Getting Started

Nuclei start "open" to new users on the local image; on a remote image, they start "closed" to new users on the local image. To modify the status of nuclei throughout the sysplex cluster, read the description of the ADACOM SN command in *SN - Set Nucleus Status*.

Note:
ADACOM must be active on the image to use this command.

NUCIDs and DBIDs must have unique values in the range 1 through 65000:

- the range 65001 through 65481 is used by the system to identify operating system images to the network and is therefore restricted;

- Software AG strongly recommends that you used the range 65482 through 65535 to uniquely identify Entire Net-Work nodes. See section *TARGETID - Entire Net-Work Target Identification* in the *Initialization Parameters* documentation.

For one operating system image that has cluster nuclei, an additional network target ID is generated that is equal to the cluster database ID. This operating system image "owns" the cluster database and is marked with an asterisk in cluster statistics displays. If all cluster nuclei on that image terminate, Adabas Cluster Services broadcasts the information and another image with active cluster nuclei acquires ownership of the cluster DBID.

Note:
Users and commands coming from systems that are not members of the parallel sysplex (for example, through TCP/IP, a UNIX or PC system) are routed to the image that "owns" the DBID. In fact, this is also true for users coming from members of the sysplex where no ADACOM or cluster nucleus has initialized the sysplex environment.

The chapter covers the following topics:

- First Cluster Nucleus Starts

- Additional Cluster Nuclei on the Local Image

- Additional Cluster Nuclei on a Remote Image

- Images with Cluster Users But No Nuclei

- Environment Maintenance

- Assigning Users to Nuclei

First Cluster Nucleus Starts

When a nucleus with a nonzero NUCID starts on a z/OS operating system image, it determines whether the image has a sysplex environment active. If not, it sets up the environment:

- it sets an ID table entry (IDTE) to its NUCID in the ID table in CSA space. The NUCID must be unique across all images in the range 1-65000.

- it sets an entry to its NUCID in the nucleus table in ECSA.

- it obtains from Entire Net-Work a global target ID that is equivalent to the sysplex cluster's common DBID (unless that target ID is already active on another image). The DBID must also be unique across all images in the range 1-65000.

- it obtains from Entire Net-Work a target ID for the local image in the range 65001 and 65481.

Additional Cluster Nuclei on the Local Image

If another nucleus for the same sysplex cluster comes up on the local image, the global DBID and local image target IDs are already set. The starting nucleus only acquires an IDTE and a nucleus table entry and sets both to its NUCID.

Additional Cluster Nuclei on a Remote Image

If a nucleus for the same sysplex cluster comes up on another image, it also determines whether the image has a sysplex environment active. If not, it sets up the environment:

- It sets an IDTE to its NUCID. The NUCID must be unique across all images in the range 1-65000.

- It determines that a global target ID equivalent to the sysplex cluster's common DBID has already been assigned.

- It obtains from Entire Net-Work an unused target ID for the local image in the range 65001 and 65481.

This process is the same for all images starting nuclei for the sysplex cluster.

Images with Cluster Users But No Nuclei

On an image that has users accessing a sysplex cluster but no local nuclei, ADACOM must be executed at least once per IPL to set up the proper environment:

- it sets the address of the PLXCB (control block) in the IDTH (header).

- it obtains from Entire Net-Work an unused target ID for the local image in the range 65001 and 65481.

Software AG strongly recommends that you maintain the ADACOM in operation on such an operating system image so that it is available to reset the environment should Entire Net-Work terminate for any reason and restart.

Environment Maintenance

The following statements apply when Entire Net-Work remains active:

- As long as a cluster nucleus is active, its IDTE entry remains active.

- As long as there are nuclei active on any image for a sysplex cluster, the global target ID (equivalent to the cluster database ID) remains active on one of those images.

- As long as an operating system image is active, the local image target ID set for the cluster remains active.

If Entire Net-Work terminates for any reason and restarts, and ADACOM is not active on an operating system image that has users but no cluster nuclei, you must rerun ADACOM on the image to reset the environment. See the section *ADACOM* for more information.

Assigning Users to Nuclei

The SVCCLU assigns new users to local image Adabas cluster nuclei, attempting to balance the number of users assigned to each nucleus based on the current number of users.

If no local nucleus is available, the SVCCLU assigns new users to remote Adabas cluster nuclei that are open for users from this image, attempting to balance first the number of users assigned to each image and then the number of users assigned to each nucleus within the image.

A user routed to a remote nucleus is *not* rerouted when a local nucleus becomes available until the user closes the Adabas session and opens a new one.