This is the most basic service that **Internet Exchange Points** provide. Internet Service Providers connect to TREX and sign up for peering so that they can exchange their customers' traffic between each other.

Members can include this button or logo on their websites:

The VLAN can be requested in native form without any encapsulation in a port, or encapsulated with IEEE802.1q. Encapsulation is typically preferred so that it is easy to add other services on the same port.

The Member **Requirements** for the peering service are on a separate page, because they are common to some other services. One of the requirements is to **peer with the exchange point itself**.

⚓ Address Generation

IPv4 addresses are assigned by TREX, but the IPv6 addresses on this VLAN are formed as follows:

```
2001:07F8:001D:0004:0000:0000:ASN\#:RTRN
```

where ASN# This is the **AS** number of the router having this address, in **hexadecimal**. Examples: AS12345 becomes 3039 and AS23456 becomes 5BA0.

RTRN This is the router number, usually 0001, but if the member has more than one router this can be different.

Let's apply this algorithm for the exchange point's own routers. The exchange point's autonomous system number is AS29432 which is 72F8 in hexadecimal. Router number one gets the following address:

```
 2001:07F8:001D:0004:0000:0000:72F8:0001
or in a shorter format:
 2001:7f8:1d:4::72f8:1
```

⌁ 32-bit Autonomous Systems

Generating IPv6 addresses for 32-bit Autonomous System Numbers is very similar. The structure is:

```
 2001:07F8:001D:0004:0000:ASHI:ASLO:RTRN
```

where ASHI This is the upper part or high 16 bits of the **AS** number.

ASLO This is the lower part or low 16 bits of the **AS** number.

⌁ MAC Addresses

At this stage we are not restricting the use of MAC addresses on the shared medium, but we wish that members use the MAC addresses generated by the algorithm that follows. We are using the local OUI 0E-xx-xx on the shared medium:

```
 0E:RN:AS:HI:AS:LO
```

So again, the first exchange point router would become:

```
 0E:01:00:00:72:F8
```