

# INX Services

INX-ZA operates several services for public benefit. These are listed below, and a short write-up of how to use each of these, is listed in the corresponding page alongside. The INXes are a logical place to provide centralised, non-profit services that benefit the entire peering community, so should have need for a particular service, or, have an idea that you think will benefit the community, please feel free to contact us via [outreach at inx.net.za](mailto:outreach@inx.net.za)

## Domain Name Services (DNS)

A number of important DNS services are hosted at JINX, CINX & DINX. As well as ZACR, the operator of the CO.ZA, .ORG.ZA, & .NET.ZA second-level domains, INX-ZA provides services to several international service providers who offer DNS services, including, [Community DNS](#), [Internet Systems Consortium](#), [Netnod](#), [Packet Clearing House](#), and the [RIPE-NCC](#), many of whom have been in operation in South Africa for more than a decade.

Through these partners, INX participants have access to a wide variety of domain name services, including:

- An instance of the domains operated by [ZACR](#) (eg. co.za)
- An anycast instance of the I-Root server together with ccTLDs and gTLDs (operated by [Netnod](#)).
- An anycast instance of the F-Root server (operated by [ISC](#)).
- An anycast instance of the E-Root server (operated by [NASA](#)).
- An anycast instance of the D-Root server (operated by University of Maryland).
- An anycast instance of the K-Root server (operated by the [RIPE-NCC](#)).
- Instances of DNS services provided by [CommunityDNS](#).
- Instances of DNS services provided by [Afilias](#).
- Secure DNS cache services provided by [Quad9](#).
- Instances of 400+ TLDs (operated by [Packet Clearing House](#)).



In order to benefit from the domain name services offered by these partners, INX participants are encouraged to establish peering sessions with each of the DNS providers (in addition to sessions you might have with the [BGP Route Servers](#)). Contact details, and more information about each network is available via the INX-ZA member portal.

## INX Portal

An integrated INX portal is available at <https://portal.inx.net.za>. This is a single stop for peers to get information about their statistics, see a report on their advertised prefixes, request peering with other peers, and more. Most features on the INX portal is only available to registered INX peers.

## BGP Route collector

We operate a BGP Route Collector at each INX, which can be queried via the unified looking glass service available at <https://lg.inx.net.za>

## BGP Route Server

[BGP Route Server services](#) are available at each INX to help facilitate multilateral peering. Please send mail to our [Operations team](#) to enable these.



### Bi-lateral peering is considered best practice !

It is **strongly recommended** that, in addition to any sessions you plan to establish with the BGP Route Servers, you still maintain direct bi-lateral peering sessions with peers that you feel are important to your network! BGP Route Servers should be used to pickup smaller peers only, and **not** as a replacement for your discrete peering policy!

## Looking Glass

Two independent looking glass services are available at each INX. Historic services, with data from more than a decade ago, is available from [Packet Clearing House](#) and a real-time view is available at [PC H's looking glass service](#). INX-ZA also provides [our own looking glass service](#), available for all three INXes at <https://lg.inx.net.za>

## RouteViews Collector

JINX and CINX also host a [RouteViews collector](#). Participants are encouraged to provide BGP feeds to RouteViews, which in turn will give them yet another independent view of their, and other networks.

- [Domain Name Services \(DNS\)](#)
- [INX Portal](#)
- [BGP Route collector](#)
- [BGP Route Server](#)
- [Looking Glass](#)
- [RouteViews Collector](#)
- [BGP.Tools Route collector](#)
- [Time \(NTP\) Servers](#)
- [Mailing Lists](#)
- [RIPE ATLAS Anchors](#)
- [RPKI Validation Service](#)
- [Data and VOIP Peering](#)
- [vPNI Service](#)
- [Video Conference Service](#)
- [FreeBSD mirror](#)
- [INX Management Network](#)
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## BGP.Tools Route collector

INX also plays host to a BGP.Tools route collector at each of our INXes. You can query these via the integrated Super-Looking-Glass at <https://bgp.tools>.

## AS112 Node

An [AS112 node](#), operated by the INX technical team, is available at each of the INXes. Access to this is automatic, if you are peering with the INX management network at each INX, either bilaterally, or via the BGP route server service. The AS112 also peers directly with the route servers at each INX, so if you are a route-server peer, you will automatically get access to this.

## Time (NTP) Servers

We operate four (8) publicly accessible, geographically diverse, stratum-2 servers, within each of the INX management networks, that are all part of the [pool.ntp.org](https://pool.ntp.org) domain. These are available across both IPv4 and IPv6 (as are all our services). You may access them as part of the pool.ntp.org initiative, or, if you prefer, directly via:

- [ntp1.inx.net.za](#) (JINX)
- [ntp2.inx.net.za](#) (CINX)
- [ntp3.inx.net.za](#) (DINX)
- [ntp4.inx.net.za](#) (JINX)
- [ntp5.inx.net.za](#) (CINX)
- [ntp6.inx.net.za](#) (DINX)
- [ntp7.inx.net.za](#) (NMBINX) - coming soon
- [ntp8.inx.net.za](#) (NMBINX) - coming soon

## Mailing Lists

We operate several mailing lists for the benefit of the peering participants. Mailing list participation is restricted to peers at any of the INXes. Each INX has a separate -announce list for matters pertaining specifically to that locale, and we maintain a general -discuss list for participants from any of the locations to discuss matters of interest to the INXes. The subscription information for each is available via:

- JINX-announce: <http://lists.ispa.org.za/mailman/listinfo/jinx-announce>
- CINX-announce: <http://lists.ispa.org.za/mailman/listinfo/cinx-announce>
- DINX-announce: <http://lists.ispa.org.za/mailman/listinfo/dinx-announce>

The general discuss list is available at [http://inx.net.za/mailman/listinfo/discuss\\_inx.net.za](http://inx.net.za/mailman/listinfo/discuss_inx.net.za)

## RIPE ATLAS Anchors

Each INX node has a [RIPE ATLAS Anchor](#) to perform non-partisan measurements for the network community. We encourage peering participants, and the network community in general to participate in the [RIPE ATLAS](#) project. Additionally, if you are in need of credits to perform experiments using the RIPE ATLAS network, please feel free to contact us.

## RPKI Validation Service

We operate three (3) RPKI validators for public use. These are available at

- [vc1-jnb.inx.net.za](#) (Routinator 3000)
- [vc2-jnb.inx.net.za](#) (GoRTR)
- [vc1-cpt.inx.net.za](#) (Routinator 3000)
- [vc2-cpt.inx.net.za](#) (GoRTR)
- [vc1-dur.inx.net.za](#) (Routinator 3000)

In addition, we operate a separate validators that provide a a secure web interface, as well as an API to help you test your validation. This is available at <https://rpki-validator.inx.net.za> or simply <https://validator.inx.net.za>

Additional information is available on [our RPKI Validation Page](#)

## Data and VOIP Peering

Of course, the reason that you're at the Internet exchange point is to be able to exchange Internet traffic with other networks operators. JINX, Africa's oldest IXP, has been around since 1996, and is led by a completely community run team working for the industry's best interests. We happily welcome all network at any of the locations that we are present at.

In addition to regular Internet traffic, JINX also has a separate network to enable Voice of IP (VoIP) peering between different VoIP operators.

## **vPNI Service**

INX-ZA is pleased to offer INX participants the option of virtual private network interconnects (vPNIs). A vPNI is a fast, secure and affordable means of network connectivity, allowing use of the existing INX port to connect to one or many peers, through software configuration. vPNIs are private, point-to-point Ethernet pseudo-wires presented as a VLAN between participants. In a well run network, peering ports are intentionally kept mostly idle. INX participants have the opportunity to capitalise on this by using the free vPNI service to save both time and money, over having to install new physical cross-connects.

## **Video Conference Service**

We also provide a free-to-use video WebRTC based conference service at <https://meet.inx.net.za>. This is a free service that's available to anyone, at no cost, to promote domestic content.

## **FreeBSD mirror**

The world's best server operating system has a FreeBSD Foundation sponsored mirror available for use at INX. This is geo-DNS located at <ftp.freebsd.org>.

## **INX Management Network**

At each of the INXes, the INX management networks are available to peer with. These are available via the BGP route servers, or, via bilateral means. In addition to giving you quick and easy access to content and core services that the INX provides, there are several useful network facilities available via this peer. We also plan to make additional services available, so watch this space for additional details!