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Work Group: FibreOP Technical Team	July 22, 2013	Final: ✓
Title: Single Static IP - Static IP Device Addressing: DHCP vs. Static IP		Version 1.0

Summary:

Use the following method to perform configuration of IP Addressing for a device requiring a Static IP using either DHCP or Static IP Assignment.

Illustration:

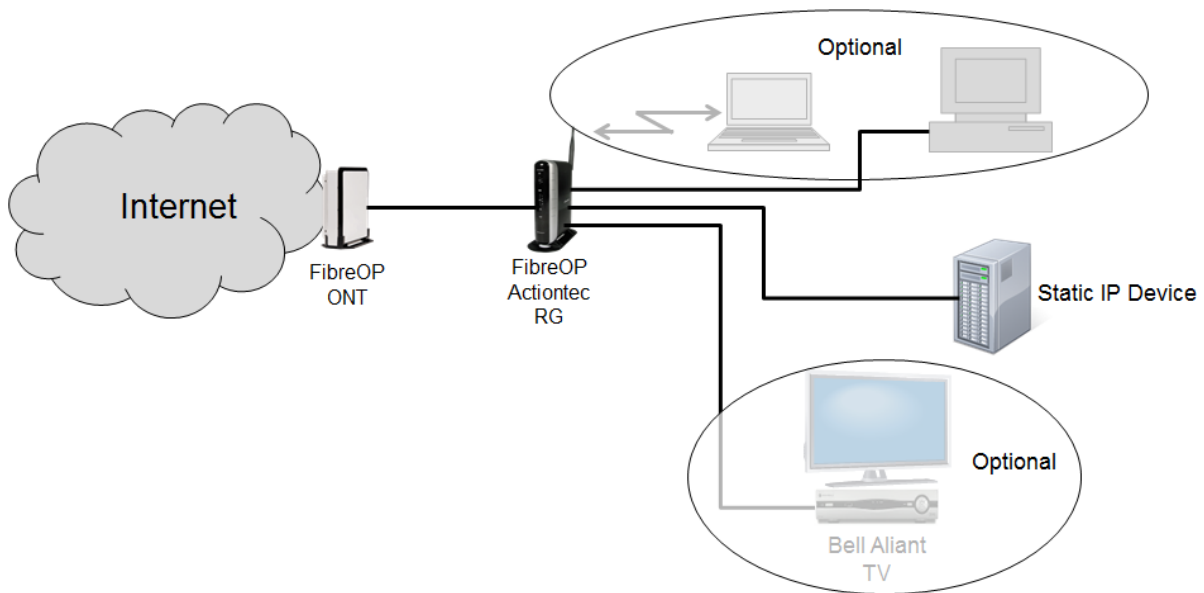


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Prerequisites and Assumptions

Prerequisites

Bell Aliant owned FibreOP Actiontec GW configured according to Configuration Note FO1001.

Assumptions

This configuration assumes that device requiring a static IP is connected directly to the Bell Aliant owned FibreOP Actiontec RG by either Ethernet or Wi-Fi. There must not be any other routing or Firewall device installed between the static IP device and the FibreOP Actiontec RG on the customer's Local Area Network (LAN).

RG LAN Device Addressing: DHCP vs. Static

Assignment of an IP address for a device requiring a Static IP can be provided by one of two methods:

1. DHCP on LAN clients
- OR
2. Statically assigning an IP

NOTE: Applications using DHCP for client addressing, that requires port forwarding rules, it is very strongly recommended to configure DHCP reservations to ensure port forwarding rules remain correct.

Statically assigning an IP

Use the following parameters to assign a permanent IP address to your device requiring a static IP.

- Select an IP address from the range: 192.168.2.2 to 192.168.2.9
- Subnets mask: 255.255.255.0
- Default gateway: 192.168.2.1
- DNS#1: 192.168.2.1
- DNS#2: <user can select either of the WAN DNS values found in the static IP WAN configuration section>

NOTE: These settings must be configured on the device requiring a static IP. There are no configurations required on the FibreOP Actiontec GW. For assistance in configuring your device requiring a Static IP device please consult the supplier of your device.

FibreOP Actiontec RG DHCP Reservations

This solution allows your device that requires a Static IP Device, to be configured in DHCP mode to receive the same IP Address from the FibreOP Actiontec RG. DHCP reservations in the FibreOP Actiontec RG allow for consistent IP address assignment to specific LAN clients based on the LAN device MAC address.

NOTE: This feature is very useful when using port forwarding rules because they point to a specific IP. Without using DHCP reservations, a DHCP client IP address could change over time which would break the port forwarding rules in the FibreOP Actiontec RG.

Configuration Steps:

Use the following steps to configure the FibreOP Actiontec GW to reserve an IP Address for your device requiring a static IP address.

1. Connect a PC (management PC) to the LAN port on FibreOP Actiontec.
This will allow you to manage the FibreOP Actiontec RG.
2. Connect the LAN device requiring a static IP (Target PC) to be configured for DHCP reservations to the FibreOP Actiontec RG LAN.

Note: this PC could be the same as the management PC in the previous step

3. Log into the FibreOp Actiontec RG management User Interface using the management PC by typing 192.168.2.1 into the management PC browser.
4. Click **Advanced Setup**.
5. Click the DHCP **Reservation** link on the left side of the management user interface as shown in figure 1.

Figure 1 DHCP Reservation Page

The screenshot shows a web browser window displaying the DHCP Reservation page. The page title is "Advanced Setup - IP Addressing - DHCP Reservation - Windows Internet Explorer". The address bar shows "http://192.168.2.1/advancedsetup_dhcpreservation.html". The page content includes a navigation menu on the left with categories like "Blocking/Filtering", "IP Addressing", "HPNA LAN", "Remote", "Routing", and "Utilities". The main content area is titled "DHCP Reservation" and contains instructions for configuring reservations. It includes three numbered steps: 1. Select MAC Address, or manually enter a MAC address. 2. Select an IP address to associate with a MAC address. 3. Click "Apply" to save your settings. Below the instructions is a table titled "DHCP Reservation List" with columns for Device Name, MAC Address, IP Address, and Edit. The table contains five rows of reservation data.

Device Name	MAC Address	IP Address	Edit
192.168.2.14	00:21:80:19:be:06	192.168.2.14	Remove
192.168.2.21	00:23:ed:50:80:ed	192.168.2.21	Remove
192.168.2.26	00:21:80:3d:dd:3d	192.168.2.26	Remove
192.168.2.27	00:25:f1:c1:65:48	192.168.2.27	Remove
192.168.2.28	cc:7d:37:e2:57:35	192.168.2.28	Remove

6. Complete the MAC address field by performing one of the following actions:
 1. Leave Manually Enter MAC Address selected
 2. Manually type the MAC of the target PCOR
 3. Select the MAC address of the Target PC from the Select MAC Address drop down list.

7. Select the desired IP from the IP address drop down box.

It is not recommended to manually type in an IP because this may result in an IP conflict with existing LAN devices.

8. Click **Apply**.

The Target PC DHCP reservation information will appear in the DHCP reservation list.

9. Renew the IP of Target PC by using one of the following methods.
 1. Run following commands from a command prompt on the Target PC:
 - **ipconfig /release**
 - **ipconfig /renew**

OR

2. Rebooting the Target PC

Figure 1 shows a number of example reservations.

Additional Information

- 1) DHCP reservations are automatically created for Bell Aliant TV Set Top Boxes so if you have Business TV do not be alarmed if up to 7 reservations exist prior configuring any reservations.
- 2) Wired and Wi-Fi interfaces have different MAC addresses. Therefore, if a device changes the MAC used to connect to the FibreOP Actiontec RG (example changes from Wi-Fi to wired connectivity), the port forwarding rule(s) to that device will need to be modified.