

Configuring a NIC Proxy for IMS

To configure the NIC proxy, perform these tasks:

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Configuring Resolution Information for a NIC Proxy

You create a NIC proxy for each subscriber type to be configured. Subscriber types that have different subscriber ID types can use the same NIC proxy.

Before you configure a NIC proxy, you should have a good understanding of:

- NIC resolution
- NIC data types
- How NIC proxies work

See *Configuring the NIC (SRC CLI); Overview of NIC Proxy Configuration*; and .

Use the following configuration statements to configure the NIC proxy:

```
shared ims aracf-rq configuration nic-proxy-configuration name
shared ims aracf-rq configuration nic-proxy-configuration name resolution {
  resolver-name resolver-name ;
  key-type key-type ;
  value-type value-type ;
  expect-multiple-values;
  constraints constraints ;
}
```

To configure resolution information for a NIC proxy:

1. From configuration mode, access the configuration statement that configures the NIC proxy configuration. In this sample procedure, the NIC proxy called *ip* is configured.

```
user@host# edit shared ims aracf-rq configuration nic-proxy-configuration ip
resolution
```

2. Specify the NIC resolver that this NIC proxy uses. This resolver must be the same as one that is configured on the NIC host.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set resolver-name resolver-name
```

3. Specify the NIC data type that the key provides for the NIC resolution.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set key-type key-type
```

To qualify data types, enter a qualifier within parentheses after the data type; for example, to specify username as a qualifier for the key LoginName:

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set key-type LoginName (username)
```

4. Specify the type of value to be returned in the resolution for the application that uses the NIC proxy.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set value-type value-type
```

5. (Optional) If the key can have more than one value, specify that the key can have multiple corresponding values.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set expect-multiple-values
```

6. (Optional. Available at the Advanced editing level.) If the application provides a constraint in the resolution request, specify the data type for the constraint. The constraint represents a condition that must or may be satisfied before the next stage of the resolution process can proceed.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set constraints constraints
```

7. (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip
resolution]
user@host# show
resolver-name /realms/ip/A1;
key-type Ip;
value-type SaeId;
```

Changing the Configuration for the NIC Proxy Cache

You can modify cache properties for the NIC proxy to optimize the resolution performance for your network configuration and system resources. Typically, you can use the default settings for the cache properties. The configuration statements are available at the Advanced editing level.

Use the following configuration statements to change values for the NIC proxy cache:

```
shared ims aracf-rq configuration nic-proxy-configuration name cache {
  cache-size cache-size ;
  cache-cleanup-interval cache-cleanup-interval ;
  cache-entry-age cache-entry-age ;
}
```

To configure the cache for a NIC proxy:

1. From configuration mode, access the configuration statement that specifies the NIC proxy configuration. In this sample procedure, the NIC proxy called ip is configured.

```
user@host# edit shared ims aracf-rq configuration nic-proxy-configuration ip  
cache
```

2. (Optional) Specify the maximum number of keys for which the NIC proxy retains data.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]  
user@host# set cache-size cache-size
```

If you decrease the cache size or disable the cache while the NIC proxy is running, the NIC proxy removes entries in order of descending age until the cache size meets the new limit.

3. Specify the time interval at which the NIC proxy removes expired entries from its cache.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]  
user@host# set cache-cleanup-interval cache-cleanup-interval
```

4. (Optional) Specify how long an entry remains in the cache.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]  
user@host# set cache-entry-age cache-entry-age
```

5. (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]  
  
user@host# show  
cache-size 10000;  
cache-cleanup-interval 15;
```

Configuring a NIC Proxy for NIC Replication

Typically, you configure NIC replication to keep the NIC highly available. You configure NIC host selection to specify the groups of NIC hosts to be contacted to resolve a request, and to define how the NIC proxy handles NIC hosts that the proxy is unable to contact. The configuration statements are available at the Advanced editing level.

Use the following configuration statements to configure NIC host selection for a NIC proxy:

```
shared ims aracf-rq configuration nic-proxy-configuration name nic-host-selection {  
  groups groups ;  
  selection-criteria (roundRobin | randomPick | priorityList);  
}  
shared ims aracf-rq configuration nic-proxy-configuration name nic-host-selection  
  blacklisting {
```

```

try-next-system-on-error;
number-of-retries-before-blacklisting number-of-retries-before-blacklisting ;
blacklist-retry-interval blacklist-retry-interval ;
}

```

To configure a NIC proxy to use NIC replication:

1. From configuration mode, access the configuration statement that specifies the NIC proxy configuration. In this sample procedure, the NIC proxy called `ip` is configured.

```

user@host# edit shared ims aracf-rq configuration nic-proxy-configuration ip
nic-host-selection

```

2. (Optional) Specify the list of groups of NIC hosts that the NIC proxy can contact for resolution requests.

```

[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection]
user@host# set groups groups

```

3. (Optional) If you configure more than one group, specify the selection criteria that the NIC proxy uses to determine which NIC host to contact.

```

[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection]
user@host# set selection-criteria (roundRobin | randomPick | priorityList)

```

where:

- `roundRobin`—NIC proxy selects NIC hosts in a fixed, cyclic order. The NIC proxy always selects the next host in the list.
- `randomPick`—NIC proxy selects NIC hosts randomly from the list.
- `priorityList`—NIC proxy selects NIC hosts according to their assigned priorities in the list. If the host with the highest priority in the list is not available, the NIC proxy tries the host with the next-highest priority, and so on.

Priorities are defined by the order in which you specify the groups. You can change the order of NIC hosts in the list by using the `insert` command.

4. (Optional) Verify your configuration.

```

[edit shared ims aracf-rq configuration nic-proxy-configuration ip
nic-host-selection]
user@host# show
groups ;
selection-criteria round-;

```

5. Access the configuration statement that specifies the NIC proxy configuration for blacklisting—the process of handling nonresponsive NIC hosts.

```

[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection]
user@host# edit blacklisting
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]

```

6. (Optional) Specify whether or not the NIC proxy should contact the next specified NIC host if a NIC host is determined to be unavailable.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]
user@host# set try-next-system-on-error
```

7. (Optional) Change the number of times the NIC proxy tries to communicate with a NIC host before the NIC proxy stops communicating with the NIC host for a period of time. The default is 3.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]
user@host# set number-of-retries-before-blacklisting
number-of-retries-before-blacklisting
```

8. (Optional) Change the interval at which the NIC proxy attempts to connect to an unavailable NIC host. The default is 15 seconds.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]
user@host# set blacklist-retry-interval blacklist-retry-interval
```

9. (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip
nic-host-selection blacklisting]
user@host# show
try-next-system-on-error;
number-of-retries-before-blacklisting 3;
blacklist-retry-interval 15;
```

Configuring NIC Test Data

To test a resolution without NIC, you can configure a NIC proxy stub to take the place of the NIC. The NIC proxy stub comprises a set of explicit mappings of data keys and values in the NIC proxy configuration. When the SRC component configured to use a NIC proxy stub passes a specified key to the NIC proxy stub, the NIC proxy stub returns the corresponding value. When you use a NIC proxy stub, no NIC infrastructure is required.

Use the following configuration statements to configure a NIC proxy stub from the [edit] hierarchy level.

```
shared ims aracf-rq configuration nic-proxy-configuration name test-nic-bindings {
  use-test-bindings;
}
shared ims aracf-rq configuration nic-proxy-configuration name test-nic-bindings
  key-values name {
    value ;
  }
}
```

To use the NIC proxy stub for IMS:

1. In configuration mode, navigate to the NIC proxy configuration and specify the data type of the key you want to map to a value. In this sample procedure, the key `ip` is specified for the NIC proxy called `ip`.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set resolution key-type ip
```

2. Enable a NIC proxy stub for a resolution.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set test-nic-bindings use-test-bindings
```

3. Specify the values of the keys for testing. These statements are available at the Advanced CLI editing level.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set test-nic-bindings key-values name value
```

where:

- *name* —Indicates the NIC data value for the proxy.
- *value* —Specifies a value for the NIC data type.

For example, to set up a login name to IP mapping for login name `jane@virneo.com` to the IP address `192.0.2.30`:

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set test-nic-bindings key-values jane@virneo.com 192.0.2.30
```