



FUNCTIONAL LEARNING DEMO 10G LAG and 100G Ports

Release 2020.3

RUPINDER RANDHAWA, Principal Product Manager, Interconnection

Hello I'm **Rupinder Randhawa**, Principal Product Manager with Equinix. I'd like to go over the Equinix Connect features that support 10 gig link aggregation groups and 100 gig ports. With these features Equinix Connect can better support the growing demand for higher bandwidth Internet access from the data center. Up to 10 ports can be combined into a link aggregation group or 100 gig ports can be selected.

Higher Bandwidth Internet Access

Equinix Connect

Expanding **Equinix Connect** to support the growing demand for higher bandwidth internet access from the data center

- One Global strategy
- Supporting all the same configurations that exists today
- Up to 10 ports of **10G** in a **Link Aggregation Group (LAG)**
- Support for **100G Ports** to be rolled out as required
- Northbound ISP bandwidth upgraded as required



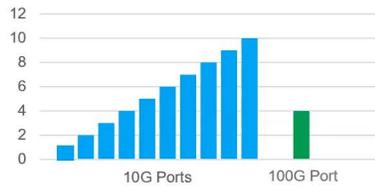
Having the ability to support 10 gig LAG allows for a cost-effective growth and bandwidth needs when going beyond 10 gigs although it's more cost effective to go to 100 gigs if exceeding 4 ports of 10 gig. We understand that customers may not have 100 gig ports available and therefore may want the flexibility to deploy up to 10 ports of 10 gig.

10G LAG for transition towards 100G

Equinix Connect

LAG of 10G and rollout of 100G

- Turning on support of 10G LAG will allow for a cost effective migration towards 100G
- Although its more cost effective to go to 100G if exceeding 4x10G, we understand that customers may not have 100G ports in place yet, therefore we offer the flexibility to deploy up to 10x10G ports
- 100G ports will be rolled out based on customer needs



10 gig LAG is supported on all configurations today such as single home direct static and BGP. It's important to note that multi-chassis LAG is not supported and therefore a link aggregation group cannot go across different IBXs. You also cannot LAG across two different services.

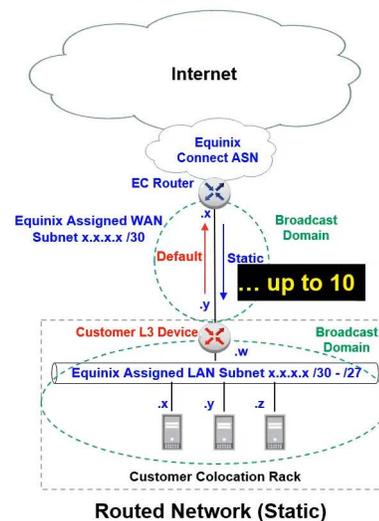
Single-Homed Configurations for 10G LAG

Equinix Connect

Single-homed configurations

- Valid on all configs
 - Single-Homed Direct
 - Single-Homed Static
 - Single-Homed BGP
 - Multi-site Single-Homed (Australia only)
- Cannot LAG across IBXs
- Cannot LAG across different chassis
- Cannot mix LAG across two different services
- If Multi-site encompasses IBX A and IBX B, each can have a LAG of different number of ports, but they cannot combine into a single LAG

Sample configuration



The situation is the same for dual-home configurations as shown here. Please note that the number of primary ports in a LAG must equal the number of secondary ports in a LAG.

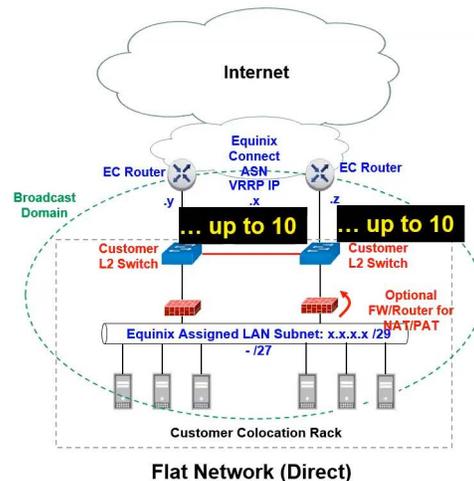
Dual-Homed Configurations for 10G LAG

Equinix Connect

Dual-Homed configurations

- Number of Primary Ports must equal number of Secondary Ports
- Valid on all configs
 - Dual-Homed Direct
 - Dual-Homed Static
 - Dual-Homed VRRP
 - Dual-Homed BGP
- Primary ports cannot be in the same Link Aggregation Group as secondary ports
- Cannot LAG across IBXs
- Cannot LAG across different chassis
- Cannot mix LAG across two different services

Sample configuration



A customer can order a new 10 gig EC Port and combine it into a link aggregation group with an existing 10 gig port even if it wasn't identified as a potential LAG port. A customer can upgrade an existing 10 gig service to 100 gig service unless that 10 gig is the LAG port. In that case a new order is required.

Adding LAG or 100G to Existing Services

Equinix Connect

New 10G port orders can be tagged as follows

- LAG = NO
 - A stand alone port
 - It will still have a unique LAG ID assigned to it and could therefore be part of a future LAG
- LAG = YES
 - A stand alone port, perhaps the first port of a future LAG
- LAG = YES
 - Immediately associated with an existing LAG ID

All existing 10G ports can still be part of a LAG

- LAG = NO by default
 - However, they will all have a unique LAG ID
 - Therefore, existing 10G ports can form a LAG with new ports

Upgrading existing 10G service to 100G service

- If 10G port has LAG as NO, this is possible using the existing MACD approach
- If 10G port has LAG as YES, a new order must be placed for the 100G service



There are no changes to the 10 gig pricing as a result of introducing link aggregation groups. We've added pricing for 100 gig port installations and monthly recurring charges. New minimum bandwidth commit tiers and associated pricing have been introduced to facilitate the traffic between 10 gig and 100 gig even though traffic is shared across ports and a LAG entering values for bandwidth minimum commit and bandwidth burst cap are done per port and therefore must be considered when calculating total traffic.

Pricing

Equinix Connect

10G LAG

- No changes to 10G NRC or MRC pricing as a result of introducing support for LAG
- New tiers above 10,000Mbps for Minimum Bandwidth Commit and Burst Cap have been introduced to support LAG

100G

- 100G NRC and MRC pricing has been introduced
- New tiers above 10,000Mbps for Minimum Bandwidth Commit and Burst Cap have been introduced to support 100G ports

Even though traffic is shared across ports in a LAG, entering values for Bandwidth Minimum Commit and Bandwidth Burst Cap are done **per port and therefore must be considered when calculating total traffic**

- Example: If wanting 3x10G ports in a LAG with a total bandwidth commit of 24G, each port should be set to an 8G bandwidth commit

For per region pricing details, please contact your Sales representative

More information can be found at [doc central](#) and our [readiness pages](#). Thanks for watching.