Routing Policy and Procedures

- BGP customer communities
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BGP customer communities

Customers wanting to alter local preference on their routes.

NTT Communications BGP customers may choose to affect our local preference on their routes by marking their routes with the following communities:

About Our Company
About Our Network
Policies & Procedures
- Copyright Infringement
- Acceptable Use Policy
- Privacy Policy
- IP Address Public Policy
- RFC 2142 Compliance Information
- Routing Policies
- Routing Registry

Careers

Community	Local-pref	Description
(default)	120	customer
2914:450	96	customer fallback
2914:460	98	peer backup
2914:470	100	peer
2914:480	110	customer backup
2914:490	120	customer default

Customers wanting to alter their route announcements to other customers.

NTT Communications BGP customers may choose to prepend to all other NTT Communications BGP customers with the following communities:

Community	Description
2914:411	prepends o/b to customer 1x
2914:412	prepends o/b to customer 2x
2914:413	prepends o/b to customer 3x

Customers wanting to alter their route announcements to peers.

NTT Communications BGP customers may choose to prepend to all NTT Communications peers with the following communities:

Community	Description
2914:421	prepends o/b to peer 1x
2914:422	prepends o/b to peer 2x
2914:423	prepends o/b to peer 3x
2914:429	do not advertise to any peer

Note: If used, 655xx:nnn (see below) overrides the 2914:42x communities.

Customers wanting to alter their route announcements to selected peers.

NTT Communications BGP customers may choose to prepend to selected tier 1 peers with the following communities, where *nnn* is the tier 1 peer's ASN:

Community	Description
65500:*nnn*	do not announce to tier 1 peer
65501:*nnn*	prepend o/b to tier 1 peer 1x
65502:*nnn*	prepend o/b to tier 1 peer 2x
65503:*nnn*	prepend o/b to tier 1 peer 3x
65510:*nnn*	announce to specific tier 1 peer

Note: 2914 is the ASN prepend in all cases. If used, 655xx:nnn overrides the 2914:42x communities.

Communities marked on routes sent to customers

Community	Description
2914:410	NTT Communications and customer routes
2914:420	Peer routes
North American country origins (2914:20--)	
2914:2000	us
European country origins (2914:22--)	
2914:2201	uk
2914:2202	de
2914:2203	nl
2914:2204	fr
2914:2205	es
Asian country origins (2914:24--)	
2914:2401	jp

2914:2402	au
2914:2403	hk
2914:2404	tw
2914:2405	kr
2914:2406	sg
2914:2407	my

world region origins (2914:3---)

2914:3000	North America
2914:3200	Europe
2914:3400	Asia

BGP IPv4 peer filter policy

The following is the NTT Communications filtering policy with its peers:

Inbound

- NTT Communications accepts only those prefixes of length /24 and shorter from traditional class A, B, and C space.
- NTT Communications uses max-prefix filters at most public exchanges. The max-prefix filter is set to 110% of the greater of the following values:
  - number of prefixes announced in the last 24 hours
  - number of prefixes registered in the routing registries under the peer's as-set if this number is less than 5000.

Outbound

- NTT Communications will accept any properly registered prefix from our customers but will announce only /24 and shorter prefixes to our peers.
- All NTT Communications announcements are registered in one of the routing registries and included under as-set AS2914:AS-GLOBAL.

NTT Communications reserves the right to modify this policy without prior notice.

BGP IPv6 peer filter policy

The Internet community filters IPV6 announcements based on the IPV6 allocations from ARIN. The allocations (and filtering) are necessary in order to minimize routing table expansion. Any customer requiring BGP multi-homing, now or in the future, should apply for Provider Independent (PI) IPv6 space directly from ARIN. ARIN can also allocate /48 critical infrastructure space if justified (eg. root domain operators). Customers with multiple connections to the NTT network may announce longer prefixes along with their ARIN allocation to effectively manage their inbound traffic, but the longer prefixes will not be propagated beyond the AS2914 backbone.

More information regarding ARIN's IPv6 assignment and allocation policies can be found here: http://www.arin.net/policy/nrpm.html#six

The following is the NTT Communications filtering policy with its peers:

Inbound

- NTT Communications accepts /19 through /32, and /35 from 2001::/16 (global unicast allocations)
- NTT Communications accepts 2002::/16 (6to4 prefix)
- NTT Communications accepts /19 through /32 from 2003::/18 (RIPE allocations)
- NTT Communications accepts /13 through /32 from 2400::/12 (APNIC allocations)
- NTT Communications accepts /13 through /32 from 2600::/12 (ARIN allocations)
- NTT Communications accepts /24 through /32 from 2610::/23 (ARIN allocations)
- NTT Communications accepts /40 through /48 from 2620::/23 (ARIN PI allocations)

- NTT Communications accepts /13 through /32 from 2800::/12 (LACNIC allocations)
- NTT Communications accepts /13 through /32 from 2A00::/12 (RIPE allocations)
- NTT Communications accepts /13 through /32 from 2C00::/12 (AfriNIC allocations)
- NTT Communications accepts /40 through /48 from 2001:0DF0::/29 (APNIC PI allocations)
- NTT Communications accepts /40 through /48 from 2001:43F8::/29 (AFRINIC PI allocations)
- Per RFC 3701 NTT Communications no longer accepts /24 from 3ffe::/18, /32 from 3ffe:4000::/18, and /28 from 3ffe:8000::/20 (old 6bone allocations)

Outbound

- NTT Communications will announce /48 and shorter prefixes to our peers.

NTT Communications reserves the right to modify this policy without prior notice.

NTT Communications Global IP Network Routing Registry

The NTT Communications Global IP Network requires all customers using BGP to register each route that will be advertised in either:

a. the NTT Communications Global IP Network routing registry, or
b. one of the Internet routing registries mirrored by in the NTT Communications Global IP Network routing registry

All announced routes must be registered as an exact prefix. This is a safeguard to help protect the NTT Communications Global IP Network (and the rest of the Internet) from accidental announcement of prefixes which do not belong to the ASN, accidental announcement of every /32 within an IPv4 prefix, and similar errors which have caused other ISPs to

have (multi-day) outages/instability. The current list of mirrored registries is:

- altdb
- apnic
- arin
- bell
- gt
- host
- jpirr
- level3
- radb
- rgnet
- ripe
- savvis

NTT Communications Global IP Network customers are welcome to register their routes in the NTT Communications Global IP Network routing registry. Look here for more information on this registry.

Note: Please make sure all of your Route Objects (ROs) are registered under your ASN or AS-SET. In addition, we do not recommend relying on proxy ROs. Just as they are automatically created, they can be automatically deleted.

Route Dampening

The NTT Global IP Network does **not** use route dampening.