

### **Exetel IPv6 Allocation Information**

- Exetel provides IPv6 and IPv4 (Dual Stack) by using IPv6 Prefix Delegation (PD).
- To setup IPv6/IPv4 (Dual stack), 'DHCPv6 Address Assignment (IANA)' and 'DHCPv6 Prefix Delegation (IAPD)' need to be enabled on your Modem/Router
- It is strongly recommended that Stateful Firewall function on your Modem/Router is enabled as the end devices are allocated with IPv6 Global Unicast Addresses (GUA) and they will have direct access from Internet (opposed to the IPv4 setup, where the end devices usually have non-internet routable private IP address)
- Please refer to the following guide to enable IPv6/IPv4 (Dual Stack) and Prefix Delegation for Exetel provided ZTE router. For non ZTE router, please refer to the vendor instructions to enable the same functions accordingly.

### **Enabling ZTE router to support IPv6 along with existing IPv4 (Dual Stack)**

- 1) By default your ZTE router comes with IPv6 and IPv4 (Dual Stack) enabled and in most cases you will not have to do any changes in order to get IPv6 enabled.
- 2) However, if IPv6 dual stack support with prefix delegation has not been enabled, you will have to manually configure the router.

### **How to determine whether Dual stack and prefix delegation has been enabled on the router.**

Log in to the router and Under internet settings page, access the WAN settings.

Depending on the type of connection (FTTP/FTTC/FTTN or HFC) you will have to select "Ethernet (Figure 1)", "VDSL (Figure 2)" or "DSL" to check the configuration parameters.

Your device is already configured for IPv6/IPv4 (Dual-stack), if the parameters marked with number 1,2,3 in figure 1 or 2, are configured exactly on your device.

If they are not the same, please go ahead and make the necessary changes so that they match below settings.

Home Internet Local Network VoIP Management & Diagnosis

DSL Ethernet 3G DSLite 6RD

Status  
WAN  
QoS  
Security  
DDNS  
SNTP  
Multicast

### Page Information

This page provides the function of Ethernet connection parameter(s) configuration.

#### ▼ Ethernet Connection

##### ▼ Exetel\_EthWAN Detail

Connection Name: Exetel\_EthWAN

Type: Routing

Service List: INTERNET\_VoIP\_TR0

MTU: 1492

Link Type: PPP

PPP Transfer Type: PPPoE

**PPP**

Username: 0201376876@nsw.exetel

Password: \*\*\*\*\*

**IP Version**: IPv4/v6

NAT:  On  Off

**IPv6**

IPv6 Info Acquire Mode: Auto

Request PD:  On  Off

Unnumbered Mode:  On  Off

GUA Allowed From:  SLAAC

DHCPv6

PD

1

2

3

Figure 1

Home Internet Local Network VoIP Management & Diagnosis

DSL Ethernet 3G DSLite 6RD

Status  
WAN  
QoS  
Security  
DDNS  
SNTP  
Multicast

### Page Information

This page provides the function of DSL connection parameter(s) configuration.

#### DSL Connection

[What should be noticed when configuring DSL connection?](#)

##### Exetel\_VDSL

Detail

Connection Name: Exetel\_VDSL

DSL Transfer Mode: PTM

Type: Routing

Service List: INTERNET\_VoIP\_TR0

MTU: 1492

Link Type: PPP

PPP Transfer Type: PPPoE

##### PPP

Username: 133938@exetel.com.au

Password: \*\*\*\*\*

IP Version: IPv4/v6

NAT:  On  Off

##### IPv6

IPv6 Info Acquire Mode: Auto

Request PD:  On  Off

Unnumbered Mode:  On  Off

GUA Allowed From:  SLAAC  DHCPv6  PD

1 → IP Version

2 → IPv6 Info Acquire Mode

3 → IPv6 options (Request PD, Unnumbered Mode, GUA Allowed From)

Figure 2

## How to confirm whether you have obtained both IPv4 and IPv6 prefixes correctly on the router

Navigate to the relevant connection (Ethernet/DSL) tab under the Internet Status page as shown below (Figure 3).

If the configuration is successful you should see similar outputs for IPv4 and IPv6 details (IP address details will be different)

The screenshot shows the ZTE router's web interface. The top navigation bar includes 'Home', 'Internet', 'Local Network', 'VoIP', and 'Management & Diagnosis'. The 'Internet' tab is active, and the 'Ethernet' sub-tab is selected. The page displays 'Page Information' and 'Ethernet Interface Information'. The 'Ethernet Connection Status' section is expanded, showing a table of connection details for 'Exetel\_EthWAN'. The table includes fields for Type (PPPoE), IP Version (IPv4/v6), NAT (On), IP Address (220.233.73.120/255.255.255.255), DNS (220.233.0.4/220.233.0.3/0.0.0.0), IPv4 Connection Status (Connected), IPv4 Online Duration (0 h 5 min 38 s), Disconnect Reason (None), LLA (fe80::22e8:82ff:feb0:27e6), GUA (2406:3400:200:20:5851:6156:9354:d6ff), Prefix (2406:3400:11:2::/64), DNS (2406:3400:1c:100:10/2406:3400:1c:100:1...), IPv6 Connection Status (Connected), IPv6 Online Duration (0 h 5 min 37 s), and WAN MAC (20:e8:82:b0:27:e6). Two blue arrows point to the IPv4 and IPv6 details sections, labeled 'IPv4 Details' and 'IPv6 Details' respectively. A 'Refresh' button is located at the bottom right of the table.

Connection Name	Exetel_EthWAN
Type	PPPoE
IP Version	IPv4/v6
NAT	On
IP Address	220.233.73.120/255.255.255.255
DNS	220.233.0.4/220.233.0.3/0.0.0.0
IPv4 Connection Status	Connected
IPv4 Online Duration	0 h 5 min 38 s
Disconnect Reason	None
LLA	fe80::22e8:82ff:feb0:27e6
GUA	2406:3400:200:20:5851:6156:9354:d6ff
Prefix	2406:3400:11:2::/64
DNS	2406:3400:1c:100:10/2406:3400:1c:100:1...
IPv6 Connection Status	Connected
IPv6 Online Duration	0 h 5 min 37 s
WAN MAC	20:e8:82:b0:27:e6

Figure 3

Once above has been confirmed, you will have to enable IPv6 support on your end device (laptop, PC, mobile phone, etc.)

## How to enable IPv6 on Windows laptop/PC

Under network Connections, select the correct network adapter which has to be configured (Select “Wi-Fi” if you use wireless and select “Ethernet” if you are connected through an ethernet cable).

Double click and go to properties and make sure the IPv6 setting shown in Figure 4, is checked.

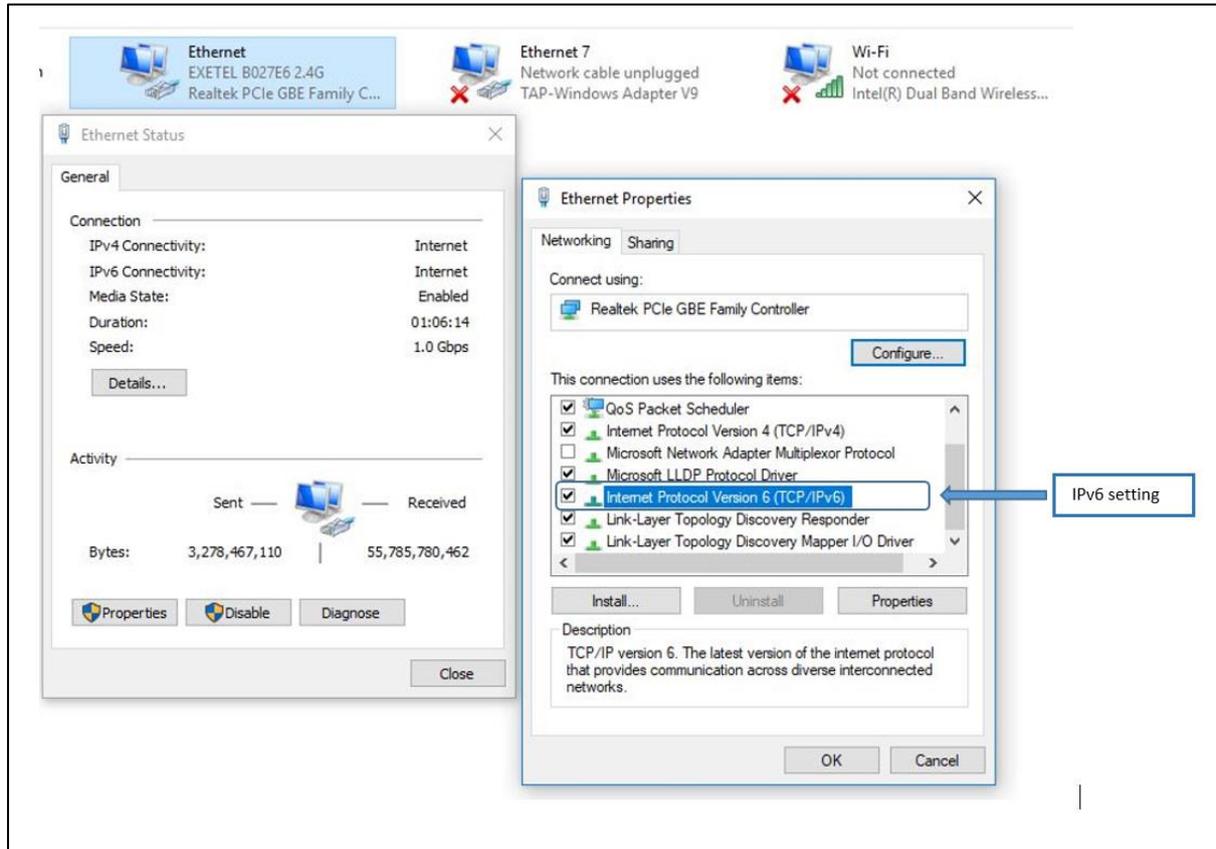


Figure 4

## How to confirm the IPs obtained by your Windows PC/Laptop after enabling IPv6

Open up a command prompt and type in the following commands

- i) Ipconfig /release
- ii) Ipconfig /renew
- iii) Ipconfig /all (Figure 5) shows the current IPv4 and IPv6 allocation for your PC and other related information.

```
C:\Users\Exetel>ipconfig /all

Windows IP Configuration

Host Name . . . . . : EXETEL_LAP
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Ethernet adapter Ethernet:

Connection-specific DNS Suffix . :
Description . . . . . : Realtek PCIe GBE Family Controller
Physical Address. . . . . : 54-E1-AD-39-88-6C
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IPv6 Address. . . . . : 2406:3400:11:2:4da2:938b:9b4a:3881(Preferred)
Temporary IPv6 Address. . . . . : 2406:3400:11:2:8ec:a433:cb32:b88f(Preferred)
Link-local IPv6 Address . . . . . : fe80::4da2:938b:9b4a:3881%14(Preferred)
IPv4 Address. . . . . : 192.168.20.12(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Thursday, 17 January 2019 1:25:21 PM
Lease Expires . . . . . : Friday, 18 January 2019 2:40:41 PM
Default Gateway . . . . . : fe80::1%14
                          192.168.20.1
DHCP Server . . . . . : 192.168.20.1
DHCPv6 IAID . . . . . : 55894445
DHCPv6 Client DUID. . . . . : 00-01-00-01-20-D5-7A-36-54-E1-AD-39-88-6C
DNS Servers . . . . . : fe80::1%14
                          192.168.20.1
NetBIOS over Tcpi. . . . . : Enabled
```

Figure 5

## How to confirm IPv6 is properly working on your end device.

Open up a web browser access the web site “<https://test-ipv6.com>”. This page will automatically run a test and your device is ready for IPv6 if your result is 10/10 (Figure 6).

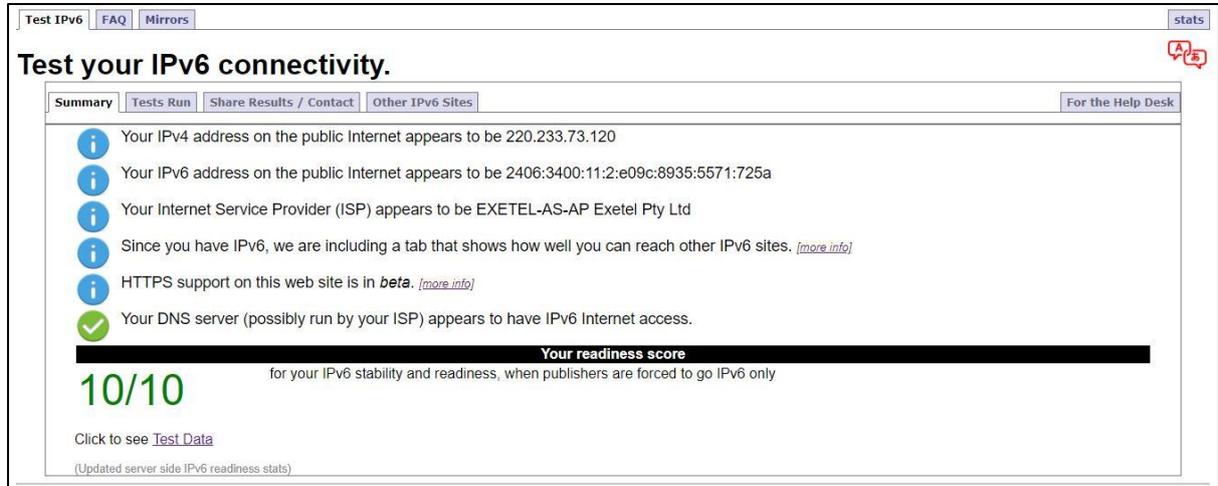


Figure 6