

Asynchronous Natural Processing under CICS

This chapter contains special considerations that apply when you are using asynchronous Natural under CICS.

The following topics are covered:

- Asynchronous Natural Processing
 - Asynchronous Natural Sessions under CICS
 - Testing and Debugging
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Asynchronous Natural Processing

Asynchronous Natural processing is generally discussed in the section *Asynchronous Processing* in the *Operations* documentation; however, some additional considerations apply when running under CICS. These are described in the following sections.

Asynchronous Natural Sessions under CICS

Make sure that appropriate `SENDER` and `OUTDEST` destinations are specified for an asynchronous Natural session; otherwise, any output (for example, unexpected error messages) will lead to an abnormal termination.

Also, make sure that a suitable message switching transaction ID (`MSGTRAN`) is specified in the Natural parameter module `NATPARM` and defined in CICS.

In addition to CICS terminal IDs and transient data destinations for `SENDER` and `OUTDEST`, the following keywords are supported by the Natural CICS interface:

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|---------|--|
| DUMMY | Any output is ignored. |
| CONSOLE | Any output is routed to the operator console. Internally the terminal ID defined via the <code>CONSOLE</code> parameter of the <code>NCMPRM</code> macro is used. When dealing with the console, the terminal type should be switched accordingly, using the profile parameter <code>TTYTYPE</code> or the terminal command <code>%T=</code> set to <code>ASYL</code> or other. |

By default, the 3270 data stream protocol is used for output of an asynchronous Natural session under CICS.

It is also possible to send Natural output data without any 3270 terminal or printer control information to, for example, a CICS message destination such as `CSSL`. This can be accomplished by switching into line mode using a `SET CONTROL 'T='` statement or by starting with profile parameter `TTYTYPE=xxxx`, where `xxxx` is `BTCH` or `ASYL`. All Natural output is then sent line by line, with a leading `ASA` control character when the Natural profile parameter `EJ` is set to `ON`; with `EJ=OFF`, no control character is sent at all.

**Warning:**

When `SET CONTROL 'T=xxxx'` or `SET CONTROL '+'` is used, or when personal-computer support is enabled (profile parameter `PC` set to `ON`), the Natural system variable `*DEVICE` will be modified, which means that it can no longer be used to determine an asynchronous Natural session.

Note that some parameter settings for asynchronous Natural sessions can be forced by setting the `NCMPRM` generation parameter `RCVASYN` to `YES`.

Testing and Debugging

Recent CICS versions offer a transaction `CEDX` which enables tracing of asynchronous tasks in CICS. In earlier CICS versions, this functionality did not exist, that is, such debugging was only possible with terminal-bound tasks.

The Natural CICS Interface offers some assistance in this case: You can test asynchronous Natural sessions by starting that session from a terminal, but either with `ASYN`, as the very first five characters in the dynamic parameter string, or with the profile parameter `TTYPE=xxxx`, where `xxxx` is `ASYN` or `ASYL`. The Natural CICS interface then sets up an asynchronous Natural session.

Please, note that this emulation is only 100 percent in terms of Natural; CICS keeps on treating the task as terminal bound.