

# TCPX LINK Statement

The LINK statement and its parameters are used to define the characteristics of the remote client. With the Simple Connection Line Driver, links are not normally predefined; they are dynamically allocated as clients initiate communication. However, links may be predefined to override defaults or provide some control over clients.

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## LINK Statement Format

The TCPX LINK statement has the following format:

```
LINK linkname TCPX [ADJHOST=Internet-host-name, ]  
                   [INETADDR=(n1.n2.n3.n4), ]  
                   [KEEPALIV={ Y | N }, ]  
                   [MULTSESS={ N | Y }, ]  
                   [PSTATS={ N | Y }, ]  
                   [RSTATS={ N | Y }, ]  
                   [SAF={ Y | L | N }, ]  
                   [SENDDTIME={ time | 90 }, ]  
                   [STATINT={ interval | 3600 }, ]  
                   [TRACESIZ=size ]
```

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

## Modifying the LINK Statement Parameters

The LINK statement parameters are read from a sequential file during system startup, and can be modified after startup using the ALTER operator command. Some parameters can be modified when the link is open or closed. Others can be modified only when the link is closed. Read about the ALTER and CLOSE commands in the section *TCPX Operator Commands*. The open/closed requirement for each parameter is included in the parameter descriptions.

## LINK Statement Parameters

This section describes all of the parameters that can be used for the TCPX LINK statement.

- linkname Parameter

- TCPX Parameter
- ACQUIRE Parameter
- ADJHOST Parameter
- INETADDR Parameter
- KEEPALIV Parameter
- MULTSESS Parameter
- PSTATS Parameter
- RESTART Parameter
- RSTATS Parameter
- SAF Parameter
- SENDTIME Parameter
- STATINT Parameter
- TRACESIZ Parameter
- WEIGHT Parameter

### ***linkname* Parameter**

*linkname*

The required *linkname* parameter specifies the name by which this link is to be known. It is positional, and must be specified immediately after the LINK keyword and immediately before the driver name (TCPX); the link name must be unique on the node. All operator commands affecting the link must specify this name.

If the link name begins with the characters "MODEL", the link is defined as a model link. See the section *Model Links*.

### **TCPX Parameter**

TCPX

**TCPX** is required and specifies the protocol name that defines the driver associated with this link. It must be the same as the value specified for the DRVNAME parameter in the TCPX DRIVER statement. In most cases, this value is "TCPX". If DRVNAME is changed to a value other than "TCPX", this parameter must also be changed.

## ACQUIRE Parameter

```
ACQUIRE={N | Y}
```

This optional parameter specifies whether or not a connection with the remote node should be attempted when the driver is opened for the first time (during system initialization). If N is specified, the link is connected manually using operator commands from the client or server node. The ACQUIRE parameter can be modified only when the link is closed. The default value is N.

## ADJHOST Parameter

```
ADJHOST=Internet-host-name
```

This optional parameter specifies the Internet host name of a node with which a connection is to be established. Its value can be 1 - 255 characters. The ADJHOST parameter can be modified only when the link is closed.

The ADJHOST parameter uses Domain Name Services (DNS), as follows:

- The GetHostByName function is used to determine the IP address of a host name specified with ADJHOST. IP address is used both for connecting to another node and for locating the link for an incoming connection.
- The GetHostByAddr function is used to determine the host name of a node that is trying to connect to this node. This is necessary when the IP address of a host name specified with ADJHOST changes after the link has been opened.

Software AG recommends the use of the ADJHOST parameter for sites that assign IP addresses via the DHCP protocol. Entire Net-Work will use the GetHostByName function for every outgoing connection on nodes that have ADJHOST specified as long as INETADDR is not specified.

The following table lists the APIs that support Domain Name Services:

API	GetHostByName	GetHostByAddr
HPS	Yes	Yes
OES	Yes	Yes

For performance reasons, Software AG recommends that all LINK statements containing an ADJHOST value be defined after the LINK statements containing an INETADDR specification. If neither of these parameters is specified, the link is not usable. If both are specified, the INETADDR parameter takes precedence.

## INETADDR Parameter

```
INETADDR=(n1.n2.n3.n4)
```

This optional parameter specifies the IP (Internet Protocol) address of the remote host associated with this link. The INETADDR parameter can be modified only when the link is closed.

IP address is used both for connecting to another node and for locating the link for an incoming connection. It is provided to Entire Net-Work in the form of INETADDR=(n1,n2,n3,n4) or INETADDR=(n1.n2.n3.n4) where each value represents 8 bits of the 32-bit IP address. Acceptable values are between 0 and 255 and may be separated by commas or periods. For example:

```
INETADDR=(157,182,17,20)
```

or

```
INETADDR=(157.182.17.20)
```

Each host on the INTERNET is assigned a unique IP address which is used by the IP and higher level protocols to route packets through the network. The IP address is logically made up of two parts: the network number and the local address. This IP address is 32 bits in length and can take on different formats or classes. The class defines the length (number of bits) of each part. There are four classes (A, B, C, and D); the class is identified by the allocation of the initial bit.

For performance reasons, Software AG recommends that all LINK statements containing an INETADDR value be defined before the LINK statements containing an ADJHOST specification. If neither of these parameters is specified, the link is not usable. If both are specified, the INETADDR parameter takes precedence.

## KEEPALIV Parameter

```
KEEPALIV={Y | N}
```

KEEPALIV=Y (Yes) causes internal TCP messages to be sent periodically to the remote node, thus maintaining the connection when there is no other traffic with the node. The amount of time between messages is determined by an initialization parameter in the TCP stack. If no KEEPALIV value is specified for the link, it defaults to the KEEPALIV value on the DRIVER statement.

## MULTSESS Parameter

```
MULTSESS={N | Y}
```

This optional parameter determines whether a connect request from a host that has an active connection will be treated as a new link (Y), or a reconnection of an existing link (N). The default value is the value specified for the MULTSESS parameter in the TCPX DRIVER statement (N or Y, with Y as the default). The MULTSESS parameter can be modified when the link is open or closed.

## PSTATS Parameter

```
PSTATS={N | Y}
```

This optional parameter determines whether or not (Y or N) statistics are printed to DDPRINT when the statistics interval expires. The default value is the value specified for the PSTATS parameter in the TCPX DRIVER statement (for which the default is N). This parameter does not affect the STATS operator command. The PSTATS parameter can be modified when the link is open or closed.

## RESTART Parameter

```
RESTART= ( i , n )
```

This optional parameter specifies the retry interval in seconds (*i*) and the number of retries (*n*) that are made to start the connection to the remote node. If RESTART is not specified, or (*i*) is specified as zero, no retry is attempted. By specifying (*n*) as zero, an infinite number of retries can be requested.

The TIMER parameter on the NODE statement affects the RESTART parameter (see the section *Entire Net-Work NODE Statement* . The retry interval should not be less than the TIMER parameter, and should be a multiple of this value. If a retry interval other than zero is specified that is less than the value of the TIMER parameter, the TIMER value is used instead. The RESTART parameter can be modified when the link is open or closed.

## RSTATS Parameter

```
RSTATS={N | Y}
```

This optional parameter determines whether or not (Y or N) statistics are automatically reset when the statistics interval expires. The default value is the value specified for the RSTATS parameter in the TCPX DRIVER statement. The RSTATS parameter can be modified when the link is open or closed.

## SAF Parameter

```
SAF={Y | L | N}
```

If SAF=Y or SAF=L is specified, Entire Net-Work will call the SAF Interface for all incoming requests on this link; failure to load the Interface is considered a security violation and Entire Net-Work will shut down. If SAF=L, the calls are traced and the output directed to DDPRINT. An error code is transmitted to the user if access to SAF is denied. The SAF parameter can be modified when the link is open or closed.

The default value is N (No).

## SENDTIME Parameter

```
SENDTIME={ time | 90}
```

This optional parameter specifies the time (in seconds) that the Simple Connection Line Driver allows for a send to complete. When this time is exceeded, the line driver writes a message to the operator console indicating a possible error condition on the remote node. The connection is considered severed and link disconnect processing is initiated. The default value is 90 seconds. The SENDTIME parameter can be modified when the link is open or closed.

## STATINT Parameter

```
STATINT={ interval | 3600}
```

This optional parameter specifies the amount of time, in seconds, before statistics are automatically printed or reset. Acceptable values are 1 - 2147483647. Any value outside this range is in error. The default value is 3600. The STATINT parameter can be modified when the link is open or closed.

## TRACESIZ Parameter

```
TRACESIZ=size
```

This optional parameter specifies the size of the TCP/IP link specific trace table. Value can be 4096 - 4194304. A value less than 4096 is reset to 4096. A value greater than 4194304 is reset to 4194304. The default value is the value specified for the TRACESIZ parameter in the TCPX DRIVER statement. The TRACESIZ parameter can be modified only when the link is closed.

## WEIGHT Parameter

```
WEIGHT={ n | 256}
```

This parameter specifies the weight of this link with respect to other links going to the same node. If a given target can be reached by more than one path (chain of connected links), the path with the lowest weight is used. Slow or expensive links should be given a higher value than fast or inexpensive links. Values range from 1 to 999999. The default value is 256. The WEIGHT parameter can be modified only when the link is closed.