

Configuring ISN dialing

Introduction

ISN (ITAD Subscriber Numbers) is a new way to route SIP calls over IP bypassing the PSTN. The [ISN dialing](#) system enables SIP calls to be made between organizations without requiring users to enter full URIs, which often contain non-numeric characters and so are hard to enter on phones with traditional dialpads. Each participating organization is [assigned](#) a suffix number called an [ITAD](#). An ISN is formed by following the destination extension number with an asterisk and the ITAD of the destination organization. Hence

```
613*262
```

routes to extension 613 (echo test) in the organization with ITAD 262 (Free World Dialup).

An excellent explanation of how ISN works is provided by the [ISN Cookbook](#).

Enabling ISN Dialing (sipXecs release 3.7 and newer)

Native support for ISN signaling has been added to sipXecs as a [redirector](#) plugin. The ISN signaling capability can easily be enabled using the sipXecs Configuration Server by selecting the respective check box (go to the Registrar service under System / Servers).

Enabling Incoming ISN Dialing

In order for ISN users to call into your organization, no changes to the sipXecs configuration are needed. But incoming ISN requires that you [obtain an ITAD for your organization](#) and [place the appropriate record in DNS](#). An ITAD number is free of charge.

Enabling Outgoing ISN Dialing

Outgoing ISN dialing is enabled using the sipXecs configuration interface. Go to *System / Servers* and then *select the Registrar service* and select the ISN checkbox. Optionally a prefix can be selected that needs to be dialed but will be stripped before the ISN lookup takes place.

The screenshot shows the sipXecs configuration interface for the SIP Registrar service. The 'ISN Dialing' section is active, with the 'ISN dialing' checkbox checked. Below this, there is a detailed explanation of ISN dialing. The 'ENUM Dialing' section is also visible, with fields for 'Base domain', 'Drop prefix', and 'Add prefix'. The 'Call Pickup' section includes fields for 'Directed call pickup code' (set to *78) and 'Call park retrieve code' (set to *4). The interface includes navigation buttons (OK, Apply, Cancel) and a search bar at the bottom.

The sipXecs ISN redirector plugin performs a native ISN lookup. If you control the DNS server for your domain request that [freenum.org](#) delegates the zone for your subdomain `<your ITAD number>.freenum.org` to you so that you gain full control over ISN mappings.

Note: Confusion will happen if any other dialing rule matches ISN numbers. For instance, if the call pickup prefix is

```
78*
```

, then the dial string

```
78*123
```

will appear to be both an ISN dial string and the code for call pickup on extension 123. This problem can be avoided if all dialing prefixes which contain only digits and an asterisk place the asterisk first (which is what dialplans usually do).

```
*78
```

is OK, but

```
7*8
```

and

```
78*
```

are not.

Troubleshooting

You can test outgoing ISN dialing with the public loopback test numbers

```
613*262
```

and

```
2425*259
```

Of course, your sipXecs needs to be configured to route to external SIP URIs correctly.

You can do a NAPTR lookup with the following command:

```
dig NAPTR 1.1.1.262.freenum.org
```

This will provide lookup information for the FWD domain. Substitute 262 with your ITAD number.