

Sterling Commerce
Product Documentation



Connect:Direct® for z/OS 4.8.01
Compression Control Guide

Sterling Commerce
An IBM Company

First Edition

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Connect:Direct for z/OS Version 4.8.01 Compression Control Guide

The *Connect:Direct for z/OS Version 4.8.01 Compression Control Guide* document supplements Connect:Direct for z/OS version 4.8 documentation. The Compression Control Feature (CCF) was originally released with PUT 4801 in October 2009. See the Maintenance Notes for the PUT 4801 maintenance package for complete instructions on how to apply the PUT 4801 code to the base release 4.8 code. The Maintenance Notes also include a complete description of all other features and fixes included in that maintenance package.

Controlling Compression Between Nodes

The Compression Control Feature (CCF) allows you to control the type of compression used between nodes. This control may be forced globally by the PNODE or negotiated by the SNODE. Global compression control settings are specified in the initialization parameters, whereas settings for specific nodes are specified in the adjacent node entry for those nodes. For information on the CCF initialization parameters and netmap entries, see *Documentation Updates* on page 7.

Because this feature overrides compression settings specified in a Process, its default settings allow both types of compression so that the Process determines the type of compression that will be used (standard “COMPRESS” or extended “COMP EXT”).

When control of compression is being exercised, the PNODE always applies its rules to the Process and then attempts negotiation. Negotiation is not performed if the other node does not have the CCF code installed. (The node having Process control is in charge in this case.)

Where a partner node also has CCF installed, then the two nodes will negotiate the type of compression that will be used. If one node says that compression must be used and the other says that it is not allowed, then the step will fail, causing an IMPASSE situation (SCPA994I). Also, if one node says FORCE EXT and the other replies FORCE STD, this is also an IMPASSE situation.

The CCF initialization parameters are refreshable, so they may be changed at any time without requiring the node to be recycled. When you do make changes to these initialization parameters, your changes will cause global overrides to Processes on your system(s). Therefore, after you make changes to these initialization parameters, do not use the defaults because the behavior of your node will change. For example, where standard compression is being used in Processes, if the initialization parameters are changed to specify COMPRESS.STD=DISALLOW, none of your

Processes will use standard compression (as long as netmap overrides are disallowed or the node definition does not contain compression control keywords).

If you want to put the netmap compression control keywords into effect, you have to specify values for those keywords in the ADJACENT.NODE definitions because they do not have default values.

For example, if the netmap is changed for a node (or nodes) to specify COMPRESS.EXT=FORCE and COMPRESS.NETMAP.OVERRIDE=ALLOW, then all Processes that run on that node to the specified node will behave as if COMP EXT was specified in each COPY step.

Because of situations such as these, it is important for you to contact your partners to discuss how compression will be handled between the two Connect:Direct systems to avoid IMPASSE copy failures.

Usage Examples

You have several options for controlling compression on Connect:Direct for z/OS nodes that give you flexibility in determining whether or not to spend CPU cycles on compression on a global or node-by-node basis.

To Completely Stop Using Compression

To completely stop using compression, specify the following in the initialization parameters file:

```
COMPRESS.EXT=DISALLOW  
COMPRESS.STD=DISALLOW  
COMPRESS.NETMAP.OVERRIDE=DISALLOW
```

These values will prevent compression from being performed, and will not allow any netmap entries to override the compression controls with regards to Processes under this node's control.

If the partner node(s) have CCF, then they will respond to these negotiation specifications by either terminating compression, or by sending an SCPA994I, RC=8 message to show that their system specified FORCE as one of the compression types.

If the partner node does not have CCF, compression will be stopped only when this node is the PNODE (with the exception of PRECOMP files, which are precompressed files). If this system is the SNODE, then a message will be written to the RPLERRCK trace file when it is forced to do compression because the PNODE does not have CCF.

To Prevent Standard Compression

To prevent only standard compression, specify the following:

```
COMPRESS.STD=DISALLOW  
COMPRESS.NETMAP.OVERRIDE=DISALLOW
```

In this case, only Processes specifying COMPRESS will be affected on this node. If the partner node has CCF, then all Process steps that specify COMPRESS will be forced to no compression. However, if the partner has specified COMPRESS=FORCE, then the step will fail with an SCPA994I, RC=8 message.

When a partner node is the PNODE and does not have CCF, then the compression specified in their Process will be performed. If the compression that is being done is disallowed on this node, then the node will write a message to the RPLERRCK trace file to note the situation.

To Control Compression on a Node-by-Node Basis

To control compression on a node-by-node basis, you can specify the following initialization parameter (or simply allow the parameter to default):

```
COMPRESS.NETMAP.OVERRIDE=ALLOW
```

You can then set the netmap compression parameters for each node as needed to allow extended and/or standard compression.

You can also set up the reverse situation on a node-by-node basis, where only certain nodes are prevented from using compression. In this case, specify `COMPRESS.NETMAP.OVERRIDE=ALLOW` in the initialization parameters file and specify the following netmap parameters for the nodes that will not use compression:

```
COMPRESS.EXT=DISALLOW
COMPRESS.STD=DISALLOW
```

Important Notes

You need to be aware of the following information when implementing CCF:

- ◆ As more Sterling Commerce customers upgrade to Connect:Direct products that have CCF, there may be a need for partners to directly negotiate how compression will be handled. This will prevent the case of one node having, for example, `COMPRESS.STD=DISALLOW` and another having `COMPRESS.EXT=FORCE`. In this case, all Processes that are performing a COPY will have their COPY steps fail with an SCPA994I message.
- ◆ PRECOMP (precompressed) files are a special case. If a PULL of a PRECOMP file is being done, and the other node does not have CCF, the PRECOMP file will be transferred even if `COMPRESS.EXT=DISALLOW` has been specified on this node. This results in a message being written to the RPLERRCK trace file.
- ◆ An LU0 Process using extended compression between two Connect:Direct for z/OS version 4.8.01 nodes will use ZLIB compression. An LU0 Process using extended compression between Connect:Direct for z/OS version 4.8.01 and any other platform or release will use the LZW compression algorithm as before. In addition, this enhancement will change the type of extended compression used by LU0 (Version 1 protocol) Processes from LZW to ZLIB compression for nodes that support ZLIB compression for LU0. For Connect:Direct for z/OS, this means release 4.8.01 and later.

Documentation Updates

This section describes updates to the version 4.8 product documentation for the Compression Control Feature.

Connect:Direct for z/OS Administration Guide

Add the following information to reflect the new Compression Control Feature.

Chapter 2, Basic Administration

Modifying Initialization Parameter Settings while Connect:Direct is Running

Add the following parameters to the list of initialization parameters that can updated using the MODIFY INITPARMS command while Connect:Direct for z/OS is running:

```
COMPRESS.EXT    COMPRESS.STD    COMPRESS.NETMAP.OVERRIDE
COMPRESS.NEGO.FAIL
```

Chapter 6, Maintaining the Network Map

Adjacent Node Entry

Replace the sample Adjacent Node Entry on page 130 with the following:

```
ADJACENT.NODE=(
    (nodename,
      communications name | channel-range-start-addr,
      remote library name | IP address or Alias | addr-count,
      session type,
      security node type,
      data direction restriction)
    PARSESS=(max,default)
    COMPRESS.EXT=ALLOW | DISALLOW | FORCE
    COMPRESS.STD=ALLOW | DISALLOW | FORCE
    COMPRESS.STD.PRIMECHAR=C'x' | X'xx'
    SOURCEIP=IP address
    SESS.SNODE.MAX = 255
    LDNS=hostname
    ENVIRONMENT=operating environment
    LOGMODE=logmode entry name
    APPLIDS=(vtam applid1 [,vtam applid2,...] )
    NETID=networkid | CTCA server name
    PNODE.LUS=(luname1 [,luname2,...] )
    SNODE.LUS=(luname1 [,luname2,...] )
    USE.SERVER.NODE = NO | YES
    TCPAPI= (port number, IP address)
    CRC= (OFF | ON | DEFAULT)
    PLEXCLASS= (* | plexclass, * | plexclass)
    BUFFER.SIZE= 3072-262144|3K-256K
    ALTernate.COMminfo = (ALTernate.RESTART=YES | NO,
```

Continued


```

    ALternate.DIRection=BALANCE | TOP,           -
    (ALternate.ADDress= | ALternate.NODEDEF=, ALternate.PORT=, -
    SOURCEIP=IP address,                         -
    ALternate.TYPE=SNA | TCP | UDT33 | LU62      -
    ALternate.LOGmode=logmode entry name,       -
    ALternate.USE.OUTbound=YES | NO)           -
    )                                             -
CONTACT.NAME="name"                             -
CONTACT.PHONE="phone information"               -
DESCRIPTION="description information")

```

Keyword Parameters

Add the following entries to the keyword parameters table for the network map adjacent node entry after the PARSESS entry on page 134:

Parameter	Description
COMPRESS.EXT=ALLOW DISALLOW FORCE	<p>This is an optional parameter that can be used to control how extended compression will be used on a node.</p> <p>ALLOW specifies that extended compression may be used. In this case, extended compression may be specified within the Process or by the other node.</p> <p>DISALLOW specifies that extended compression cannot be used.</p> <p>FORCE specifies that extended compression is required.</p>
COMPRESS.STD=ALLOW DISALLOW FORCE	<p>This is an optional parameter that can be used to control how standard compression will be used on a node.</p> <p>ALLOW specifies that standard compression may be used. In this case, standard compression may be specified within the Process or by the other node.</p> <p>DISALLOW specifies that standard compression cannot be used.</p> <p>FORCE specifies that standard compression is required.</p>
COMPRESS.STD.PRIMECHAR=C'x' X'xx'	<p>This is an optional parameter used for text data or single-character repetitive data to specify the primary compression character. It is specified as either two hex digits preceded by "X" or a single character preceded by "C", for example, COMPRESS.STD.PRIMECHAR=C'\$', or this can also be expressed as COMPRESS.STD.PRIMECHAR=X'4B'</p> <p>Note: If COMPRESS.STD is specified and COMPRESS.STD.PRIMECHAR is not specified, then the Process default for COMPRESS.STD.PRIMECHAR, which is X'40' (an EBCDIC space), will be in effect.</p>

Appendix A, Global Initialization Parameters

Add the following parameters after the CKPT.MODE parameter.

COMPRESS.EXT= ALLOW | DISALLOW

This parameter specifies whether extended compression will be allowed on a global basis.

Note: If COMPRESS.NETMAP.OVERRIDE=ALLOW is specified, the COMPRESS.EXT value specified in the netmap ADJACENT.NODE entry will override the value specified for this parameter in the global initialization parameters.

Value	Description
ALLOW	Extended compression is allowed. This value is the default.
DISALLOW	Extended compression is not allowed.

Modifiable through MODIFY INITPARMS command: Yes.

COMPRESS.STD= ALLOW | DISALLOW

This parameter specifies whether standard compression will be allowed on a global basis.

Note: If COMPRESS.NETMAP.OVERRIDE=ALLOW is specified, the COMPRESS.STD value specified in the netmap ADJACENT.NODE entry will override the value specified for this parameter in the global initialization parameters.

Value	Description
ALLOW	Extended compression is allowed. This value is the default.
DISALLOW	Extended compression is not allowed.

Modifiable through MODIFY INITPARMS command: Yes.

COMPRESS.NETMAP.OVERRIDE= ALLOW | DISALLOW

This parameter specifies whether netmap entries for compression control (on a node-by-node basis) will override the global compression control settings in the initialization parameters.

Value	Description
ALLOW	The netmap compression control settings are allowed to override the initialization parameters. This value is the default.

Value	Description
DISALLOW	The netmap compression control settings are not allowed to override the initialization parameters.

Modifiable through MODIFY INITPARMS command: Yes.

COMPRESS.NEGO.FAIL= STEP | PROCESS

This parameter specifies how a Process is handled when negotiations fail (for the system that has control of the Process).

Value	Description
STEP	When negotiations fail, the STEP fails with RC=8, and modal logic may be used to determine how to proceed. This value is the default.
PROCESS	When negotiations fail, the Process fails and is placed in HO HE (Held in Error).

Modifiable through MODIFY INITPARMS command: Yes.

Quick Reference Guide

Network Map Parameters

Replace the Network Map Parameters table with the following updated table.

Node Type	Parameters
LOCAL.NODE =	((nodename, communications name, , superuserpassword) TCQ = (tcxdsn,tcqdsn))
ADJACENT.NODE =	((nodename, - communications name channel-range-start-addr, - netex host name remote library name - IP address or Alias addr-count, - session type CTCA, - security node type, - data direction restriction) - PARSESS = (max default) - COMPRESS.EXT=ALLOW DISALLOW FORCE - COMPRESS.STD=ALLOW DISALLOW FORCE - COMPRESS.STD.PRIMECHAR=C'x' X'xx' - SESS.SNODE.MAX = (1-255) - LDNS=hostname - ENVIRONMENT=operating environment - LOGMODE=logmode entry name - APPLIDS=(vtam applid1 [,vtam applid2,...]) - NETID=networkid CTCA server name - PNODE.LUS=(luname1 [,luname2,...]) - SNODE.LUS=(luname1 [,luname2,...]) - USE.SERVER.NODE = NO YES - TCPAPI= (port number, IP address) - CRC = (OFF ON DEFAULT) - PLEXCLASS= (* plexclass, * plexclass) - BUFFER.SIZE= (3072-262144 3K-256K) - ALTERNATE.COMMINFO = ((ALTERNATE.DIRECTION= <u>BALANCE</u> TOP), - (ALTERNATE.ADDRESS ALTERNATE.NODEDEF, ALTERNATE.PORT, - ALTERNATE.TYPE=SNA TCP LU62, ALTERNATE.LOGMODE entry name, - ALTERNATE.USE.OUTBOUND=Yes No)) - CONTACT.NAME="name" - CONTACT.PHONE="phone information" - DESCRIPTION="description information" -)

Initialization Parameters

Add the following entries to the table in the Initialization Parameters section:

Global Initialization Parameters	Default Values
COMPRESS.EXT= <u>ALLOW</u> DISALLOW	ALLOW
COMPRESS.STD= <u>ALLOW</u> DISALLOW	ALLOW
COMPRESS.NETMAP.OVERRIDE= <u>ALLOW</u> DISALLOW	ALLOW
COMPRESS.NEGO.FAIL= <u>STEP</u> PROCESS	STEP