTS

as a positional parameter, instructs The Network Director to SAVE all the DEFAULT definitions.

EXTENSION

This operand can be utilized to qualify USERS and TERMINALS definitions (if necessary) to identify the precise definition to SAVE.

GLOBALS

as a positional parameter, instructs The Network Director to SAVE all the GLOBALS definitions.

GROUPS

as a positional parameter, instructs The Network Director to SAVE all the GROUP definitions. If a keyword is present, this operand identifies the GROUP definition to SAVE.

KEYS

as a positional parameter, instructs The Network Director to SAVE all the KEY definitions. If a keyword is present, this operand identifies the KEY definition to SAVE.

NAME

establishes the 1 to 8 character identifier for the set of control blocks that are being saved. If not specified, the NAME defaults to the GLOBALS APPLID= specification.

PROFILES

as a positional parameter, instructs The Network Director to SAVE all the PROFILE definitions. If a keyword is present, this operand identifies the PROFILE definition to SAVE.

REPLACE

indicates that the definitions should completely replace any previously saved definitions under the same NAME and VERSION. Essentially, use of this operand will cause the SAVE operation to begin with a complete erasure of any previously stored definitions, followed by the storage of the currently specified set.[5]

This operand is **required** if the set you are saving into already has existing records. This is intended to aid you in making sure you do not overlay an existing set of definitions that you would like to retain.

RESOURCE

as a positional parameter, instructs The Network Director to SAVE all the RESOURCE definitions. If a keyword is present, this operand identifies the RESOURCE definition(s) to SAVE.

SITES

as a positional parameter, instructs The Network Director to SAVE all the SITE definitions. If a keyword is present, this operand identifies the SITE definition to SAVE.

TERMINALS

as a positional parameter, instructs The Network Director to SAVE all the TERMINALS definitions. If a keyword is present, this operand identifies the TERMINALS definition to SAVE.

USERS

as a positional parameter, instructs The Network Director to SAVE all the USERS definitions. If a keyword is present, this operand identifies the USERS definition to SAVE.

VERSION

establishes an additional single character identifier (in addition to NAME) that can be utilized to uniquely identify the set of definitions being saved. VERSION defaults to 0 and is intended to allow multiple *generations* of saved definitions (for backup type conditions).

---

[5]   Specifying REPLACE will eliminate only the type of definition that was specified on the SAVE statement (E.G. SAVE USERS,REPLACE will replace only saved USERS definitions).

Examples

```
SAVE ALL
```

All network definitions are saved on the External File with a VERSION of 0 and a NAME equivalent to the GLOBALS APPLID value.

```
SAVE APPLICATIONS,NAME=APPLS,VERSION=2
```

All existing APPLICATION definitions are saved under the NAME APPLS with a VERSION identifier of 2. Because REPLACE was not specified, any existing APPLICATIONS that are already stored under APPLS VERSION 2 will remain in the set. APPLICATIONS in storage with identical names as those on the External File will replace the definition on the External File.

```
SAVE GROUP=TEST++++,NAME=TEST,REPLACE
```

All GROUP definitions that start with the string of TEST are saved under the NAME TEST and will REPLACE all existing definitions stored in the TEST set.

SIMLOGON

The SIMLOGON Operator Command is provided to simplify testing of the logical network. It will cause The Network Director to issue a VTAM SIMLOGON request to acquire a terminal for processing. It will acquire the terminal only once. When the terminal transfers to another application (via Selection), it will not automatically return to The Network Director when finished with the Selection.

To obtain a terminal and keep it under the control of The Network Director, utilize TERMINAL ACQUIRE=YES from a valid Network Administrator's terminal.

The SIMLOGON command's format is:

```
SIMLOGON
       [ NETWORK-ELEMENTS= ] terminal name
```

Figure 15.   SIMLOGON Command Syntax

NETWORK-ELEMENTS

identifies the terminal that is to be the target of the SIMLOGON request.

Examples

```
    SIMLOGON SPA67
```

This will generate a VTAM SIMLOGON request for the terminal named SPA67. Once it has been acquired, The Network Director will process it according to all the standard rules associated with constructing the Application Selection Panel.

STOP

The STOP Operator Command is provided to instruct The Network Director to terminate execution within its partition or address space. This command is typically used to terminate The Network Director when GLOBALS TERMINATE=OPERATOR is in effect.

OS Operators may use the OS Stop (P) operator command to imply STOP QUIESCE to The Network Director.

The STOP command's format is:

```
STOP
        {IMMEDIATE|ABEND|QUIESCE}
```

Figure 16.   STOP Command Syntax

termination type

specifies the type of logical termination.

ABEND   directs The Network Director to immediately terminate by issuing an Operating System ABEND request.

IMMEDIATE   instructs The Network Director to terminate without waiting for individual network elements to terminate their current activity.

QUIESCE   instructs The Network Director to terminate after any internal work that is scheduled completes. Any pending output operations will be completed (External File I/O, etc.) prior to termination. The latest copy of information in the System Directory will be written to the External File.

VM

The VM Operator Command allows you to issue actual VM (CP) commands from the Network Administration command line (presuming The Network Director is operating in a virtual machine under VM and is authorized). This can be useful when querying the virtual machine's status or other related CP information.

Note: The CP command issued will execute as if it originated from the virtual machine console that is associated with the virtual machine operating The Network Director. For GCS installations, this will be The Network Director's virtual machine. For OS or DOS installations (including VCNA), this will be the virtual console logged on as the operating system itself.

The VM command's format is:

VM

      command string

Figure 17.   VM Command Syntax

---

command string

is any valid CP command (QUERY, RESET, etc.) The response from CP to the command will be returned into the LOG display for your inspection.

VTAM

The VTAM Operator Command allows you to issue actual VTAM commands from the Network Administration command line. This can be useful when interrogating about a device's status or other VTAM activity that may be required.

The VTAM command's format is:

```
VTAM
        command string
```

Figure 18. VTAM Command Syntax

command string

is any valid ACF/VTAM command (D NET or V NET, etc.)[6]

The response from ACF/VTAM to the command will be returned into the LOG display for your inspection. The VTAM command and its associated responses are asynchronous to the terminal read and write operation. That is, the output may not be delivered to the LOG buffer before your keyboard is unlocked. Thus, you may be required to refresh the LOG display (hit the ENTER key) before you will see the result of your command.

The VTAM operator responses are not compressed by The Network Director when they are returned to the LOG display. If the response is truncated by the right hand portion of the physical screen (messages longer than 62 characters), you can eliminate the **prefix area** or left hand portion of the Network Administration display by issuing the PREFIX NONE command.

---

[6] While VM/VTAM (GCS) installations do not normally have to specify the literal *NET* portion of the VTAM command from the VM/VTAM console, it is required when the command is forwarded to ACF/VTAM via the Program Operator interface (used by The Network Director).

Interactive Network Maintenance

As previously referenced, you may make modification and additions to existing network definitions from any authorized Network Administrator's LOG display. These changes are made by appropriate use of the SHOW command and associated panels.

The GLOBALS statement may also be specified by using the appropriate keyword syntax (exactly as if it had been entered in the Configuration Parameters.

DELETE

At times during dynamic modifications, you may encounter the need to remove a definition from the network. The DELETE statement provides this facility. It is issued from the Network Administrator's Primary Command Line exactly like any other command.[7]

The DELETE command's format is:

```
DELETE
        [ ACCESS=alpha value ]
        [ APPLICATION=application name ]
        [ EXTENSION=alpha pattern ]
        [ GROUP=alpha value ]
        [ KEYS=alpha value ]
        [ NETID=alpha value ]
        [ NETWORK-ELEMENT=alpha value ]
        [ SUBAREA=numeric value ]
        [ TERMINAL=alpha value ]
        [ USER=alpha value ]
```

Figure 19. DELETE Command Syntax

---

[7] The DELETE command does not support wild characters **except** for the EXTENSION operand.

ACCESS

identifies the AIB that is to be removed from use within The Network Director (if stored on the External File, it will be erased).

APPLICATION

identifies the APPLICATION that the Network Administrator would like to delete. The APPLICATION will not be defined to The Network Director and will produce the *Unidentified Application* message on any Application Selection Panels attempting to use it.

EXTENSION

is the additional value that can be used to identify specifically the USER or TERMINAL definition that is to be deleted.

GROUP

identifies the GROUP that is to be removed.

KEYS

identifies the KEYS definition that should be deleted.

NETID

is used as a qualifier to identify which network definition should be deleted.

NETWORK-ELEMENT

establishes the existing network element whose active control blocks you would like deleted. This can be utilized to cause The Network Director to completely rebuild a given network element's control blocks from scratch again. It is most useful if you would like The Network Director to obtain the SNA BIND image again (since this is done only once during any given Network Director execution). You may not DELETE a NETWORK-ELEMENT if it is session with The Network Director.

SUBAREA

is used as a qualifier to identify which network definition should be deleted.

TERMINAL

identifies the TERMINAL definition that is to be deleted.

USER

identifies the USER definition that will be removed from the network definitions.

Examples

```
DELETE USER=SYSTEMS
```

The USER definition for SYSTEMS will no longer be available within the logical network. Any attempt to logon as SYSTEMS will be rejected with the standard *invalid User id combination* message. If a network element is currently logged on as SYSTEMS, it will not be logged off. Once the network element has logged off, he/she will not be able to logon again as SYSTEMS.

SHOW Command Processing

The Network Director contains a full screen facility (the SHOW processor or command) to operate on the control block definitions and chains. The SHOW command is invoked from Network Administration exactly as any other command, but instead of placing single lines into the LOG for subsequent display it will present a series of full screen 3270 panels to the terminal operator (normally, a Network Administrator).   The terminal operator can then utilize these panels to modify, operate on, extend, or otherwise manipulate the control blocks.

It is **extremely important** that you understand that the SHOW processor simply allows you to operate on the contents of the defined elements within The Network Director. Please make sure that you review "Dynamic Changes" on page 76 for additional information about how your interactive changes impact the running system.

The SHOW command syntax is:

```
SHOW
        [ ABENDS ]
        [ ACCESS [=alpha value] ]
        [ APPLICATIONS [=application name] ]
        [ DEFAULTS ]
        [ DIRECTORY [=entry name] ]
        [ EXITS ]
        [ EXTENSION=alpha pattern ]
        [ GLOBALS ]
        [ GROUPS [=group name] ]
        [ KEYS [=keys name] ]
        [ LISTS [=owner id] ]
        [ NETID=netname ]
        [ NETWORK-ELEMENT [=element name] ]
        [ PROFILES [=profile name ] ]
        [ RESOURCE [=resource name] ]
        [ SITES [=site name] ]
        [ SUBAREA=subarea number ]
        [ TERMINALS [=terminal name] ]
        [ TRACE ]
        [ USERS [=user name] ]
```

   Figure 20.   SHOW Command Syntax

where the keyword identifies the type of definition you would like to process and the optional keyword value identifies which definition you would like to process. If no keyword is provided, SHOW will present you with a list of definitions in the chain you have specified (as portrayed in the following figure).

SHOW responds with either a detail panel (E.G. SHOW DEFAULTS, SHOW TERMINAL=T0032) or a list of control blocks that can be operated upon (SHOW USERS, SHOW GROUPS, SHOW TERMINALS). A sample panel containing a list follows:
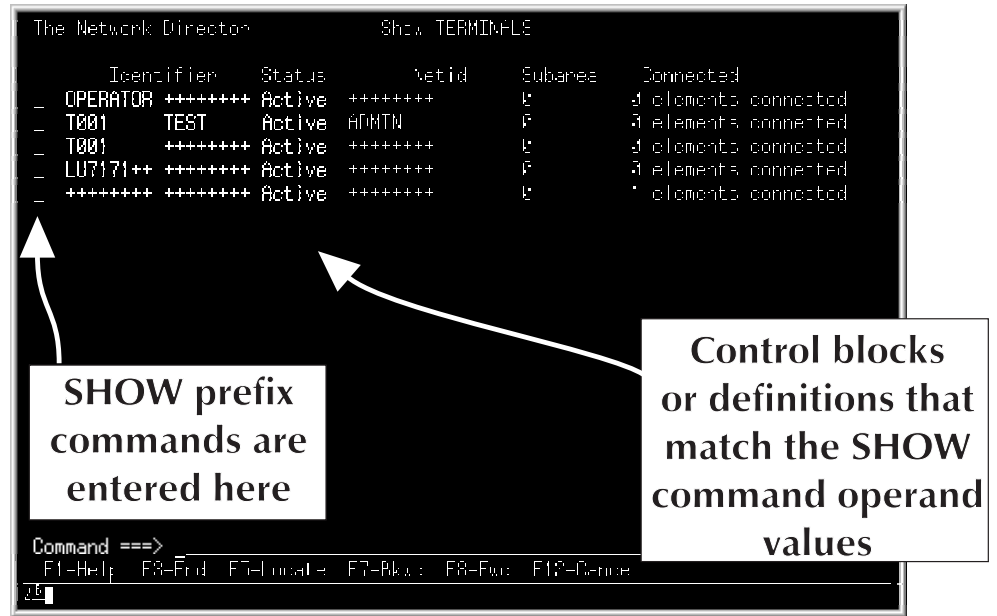

Figure 21.   SHOW List of Control Blocks

You can cause SHOW to display a "subset" of the currently defined definitions by entering a keyword operand using wild characters to indicate which definitions should be included in the list (E.G. SHOW USERS=UG++++++ includes all USER definitions in storage that begin with UG). The ALL command can also be used to "subset" the list of displayed elements (after the list is displayed).

Utilize the Bkwd (F7) and Fwd (PF8) commands to page backward and forward through the SHOW list. These SHOW paging commands also apply to the SHOW detail panels associated with TERMINALS, USERS, and NETWORK-ELEMENTS.

Primary Commands

While operating within the SHOW processor, several primary commands are active. They are:

Command	Purpose
Add	add a new control block at the end of the current defined blocks (synonym is CREATE)
All	select a subset of control blocks for inclusion in SHOW list. See "SHOW ALL Example" on page 43.
Bkwd	page up operation (normally, PF07). While displaying a control block list, this command will restart the display from the top of the chain. UP is only active from a detail panel, when it has multiple pages for modification (GLOBALS is the only initial SHOW operand that requires multiple detail panels).
Cancel	terminate the current panel and, if possible, **do not** save the results from the interaction. Depending upon the fields that have already been modified, Cancel may not be capable of *ignoring* the results of the interaction. That is, the results may be saved exactly as if END was entered.
End	Terminate the current panel and save the results (if any) from the interaction (normally, PF03). This will return your terminal to the previous level within The Network Director. FILE and SAVE are synonyms. The CLEAR key is also an implied END.
Fwd	page down operation (normally, PF08). While displaying a control block list, this command will move the display forward one *page* (for large control block chains). Detail panel displays will be advanced to the subsequent panel (the GLOBALS detail panel can be utilized as an example)
Locate	reposition the menu list. The SHOW list is restarted at the control block that matches the operand of the LOCATE command.
Select	request a specific definition. The current SHOW list is searched for a match on the operand specified and, if located, a detail SHOW panel for the definition is invoked.

Figure 22.   SHOW Primary Commands

You can enter these commands on any panel by typing the command on the command line or by pressing a PFKEY that is associated with the command.

Repetitive END operations will eventually return your device to Network Administration.

SHOW ALL Example

When SHOW produces a "list of control blocks" or elements, the terminal operator may issue ALL to select a sublist of items for further processing. It is important that you realize that SHOW's ALL command processes the internal base control block associated with the specific element being displayed. As a result, it is possible that ALL can be used to select control blocks that contain character strings that **do not appear on the screen**.

As an example, it is possible to use ALL to select all APPLICATIONs that have a specific TARGET value (even though the TARGET value does not appear on the SHOW menu panel). The ALL command will process each APPLICATION (ADB) looking for a match in the basic portion of the control block. Since this portion of the control block contains the TARGET value, it is possible to select based upon its value.

Assume that SHOW APPLICATIONS has produced a menu panel and the following command input is entered:

Figure 23.   Network Administration ALL Command

The character "/" acts as the delimiter. The ALL command will produce a list of elements that has ADMIN or TNDINFO associated with it.

Prefix Commands

When the SHOW control block list on present on the device, there are several **actions** that can be performed against the control block(s) by entering the action codes into the underscore "_" that is present on the same line as the control block.[8] They are:

Command	Purpose
A	identify the destination for a Move or Copy operation as **After** the marked control block
B	identify the destination for a Move or Copy operation as **Before** the marked control block
C	**Copy** the marked control block to another location in the current control block chain.
D	**Delete** the control block
F	same as "After". Also known as the **Following** command.
H	**Hold** the marked control block from usage
I	**Insert** a new control block in the chain immediately after the one marked with the I command
M	**Move** the marked control block to a new location
P	same as "Before". Also known as the **Preceding** command.
R	**Release** the control block for usage
S	**Select** the control block for detail display and potential update
V	**View** the control block (same as Select)
X	**DUMP** the selected control block in hexadecimal
*	a request to **duplicate** or **replicate** the current control block.

Figure 24. SHOW Prefix Commands

The prefix commands D, H, R, and X are analogous to the DELETE, HOLD, RELEASE, and DUMP commands that can be issued from the normal Network Administration LOG display panel. S and V cause the SHOW processor to display a *detail* panel that contains all the individual fields associated with the control block.

---

[8] The MOVE and COPY prefix command can be used on the Application (ADB), Access (AIB), Network-element (ANE), Directory (DIR), Group (GDB), Keys (KDB), List (NDL), Profile (PDE), Resource (RES), Site (SDB), Terminal (TDB), and User (UDB) definitions.

The following figure demonstrates how to move a USER definition identified as TESTUSER that will never be used (it's after a TEST++++ definition). Simply marking it with a M for Move and the TEST++++ definition with B for Before will cause The Network Director to rearrange the definition sequence.

Figure 25. Sample SHOW Move Prefix Command

The Copy prefix command provides a mechanism to simplify the reproduction of existing characteristics to a new definition from an old one. This is intended to simplify the generation of a new definition when accomplishing Network Director system configuration interactively via SHOW.

Detail Panels

A SHOW detail panel contains all the fields associated with a specific control block. There are basically two types of fields on the detail panels. The first type can be modified directly by tabbing to the appropriate field and overtyping the value (GROUP, etc.).

The second type requires that you *select* it from the initial detail panel. *Selection fields* will have an underscore ("_") immediately preceding the field title. Simply enter a character into the selection character to select the panel associated with the field. You will be presented with an appropriate panel to fill in or overtype your desired field values. Entering a **D** or **N** will cause the secondary set of values associated with the field to be deleted or reset to a "non existent" condition.

Select fields indicate whether the exist or not by the presence of the literal "DEFINED" or "NOT DEFINED" on the detail panel.

Note: It is very important that you realize that the SHOW command operates on the **current** control block structure. Therefore, as you make changes on the SHOW detail panels, you are making that change effective immediately within your network. There are procedural techniques that you can use to protect yourself from inappropriately defining a control block, but it is your responsibility to implement them. The Network Director's SHOW processor itself is simply providing you a tool to manipulate the control blocks.

An example of a detail panel for a USERS definition follows:

```
The Network Director        Show User    NRSDEMO

   Identifier . . . NRSDEMO          Password .   . . .
                                     Profile  .   . . .  _____ _____
   Acquire  . . . .  _____       _ Pswd-options . . Not defined
 _ Applications . . Not defined     Selections   . . .  _____
 _ Attributes . . . Not defined     Status-interval    _____
   Authentication . NO            _ Subareas .   . . Not defined
 _ Authorization  . Defined       _ Terminals   . . Not defined
   Autologoff . . . NO              Timeout  .   . . .  _____
 _ Commands . . . . Not defined
   CUA  . . . . . . No
 _ Days/Times . . . Not defined
   Extension  . . . ++++++++
   Format-id  . . .
 _ Groups . . . . . _____
   Id-area  . . . . YES
 _ Logo . . . . . . Not defined
   Maximum  . . . . _____
 _ Messages . . . . Not defined
   Net-id . . . . . ++++++++

Command ===> _____
 F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 26. Sample SHOW Detail Panel

An example of a *second level* panel follows (this is a sample of the panel presented if you enter an **S** or otherwise modify the Applications field on the previous example):

```
The Network Director        Show Applications/Ffkeys

001 INFO     __ 020 _____ __ 039 _____ __ 058 _____ __ 077 _____ __
002 MESSAGES __ 021 _____ __ 040 _____ __ 059 _____ __ 078 _____ __
003 CMS      __ 022 _____ __ 041 _____ __ 060 _____ __ 079 _____ __
004 NETADMIN __ 023 _____ __ 042 _____ __ 061 _____ __ 080 _____ __
005 PAYROLL  __ 024 _____ __ 043 _____ __ 062 _____ __ 081 _____ __
006 SEATTLE  __ 025 _____ __ 044 _____ __ 063 _____ __ 082 _____ __
007 NETVIEW  __ 026 _____ __ 045 _____ __ 064 _____ __ 083 _____ __
008 TSO      __ 027 _____ __ 046 _____ __ 065 _____ __ 084 _____ __
009 CICSTEST __ 028 _____ __ 047 _____ __ 066 _____ __ 085 _____ __
010 SCHEDULE __ 029 _____ __ 048 _____ __ 067 _____ __ 086 _____ __
011 IBMIIN   __ 030 _____ __ 049 _____ __ 068 _____ __ 087 _____ __
012 PROFS    __ 031 _____ __ 050 _____ __ 069 _____ __ 088 _____ __
013 NYC      __ 032 _____    051 _____    070 _____    089 _____
014 _____  __ 033 _____    052 _____    071 _____    090 _____
015 _____  __ 034 _____    053 _____    072 _____    091 _____
016 _____  __ 035 _____    054 _____    073 _____    092 _____
017 _____  __ 036 _____    055 _____ __ 074 _____    093 _____
018 _____  __ 037 _____    056 _____ __ 075 _____    094 _____
019 _____  __ 038 _____ __ 057 _____ __ 076 _____    095 _____ __

Command ===> _____
 F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 27. Sample SHOW APPLICATIONS= Detail Panel

Field Editing

Once you have a detail panel present on your terminal, there are several basic *editing* rules that you should be aware of. They are:
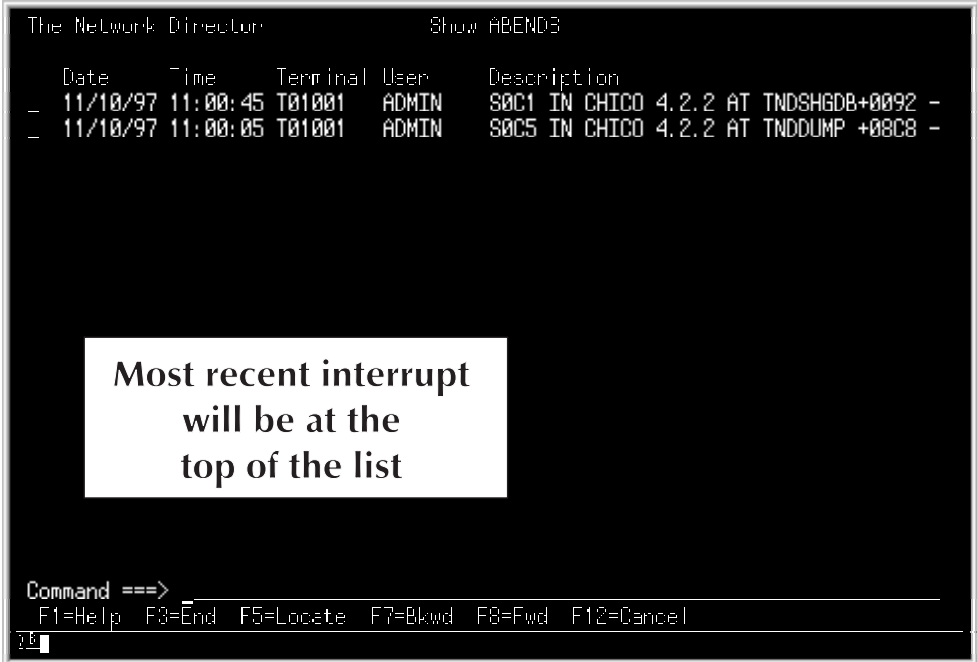
1. numeric fields that can utilize abbreviation syntax (M, K, H, and D) are automatically converted back and forth. Thus, a Timeout: of 60 will be converted to 1M for redisplay.

2. to reset a field to the *default* condition or to eliminate a value, simply use the ERASE EOF key or blank the field out

3. typically, entering a minimum number of characters to identify the field setting is sufficient (**Y** for YES, **N** for NO, etc.)

4. multiple occurring fields (ATTRIBUTES, COMMANDS, etc. are **not** positionally dependent (the values may not appear in the identical panel location that you initially entered them in)

ABENDS

The Network Director operates with an appropriate recovery environment (STAE, ESTAE, or STXIT) to enable it to recover from transient program interrupts, etc., if they do occur (GLOBALS RECOVERY=YES). The Network Director contains a mechanism that allows the Network Administrator to diagnose these program interrupts more extensively.

When a program interrupt that goes through recovery logic (GLOBALS RECOVERY=YES) occurs, The Network Director saves the DFB and WAE chains (register save areas) associated with the interrupt. This information can then be interrogated via proper usage of the SHOW ABENDS function.

A sample SHOW ABEND display follows:

Figure 28.   SHOW ABENDS Panel

You can move the cursor to the beginning of the interrupt you are interested in and mark it with an "X". This will produce a hexadecimal display of the Estae Status Block (TNDESB), which is a Network Director control block that is the anchor for information associated with the environment at the time of the interrupt.

If you would like to interpret this area further without NRS assistance, consult the TNDESB DSECT that is available on the distribution tape.

ACCESS

Use the SHOW ACCESS detail panel to define, view, or modify ACCESS characteristics for a specific user.

```
The Network Director      Show Access      TEST


Network Element. . TEST              Password . . . . .    _____
                                     Phone. . . . . .     _____
Authentication . . SECURENET KEY     Serial no . . . .   _____
Last Logon . . . . ** Never Used **  Status . . . . .    Active
Name . . . . . . . Test User Name    Tries . . . . . .    _____

Parameter 1. . . . 0011301560320041073-1056                          3AC5E5
Parameter 2. . . . _____
Parameter 3. . . . _____
Parameter 4. . . . _____
Parameter 5. . . . _____
Comments . . . . . _____
                   _____
                   _____
                   _____
                   _____
                   _____



Command ===> _____
 F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 29.   Sample SHOW ACCESS Detail Panel

The fields on the panel have the following uses:

Authentication Allows the activation of secondary authentication. The SecureNet Key interface uses this field to associate a specific user with the SecureNet Key algorithm.

Comments Holds any descriptive comments that you would like to aid you in the use of the Access block. This information is stored in the External File and is available on all batch detail reports.

Last Logon Will show the last time a user associated with this Access block successfully logged on.

Name The User's Name

Network Element The Identifier (userid) for the individual that will use the block

Parameters Optional parameters associated with the Access block (used by the SecureNet Key interface)

Password If SECURITY=DIRECTOR is in effect, this field is where you enter or reset the initial password.

Phone The User's phone number

Seed Value Used to set the internal value associated with an authentication device (E.G. SecureNet Key or IntelliCard).

Status   Shows the current status of the Access block

Tries   the number of unsuccessful, consecutive attempts to logon

APPLICATIONS

Use the SHOW APPLICATIONS detail panel to define a new APPLICATION or modify an existing one.

Figure 30. Sample SHOW APPLICATION Detail Panel

All fields on the APPLICATION panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide*. The "Identifier" field is the name associated with the definition.

The INITIAL-DATA panel accepts literals by simply entering them (do not enclose them in quotation marks). The length of each INITIAL-DATA operand is set by evaluating each operand from the right to the left. The first non-blank (underscore) character encountered establishes the length of the operand.

DEFAULTS

Use the SHOW DEFAULTS detail panel to set the general default conditions for the operation of The Network Director.

```
The Network Director          Show Defaults

  Acquire . . . . . NO            Profile . . . . SAMPLE    CHANGE
_ Applications . . Not defined    Recovery . . . . _____
_ Attributes . . . Not defined    Selections . . . *
  Authentication . NU             Status-interval  _____
  Autologoff . . . NO             Timeout . . . .  _____
_ Commands . . . . Defined        Tries . . . . 3
  Connect-maximum  _____       Wsf . . . . . KEEP
  CUA . . . . . . . NO
  Dim . . . . . . 20M
  Format-ic . . . STANDARD
  Id-area . . . . YES
_ Id-logo . . . . Not defined
  Identification . NO
_ Labels . . . . . Not defined
  Lognode-ed t . . YES
_ Logo . . . . . . Defined
_ Messages . . . . Defined
  Password . . . .
_ Pswd options . . Defined


Command ===> _____
 F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F10=Prefix  F12=Cancel
```

Figure 31.   Sample SHOW DEFAULTS Detail Panel

All fields on the DEFAULTS panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide.*

DIRECTORY

The **System Directory** contains information about every user that has logged on to The Network Director. Issuing SHOW DIRECTORY presents a list of the entire System Directory. Selecting a single entry will produce a panel similar to this:

```
The Network Director      Show Directory    ADMIN

    Identifier . . . ADMIN

    Application. . : NETADMIN
    Appl chosen at : 11:01:13   11/10/97
    Department . . :  _____
    Group  . . . . : SYSTEMS
    Information. . :
    Logged off . . : 11:00:45   11/10/97
    Logged on. . . : 11:01:12   11/10/97
    Logon at . . . : T01001
    Name . . . . . : Network Operator
    News . . . . . :
    Phone  . . . . : 425/814-9000




Command ===> _
  F1=Help  F3=End  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 32. Sample SHOW DIRECTORY Detail Panel

The fields are:

Application Last Network Director application selection

Appl chosen at Date and time the application was selected

Department The department code associated with the directory entry (may be extracted from the security package)

Group The Group value associated with the directory entry (may be extracted from the security package)

Identifier The userid for the individual associated with the Directory entry

Information User installation data

Logged off Last date and time the user logged off of The Network Director

Logged on Last date and time the user logged on to The Network Director

Logon at Last terminal device the user logged on to

Name User's name (may be extracted from the security package)

News Indicates whether the user has seen the News (View) or not

Phone User's phone number (may be extracted from the security package)

EXITS

The Network Director allows the Network Administrator to dynamically administer installation specific exits. This is accomplished by usage of the SHOW EXITS command.

Figure 33. SHOW EXITS Panel

This panel reports on the currently active exits and allows the Network Administrator to operate on any exit. The previous example shows that only a single exit (TNDEXT12) is currently in use and it was dynamically loaded.

The following prefix commands allow you to manipulate the individual exit points by moving the cursor to the appropriate spot and entering the value in front of the item:

D   causes an exit that was loaded or linked to be removed from use within The Network Director. If it was dynamically loaded, it will be removed from storage.

L   issues an appropriate operating system function (LOAD) to obtain a copy of the routine in virtual storage. If the exit was previously loaded, an appropriate operating system DELETE will be done.

X   requests that the associated exit be displayed in hexadecimal from the Network Administration panel via the DUMP processor.

You can also use the Bkwd (PF7) and Fwd (PF8) commands to move backward and forward in the list of exits being displayed by SHOW.

GLOBALS

Use the SHOW GLOBALS detail panel to set the operating system related operands within The Network Director.

```
The Network Director          Show Globals              More:    +

   Accounting  . .  SMR                    Down-text . . .   Down
                    _____                 Dump  . . . . . . NO
                    _____               _ Events  . . . .  Not defined
   Account-text  .  Account:              External-file .   YES
   Active-maximum  100                     Extension-text   Extension
   Active-text . .  Active                 Fold-ofkeys . .  YES
   App id . . . .   CHICO                  Held-text . . .   Held
   Authorization .  291275365378103        Id-size . . . .  8
                    0000000000000020       Line-count  . .  60
                    0000000000000000       Log . . . . . .  80
                    0000000000000000       Logon-message .  DETAIL
                    0000000000000000       Logsize . . . .  16K
   Broadcasts  . .  DISK    2H             Memos . . . . .  STORAGE 5D
 _ Colors  . . . .  Defined                Msgid . . . . .  YES
   Command-char  .  NO                     Msgs  . . . . .  NO
   Console . . . .  YES                    Name  . . . . .  The Network Director
   Cp-msgs   . . .  YES                    Network-retries 5
   Date-format . .  MM/DD/YY               Network-waits .  Defined
   Date text . . .  Date:                  New pswd  . . .  YES


Command ===> _____
 F1=Help  F3=End  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 34.   Sample SHOW GLOBALS Detail Panel

All fields on the KEYS panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide*. Use the Fwd (F8) and Bkwd (F7) keys to page through the various operands.

GROUPS

Use the SHOW GROUP detail panel to define a new GROUP definition or modify an existing one.

```
The Network Director        Show Group   SYSTEMS

   Identifier . . . SYSTEMS           Password .    . .
                                      Profile  .    . . _____  _____
   Acquire  . . . . NO              _ Pswd options . . Not defined
 _ Applications . . Defined          Selections   . . _____
 _ Attributes . . . Not defined      Status-interval  _____
   Authentication . NO             _ Terminals    . . Not defined
   Autologoff . . . NO               Timeout  .    . . _____
 _ Commands . . . . Not defined      Tries  . .    . . _____
   Confidential . . YES              Wsf  . . .    . . NO
   CUA  . . . . . . NO
 _ Days/Times . . . Not defined
   Dim  . . . . . . _____
   Format-ic  . . . _____
   Id-area  . . . . YES
   Identification . ___
 _ Logo . . . . . . Not defined
   Maximum  . . . . _____
   Messages . . . . Not defined
 _ Network elements Not defined


Command ===> _____
 F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 35.   Sample SHOW GROUP Detail Panel

All fields on the GROUP panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide*. The "Identifier" field is the name associated with the definition.

KEYS

Use the SHOW KEYS detail panel to define a new KEYS definition or modify an existing one. The KEYS definition is only useful if your installation is making use of The Network Director's LU1 interface logic.

```
The Network Director        Show Keys    IBM3101

    Identifier . . . IBM3101            Pf6. . . . . . . 06
                                        Pf7. . . . . . . 87
    Backspace. . . . 02                 Pf8. . . . . . . 88
    Clear. . . . . . 03                 Pf9. . . . . . . 89
    Clr-screen . . . D3                 Pf10 . . . . . . 91
    Control. . . . . 00                 Pf11 . . . . . . 60
    Enter. . . . . . 00                 Pf12 . . . . . . 7E
    Escape . . . . . 27                 Pf13 . . . . . . 7F
    Lft-cursor . . . C4                 Pf14 . . . . . . 7C
                                        Pf15 . . . . . . 7B
    Pa1. . . . . . . A4                 Pf16 . . . . . . 5B
    Pa2. . . . . . . A5                 Pf17 . . . . . . 6C
    Pa3. . . . . . . A6                 Pf18 . . . . . . 5F
                                        Pf19 . . . . . . 50
    Pf1. . . . . . . 81                 Pf20 . . . . . . 5C
    Pf2. . . . . . . 82                 Pf21 . . . . . . 4D
    Pf3. . . . . . . 83                 Pf22 . . . . . . 5D
    Pf4. . . . . . . 84                 Pf23 . . . . . . 6D
    Pf5. . . . . . . 85                 Pf24 . . . . . . 4E

Command ===>
 F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 36.   Sample SHOW KEYS Detail Panel

All fields on the KEYS panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide*. The "Identifier" field is the name associated with the definition.

LISTS

Use the SHOW LISTS detail panel to define a new LIST definition or modify an existing one. If you modify another user's private LIST, the other user will **not be notified**.

```
 ┌─────────────────────────────────────────────────────────────┐
 │ The Network Director         Show List     METS              │
 │                                                               │
 │    List . . . . . . . METS                                    │
 │                                                               │
 │ _  Elements . . . . . Not defined                             │
 │    Owner. . . . . . . ADMIN                                   │
 │    Title . . . . . . . Company Baseball Team                  │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │                                                               │
 │ Command ===>                                                  │
 │  F1=Help  F3=End  F7=Bkwd  F8=Fwd  F9=Create F12=Cancel       │
 │                                                               │
 └─────────────────────────────────────────────────────────────┘
```

Figure 37.   Sample SHOW LIST Detail Panel

The fields on the LIST panel have the following meanings:

Elements A selection field allowing you to specify the individual elements that make up the list

List   Logical name associated with the list

Owner   The individual or terminal that originally created and currently "owns" the list

Title   The descriptive information provided by the list owner to help remember what members are in the list

NETWORK-ELEMENT

The Network Director uses a control block called the Active Network Element (ANE) to identify every device it has had or does have a session with. This control block is a key anchor point for all information about what the device is currently doing and its characteristics.

You can display the contents of this key control block and extract key information associated with the specific network element.

A sample SHOW NETWORK-ELEMENT detail panel is:

Figure 38. SHOW NETWORK-ELEMENT Detail Panel

Field Values

Many of the fields will be self explanatory and simply reflect the current setting for a specific characteristic associated with the device (Account, Autologoff, Commands, Extension, Id area, Identification, Group, Msgs, Profile, Security, Selections, Terminal, Wsf are fields in this category).

Other fields are accumulated by The Network Director during execution. Fields in this category and their origin are as follows:

Active at   indicates which internal CSECT and offset within The Network Director's nucleus that the network element is currently processing at. Normally, this will be empty unless the device is currently active. When active, it will typically identify a location in The Network Director where some type of a wait condition (terminal i/o, file i/o, etc.) is occurring.

Active RPL	indicates whether there is an active VTAM RPL against the device or not. If present, the type of RPL (SEND, RECEIVE, etc.) will be displayed.
Bind image	if "Present", this selection field allows you to easily dump the Bind image The Network Director is using to communicate with the device
Connect time	the date and time that The Network Director started the original session with the device
DFB	indicates that The Network Director has an internal unit of work (DFB) currently processing for the device. Selecting this will cause The Network Director to produce a hexadecimal image (DUMP) of the DFB for inspection.
Director session	the date and time that The Network Director started the current session with the device
Last Activity	the date and time of the last input or output operation from or to the device
Logmode	the current logmode name that is associated with the device
Name	the name of the user currently using the system. This is from the System Directory and may be extracted from the installation security package
Netid	the 1 to 8 character netid associated with the device extracted from the CINIT data
RPQ Data	when present, this select field allows you to inspect the data bytes returned by the device in response to a Write Structured Field Read Partition Query command
Screen size	the size of the physical screen that The Network Director will use to create panels
Security Data	when present, this information is what was retrieved from the installation security package when the user signed on (differs for each security package)

Setmode/Logmode identifies the terminal user specified logmode setting

WAE area	when present, this represents the current Work Area Element (register save area) for the active DFB

Several of these fields will be useful only when you are attempting to diagnose specific issues within The Network Director or the device. Knowledge of all of these fields is **not necessary** to successfully operate The Network Director.

Color Command

When you are displaying a specific ANE, you may issue the COLOR command from the Network Administrator's panel. This command operates exactly as if the terminal operator sitting at the displayed device had entered the COLOR command on the device's command line. If COLOR mode is off, it will be turned on. If COLOR mode is on, it will be turned off.

This will force The Network Director to send output to the device assuming that the device is capable of a full 7 color operation (Start Field Extended orders will be used). The COLOR command has been provided to allow the Network Administrator to "test" other devices in the network to establish their color capabilities without having to be at the device's location.[9]

PROFILES

Use the SHOW PROFILE detail panel to define a new PROFILE definition or modify an existing one. If you modify another user's private PROFILE, the other user will **not be notified**.

Figure 39. Sample SHOW PROFILES Detail Panel

All fields on the PROFILE panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide* and can be manipulated by the individual user via the PROFILE command. The "Identifier" field is the name associated with the definition and can be a unique name assigned by the Network Administrator, a LU name, or an individual's userid.

---

[9]   If you activate COLOR at a device that is not capable of color transmissions, you may cause session failures and PROGnnn checks on the device.

RESOURCE

The SHOW RESOURCE detail panel allows you to create a free format text definition or modify an existing one for use within The Network Director.

```
 The Network Director        Show Resource TEST


    Identifier . . . TEST

  _ Data . . . . . . . Not defined
    Tit e. . . . . . Sample Resource for LOGO

















  Command ===>
   F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F12=Cancel

```

Figure 40.   Sample SHOW RESOURCE Detail Panel

The Identifier field establishes the "name" that will be associated with the resource. The Data field provides a mechanism to select a full screen edit and create or change the Resource contents.

SITES

Use the SHOW SITES detail panel to define a new SITE definition or modify an existing one.

Figure 41.   Sample SHOW SITE Detail Panel

All fields on the SITE panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide.* The "Identifier" field is the name associated with the definition.

STATISTICS

The Network Director operates as a multi-tasking environment managing the communication with multiple devices. While performing the tasks associated with this objective, The Network Director executes a variety of system functions and requires certain system resources.

The SHOW STATISTICS panel provides a general overview of the actions and environmental issues associated with The Network Director's performance. The panel will appear similar to the following figure:

Figure 42.   Show Statistics Panel

where:

Appl   lists the first 18 APPLICATIONs that are defined in the Configuration Parameters and displays the number of times the item has been selected (Total) and the current number of devices that have been sent to the subsystem and have not returned (Current)

CB   display the number of bytes in 1,024 (K) increments associated with the Control Block storage pool

Clsdst   lists the number of times that the ACF/VTAM CLSDST function has been issued since The Network Director initialized (Total) and the number of times in the last Network Director Interval (see below for an explanation of the "interval").

Compress indicates in 1,024 increments the number of bytes that have been removed from the output transmissions as a result of The Network Director's compression routine

Data from identifies the date and time that The Network Director initialized

Date displays the calendar date that the current display was produced

Devices is the number of network elements The Network Director has communicated with

DFBs shows the largest number of active DFBs The Network Director has had at one time since it initialized (Total) and during the last Interval

Director displays the current release level of The Network Director

Get identifies the total number of Vsam GET operations that have been issued since The Network Director initialized and during the last interval

Inactive lists the number of devices currently on the Inactive List

Input displays the number of input transmissions processed by The Network Director since initialization and during the last interval

Input# identifies the number of bytes (in 1,024 increments) that have been received from devices in session with The Network Director since initialization and during the last interval

Inquire displays the number of ACF/VTAM INQUIRE operations that have been issued since initialization and during the last interval

Int establishes the time of day that the latest interval ended. The "Interval" values displayed in the panel were accumulated during the TIMER period that ended at this time of day.

Job is the OS Jobname, VM Virtual Machine name, or DOS partition name of The Network Director

MX display the number of bytes in 1,024 (K) increments associated with the Mixed storage pool

Net is the ACF/VTAM NETID that The Network Director is operating within

Opndst displays the number of ACF/VTAM OPNDST operations that have been issued since initialization and during the last interval

Output is the number of output transmissions that have been initiated by The Network Director

Output# displays the actual number of bytes output (in 1,024 increments) to devices on a ACF/VTAM session.

Pool this column identifies the type of storage pool whose numeric totals will be displayed to the right.

Put is the number of VSAM PUT operations that have been executed since The Network Director initialized and during the last interval.

Receive identifies the number of ACF/VTAM RECEIVE operations that have been issued since The Network Director initialized and during the last interval

Security establishes how many times the security package interface has been called to perform a function

Send is the number of ACF/VTAM SEND operations that have been issued since The Network Director initialized and during the last interval

Signoff establishes the number of times The Network Director has logged off a user (the user has caused a signoff activity to be initiated)

Signon establishes the number of times The Network Director has attempted to log a user on (the user has caused a signon activity to be initiated)

SSCP is the SSCP "Domain name" for the ACF/VTAM Domain that The Network Director is operating in

Storage(K) lists the virtual storage in 1,024 increments that are associated with the various Network Director storage pools

Subarea is the ACF/VTAM Subarea number associated with the Subarea that The Network Director is executing in

Time is the time of day that the panel was sent to the device

TP lists the storage characteristics (in 1,024 increments) for the Teleprocessing storage pool

Users identifies the number of people currently logged onto The Network Director

Vsam is the number of times that The Network Director VSAM interface was called to perform a VSAM function

Vsam RPL is the maximum number of VSAM RPLs found active during the interval and since The Network Director initialized

Vtam is the number of times that The Network Director VTAM interface was called to perform a VTAM function

Vtam RPL is the maximum number of VTAM RPLs found active during the interval and since The Network Director initialized

24bit identifies the amount of storage (in 1,024 increments) that have been obtained from addressable storage "below the 16MB line"

31bit identifies the amount of storage (in 1,024 increments) that have been obtained from addressable storage "above the 16MB line"

The **Interval** is the second timer set via the GLOBALS TIMER= operand in the Configuration Parameters. When the Interval is encountered, The Network Director automatically resets all the "interval" based counters after adding them to the corresponding "total" fields.

STORAGE

The Network Director obtains the majority of the operating system storage it uses via Operating System GETMAIN or GETVIS and organizes it into three separate "storage pools". These pools are identified as:

CB   Control Blocks. This pool contains elements that will be used continually during the execution of The Network Director. All Network Director Configuration Parameters generate one or more control blocks. This pool also contains dynamically generated RPLs, etc.

TP   Teleprocessing. This pool contains terminal input and output transmission buffers. It also contains storage areas where terminal transmissions are being created and manipulated.

MX   Mixed. This pool contains all transient storage areas (elements that are required only on a temporary basis). The MX pool also satisfies all storage requests made to the Storage Manager that do not fit into the CB or TP pool.

The structure of the storage pools can be pictorially represented as follows:
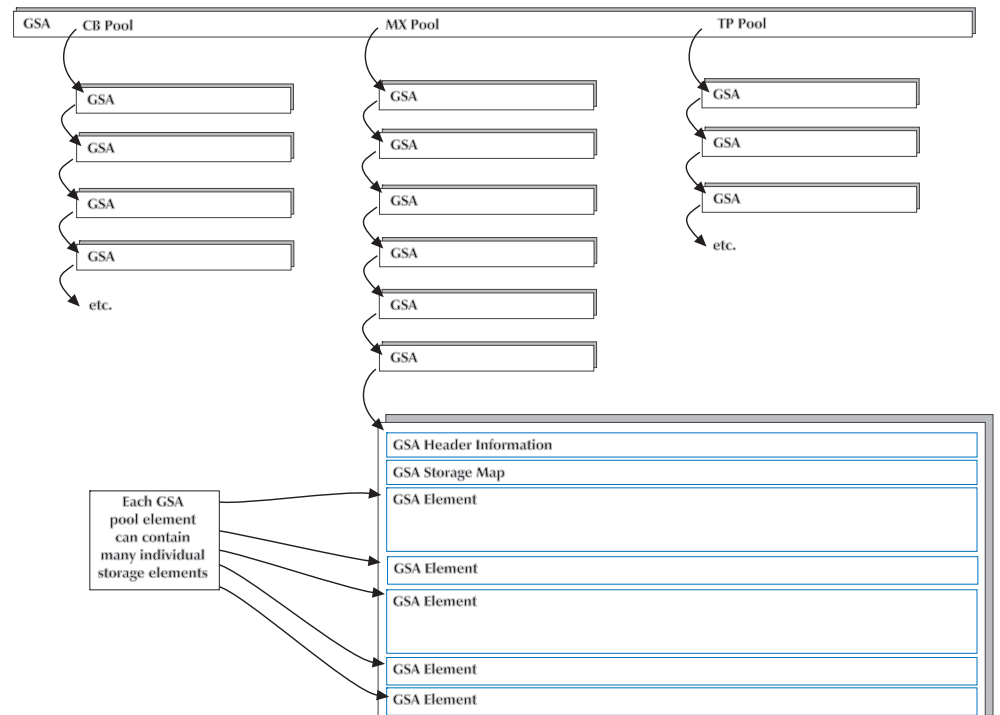
Figure 43.   Storage Pool Structure

Each GSA (General Storage Area) is a portion of virtual storage obtained from the operating system via a single GETMAIN or GETVIS SVC. The actual size of the area is determined via the GLOBALS STORAGE-POOLS operand value at the time of the GETMAIN/GETVIS.

All GSA elements reside in private storage and the "user" key of The Network Director. For systems capable of operating in 31 bit Addressing Mode, a GSA may be located either above or below the 16MB addressing line.

Summary Panel

The **SHOW STORAGE** command allows you to inspect the contents of these storage pools and the elements within them. It provides both summary and detailed information about the contents of the executing Network Director storage chains.

The first SHOW STORAGE panel provides a basic overview of all the storage pools. Each pool and subpool within them are summarized. The total number of allocated pool elements (each element is equivalent to a single operating system GETMAIN/GETVIS) and the type of storage (24 or 31 bit) is displayed along with the total storage allocated. The amount of free space is also included to provide you an idea of the percentage of storage allocated that is actually in use.
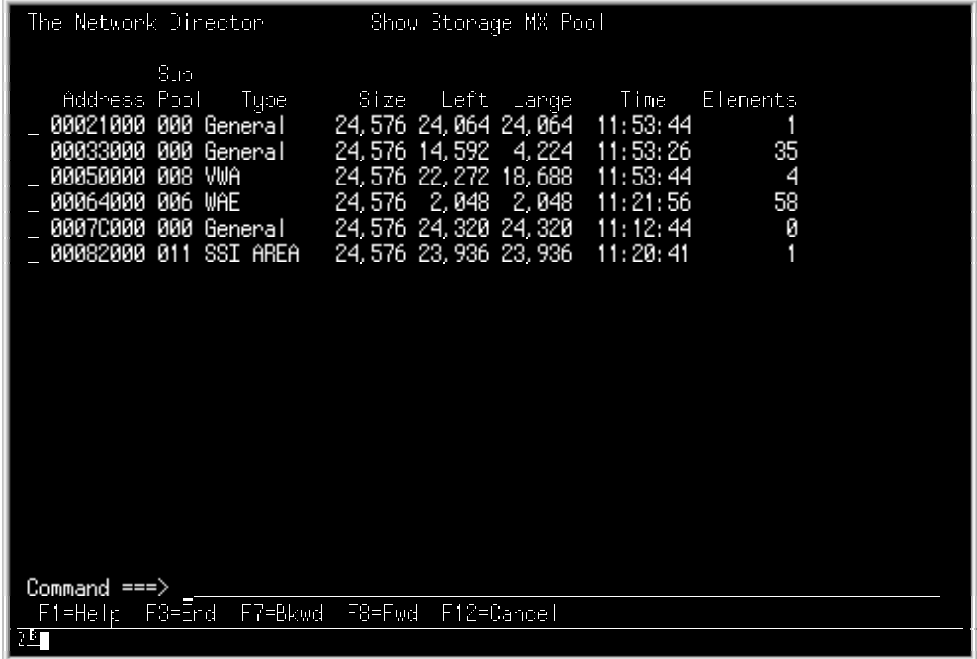
Figure 44.   Show Storage Summary Panel

You can display additional detail about a specific pool by tabbing or moving the cursor to the underscore in front of the pool that you would like to inspect further. Entering an "X" will cause SHOW to produce a hexadecimal dump of the storage. Any other character will be a request for the next "level" of the selected GSA chain to be displayed.

Specific Pool Chain

Selecting the MX pool from the prior panel will produce a display with a single line for each storage pool element (GSA) that has been allocated and is present in the current chain of GSAs for the selected Storage Pool.


```
 The Network Director        Show Storage MX Pool

              Sub
    Address Pool  Type        Size   Left  Large    Time   Elements
 _ 00021000 000 General     24,576 24,064 24,064  11:53:44        1
   00033000 000 General     24,576 14,592  4,224  11:53:26       35
 _ 00050000 008 VWA         24,576 22,272 18,688  11:53:44        4
 _ 00064000 006 WAE         24,576  2,048  2,048  11:21:56       58
 _ 0007C000 000 General     24,576 24,320 24,320  11:12:44        0
 _ 00082000 011 SSI AREA    24,576 23,936 23,936  11:20:41        1




















 Command ===> _____
  F1=Help  F3=End  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 45.   Show Storage Pools

The individual fields contain the following information for each element included in the display:

Address The virtual address of the storage

Subpool The Network Director is using the element for the numeric subpool displayed. This is The Network Director's subpool and has no relationship with the OS subpool that may be assigned to the storage.

Type Describes the contents of the Subpool. This may be "General", which indicates mixed usage, a control block name, or logical category of storage.

Size Displays the total size of the individual GSA.

Left The total amount of storage currently not allocated within the individual GSA.

Large The size of the largest contiguous storage within the GSA.

Time The last time of day that the GSA pool was manipulated by the storage manager for either allocation or deallocation storage requests.

Elements The number of items that are currently allocated within the GSA element (if known).

Each of the displayed elements is also selectable by moving the cursor to the underscore in front of the Address, entering a character, and pressing Enter. "X"

requests a hexadecimal dump of the storage, while any other character requests that
Show interpret the detail in the specific GSA.

Individual Pool Element

If you select a specific pool element for detail display, The Network Director will attempt
to break down precisely how the GSA element has been allocated.

```
 The Network Director          Show Storage MX block          More:
 
    Address   Size    CSECT     Offset   Use
 _ 000330E8    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 000331E8     80    TNDPARM    0160    GLO
 _ 00033268    504    TNDPARM1   1D58
 _ 00034568    488    TNDPARMS   11F2
 _ 00034768    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 00034868    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 00034968    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 00034A68    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 00034B68    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 00034C68    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 00034D68     80    TNDDISP    0250
 _ 00034DE8    192    TNDBLOCK   02D0    Dispatchable Function Block
   00034EE8    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 00034FE8    192    TNDBLOCK   02D0    Dispatchable Function Block
 _ 000351E8  1,632    TNDSMSG    01A2    WRK
 _ 00035868     16    TNDSHOW4   024C    Screen Selection Element
 _ 000358E8     16    TNDSHOW4   024C    Screen Selection Element
 _ 00035968     16    TNDSHOW4   024C    Screen Selection Element
 
 Command ===> _
  F1=Help  F3=End  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 46.   Show Storage Individual Pool Element

where:

Address   The virtual storage address of the individual item within the GSA pool
element

Size   The requested size in decimal of the storage that was allocated by the
storage manager on behalf of a Network Director Module

CSECT   The specific Network Director internal module that requested the storage. If
SHOW STORAGE cannot identify which routine allocated the storage, the
literal "Unknown" will be displayed.

Offset   The hexadecimal offset within the CSECT where the storage request was
made

Use   A general comment about the contents of the area (if identifiable by SHOW).

Each of the lines display a single storage area used by a single Module within The
Network Director. The MX and TP pools can have their allocated areas allocated and
freed extremely quickly during execution. Simply press Enter to update the display, but
do not be surprised if the contents of the display changes slightly from panel to panel.
This is a characteristic of the dynamic nature of operating a multi-tasking environment
working with multiple terminals.

TERMINALS

Use the SHOW TERMINAL detail panel to define a new TERMINAL definition or modify an existing one.

Figure 47.   Sample SHOW TERMINAL Detail Panel

All fields on the TERMINAL panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide*. The "Identifier" field is the name associated with the definition.

TRACE

Internal diagnostic facilities within The Network Director are available through an internal routine trace mechanism. The internal "trace" is activated via the SHOW TRACE function of Network Administration.

SHOW TRACE will produce a panel similar to the following figure:

```
The Network Director              Show Trace

 ID   Type     Qualifier Active   Entry    Exit
 01   ANE      TC1001    Yes      Yes      Yes
 02   _____  _____  _____   _____   _____
 03   _____  _____  _____   _____   _____
 04   _____  _____  _____   _____   _____
 05   _____  _____  _____   _____   _____
 06   _____  _____  _____   _____   _____
 07   _____  _____  _____   _____   _____
 08   _____  _____  _____   _____   _____
 09   _____  _____  _____   _____   _____
 10   _____  _____  _____   _____   _____
 11   _____  _____  _____   _____   _____
 12   _____  _____  _____   _____   _____
 13   _____  _____  _____   _____   _____
 14   _____  _____  _____   _____   _____
 15   _____  _____  _____   _____   _____
 16   _____  _____  _____   _____   _____




Command ===> _____
 F1=Help  F3=End  F7=Bkwo  F8=Fwd  F12=Cancel
```

Figure 48.   SHOW TRACE Panel

The panel contains multiple entries for individual trace criteria (to a maximum of 16). Each entry is identified by several fields, which are aligned on the panel as data columns. The individual fields have the following meanings:

Active

The **Active** field defines whether the specific trace entry should be currently active (YES) or not (NO). This allows common traces to remain defined, but inactive for some period of time.

Entry

The **Entry** field identifies whether program entry should be traced (YES) or not (NO).

Exit

The **Exit** field identifies whether program exit should be traced (YES) or not (NO).

ID

The **ID** field associates a unique trace identifier with the set of criteria for a specific trace.

Type

The **Type** field identifies the activities within The Network Director that are to be traced for this trace entry.

ANE   establishes this trace entry as being associated with a specific device (LUNAME) or user (USERID). The Qualifier contains the network element to be traced (wild characters are valid).

DFB   establishes this trace entry as being associated with a specific type of dispatchable function (DFB). DFBTYPEs are defined in the *Internals* manual. The specific DFB to be traced is placed into the Qualifier field (wild characters are not supported).

Program   requests all trace entries that are applicable to a particular CSECT within The Network Director's nucleus. The Qualifier contains the CSECT name to be traced (wild characters are valid).

Qualifier

The **Qualifier** field establishes the character string that identifies the network item that is to be traced. The actual contents of the Qualifier is dependent upon the Type of trace entry (see the Type field for additional information about what should be placed into the Qualifier field).

Example

When a trace is activated, The Network Director will automatically place a unique message into the LOG for each CSECT entry (TND0812) and each CSECT exit (TND0813) that is applicable to the trace. The CSECT entry trace message contains the calling routine's offset, which CSECT was called, and the basic parameter list that was passed. The CSECT exit message contains the return offset and the return code passed in register 15.

An example of a simple trace monitoring a device pressing the CLEAR key to receive an updated selection panel is:

```
11:59:03  0813G ID=01 TNDKEYS Returned to TNDSHTRA+03E4 R15 = 00000000
11:59:03  0812G ID=01 TNDADMIN+0804 Called TNDSCRN Parm=00000004 0006A2B8 0003
11:59:04  0812G ID=01 TNDCUAP +018E Called TNDFKEYS Parm=0006A2B8 FF000000 000
11:59:04  0813G ID=01 TNDFKEYS Returned to TNDCUAP +018E R15 = 00000000
11:59:04  0812G ID=01 TNDSCRN +0CE0 Called TNDCOLOR Parm=0006A2B8 FF06A2B8 FF0
11:59:04  0813G ID=01 TNDCOLOR Returned to TNDSCRN +0CE0 R15 = 00000000
11:59:04  0812G ID=01 TNDSCRN +0DCA Called TNDVTAM Parm=00000028 00058238 0001
11:59:04  0812G ID=01 TNDVTAM +1D60 Called TNDVTAM1 Parm=00058238 0001ED50 000
11:59:04  0813G ID=01 TNDVTAM1 Returned to TNDVTAM +1D60 R15 = 00000000
11:59:04  0813G ID=01 TNDVTAM Returned to TNDSCRN +0DCA R15 = 00000000
11:59:04  0813G ID=01 TNDSCRN Returned to TNDADMIN+0804 R15 = 00000000
11:59:04  0812G ID=01 TNDADMIN+087E Called TNDSCRN Parm=00000008 0006A2B8 FF03
11:59:19  0812G ID=01 TNDINPUT+160C Called TNDVTAM Parm=0000003C 00058238 0001
11:59:19  0813G ID=01 TNDVTAM Returned to TNDINPUT+160C R15 = 00000000
11:59:19  0812G ID=01 TNDSCRN +0F78 Called TNDKEYS Parm=0006A2B8 00037D78 FF00
11:59:19  0813G ID=01 TNDKEYS Returned to TNDSCRN +0F78 R15 = 00000000
11:59:19  0813G ID=01 TNDSCRN Returned to TNDADMIN+087E R15 = 00000000
11:59:19  0812G ID=01 TNDADMIN+0E60 Called TNDKEYS Parm=0006A2B8 00035B8C FF00
```

Figure 49.   Trace Results Display

Many of the CSECT names, return codes, and parameter list values may be of limited use to you. This information is useful to NRS support personnel or installations with access to The Network Director's source code. You will typically only have need to activate the trace under the direction of NRS Technical Support,

USERS

Use the SHOW USERS detail panel to define a new USER definition or modify an existing one.

```
The Network Director        Show User    NR3DEMO

   Identifier . . . NR3DEMO           Password .    . .
                                      Profile  .    . :  _____ _____
   Acquire  . . . .  _____         _ Pswd options . . Not defined
 _ Applications . . Not defined       Selections   . . _____
 _ Attributes . . . Not defined       Status-interval  _____
   Authentication . NO              _ Subareas .    . . Not defined
 _ Authorization  . Defined         _ Terminals    . . Not defined
   Autologoff . . . NO                Timeout  .    . . _____
 _ Commands . . . . Not defined
   CUA  . . . . . . No
 _ Days/Times . . . Not defined
   Extension  . . . ++++++++
   Format-id  . . . _____
 _ Groups . . . . . _____
   Id-area  . . . . YES
 _ Logo . . . . . . Not defined
   Maximum  . . . . _____
   Messages . . . . Not defined
   Net id . . . . . ||||||||


Command ===> _____
 F1=Help  F3=End  F5=Locate  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 50.   Sample SHOW USERS Detail Panel

All fields on the USERS panel are as defined by the equivalent keyword operand in the *Network Administrator's Guide.*   The "Identifier" field is the name associated with the definition.

Dynamic Changes

Modifications or insertions made to The Network Director's control blocks will take place immediately, but some specific fields will not be effective until the affected network element becomes *active* (a USER logs onto the system, a TERMINAL enters The Network Director for the first time, etc.) or another event occurs.

The following list identifies each definition operand and identifies when a dynamic change to the operand will become effective in the network. **Immediate** implies that the modification is effective as soon as you press the ENTER key, **END** identifies modifications that will be effective when the END (FILE or SAVE) command is issued, and **Active** identifies operands that will take effect the next time the defined objects become active to The Network Director (logon process, VTAM BIND, VTAM OPEN, etc.).

Operand	Immediate	End	Active
ACCOUNT-TEXT	X		
ACCOUNTING	X		
ACQUIRE	X		
ACTIONS		X	
ACTIVE-TEXT	X		
ALARM	X		
APPLICATIONS		X	
APPLID			X
ATTRIBUTES	X		
AUTHORIZATION	X		X (GLOBALS)
AUTOLOGOFF			X
BROADCASTS	X		
COLORS	X		
COMMANDS			X
COMMAND-CHAR	X		
COMPRESS	X		
CONFIDENTIAL			X
CUA	X		
DATE-FORMAT	X		
DATE-TEXT	X		
DAYS		X	
DOWN-TEXT	X		
DUMP	X		
ERASE	X		
EVENTS	X		

Operand	Immediate	End	Active
EXTENSION	X		
EXTENSION-TEXT	X		
EXTERNAL-FILE			X
FOLD-PFKEYS	X		
FORMAT-ID	X		
GROUP			X
HELD-TEXT	X		
ID-AREA			X
ID-LOGO		X	
ID-SIZE	X		
IDENTIFICATION	X		
INITIAL-DATA		X	
INITIAL-FUNCTION	X		
INITIAL-STATUS			X
LINE-COUNT	X		
LOG	X		
LOGO		X	
LOGON-MESSAGE	X		
LOGMODE			X
LOGSIZE			X
MAXIMUM	X		
MEMOS	X		
MESSAGES	X		
MSGID	X		
MSGS	X		
NAME	X		
NETID	X		
NETWORK-ELEMENTS		X	
NEW-PSWD	X		
NEW-PSWD-TEXT	X		
NOTES	X		
NSI	X		
OPSYS			X
PASSWORD	X		
PASSWORD-TEXT	X		

Operand	Immediate	End	Active
PFKEYS		X	
PRINTERS	X		
PROFILE	X		
PSWD-OPTIONS		X	
RECOVERY			X
REJECT			X
RPLS			X
RPL-MAXIMUM	X		
SECURITY	X		
SECURITY-SVC	X		
SELECTIONS	X		
SEPARATOR	X		
SITE	X		
SMF	X		
SSI	X		
STORAGE-BALANCE	X		
SUBAREA	X		
SWAP			X
TARGETS	X		
TERMINALS		X	
TERMINATE	X		
TIME-TEXT	X		
TIMEOUT			X
TIMER	X		
TIMES		X	
TITLE	X		
TRACE			X
TRANSLATE	X		
TRIES	X		
UPDATES	X		
USER			X
USERS		X	
VERIFY-TEXT	X		
VSAM-PASSWORD			X
VTAMOPER			X

Operand	Immediate	End	Active
WAIT-TEXT	X		
WTO	X		

Figure 51. SHOW Operand Effective Time

SAVE/RELOAD Considerations

The SAVE and RELOAD statements allow a wide variety of options in allowing each installation to define how to operate The Network Director. However, a few basic guidelines can assist in avoiding confusion about how SAVE and RELOAD interact.

Always specify the *type* of definitions you would like SAVEd or RELOADed. Use the ALL operand or specific operands identifying the definitions you want utilized. Failure to specify the type of definition may result in *no operation* actually being performed.

VERSION

The VERSION operand should be utilized when you are saving a whole new set of definitions (incrementing it manually will accomplish this). If, for any reason, the new definitions do not interact in the manner that you would like, a simple RELOAD ALL,REPLACE,VERSION=0 of the old VERSION set will *back out* the new changes and replace the initial version (if 0 was the previous version).

REPLACE

When The Network Director SAVEs a definition, it will automatically overlay any previous definition in the set (NAME and VERSION) with the same identifier (APPLICATION name, etc.). SAVE does **not** automatically overlay all definitions unless you specify REPLACE. If you do not specify REPLACE, the definitions being SAVEd will be **added to** the definitions already there.

You should probably specify REPLACE on all operations where you are saving an entire set (all APPLICATIONS, all GROUPs, etc.). When updating a single definition, you should probably **not** specify REPLACE (updating the TNDADMIN application, etc.)

When you RELOAD a set of definitions into a functioning network, The Network Director will automatically restart any network elements that are affected by the definitions being loaded into storage. That is, a device logged on under control of a USERS definition that gets reloaded will have the user scheduled for logoff as a result of the RELOAD operation. This is so that The Network Director can guarantee that the integrity of the operating network matches the processes associated with the definition in effect (at the termination of the RELOAD).

This can cause all devices logged onto The Network Director to be logged off if a definition of sufficient impact is a target of the RELOAD (DEFAULTS, a wild character USERS definition, etc.). You should be extremely careful when issuing RELOAD from an operational Network Director.

Definition Order

The definitions are saved on the External File in the same sequence as they are defined. The sequence will be maintained by a subsequent RELOAD. The only exception to this is if multiple SAVE operations have been performed against the same set of definitions (in which case, the definitions will be RELOADed in the order they were SAVEd).

Without regard for how a particular set of definitions was saved, the SHOW processor will display the definitions in the order that they are being processed by The Network Director. It is technically possible to create a definition that will never be used.[10] For this reason, exercise care in randomly placing new definitions into an existing control block chain.

Configuration Parameter Combination

The basic design of the SAVE and RELOAD processes does allow you to place some items under control of the online mechanism and to continue to keep other definitions in the input stream (by inserting RELOAD statements in the Configuration Parameters). You must exercise extreme care when you are combining definitions in the same logical chain (USERS) from the Configuration Parameters and the External File. It is possible to have a definition in each location (the last one encountered will remain in effect).

To assist in which definitions are SAVEd and RELOADed, these statements display the definition they are saving or reloading. If you do not seem to get the desired results when combining the online mechanism and the Configuration Parameters, please look carefully at the LOG file for clues.

Recommended Conversion Approach

If you are currently using the Configuration Parameters to initialize The Network Director and would like to migrate to SAVE/RELOAD logic, you should:

1. Bring up The Network Director with the production Configuration Parameters

2. Issue a SAVE ALL command from Network Administration (this causes The Network Director to store all the current definitions in the External File)

3. Shut down The Network Director

4. Comment out the TNDPARMS definition (in JCL or EXEC)

5. Restart The Network Director with PARM='GLOBALS OPSYS=sys,APPLID=applid' ("sys" should be VM, OS, or DOS and "applid" should be the assigned VTAM application name you have assigned to The Network Director).

The Network Director will initialize using only the stored definitions from the External File.

---

[10] Inserting a USERS definition for TSRDR after a USERS definition for TSR+++ will cause the TSR+++ definition to be *found* prior to the TSRDR definition (which renders the TSRDR definition useless).

Miscellaneous Examples

When operating a network utilizing The Network Director, you should be aware of several operating characteristics. This discussion is intended to provide you with a brief idea of what The Network Director is doing in certain cases within the network, how you can monitor it, and what you can do to control it.

Terminal Operator Identification

Each piece of the network is identified within The Network Director as a **network element**. This can be normally thought of as a terminal or device within the network possibly being used by a user (someone has logged onto the terminal). The concept of a network element is key within The Network Director. You can use a terminal name (luname) or a user name (userid) to refer to the network element. **Either** of these 1 to 8 character names will be associated with the network element and you can make requests of The Network Director using either name (when inquiring about network elements).

Suppose that you have received a report (typically via the phone) indicating that the terminal is not working correctly. Starting from within Network Administration, you can issue the DISPLAY NETWORK-ELEMENT= command to find out what The Network Director thinks about the device and/or user. This will result in a display similar to the following:

Figure 52. Displaying a Network Element's Status

Note that the bottom portion of the LOG display contains the reply to the inquiry you issued. Message 249 (about the middle of the panel) will always contain a copy of the command you issued. The reply to your inquiry (message 254 thru 311) will always follow immediately in the LOG. In this case, you inquired about a terminal and The Network Director responded with which user was logged onto the device, his ACF2 name and phone number, as well as additional information about the internal status of the network element (where it connected, when, and the type of device is is). The display would be very similar if you issued a D N=SYS140 command except that the message 458 would indicate a device name (TM03) instead of a userid. Try this on your system to understand how this works.

If you issue a D N= command against a userid and the user is currently logged onto multiple devices, you will receive multiple responses to your query (one set of responses for each device the user is logged onto). You can also use the wild character (+) to request information about a range of network elements. (E.G. D N=TM++ requests this display for all devices that have a TM in the first two positions of the luname).

The other messages present on this LOG display are not related to the display command, but represent activity that is occurring within the logical network. Notice messages 197 and 196, which inform you about when The Network Director has detected a change in a status associated with one of the defined applications. Messages 227 and 457 are issued whenever a network element has selected or returned from an application. In this manner, you can monitor when terminals are being sent to applications. This is useful to insure that the terminal network is operating *normally*.

The left column of information on the panel relates the messages to a particular device or activity within The Network Director. If the information in this area is preceded by an asterisk ("*"), the message was issued from an internal function within The Network Director and is not necessarily related to a specific device within the network. Rather, the message is associated with an internal function that is briefly identified (MNTR is the internal monitoring functions, etc.).

The preceding figure also demonstrates a basic concept utilized within The Network Director about messages and return codes. Whenever The Network Director can inform you with additional information about a particular event, it will do so. Message 406 is indented in the display because it contains further information about the contents of message 116. This is also why the majority of the lines in response to the DISPLAY command are indented. This is The Network Director's way of letting you know that these lines are related to each other.

For purposes of documenting the activities produced by the various operator commands, the majority of the remaining figures will include only the command and its associated response. The reader is reminded that the LOG display will include many other messages, but you should focus on only those that pertain to your specific command.

Isolating Activity

To further identify what a terminal operator has done or what a specific device has done, you can issue the PREFIX command to restrict the items that will be displayed to a specific network element or network element pattern.

Figure 53.   Restricting the LOG Display

This display will show any entries in the LOG file associated with any 4 character luname that begins with the letters TM. This can be useful when doing problem diagnosis for a particular device and trying to decide what sequence of events occurred at the device. You can change the left hand column to only device names by entering PREFIX LUNAMES, times only (PREFIX TIMES), the date (PREFIX DATES), or back to the normal display (PREFIX STANDARD).

PREFIX NONE requests that the prefix area be removed from the Administrator display, which provides additional room for long message text (VM or VTAM command responses, etc.).

Network Related Errors

Whenever The Network Director receives a non zero return code from the network (ACF/VTAM), it will place the return codes and/or sense codes into the LOG file for information. If possible, it will attempt to further interpret the return codes. See Figure 52 on page 82(Messages 213 and 116) for an example of how this is portrayed in the LOG file.

You should also be aware that The Network Director receives a great number of non zero return codes that should be considered *normal*. Consider the following example:

Figure 54.   Displaying the Inactive List

This example shows some typical activities that will be occurring. The first series (message 213 and 116) represents a disruption in the session between The Network Director and a device during a RECEIVE operation. The exact numeric values of the codes are displayed and, where possible, the meaning is interpreted.

This particular session experienced a destruction of the logical screen, which is interpreted as "presentation space integrity lost". This particular event was triggered by issuing a SNA SYS-REQUEST LOGOFF sequence.

During execution of The Network Director, many of these situations will occur. While first learning about the concepts of The Network Director, you should watch these situations and research them as they occur. You will find quite quickly that specific return codes will be presented to The Network Director in a predictable fashion when devices are powered on and off, control units are IMLed, devices have their keylocks turned off, etc.

The second item of note from the preceding example demonstrates how a network operator can obtain a list of the devices that are not currently operating normally (according to The Network Director). As an example, the device named T01SL102 in the preceding example has exceeded the maximum number of signon attempts and has

been made inactive by The Network Director. This device will not be usable within The Network Director's environment until it is released (RELEASE NET=) by an authorized Network Administrator. To release the entire Inactive List, simply issue the RELEASE INACTIVE command. This will cause The Network Director to break the session with all the devices on the Inactive List and attempt to restart the session. The devices that are still not in a state where communication can begin will be placed back onto the Inactive List again.

Monitoring Network Activity

Network activity can be detected via simple monitoring of the LOG display. The display will be updated with the most recent information simply by pressing the ENTER key. You can also get the LOG display to update itself with no intervention by entering the MONITOR command on the command line. To exit the MONITOR mode, simply hit the CLEAR key, issue a command, or press any pfkey.

You can also get a list of all network elements currently using a particular application by issuing a display request with multiple operands. As an example:

Figure 55. Display Connected Network Elements

This display demonstrates how you can detect which terminals and users have current logical connections to the identified application. Wild characters are valid (E.G. you can request D N,A=CICS+++++ to get all users connected to any application that begins with CICS).

There are also other *combined* DISPLAYs that will show which network elements are associated with the logical definitions. The previous example showed network elements connected to a particular APPLICATION. You can also use the GROUP=, USER=, or TERMINAL= operand to display network elements logically connected to a particular definition.

Issuing Network Messages

You can also notify network users of information important to the operation of the data center by issuing the BROADCAST command. It is very important that you target this message at the appropriate locations. If you do not provide a TO= operand, The Network Director will send the message to all terminals within the network.

Suppose that you are interested in sending a message to only TSO users (terminals that have TSO as a selection). The following example demonstrates how to do this (assuming TSO is defined as an APPLICATION):

Figure 56.   Broadcasting a Message

The Network Director automatically assigns a message name (the time of day) to your broadcast message. It will automatically appear on any device (in the message or broadcast area) that is currently logged on and with TSO as a selection. The TO= operand can also specify terminal names, userids, or Network Director groups. Wild characters are permitted, but you should exercise care so that you do not use a wild character pattern that covers a larger portion of the network than you would like (beware an APPLICATION name that matches a device luname or a userid pattern).

Searching the LOG

While in Network Administration, you can scan for a character string to position the LOG display. This scan or LOCATE function is invoked from the command line by typing the LOCATE command (LOCATE, FIND, SEARCH, or simply a slash "/"). The search will be executed and the top line of the LOG display will be the line that contained the character string. If not found, the LOG display will be updated to the bottom of the display with an appropriate message included.

Figure 57.   Searching the LOG Display

The LOG is searched from the current location forward to find the character string "selected TSO". Once found, the LOG display is positioned at that point in the LOG and a full screen is displayed (any PREFIX in effect continues to apply). Issuing the LOCATE command again with no operands (default PF5) will repeat the search.

Since the LOG search begins from the current position forward, you will have to back up the LOG display (PF7 to back up, or TOP to go to the oldest entry). If you go to the oldest entry, you should issue the search command quickly before the oldest entry is overlayed by a newer one. If this occurs, the LOCATE command will be ignored and the LOG display will be updated to the latest entries.

Restarting a Session

Since The Network Director controls the devices when they are not in session with another APPLICATION, it is common that a device will end up on The Network Director's Inactive List when The Network Director is not able to establish a session with it (it may have been turned off, etc.) or cannot accomplish a write operation (the device's keylock has been activated). When this occurs, The Network Director has extensive logic to *automatically release* a device so that no network operator intervention is required.

If the terminal operator contacts you and indicates that his/her terminal is not functional, you should:

1. Have the terminal operator hit RESET and CLEAR (for non-SNA devices) or ATTN (for SNA devices)

2. If that does not cause the device to be operational, Issue a DISPLAY NET= command in Network Administration to establish the device's status (as far as The Network Director is concerned)

3. If the device is on the Inactive List or in another unusual status, issue RELEASE NET= to cause The Network Director to restart the session with the device

4. If it is still not cleared, issue VTAM V NET,ID=????,INACT,F and VTAM V NET,ID=????,ACT to cause a complete reset of the device and associated session activity

Figure 58.   Restarting a Network Director Session with a Terminal

The RELEASE command causes The Network Director to "CLSDST" and "SIMLOGON" the device which will drive the VTAM LOGON exit and cause The Network Director to begin a new session with the device.

VM SMSG Interface

If your installation is operating The Network Director in a VM/GCS environment, you can also utilize the CP SMSG interface (GLOBALS CP-MSGS=YES) to allow one or more of your CMS accounts to issue Network Administration commands and receive the responses back on the CMS machine's virtual console. Activation of this interface is discussed in the Network Administrator's Guide under CP-MSGS.

Once the interface is active, you can prepare the following sample EXEC to simplify your interaction with The Network Director.

```
/**********************************************************/
/*                                                        */
/*  Issue a Network Administration command to The Director */
/*                                                        */
/**********************************************************/
ARG $COMMAND
IF LASTPOS('NET',$COMMAND) > 0 THEN
     'CP SMSG DIRECTOR VTAM' $COMMAND
ELSE
     'CP SMSG DIRECTOR' $COMMAND
```

Figure 59. VM/CMS SMSG EXEC

Once this REXX EXEC is available to your CMS machine (these examples assume that you've named the file TND EXEC), you can expect the following (lower case is entered at the terminal, lines that begin with an upper case TND or IST are returned by The Network Director via MSGNOH).

```
        tnd d n=t001

        TND0224R Operator input: D N=T001
        TND0254G Network Element
        TND0652G   has been dimmed
        TND0311G   has 24 logical lines of 80 characters each
```

A VTAM command might look like this:

```
    tnd d net,id=t001,e
    TND0224R Operator input: VTAM D NET,ID=T001,E
    IST097I  DISPLAY ACCEPTED
    IST075I  VTAM DISPLAY - NODE TYPE = LOGICAL UNIT
    IST486I  NAME= T001    , STATUS= ACT/S       ,DESIRED STATE= ACTIV
    IST597I  CAPABILITY-PLU INHIBITED,SLU ENABLED  ,SESSION LIMIT 00000001
    IST598I  NETID = VTAM1
    IST082I  DEVTYPE = LU    , CONTROLLING PLU = DIRECTOR
    IST654I  I/O TRACE = OFF, BUFFER TRACE = OFF
    IST077I  SIO = 00000072 CUA = 001
    IST171I  ACTIVE SESSIONS = 00001, SESSION REQUESTS = 00000
    IST206I  SESSIONS:
    IST634I  NAME      STATUS     SESSION ID       SEND RECV VRN TP NETID
    IST635I  DIRECTOR ACTIV-PRI 00800001DFB63B14 0013 000D  0   0 VTAM1
    IST314I  END
```

Glossary

ACB: Access Method Control Block - the operating system control block that identifies The Network Director to VTAM and VSAM.

APAR: The term used within North Ridge Software, Inc. to uniquely identify a problem that has been reported or a request that has been made.

APPLICATION: The Network Director's Statement used in the Configuration Parameters to identify a logical application.

APPLID: The 1 to 8 byte code that identifies The Network Director to VTAM. Used in conjunction with the ACB and the GLOBALS APPLID operand.

BROADCAST: A type of message within The Network Director that is sent immediately to its targeted users.

CANCEL: A Network Director operator command that terminates a DFB immediately.

CLOSE: A Network Director operator command used to manage the external interfaces.

Combined Display: A type of network DISPLAY that requires multiple operands to properly identify the request.

DEFAULT: The Configuration Parameters statement that sets basic values for all network users.

DISCONNECT: A Network Director operator command that breaks the session between The Network Director and a VTAM terminal.

DISPLAY: The generalized Network Director reporting command. This command has the types: Overview, Specific, and Combined.

External File: The VSAM KSDS file used by The Network Director for storing Profiles, Messages, and HELP information.

LOG: Identifies both the external Print file (SYSPRINT or SYSLST) and the main storage queue used for LOG viewing by the Network Administrator.

GROUP: A Configuration Parameters statement that identifies a logical network element that can be shared by multiple network elements.

HOLD: An operator command to remove a network element from eligibility within the network. Also, it is the condition network elements are in when a HOLD operator command has been processed against it.

ICCF: The DOS Interactive Communication Control Facility. An online program development subsystem within DOS/VSE.

LOCATE: A SHOW primary command that indicates where the current SHOW list should be restarted at

LOGAPPL: The VTAM operand on the LU or PU statement that can be used to direct terminals to The Network Director.

LU: The acronym for a VTAM Logical Unit. Typically dealt with as a "terminal".

Maintenance: The process associated with installing a new release of a software product to incorporate upgrades, fixes, and enhancements.

Message Class: The grouping of Network Director issued messages into various categories (Internal, Reply, Security or Status, General, and Trace).

Message Number: The unique 4 byte identifying number associated with a Network Director message (not a Message Facility message).

Message Text: The actual text associated with a Network Director message.

Network Administration: The process of managing the logical network to guarantee availability, security, and usability.

network element: The Network Director's term for a specific user or terminal that is active within the network.

network entity: Used to identify any element within The Network Director's environment that is to be managed. It includes APPLICATIONs, TERMINALs, USERs, GROUPs, PROFILEs, as well as network elements.

OPEN: The Network Director operator command to enable an external interface. Opposite of CLOSE.

Operator Interface: The defined mechanism within OS and DOS to communicate with the operating system console.

Overview Display: A type of Network Director DISPLAY that presents summary information about the network.

Parameter Name: The 1 to 8 byte identifier that identifies the network entity within the Configuration Parameters. The Parameter Name assigns a logical name to the network element being defined.

Parameter Operands: Individual arguments present on a Configuration Parameter Statement. The Operands give each Statement its unique characteristics.

Parameter Statement: The combination of the Parameter Name, Statement Identifier, and Parameter Operands that defines a network entity.

PROFILE: The Configuration Parameters Statement that defines basic operator characteristics associated with utilizing The Network Director's facilities.

program operator: A VTAM facility that allows standard VTAM "application programs" to issue and receive VTAM commands and messages.

Prompt List: Identifies a series of choices available to a network operator when using the HELP facility.

PU: A VTAM Physical Unit. Typically identifies a single physical terminal.

RELEASE: A Network Director operator command to reverse the effect of a HOLD command.

REPRO: A facility within VSAM's Access Method Services that allows a file to be reproduced.

SELECT: A SHOW primary command that expresses a choice of a specific network definition from a SHOW list of definitions

SHOW: A Network Administrator command that allows full screen manipulation of the network definitions

SIMLOGON: A Network Director operator command that facilitates the testing and acquisition of a specific terminal.

Specific Display: A type of DISPLAY request that produces detailed information about a network element.

Stage One: The process of deciding major characteristics associated with the installation of The Network Director.

Statement Identifier: One of the major Parameter Statements used to identify network elements. The Statement Identifiers are: APPLICATION, PROFILE, TERMINAL, USER, GROUP, DEFAULT, and GLOBALS.

STOP: An operator command used to terminate the execution of The Network Director.

TERMINAL: The Configuration Parameters statement defining one or more specific terminals and their characteristics.

TNDGEN: The Stage One generation Macro. This is used to produce the Stage Two jobs and the Stage One Listing.

TSO: IBM's Time Sharing Option. A program development facility for MVS installations.

USER: The Configuration Parameters statement that identifies one or more specific network users and their specific characteristics.

Wild Character: The plus ("+") sign. Used within many of the Configuration Parameters to generically group network elements and their characteristics.

Index

SHOW ABENDS   49
SHOW ANE   59
SHOW commands   42
SHOW DIRECTORY   53
SHOW EXITS   54
SHOW TRACE   72
SIMLOGON
   defined   92
SITE   10
SITES   28, 31, 63
SMSG   90
specific display
   defined   92
stage one
   defined   92
standard   84
statement identifier
   defined   92
statistics   64
status display   82
STOP
   defined   92
stop/modify   3
Storage   67
storage chains   69
storage element   70
storage pools   67
STORAGE-POOLS   67
SUBAREA   18, 24, 38
System Directory   53
system directory contents   53

T

TAM   14, 20
TARGETS   18, 24
TERMINAL   12, 18, 24, 38
   defined   92
terminal name   16, 33

TERMINALS   28, 31
times   84
TNDESB   49
TNDGEN
   defined   92
TNDSAR   14, 20
TO   10, 87
TP pool   67
trace facilities   72
TRANSIENT   8
TRIES   18
TSO
   defined   92
Type trace field   73

U

Up   42
USER   12, 18, 25, 39
   defined   92
userid   81
USERS   28, 31, 75

V

VERSION   28, 31, 79
view   44
virtual machine   35
VM   35
VM SMSG   90
VTAM   36

W

wild character   10, 82
   defined   92