

z/OS Communications Server



# AIMON enhancements for OA51372

*Version 2 Release 2*

**Note:**

Links to related publications are from original documents and might not work. The links to publications are included for reference purposes only.

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## Tables



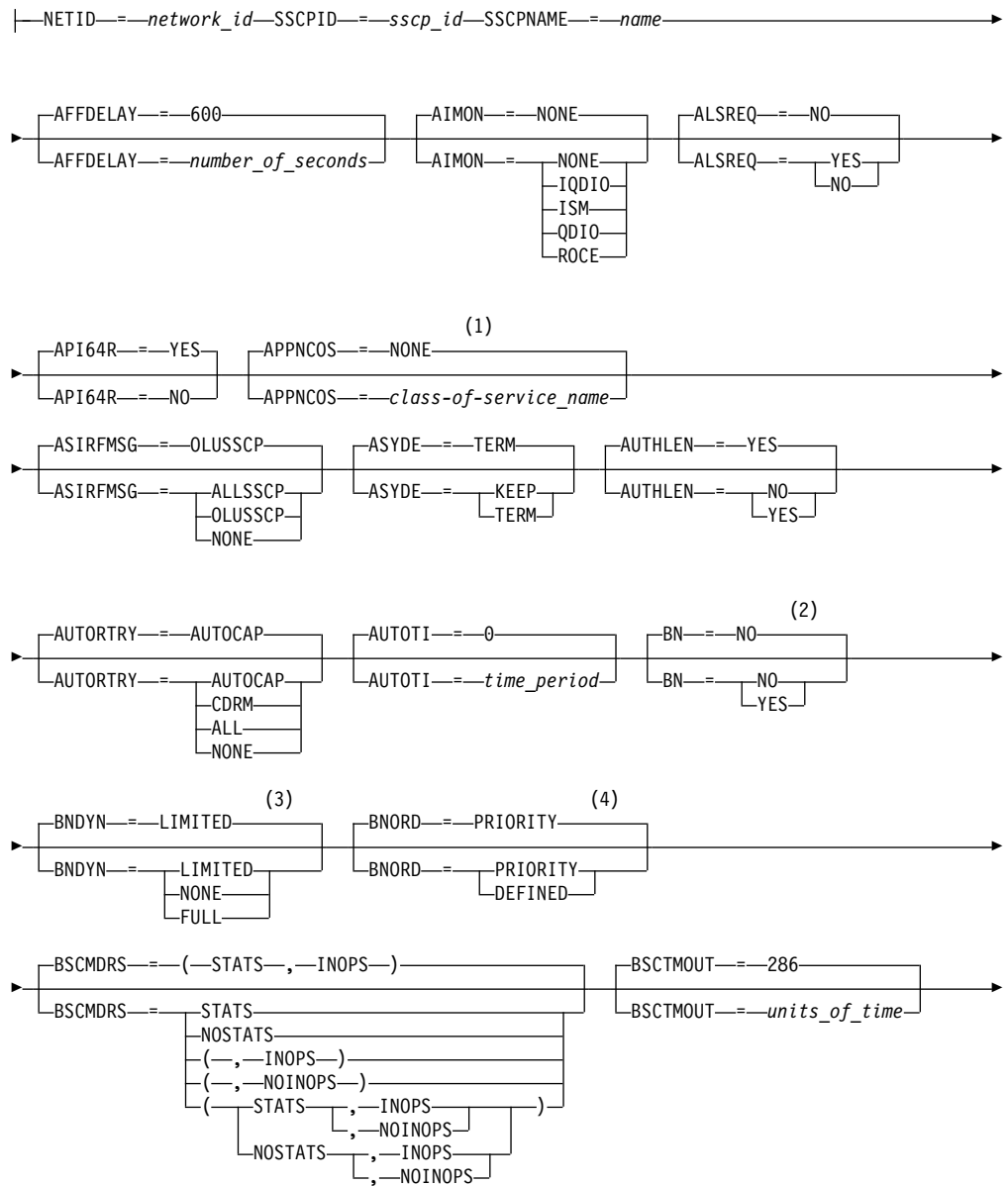
# Chapter 1. SNA Resource Definition Reference

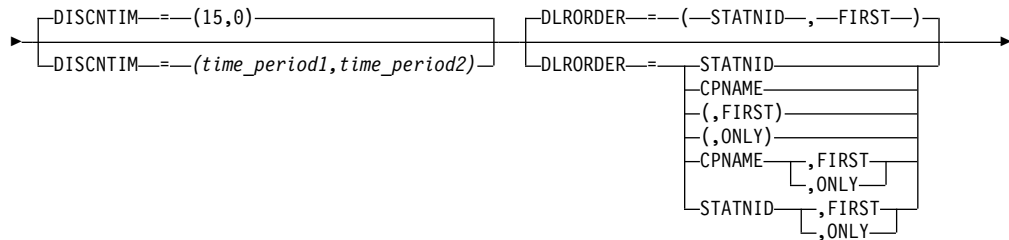
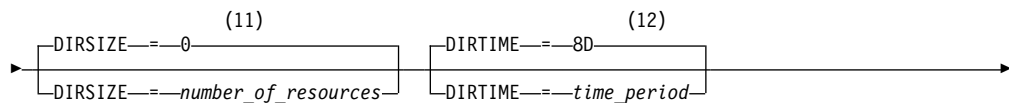
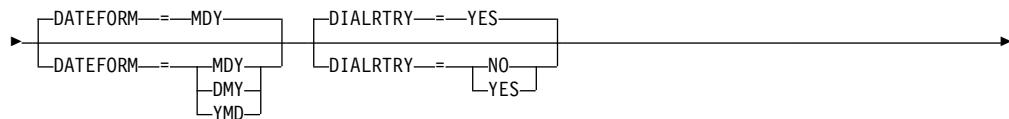
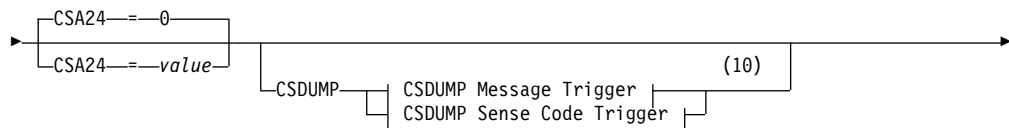
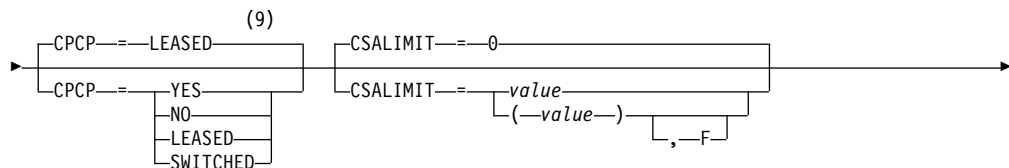
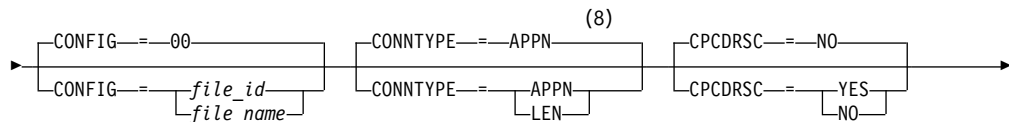
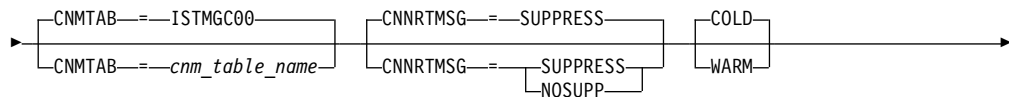
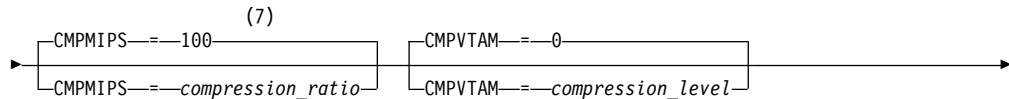
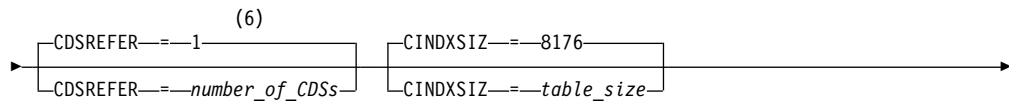
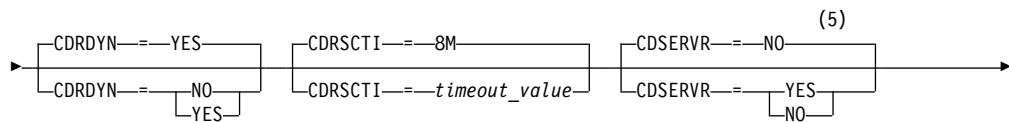
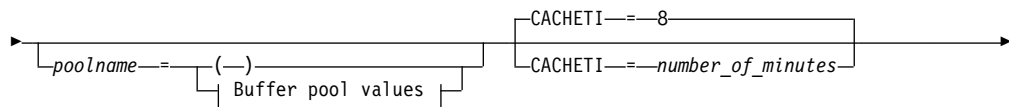
## VTAM start options

### Coding VTAM start options

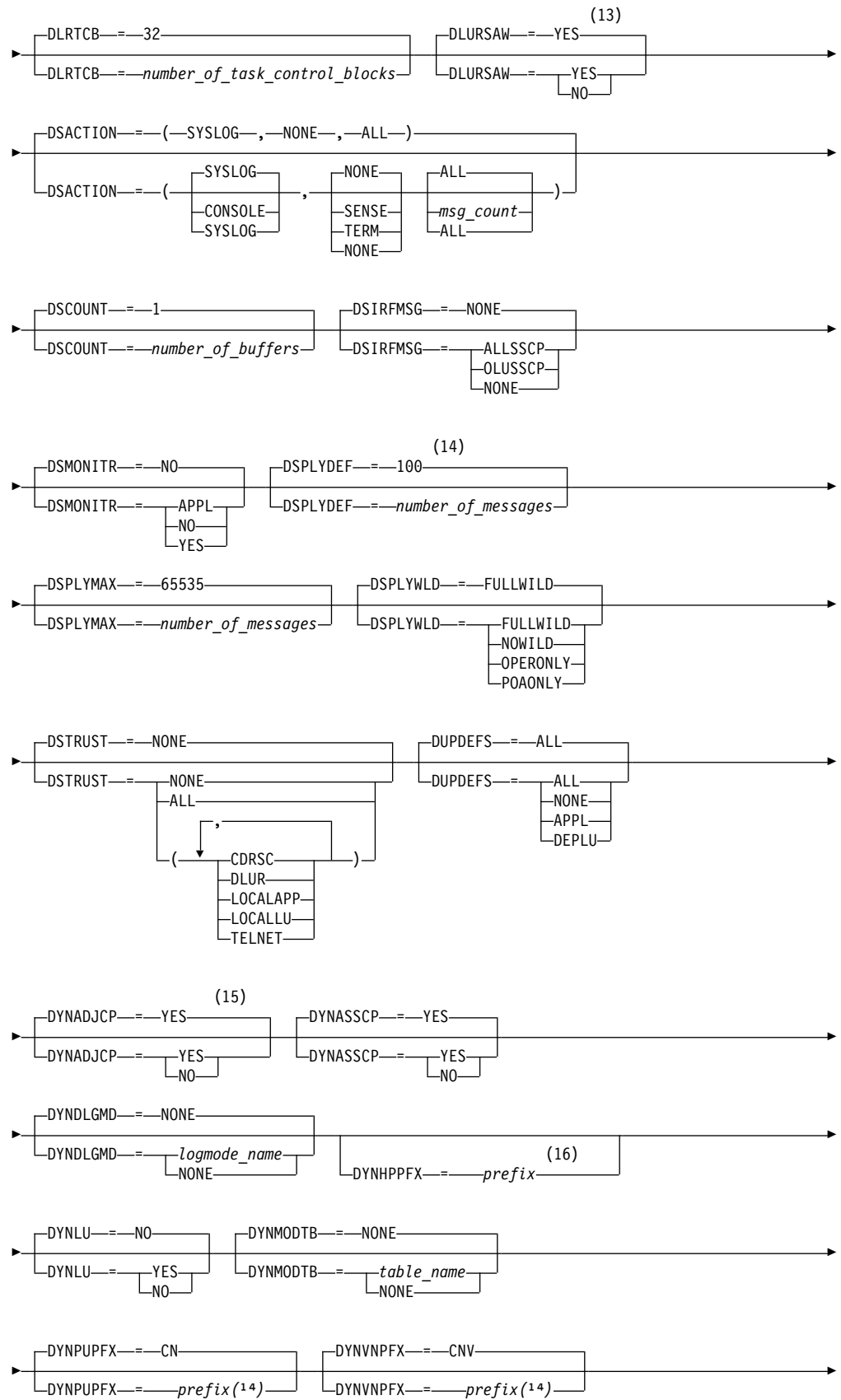
#### Start options syntax diagrams

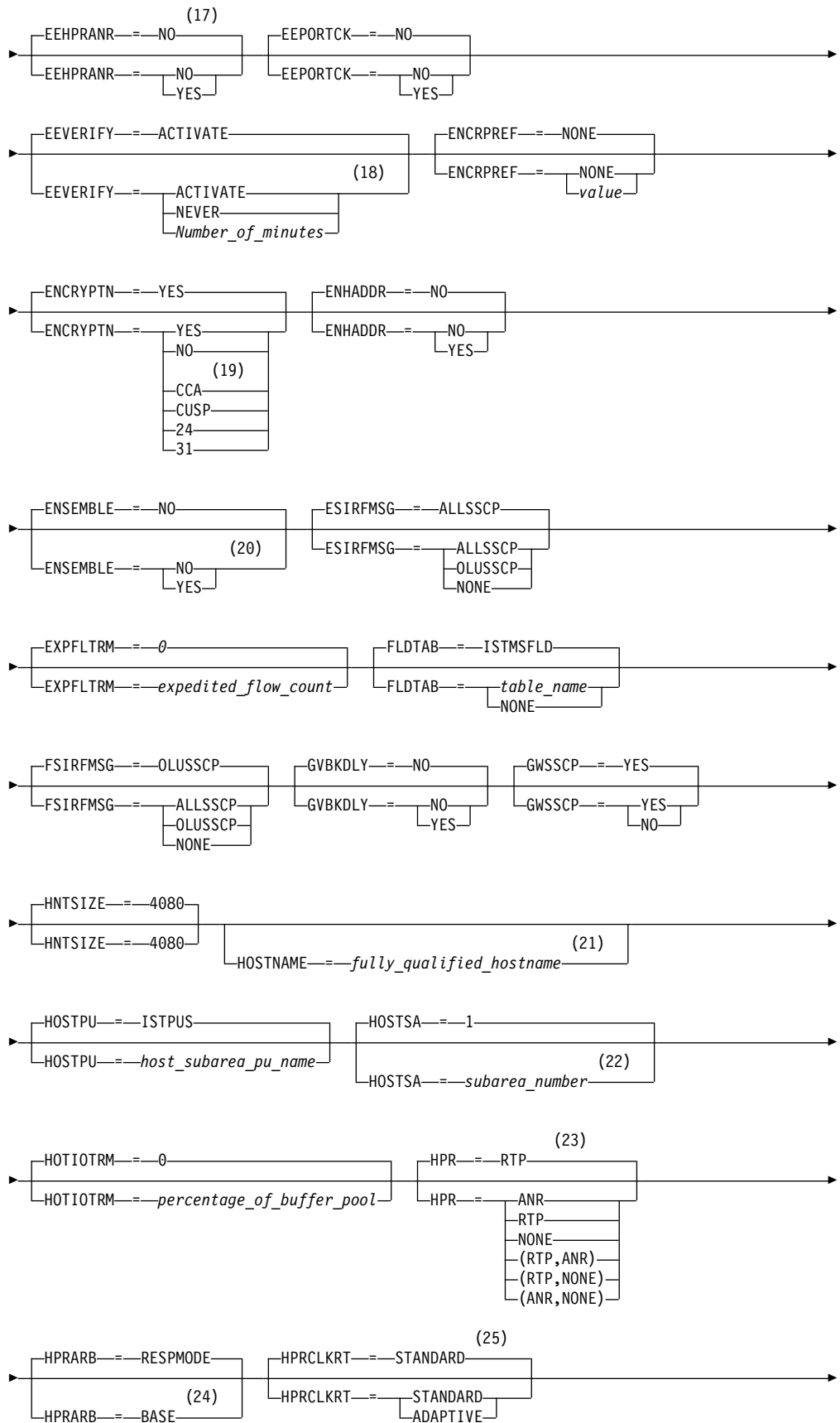
Options:

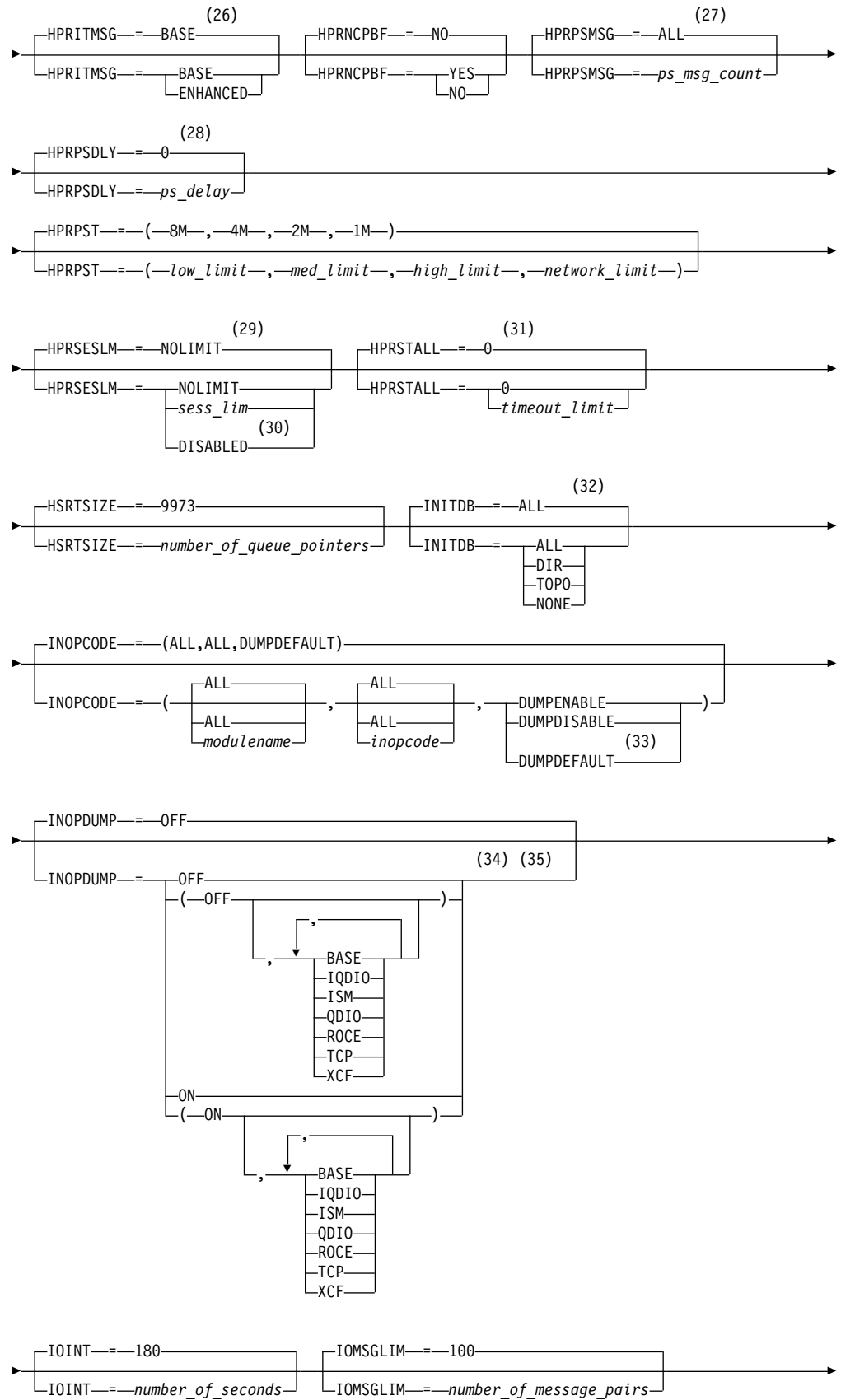


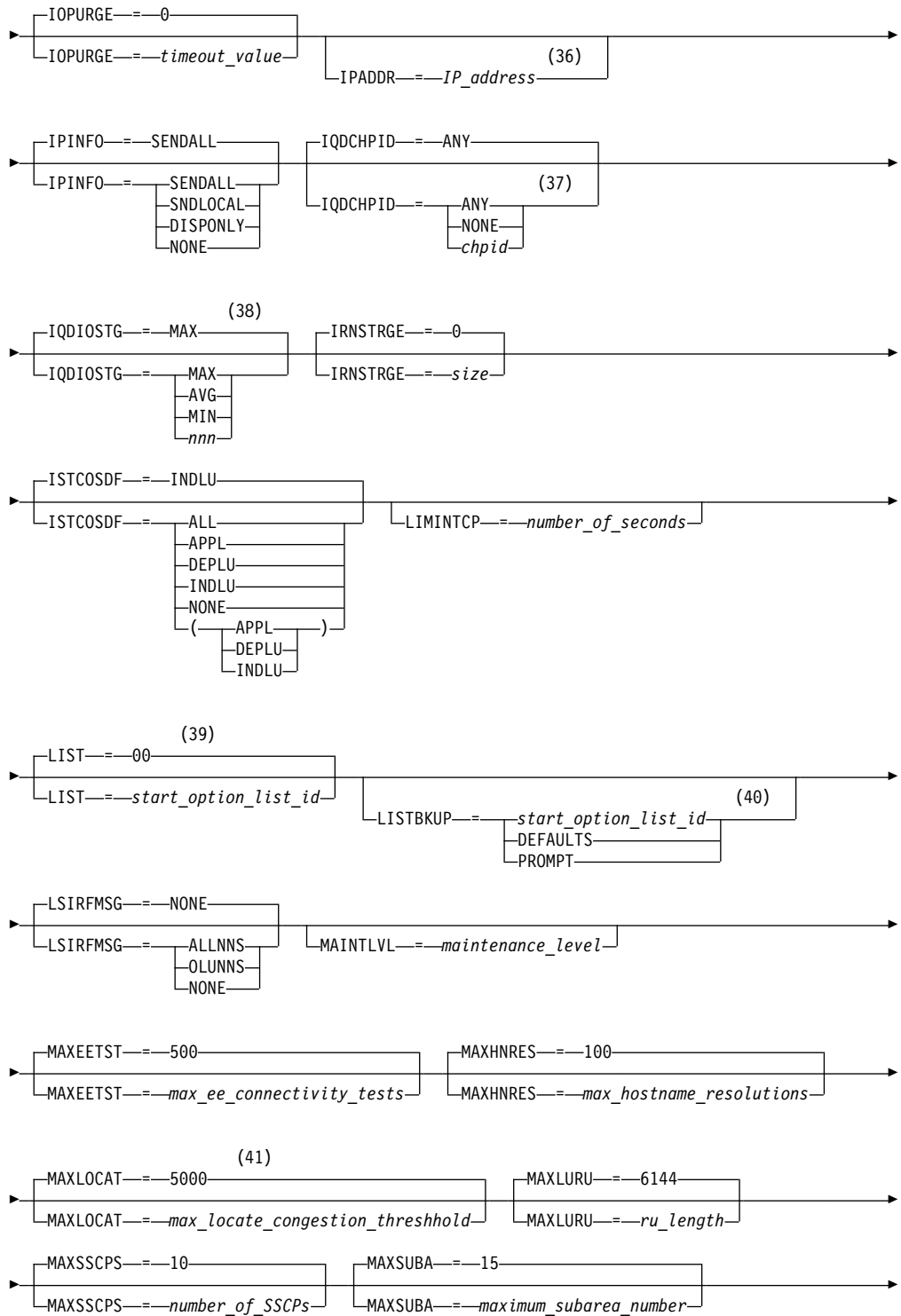


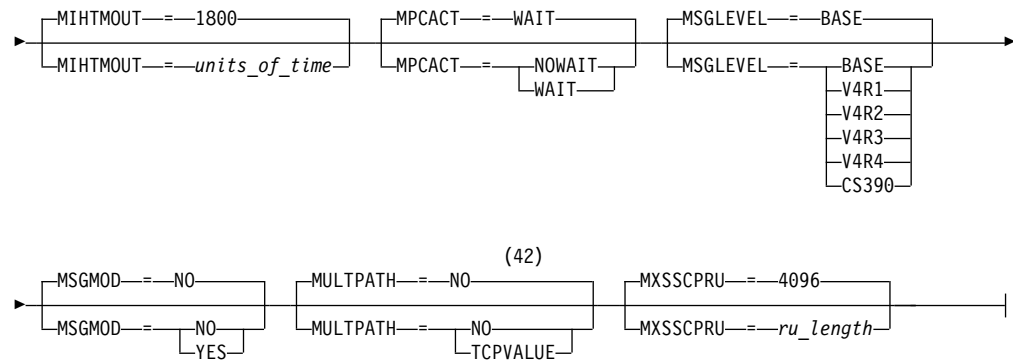










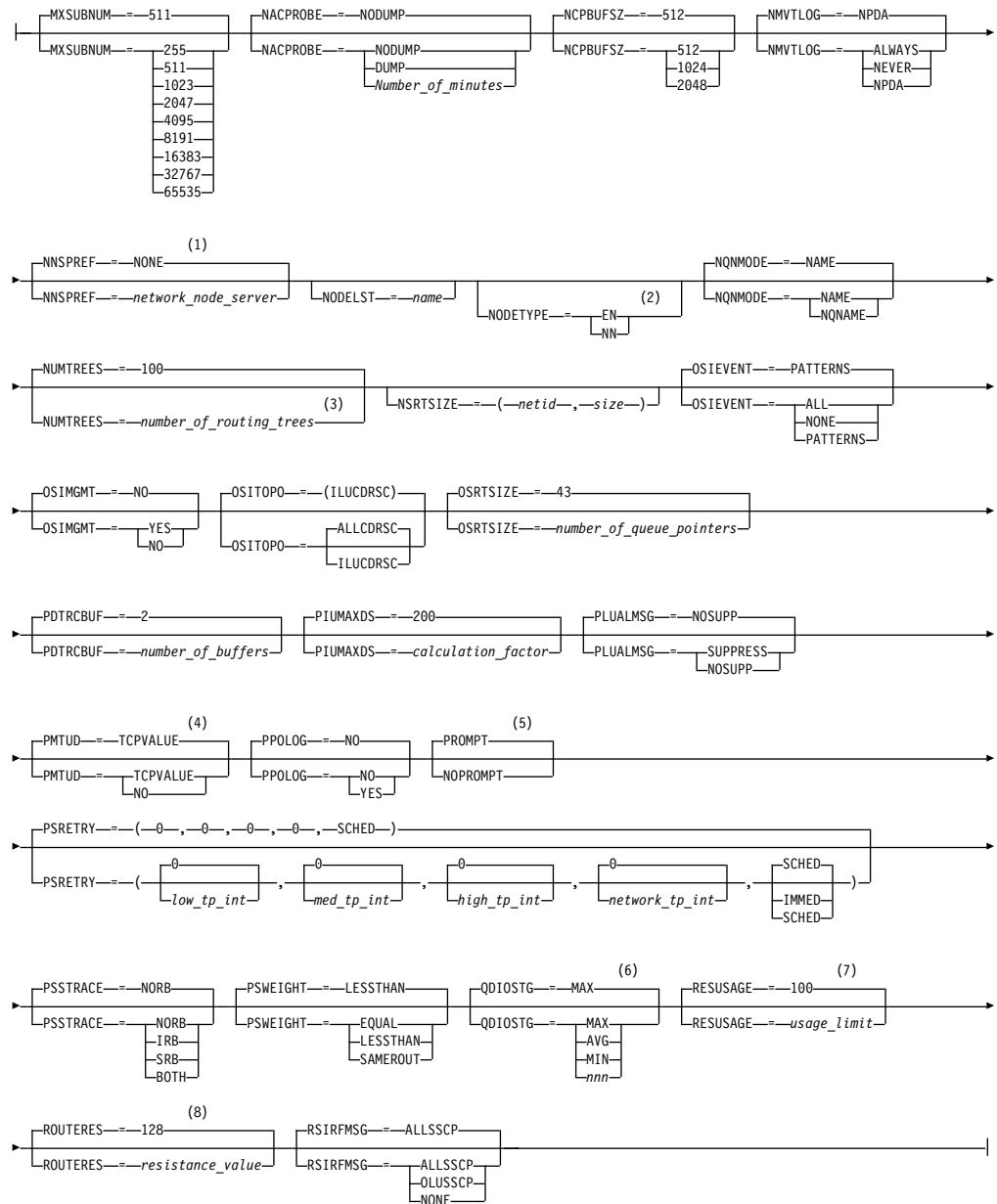


**Notes:**

- 1 APPNCOS is meaningful only if the NODETYPE start option is also used.
- 2 BN is meaningful only if the NODETYPE=NN start option is also used.
- 3 BNDYN is meaningful only if the BN=YES start option is also used.
- 4 BNORD is meaningful only if the BN=YES start option is also used.
- 5 CDSERVER is meaningful only if the NODETYPE=NN start option is also used.
- 6 CDSREFER is meaningful only if the NODETYPE=NN and CDSERVER=NO start options are also used.
- 7 The CMPMIPS start option is meaningful only if the value for CMPVTAM is greater than 1.
- 8 CONNTYPE is meaningful only if the NODETYPE start option is also used.
- 9 CPCP is meaningful only if the NODETYPE start option is also used.
- 10 Specify the CSDUMP start option twice to set both message and sense code triggers.
- 11 DIRSIZE is meaningful only if the NODETYPE=NN start option is also used.
- 12 DIRTIME is meaningful only if the NODETYPE=NN start option is also used.
- 13 DLURSAW is meaningful only if the NODETYPE=NN start option is also used.
- 14 If the DSDPLYMAX start option value is less than 100, that value is the default for DSDPLYDEF.
- 15 DYNADJCP is meaningful only if the NODETYPE start option is also used.
- 16 Two character prefix.
- 17 EEHPRANR is meaningful only when the NODETYPE=NN start option is also used.
- 18 The EEVERIFY start option is meaningful only if VTAM provides RTP-level HPR support. The NODETYPE start option must be coded and the RTP value must be specified on the HPR start option.
- 19 ENCRYPTN=CCA needs to be coded when Triple Des Encryption is desired.
- 20 The ENSEMBLE setting is used to either permit or deny connectivity to the intraensemble data network (IEDN) and the intranode management network (INMN) by allowing or denying activation of OSX and OSM interfaces.
- 21 HOSTNAME is meaningful only if the NODETYPE start option is also used.

- 22 HOSTSA specifies the subarea number of this VTAM. If HOSTSA is not coded, then a default subarea number of 1 is used.
- 23 HPR is meaningful only if NODETYPE is also used.
- 24 This start option was provided by APAR OW36113 for use in migration to VTAM V4R5. Do not use this option unless you use the default value of RESPMODE.
- 25 HPRCLKRT=ADAPTIVE is meaningful only for Enterprise Extender configurations that have a defined capacity of 1 Gb or higher access speeds.
- 26 This option is meaningful only if VTAM provides RTP-level HPR support.
- 27 This option is meaningful only if VTAM provides RTP-level HPR support.
- 28 This option is meaningful only if VTAM provides RTP-level HPR support.
- 29 This option is meaningful only if VTAM provides RTP-level HPR support.
- 30 HPRSESLM=DISABLED is meaningful only on interchange nodes.
- 31 This option is meaningful only if VTAM provides RTP-level HPR support.
- 32 INITDB is meaningful only if the NODETYPE=NN start option is also used.
- 33 INOPCODE has no effect unless INOPDUMP is active for the resource when an inoperative condition is detected.
- 34 INOPDUMP status is propagated to resources that are defined within a transport resource list entry when the entry is activated.
- 35 The INOPCODE start option provides more granular control of the INOPDUMP function. Refer to the INOPCODE in this section and the DISPLAY INOPCODE command in z/OS Communications Server: SNA Operation for additional details.
- 36 IPADDR is meaningful only if the NODETYPE start option is also used.
- 37 The IQDCHPID option controls which IQD CHPID (and related subchannel devices) VTAM selects to dynamically build the iQDIO (IUTIQDIO) MPC group. The IUTIQDIO MPC group is used for TCP/IP dynamic XCF communications within this System z<sup>®</sup> system. Although this option can be modified (and the modification will immediately be displayed) while the IUTIQDIO MPC group is currently active, any modifications will have the effects: 1) Modified from ANY (or CHPID) to NONE has no effect on current usage but blocks subsequent activations; 2) Modified from NONE to ANY (or CHPID) has no effect on current usage but allows subsequent activations; 3) Modified from CHPID\_X to CHPID\_Y has no effect on current usage. VTAM only uses the CHPID value when building the IUTIQDIO MPC group. To change CHPIDs for an active MPC group, the steps must be done: 1) All TCP/IP iQDIO (HiperSockets<sup>™</sup>) devices must be stopped; 2) Make any necessary HCD/IOCDS changes; 3) Verify that new subchannel devices are varied online; 4) Verify that the MPC group has deactivated (with no usage, it times out after approximately two minutes); 5) Modify IQDCHPID=*chpid* (to new CHPID); 6) Restart the TCP/IP iQDIO device or devices. In order to use iQDIO communications, the processor must have the necessary hardware support. If the processor does not support iQDIO communications, then modifications to this start option will not be accepted and the IQDCHPID option will not be displayed (displayed as \*\*\*NA\*\*\*).
- 38 This option only affects iQDIO devices that use a MFS of 64k. The smaller frame sizes will always use 126 SBALs.

- 39 LIST can be entered by a VTAM operator only. If LIST is coded in an ATCSTRxx file, it is considered to be an error and is ignored.
- 40 LISTBKUP can be coded in a start option file only. If you enter it on the START command or at an operator prompt, VTAM will ignore it.
- 41 MAXLOCAT is meaningful only if NODETYPE is specified.
- 42 MULTPATH is meaningful only if the NODETYPE start option is also specified.

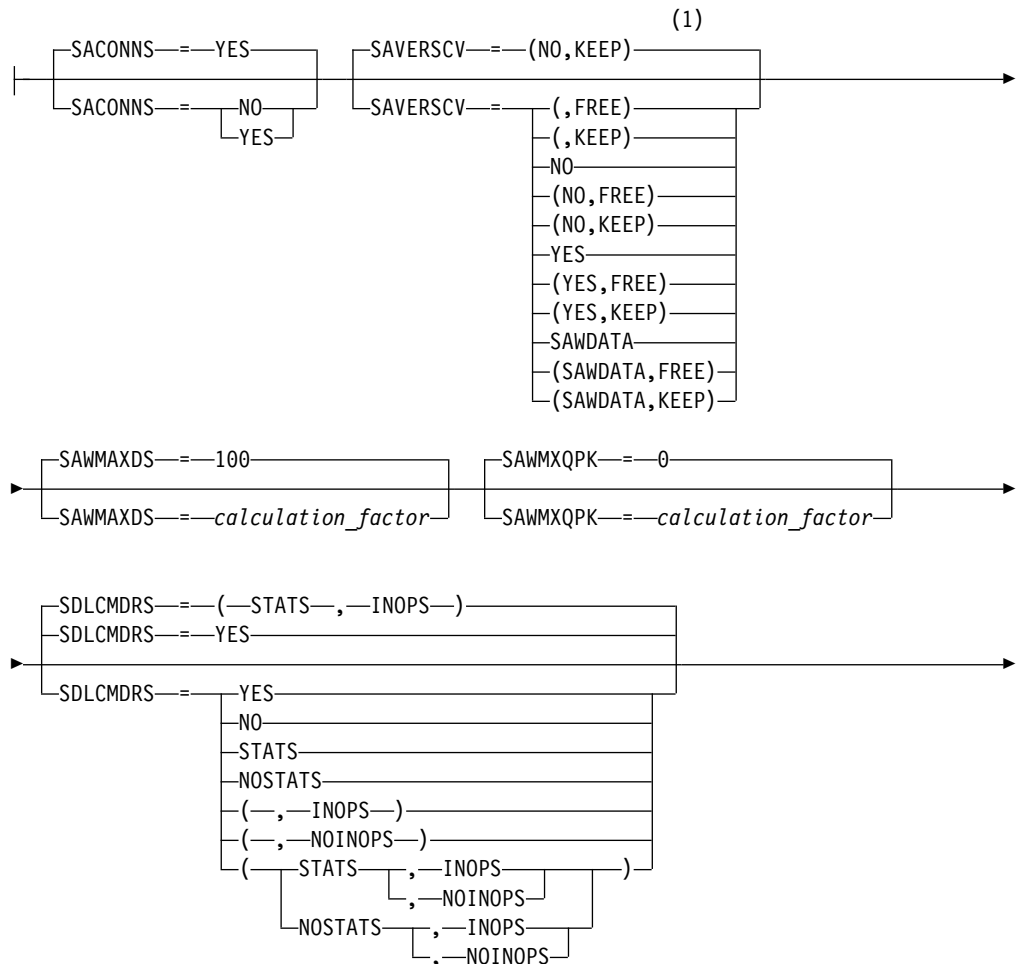


**Notes:**

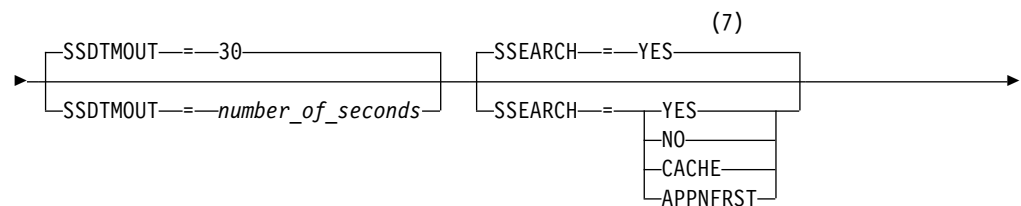
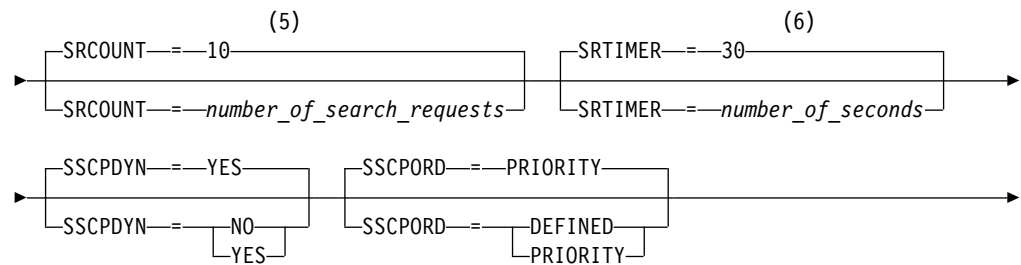
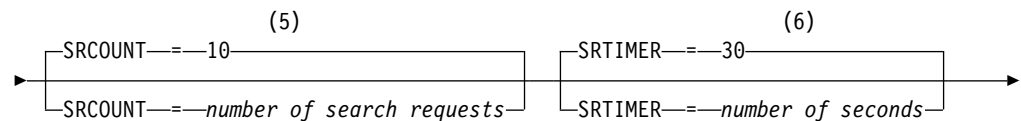
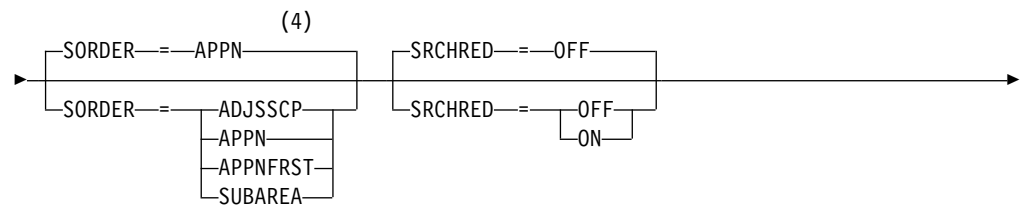
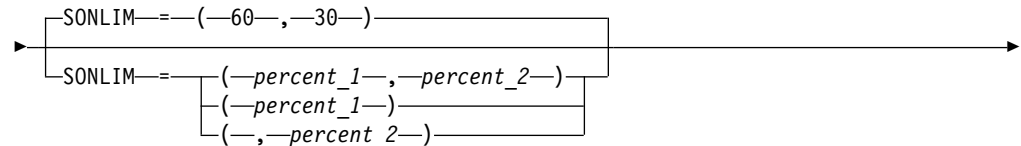
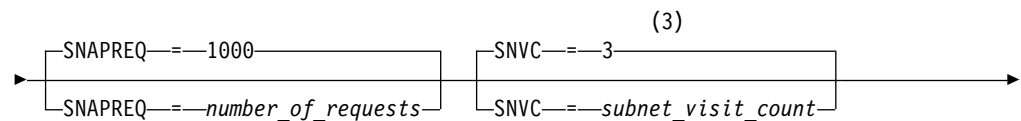
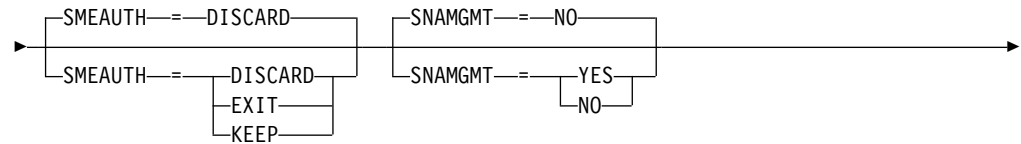
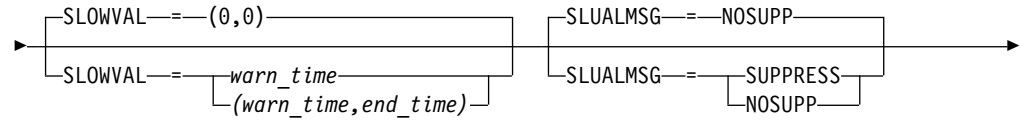
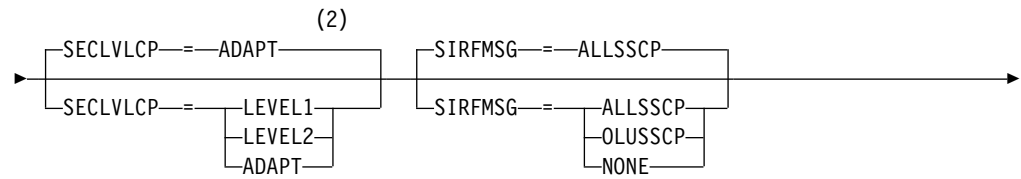
- 1 NNSPREF can be specified only if NODETYPE=EN is specified during VTAM START processing.
- 2 NODETYPE enables APPN function. The combination of HOSTSA,

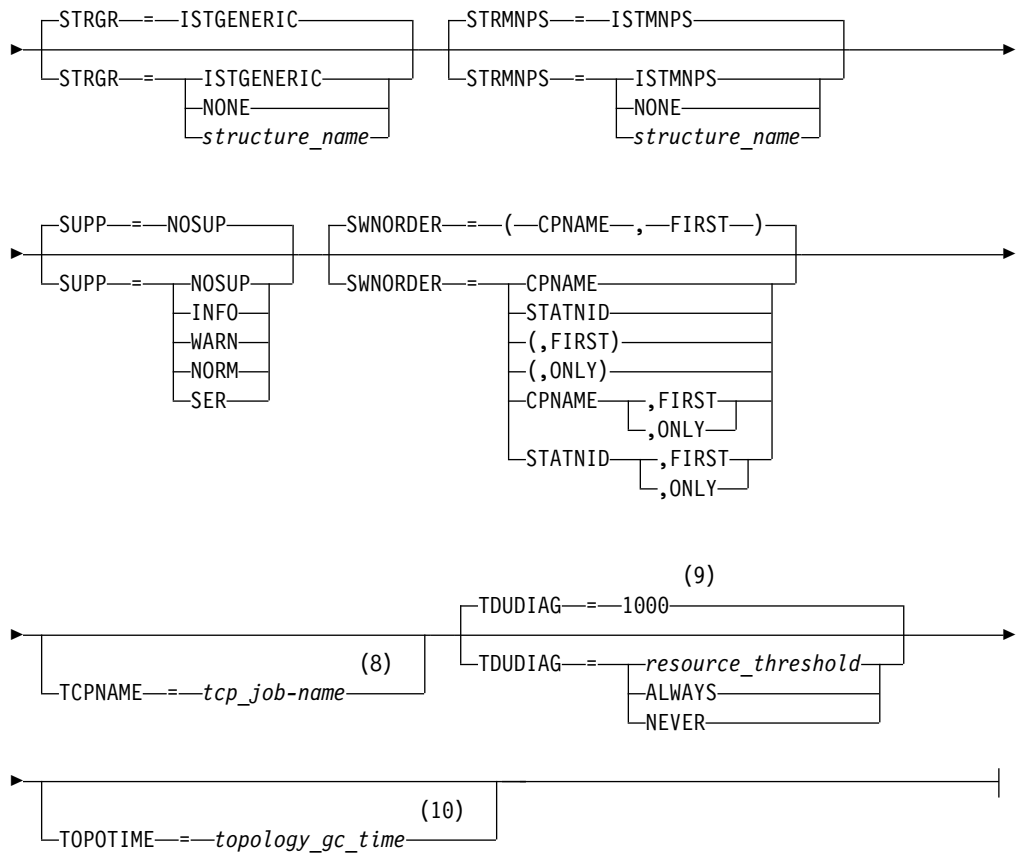
NODETYPE, and SACONNS determines the configuration (subarea node, interchange node, migration data host, network node, or end node).

- 3 NUMTREES is meaningful only if the NODETYPE=NN start option is also used.
- 4 PMTUD is meaningful only if the NODETYPE start option is also used.
- 5 A VTAM operator cannot enter the PROMPT or NOPROMPT start option; it can be coded only in ATCSTR00. The value coded in ATCSTR00 is ignored if start options are entered on the START command or if VTAM finds an error in a start list. Upon finding an error in a start list, VTAM prompts the operator so that the operator can specify the option correctly.
- 6 QDIOSTG defaults to MAX for 64-bit (z/Architecture<sup>®</sup>) machines and MIN for non 64-bit machines.
- 7 RESUSAGE is meaningful only if the NODETYPE=NN start option is also used.
- 8 ROUTERES is meaningful only if the NODETYPE=NN start option is also used.



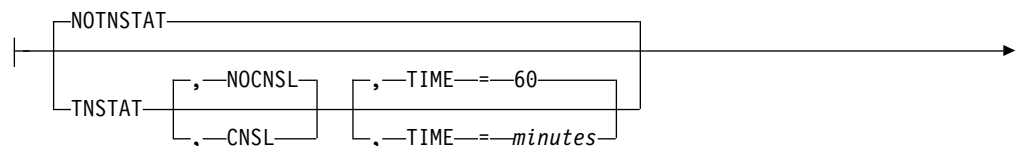


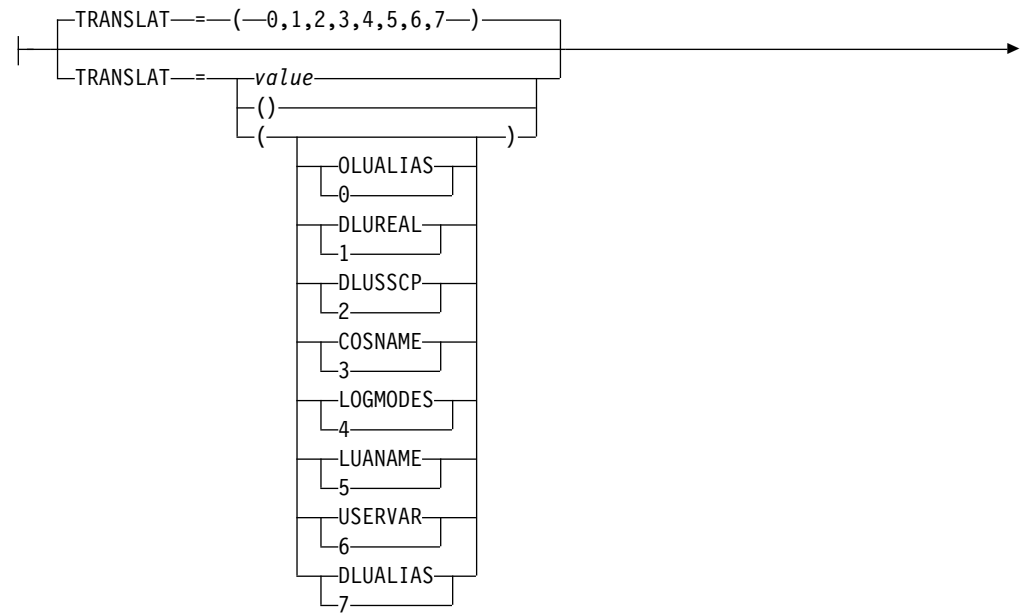
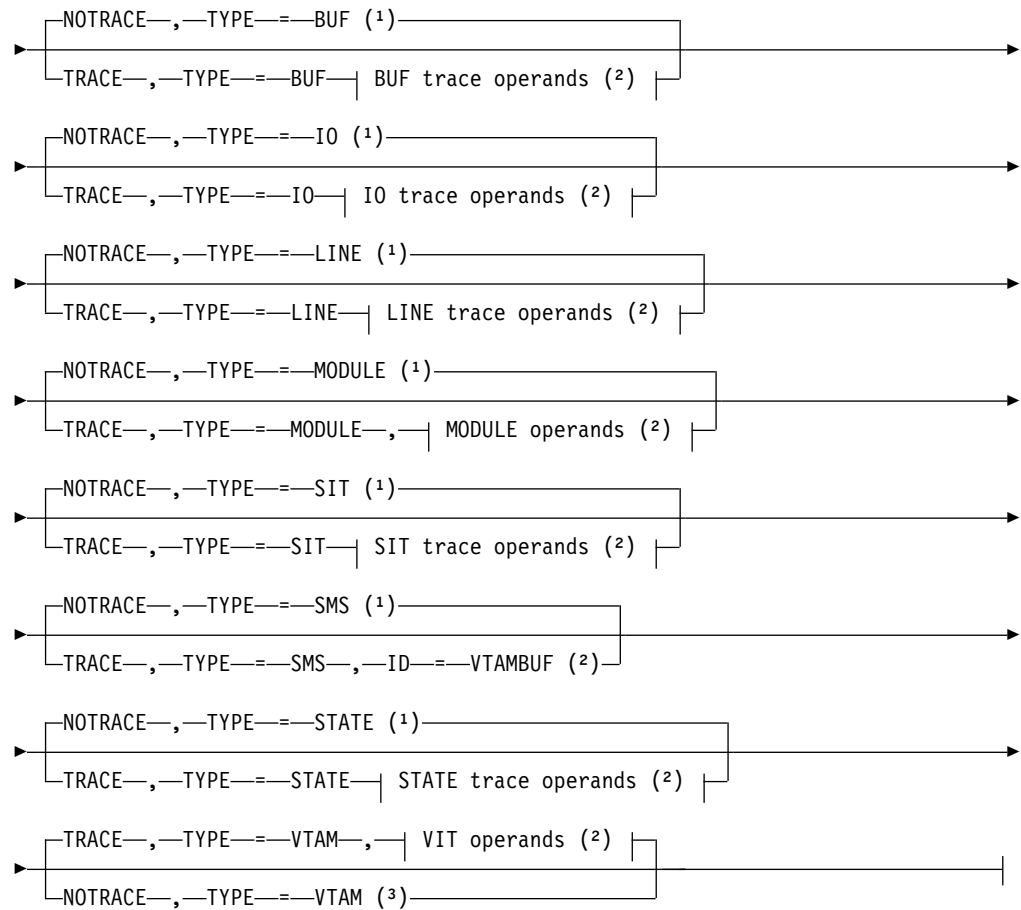


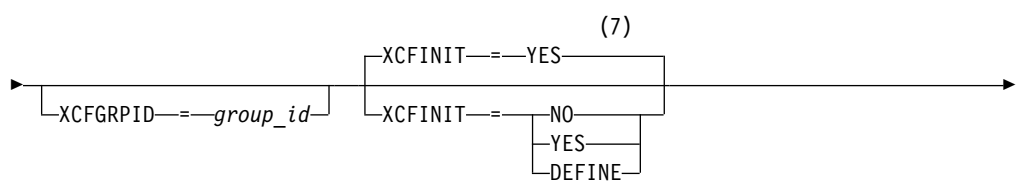
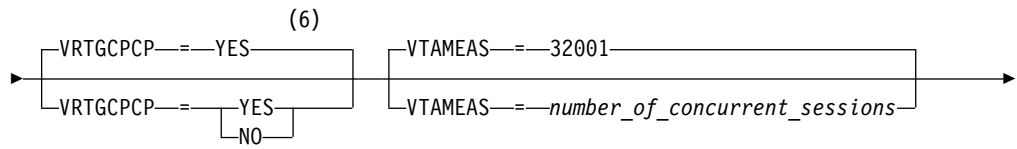
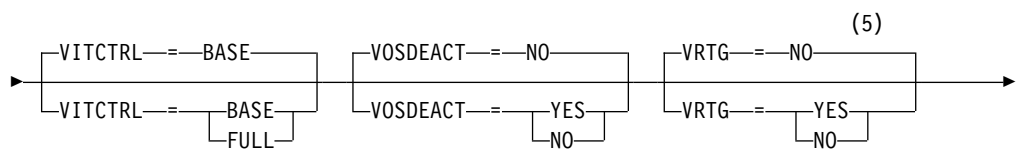
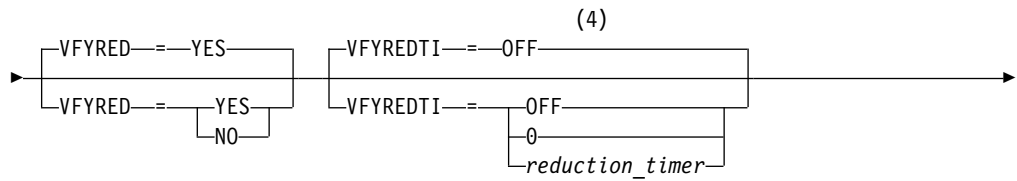
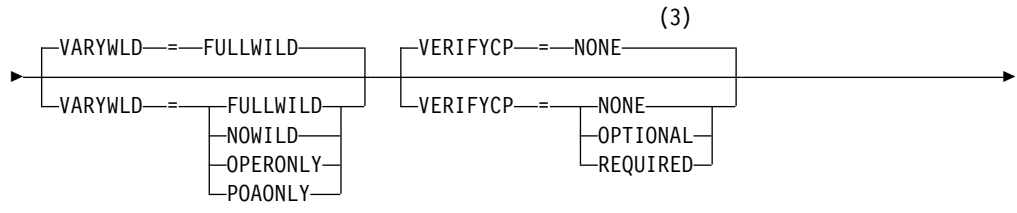
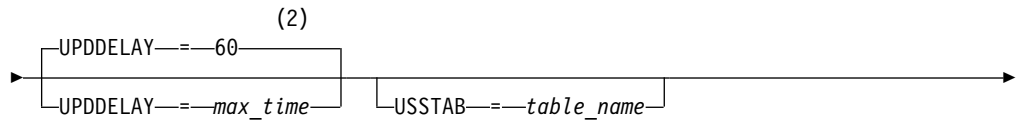
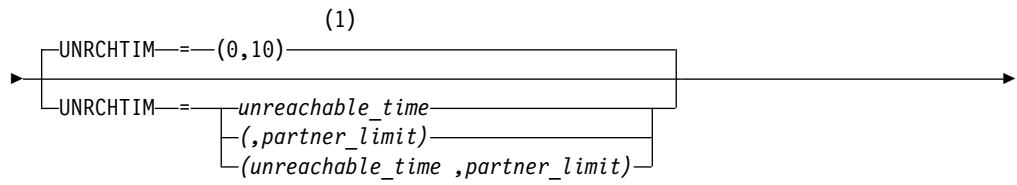


**Notes:**

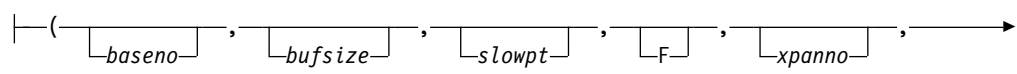
- 1 SAVERSCV is meaningful only if NODETYPE is also used.
- 2 The SECLVLCPC start option is meaningful only if the NODETYPE and VERIFYCP start options are also used.
- 3 SNVC is meaningful only if the BN=YES start option is also used.
- 4 SORDER is meaningful only in an interchange node or a migration data host.
- 5 SRCOUNT is meaningful only if the SRCHRED=ON start option is also used.
- 6 SRTIMER is meaningful only if the SRCHRED=ON start option is also used.
- 7 SSEARCH is meaningful only if the NODETYPE=NN start option is also used.
- 8 TCPNAME is meaningful only if the NODETYPE start option is also used.
- 9 TDUDIAG is meaningful only if the NODETYPE=NN start option is also being used.
- 10 TOPOTIME is meaningful only if the NODETYPE start option is also used.





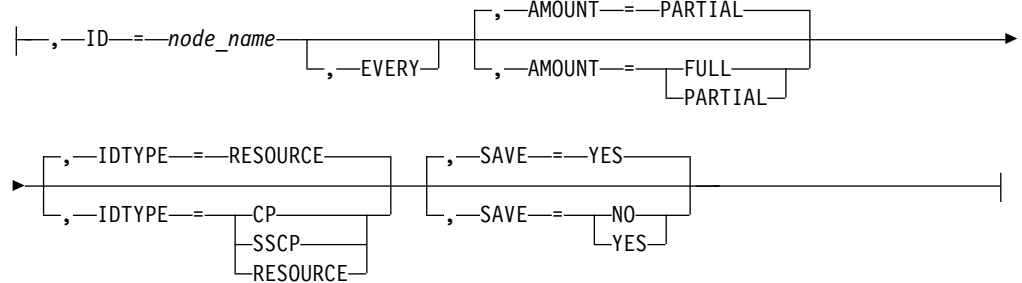


**Buffer pool values:**

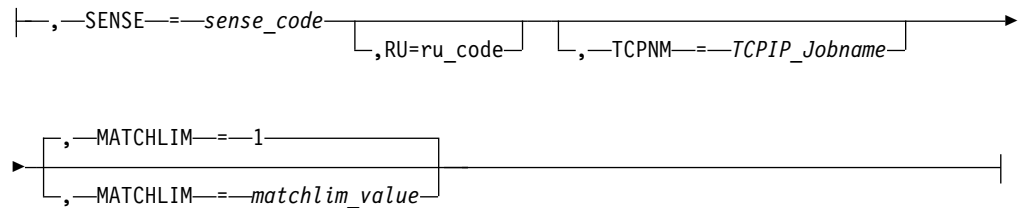




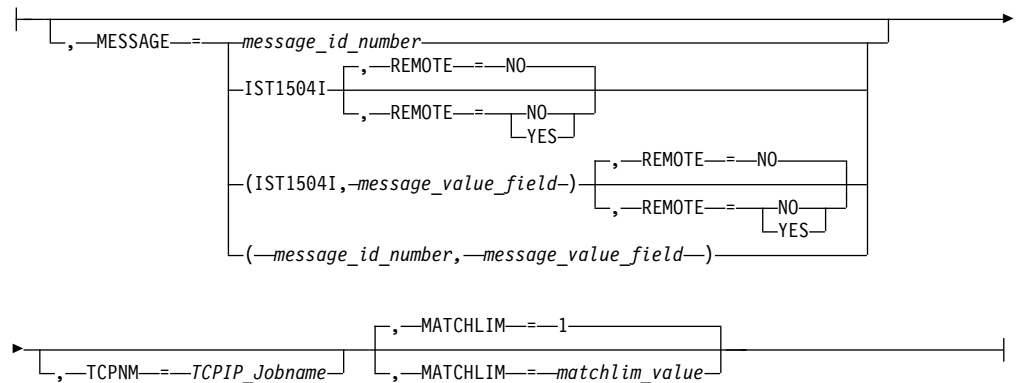
**BUF trace operands:**



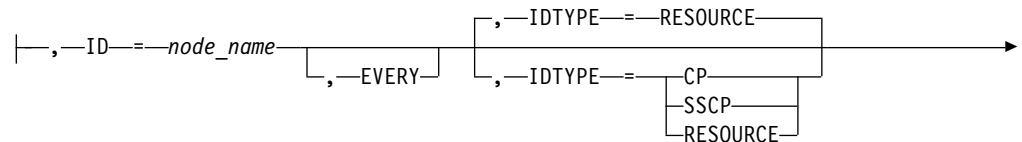
**CSDUMP sense code trigger:**



**CSDUMP message trigger:**

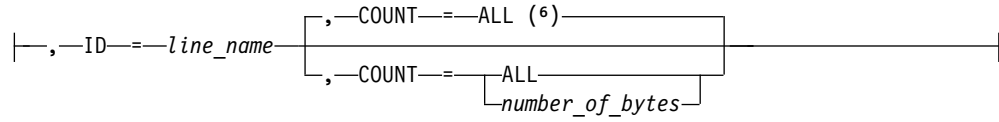


**IO trace operands:**

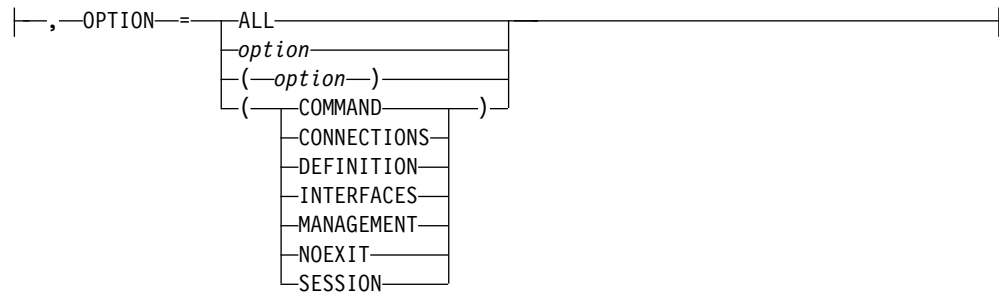




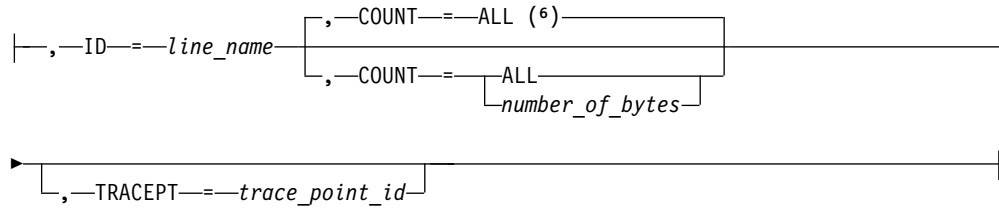
**LINE trace operands:**



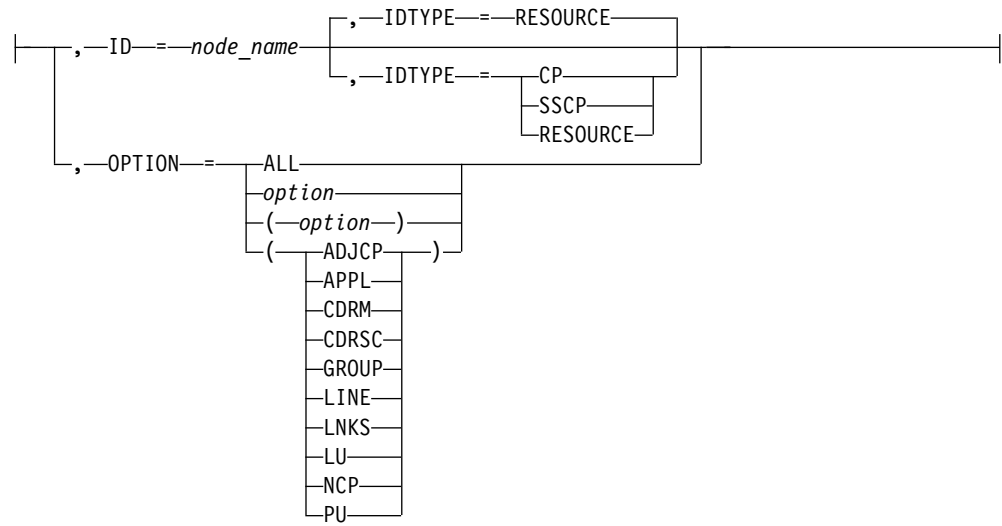
**MODULE operands:**



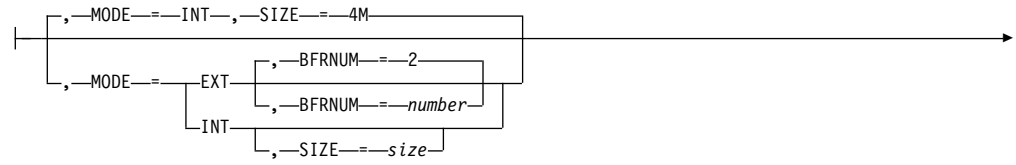
**SIT trace operands:**

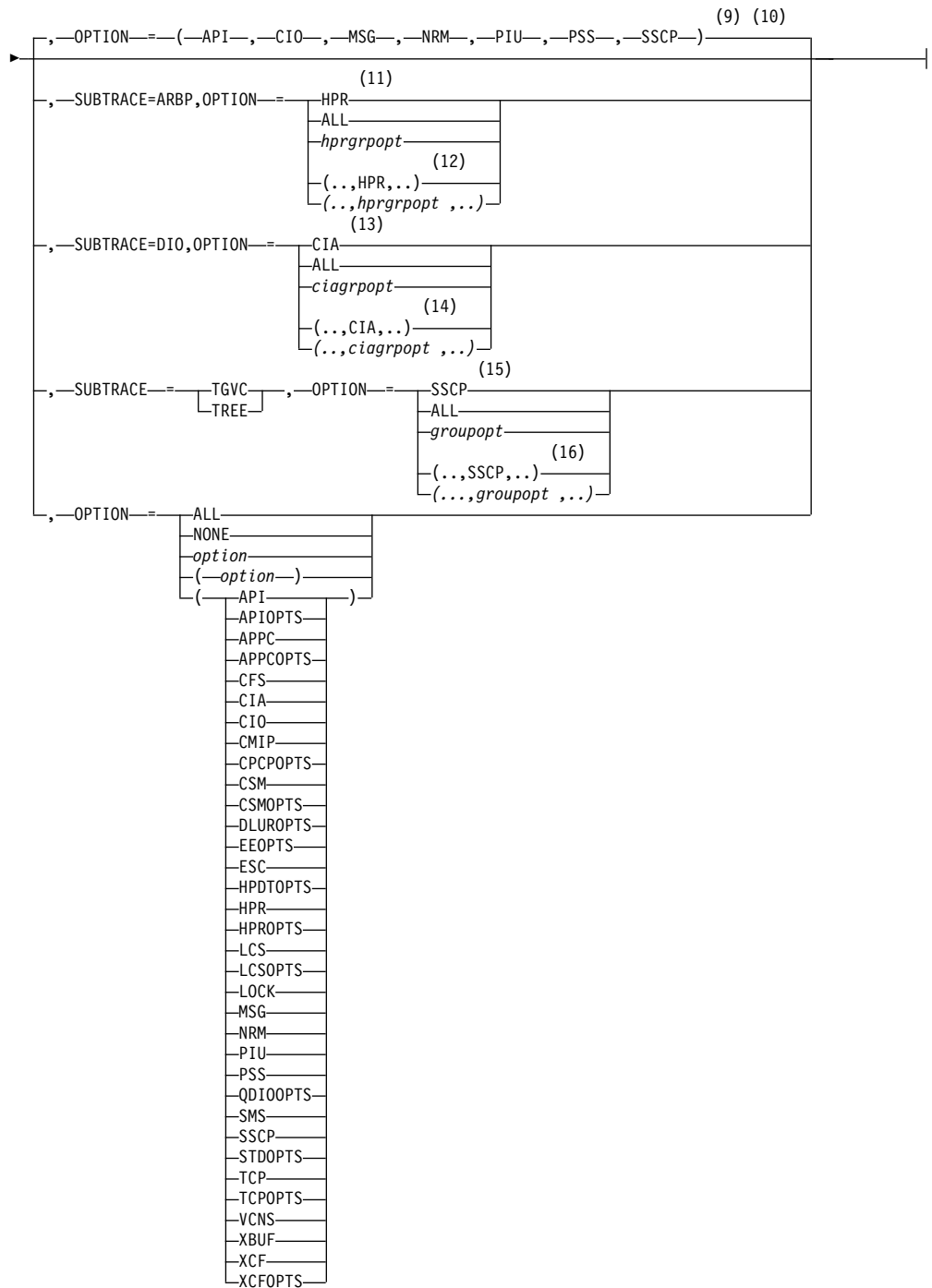


**STATE trace operands:**



**VIT operands:**





**Notes:**

- 1 UNRCHTIM is meaningful only if the NODETYPE start option is also used.
- 2 UPDDELAY is meaningful only if the OSIMGMT=YES start option is also used.
- 3 The VERIFYCP start option is meaningful only if the NODETYPE start option is also used.
- 4 VFYREDTI is meaningful only if the NODETYPE=NN start option is also used.



- 5 VRTG is meaningful only if the NODETYPE and HOSTSA start options are also used.
- 6 VRTGCPCP is meaningful only if the NODETYPE and HOSTSA start options are also used.
- 7 XCFINIT=YES is the default if VTAM is started as an APPN node (that is, the NODETYPE start option has been specified). XCFINIT=YES is not allowed for pure subarea nodes. XCFINIT=DEFINE is the default if VTAM is started as a pure subarea node (the NODETYPE start option has not been specified).
- 8 The IOBUF pool (IO00, IO) is the only buffer pool where all seven values can be specified. For all other buffer pools, the *xpanlim* field is not supported. If you specify the *xpanlim* field for any buffer pool other than the IOBUF pool (IO00, IO), even if the field is null, you get an IST1072I message.
- 9 The default options apply only to MODE=INT.
- 10 PSS is a default VIT option, but PSS can be turned off.
- 11 When SUBTRACE=ARBP is specified, if a single OPTION value is coded, it must be HPR, ALL, or one of the group options (*hprgrpopt*) that include HPR as an individual option equivalent. The applicable group options are DLUROPTS, EEOPTS, HPDTPPTS, HPROPTS, QDIOOPTS, and XCFOPTS.
- 12 If multiple trace options are coded in parentheses, either HPR or one of the group options (*hprgrpopt*) that include HPR as an individual option equivalent must be coded inside the parentheses when SUBTRACE=ARBP is coded.
- 13 When you specify SUBTRACE=DIO and you code a single OPTION value, the OPTION value must be CIA, ALL, or one of the group options (*ciagrpt*) that include CIA as an individual option equivalent. The applicable group options are EEOPTS, HPDTPPTS, HPROPTS, QDIOOPTS, TCPOPTS and XCFOPTS.
- 14 When SUBTRACE=DIO is coded and you code multiple trace options in parentheses, you must code either CIA or one of the group options (*ciagrpt*) that include CIA as an individual option equivalent inside the parentheses.
- 15 When SUBTRACE=TGVC or SUBTRACE=TREE is coded, if a single OPTION value is coded, it must be SSCP, ALL, or one of the group options (*groupopt*), all of which include SSCP as an individual option equivalent. The group options are APIOPTS, APPCOPTS, CPCPOPTS, CSMOPTS, DLUROPTS, EEOPTS, HPDTPPTS, HPROPTS, LCSOPTS, QDIOOPTS, STDOPPTS, TCPOPTS, and XCFOPTS.
- 16 If multiple trace options are coded in parentheses, either SSCP or one of the group options (*groupopt*) must be coded inside the parentheses when SUBTRACE=TGVC or SUBTRACE=TREE is coded.

## Descriptions of start options

### AIMON start option



Determines whether VTAM monitors interfaces for overdue adapter interrupts. If an overdue adapter interrupt is detected, VTAM will drive a virtual interrupt in an effort to prevent a stall condition. VTAM will also issue message IST2419I when an overdue interrupt is detected.

**Guideline:** Specify NONE unless requested by IBM service.

**AIMON=NONE**

Specifies that VTAM does not monitor adapter interrupts for any interfaces.

**AIMON=IQDIO**

Specifies that VTAM monitors adapter interrupts for Hipersockets interfaces. CHPID type is IQD.

**AIMON=ISM**

Specifies that VTAM monitors adapter interrupts for internal shared memory (ISM) interfaces.

**AIMON=QDIO**

Specifies that VTAM monitors adapter interrupts for OSA-Express<sup>®</sup> interfaces. CHPID types include OSD, OSM, and OSX.

**AIMON=ROCE**

Specifies that VTAM monitors adapter interrupts for 10GbE RoCE Express interfaces.

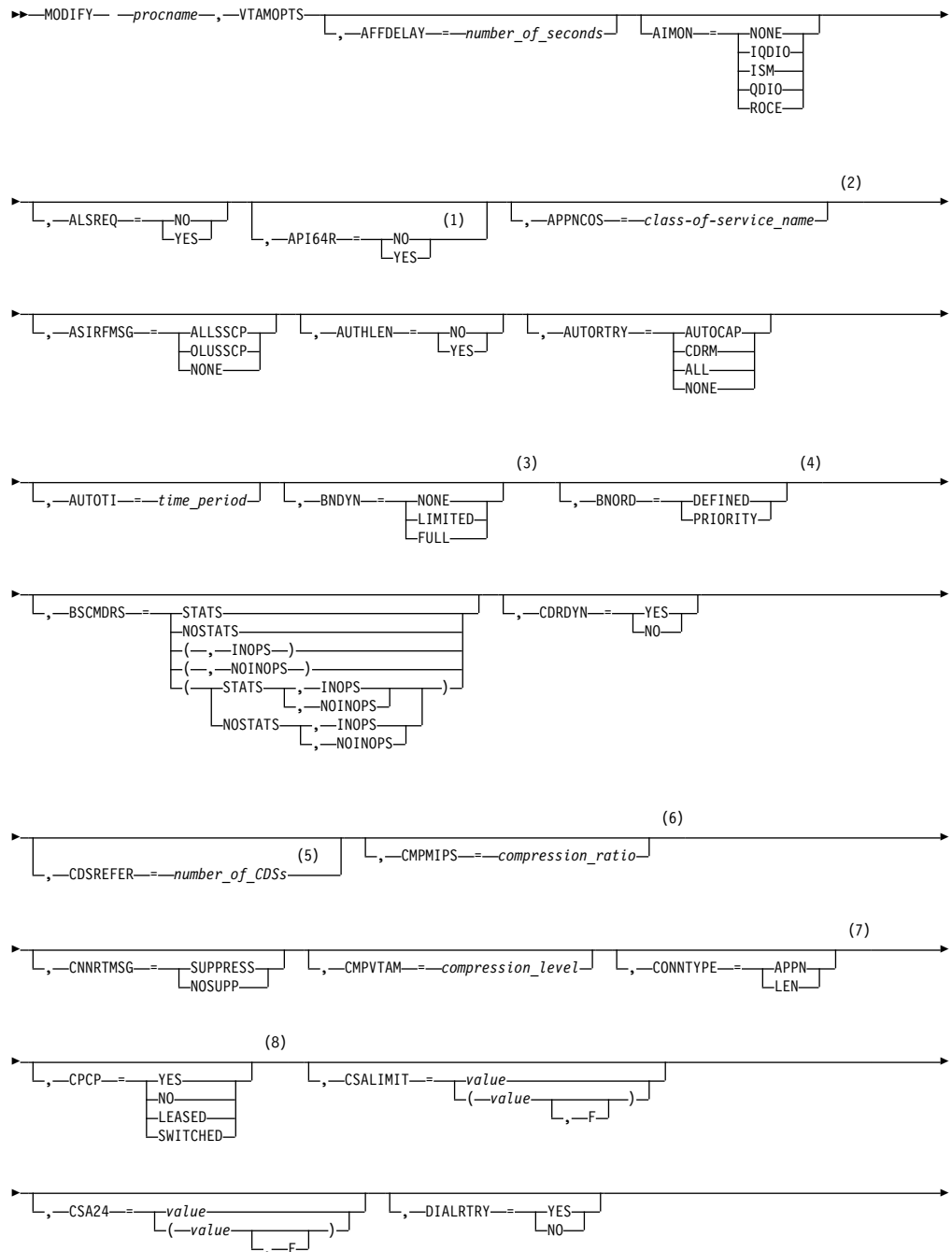
**Usage:** You can specify only one adapter for an individual AIMON start option instance. However, if you code multiple AIMON start options, the results are cumulative. For example, to start interface monitoring for 10GbE RoCE Express and ISM interfaces, you can code the following start option values:

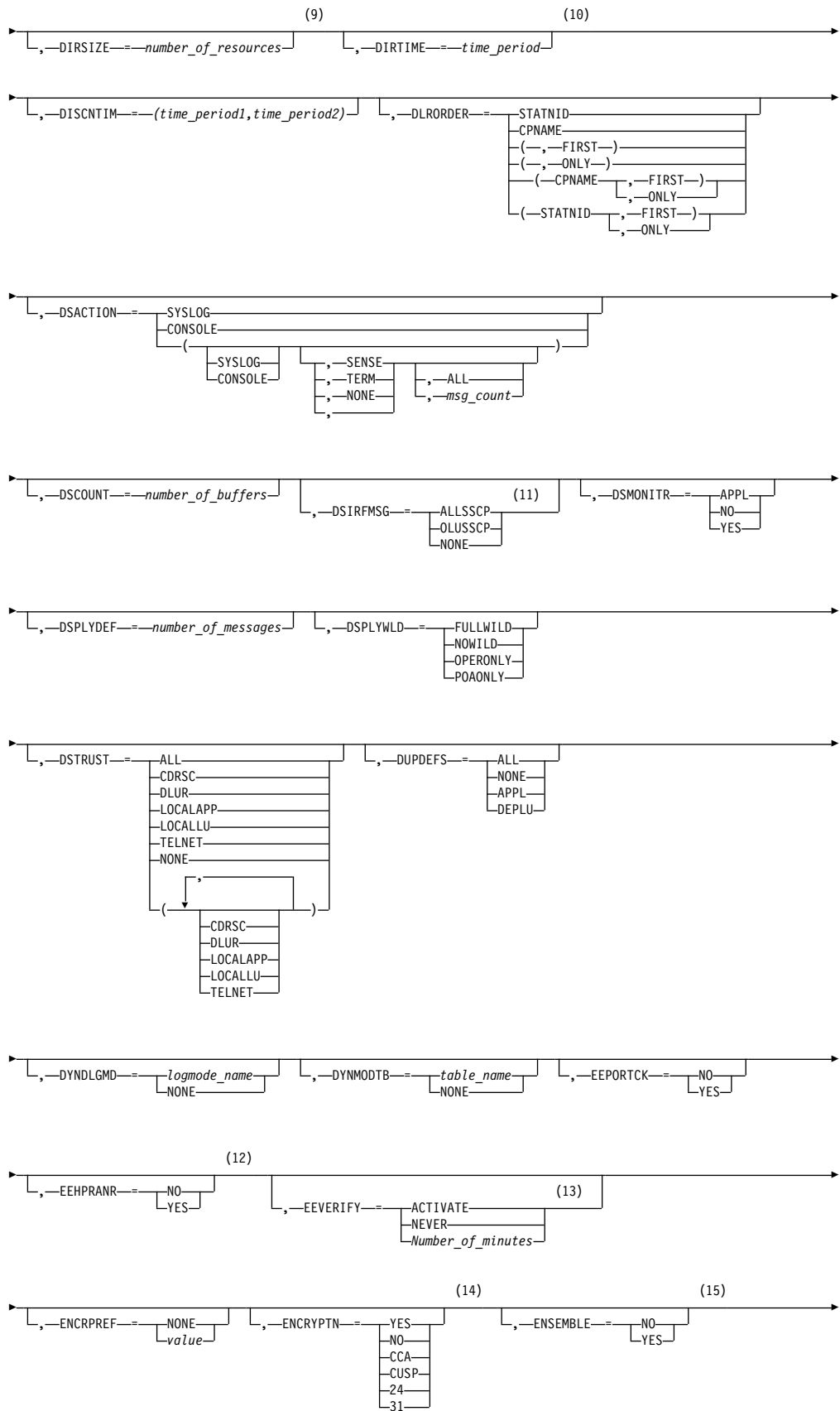
```
AIMON=ROCE  
AIMON=ISM
```

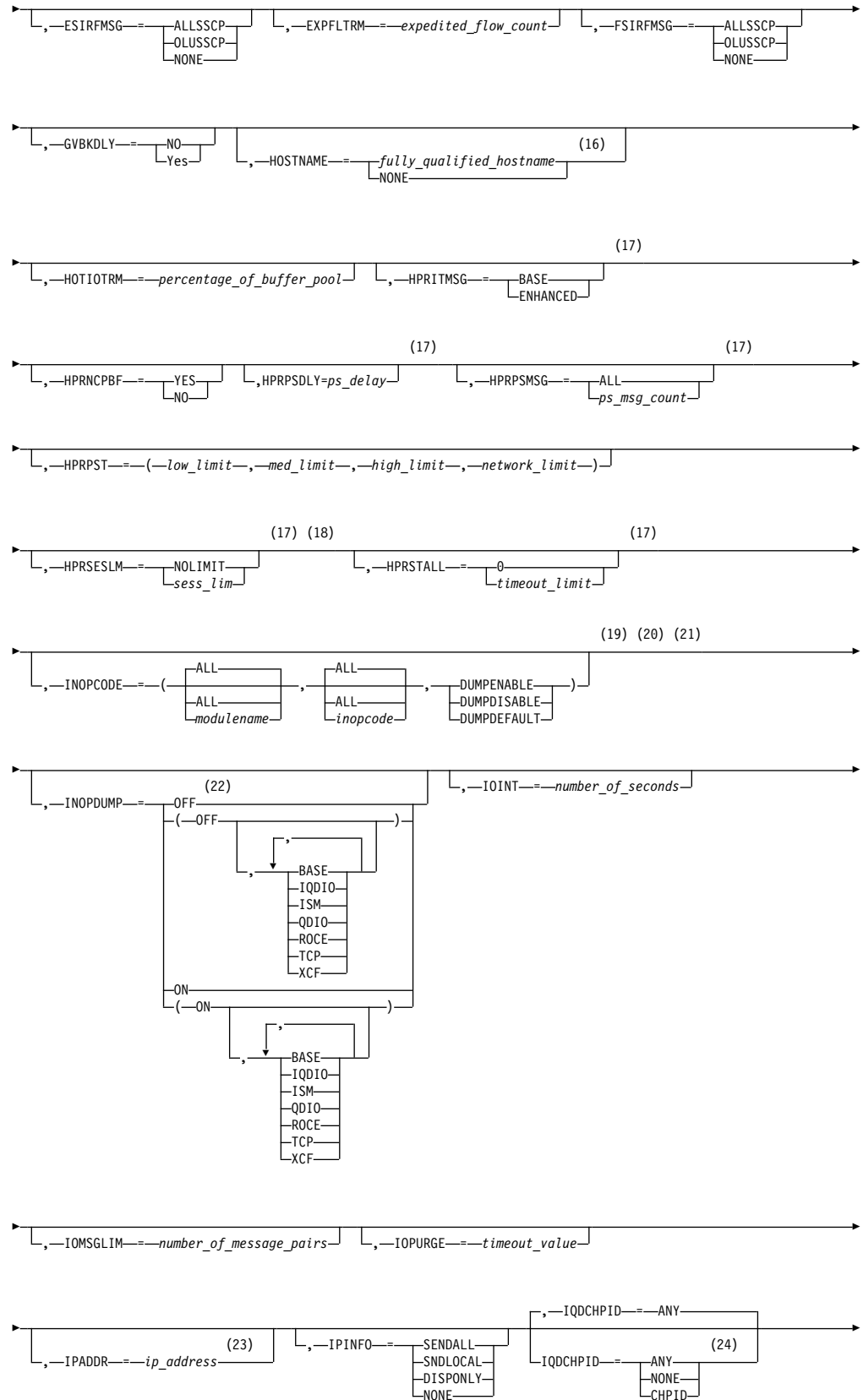
# Chapter 2. SNA Operation

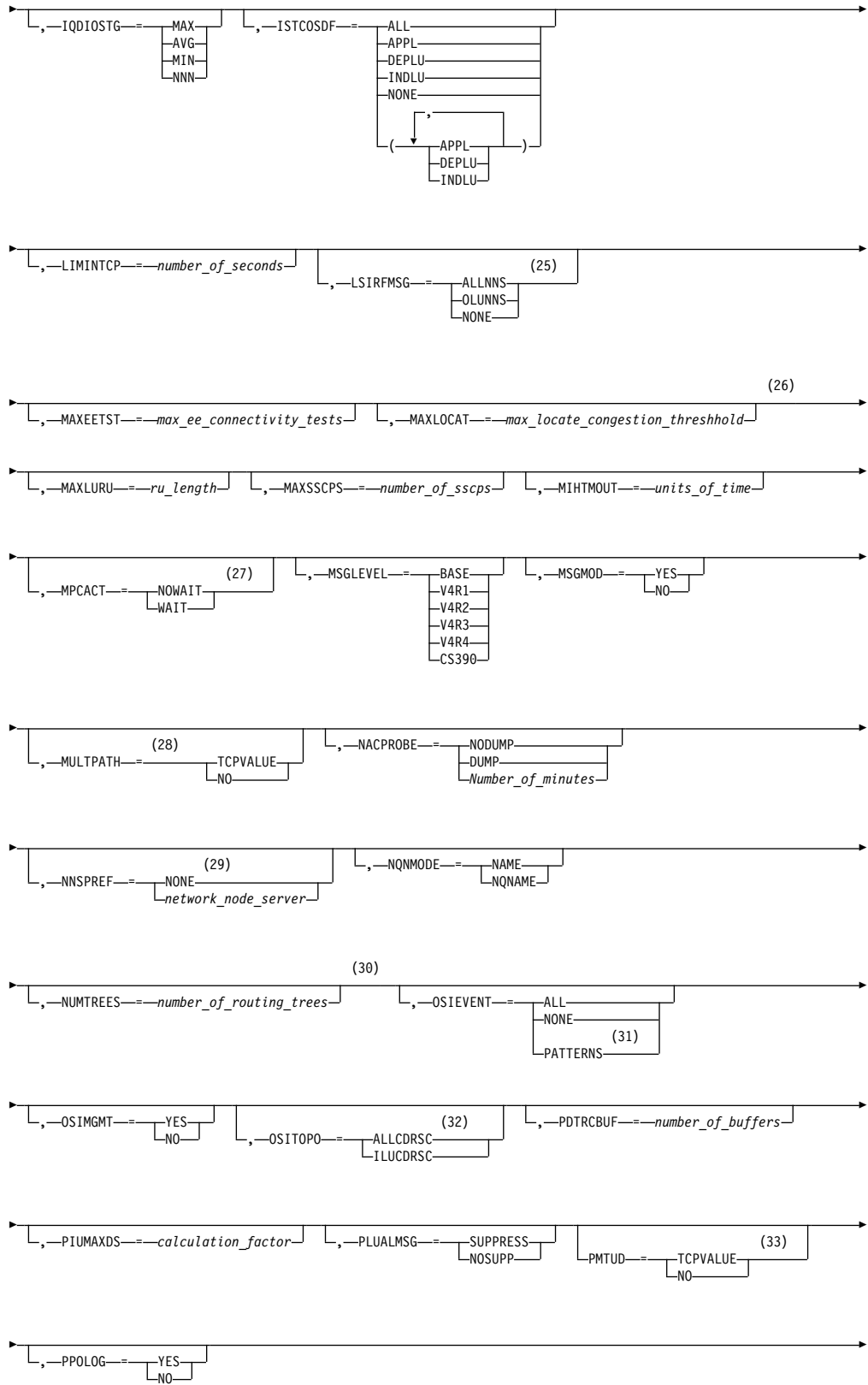
## VTAM operator commands

### MODIFY VTAMOPTS command









[,--PSRETRY==(--low\_tp\_int--,--med\_tp\_int--,--high\_tp\_int--,--network\_tp\_int--,IMMED|SCHED)]

[,--PSSTRACE==(NORB|IRB|SRB|BOTH)] [,--PSWEIGHT==(EQUAL|LESSTHAN|SAMEROUT)] [,--QDIOSTG==(MAX|AVG|MIN|NNN)]

(34) [,--RESUSAGE==usage\_limit] (35) [,--ROUTERES==resistance\_value]

[,--RSIRFMSG==(ALLSSCP|OLUSSCP|NONE)] [,--SAVERSCV==(,FREE)|(,KEEP)|NO|(NO,FREE)|(NO,KEEP)|YES|(YES,FREE)|(YES,KEEP)|SAWDATA|(SAWDATA,FREE)|(SAWDATA,KEEP)]

[,--SAWMXQPK==calculation\_factor] [,--SDLCMDRS==(YES|NO|STATS|NOSTATS|(--,INOPS)|(--,NOINOPS)|((STATS|INOPS)|NOSTATS|,INOPS)|,NOINOPS)]

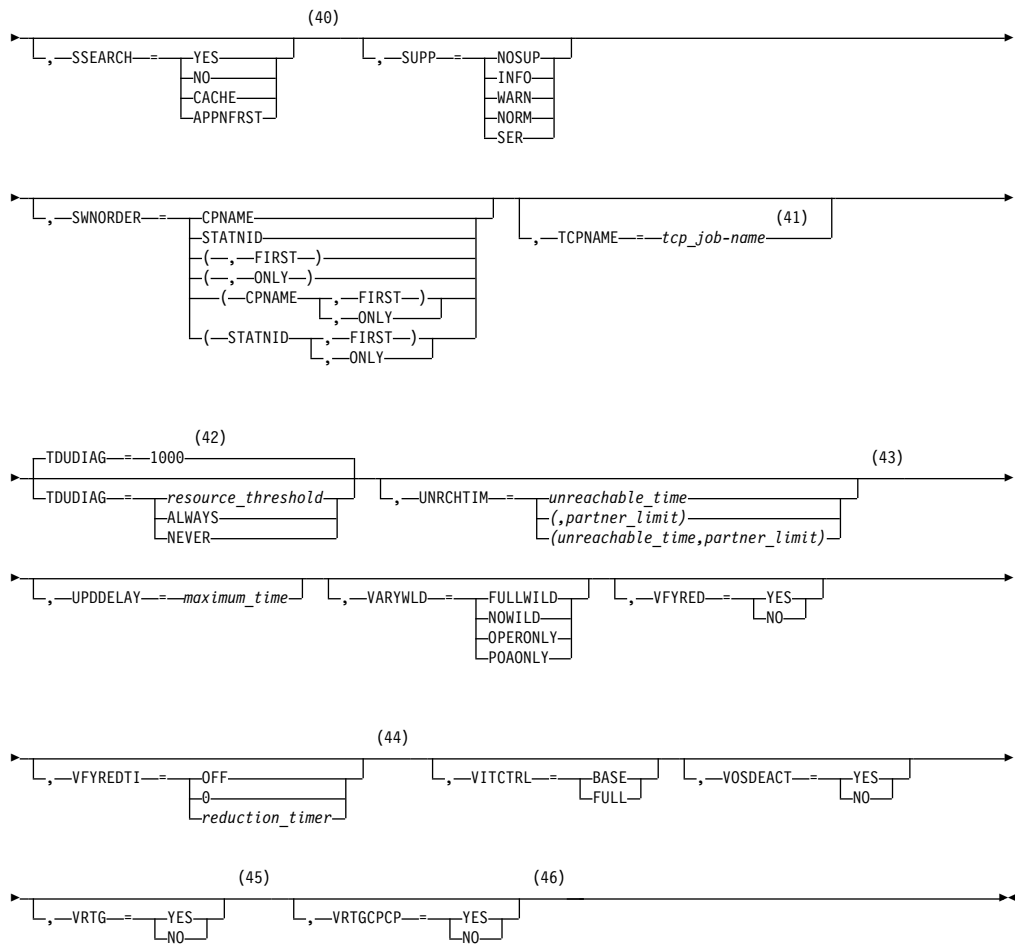
[,--SIRFMSG==(ALLSSCP|OLUSSCP|NONE)] [,--SLOWVAL==(warn\_time|(warn\_time,end\_time))]

[,--SLUALMSG==(SUPPRESS|NOSUPP)] (36) [,--SNAMGMT==(YES|NO)] [,--SNVC==subnet\_visit\_count]

(37) [,--SORDER==(ADJSSCP|APPN|APPNFRST|SUBAREA)] [,--SRCHRED==(OFF|ON)]

(38) [,--SRCOUNT==number\_of\_search\_requests] (39) [,--SRTIMER==number\_of\_seconds]

[,--SSCPORD==(DEFINED|PRIORITY)] [,--SSDTMOUT==number\_of\_seconds]



**Notes:**

- 1 API64R can be modified only when running in z/Architecture mode.
- 2 APPNCOS can be modified only if NODETYPE was specified during VTAM START processing.
- 3 BNDYN can be modified only if BN=YES was specified during VTAM START processing.
- 4 BNORD can be modified only if BN=YES was specified during VTAM START processing.
- 5 CDSREFER can be modified only if NODETYPE=NN and CDSERVR=NO were specified during VTAM START processing.
- 6 CMPMIPS is meaningful only if the value for CMPVTAM is greater than 1.
- 7 CONNTYPE can be modified only if NODETYPE was specified during VTAM START processing.
- 8 CPCP can be modified only if NODETYPE was specified during VTAM START processing.
- 9 DIRSIZE can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 10 DIRTIME can be modified only if NODETYPE=NN was specified during VTAM START processing.



- 11 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 12 EEHPRANR is meaningful only when the NODETYPE=NN start option is also used.
- 13 The EEVERIFY start option is meaningful only if VTAM provides RTP-level HPR support. The EEVERIFY start option can be modified only if the NODETYPE start option is specified and the RTP value is specified on the HPR start option.
- 14 The ENCRYPTN start option cannot be modified if ENCRYPTN=NO was specified during VTAM START processing.
- 15 The ENSEMBLE setting is used to either permit or deny connectivity to the intraensemble data network and the intranode management network. The ensemble setting permits or denies connectivity by either allowing or denying activation of OSX and OSM interfaces. Modifying the ENSEMBLE start option does not cause z/OS Communications Server to take action on active OSX or OSM interfaces.
- 16 HOSTNAME can be modified only if NODETYPE was specified during VTAM START processing. Displays of VTAM start options will show the new value immediately; however, the new value will not be used until all Enterprise Extender lines, whose GROUP definition statements do not have HOSTNAME explicitly coded, are inactive. Any subsequent line activation from the Enterprise Extender XCA major node, whose GROUP definition statements do not have HOSTNAME explicitly coded, will make use of the new HOSTNAME start option value. The IPADDR start option, if it is in effect at the time when the MODIFY VTAMOPTS,HOSTNAME=*hostname* is specified, will be reset (that is, set to a value of 0.0.0.0) as part of the MODIFY processing. The value NONE can be used to clear the setting of the HOSTNAME start option. HOSTNAME and IPADDR cannot be modified using one MODIFY VTAMOPTS command. If both start options are specified on the same MODIFY command, they will both be ignored and message IST1917I will be generated.
- 17 This option is meaningful only if VTAM provides RTP-level HPR support.
- 18 If the current value of the HPRSESLM start option is DISABLED, then the HPRSESLM value can be changed only by stopping and restarting VTAM.
- 19 When specifying an InOpCode for the second parameter, always specify three digits by including any leading zeros.
- 20 If an InOpCode is specified for the second parameter, the first parameter cannot be ALL.
- 21 INOPCODE has no effect unless INOPDUMP is active for the resource when an inoperative condition is detected. See the section called MODIFY INOPCODE command in z/OS Communications Server: SNA Operation for more details.
- 22 When altering the INOPDUMP VTAM start option, the resulting INOPDUMP status is propagated to all TRLEs in the TRL major node if the command is globally set, or it is propagated to a subset of resources that are identified by

one or more INOPDUMP control groups. The INOPDUMP setting becomes the default status for any subsequently activated TRLEs.

- 23 IPADDR can be modified only if NODETYPE was specified during VTAM START processing. The new value will not be used until all lines, defined with or defaulting to the old value of the IPADDR start option, in the XCA major node used for Enterprise Extender are inactive. However, displays of VTAM start options will show the new value immediately. Any subsequent line activation from the Enterprise Extender XCA major node, whose GROUP definition statement does not specify the IPADDR operand, will make use of the new IPADDR start option value. The HOSTNAME start option, if it is in effect at the time when the MODIFY VTAMOPTS,IPADDR=*ip\_address* is specified, will be reset (that is, set to a value of NONE) as part of the MODIFY processing. The value of 0.0.0.0, or an IPv6 address of all zeros, usually written as ::, can be used to clear the setting of the IPADDR start option. HOSTNAME and IPADDR cannot be modified using one MODIFY VTAMOPTS command. If both start options are specified on the same MODIFY command, they will both be ignored and message IST1917I will be generated.
- 24 The IQDCHPID option controls which IQD CHPID (and related subchannel devices) VTAM selects to dynamically build the iQDIO (IUTIQDIO) MPC group. The IUTIQDIO MPC group is used for TCP/IP dynamic XCF communications within System z. Although this option can be modified (and the modification will immediately be displayed) while the IUTIQDIO MPC group is currently active, any modifications have the effects shown in the section called IQD CHPID modifications in z/OS Communications Server: SNA Operation.
- 25 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 26 MAXLOCAT can be modified only if NODETYPE was specified during VTAM START processing.
- 27 The option does not take effect for MPC groups that are in the process of being activated when the command is issued until those MPC groups are deactivated and reactivated.
- 28 MULTPATH is meaningful only if the NODETYPE start option is also specified.
- 29 NNSPREF can be modified only if NODETYPE=EN was specified during VTAM START processing.
- 30 NUMTREES can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 31 OSIEVENT=PATTERNS is not valid when OSIMGMT=YES.
- 32 OSITOP0=ALLCDRSC is not valid when OSIMGMT=YES.
- 33 PMTUD is meaningful only if the NODETYPE start option is also specified.
- 34 RESUSAGE can be modified only if NODETYPE=NN was specified during VTAM START processing.

- 35 ROUTERES can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 36 SNVC can be modified only if BN=YES was specified during VTAM START processing.
- 37 SORDER can be modified only if VTAM has been started as an interchange node or a migration data host.
- 38 SRCOUNT is meaningful only when SRCHRED=ON.
- 39 SRTIMER is meaningful only when SRCHRED=ON.
- 40 SSEARCH can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 41 TCPNAME can be modified only if NODETYPE was specified during VTAM START processing. The new value will not be used until all lines in the XCA major node used for Enterprise Extender are inactive. However, displays of VTAM start options will show the new value immediately. Any subsequent line activation from the Enterprise Extender XCA major node will make use of the new TCPNAME value.
- 42 TDUDIAG is meaningful only if the NODETYPE=NN start option is also available.
- 43 UNRCHTIM is meaningful only if the NODETYPE start option is also used.
- 44 VFYREDTI can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 45 VRTG can be modified only if NODETYPE and HOSTSA are specified.
- 46 VRTGCPCP can be modified only if NODETYPE and HOSTSA are specified.

## Abbreviations

Operand	Abbreviation
MODIFY	F
MSGLEVEL	MSGLVL
PLUALMSG=NOSUPP	PLUALMSG=NOSUP
PLUALMSG=SUPPRESS	PLUALMSG=SUPP
SLUALMSG=NOSUPP	SLUALMSG=NOSUP
SLUALMSG=SUPPRESS	SLUALMSG=SUPP

When using an abbreviation in place of an operand, code the abbreviation exactly as shown in the table. For example, when coding the abbreviation for PLUALMSG=SUPPRESS, code only PLUALMSG=SUPP.

## Purpose

The MODIFY VTAMOPTS (VTAM start options) command enables you to change certain values that might have been specified on VTAM start options. See the *z/OS Communications Server: SNA Resource Definition Reference* for descriptions of each of the start options that you can change with this command.

There are no default values on the MODIFY VTAMOPTS command. In general, only the values that you specify are affected, and operands that are not specified

on the command are unaffected. The exceptions are the IPADDR and HOSTNAME operands, which do affect each other when specified on the MODIFY VTAMOPTS command.

**Note:** If a start option affects individual resources, and you change the value of the start option with this command, the change does not go into effect until the major nodes for those resources are deactivated and reactivated. The command takes effect for major nodes that are activated after you issue this command and for dynamic cross-network resources that are dynamically defined after the command is issued.

## Operands

### procname

The procedure name for the command. If *procname* in the START command was specified as *startname.ident*, where *startname* is the VTAM start procedure and *ident* is the optional identifier, either *startname.ident* or *ident* can be specified for *procname*.

If *procname* in the START command was *startname*, *startname* must be specified for *procname*.

## START command

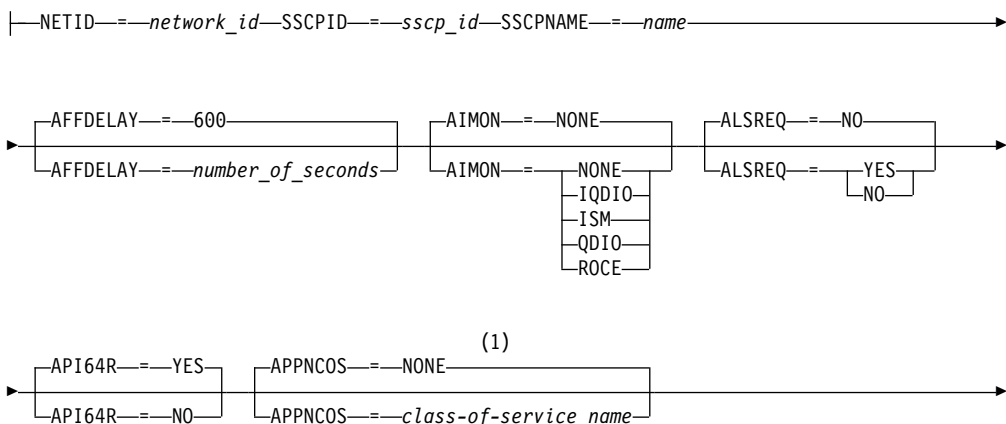
### Starting VTAM in an MVS environment:

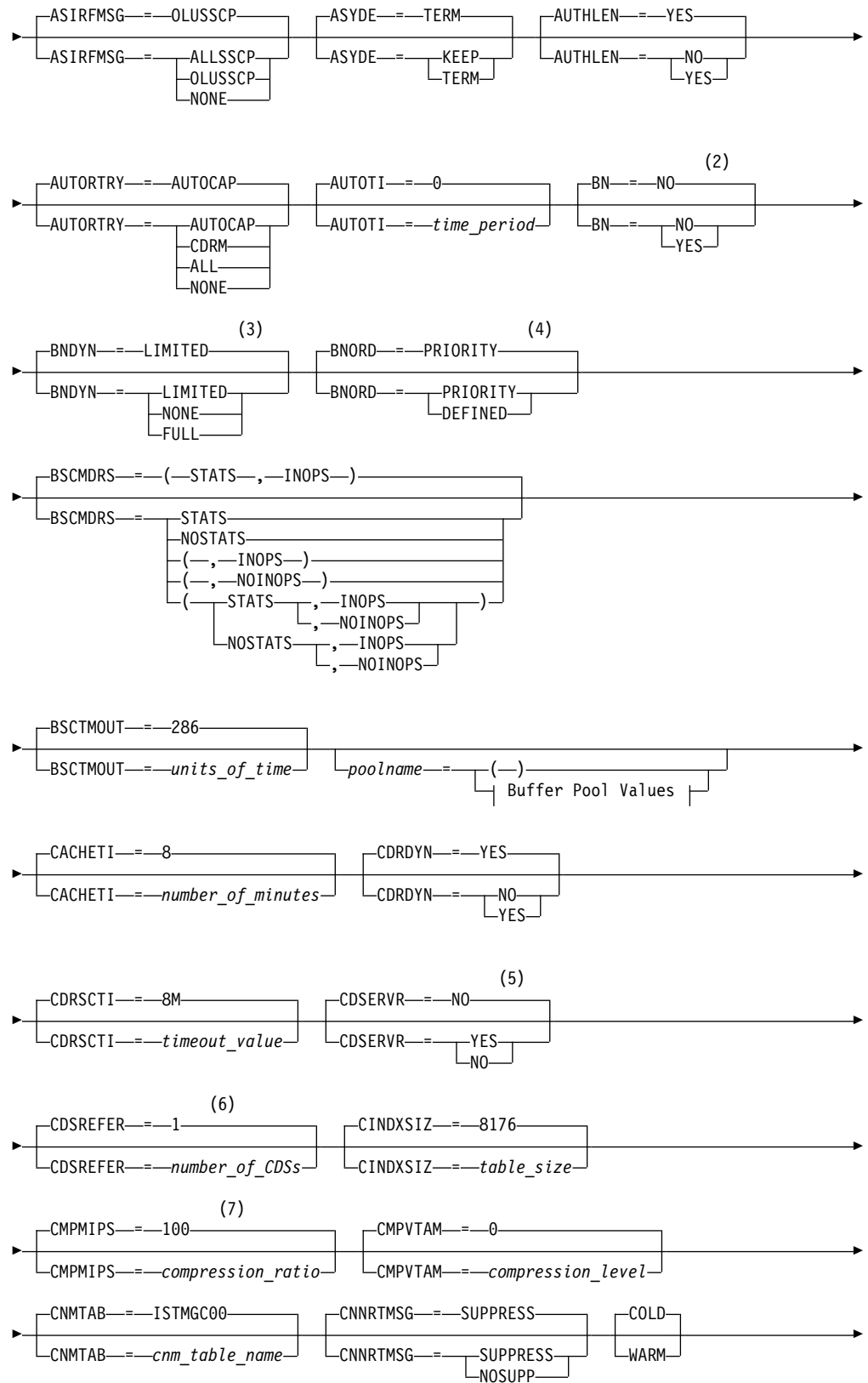
▶—START— *procname*—,—,—,—(—| Options |—)—————▶

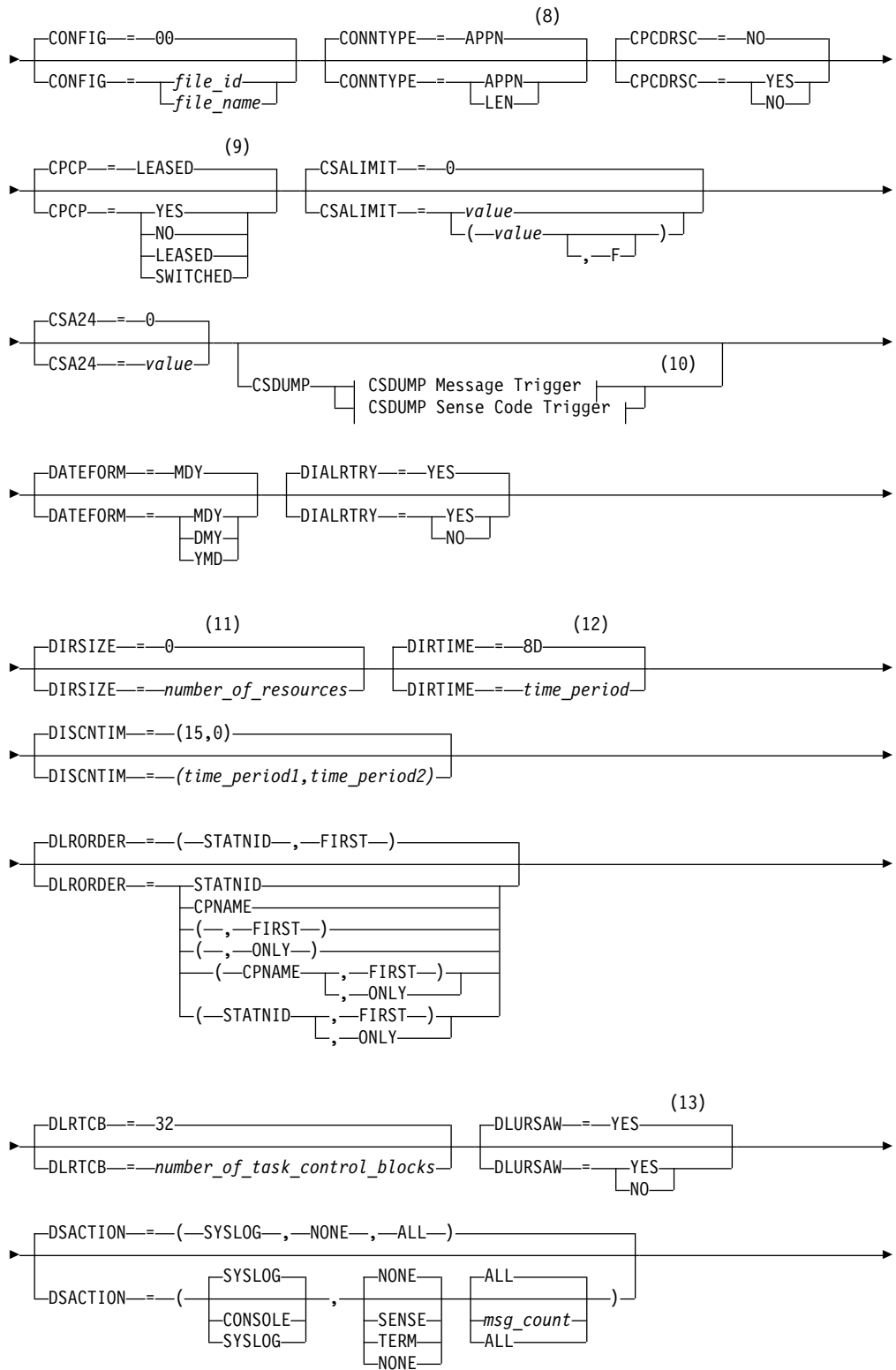
### Note:

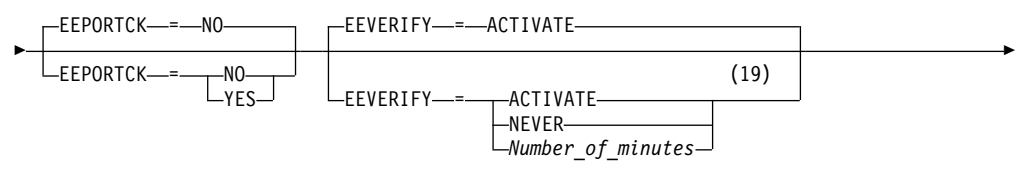
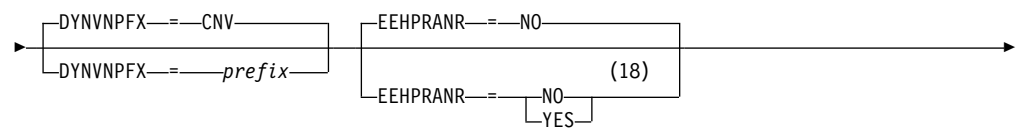
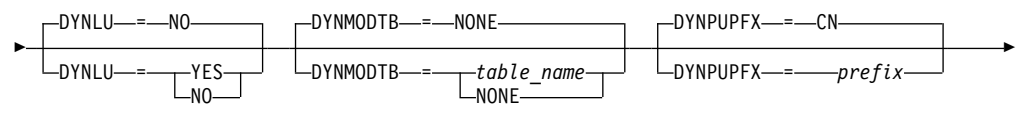
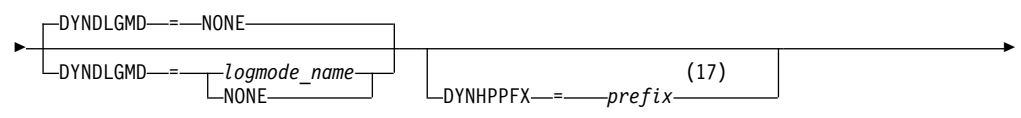
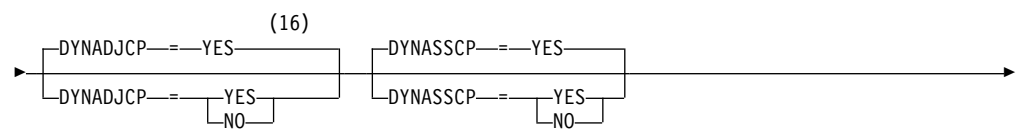
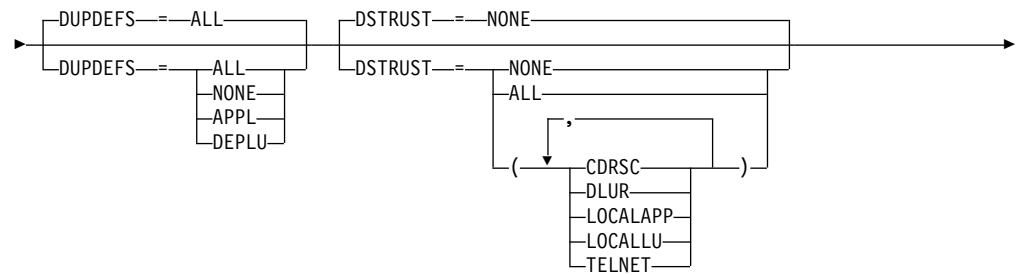
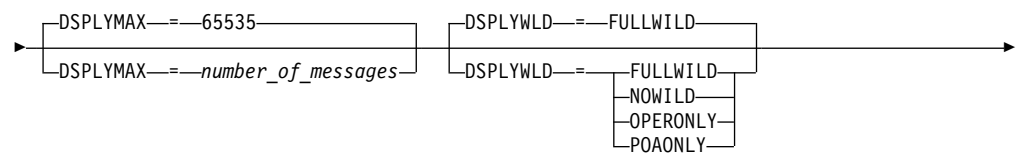
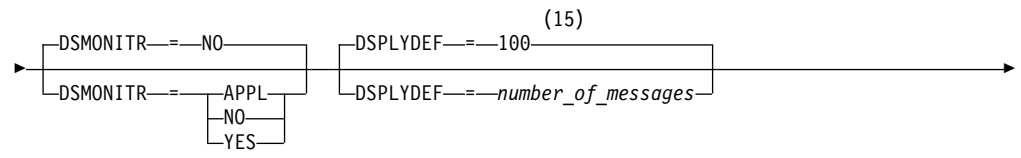
1. The start options are listed in this information alphabetically; however, you can code them in any order.
2. Precede the option list with three commas and enclose the group of options in parentheses.
3. Start options that are entered on the START command must be separated by commas. Do not leave any blanks between options.

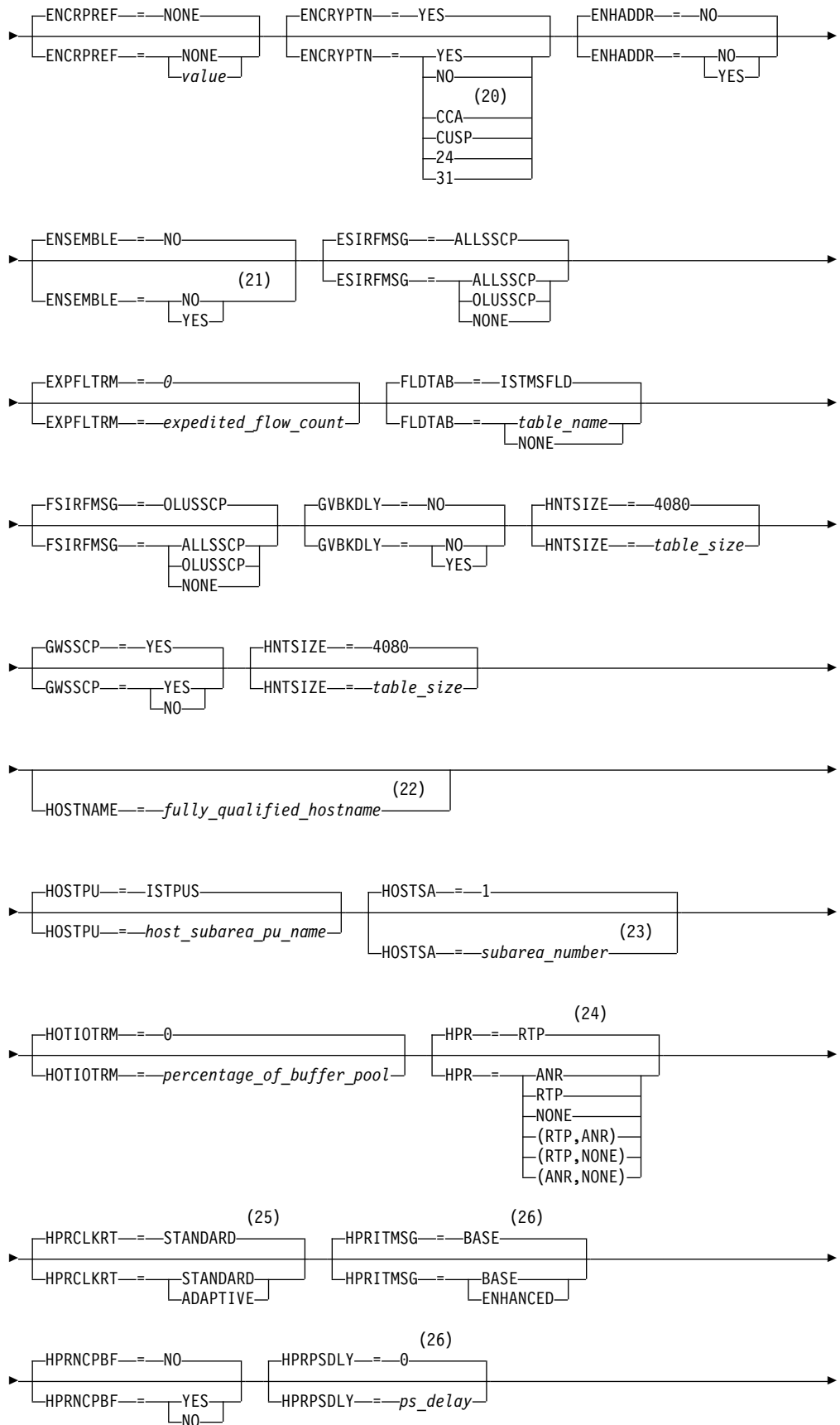
### Options:



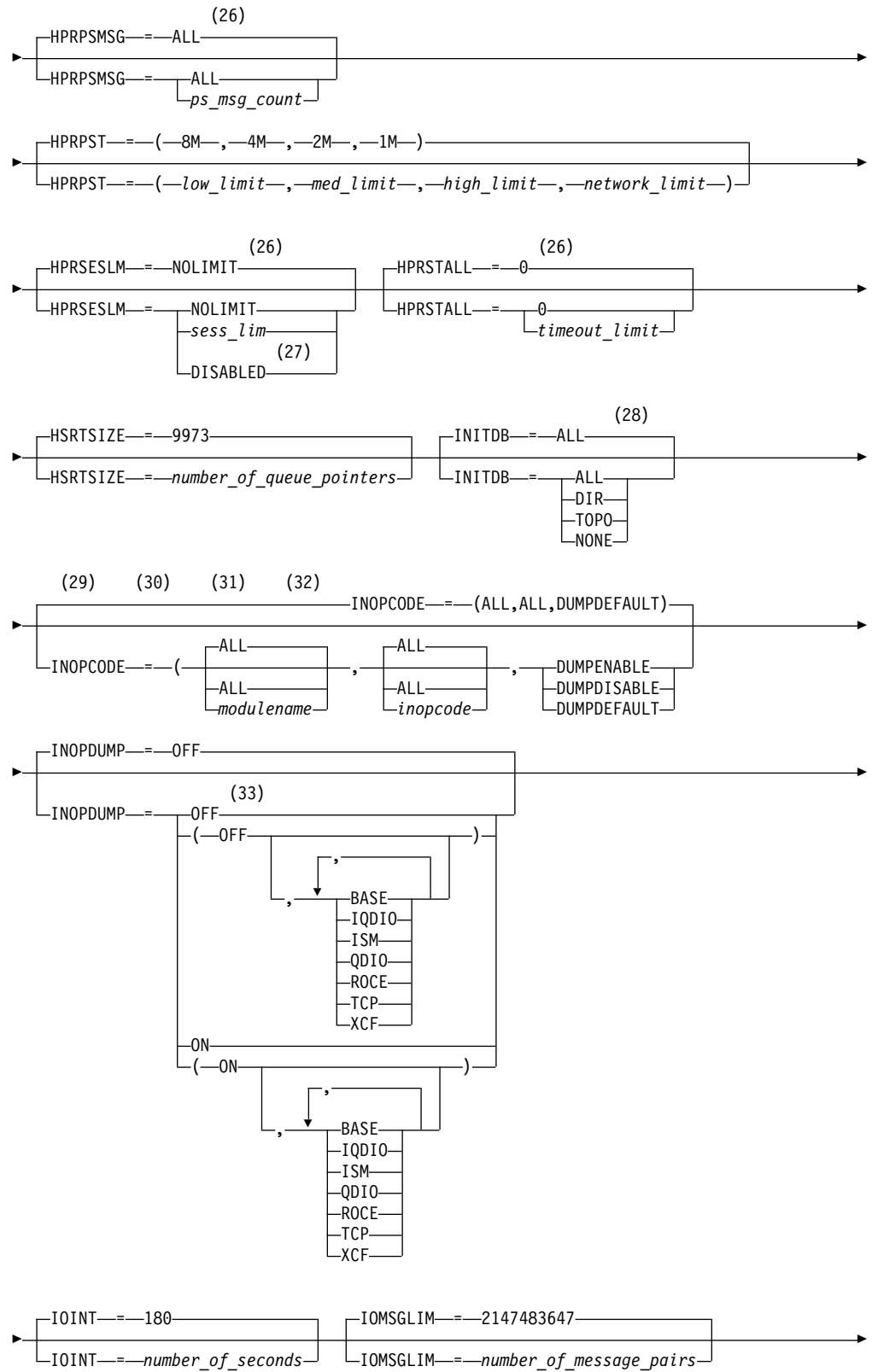


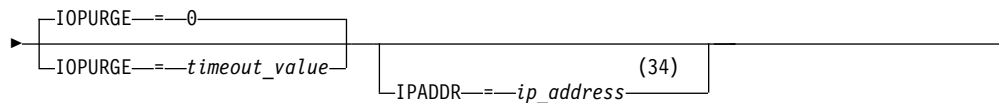










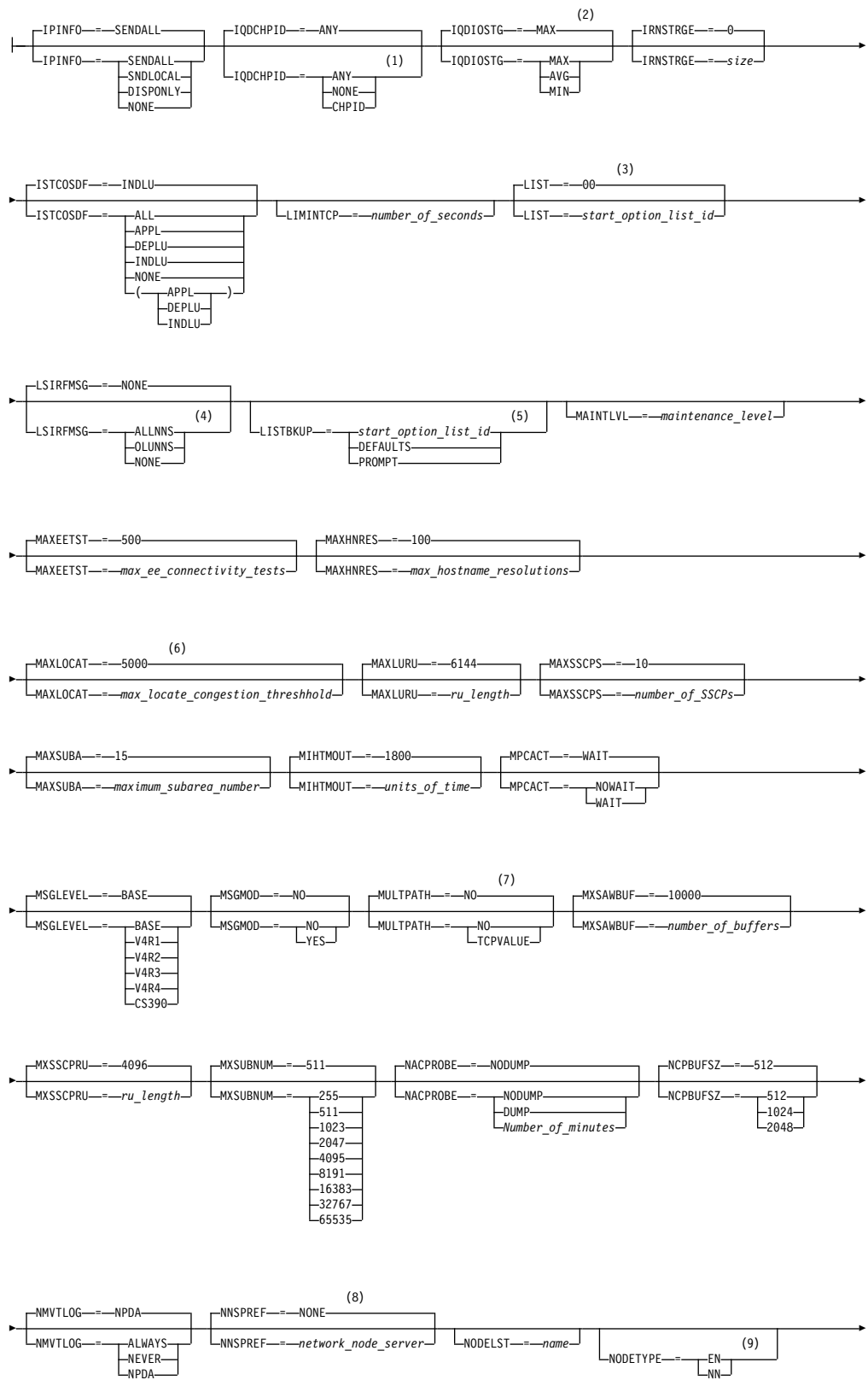


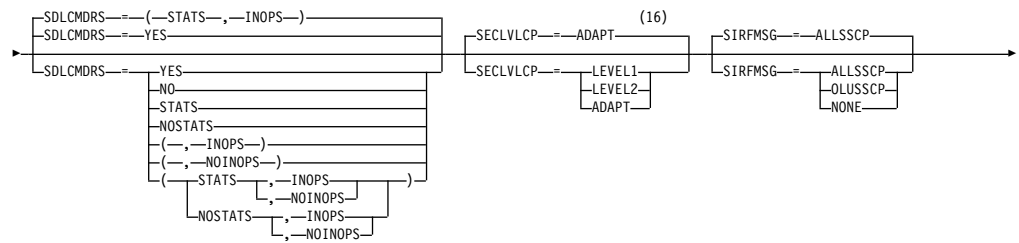
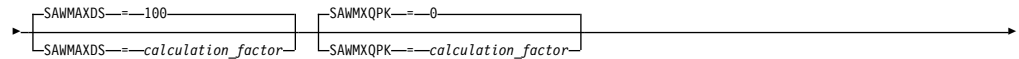
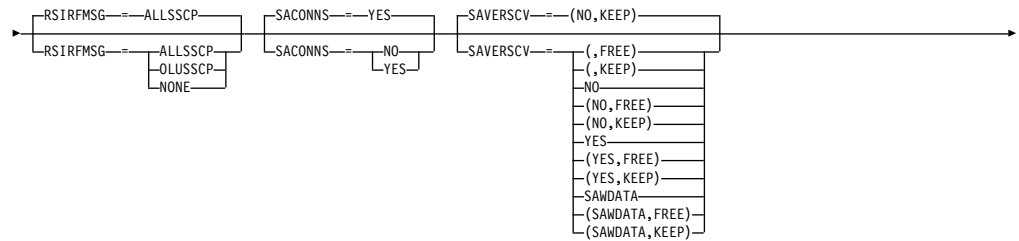
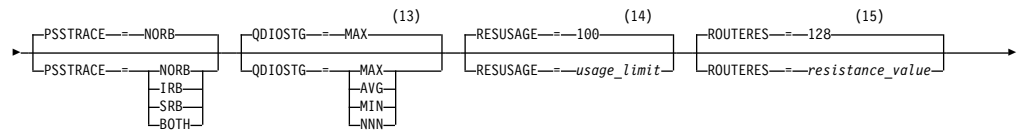
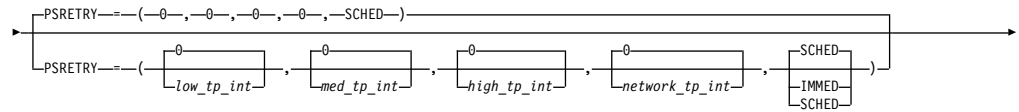
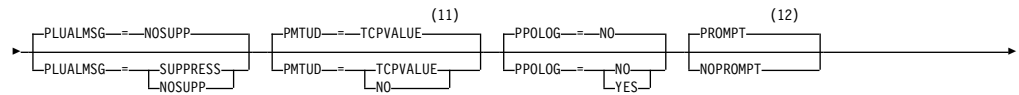
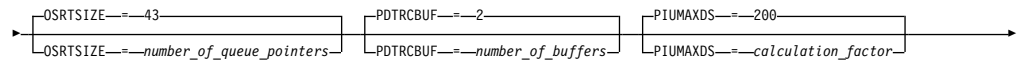
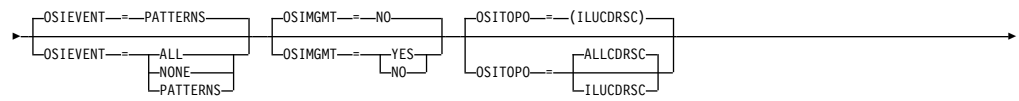
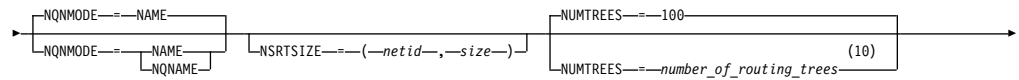
**Notes:**

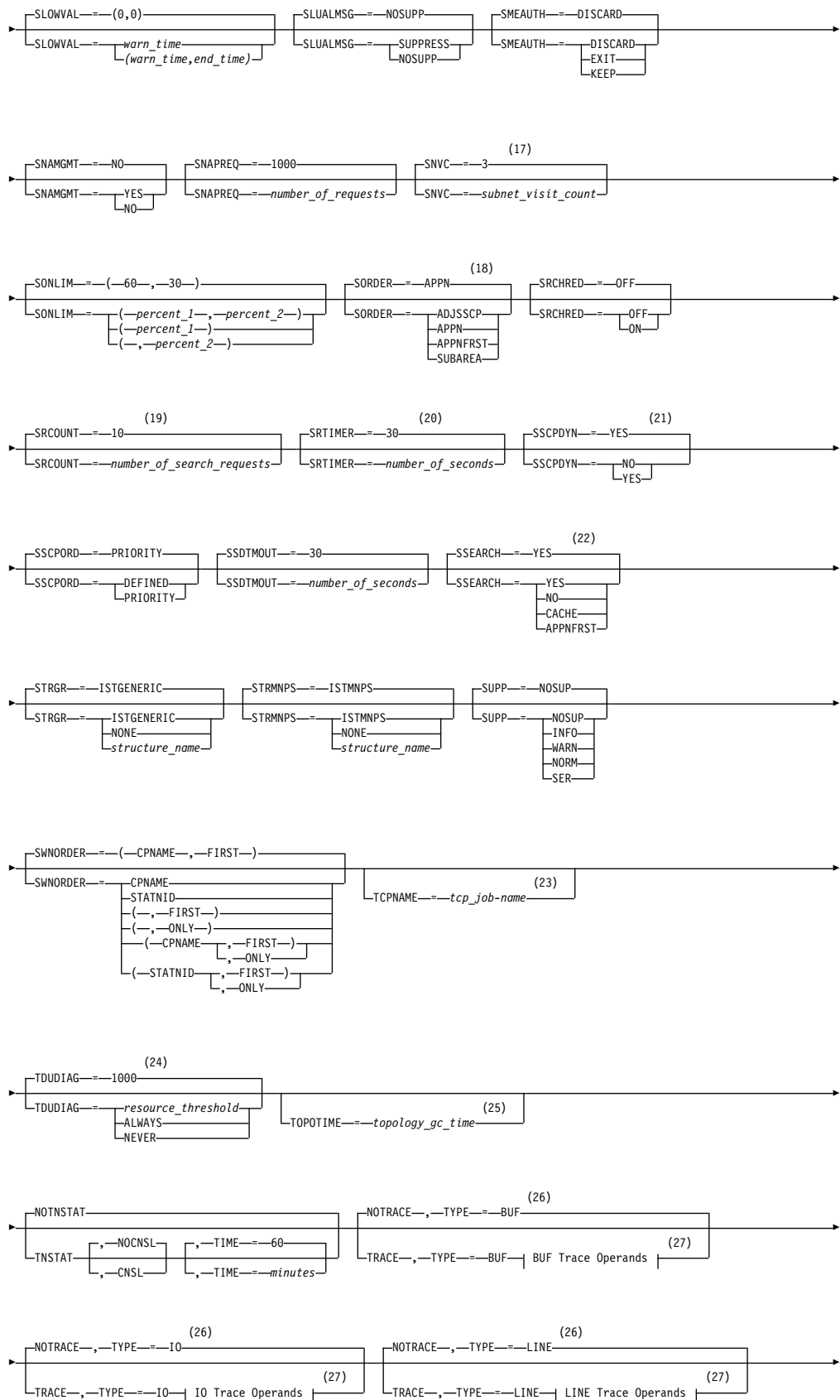
- 1 APPNCOS is meaningful only if the NODETYPE start option is also used.
- 2 BN is meaningful only if the NODETYPE=NN start option is also used.
- 3 BNDYN is meaningful only if the BN=YES start option is also used.
- 4 BNORD is meaningful only if the BN=YES start option is also used.
- 5 CDSERVR is meaningful only if the NODETYPE=NN start option is also used.
- 6 CDSREFER is meaningful only if the NODETYPE=NN and CDSERVR=NO start options are also used.
- 7 The CMPMIPS start option is meaningful only if the value for CMPVTAM is greater than 1.
- 8 CONNTYPE is meaningful only if the NODETYPE start option is also used.
- 9 CPCP is meaningful only if the NODETYPE start option is also used.
- 10 Specify the CSDUMP start option twice to set both message and sense code triggers.
- 11 DIRSIZE is meaningful only if the NODETYPE=NN start option is also used.
- 12 DIRTIME is meaningful only if the NODETYPE=NN start option is also used.
- 13 DLURSAW is meaningful only if the NODETYPE=NN start option is also used.
- 14 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 15 If the DSDPLYMAX start option value is less than 100, that value is the default for DSDPLYDEF.
- 16 DYNADJCP is meaningful only if the NODETYPE start option is also used.
- 17 Two character prefix.
- 18 EEHPRANR is meaningful only when the NODETYPE=NN start option is also used.
- 19 The EEVERIFY start option is meaningful only if VTAM provides RTP-level HPR support. The NODETYPE start option must be coded and the RTP value must be specified on the HPR start option.
- 20 ENCRYPTN=CCA needs to be coded when Triple Des Encryption is required.
- 21 The ENSEMBLE setting is used to either permit or deny connectivity to the intraensemble data network and the intranode management network. It does this by either allowing or denying activation of OSX and OSM interfaces.
- 22 HOSTNAME is meaningful only if the NODETYPE start option is also used.

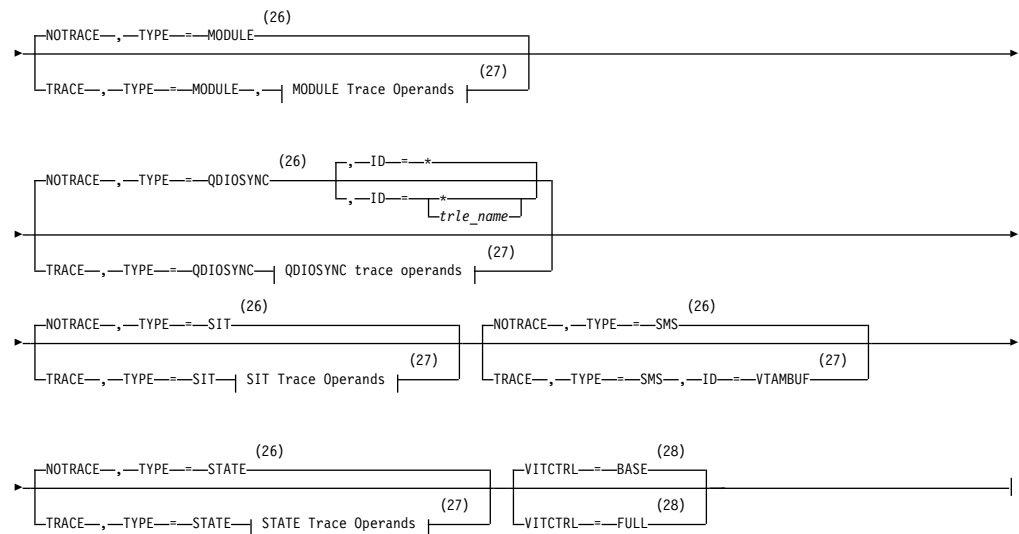
If neither HOSTNAME nor IPADDR is specified on any of the GROUP definition statements within the Enterprise Extender XCA major node, then either the HOSTNAME, TCPNAME, or IPADDR start options must be specified in order to activate an Enterprise Extender link. The HOSTNAME start option specifies the default hostname to be used for name-to-address resolution as part of activating an Enterprise Extender connection, and must resolve at this node to a static VIPA address associated with a TCP/IP stack at this node. If IPADDR is specified along with HOSTNAME on the START command, the IPADDR value is ignored.

- 23 HOSTSA specifies the subarea number of this VTAM. If HOSTSA is not coded, then a default subarea number of 1 is used.
- 24 HPR is meaningful only if NODETYPE is also used.
- 25 HPRCLKRT=ADAPTIVE is meaningful only in Enterprise Extender configurations that have a defined capacity of 1 Gb (gigabit) or higher access speeds.
- 26 This option is meaningful only if VTAM provides RTP-level HPR support.
- 27 HPRSESLM=DISABLED is meaningful only on interchange nodes.
- 28 INITDB is meaningful only if the NODETYPE=NN start option is also used.
- 29 When specifying an InOpCode for the second parameter, always specify three digits by including any leading zeros.
- 30 If an InOpCode is specified for the second parameter, the first parameter cannot be ALL.
- 31 INOPCODE has no effect unless INOPDUMP is active for the resource when an inoperative condition is detected. See the MODIFY INOPCODE command in z/OS Communications Server: SNA Operation for more details.
- 32 Multiple INOPCODE parameters can be specified by the START command, and will be processed left to right as they are entered. This is different from specifying the INOPCODE parameter on either the MODIFY INOPCODE command or the MODIFY VTAMOPTS command, where only one INOPCODE parameter is allowed for each entry of these commands.
- 33 INOPDUMP status is propagated to resources that are defined within a TRLE when the entry is activated.
- 34 IPADDR is meaningful only if the NODETYPE start option is also used. If neither IPADDR nor HOSTNAME is specified on any of the GROUP definition statements within the Enterprise Extender XCA major node, then either the HOSTNAME, TCPNAME, or IPADDR start option must be specified in order to activate an Enterprise Extender link. The IPADDR start option specifies the default IPv4 or IPv6 static VIPA address to be used when activating an Enterprise Extender connection. If HOSTNAME is specified along with IPADDR on the START command, the IPADDR value is ignored.







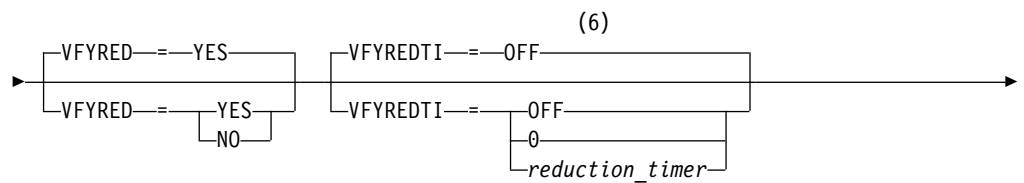
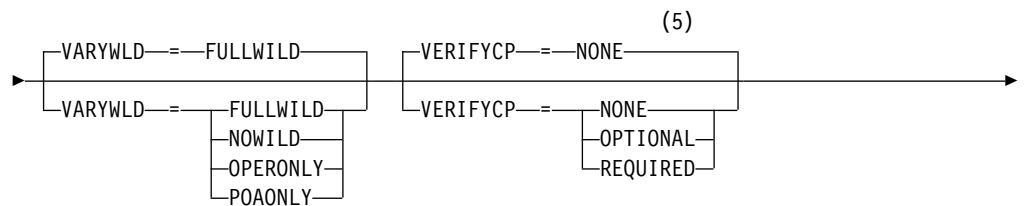
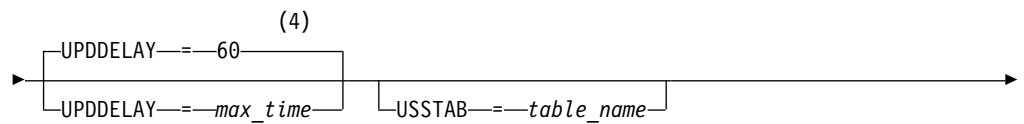
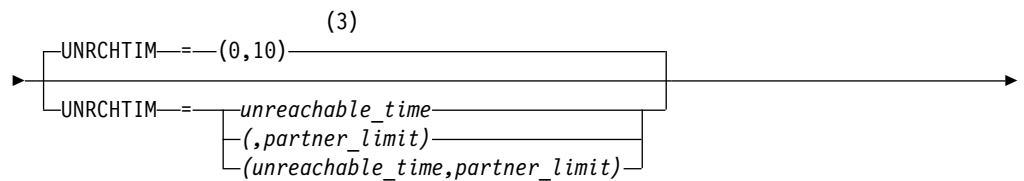
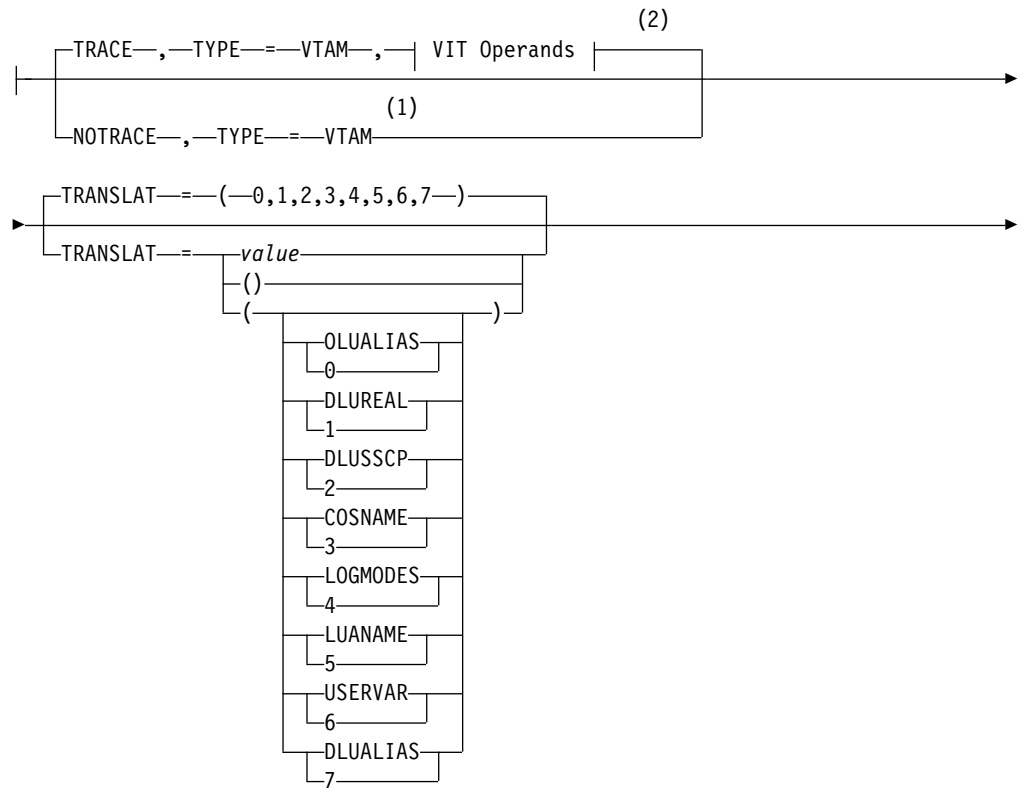


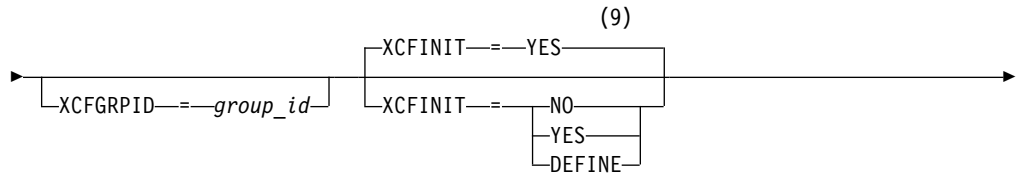
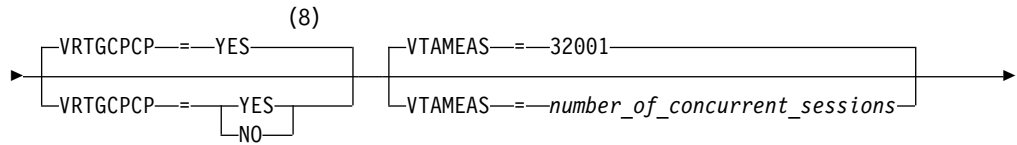
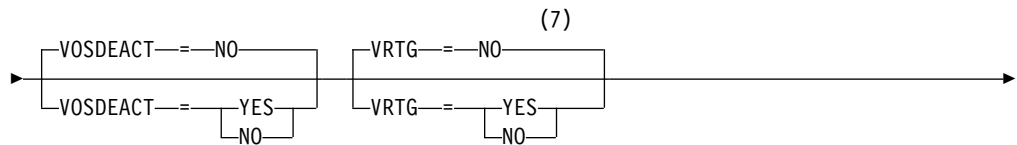
### Notes:

- 1 The IQDCHPID option controls which IQD CHPID (and related subchannel devices) VTAM selects to dynamically build the iQDIO (IUTIQDIO) MPC group. The IUTIQDIO MPC group is used for TCP/IP dynamic XCF communications within System z. Although this option can be modified (and the modification will immediately be displayed) while the IUTIQDIO MPC group is currently active, any modifications have the effects shown in the section called IQD CHPID modifications in z/OS Communications Server: SNA Operation.
- 2 This option affects only iQDIO devices that use a MFS of 64k. The smaller frame sizes will always use 126 SBALs. You can override this option on a per-device basis using the READSTORAGE parameter on the LINK or INTERFACE statement in the TCP/IP profile. See z/OS Communications Server: IP Configuration Reference for more details.
- 3 LIST can be entered by a VTAM operator only. If LIST is coded in an ATCSTRxx file, it is considered to be an error and is ignored.
- 4 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 5 LISTBKUP can be coded only in a start option file. If you enter it on the START command or at an operator prompt, VTAM will ignore it.
- 6 MAXLOCAT is meaningful only if NODETYPE is specified.
- 7 MULTPATH is meaningful only if the NODETYPE start option is also specified.
- 8 NNSPREF can be specified only if NODETYPE=EN is specified during VTAM START processing.
- 9 NODETYPE enables APPN function. The combination of HOSTSA, NODETYPE, and SACONNS determines the configuration (subarea node, interchange node, migration data host, network node, or end node).

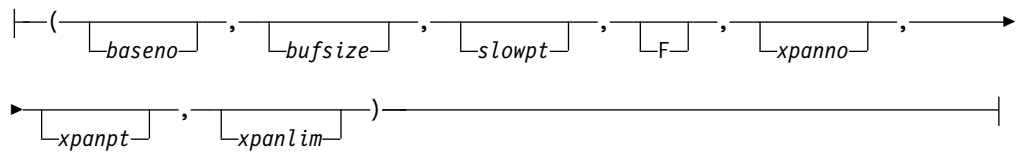
- 10 NUMTREES is meaningful only if the NODETYPE=NN start option is also used.
- 11 PMTUD is meaningful only if the NODETYPE start option is also specified.
- 12 A VTAM operator cannot enter the PROMPT or NOPROMPT start option; it can be coded only in ATCSTR00. The value coded in ATCSTR00 is ignored if start options are entered on the START command or if VTAM finds an error in a start list. Upon finding an error in a start list, VTAM prompts the operator so that the operator can specify the option correctly.
- 13 QDIOSTG defaults to MAX for 64-bit (z/Architecture) machines and MIN for non 64-bit machines. You can override this option on a per-device basis using the READSTORAGE parameter on the LINK or INTERFACE statement in the TCP/IP profile. See z/OS Communications Server: IP Configuration Reference for more details.
- 14 RESUSAGE is meaningful only if the NODETYPE=NN start option is also used.
- 15 ROUTERES is meaningful only if the NODETYPE=NN start option is also used.
- 16 The SECLVLCPC start option is meaningful only if the NODETYPE and VERIFYCP start options are also used.
- 17 SNVC is meaningful only if the BN=YES start option is also used.
- 18 SORDER is meaningful only in an interchange node or a migration data host.
- 19 SRCOUNT is meaningful only if the SRCHRED=ON start option is also used.
- 20 SRTIMER is meaningful only if the SRCHRED=ON start option is also used.
- 21 The SSCPDYN start option applies only for interconnected networks (that is, GWSSCP=YES is used).
- 22 SSEARCH is meaningful only if the NODETYPE=NN start option is also used.
- 23 TCPNAME is meaningful only if the NODETYPE start option is also used. If neither IPADDR nor HOSTNAME is specified on any of the GROUP definition statements within the Enterprise Extender XCA major node, then either the HOSTNAME, TCPNAME, or IPADDR start options must be specified in order to activate an Enterprise Extender link.
- 24 TDUDIAG is meaningful only if the NODETYPE=NN start option is also available.
- 25 TOPOTIME is meaningful only if the NODETYPE start option is also used.
- 26 Do not use NOTRACE when starting VTAM, except to override a TRACE start option coded in a predefined list.
- 27 You can code TRACE and its qualifiers through position 71, even if you are in the middle of the start option. Continue the remainder of the item in the next record. Code the TYPE qualifier immediately after you code the TRACE start option.
- 28 VITCTRL start option will only affect the TRACE or NOTRACE start option if it is specified prior to the TRACE or NOTRACE TYPE=VTAM (MODE=INT) start option.



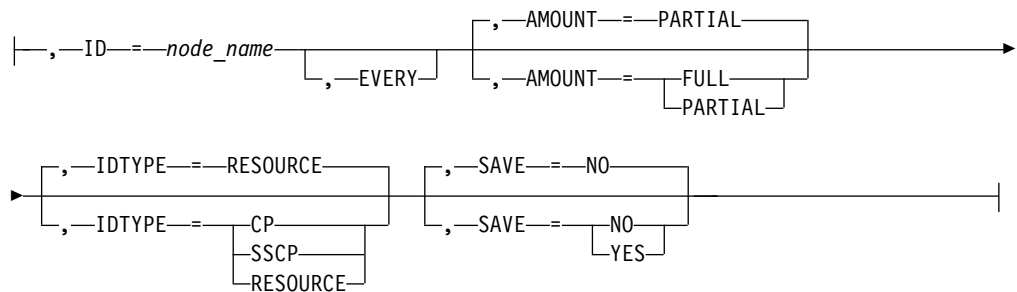




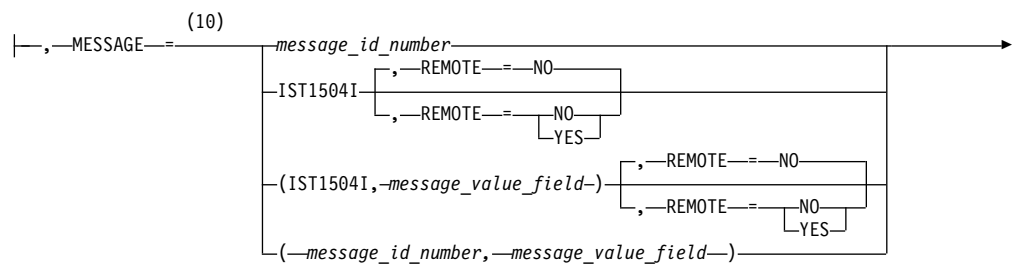
**Buffer Pool Values:**

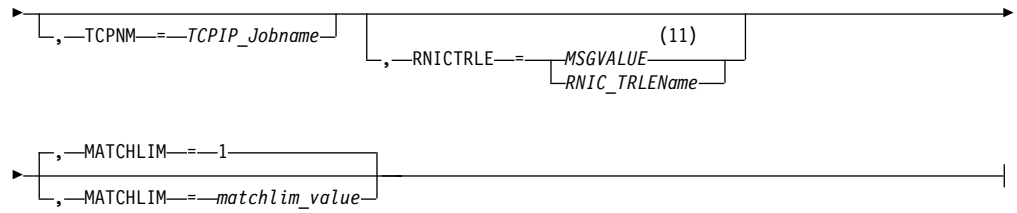


**BUF Trace Operands:**

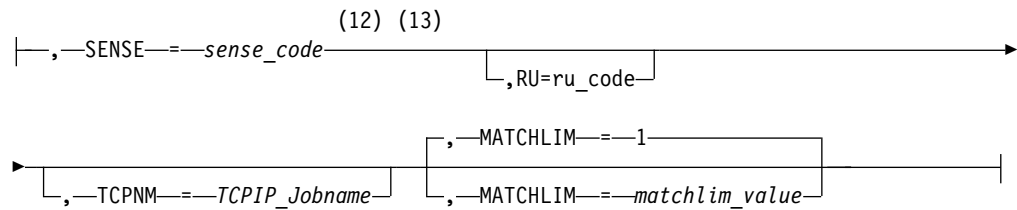


**CSDUMP message trigger:**

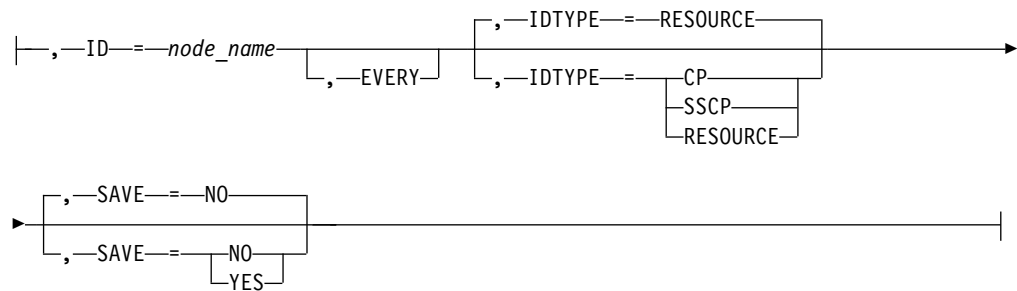




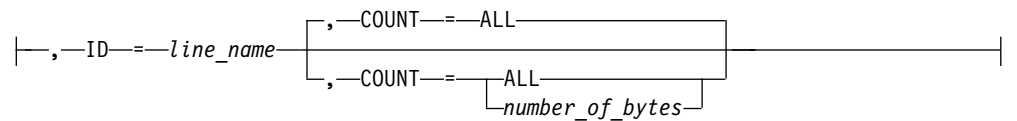
**CSDUMP sense code trigger:**



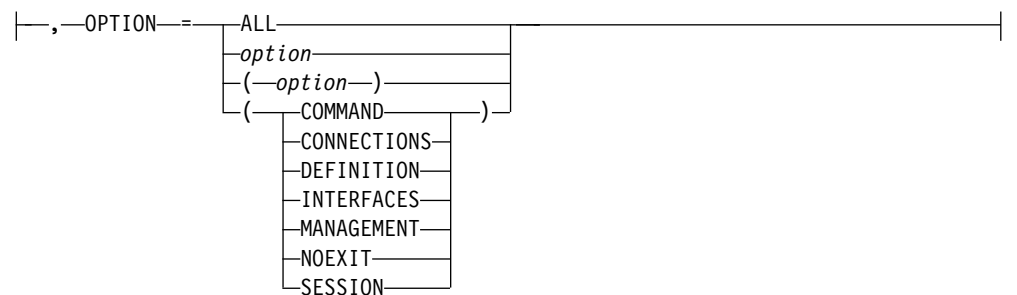
**IO Trace Operands:**



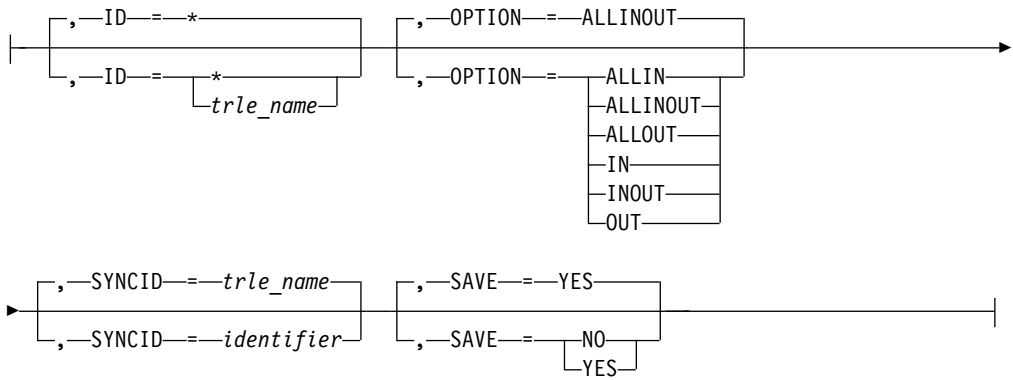
**LINE Trace Operands:**



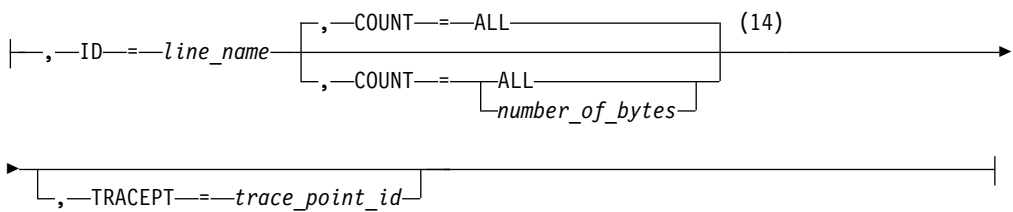
**MODULE Trace Operands:**



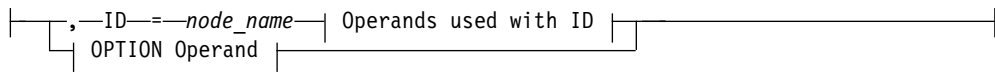
**QDIOSYNC trace operands:**



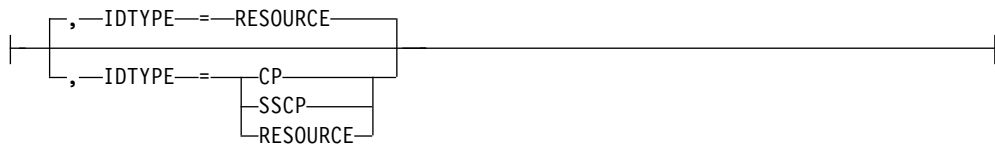
**SIT Trace Operands:**



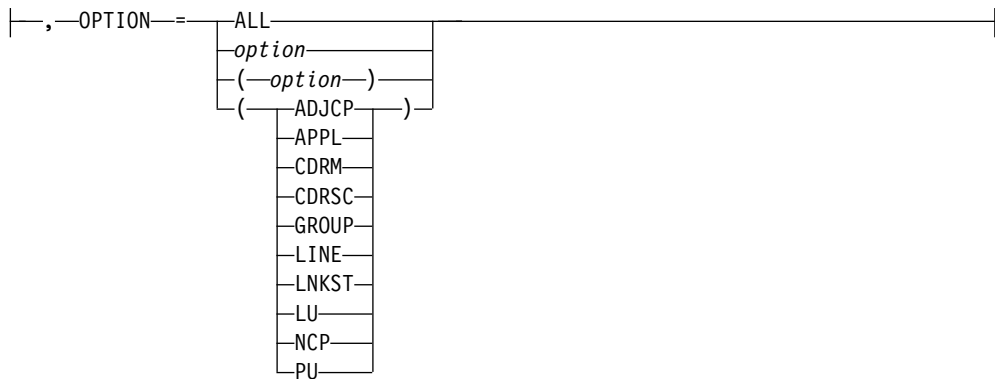
**STATE Trace Operands:**



**Operands used with ID:**



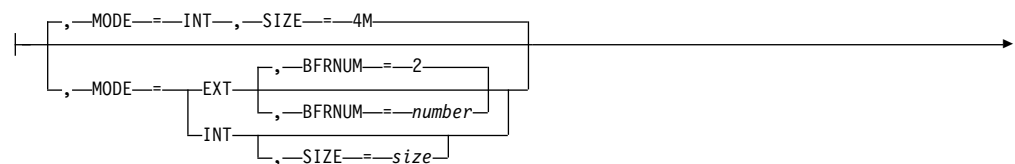
**OPTION Operand:**

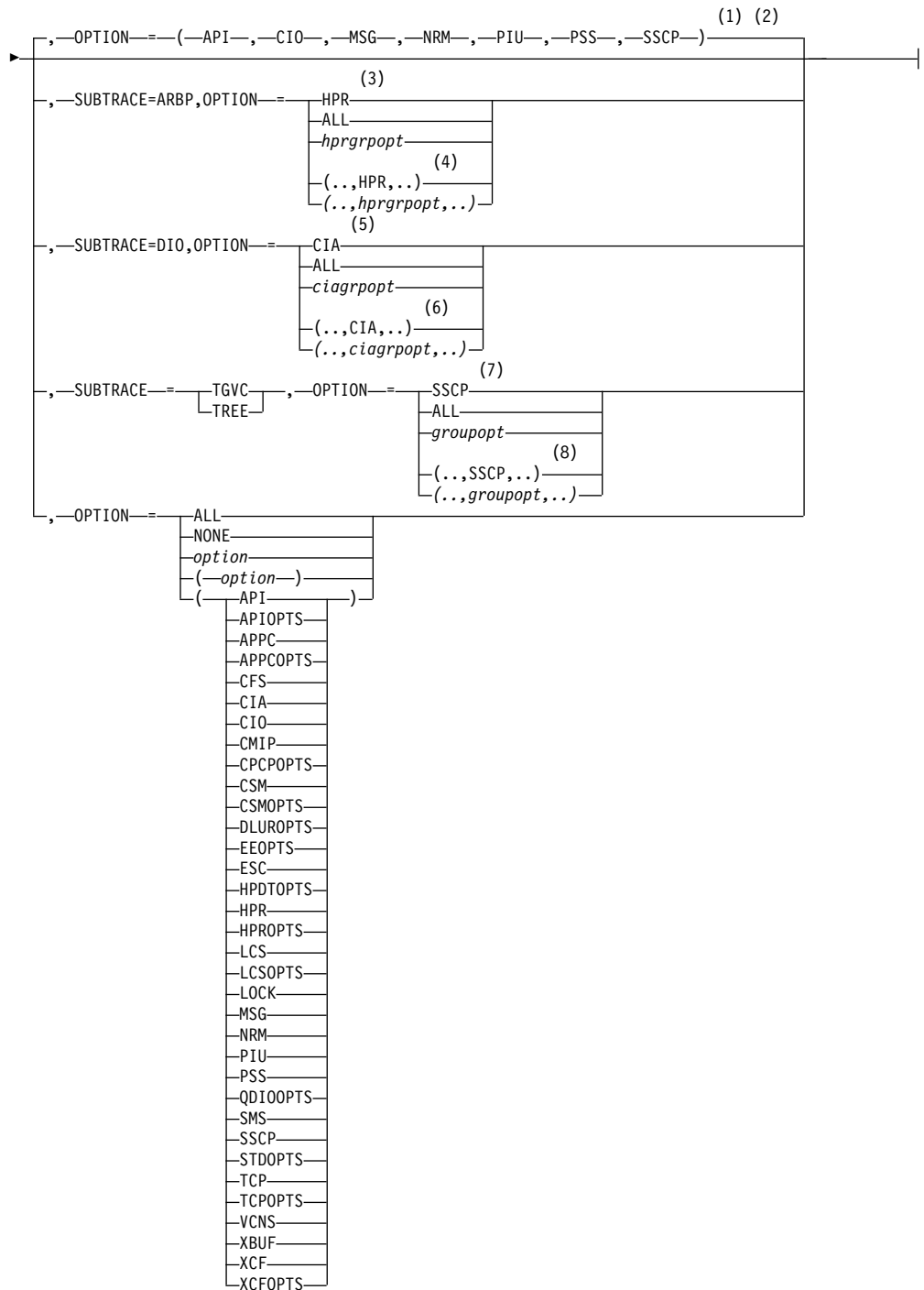


### Notes:

- 1 NOTRACE,TYPE=VTAM is accepted but ignored. Tracing is started with the default trace table size and the default options. The NOTRACE,TYPE=VTAM start option processing is affected by the level of VIT control being used (as specified by the VITCTRL start option). See z/OS Communications Server: SNA Diagnosis Vol 2, FFST Dumps and the VIT for details.
- 2 You can code TRACE and its qualifiers through position 71, even if you are in the middle of the start option. Continue the remainder of the item in the next record. Code the TYPE qualifier immediately after you code the TRACE start option.
- 3 UNRCHTIM is meaningful only if the NODETYPE start option is also used.
- 4 UPDDELAY is meaningful only if the OSIMGMT=YES start option is also used.
- 5 The VERIFYCP start option is meaningful only if the NODETYPE start option is also used.
- 6 VFYREDTI is meaningful only if the NODETYPE=NN start option is also used.
- 7 VRTG is meaningful only if the NODETYPE and HOSTSA start options are also used.
- 8 VRTGCPCP is meaningful only if the NODETYPE and HOSTSA start options are also used.
- 9 XCFINIT=YES is the default if VTAM is started as an APPN node (that is, the NODETYPE start option has been specified). XCFINIT=YES is not valid for pure subarea nodes. XCFINIT=DEFINE is the default if VTAM is started as a pure subarea node (the NODETYPE start option has not been specified).
- 10 When the same parameter is entered multiple times on a CSDUMP message trigger, only the last occurrence is accepted.
- 11 MSGVALUE is valid only when the MESSAGE operand is used and specifies either message IST2391I, IST2406I or IST2419I.
- 12 When an error message is received on any parameter of the CSDUMP start option, the remaining parameters for this CSDUMP start option are ignored. Enter the complete CSDUMP start option again when you are prompted.
- 13 When the same parameter is entered multiple times on a CSDUMP sense trigger, only the last occurrence is accepted.
- 14 COUNT applies only to the IBM 3720 and 3745 Communication Controllers.

### VIT Operands:





**Notes:**

- 1 The default options apply only to MODE=INT.
- 2 PSS is a default VIT option, but PSS can be turned off.
- 3 When you specify SUBTRACE=ARBP and you code a single OPTION value, the OPTION value must be HPR, ALL, or one of the group options (*hprgrpopt*) that include HPR as an individual option equivalent. The applicable group options are DLUROPTS, EEOPTS, HPDTOPTS, HPROPTS, QDIOOPTS, and XCFOPTS.
- 4 When SUBTRACE=ARBP is coded and you code multiple trace options in

parentheses, you must code either HPR or one of the group options (*hprgrpopt*) that include HPR as an individual option equivalent inside the parentheses.

- 5 When you specify SUBTRACE=DIO and you code a single OPTION value, the OPTION value must be CIA, ALL, or one of the group options (*ciagrpopt*) that include CIA as an individual option equivalent. The applicable group options are EEOPTS, HPDTPPTS, HPROPTS, QDIOOPTS, TCPOPTS and XCFOPTS.
- 6 When SUBTRACE=DIO is coded and you code multiple trace options in parentheses, you must code either CIA or one of the group options (*ciagrpopt*) that include CIA as an individual option equivalent inside the parentheses.
- 7 When you code SUBTRACE=TGVC or SUBTRACE=TREE and you code a single OPTION value, the OPTION value must be either SSCP, ALL, or one of the group options (*groupopt*), all of which include SSCP as an individual option equivalent. The group options are APIOPTS, APPCOPTS, CPCPOPTS, CSMOPTS, DLUROPTS, EEOPTS, HPDTPPTS, HPROPTS, LCSOPTS, QDIOOPTS, STDOPPTS, TCPOPTS, and XCFOPTS.
- 8 When you code SUBTRACE=TGVC or SUBTRACE=TREE and you code multiple trace options in parentheses, you must code either SSCP or one of the group options (*groupopt*) inside the parentheses.

## **IQD CHPID modifications**

While the IUTIQDIO MPC group is currently active, any modifications to the IQDCHPID option have the following effects:

- Modified from ANY (or CHPID) to NONE - no effect on current usage but blocks subsequent activations
- Modified from NONE to ANY (or CHPID) - no effect on current usage but allows subsequent activations
- Modified from CHPID\_X to CHPID\_Y - no effect on current usage

**Note:** VTAM uses the CHPID value only when building the IUTIQDIO MPC group. To change CHPIDs for an active MPC group, the following must be done:

1. All TCP/IP iQDIO (HiperSocket) devices must be stopped.
2. Make any necessary HCD/IOCDS changes.
3. Verify that new subchannel devices are varied online.
4. Verify that the MPC group has deactivated (with no usage, it times out after approximately two minutes).
5. Modify IQDCHPID=CHPID (to new CHPID).
6. Restart the TCP/IP iQDIO device or devices.

**Note:** In order to use iQDIO communications, the processor must have the necessary hardware support. If the processor does not support iQDIO communications, then modifications to this start option will not be accepted and the IQDCHPID option will not be displayed (displayed as \*\*\*NA\*\*\*).

## **Abbreviations**

<b>Operand</b>	<b>Abbreviation</b>
START	S
AMOUNT=FULL	AMT=F

<b>Operand</b>	<b>Abbreviation</b>
AMOUNT=PARTIAL	AMT=P
DATEFORM	DATEFRM
EVERY	E
MSGLEVEL	MSGLVL
OPTION	OPT
OPTION=COMMAND	OPT=CMD
OPTION=CONNECTION	OPT=CON
OPTION=DEFINITION	OPT=DEF
OPTION=INTERFACES	OPT=INT
OPTION=MANAGEMENT	OPT=MGMT
OPTION=SESSION	OPT=SES
PLUALMSG=NOSUPP	PLUALMSG=NOSUP
PLUALMSG=SUPPRESS	PLUALMSG=SUPP
SECLVLCP=LEVEL1	SECLVLCP=LVL1
SECLVLCP=LEVEL2	SECLVLCP=LVL2
SLUALMSG=NOSUPP	SLUALMSG=NOSUP
SLUALMSG=SUPPRESS	SLUALMSG=SUPP
TRANSLAT=COSNAME	TRANSLAT=3
TRANSLAT=DLU_ALIAS	TRANSLAT=7
TRANSLAT=DLUREAL	TRANSLAT=1
TRANSLAT=DLUSSCP	TRANSLAT=2
TRANSLAT=LOGMODES	TRANSLAT=4
TRANSLAT=LUANAME	TRANSLAT=5
TRANSLAT=OLU_ALIAS	TRANSLAT=0
TRANSLAT=USERVAR	TRANSLAT=6

When using an abbreviation in place of an operand, code the abbreviation exactly as shown in the table. For example, when coding the abbreviation for PLUALMSG=SUPPRESS, code only PLUALMSG=SUPP.

## Purpose

VTAM is started with the START command.

You can enter the START command only at the master or a secondary system console.

## Operands

### procname

Procedure name for the command.

*procname* can be specified as either *startname.ident* or *startname*, where *startname* is the name of the JCL procedure used to start VTAM and *ident* is an optional identifier.



*procname* used for this command determines the *procname* used for all MODIFY commands as follows:

- If *procname* in the START command was specified as *startname.ident*, where *startname* is the VTAM start procedure and *ident* is the optional identifier, then either *startname.ident* or *ident* can be specified for *procname*.
- If *procname* in the START command was *startname*, then *startname* must be specified for *procname*.

Therefore, if you use NET as the optional identifier on this command, you can consistently use NET as *procname* for all VTAM commands.

### options

VTAM start options supplied by the system programmer. The VTAM operator can enter one or more options. For a description of the start options, see z/OS Communications Server: SNA Resource Definition Reference.

If more than one line is necessary for the start options, enter a comma and a closing parenthesis after the last option.

The values established by the start options go into effect when VTAM is started and remain in effect until VTAM is halted. Many of the options, however, can be modified with the MODIFY VTAMOPTS command while VTAM is running. You can use the DISPLAY VTAMOPTS command to display the values of the start options.

### Examples

```
s net,,,(list=01)s net,,,(list=01)
...
IST020I VTAM INITIALIZATION COMPLETE FOR level
IST1349I COMPONENT ID IS dddd-ddddd-ddd
IST1348I VTAM STARTED AS nodetype
```

For further information about these messages, see z/OS Communications Server: SNA Messages.



# Chapter 3. Quick Reference

## VTAM commands

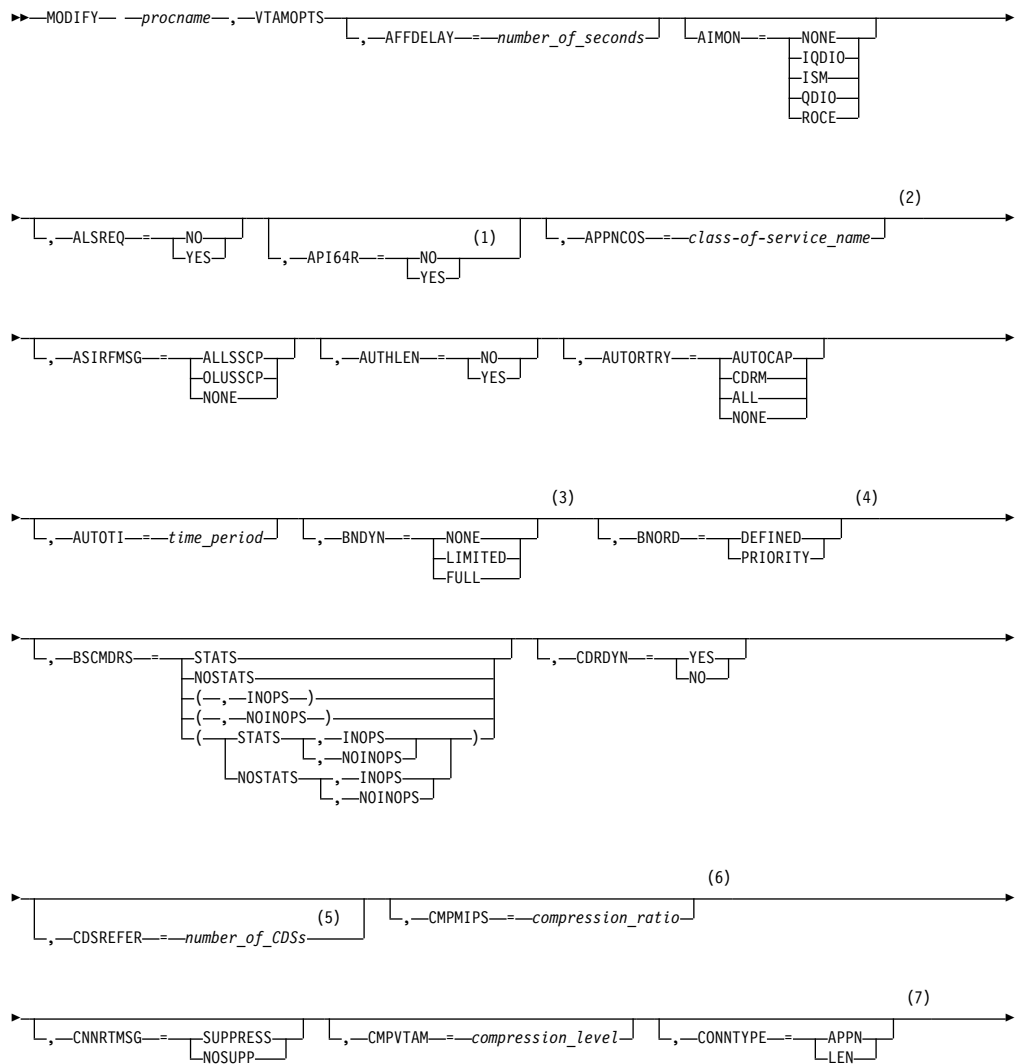
VTAM commands are listed in this section alphabetically.

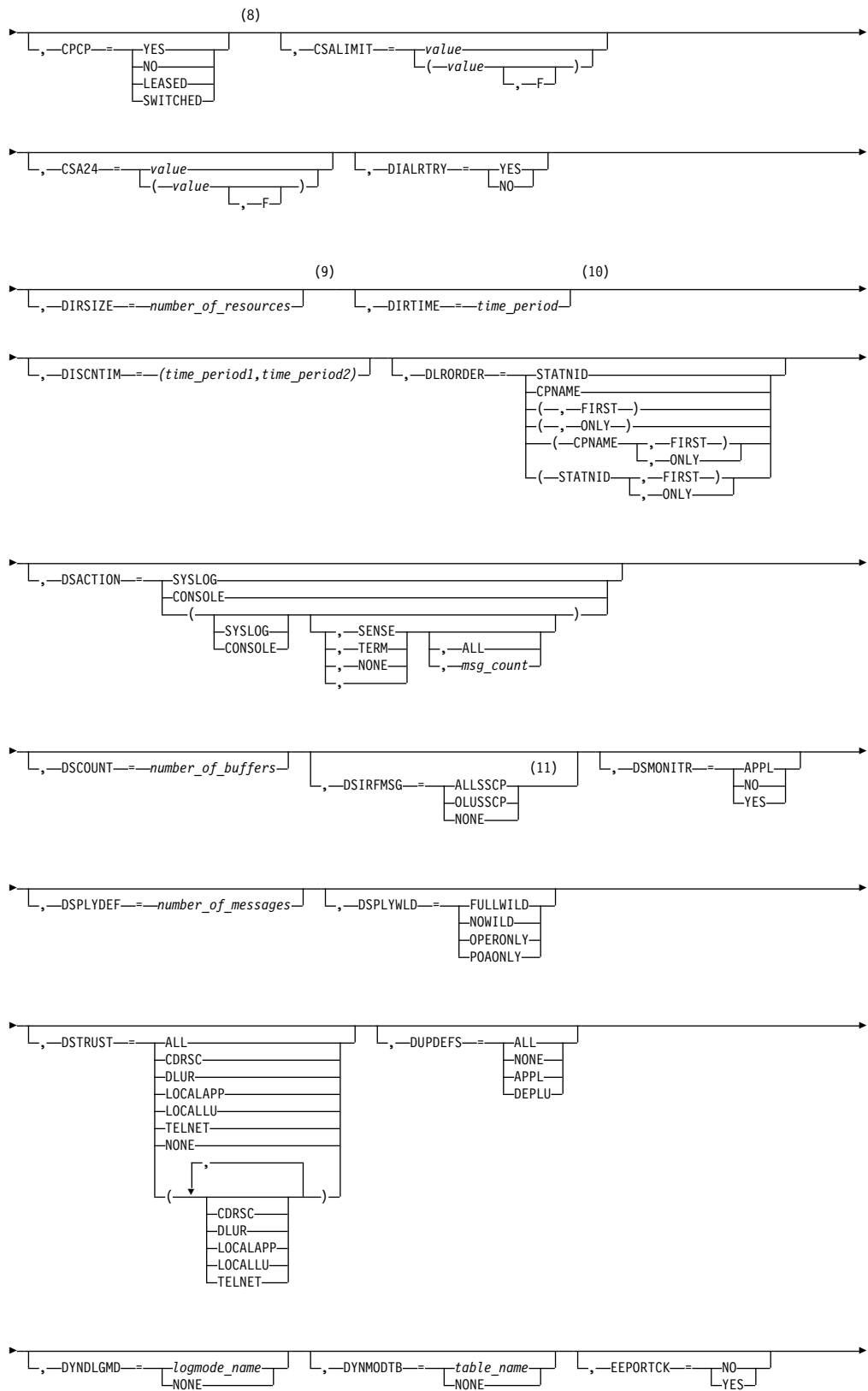
For more information about these commands, see *z/OS Communications Server: SNA Operation* and *z/OS Communications Server: SNA Diagnosis Vol 1, Techniques and Procedures*.

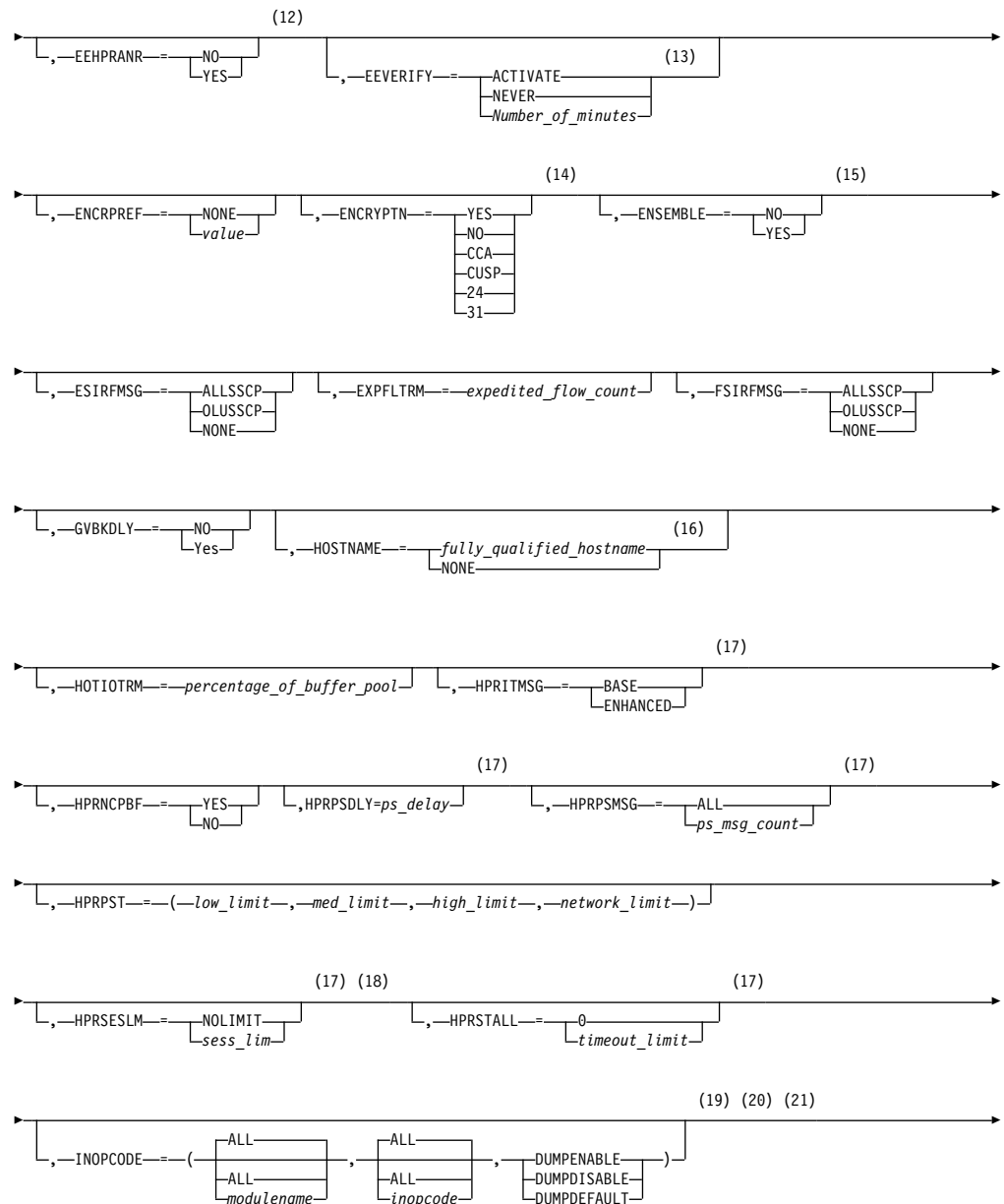
### Operator modify commands

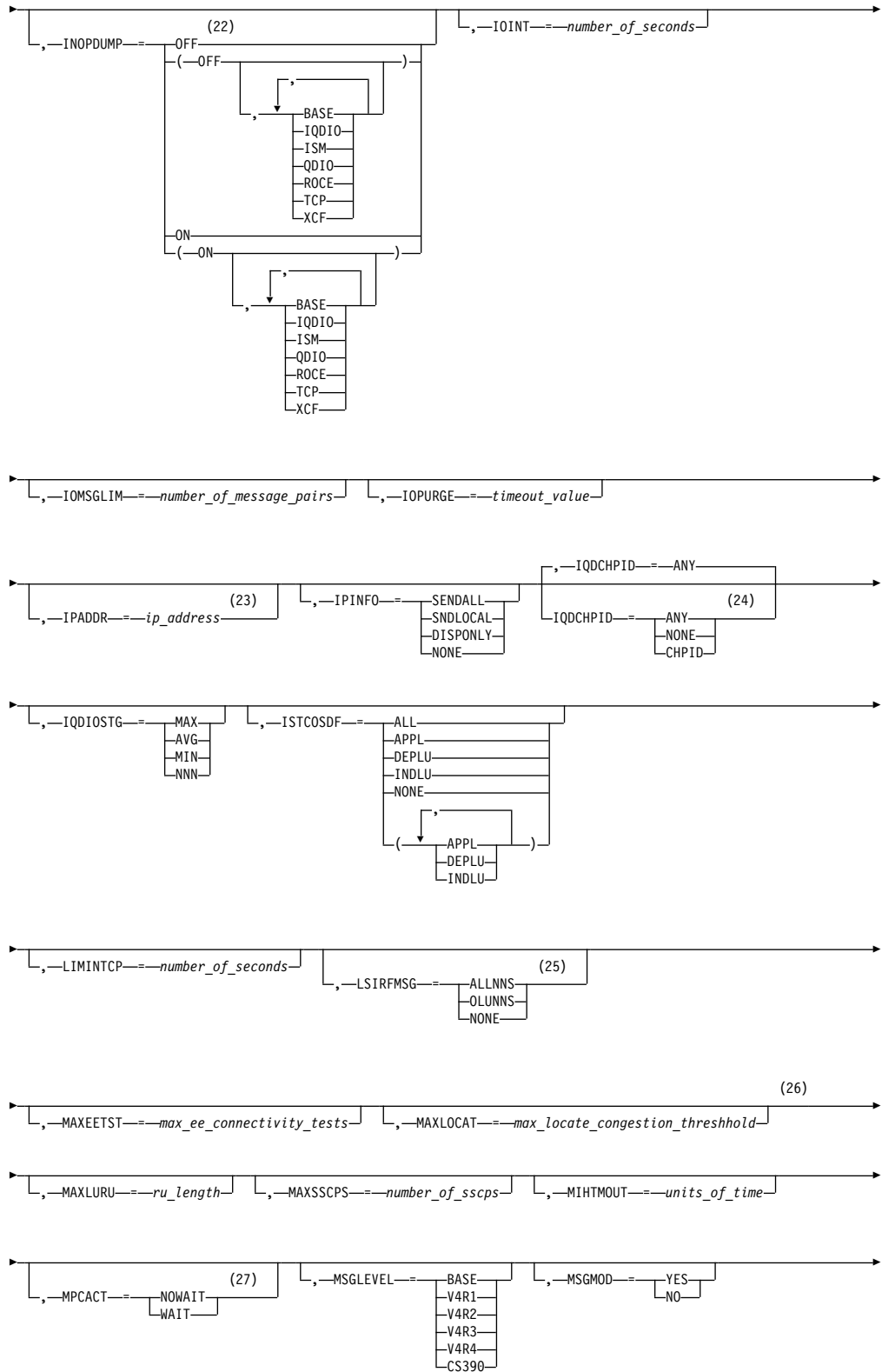
#### F VTAMOPTS command

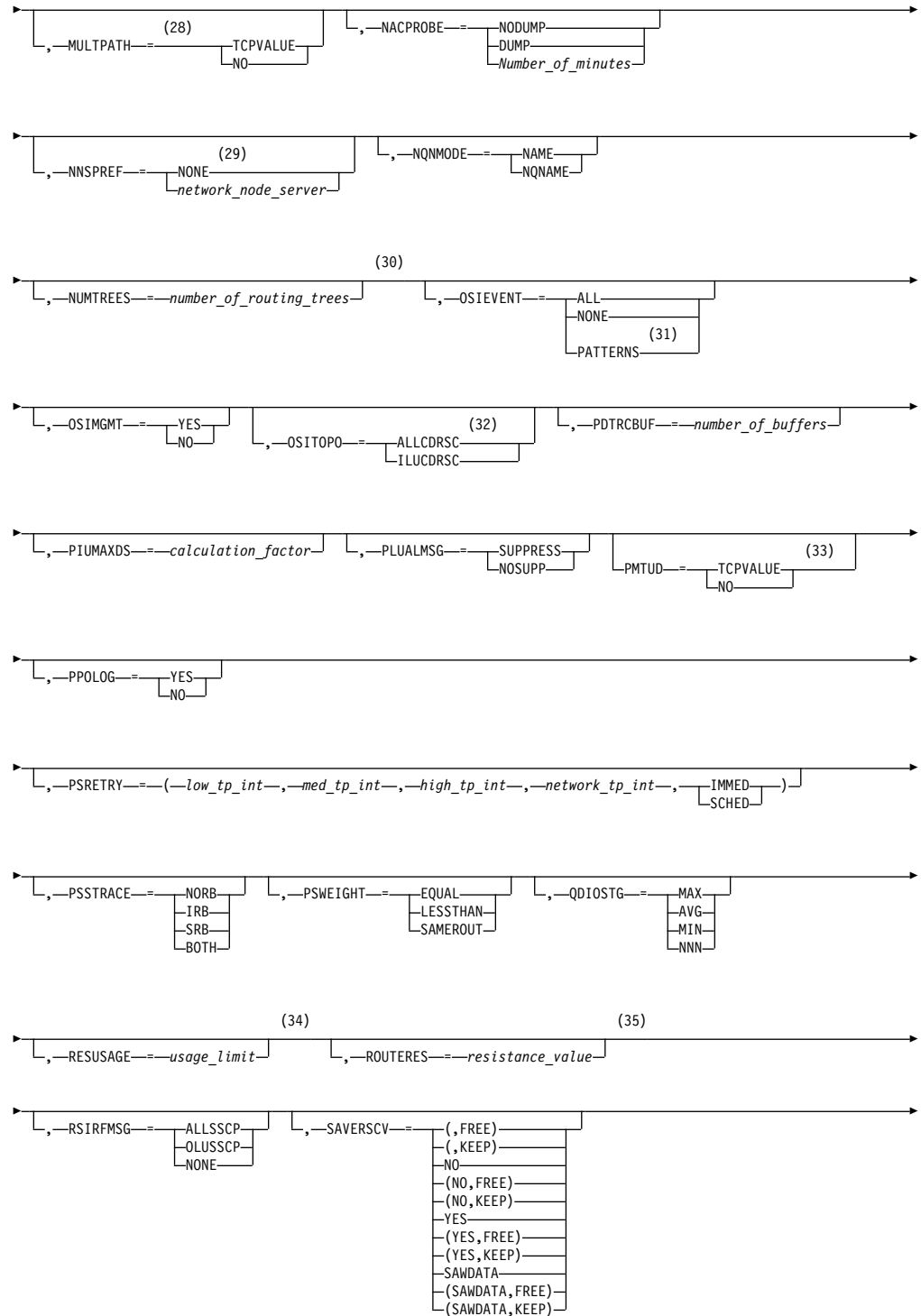
Change certain values that might have been specified on VTAM start options:

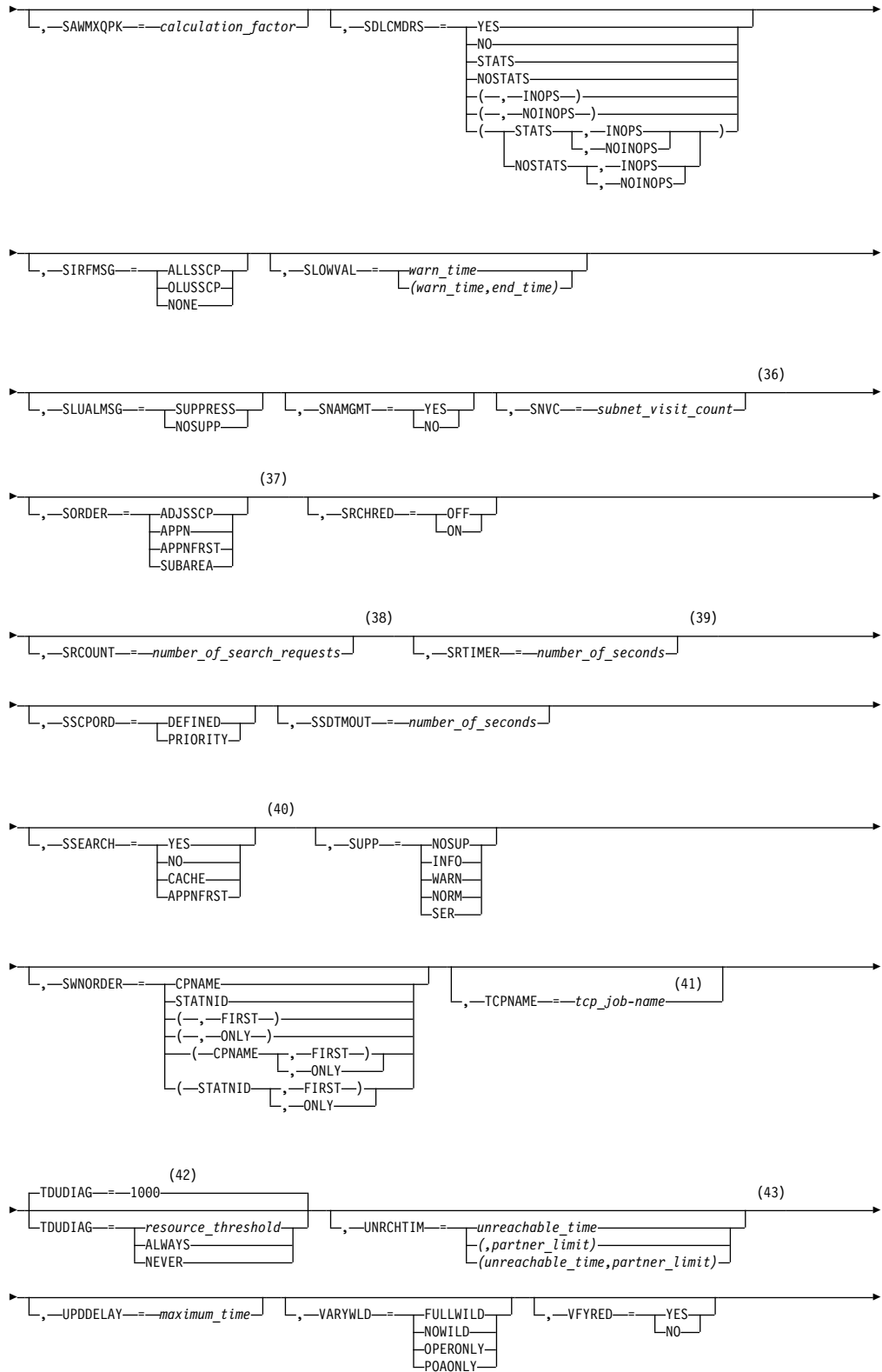




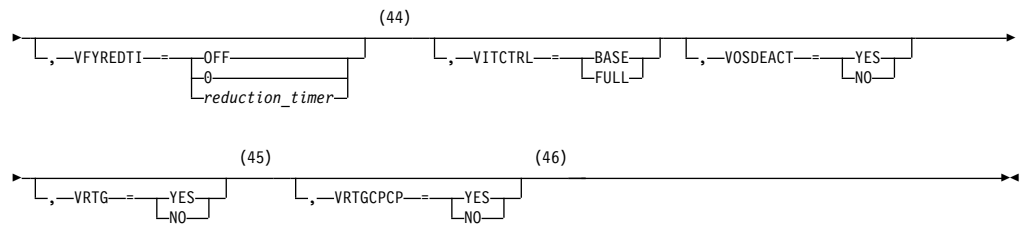












**Notes:**

- 1 API64R can be modified only when running in z/Architecture mode.
- 2 APPNCOS can be modified only if NODETYPE was specified during VTAM START processing.
- 3 BNDYN can be modified only if BN=YES was specified during VTAM START processing.
- 4 BNORD can be modified only if BN=YES was specified during VTAM START processing.
- 5 CDSREFER can be modified only if NODETYPE=NN and CDSERVER=NO were specified during VTAM START processing.
- 6 CMPMIPS is meaningful only if the value for CMPVTAM is greater than 1.
- 7 CONNTYPE can be modified only if NODETYPE was specified during VTAM START processing.
- 8 CPCP can be modified only if NODETYPE was specified during VTAM START processing.
- 9 DIRSIZE can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 10 DIRTIME can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 11 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 12 EEHPRANR is meaningful only when the NODETYPE=NN start option is also used.
- 13 The EEVERIFY start option is meaningful only if VTAM provides RTP-level HPR support. The EEVERIFY start option can be modified only if the NODETYPE start option is specified and the RTP value is specified on the HPR start option.
- 14 The ENCRYPTN start option cannot be modified if ENCRYPTN=NO was specified during VTAM START processing.
- 15 The ENSEMBLE setting is used to either permit or deny connectivity to the intraensemble data network and the intranode management network. The ensemble setting permits or denies connectivity by either allowing or denying activation of OSX and OSM interfaces. Modifying the ENSEMBLE start option does not cause z/OS Communications Server to take action on active OSX or OSM interfaces.

- 16 HOSTNAME can be modified only if NODETYPE was specified during VTAM START processing. Displays of VTAM start options will show the new value immediately; however, the new value will not be used until all Enterprise Extender lines, whose GROUP definition statements do not have HOSTNAME explicitly coded, are inactive. Any subsequent line activation from the Enterprise Extender XCA major node, whose GROUP definition statements do not have HOSTNAME explicitly coded, will make use of the new HOSTNAME start option value. The IPADDR start option, if it is in effect at the time when the MODIFY VTAMOPTS,HOSTNAME=*hostname* is specified, will be reset (that is, set to a value of 0.0.0.0) as part of the MODIFY processing. The value NONE can be used to clear the setting of the HOSTNAME start option. HOSTNAME and IPADDR cannot be modified using one MODIFY VTAMOPTS command. If both start options are specified on the same MODIFY command, they will both be ignored and message IST1917I will be generated.
- 17 This option is meaningful only if VTAM provides RTP-level HPR support.
- 18 If the current value of the HPRSESLM start option is DISABLED, then the HPRSESLM value can be changed only by stopping and restarting VTAM.
- 19 When specifying an InOpCode for the second parameter, always specify three digits by including any leading zeros.
- 20 If an InOpCode is specified for the second parameter, the first parameter cannot be ALL.
- 21 INOPCODE has no effect unless INOPDUMP is active for the resource when an inoperative condition is detected. See the section called MODIFY INOPCODE command in z/OS Communications Server: SNA Operation for more details.
- 22 When altering the INOPDUMP VTAM start option, the resulting INOPDUMP status is propagated to all TRLEs in the TRL major node if the command is globally set, or it is propagated to a subset of resources that are identified by one or more INOPDUMP control groups. The INOPDUMP setting becomes the default status for any subsequently activated TRLEs.
- 23 IPADDR can be modified only if NODETYPE was specified during VTAM START processing. The new value will not be used until all lines, defined with or defaulting to the old value of the IPADDR start option, in the XCA major node used for Enterprise Extender are inactive. However, displays of VTAM start options will show the new value immediately. Any subsequent line activation from the Enterprise Extender XCA major node, whose GROUP definition statement does not specify the IPADDR operand, will make use of the new IPADDR start option value. The HOSTNAME start option, if it is in effect at the time when the MODIFY VTAMOPTS,IPADDR=*ip\_address* is specified, will be reset (that is, set to a value of NONE) as part of the MODIFY processing. The value of 0.0.0.0, or an IPv6 address of all zeros, usually written as ::, can be used to clear the setting of the IPADDR start option. HOSTNAME and IPADDR cannot be modified using one MODIFY VTAMOPTS command. If both start options are specified on the same MODIFY command, they will both be ignored and message IST1917I will be generated.
- 24 The IQDCHPID option controls which IQD CHPID (and related subchannel devices) VTAM selects to dynamically build the iQDIO (IUTIQDIO) MPC group. The IUTIQDIO MPC group is used for TCP/IP dynamic XCF communications within System z. Although this option can be modified (and the modification will immediately be displayed) while the IUTIQDIO MPC

group is currently active, any modifications have the effects shown in the section called IQD CHPID modifications in z/OS Communications Server: SNA Operation.

- 25 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 26 MAXLOCAT can be modified only if NODETYPE was specified during VTAM START processing.
- 27 The option does not take effect for MPC groups that are in the process of being activated when the command is issued until those MPC groups are deactivated and reactivated.
- 28 MULTPATH is meaningful only if the NODETYPE start option is also specified.
- 29 NNSPREF can be modified only if NODETYPE=EN was specified during VTAM START processing.
- 30 NUMTREES can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 31 OSIEVENT=PATTERNS is not valid when OSIMGMT=YES.
- 32 OSITOPO=ALLCDRSC is not valid when OSIMGMT=YES.
- 33 PMTUD is meaningful only if the NODETYPE start option is also specified.
- 34 RESUSAGE can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 35 ROUTERES can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 36 SNVC can be modified only if BN=YES was specified during VTAM START processing.
- 37 SORDER can be modified only if VTAM has been started as an interchange node or a migration data host.
- 38 SRCOUNT is meaningful only when SRCHRED=ON.
- 39 SRTIMER is meaningful only when SRCHRED=ON.
- 40 SSEARCH can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 41 TCPNAME can be modified only if NODETYPE was specified during VTAM START processing. The new value will not be used until all lines in the XCA major node used for Enterprise Extender are inactive. However, displays of VTAM start options will show the new value immediately. Any subsequent line activation from the Enterprise Extender XCA major node will make use of the new TCPNAME value.
- 42 TDUDIAG is meaningful only if the NODETYPE=NN start option is also available.
- 43 UNRCHTIM is meaningful only if the NODETYPE start option is also used.

- 44 VFYREDTI can be modified only if NODETYPE=NN was specified during VTAM START processing.
- 45 VRTG can be modified only if NODETYPE and HOSTSA are specified.
- 46 VRTGCPCP can be modified only if NODETYPE and HOSTSA are specified.

## Start options

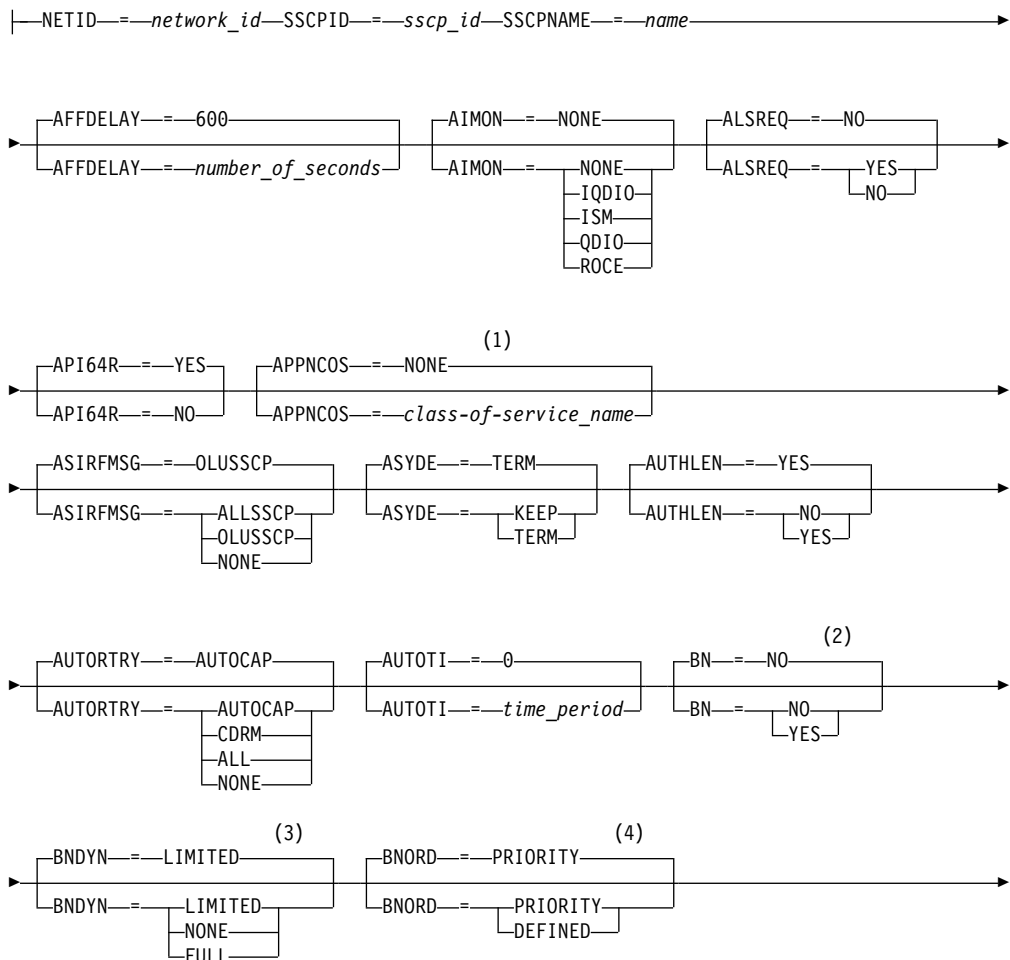
Start options are listed in this section alphabetically; however, you can code them in any order.

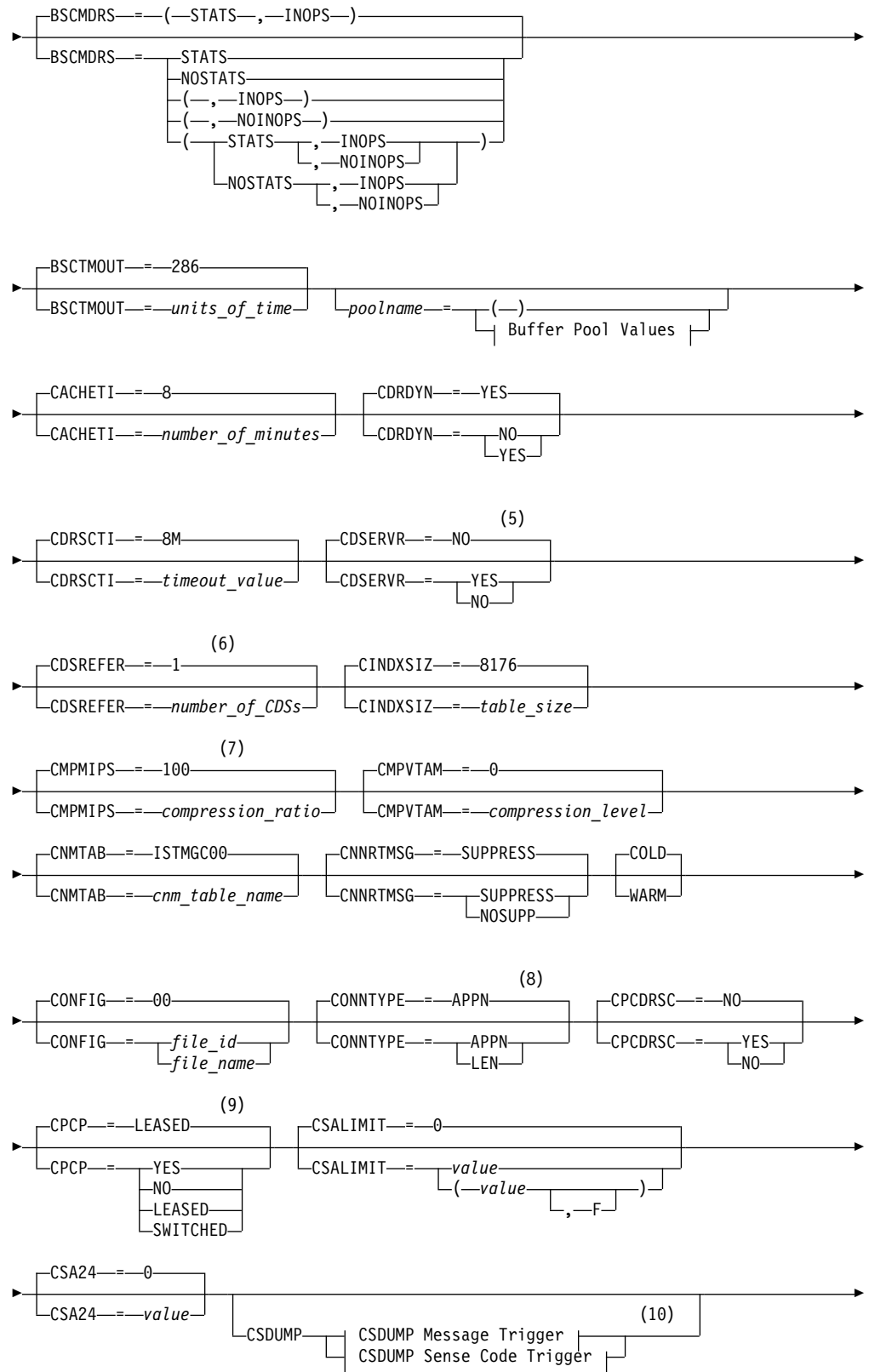
Precede the option list with three commas and enclose the group of options in parentheses.

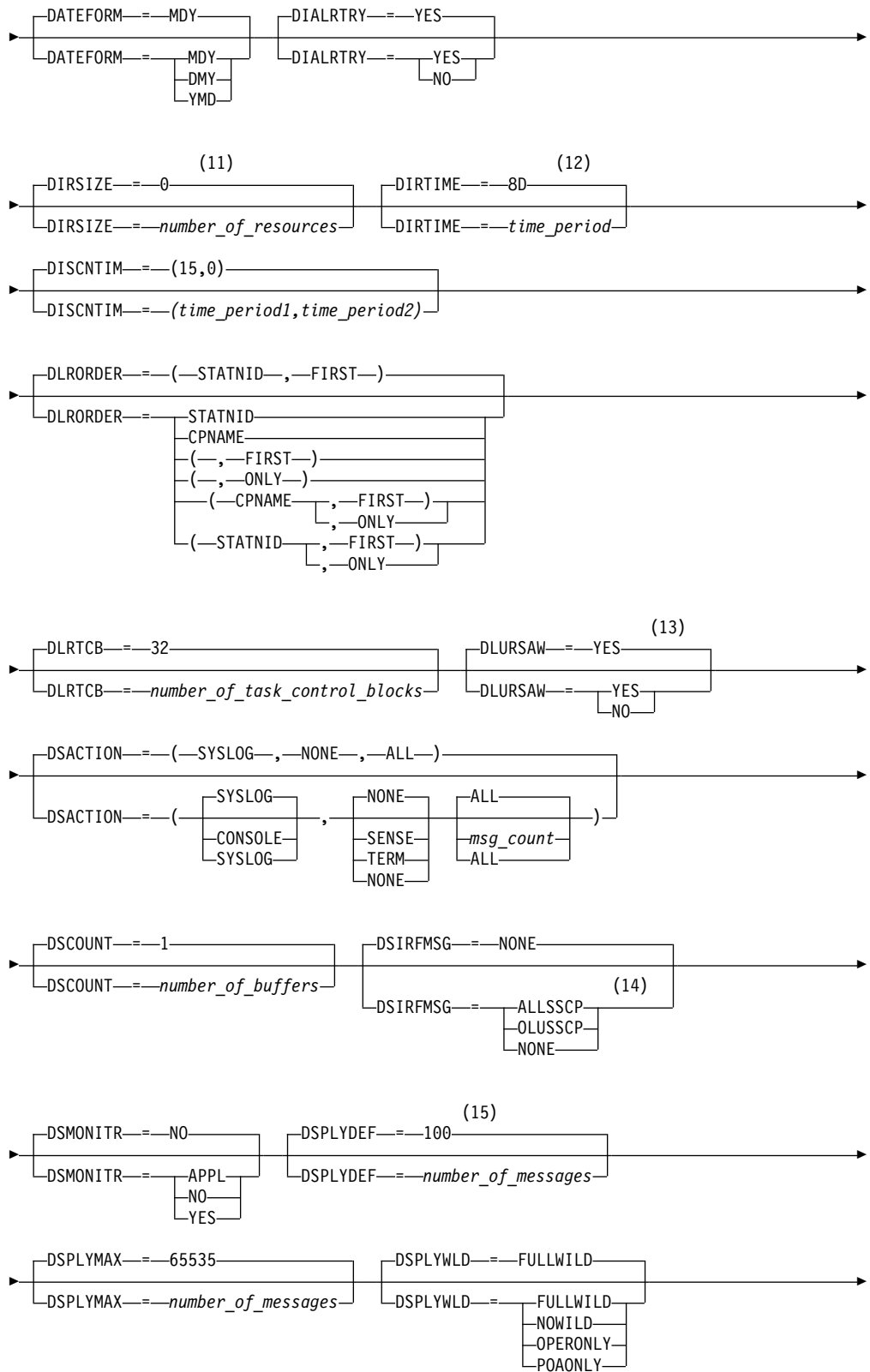
Start options that are entered on the START command must be separated by commas. Do not leave any blanks between options.

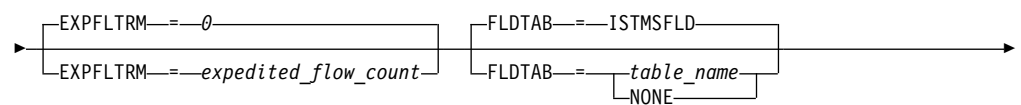
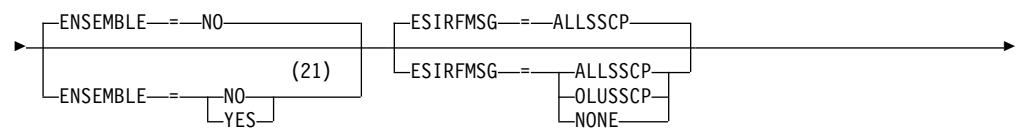
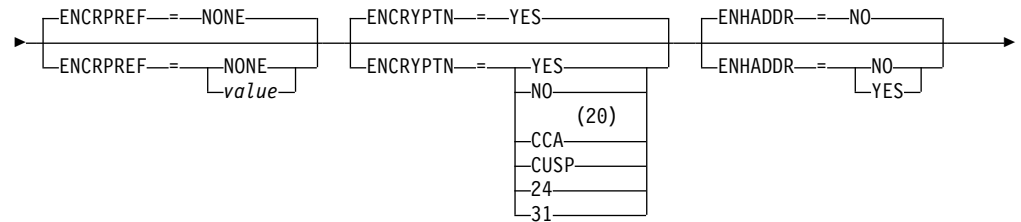
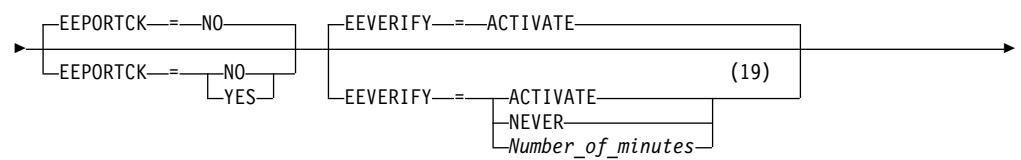
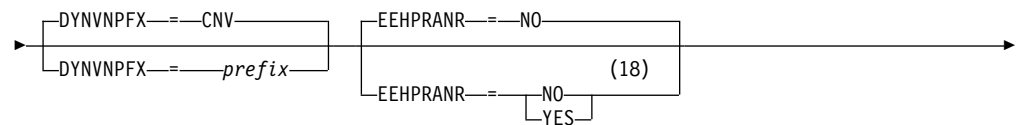
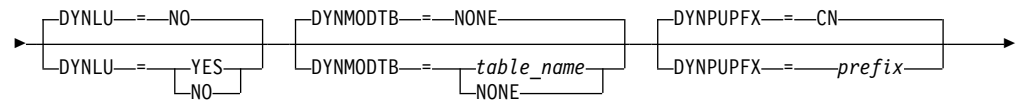
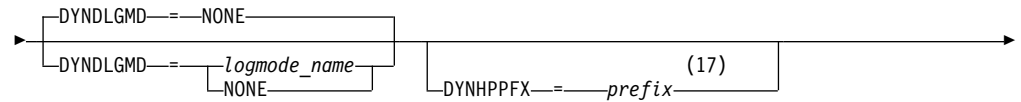
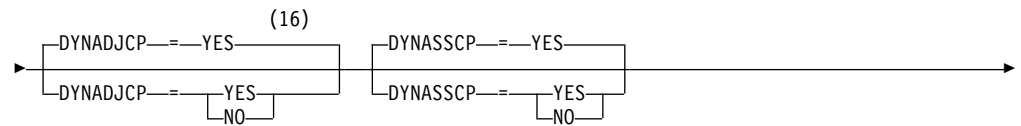
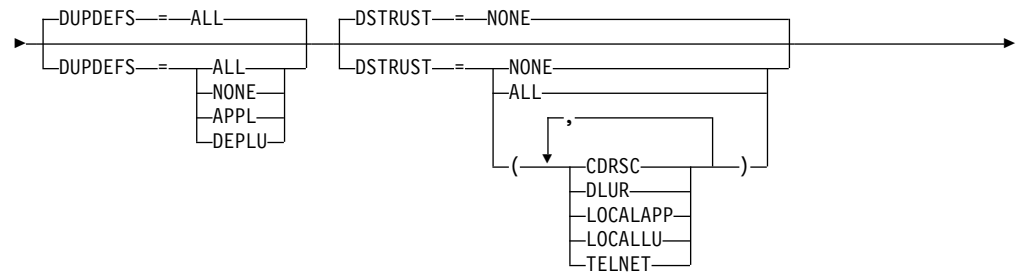
For more information on the START command, see *z/OS Communications Server: SNA Operation*.

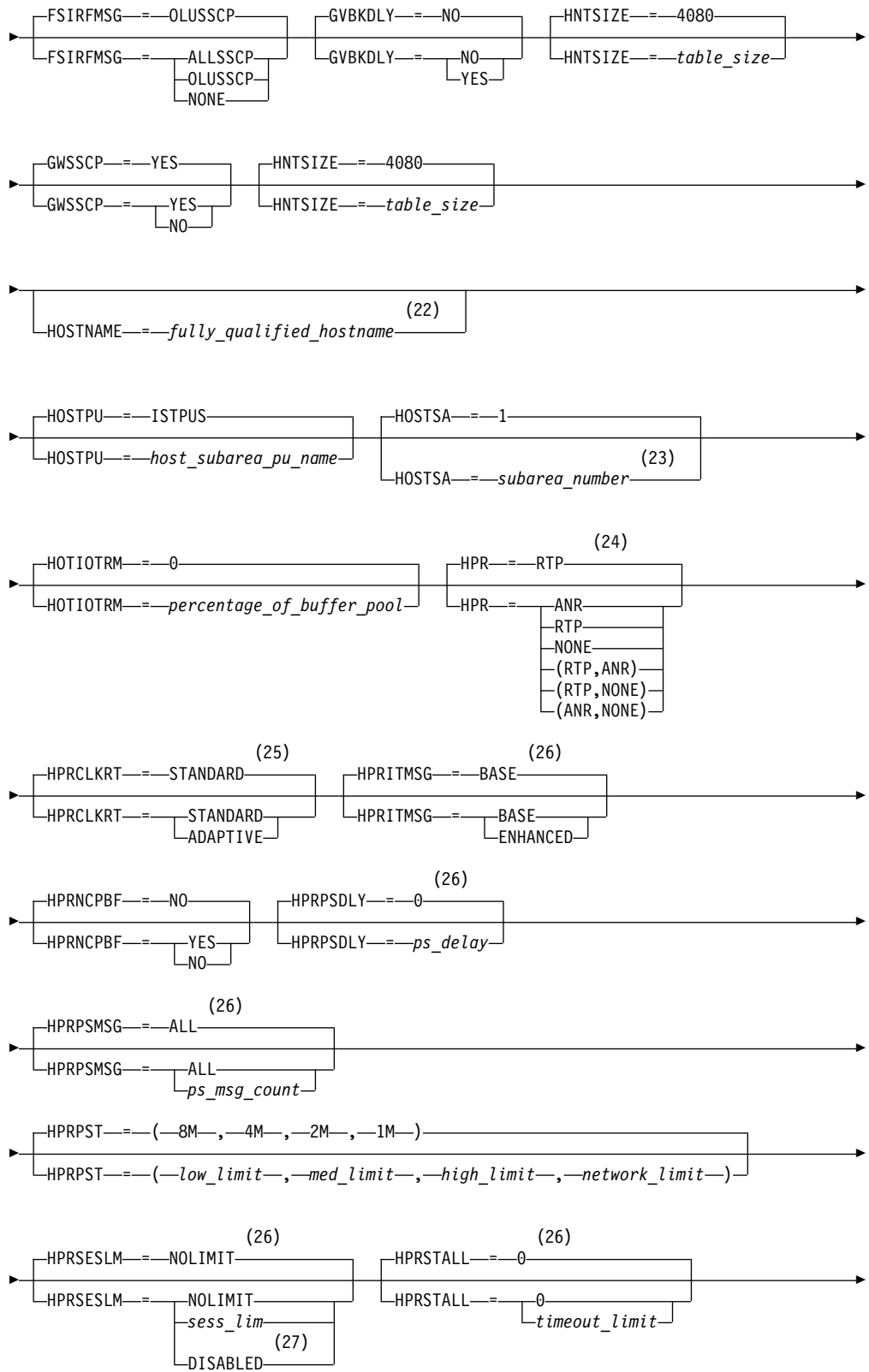
### Options:



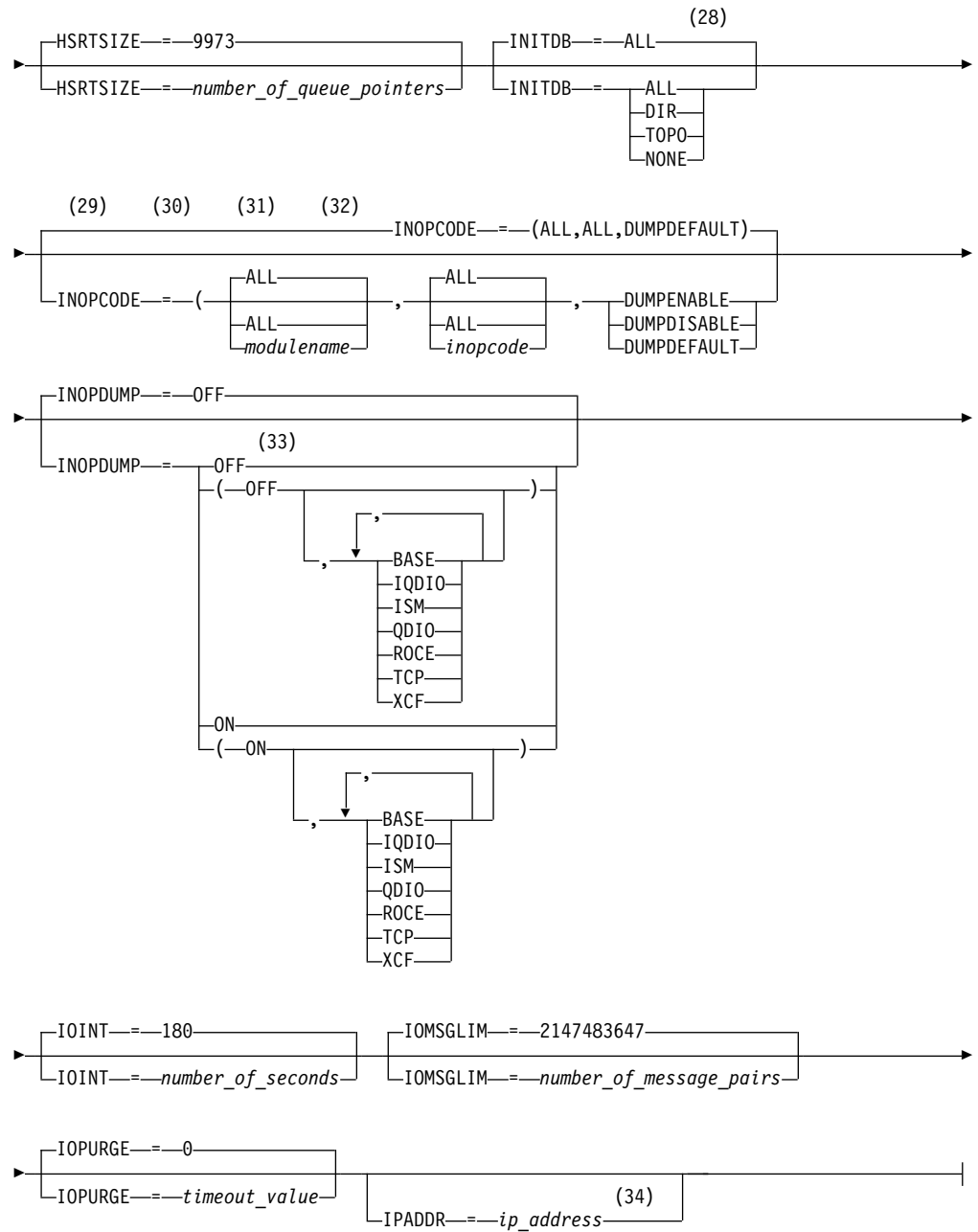










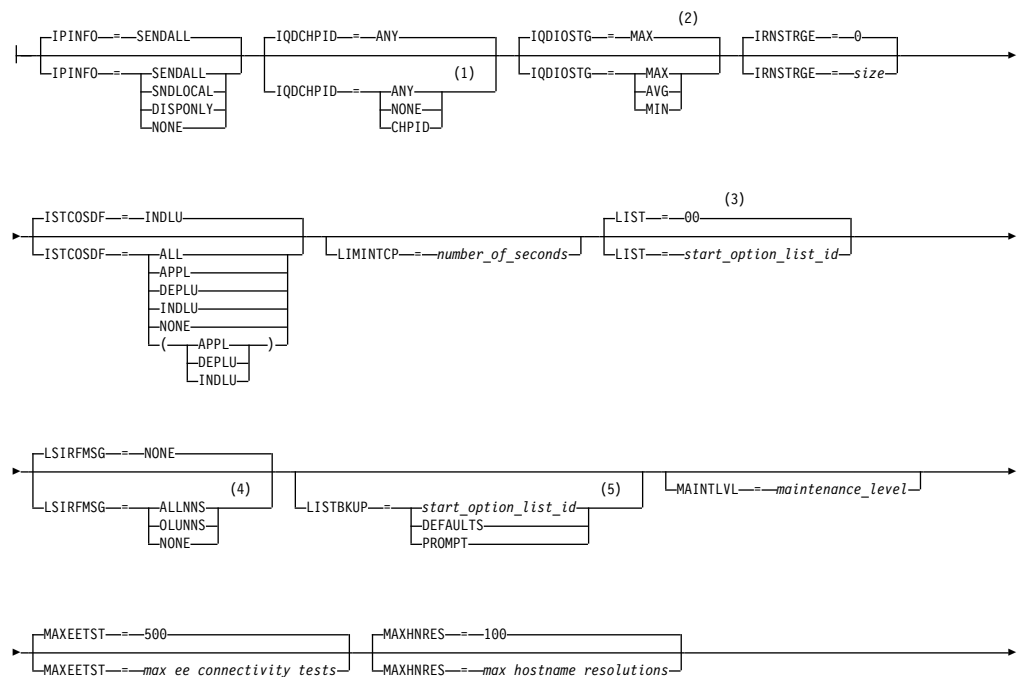


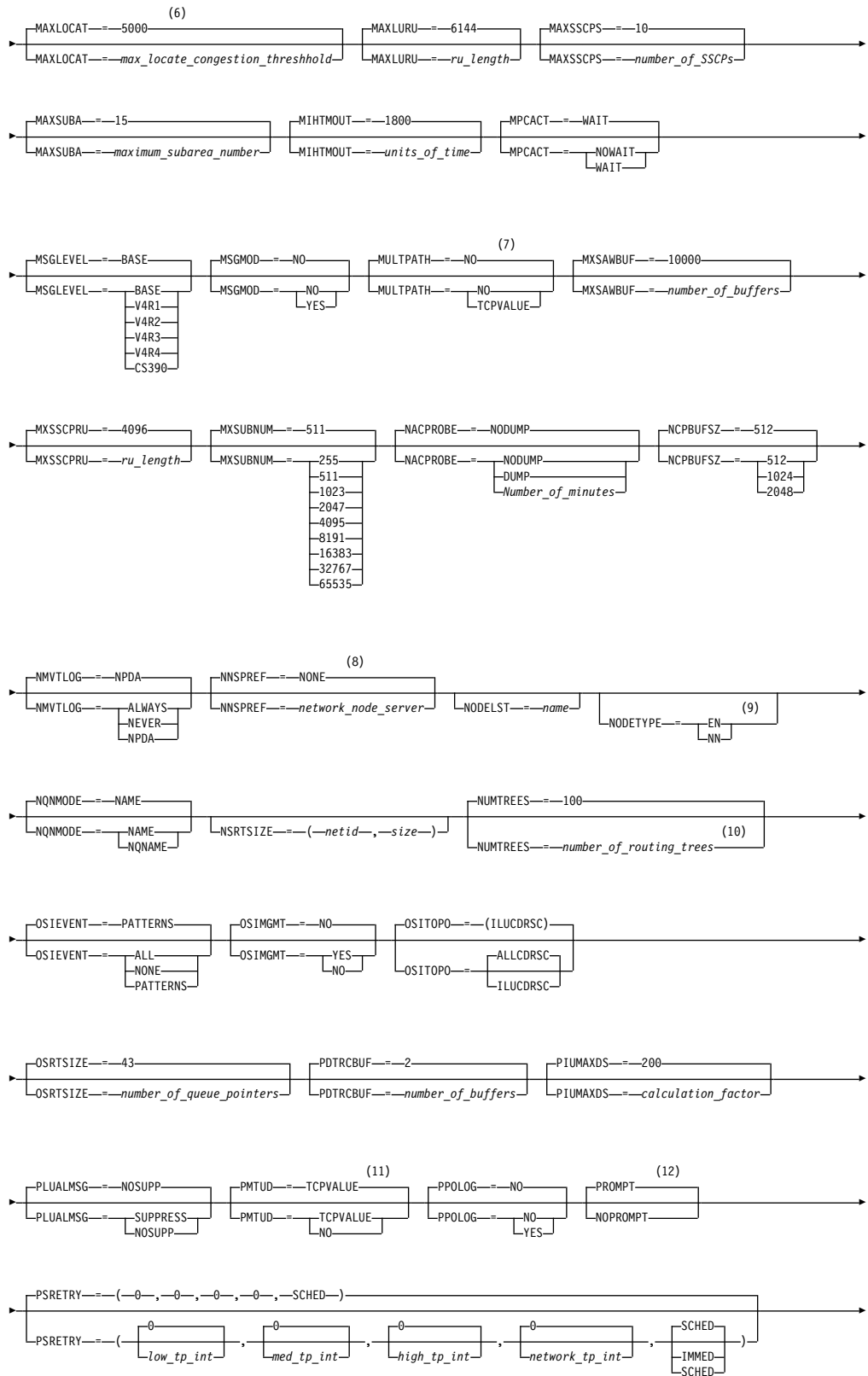
**Notes:**

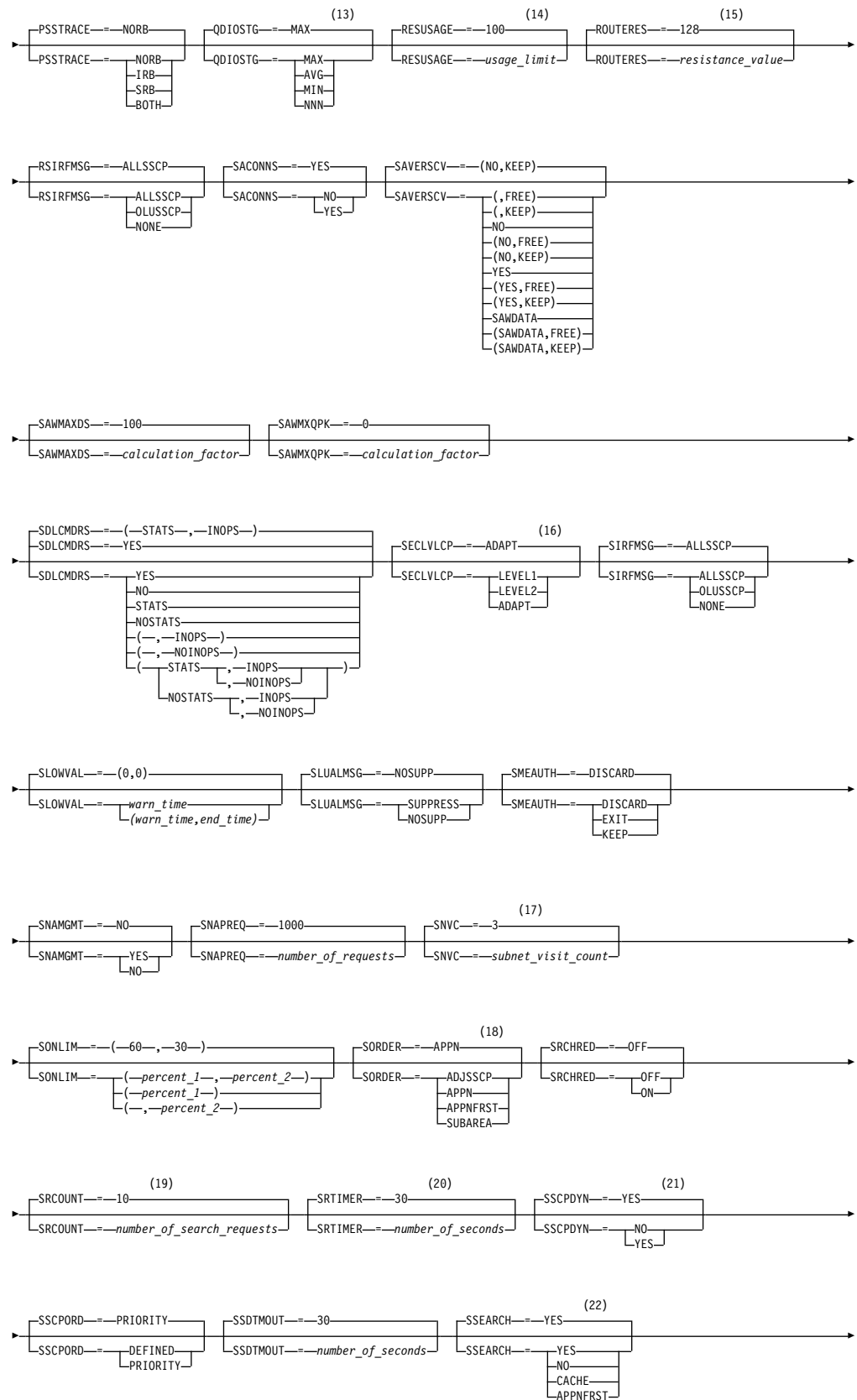
- 1 APPNCOS is meaningful only if the NODETYPE start option is also used.
- 2 BN is meaningful only if the NODETYPE=NN start option is also used.
- 3 BNDYN is meaningful only if the BN=YES start option is also used.
- 4 BNORD is meaningful only if the BN=YES start option is also used.
- 5 CDSERVR is meaningful only if the NODETYPE=NN start option is also used.
- 6 CDSREFER is meaningful only if the NODETYPE=NN and CDSERVR=NO start options are also used.

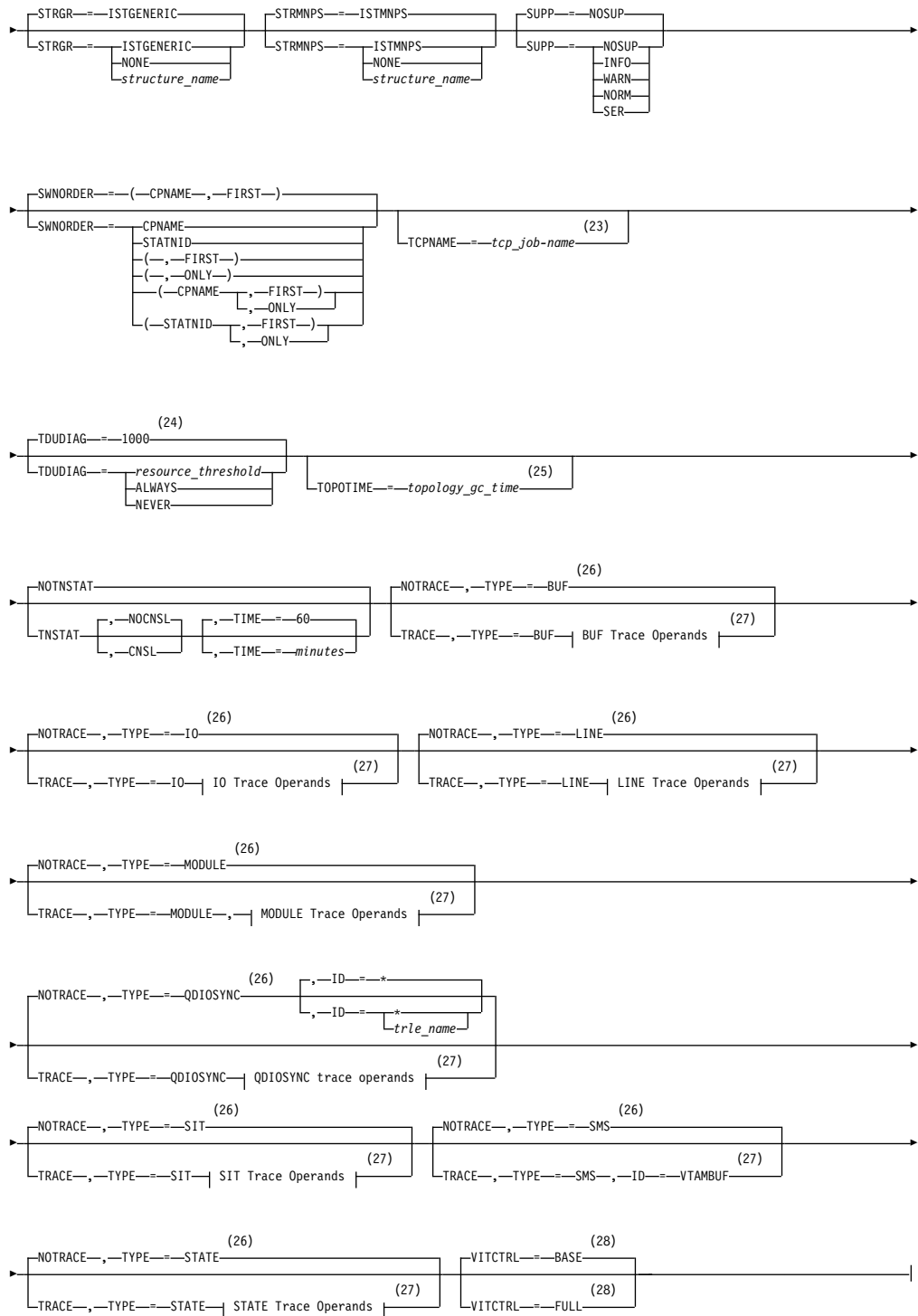
- 7 The CMPMIPS start option is meaningful only if the value for CMPVTAM is greater than 1.
- 8 CONNTYPE is meaningful only if the NODETYPE start option is also used.
- 9 CPCP is meaningful only if the NODETYPE start option is also used.
- 10 Specify the CSDUMP start option twice to set both message and sense code triggers.
- 11 DIRSIZE is meaningful only if the NODETYPE=NN start option is also used.
- 12 DIRTIME is meaningful only if the NODETYPE=NN start option is also used.
- 13 DLURSAW is meaningful only if the NODETYPE=NN start option is also used.
- 14 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 15 If the DSPLYMAX start option value is less than 100, that value is the default for DSPLYDEF.
- 16 DYNADJCP is meaningful only if the NODETYPE start option is also used.
- 17 Two character prefix.
- 18 EEHPRANR is meaningful only when the NODETYPE=NN start option is also used.
- 19 The EEVERIFY start option is meaningful only if VTAM provides RTP-level HPR support. The NODETYPE start option must be coded and the RTP value must be specified on the HPR start option.
- 20 ENCRYPTN=CCA needs to be coded when Triple Des Encryption is required.
- 21 The ENSEMBLE setting is used to either permit or deny connectivity to the intraensemble data network and the intranode management network. It does this by either allowing or denying activation of OSX and OSM interfaces.
- 22 HOSTNAME is meaningful only if the NODETYPE start option is also used. If neither HOSTNAME nor IPADDR is specified on any of the GROUP definition statements within the Enterprise Extender XCA major node, then either the HOSTNAME, TCPNAME, or IPADDR start options must be specified in order to activate an Enterprise Extender link. The HOSTNAME start option specifies the default hostname to be used for name-to-address resolution as part of activating an Enterprise Extender connection, and must resolve at this node to a static VIPA address associated with a TCP/IP stack at this node. If IPADDR is specified along with HOSTNAME on the START command, the IPADDR value is ignored.
- 23 HOSTSA specifies the subarea number of this VTAM. If HOSTSA is not coded, then a default subarea number of 1 is used.
- 24 HPR is meaningful only if NODETYPE is also used.
- 25 HPRCLKRT=ADAPTIVE is meaningful only in Enterprise Extender configurations that have a defined capacity of 1 Gb (gigabit) or higher access speeds.

- 26 This option is meaningful only if VTAM provides RTP-level HPR support.
- 27 HPRSESLM=DISABLED is meaningful only on interchange nodes.
- 28 INITDB is meaningful only if the NODETYPE=NN start option is also used.
- 29 When specifying an InOpCode for the second parameter, always specify three digits by including any leading zeros.
- 30 If an InOpCode is specified for the second parameter, the first parameter cannot be ALL.
- 31 INOPCODE has no effect unless INOPDUMP is active for the resource when an inoperative condition is detected. See the MODIFY INOPCODE command in z/OS Communications Server: SNA Operation for more details.
- 32 Multiple INOPCODE parameters can be specified by the START command, and will be processed left to right as they are entered. This is different from specifying the INOPCODE parameter on either the MODIFY INOPCODE command or the MODIFY VTAMOPTS command, where only one INOPCODE parameter is allowed for each entry of these commands.
- 33 INOPDUMP status is propagated to resources that are defined within a TRLE when the entry is activated.
- 34 IPADDR is meaningful only if the NODETYPE start option is also used. If neither IPADDR nor HOSTNAME is specified on any of the GROUP definition statements within the Enterprise Extender XCA major node, then either the HOSTNAME, TCPNAME, or IPADDR start option must be specified in order to activate an Enterprise Extender link. The IPADDR start option specifies the default IPv4 or IPv6 static VIPA address to be used when activating an Enterprise Extender connection. If HOSTNAME is specified along with IPADDR on the START command, the IPADDR value is ignored.









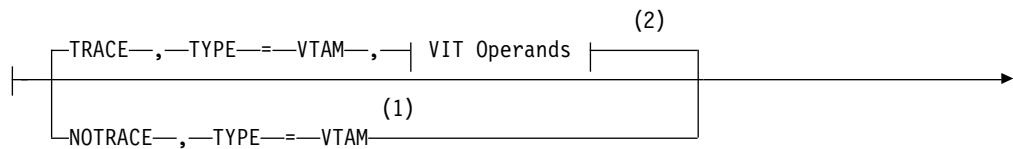
**Notes:**

- 1 The IQDCHIPID option controls which IQD CHPID (and related subchannel devices) VTAM selects to dynamically build the iQDIO (IUTIQDIO) MPC group. The IUTIQDIO MPC group is used for TCP/IP dynamic XCF communications within System z. Although this option can be modified (and the modification will immediately be displayed) while the IUTIQDIO MPC

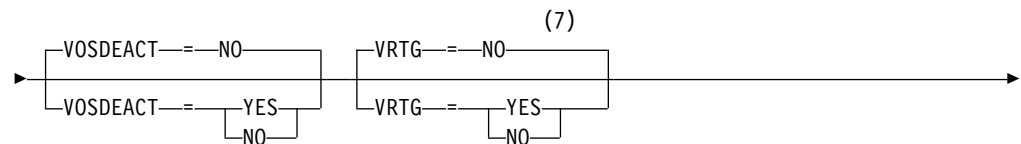
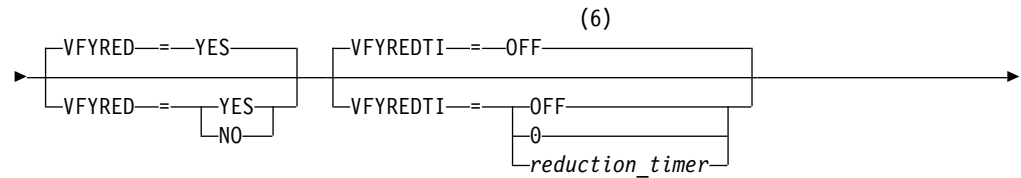
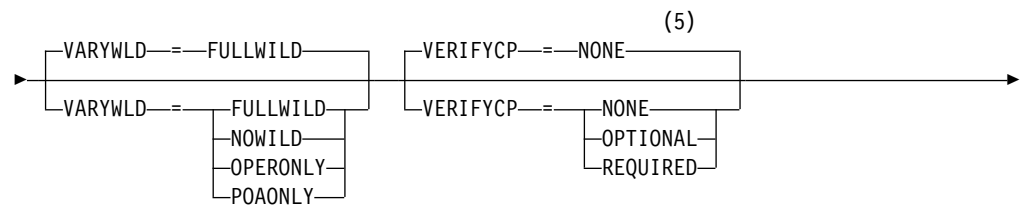
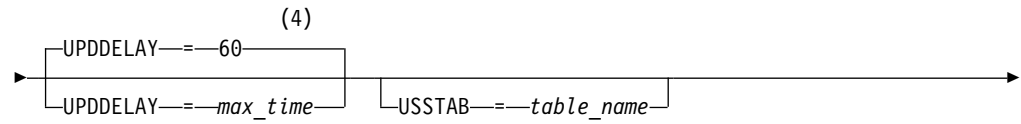
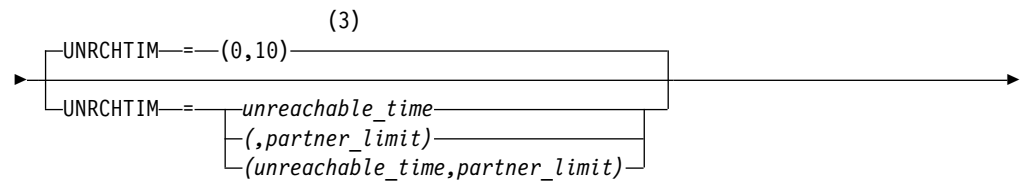
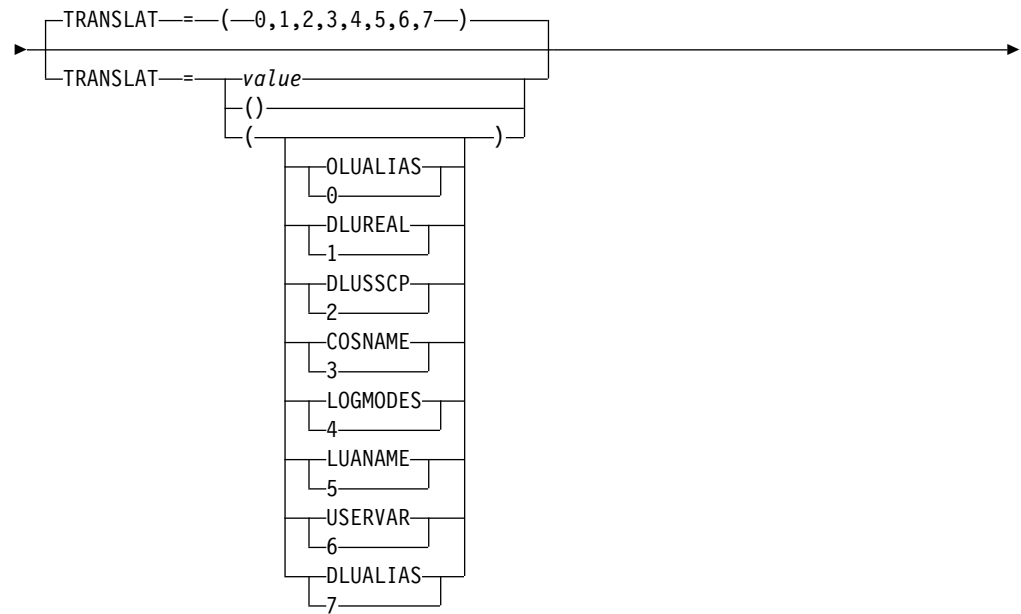
group is currently active, any modifications have the effects shown in the section called IQD CHPID modifications in z/OS Communications Server: SNA Operation.

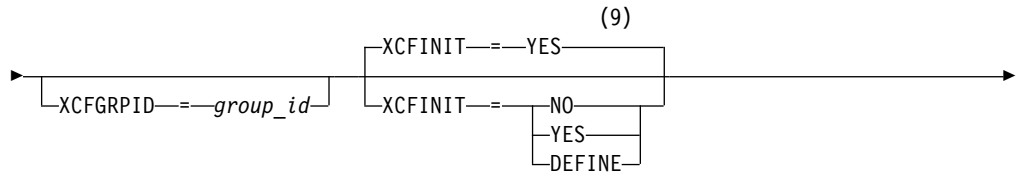
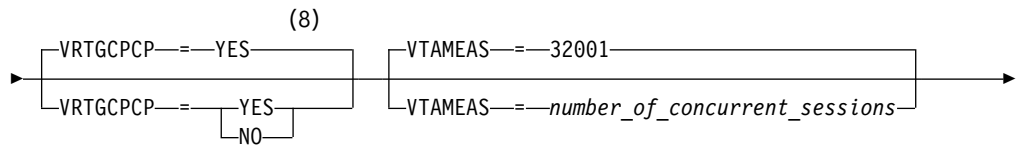
- 2 This option affects only iQDIO devices that use a MFS of 64k. The smaller frame sizes will always use 126 SBALs. You can override this option on a per-device basis using the READSTORAGE parameter on the LINK or INTERFACE statement in the TCP/IP profile. See z/OS Communications Server: IP Configuration Reference for more details.
- 3 LIST can be entered by a VTAM operator only. If LIST is coded in an ATCSTRxx file, it is considered to be an error and is ignored.
- 4 Because of the volume of messages that can be generated, it is not recommended that this option be enabled during normal operation. Instead, it is recommended that this option be enabled (using the MODIFY VTAMOPTS command) on all necessary hosts only when trying to diagnose specific problems. After the problem has been diagnosed or documentation has been collected, this option should be disabled once again (using the MODIFY VTAMOPTS command).
- 5 LISTBKUP can be coded only in a start option file. If you enter it on the START command or at an operator prompt, VTAM will ignore it.
- 6 MAXLOCAT is meaningful only if NODETYPE is specified.
- 7 MULTPATH is meaningful only if the NODETYPE start option is also specified.
- 8 NNSPREF can be specified only if NODETYPE=EN is specified during VTAM START processing.
- 9 NODETYPE enables APPN function. The combination of HOSTSA, NODETYPE, and SACONNS determines the configuration (subarea node, interchange node, migration data host, network node, or end node).
- 10 NUMTREES is meaningful only if the NODETYPE=NN start option is also used.
- 11 PMTUD is meaningful only if the NODETYPE start option is also specified.
- 12 A VTAM operator cannot enter the PROMPT or NOPROMPT start option; it can be coded only in ATCSTR00. The value coded in ATCSTR00 is ignored if start options are entered on the START command or if VTAM finds an error in a start list. Upon finding an error in a start list, VTAM prompts the operator so that the operator can specify the option correctly.
- 13 QDIOSTG defaults to MAX for 64-bit (z/Architecture) machines and MIN for non 64-bit machines. You can override this option on a per-device basis using the READSTORAGE parameter on the LINK or INTERFACE statement in the TCP/IP profile. See z/OS Communications Server: IP Configuration Reference for more details.
- 14 RESUSAGE is meaningful only if the NODETYPE=NN start option is also used.
- 15 ROUTERES is meaningful only if the NODETYPE=NN start option is also used.
- 16 The SECLVLCP start option is meaningful only if the NODETYPE and VERIFYCP start options are also used.
- 17 SNVC is meaningful only if the BN=YES start option is also used.

- 18 SORDER is meaningful only in an interchange node or a migration data host.
- 19 SRCOUNT is meaningful only if the SRCHRED=ON start option is also used.
- 20 SRTIMER is meaningful only if the SRCHRED=ON start option is also used.
- 21 The SSCPDYN start option applies only for interconnected networks (that is, GWSSCP=YES is used).
- 22 SSEARCH is meaningful only if the NODETYPE=NN start option is also used.
- 23 TCPNAME is meaningful only if the NODETYPE start option is also used. If neither IPADDR nor HOSTNAME is specified on any of the GROUP definition statements within the Enterprise Extender XCA major node, then either the HOSTNAME, TCPNAME, or IPADDR start options must be specified in order to activate an Enterprise Extender link.
- 24 TDUDIAG is meaningful only if the NODETYPE=NN start option is also available.
- 25 TOPOTIME is meaningful only if the NODETYPE start option is also used.
- 26 Do not use NOTRACE when starting VTAM, except to override a TRACE start option coded in a predefined list.
- 27 You can code TRACE and its qualifiers through position 71, even if you are in the middle of the start option. Continue the remainder of the item in the next record. Code the TYPE qualifier immediately after you code the TRACE start option.
- 28 VITCTRL start option will only affect the TRACE or NOTRACE start option if it is specified prior to the TRACE or NOTRACE TYPE=VTAM (MODE=INT) start option.

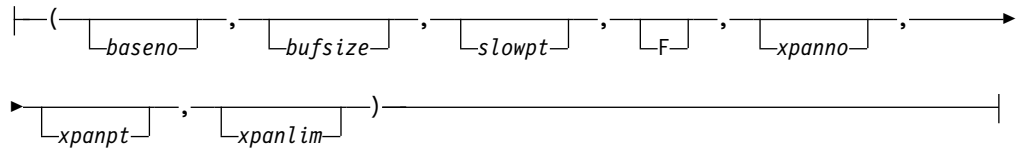




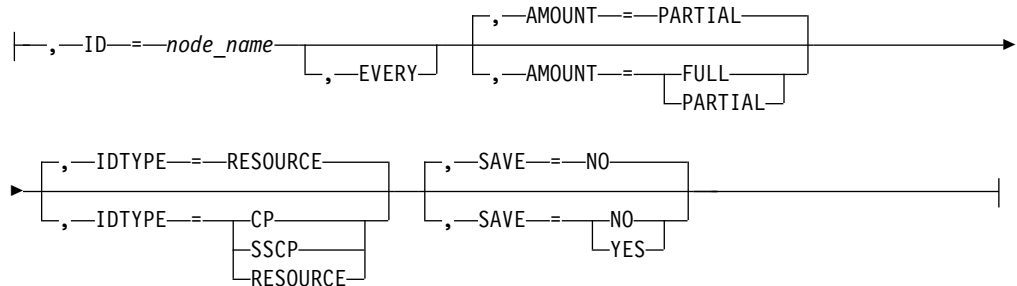




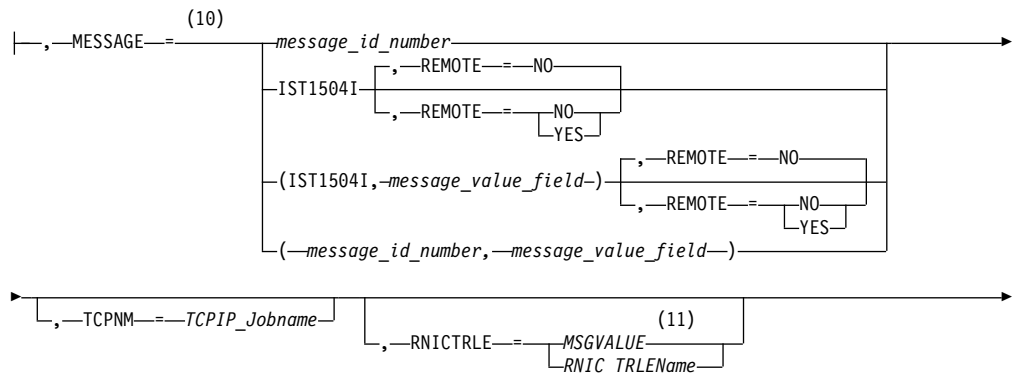
**Buffer Pool Values:**



**BUF Trace Operands:**

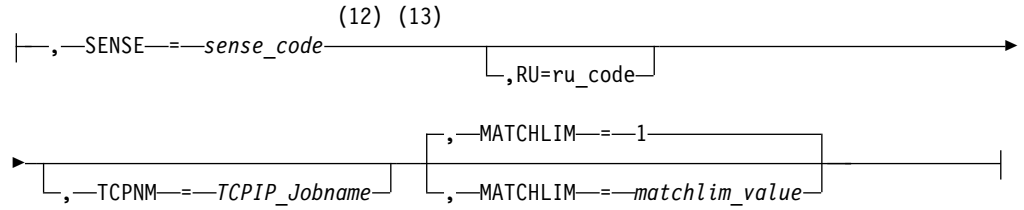


**CSDUMP message trigger:**

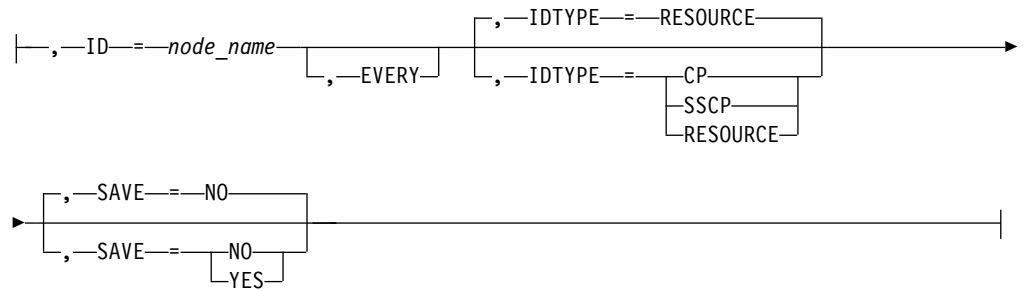




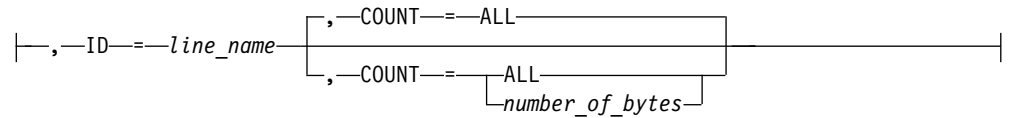
**CSDUMP sense code trigger:**



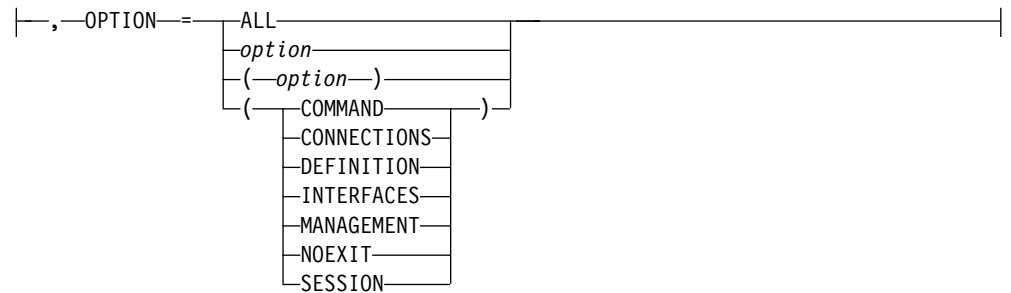
**IO Trace Operands:**



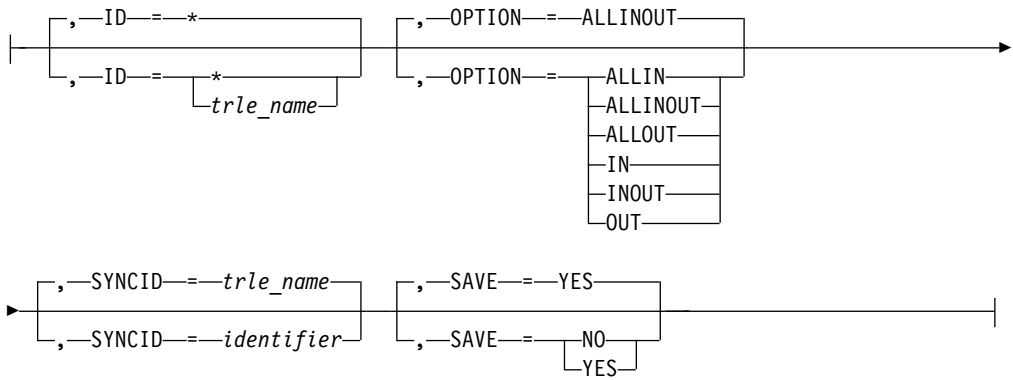
**LINE Trace Operands:**



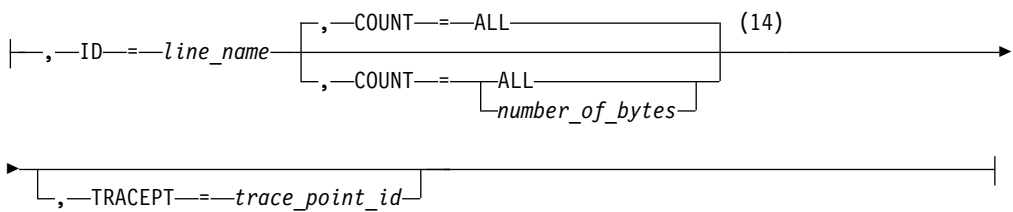
**MODULE Trace Operands:**



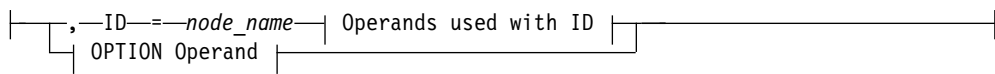
**QDIOSYNC trace operands:**



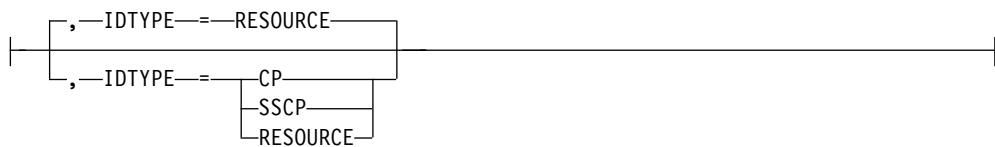
**SIT Trace Operands:**



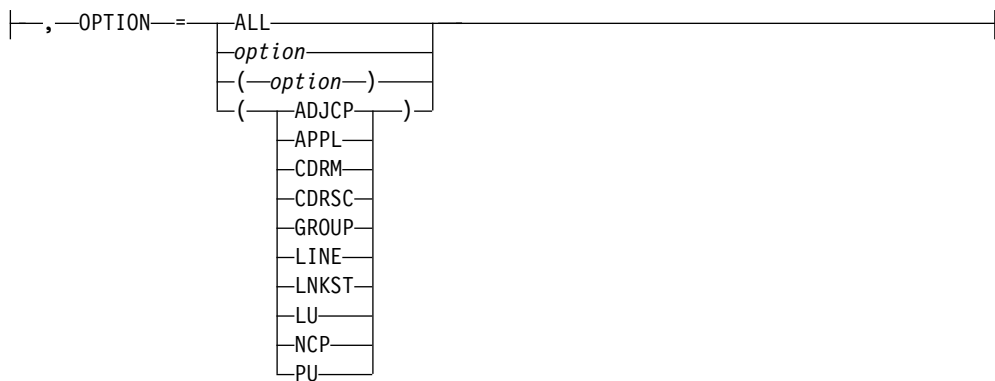
**STATE Trace Operands:**



**Operands used with ID:**



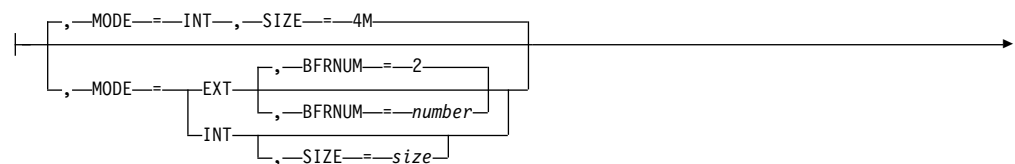
**OPTION Operand:**

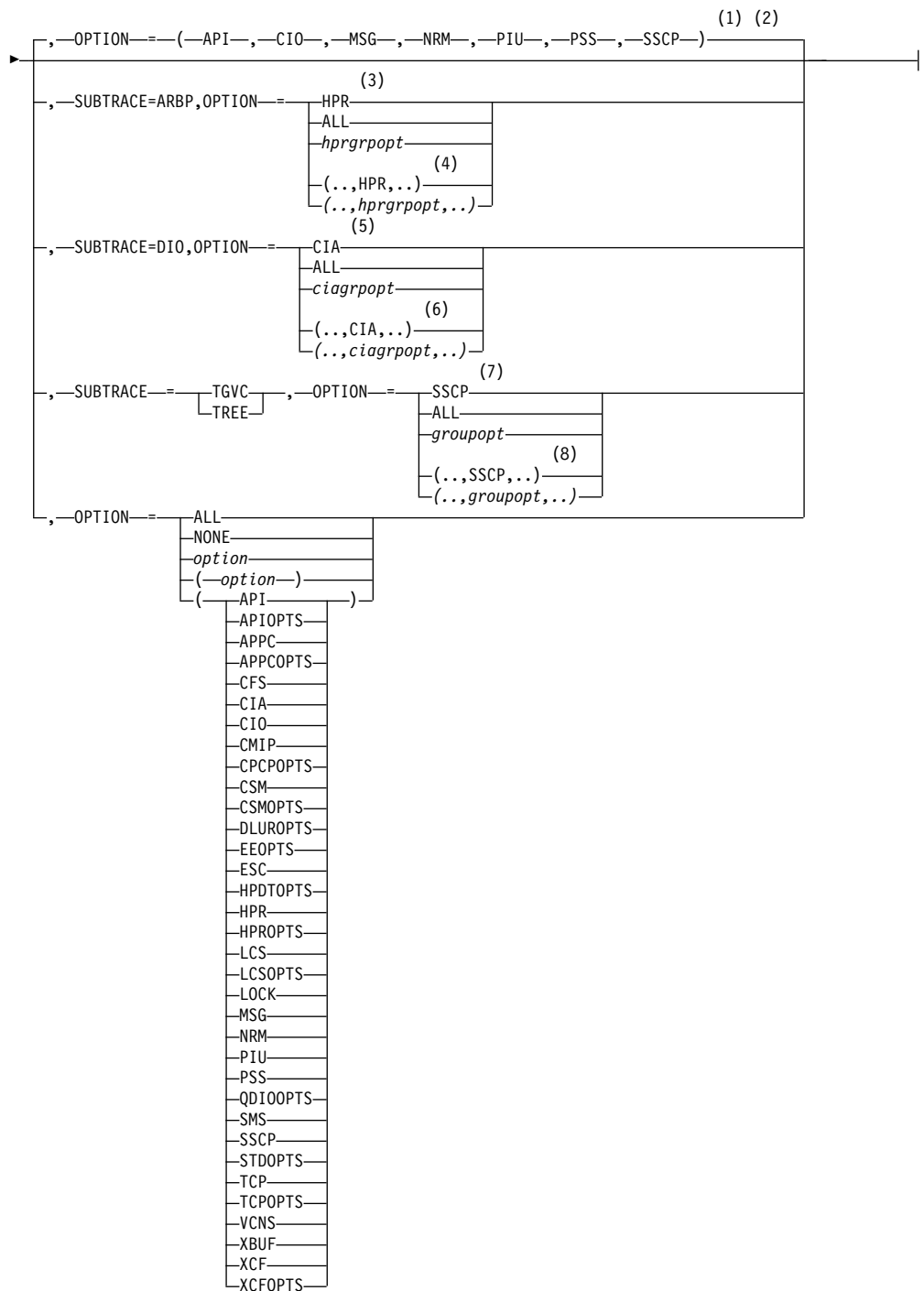


### Notes:

- 1 NOTRACE,TYPE=VTAM is accepted but ignored. Tracing is started with the default trace table size and the default options. The NOTRACE,TYPE=VTAM start option processing is affected by the level of VIT control being used (as specified by the VITCTRL start option). See z/OS Communications Server: SNA Diagnosis Vol 2, FFST Dumps and the VIT for details.
- 2 You can code TRACE and its qualifiers through position 71, even if you are in the middle of the start option. Continue the remainder of the item in the next record. Code the TYPE qualifier immediately after you code the TRACE start option.
- 3 UNRCHTIM is meaningful only if the NODETYPE start option is also used.
- 4 UPDDELAY is meaningful only if the OSIMGMT=YES start option is also used.
- 5 The VERIFYCP start option is meaningful only if the NODETYPE start option is also used.
- 6 VFYREDTI is meaningful only if the NODETYPE=NN start option is also used.
- 7 VRTG is meaningful only if the NODETYPE and HOSTSA start options are also used.
- 8 VRTGCPCP is meaningful only if the NODETYPE and HOSTSA start options are also used.
- 9 XCFINIT=YES is the default if VTAM is started as an APPN node (that is, the NODETYPE start option has been specified). XCFINIT=YES is not valid for pure subarea nodes. XCFINIT=DEFINE is the default if VTAM is started as a pure subarea node (the NODETYPE start option has not been specified).
- 10 When the same parameter is entered multiple times on a CSDUMP message trigger, only the last occurrence is accepted.
- 11 MSGVALUE is valid only when the MESSAGE operand is used and specifies either message IST2391I, IST2406I or IST2419I.
- 12 When an error message is received on any parameter of the CSDUMP start option, the remaining parameters for this CSDUMP start option are ignored. Enter the complete CSDUMP start option again when you are prompted.
- 13 When the same parameter is entered multiple times on a CSDUMP sense trigger, only the last occurrence is accepted.
- 14 COUNT applies only to the IBM 3720 and 3745 Communication Controllers.

### VIT Operands:





**Notes:**

- 1 The default options apply only to MODE=INT.
- 2 PSS is a default VIT option, but PSS can be turned off.
- 3 When you specify SUBTRACE=ARBP and you code a single OPTION value, the OPTION value must be HPR, ALL, or one of the group options (*hprgrpopt*) that include HPR as an individual option equivalent. The applicable group options are DLUROPTS, EEOPTS, HPDTOPTS, HPROPTS, QDIOOPTS, and XCFOPTS.
- 4 When SUBTRACE=ARBP is coded and you code multiple trace options in

parentheses, you must code either HPR or one of the group options (*hprgrpopt*) that include HPR as an individual option equivalent inside the parentheses.

- 5 When you specify SUBTRACE=DIO and you code a single OPTION value, the OPTION value must be CIA, ALL, or one of the group options (*ciagrpopt*) that include CIA as an individual option equivalent. The applicable group options are EEOPTS, HPDTPPTS, HPROPTS, QDIOOPTS, TCPOPTS and XCFOPTS.
- 6 When SUBTRACE=DIO is coded and you code multiple trace options in parentheses, you must code either CIA or one of the group options (*ciagrpopt*) that include CIA as an individual option equivalent inside the parentheses.
- 7 When you code SUBTRACE=TGVC or SUBTRACE=TREE and you code a single OPTION value, the OPTION value must be either SSCP, ALL, or one of the group options (*groupopt*), all of which include SSCP as an individual option equivalent. The group options are APIOPTS, APPCOPTS, CPCPOPTS, CSMOPTS, DLUROPTS, EEOPTS, HPDTPPTS, HPROPTS, LCSOPTS, QDIOOPTS, STDOPPTS, TCPOPTS, and XCFOPTS.
- 8 When you code SUBTRACE=TGVC or SUBTRACE=TREE and you code multiple trace options in parentheses, you must code either SSCP or one of the group options (*groupopt*) inside the parentheses.





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## Chapter 4. SNA Messages

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### IST messages for VTAM network operators IST1600I – IST1999I

This chapter lists the VTAM messages beginning with IST in the range of IST1600I through IST1999I. These messages can appear on a network operator's console.

See Message text for VTAM operator messages for a list of the text of all VTAM operator messages.

**Note:** Messages that begin with the prefix **ISTF** are issued by the VTAM dump analysis tool and the VTAM internal trace (VIT) analysis tool. Help information is available as a part of each tool by pressing F1. Therefore, **ISTF** messages are not documented in *z/OS Communications Server: SNA Messages*. See *z/OS Communications Server: SNA Diagnosis Vol 1, Techniques and Procedures* for additional information.

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**IST1717I**    **ULPID = *ulp\_id* ULP INTERFACE = *ulp\_interface***

**Explanation:** This message is issued in these different situations:

- As part of several message groups that VTAM issues in response to DISPLAY ID or DISPLAY TRL commands.
- As the first message in a message group that is issued when an IBM 10GbE RoCE Express interface or internal shared memory (ISM) interface becomes inoperative.
- As part of a message group that VTAM issues when it detects the failure of a Shared Memory Communications - Remote Direct Memory Access (SMC-R) link.
- As part of a message group that VTAM issues when it detects the failure of a Shared Memory Communications - Direct Memory Access (SMC-D) link.
- As part of a message group that VTAM issues when an overdue adapter interrupt is detected (AIMON support) for a QDIO or an iQDIO interface.

When this message is issued in response to a DISPLAY command, this message is displayed for all TRLEs that are currently being used by at least one Upper-layer Protocol (ULP). A separate message IST1717I will be displayed for each ULP using this TRLE.

- For a dynamic TCP TRLE, or an exclusively owned TRLE, only one message with ULPID is issued, because there can only be one ULP using each of these TRLEs.
- For an OSA-Express Adapter, one message with ULPID is issued for each Datapath channel address in use by a ULP.
- For other TRLEs, more than one message with ULPID might be issued, depending on how many upper-layer protocols are using the TRLE.

When this message is issued in response to a 10GbE RoCE Express interface or ISM interface becoming inoperative, it is the first message in this message group:

```
IST1717I ULPID = ulp_id ULP INTERFACE = ulp_interface  
IST1578I inoptype INOP DETECTED FOR trlename BY modname CODE = code
```

When this message is issued in response to an SMC-R link failure, this message is displayed to identify the TCP/IP stack associated with the failing SMC-R link. See message IST2406I for an explanation of the message group.

When this message is issued in response to an SMC-D link failure, this message is displayed to identify the TCP/IP stack associated with the failing SMC-D link. See message IST2421I for an explanation of the message group.

- | When this message is issued for a QDIO or an iQDIO link which is missing an adapter interrupt (detected by AIMON support), this message is displayed to identify the TCP/IP stack associated with the missing interrupt. See message IST2419I for an explanation of the message group.

## IST1717I

### IST1717I

This message provides ULP information.

#### *ulp\_id*

Specifies the name of a z/OS® Communications Server ULP that is using the TRLE, the SMC-R link, the SMC-D link, one of the datapath channels of an OSA-Express TRLE, or one of the iQDIO datapath devices.

- For TCP/IP ULPs, the *ulp\_id* is the job name.
- For ANNC ULPs, the *ulp\_id* is the SNA PU name.
- For ATM or EE ULPs, the *ulp\_id* is the XCA major node name.

#### *ulp\_interface*

Specifies the name of either the interface or the device that is using the TRLE, the SMC-R link, the SMC-D link, or one of the datapath channels of an OSA-Express or iQDIO TRLE.

- For TRLEs with MPCLEVEL=QDIO, *ulp\_interface* is the name of the interface dedicated to this datapath channel address of the OSA-Express TRLE.
- For TRLEs with CONTROL=ROCE, *ulp\_interface* is the name of the interface dedicated to the 10GbE RoCE Express TRLE.
- For TRLEs with CONTROL=ISM, *ulp\_interface* is the name of the interface dedicated to the ISM TRLE.
- For all other TRLEs, *ulp\_interface* is \*NA\*.
- For SMC-R links, *ulp\_interface* is the name of the 10GbE RoCE Express interface that was being used by the failing link.
- For SMC-D links, *ulp\_interface* is the name of the ISM interface that was being used by the failing link.
- For iQDIO links, *ulp\_interface* is the name of the iQDIO interface for which a missing interrupt was detected (AIMON support).

For detailed instructions about setting up an OSA-Express feature, see the zEnterprise System and System z10 OSA-Express Customer's Guide and Reference.

### IST1578I

This message provides information about the inoperative condition for a 10GbE RoCE Express interface or ISM interface for the TCP/IP stack represented by *ulp\_id*.

#### *inoptype*

Specifies the type of inoperative condition. In this message group, the only possible value is DEVICE.

#### *trlename*

Specifies the name of the system-generated TRLE that represents the 10GbE RoCE Express interface or ISM interface.

#### *modname*

Specifies the name of the module that detected the inoperative condition.

#### *code*

Identifies the point in *modname* where the inoperative condition was detected.

See message IST1578I for more details.

#### **System action:**

- When this message is issued in response to a DISPLAY command, processing continues.
- When this message is issued in response to a 10GbE RoCE Express interface or ISM interface becoming inoperative, the interface is deactivated. The TCP/IP stack might attempt recovery of the interface.
- When this message is issued in response to an SMC-R link failure, processing continues. See message IST2406I for more details.
- When this message is issued in response to an SMC-D link failure, processing continues. See message IST2421I for more details.
- When this message is issued in response to a missing QDIO or iQDIO interrupt (AIMON support), a virtual interrupt is generated and processing continues. See message IST2419I for more details.

**Operator response:**

- When this message is issued in response to a DISPLAY command, none.
- When this message is issued in response to a 10GbE RoCE Express interface or ISM interface becoming inoperative, no further action is required. If recovery fails, save the system log for problem determination.
- When this message is issued in response to an SMC-R link or SMC-D link failure, contact the system programmer.
- When this message is issued in response to a missing QDIO or iQDIO interrupt (AIMON support), contact the system programmer.

**System programmer response:**

- When this message is issued in response to a DISPLAY command, none.
- When this message is issued in response to a 10GbE RoCE Express interface or ISM interface becoming inoperative, use *code* to determine the correct course of action. See message IST1578I for more details.
- When this message is issued in response to an SMC-R link failure, use information in the IST2406I message group to determine the correct course of action. See message IST2406I for more details.
- When this message is issued in response to an SMC-D link failure, use information in the IST2421I message group to determine the correct course of action. See message IST2421I for more details.
- When this message is issued in response to a missing QDIO or iQDIO interrupt (AIMON support), use information in the IST2419I message group to determine the correct course of action. See message IST2419I for more details.

**Routing code:** 2

**Descriptor code:** 5

---

## IST messages for VTAM network operators IST2000I – IST2446I

This chapter lists the VTAM messages beginning with IST in the range of IST2000I through IST2446I. These messages can appear on a network operator's console.

See Message text for VTAM operator messages for a list of the text of all VTAM operator messages.

**Note:** Messages that begin with the prefix **ISTF** are issued by the VTAM dump analysis tool and the VTAM internal trace (VIT) analysis tool. Help information is available as a part of each tool by pressing F1. Therefore, **ISTF** messages are not documented in z/OS Communications Server: SNA Messages. See z/OS Communications Server: SNA Diagnosis Vol 1, Techniques and Procedures for additional information.

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### IST2419I VIRTUAL INTERRUPT DRIVEN FOR TRLE *trlename*

**Explanation:** VTAM issues this message as part of a group of messages generated by the adapter interrupt monitoring function. This message group indicates VTAM detected that no interrupt had been generated for the interface associated with *trlename* even though there was data waiting to be processed, and that VTAM then initiated a virtual interrupt to resume activity on the interface. The adapter interrupt monitoring function is enabled using the AIMON start option.

A complete description of the message group follows the example:

```
IST2419I VIRTUAL INTERRUPT DRIVEN FOR TRLE trlename
[ IST1717I ULPID = ulp_id ULP INTERFACE = ulp_interface ]
[ IST2337I CHPID TYPE = chpid_type CHPID = chpid_num PNETID = network_id ]
[ IST2361I SMCR PFID = pfid PCHID = pchid PNETID = network_id ]
[ IST2418I SMCD PFID = pfid VCHID = vchid PNETID = network_id ]
IST314I END
```

#### IST1717I

This message is displayed to identify the upper-layer protocol (ULP) associated with the failing QDIO or iQDIO link.

## IST2419I

| *ulp\_id* The name of a z/OS Communications Server ULP. In this message group, the *ulp\_id* value is always the  
| TCP/IP job name.

## IST2337I

This message provides configuration information for the OSA-Express adapter that is associated with *trlename*.

*chpid\_type*

The type of channel path identifier that this TRLE uses:

**OSD** Channel type for an OSA-Express CHPID that is configured in QDIO mode.

**OSM** Channel type for an OSA-Express CHPID that is configured for attachment to the intranode management network.

**OSX** Channel type for an OSA-Express CHPID that is configured for attachment to the intraensemble network.

*chpid\_mum*

The 2-byte hexadecimal virtual channel path identifier (CHPID) for the OSA-Express adapter.

*network\_id*

The physical network identifier for the OSA-Express adapter that is associated with *trlename*.

## IST2361I

This message provides configuration information for the adapter associated with *trlename*.

*pfid* The 2-byte hexadecimal Peripheral Component Interconnect Express (PCIe) function ID for the 10GbE RoCE Express feature associated with *trlename*.

*pchid* The 2-byte hexadecimal physical channel ID (PCHID) for the 10GbE RoCE Express feature associated with *trlename*.

*network\_id*

The physical network identifier for the 10GbE RoCE Express interface associated with *trlename*.

## IST2418I

This message provides configuration information for the device that is associated with *trlename*.

*pfid* The 2-byte hexadecimal Peripheral Component Interconnect Express (PCIe) function ID for the internal shared memory (ISM) device that is associated with *trlename*.

*vchid* The 2-byte hexadecimal virtual channel ID (VCHID) for ISM device that is associated with *trlename*.

*network\_id*

The physical network identifier for the ISM interface that is associated with *trlename*.

## IST2419I

This is the first message in the message group.

*trlename*

The name of the resource for which VTAM drove a virtual interrupt.

**System action:** Processing continues.

**Operator response:** Contact the system programmer.

**System programmer response:** If this error occurs repeatedly, instruct the operator to issue this command:

**MODIFY CSDUMP,MESSAGE=IST2419I**

Issue this command to collect a VTAM dump the next time this message group is displayed. When the diagnostic information is collected, contact IBM Service.

**User response:** Not applicable.

**Problem determination:** Not applicable.

**Source:** z/OS Communications Server SNA

**Module:** Use the modifiable VTAM start option MSGMOD=YES (*f procname,vtamopts,msgmod=yes* or *f procname,msgmod=yes*) to display the issuing module when a message is issued. See z/OS Communications Server: SNA Operation and z/OS Communications Server: SNA Resource Definition Reference for more information about start options.

**Routing code:** 2

**Descriptor code:** 5

**Automation:** This message is not a good candidate for automation.

**Example:**

```
IST2419I VIRTUAL INTERRUPT DRIVEN FOR TRLE IUT10010
IST2361I SMCR PFID = 0010 PCHID = 01A0 PNETID = NETID1
IST314I END
```



---

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