Database Management System LINTER®

Version 5.9

Networking Daemons

Relational Expert Systems

RELEX®

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Introduction

Two daemons control servicing client queries on a database server in a networked environment a client daemon on each client system and a server daemon on each server A client daemon may also be running on the same system as a server daemon A server daemon must be running for each instance of a running Linter server when more than one such server is installed on a single system

Both client and daemon systems must have TCP/IP installed in order to function

Server Daemon

Launching the Daemon

To launch the daemon, type the following command:

```
dbs_tcp </optional_arguments>
```

The optional arguments are:

Command	Options and Arguments	Purpose of Option
dbs_tcp	[H | /?]	Display help for daemon arguments.
	[/P /P=]<port no.>	Number of TCP/IP port to be used by remote clients to connect to the server. The default is 1060.
	[/M |/M=] <mailbox number>	Linter's mail box number. If not defined, the value will be taken from the environment variable LINTERMBX. If LINTERMBX is not set, the default is 20561.
	[/D]	Used when launching the daemon from the network program inetd (for automatic daemon launch when first connection is being established). At daemon launch, the key is not defined; it is manually written into the inetd.cnf configuration file. The name or this configuration file will vary somewhat depending on your operating system.

These options are neither compulsory nor case sensitive

Daemon Use

The daemon works automatically.

Client Daemon

Launching the Daemon

To launch the daemon type the following command:

```
dbc_tcp <options>
```

The optional arguments are:

Command	Options and Arguments	Purpose of Option
Dbc_tcp	[H | /?]	Display help for daemon arguments.
	[/S |/S=]<server>	Default server name. If this option is not used, the default server is the first correct protocol server defined in the nodetab file
	[/N | /N=]<nodetab>	Name of nodetab file. If this option is not used, the daemon first looks for the f ile in the daemon directory, then in the current directory, and last in the directories defined by the environment variable PATH.

These arguments are neither compulsory nor case sensitive.

Daemon Use

The daemon works automatically. During execution, the daemon uses information provided by the nodetab file to determine the address of the server The nodetab file structure is shown in the following table. It is created manually using any conventional text editor.

Linter Server	Protocol	Network Address	Port Number	Timeout
SQL1	IPX/SPX	0101abc0000000000001	18505	
ALEX	TCPIP	barney		1
VMS	DECNet	VMS47		
LN3	IPX/SPX	00000011000000000001		
MMM	TCPIP	10.10.10.10	1064	

The columns in the nodetab file have the following significance:

Linter Server Logical server name as used in applications.

Protocol Network protocol. TCP/IP, IPX/SPX, and DECNet are supported.

Network Address Address of the Linter server in terms of the server protocol. A description of how to define the address under different environments is set out below.

Port Number The default port numbers are:

Protocol	Connection	Default	in Hex
TCP/IP	Port	1060	(0x424)
SPX	Socket	18504	(0x4848)
DECNet	Object	150	

Changing the port number is usually necessary if there are system conflicts or if two Linter-servers are installed in one operating environment.

Timeout Time, in minutes, after which the client daemon will be checking open network channels and, if not open, closing all Linter channels. Not required.

To set the Network Address parameter:

TCP/IP May use either the IP address, e.g., 100.101.102.103, or the DNS name, e.g., mycomp.myorg.mydomain.

IPX/SPX 20 digit address. Usually, the first 8 digits are the network number. The last 12 digits are the network adapter address. For a single-tiered network or when client and server are on the same network, the first 8 digits are zeroes.

Notes on IPX/SPX:

1 The network address will be known by the network administrator. The adapter address can be found with the adapter configuration utility.

Both addresses are expressed in hexadecimal and, if necessary, are padded with zeroes on the left.

```
Example:
network number:     A1
adapter address:    00AA0062A5C7
complete address:   000000A100AA0062A5C7
```

However, there are variations for NetWare servers, Microsoft, and DECNet.

2 For a NetWare server the address is composed of the IPX internal network number, padded on the left with zeroes to a length of 8 characters plus 12 characters consisting of 11 zeroes with a 1 at the end.

```
Example:
network number:     ABC
complete address:   00000ABC000000000001
```

3 For Microsoft Windows database servers, the IPX internal network number can be found through the control panel.

```
Win95/98   Control panel > Networks > Configuration > IPX/SPX
           compatible protocol > Properties > Advanced >
           Network address
```

WinNT	Control panel > Networks > NWLink > IPX/SPX compatible transport > Configure > Internal Network Number

4 For DECNet, the IPX internal network number is the name of the DECNet node or address, e.g., 1.1.

5 To receive more detailed information about TCP/IP ports from the netstat command in the MSVS operating system, the following line should be entered in the /etc/services file

```
1060  tcpip Linter.
```