

Configuring the SBC for ENUM Queries

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 Related articles:

- [Feature Guide: ENUM Support](#)
- [EMA: Servers - Enum Service](#)
- [CLI: Digit Parameter Handling - CLI](#)

Overview

The SBC sends ENUM queries and receive responses, using the Signaling Interface. The user can configure the Signaling Interface for sending ENUM queries and receive responses, using the packet interface port 988 to 1023. The packets from the Signaling Interface are prioritized over the packets from the Management Interface.

 The default behavior of the SBC is to use the Management Interface for sending ENUM queries and receiving responses. The ports used for this purpose are in the range of 49152 to 65535.

 **Note**
The `addressContext` and `ipInterfaceGroup` parameters are available when the `type` is set to `ip`. The `ip` interface uses ports 988 to 1023 to send and receive the ENUM queries.

The `addressContext`, `zone`, `sipSigPort`, and `ipInterfaceGroupName` parameters are available when the `type` is set to `signalingIp`.

Configure the `servers lwresdProfile` type with the following options for ENUM queries:

- `mgmt`: For management interface (default).
- `ip`: For packet interface.

- `signalingIp`: For signaling interface using `sipSigPort` IP address.



Note

IPv4 and IPv6 IP addresses can be configured for ENUM queries.

The `addressContext` adds the `staticRoute` parameter for the ENUM server. Static routes are configured between the ENUM server and the signaling interface in order to provide a gateway to the destination ENUM server.

The SBC uses the Management Interface as default for handling ENUM queries. There are two ways to handle ENUM queries:

- [Handling the ENUM Queries Using the Pkt Interface](#)
- [Handling the ENUM Queries Using the Management Interface](#)
- [Handling the ENUM Queries Using the Signaling Interface](#)

Handling the ENUM Queries Using the Pkt Interface

To configure the SBC for sending the ENUM queries and receive responses using the Pkt Interface, perform the following steps:

1. Checking Static Routes Currently Configured for an ENUM Server [optional]

```
% show addressContext default staticRoute
```

Sample Output for IPV4

```
staticRoute 10.54.78.21 32 10.54.24.1 LIG001 LIF1_v4 {
  preference 100;
}
```

Sample Output for IPV6

```
staticRoute fd00:10:6b50:44e0::15 60 fd00:10:6b50:4180::1 LIG001 LIF1_v4 {
  preference 100;
}
```

2. Adding a Static Route for an ENUM Server



Note:

It is not necessary to add a Static Route for an ENUM server, if it is already configured and shown in the output of the command "`show addressContext <addressContext_Name> staticRoute`".

For example, if the ENUM server IP 10.128.254.116 is already added as a static route, then the output of the "`show addressContext default staticRoute`" command displays the following information:

```
staticRoute 10.128.254.116 32 10.54.4.1 LIG001 LIF1_v4 {
  preference 120;
}
```

For IPV4

```
% set addressContext default staticRoute 10.128.254.116 32 10.54.4.1 LIG001 LIF1_v4
preference 120
commit
```

For IPV6

```
% set addressContext DEFAULT staticRoute fd00:10:6b50:44e0::15 60 fd00:10:6b50:4180::1 LIG001
LIF1_v4 preference 177
commit
```

3. Configuring ENUM Domain Name

```
set global servers enumDomainName somevaliddomain.com forwardersData 0 eDNSType yes
commit
```

```
set global servers enumDomainName somevaliddomain.com forwardersData 0 eDNSBufferSize 517
commit
```

4. Setting lwresdProfile to ip

```
% set global servers lwresdProfile DEFAULT type ip addressContext default ipInterfaceGroup
LIG001
commit
```

The following is an example of how to set the eDnsGlobalBufferSize parameter.

```
set global servers lwresdProfile DEFAULT eDnsGlobalBufferSize 524
commit
```

The following is an example of how to set the eDnsMonitorInterval parameter.

```
set global servers lwresdProfile DEFAULT eDnsMonitorInterval 66
commit
```

5. Viewing the lwresdProfile [optional]

```
% show global servers lwresdProfile DEFAULT
```

Sample Output

```
description DEFAULT;
enumDomainNameLabel DEFAULT_ZONE_LABEL;
enableLwresdLog disable;
type mgmt;
eDnsGlobalBufferSize 524;
eDnsMonitorInterval 66;
```



Note:

The parameters `addressContext` and `ipInterfaceGroup` appears in the results of the command "show global servers lwresdProfile DEFAULT", only if the parameter `lwresdProfile type` is set to `ip`.

6. Adding an ACL Rule

For IPV4

```
% set addressContext default ipAccessControlList rule DNS1 precedence 9 ipInterfaceGroup LIG2
ipInterface LIF2_v4 sourceIpAddress 10.128.254.1 sourceAddressPrefixLength 24 state enabled
commit
```

For IPV6

```
% set addressContext DEFAULT ipAccessControlList rule DNS1 precedence 11 ipInterfaceGroup
LIG001 ipInterface LIF1_v4 sourceIpAddress fd00:10:6b50:4020::99 sourceAddressPrefixLength 60
state enabled
commit
```

Handling the ENUM Queries Using the Management Interface

To configure the SBC for sending the ENUM queries and receive responses using the Management Interface, perform the following steps:

1. Deleting the Existing Static Routes for an ENUM Server



Note:

The SBC selects the interface based on priority of the static route configured for interface. To enable the Management Interface for handling ENUM queries, delete static routes configured for the ENUM server.

For IPV4

```
% delete addressContext default staticRoute 10.128.254.116 32 10.54.4.1 LIG001 LIF1_v4
commit
```

For IPV6

```
% delete addressContext default staticRoute fd00:10:6b50:44e0::15 60 fd00:10:6b50:4180::1
LIG001 LIF1_v4
commit
```

2. Configuring ENUM Domain Name

```
set global servers enumDomainName somevaliddomain.com forwardersData 0 eDNSType yes
commit
```

```
set global servers enumDomainName somevaliddomain.com forwardersData 0 eDNSBufferSize 517
commit
```

3. Setting lwresdProfile to mgmt

```
% set global servers lwresdProfile DEFAULT type mgmt
commit
```

The following is an example of how to set the eDnsGlobalBufferSize parameter.

```
set global servers lwresdProfile DEFAULT eDnsGlobalBufferSize 524
commit
```

The following is an example of how to set the eDnsMonitorInterval parameter.

```
set global servers lwresdProfile DEFAULT eDnsMonitorInterval 66
commit
```

4. Viewing the Settings of lwresdProfile [optional]

```
% show global servers lwresdProfile DEFAULT
```

Sample output:

```
description          DEFAULT;
ENUMDomainNameLabel  DEFAULT_ZONE_LABEL;
enableLwresdLog      disable;
type                 mgmt;
```

5. Adding an ACL Rule

For IPV4

```
% set addressContext default ipAccessControlList rule DNS1 precedence 9 sourceIpAddress
10.54.92.180 sourceAddressPrefixLength 24 state enabled
commit
```

For IPV6

```
% set addressContext DEFAULT ipAccessControlList rule DNS1 precedence 11 sourceIpAddress
fd00:10:6b50:4020::99 sourceAddressPrefixLength 60 state enabled
commit
```

Handling the ENUM Queries Using the Signaling Interface

To configure the SBC for sending the ENUM queries and receive responses using the Signaling Interface, perform the following steps:

1. Checking Static Routes Currently Configured for an ENUM Server [optional]

The following is an example of how to view the `staticRoute` for the ENUM server.

Example

```
show addressContext DEFAULT staticRoute
staticRoute 10.54.78.21 32 10.54.24.1 LIG1 LIF1_v4 {
preference 100;
}
```

2. Adding a Static Route for an ENUM Server

The following is an example of how to add a `staticRoute` for the ENUM server.

Example

```
set addressContext DEFAULT staticRoute 10.128.254.116 32 10.54.4.1 LIG1 LIF1_v4 preference
120
```

3. Configuring ENUM Domain Name

```
set global servers enumDomainName somevaliddomain.com forwardersData 0 eDNSType yes
commit
```

```
set global servers enumDomainName somevaliddomain.com forwardersData 0 eDNSBufferSize 517
commit
```

4. Setting `lwresdProfile` to `signalingIp` Parameter

The following is an example of how to set and configure the `signalingIp` parameter.

```
set global servers lwresdProfile DEFAULT type signalingIp addressContext ADDR_CONTEXT_1 zone
ZONE_IAD sipSigPort 1 ipInterfaceGroup LIG1
```

The following is an example of how to set the `eDnsGlobalBufferSize` parameter.

```
set global servers lwresdProfile DEFAULT eDnsGlobalBufferSize 524
commit
```

The following is an example of how to set the `eDnsMonitorInterval` parameter.

```
set global servers lwresdProfile DEFAULT eDnsMonitorInterval 66
commit
```

ENUM ARS Profile

The Address Reachability Service (ARS) profile applies to ENUM servers when attached to the LWRESD profile, and provides device failover to the secondary or backup server. The `servers lwresdProfile` configuration adds the `enumArsProfileId` parameter.

The ENUM ARS profile is applicable to the following interfaces to handle the ENUM queries:

- `mgmt`: For management interface (default).
- `ip`: For packet interface.
- `signalingIp`: For signaling interface using `sipSigPort` IP address.

Configure the `enumArsProfileId` in the `enumArsProfile` parameter, which is added to the `global servers` configuration and determines the behavior of the `blacklisting` and `whitelisting` parameters.

To check if an ENUM server is reachable or not, you must whitelist or blacklist the ENUM ARS Profile.

The following is an example of how to attach the `enumArsProfileId` to the `lwresdProfile`.

Example

```
set global servers lwresdProfile DEFAULT enumArsProfileId Test
```

The following is an example of how to configure the `enumArsProfile` for black listing.

Example

```
set global servers enumArsProfile Test blackListing numberOfFailures 5 duration 60
```

The following is an example of how to configure the `enumArsProfile` for white listing.

Example

```
set global servers enumArsProfile Test whiteListing numberOfResponses 1 pingInterval 5
highWaterMarkTimer 86000
```

