

Configuring the Natural Development Server CICS Adapter

This document describes how to configure the CICS connection for a Natural Development Server (NDV) running on OS/390 or under SMARTS on VSE/ESA.

The following topics are covered:

- Configuration File
 - Configuration of the NDV CICS Adapter
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Configuration File

After the installation of the NDV CICS Adapter is complete, the configuration of the NDV CICS Adapter has to be done in the development server configuration file of the corresponding development server.

To enable the CICS Adapter, you have to specify the remote front-end module in the NDV configuration parameter `FRONTEND_NAME` (`FRONTEND_NAME=NATCSRFE`).

Configuration Parameters

The following CICS-relevant configuration parameters exist:

`RFE_CICS_TA_NAME` | `RFE_CICS_FE_NAME` | `RFE_CICS_TA_HOST` | `RFE_CICS_TA_PORT` |
`RFE_CICS_TA_INIT_TOUT` | `RFE_CICS_KEEP_TA` | `RFE_CICS_TRACE`

RFE_CICS_TA_NAME

This configuration parameter specifies the CICS transaction to be used for starting the remote front-end in CICS. This transaction must be defined in CICS and must refer to the program `NATCNRFE`. See also *Installing the NDV CICS Adapter*.

Default Value none

Example `RFE_CICS_TA_NAME = NRFE`

RFE_CICS_FE_NAME

This configuration parameter specifies the Natural CICS nucleus you have installed with the Natural Version 4.1 installation under CICS. This program must be defined in CICS.

Default Value none

Example `RFE_CICS_FE_NAME = NCI41NUC`

See also the *Natural Installation Guide for Mainframes*, *Installing the Natural CICS Interface*, *Customize CICS*.

RFE_CICS_TA_HOST

This configuration parameter specifies the TCP/IP address of the host the desired CICS is running. This parameter can be omitted if the development server and CICS are running on the same TCP/IP node.

Default Value The host address of the development server.

Example RFE_CICS_TA_HOST = node1 or RFE_CICS_TA_HOST = 157.189.160.55

RFE_CICS_TA_PORT

This configuration parameter specifies the TCP/IP port of the CICS supplied listener.

You can acquire this port number using the CICS supplied transaction EZAC. The CICS command EZAC DISPLAY LISTENER shows the definitions of the CICS standard listener.

Note:

This port number is not used in Natural Studio to map to a remote development server. This port number (and the RFE_CICS_TA_HOST definition) is used internally by the development server to communicate with the CICS region.

Default Value none

Example RFE_CICS_TA_PORT = 3010

RFE_CICS_TA_INIT_TOUT

If Natural Studio sends a request to a development server that is configured to use the CICS remote front-end, the remote front-end launches a CICS transaction (NRFE) for processing the request. The CICS transaction in turn listens to the TCP/IP to receive the data from the development server required processing the request.

This configuration parameter specifies the timeout value (in seconds) a launched transaction waits until the expected request data arrives from the development server. If this timeout expires, the request aborts with a NAT9940 error.

Default Value 5

Example RFE_CICS_TA_INIT_TOUT = 20

Note: Do not define a value below 5.

RFE_CICS_KEEP_TA

For each request sent by the Natural Studio, NDV opens a TCP/IP connection to the CICS region and launches a CICS transaction (NRFE) for processing the request. With RFE_CICS_KEEP_TA=YES, the CICS transaction remains active for processing further requests of the same client. This saves the overhead for creating the TCP/IP connection and transaction initialization for successive requests, but consumes more resources within the CICS region due to waiting transactions.

The transaction wait time (for successive requests) is limited by RFE_CICS_TA_INIT_TOUT. That is, if the time slice between two successive requests exceeds the time specified by RFE_CICS_TA_INIT_TOUT, the CICS transaction and the TCP/IP connection is terminated independent of the RFE_CICS_KEEP_TA definition.

RFE_CICS_TA_INIT_TOUT=5 is a reasonable value to reuse transactions for multiple requests initiated by a single action in Natural Studio and to save CICS resources if Natural Studio waits for the next action of the user.

Default Value None

Example RFE_CICS_KEEP_TA = YES

RFE_CICS_TRACE

This configuration parameter specifies the trace level for the remote front-end.

The trace level is similar to the trace implemented for the development server. It is a bit-string where each bit is responsible for a certain trace information:

Bit 31	Trace main events (transaction initialization/termination, request processing).
Bit 30	Detailed functions.
Bit 29	Dump internal storage areas.
Bit 27	Dump buffer header exchanged between development server and CICS.
Bit 26	Dump entire buffer exchanged between development server and CICS.
Bit 25	Dump the NDV relevant buffer only (Remote Gateway buffer).
Bit 23	Trace error situations only.
Bit 07	Activate trace in the development server region.
Bit 06	Activate trace in the CICS region.
Bit 00	Reserved for trace-level extension.

The trace destination is the data set defined for STDOUT.

Default Value 0

Example RFE_CICS_TRACE = 0x02000011 Dump main events and buffer header in the CICS region (Bits 31 + 27 + 07)..

The following is a sample development server configuration file using the NDV CICS Adapter:

```
# the development server parameter
SESSION_PARAMETER= PROFILE=(NDV,10,930)
FRONTEND_NAME = NATCSRFE           # use the CICS Adapter front-end
PORT_NUMBER=4711                   # the port number used by Natural Studio

# the CICS Adapter parameter
RFE_CICS_TA_NAME = NRFE            # the CICS transaction for remote front-end
RFE_CICS_TA_PORT = 3010           # the port of the CICS listener
                                   # no RFE_CICS_TA_HOST is defined. This requires
                                   # that CICS runs on the same node as the
                                   # development server
RFE_CICS_FE_NAME = NCI41NUC        # the name of the installed Natural CICS nucleus
RFE_CICS_TA_INIT_TOUT = 20         # transaction timeout is 20 seconds
```

Note:

The development server parameters `THREAD_NUMBER` and `THREAD_SIZE` are obsolete when the NDV CICS Adapter is used.