



FUNCTIONAL LEARNING DEMO CONFIGURING EQUINIX CONNECT PART 3 OF 3

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Hello I'm **Rupinder Randhawa**, Principal Product Manager with Equinix. Welcome to Configuring Equinix Connect Part 3 of 3. In this video we will be covering dual-homed architectures.

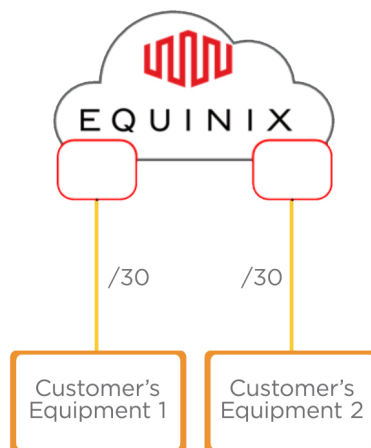
Dual-Homed Direct.

This is offered in AMER only. The customer is using a flat network. Here the customer wants a /30 on each link without having any LAN address. It may go to their Firewall or switch.

Equinix is not responsible for the fail-over mechanism.

Customer gets by default a /30 or /126 free of charge by Equinix.

Dual-Homed Direct





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Dual-Homed Static

For this configuration, Equinix will have a static route from each equipment pointing to the next-hop of the respective link.

It uses the Juniper RPM (real-time performance monitoring) feature to ensure the removal of the static route when the link to the customer is down.

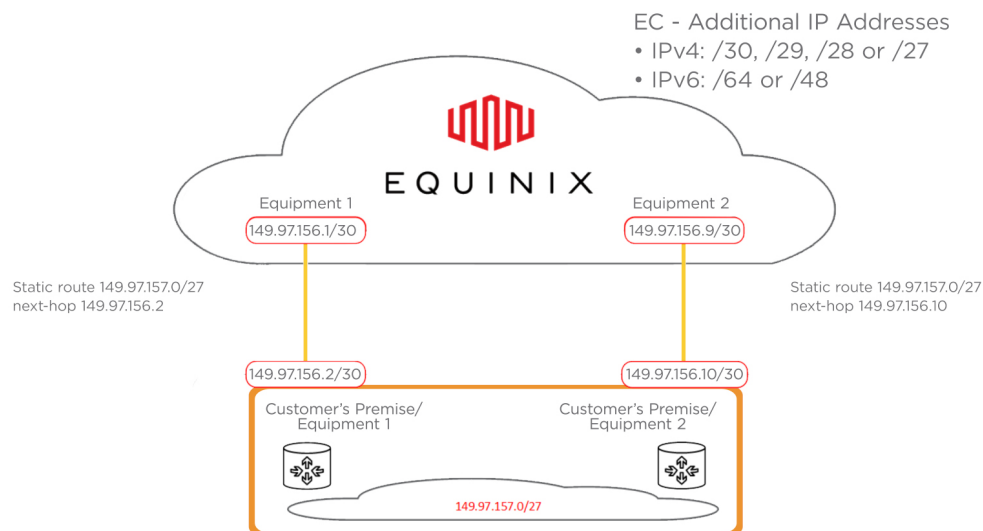
Equinix provides the following IP assignment for provisioning free of charge:

- IPv4: 2 x /30
- IPv6: 2 x /126

The example in the diagram shows a customer with an additional /27 subnet. The customer purchases Additional IP Addresses with the following options:

- IPv4 choices are: /30, /29, /28, or /27
- IPv6 choices are: /64, or /48

Dual-Homed Static



Dual-Homed VRRP Direct – PA L2/L3 (Provider Assigned IP Addresses)

This configuration uses a Flat network, not routed.

Equinix assigns an IPv4 /29 or IPv6 /64 for provisioning.

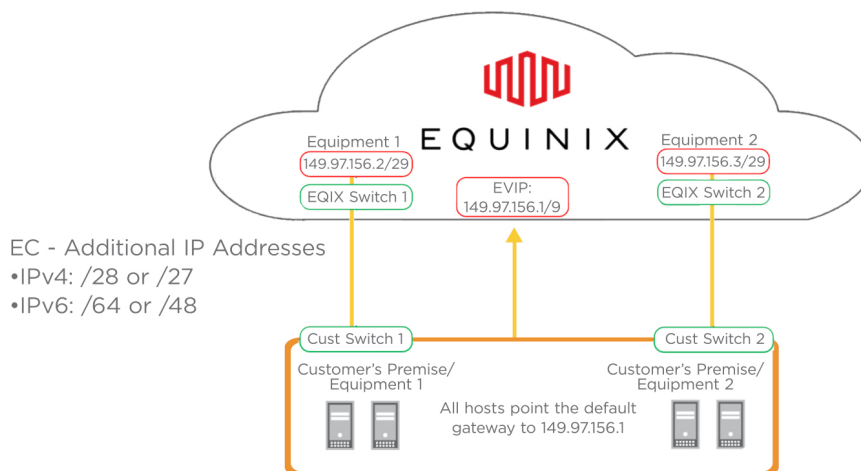
Protection switching is based on what we call a L3 approach where the customer's equipment does the switching based on monitoring the "hello's" or put another way, the customer must provide the multi-access network L2 switching required for VRRP advertisements between the master and slave.

Customer gets /30 or /126 by default free of charge.

If the customer wants to have more IP addresses behind that, they can purchase them from Equinix using the POF "EC Additional IP Addresses".

- IPv4 choices are /28 or /27
- IPv6 choices are /64 or /48

Dual-Homed VRRP Direct – PA L2/L3 (Provider Assigned IP addresses)



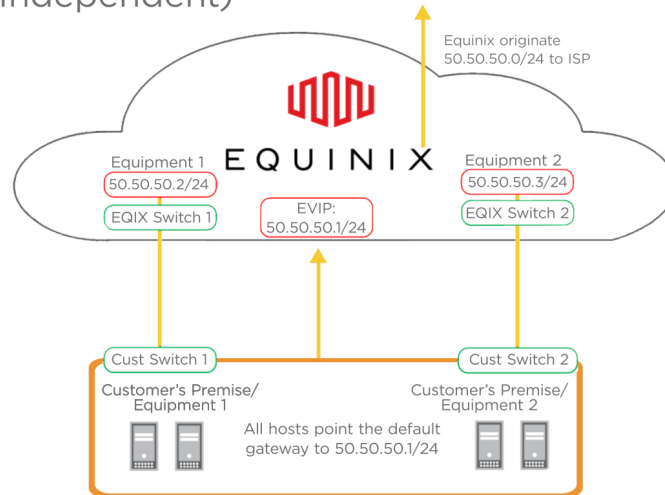
Dual-Homed VRRP Direct – PI L2/L3 (Provider Independent)

This is the same as the previous example, except that the customer wants to use their own subnet and does not want to run BGP. Equinix has to originate the prefix/subnet

Note that the customer's own subnet has to be greater than or equal to a /24.

Protection switching is based on what we call a L3 approach where the customer's equipment does the switching based on monitoring the "hello's" or put another way, the customer must provide the multi-access network L2 switching required for VRRP advertisements between the master and slave.

Dual-Homed VRRP Direct - PI L2/L3 (Provider Independent)



Dual-Homed VRRP Static - PA L2/L3 (Provider Assigned IP Addresses) (Previously Multi-Homed VRRP P2P)

Most common for primary or secondary Internet access.

Here the customer is using a Routed network behind their devices.

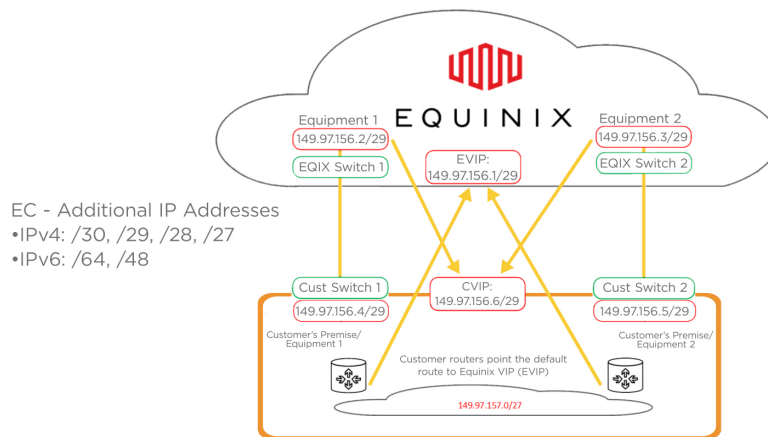
They are provided with an IPv4 /29 or IPv6 /125 for provisioning. In this example the Customer points the default route to the first IP on the /29 P2P subnet.

It shows the customer with a /27 for the routed network. When purchasing the additional IP addresses for that network, they can choose from these options:

- IPv4: /30, /29, /28, /27
- IPv6: /64, /48

Protection switching is based on what we call a L3 approach where the customer's equipment does the switching based on monitoring the "hello's" or put another way, the customer must provide the multi-access network L2 switching required for VRRP advertisements between the master and slave.

Dual-Homed VRRP Static - PA L2/L3 (Provider Assigned IP addresses) (Previously Multi-Homed VRRP P2P)



Dual-Homed VRRP Static - PI L2/L3 (Provider Independent) (Previously Multi-Homed VRRP P2P).

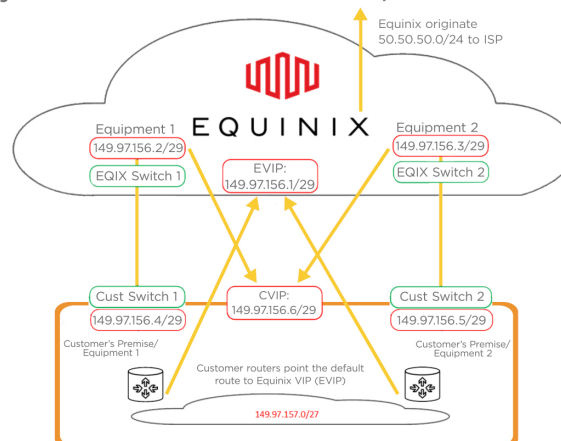
This is similar to the previous example, except here the customer wants to use their own subnet and does not want to run BGP. Equinix originates the prefix/subnet.

Note that the Customer's own subnet has to be greater than or equal to /24

The diagram below is using the customer's /24 for the routed subnet with the P2P assigned free of charge.

Customer gets /29 by default free of charge.

Dual-Homed VRRP Static - PI L2/L3 (Provider Independent) (Previously Multi-Homed VRRP P2P)





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Dual-Homed BGP – PA L2/L3 (Provider Assigned IP Addresses) (Private ASN with PA Space).

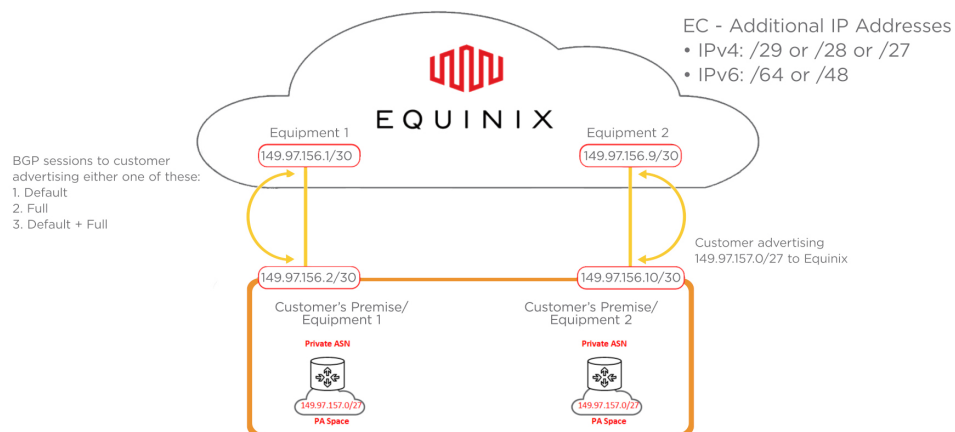
Here the Customer needs the assignment from Equinix for both Private ASN and PA space. Equinix provides two (2x) IPv4 /30 or two (2x) IPv6 /126 for configuration free of charge.

- BGP Policy is used to select:
 1. Default Routes
 2. Full Routes
 3. Default + Full Routes

Getting Additional IP addresses from Equinix becomes mandatory using the POF “EC Additional IP Addresses”. Their choices are

- IPv4 /29, /28 or /27
- IPv6 /64 or /48

Dual-Homed BGP - PA (Provider Assigned IP addresses) (Private ASN with PA space)

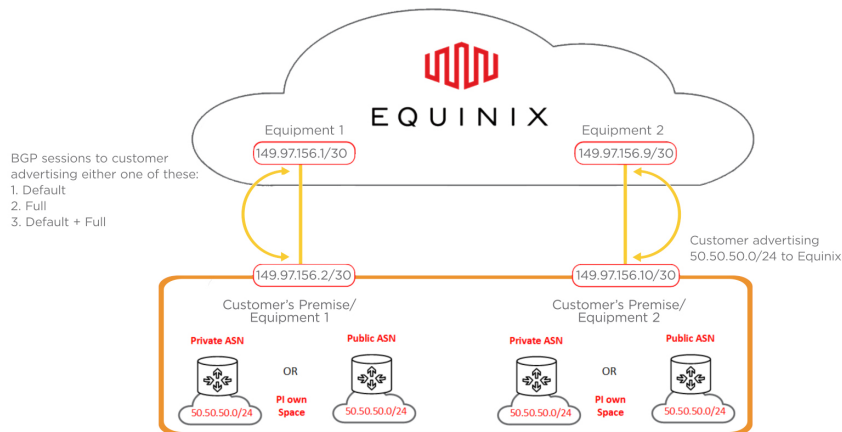


Dual-Homed BGP – PI (Provider Independent) (Public or Private ASN with own PI Space).

This is similar to the previous example, except here the Customer has their own PI space.

- Customer's own subnet has to be greater than or equal to /24
- They either have their own Public ASN or are using a Private ASN assigned by Equinix
- Equinix provides two (2x) IPv4 /30 or two (2x) IPv6 /126 for configuration free of charge
- BGP Policy is used to select:
 1. Default Routes
 2. Full Routes
 3. Default + Full Routes

Dual-Homed BGP - PI (Provider Independent) (Public or Private ASN with own PI space)



Multi-Site Dual-Homed BGP - PA (Provider Assigned IP Addresses) - EMEA Only (Private ASN with PA space).

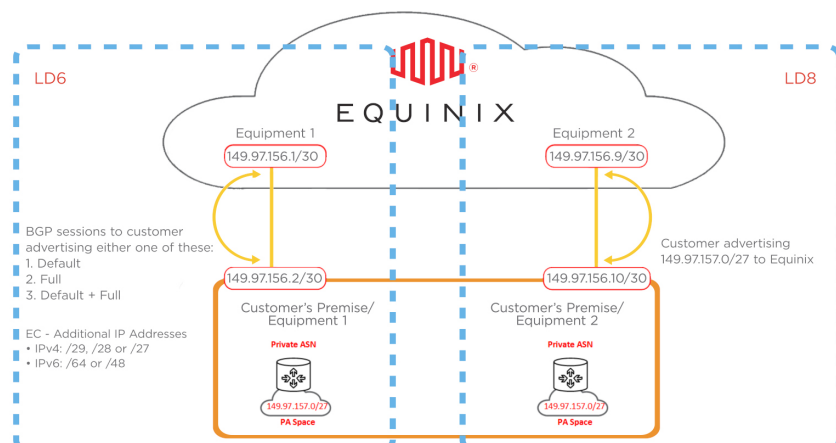
Here the Customer needs the assignment from Equinix for both Private ASN and PA space and the customer takes a Dual-Homed service split across 2 sites Equinix provides two (2x) IPv4 /30 or two (2x) IPv6 /126 for configuration free of charge.

- BGP Policy is used to select:
 1. Default Routes
 2. Full Routes
 3. Default + Full Routes

Getting Additional IP addresses from Equinix becomes mandatory using the POF "EC Additional IP Addresses". Their choices are

- IPv4 /29, /28 or /27
- IPv6 /64 or /48

Multi-Site Dual-Homed BGP - PA (Provider Assigned IP addresses) - EMEA Only (Private ASN with PA space)





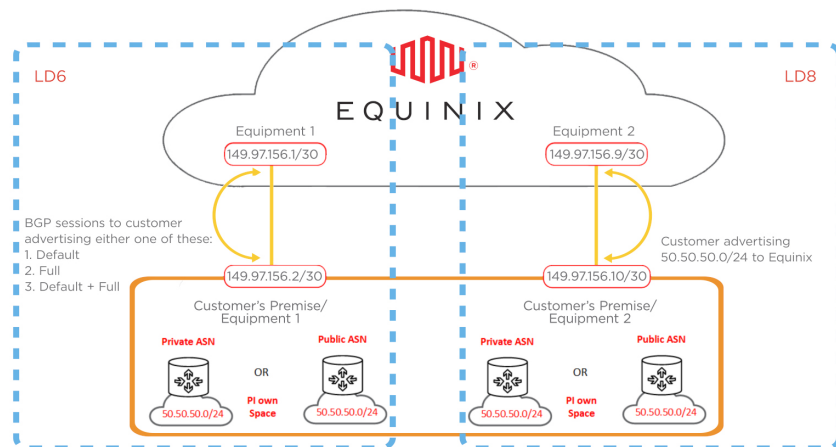
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Multi-Site Dual-Homed BGP - PI (Provider Independent) - EMEA Only (Public or Private ASN with own PI space).

This is similar to the previous example where the customer takes a Dual-Homed service split across 2 sites, except here the Customer has their own PI space.

- Customer's own subnet has to be greater than or equal to /24
- They either have their own Public ASN or are using a Private ASN assigned by Equinix
- Equinix provides two (2x) IPv4 /30 or two (2x) IPv6 /126 for configuration free of charge
- BGP Policy is used to select:
 1. Default Routes
 2. Full Routes
 3. Default + Full Routes

Multi-Site Dual-Homed BGP - PI (Provider Independent) - EMEA Only (Public or Private ASN with own PI space)



For more information on Equinix Connect, please visit docs central at <https://docs.equinix.com/en-us/Content/Interconnection/EC/EC-intro.htm>

Spotlight video on Equinix Connect
<https://www.youtube.com/watch?v=A0s5sw0XuWks>

That completes Configuring Equinix Connect Part 3 of 3.