

IP Resources Management

Introduction

AFRINIC is the Regional Internet Registry (RIR) for Africa and the Indian Ocean and ensures fair management and distribution of Internet number resources in the African region.

AFRINIC's inventory spans three types of Internet number resources:

Resource Type	Ranges	
IPv4	41/8, 102/8, 105/8, 196/8, 197/8, and other fragments	
IPv6	2001:4200::/23, 2c0e::/12	
ASN	AS33762–AS33791; AS36864–AS37887; AS327680–AS328703; AS328704–AS329727; AS329728–AS330751; various other ASNs	

WHOIS

AFRINIC maintains a WHOIS database which holds information about the resources issued to its resource members, as well as organisations in its service region that received resources before the RIR system was established (commonly known as legacy resource holders).

The database can be queried using a command-line client (e.g. under Unix/Linux), as well as a web-based WHOIS client.

Frequently Asked Questions

How does AFRINIC handle resource requests?

AFRINIC evaluates resource requests against the guidelines set out in the ratified policies in the Consolidated Policy Manual.

Once a request is approved, IPv4 resources are temporarily marked as reserved (IPv6 prefixes and ASNs are not reserved this way), and the member is invoiced the corresponding allocation/assignment fee based on the published fee table.

New members are also billed a pro-rated annual membership fee in addition to any allocation/assignment fees. Invoices are valid for 45 days, for both existing resource members requesting additional resources and prospective members.

Once fees are settled, the resources are issued to the member and registered in the AFRINIC WHOIS database. If fees are not settled, any temporary reservation is released and the resources return to the available pool.

What is the AFRINIC inventory?

The AFRINIC inventory consists of all IPv4, IPv6, and ASN resources described above. Resources in the inventory can be in one of three states:

- Available — ready to be issued to resource members who satisfy the applicable resource policies, as allocations or assignments.
- Allocated/Assigned — registered in the AFRINIC WHOIS database to an organisation, which may be an AFRINIC resource member or an organisation that received IP resources before the RIR system was established.
- Reserved — not available for allocations or assignments.

AFRINIC currently maintains three types of reservation:

Status	Meaning
Policy reservations	Some ratified policies mandate that AFRINIC reserve an IP prefix; the size is set out in the policy text. Relevant CPM references include Sections 11.4 and 5.4.7.1.
Temporary reservations	A prefix matching the size of an approved allocation/assignment is held for 45 days — for both existing and new members — while fees are settled. If the invoice expires unpaid, the reservation returns to the available pool. The resource member is not told the specifics of the reserved prefix, to keep the operational view and the community's view of available resources consistent during the soft-landing period (which runs on a first-in-first-out basis). This also lets AFRINIC avoid approving more than it can actually issue, assuming invoices are paid on time.
Quarantine	Applied when a member defaults on annual membership fees (breaching the Registration Services Agreement) or voluntarily returns resources. AFRINIC's Member Closure Process reclaims the resources and nullifies the RSA; closed organisations can return within 90 days, correct the breach, and recover the resources. Quarantine time is also used to clear the resources from routing tables/registries and check for blacklisting before reissue.
Reservations per business rules (IPv6)	Current business rules reserve a /29 or /44 for each member requesting the minimum IPv6 allocation (/32) or assignment (/48). AFRINIC makes the appropriate reservation and issues the minimum prefix at the time of issuance.

Resource status on the AFRINIC WHOIS database

Resources can carry different status values in the AFRINIC WHOIS database, including reserved statuses tied to certain policies.

IPv4

Status	Meaning
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ALLOCATED PA	Issued by AFRINIC to its LIR resource members. Prefixes are used on the LIR's own infrastructure and for its customers (end-users).
ALLOCATED UNSPECIFIED	Used by AFRINIC as a placeholder on certain records, e.g. 41.0.0.0/8.
SUB-ALLOCATED PA	IP address prefixes sub-allocated by an LIR to its customer (also an ISP), for further distribution to that ISP's customers.
ASSIGNED PA	IP addresses registered as assigned by an LIR to its own infrastructure and customers.
ASSIGNED PI	Issued by AFRINIC to resource members (also called end sites) for use on their own infrastructure.
ASSIGNED ANYCAST	Issued under the Assigned Anycast policy.
POLICY-RESERVED	Reserved by AFRINIC to comply with a ratified policy, e.g. 196.60.0.0/16.

IPv6

Status	Meaning
ALLOCATED-BY-RIR	Issued by AFRINIC to resource members (LIRs) for use on the LIR's infrastructure and their customers (end-users).
ASSIGNED PI	Issued by AFRINIC to resource members (end-users) for use on their own infrastructure.
ASSIGNED ANYCAST	Issued under the Assigned Anycast policy.

ASN

Status	Meaning
ASSIGNED	Issued to both LIR and end-user categories.
ASSIGNED-ANYCAST	Issued under the Assigned Anycast policy.
POLICY-RESERVED	Issued under the Resource Reservation for Internet Exchange Points policy.

How do I determine the different cases of “reserved”?

The extended statistics file does not differentiate between the various reserved cases:

- Policy-reserved resources — registered in the AFRINIC WHOIS database, e.g. 196.49.0.0/16, 196.60.0.0/16.
- Quarantine resources — currently kept only as internal records.
- Temporary reservations — currently kept only as internal records.

What does resource reclamation mean?

De-registration from the AFRINIC WHOIS database, including the resource itself and any related child object — reverse DNS delegation, routing-related objects in the AFRINIC IRR, assignments and sub-allocations, and RPKI/DS records.

What does AFRINIC do with reclaimed resources?

Reclaimed resources are first quarantined for a period and sanitised before being placed in the available pool for re-issuance to AFRINIC resource members.

Sanitisation involves checking for routing objects across various IRR repositories and their mirrors, and working with those IRRs to delete existing but invalid objects. This is a manual, tedious process, and hostmasters sanitise resources in batches. It covers routing information only, not reputation (blacklisting) issues.

Does AFRINIC re-issue reclaimed resources?

This has been done in the past, once resources were cleaned up and the quarantine period had ended. It has not been done in the past three years, as AFRINIC has prioritised giving members clean space from the inventory, since some reclaimed resources were still found to be blacklisted. As AFRINIC nears Phase 2 of the soft-landing policy, members will be given the choice of either accepting cleaned-up (routing-wise) quarantined space — with no guarantee it is off blacklists — or joining the waiting list for clean space in Phase 2.

How do I know what space is quarantined?

Quarantine status is maintained in AFRINIC's internal inventory and is currently visible to AFRINIC hostmasters only. AFRINIC plans to publish this information on its website in due course.

Delegated and Extended Statistics

The Number Resource Organization (NRO) has developed a standardised format for each Regional Internet Registry to report the status of Internet number resources within its region. AFRINIC generates and publishes its extended statistics file daily; it can be found at:

<https://ftp.afrinic.net/stats/afrinic/>

The extended statistics file gives a complete overview of the status of resources managed by AFRINIC — available, reserved, and allocated/assigned — as well as legacy resources in the AFRINIC service region.

The delegated statistics file, by contrast, shows only allocated/assigned resources.

Where can I get a complete overview of what AFRINIC holds in its inventory?

A complete overview of AFRINIC's resource inventory can be obtained from the extended statistics file:

<https://ftp.afrinic.net/pub/stats/afrinic/delegated-afrinic-extended-latest>

Notes: Reclaimed resources are limited to those AFRINIC itself issued to the resource member — this excludes any resources the member may have obtained before the RIR system was established. The quarantine period (QP) is currently set by AFRINIC in the absence of a specific policy; as AFRINIC approaches Phase 2 of the soft-landing policy, the QP will be reviewed in line with AFRINIC's business rules.