

# Entire Net-Work Parameter Statements

This section describes the Entire Net-Work parameter statements that define the Entire Net-Work environment. It covers the following topics:

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  - Entire Net-Work NODE Statement
  - Entire Net-Work DRIVER Statement
  - Entire Net-Work LINK Statement
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## Overview

To communicate with other nodes, Entire Net-Work requires a definition of its own operating environment, access method information, and peer node characteristics. This is accomplished with the Entire Net-Work parameter statements. The NODE, DRIVER, and LINK statements are described in this section.

The NODE statement specifies the global operating parameters for a specific Entire Net-Work node. (Note that all interregion communication information is specified by *ADARUN Control Statements*). Entire Net-Work control statements must always begin with the NODE statement, followed by a TCPX DRIVER statement, and the related LINK statement. DRIVER and LINK statements may be in any order, as long as no LINK statement precedes its related DRIVER statement.

Each link to an Entire Net-Work Client must be defined to Entire Net-Work with a LINK statement that specifies the operating parameters for the individual link. Each LINK statement must be associated with a previously-specified DRIVER statement.

## Entire Net-Work NODE Statement

The NODE statement must be the first Entire Net-Work control statement. It defines the node's name and operating characteristics.

For more information about syntax conventions and rules used in this section, read *Conventions*.

## Statement Format

The following is the format of the NODE statement:

```
NODE  nodename  BUFFERS =(abufsize,ltbufsize,stbufsize,pfxbufsize),-
                                CQTIMER=secs,-
                                DEFINE=N/Y,-
                                DOMAIN=domain-name, -
                                DUMP =storage-area
                                ENDCMD=N/Y, -
                                LOG=N/Y-
                                LOGSIZE=logbufsize, -
                                MAXPATH=linkcount, -
                                MSGFORM =message-form, -
                                NID0=N/Y, -
```

```

PASSWORD=password, -
REMCMD=N/Y, -
REPLYTIM=secs, -
START=Y/N, -
TIMER=secs, -
TRACE=trace-type[, trace-type] ...-
UCMSG=N/Y, -
ULINK=N/Y

```

## NODE Statement Parameters

The NODE statement parameters, what they do, and their accepted values and defaults are as follows. Underlined arguments are default values that are in effect if the parameter is not specified.

**nodename**

A 1-8 character name for this node. Nodename must be specified immediately after NODE, separated by at least one blank space. All Entire Net-Work nodes must have unique names. Choose a meaningful name. Entire Net-Work uses the node name when referring to the node for operator messages and when logging.

**BUFFERS=(abufsize,ltbufsize,stbufsize,{ pfxbufsize | 0 })**

Specifies the amount of working storage reserved for internal buffer management. The values required depend on the number and types of line drivers and links, and on the message volume; these values can be adjusted according to usage statistics printed at the end of each Entire Net-Work session, or from issuing the operator command "D S" (DISPLAY STATISTICS).

Specify decimal values for the operands ranging from 0 to 2147483647 bytes; or, optionally, a value followed by either the multiplier "M" (x 1048576) or "K" (x 1024). If followed by "M", the specified value must range 0 to 2047; if followed by "K", the value must range 0 to 2097151. If a subparameter is omitted or zero is specified, no corresponding buffer pool will exist for this node. The requested storage space must be available; if the space is not available, Entire Net-Work ends with error message NET0013.

For z/OS systems, the buffer pool manager initializes the common buffer pool with a subpool of 256K. Additional subpools can be created dynamically, and all subpools can be expanded or contracted as needed. The only size limitation for the buffer pool is the size of the region or partition. The BUFFERS specification on the NODE statement remains the same, even though the first three values (abufsize, ltbufsize, and stbufsize) are ignored by the new buffer pool manager. The fourth value (pfxbufsize) is used to set the size of the Page-Fixed Buffer Pool.

**abufsize (Asynchronous Buffer Pool Size)**

Specifies the storage space to reserve for the Asynchronous Buffer Pool, used whenever asynchronously scheduled routines (exit routines, interrupt handlers) require storage. All requests to this pool are serialized. An abufsize value must be specified.

```
ltbufsize (Long-Term Buffer Pool Size)
```

Specifies the storage space to reserve for the Long-Term Buffer Pool, from which comparatively small buffers are allocated for relatively long-term use (for example, dynamically created control blocks). An ltbufsize value must be specified.

```
stbufsize (Short-Term Buffer Pool Size)
```

Specifies the storage space to reserve for the Short-Term Buffer Pool, from which comparatively large individual buffers are allocated for short time periods (for example, message and transmission buffers). An stbufsize value must be specified.

```
pfxbufsize (Page-Fixed Buffer Pool Size)
```

This optional subparameter specifies the bytes to reserve for the Page-Fixed Buffer Pool, from which all requests for page-fixed buffers are filled. The use of this pool is similar to that of the Short-Term Buffer Pool; that is, relatively large buffers are allocated for short time periods. If zero (the default) is specified, no Page-Fixed Buffer Pool is allocated..

Because the segment size of the Page-Fixed Buffer Pool is identical to the page size of the operating system, more page-fixed storage than short-term storage may be required.

```
CQTIMER={ secs | 60 }
```

This optional parameter specifies the approximate waiting time in seconds allowed for a user or application to retrieve command results with a router-16-call before timeout occurs. Specify a practical decimal value, depending on the node system's environment; Entire Net-Work accepts values ranging from 1 (one second) to 2147483647 (approximately 68 years-effectively, no timeout will occur). The default value is 60 (approximately one minute).

The purpose of the CQTIMER timeout is to prevent an Entire Net-Work Request Queue Element (RQE) and the attached buffer from becoming irretrievable if the user has ended abnormally. This parameter performs the same function as the ADARUN CT parameter.

**Note:**

This parameter can be changed during Entire Net-Work operation by the SET CQTIMER command.

```
DEFINE={ Y | N }
```

This optional parameter determines whether the DEFINE operator command can be used to define links during Entire Net-Work operation. If Y is specified, the DEFINE operator command is accepted and executed. If N is specified, the DEFINE operator command is rejected. The default value is N.

```
DOMAIN=domain-name
```

This optional parameter allows you to subdivide the network into multiple domains. Using domains simplifies network management and limits administrative message traffic.

Specify a 1-6 character name. The default value is blank (no domain name).

```
DUMP={ ALL | NONE | BLOCKS | TRACETAB | BUFFERS | LINKAREA | FORMAT }
```

Specifies the areas of storage to be printed after an abnormal termination of Entire Net-Work. The information is printed to the NETPRNT file if it is open. Otherwise, it is printed to the DDPRINT file. The DUMP parameter can be used to reduce the amount of output generated during an abend, especially on large Entire Net-Work systems. This parameter cannot be abbreviated.

In general, the default value of ALL should be used so that all diagnostic information is available to Software AG support.

Multiple values can be specified, separated by commas and surrounded by parentheses. For example:

```
DUMP=(BLOCKS, TRACETAB, FORMAT)
```

If values conflict, the last value specified is used. In the following, for example, the value NONE is used:

```
DUMP=(BLOCKS, TRACETAB, NONE)
```

Value	Description
ALL	All storage areas are dumped. This is the default value.
NONE	No storage areas are dumped.
BLOCKS	The major control blocks are dumped.
TRACETAB	The internal trace table is dumped.
BUFFERS	All internal buffer areas are dumped.
LINKAREA	All storage areas related to a driver and link are dumped.
FORMAT	The driver and link trace tables are formatted.

**Note:**

This parameter can be changed during Entire Net-Work operation by the SET DUMP command.

```
ENDCMD={N | Y }
```

This optional parameter determines whether an operator command to end Entire Net-Work operation, e.g., NETEND, will be accepted when issued using the Programmable Command Interface. If Y is specified, the operator command is accepted and executed. If N is specified, the operator command is rejected. The default value is N.

```
LOG={ ON | OFF | YES | NO | FULL | SHORT }
```

This is a test parameter for recording control flow and for logging selected data areas. The information is written to the NETPRNT file if it is open. Otherwise, it is written to the DDPRINT file. OFF and NO are synonyms meaning that logging is not to be done during this Entire Net-Work node's session. ON, YES, and FULL cause logging of both the node's checkpoint records and data areas. SHORT causes logging of the checkpoint records only. The default value is NO.

Normally, logging should not be used because of the extra system resources required. The LOG function is intended primarily as a diagnostic tool; it is recommended that you use the LOG function only with the assistance of your Software AG technical support representative.

**Note:**

This parameter can be changed during Entire Net-Work operation by the SET LOG command.

```
LOGSIZE=logbufsize
```

This optional parameter defines the size of a wrap-around log buffer which is used to hold the last records written to DDPRINT. The buffer can then be retrieved through the Programmable Command Interface. As many DDPRINT records as will fit are kept in the buffer. When new records are inserted, they replace the oldest records in the buffer. The valid range is 50 - 32000, which can also be specified in kilobytes, such as 30K. The suggested value is 10K. The default value is 0 (zero) -- no log is created. The value specified for this parameter must not be greater than 32000.

**Note:**

This parameter takes effect only when the PASSWORD parameter is also specified.

```
MAXPATH={ linkcount | 4 }
```

The maximum path length, specified in links, that a message is expected to travel in the network. Specify a decimal value ranging from 1 to 32767. The default value is 4, resulting in a stack large enough for four node IDs.

The Communicator uses this optional value to build a list of two-byte entries for tracking each message. This list, called a Node Stack, is included in the message header. As the message passes through nodes en route to its target, each node's ID is added to the stack.

If the specified MAXPATH value results in a Node Stack that is larger than needed, messages will be unnecessarily long. If the MAXPATH value is too small, Entire Net-Work automatically copies the message, increasing the Node Stack size; this causes unnecessary processor overhead.

**Note:**

This parameter can be changed during Entire Net-Work operation by the SET MAXPATH command.

```
MSGFORM={ message-format | 2 }
```

This optional parameter defines the message format of console messages and DDPRINT output. Value can be 1, 2, 3, or 4, as follows. The default value is 2.

Format	Description
1	is compatible with the message format used by Entire Net-Work Version 5.2. For example: NET0090 BUFFER USAGE STATISTICS
2	provides a severity letter (I, W, or E) with the message number. For example: NET0090I: BUFFER USAGE STATISTICS
3	provides the message number followed by the node name of the issuing Entire Net-Work node, padded with blanks to a length of 8. For example: NET0090I NODE2 : BUFFER USAGE STATISTICS
4	provides the message number followed by the node name, not padded, of the issuing Entire Net-Work node. For example: NET0090I NODE2: BUFFER USAGE STATISTICS

**Notes:**

1. Individual line drivers may not recognize this parameter.
2. Values between 5 and 255 will be accepted, but they have no meaning and are not valid.
3. This parameter can be changed during Entire Net-Work operation by the SET MSGFORM= command.

```
NID0={ N | Y }
```

This parameter can be used to force a node ID of 0 (zero) for all unsolicited connections. The default value is NID0=N. If NID0=Y is specified, all nodes that attempt to connect and are not explicitly defined are assigned a node ID of 0. No Adabas servers on those nodes are broadcast through the network.

```
PASSWORD=password
```

This optional parameter is used to control access to the Programmable Command Interface (PCI). If a password value is specified, only PCI calls that supply a matching password are accepted. If the special password ALL is specified, all PCI calls are accepted without password checking. If the PASSWORD parameter is omitted, or no password value is specified, all PCI calls are rejected. The default value is blank (no password).

**Note:**

This parameter can be changed during Entire Net-Work operation by the SET PASSWORD command. For security reasons, this command is accepted only through the Programmable Command Interface.

```
REMCMD={ N | Y }
```

This optional parameter determines whether Programmable Command Interface (PCI) calls that originate at remote Entire Net-Work nodes will be accepted. If N is specified, only calls from local applications, i.e., calls that reach Entire Net-Work through the local Adabas Router, are allowed. If Y is specified, calls that reach the local node as messages from other nodes are also accepted. The default value is N.

**Notes:**

1. 1. This parameter can be changed during Entire Net-Work operation by the SET REMCMD command.
2. 2. This parameter takes effect only when the PASSWORD parameter is specified.

```
REPLYTIM={ secs | 60 }
```

This optional parameter specifies the approximate waiting time, in seconds, allowed for a user request to complete before timeout occurs. A request is considered complete when the originating node receives a reply.

Specify a practical decimal value, depending on the node system's operation; Entire Net-Work accepts values ranging from 1 (one second) to 2147483647 (approximately 68 years; effectively, no timeout will occur). The default value is 60 (approximately one minute).

In the event that a message is "stranded" (that is, a reply cannot be returned to the originating node), REPLYTIM specifies a time after which a response code 224 is returned to the user.

**Note:**

This parameter can be changed during Entire Net-Work operation by the SET REPLYTIM command.

```
START={ Y | N }
```

This optional parameter is used to determine whether Entire Net-Work starts normal operations automatically. The default value is Y.

- If Y is specified, Entire Net-Work automatically starts all line drivers and initiates connections for all links that have the parameter ACQUIRE=Y specified.
- If N is specified, Entire Net-Work initializes line drivers but does not start them, nor does it connect any links. Line drivers can be started individually by using the START operator command.

```
TIMER={ n | 30 }
```

This optional parameter defines the interval between handling of time-dependent requests; that is, every *n* seconds, Entire Net-Work scans its tables for any time-dependent action that needs to be taken. The TIMER value determines the precision of all time-dependent Entire Net-Work services.

Specify a practical decimal value depending on the node operation. On all operating systems, except GCS, Entire Net-Work accepts values ranging from 1 to 16777215 seconds (effectively, no timing supervision will occur, even if other timing parameters, such as REPLYTIM, CQTIMER, or ADARUN CT are set). On GCS systems, Entire Net-Work accepts values ranging from 1 to 86399 seconds.

There is an interaction between TIMER and other timing parameters. If the TIMER interval is greater than the individual CQTIMER and REPLYTIM intervals, the specified action may not be started until the TIMER interval has expired. The default value is 30 seconds.

```
{TRACE | TROFF | TRON}=tracetype[, tracetype]...
```

Specifies trace control parameters for performing program traces. Tracing should not be active during normal operation. Tracing is intended as a diagnostic tool; it is recommended that you use tracing only with the assistance of your Software AG technical support representative.

All diagnostic information from tracing is written to the NETPRNT file if it is open. Otherwise, it is written to the DDPRINT file.

The standard values for *trace-type* are shown in the following table.

**Note:**

If you want to trace an Entire Net-Work line driver and you have specified a non-default driver name for that line driver (using the DRVNAME parameter), you must use the driver name you defined in the DRVNAME parameter as the *trace-type* in the NODE statement's TRACE parameter.

Default trace type	Performs
ADA	Limited Adabas call tracing
BPM	Buffer Pool Manager tracing
MAIN	Mainline tracing
RQM	Receive Queue Manager tracing
TQM	Transmission Queue Manager tracing

TRACE=ADA allows you to trace Adabas calls without using Entire Net-Work full tracing. That is, logging can be turned off (see the LOG parameter), thus reducing the amount of overhead required.

Line driver traces can be requested for installed line drivers on the local node only. TRACE and TRON are synonyms to either start or resume tracing of the specified events. TROFF stops tracing. If this parameter is not specified, no tracing will occur.

**Note:**

Values set by this parameter can be changed during Entire Net-Work operation by the SET TRACE, TROFF, or TRON commands.



```
UCMSG={ N | Y }
```

This optional parameter determines whether messages are issued in uppercase (Y) or mixed case (N). The default value is N.

#### Notes:

1. Individual line drivers may not recognize this parameter.
2. This parameter can be changed during Entire Net-Work operation by the SET UCMSG command.

```
ULINK={ N | Y }
```

This optional parameter determines whether multiple links are allowed between two Entire Net-Work nodes. If Y is specified, Entire Net-Work ensures that each connection to an adjacent node is unique; incoming connection requests from adjacent nodes that are already known as active will be rejected. If N is specified, multiple links between two Entire Net-Work nodes are allowed. The default value is N.

In networks with many PCs, two PCs may be assigned the same node name and ID by mistake. If both PCs are simultaneously connected to Entire Net-Work, they are perceived as one Entire Net-Work node that is connected by two different links. As a result, one of the PCs may receive a reply to a call that originated on the other PC.

To avoid this type of situation, specify ULINK=YES. When the second PC tries to connect, it is rejected. The integrity of the network is maintained and the duplicate node name and ID can be identified. This parameter can be changed during Entire Net-Work operation by the SET ULINK command.

## Entire Net-Work DRIVER Statement

The Entire Net-Work DRIVER control statement defines the TCPX line driver to be loaded. The following is the syntax of the DRIVER statement:

```
DRIVER      drivername      parameter=value,...
```

where *drivername* is "TCPX". This invokes module NETTCPX, which supports the TCPX access method.

The line driver itself must exist in the libraries defined for the related job step, and must have the name:

```
NET drivername
```

where *drivername* is the same name specified in the DRIVER statement's *drivername* field.

The keyword parameter or parameters:

```
parameter=value,...
```

are specific to the line driver. For more information, read *TCPX DRIVER Statement*.

## Entire Net-Work LINK Statement

Each link to another node must be defined with a LINK statement. Each link uses a specific communications access method, as defined by a related DRIVER statement. LINK statements must specify the related driver by name, and follow the related DRIVER statement in the Entire Net-Work statement order.

The following is the syntax of a LINK statement:

```
LINK      linkname      drivename      parameter=value,...
```

where *linkname* is a unique one- to eight-character name identifying the link, and *drivename* is "TCPX". A DRIVER statement for "drivename" must precede this LINK statement.

### Note:

If more than 8 characters are entered for *linkname*, only the first 8 characters are used. The connection is issued correctly and no error message is generated.

The keyword parameters:

```
parameter=value,...
```

are specific to the line driver. For more information, read *TCPX LINK Statement*.