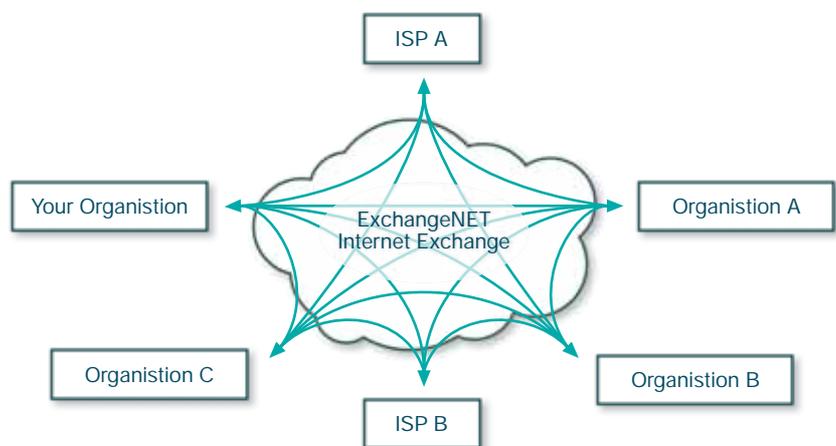# Exchange**NET**

Internet Exchanges (IX) are fundamental building blocks used in the creation of the global internet. They are typically a dedicated room where Internet Service Providers' networks physically connect to one another, allowing their customers to Inter-network.

At CityLink the name ExchangeNET is used to describe the collection of Internet Exchanges we operate in New Zealand. These IXs help create the domestic NZ Internet. ExchangeNET consists of open neutral exchanges meaning they are open to all organisations who meet the criteria (see http://nzix.net). They are also neutral because CityLink's focus is the operation of the IXs and not providing services which compete with ISPs using the exchanges.

Open Internet Exchanges are beneficial for many organisations, in addition to ISPs, because they facilitate the direct networking between generators and consumers of Internet traffic. This helps increase the performance and reliability of file transfers, e-mail, streaming media, virtual private networking, voice over IP, serving web content and web applications.

Features/Benefits:

- **Assisting Peering**
  Peering is the term applied to the 'exchanging' of traffic over an Internet Exchange. As new entities join the exchange and agree to peer one with another, the overhead of setting up and managing 'one to one' relationships within the exchange becomes significant. On CityLink ExchangeNET Exchanges the process of peering is automated via our route refectors so you may only need to setup one set of BGP/4 sessions to achieve near full peering.

- **Flexible Peering Arrangements**
  We encourage ExchangeNET participants to peer 'multi-laterally' - that is with every other participant - as this provides the greatest networking benefits for all. But this is not mandated. Participants are free to establish a private peering arrangement with another participant. This is generally termed 'bi-lateral' peering.

- **Growing Network of Internet Exchanges**
  With the continuing growth of regional broadband networks throughout New Zealand it is important to create open and neutral regional Internet Exchanges as they facilitate a stronger competitive market place for providers of services, applications and access networks. For an up to date listing of ExchangeNET locations see http://nzix.net/

How to Connect to an ExchangeNET IX and Set-Up Peering:

Step 1: Get a connection to an ExchangeNET IX
Obtain a broadband connection from your premises to an ExchangeNET site or co-locate your computer equipment at an ExchangeNET site. CityLink can provide options for either in Wellington and Auckland, or direct you to regional broadband providers in other ExchangeNET centres.

Step 2: Obtain appropriate Internet addresses
Obtain a block of IP addresses to advertise - we can't supply these addresses. You'll either have them already, or need to get a block of addresses from your ISP or directly from APNIC. Also an Autonomous System (AS) number is required - you may already have one assigned by APNIC. We'll help you obtain an AS number if you haven't got one.

Step 3: Complete the Peering Application Form on-line
Complete the on-line application form found at http://nzix.net/start.html

Step 4: Configure your network router for peering
Finally connect your router and configure it with the settings suggested by us. If you don't currently own a suitable router we can lease you one and manage it for you.

Customer Requirements:

Customer termination equipment	Network Router supporting BGP/4

About CityLink:
CityLink is the leading supplier of serious broadband* networking in Auckland and Wellington CBDs. We celebrated 10 years of business in September 2005.

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* Serious Broadband means 25, 100 or 1000Mbps

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