How to use both IPv4 and IPv6 in your Code42 environment

Who is this article for?
√ Ø Code42 for Enterprise
√ Ø CrashPlan for Small Business

This article applies to on-premises authority servers.

Overview

The Code42 platform can be configured to use IPv4 only, IPv6 only, or both IPv4 and IPv6 (also called dual stack). This article describes how to configure your existing Code42 environment to use both IPv4 and IPv6 addresses.

If you are installing the Code42 platform in an environment that uses IPv6 only, see our installation instructions (https://support.code42.com/Administrator/6/Planning_and_installing/Install_the_Code42_platform_private_cloud).

IPv6 support

Compatible With IPv6

• Code42 server
• Code42 app for Windows, Mac, and Linux
• Code42 console

Considerations

• You must have an on-premises authority server to use IPv6.
• The Code42 cloud does not currently support IPv6. If your Code42 environment uses Code42 cloud storage, all connections to the cloud must use IPv4.
• A Code42 server cannot be configured to communicate with a RADIUS server over IPv6. However, if a Code42 server is configured to communicate with a RADIUS server over IPv4, a Code42 app can authenticate with an authority server using RADIUS over IPv6.

https://support.code42.com/Administrator/6/Configuring/How_to_use_both_IPv4_and_IPv6_in_your_Code42_environment/...
How dual stack IPv4 & IPv6 works

Dual stack environments rely on DNS hostnames with both A (IPv4) and AAAA (IPv6) records. When a host (device or Code42 server) resolves the hostname for a dual stack Code42 server that has appropriately configured DNS:

- A host with both IPv4 and IPv6 addresses attempts to connect to the Code42 server's IPv4 address first. If the IPv4 connection is not successful, the client device connects to the Code42 server's IPv6 address.
- A host with an IPv4 address connects to the Code42 server's IPv4 address.
- A host with an IPv6 address connects to the Code42 server's IPv6 address.

Dual stack configuration guidelines

Follow these guidelines to configure dual stack support in your Code42 environment:

- Assign IPv4 and IPv6 addresses to your Code42 servers.
- Configure Code42 server hostnames with A (IPv4) and AAAA (IPv6) records.
- Configure devices with IPv4 addresses, IPv6 addresses, or both.

Code42 server address configuration options

Code42 server addresses must be configured in a specific way to support dual stack IPv4 and IPv6. Each Code42 server has two types of addresses that are configured in the Code42 console (https://support.code42.com/Administrator/6/Code42_console_reference/Server_settings_reference#Server_settings):

- Primary and Secondary Addresses
- Private Address

Primary and secondary addresses

The Primary network address and Secondary network address are both used for multiple types of communication in a Code42 environment:

- Device to Code42 server communication
- Storage server to authority server communication
- Destination to destination communication (when multi-destination support with high availability for plans (https://support.code42.com/Administrator/4/Monitoring_and_managing/Multi-destination_support_with_high_availability_for_plans) is enabled)

In a dual stack environment, a host (device or Code42 server) attempts to connect to the primary address first. If the host cannot connect, it attempts to connect to the secondary address.
Although dual stack hosts always prefer IPv4 when they resolve hostnames with both A (IPv4) and AAAA (IPv6) records, you can configure the primary and secondary server addresses to control whether hosts use IPv4 or IPv6. The following tables summarize the available configuration options.

### Recommended configuration options

<table>
<thead>
<tr>
<th>Primary Network Address</th>
<th>Secondary Network Address</th>
<th>Behavior</th>
</tr>
</thead>
</table>
| Hostname with A (IPv4) and AAAA (IPv6) records | IPv6 address or IPv4 address (Allows capable devices to connect in the event of a DNS failure) | • Dual stack hosts prefer IPv4 and fall back to IPv6  
• IPv6 hosts use IPv6  
• IPv4 hosts use IPv4 |
| Hostname with an AAAA (IPv6) record only | Hostname with a A (IPv4) record only | • Dual stack hosts prefer IPv6 and fall back to IPv4  
• IPv6 hosts use IPv6  
• IPv4 hosts use IPv4 |
| Hostname with an A (IPv4) record only | Hostname with an AAAA (IPv6) record only | • Dual stack hosts prefer IPv4 and fall back to IPv6  
• IPv6 hosts use IPv6  
• IPv4 hosts use IPv4 |

### Alternative configuration options

<table>
<thead>
<tr>
<th>Primary Network Address</th>
<th>Secondary Network Address</th>
<th>Behavior</th>
</tr>
</thead>
</table>
| IPv6 address | IPv4 address | • Dual stack hosts prefer IPv6 and fall back to IPv4  
• IPv6 hosts use IPv6  
• IPv4 hosts use IPv4 |
<table>
<thead>
<tr>
<th>Primary Network Address</th>
<th>Secondary Network Address</th>
<th>Behavior</th>
</tr>
</thead>
</table>
| IPv4 address            | IPv6 address              | • Dual stack hosts prefer IPv4 and fall back to IPv6  
|                         |                           | • IPv6 hosts use IPv6  
|                         |                           | • IPv4 hosts use IPv4  |

**Private address**

Code42 servers use the **Private address** to communicate with each other within a destination ([link](https://support.code42.com/Administrator/6/Code42_console_reference/Storage_-_Destinations_reference#Storage_hierarchy)).

In a dual stack Code42 environment, configure each Code42 server's private address to use a hostname with A (IPv4) and AAAA (IPv6) records. In this configuration:

- Dual stack servers prefer IPv4 and fall back to IPv6
- IPv6 servers use IPv6
- IPv4 servers use IPv4

**Before you begin**

Determine which [Code42 server address configuration option](https://support.code42.com/Administrator/6/Configuring/How_to_use_both_IPv4_and_IPv6_in_your_Code42_environment) is best for your Code42 environment.

**Step 1: Assign IPv6 addresses to your host servers**

For each server that hosts a Code42 server in your Code42 environment, use the operating system to assign an IPv6 address.

**Step 2: Configure upgraded Code42 servers to accept connections on all addresses**

*Code42 servers that have been upgraded from version 4.2.x or earlier only*

Code42 servers running version 4.2.x and earlier listen for connections on a specific IP address. If your Code42 environment contains servers that have been upgraded from version 4.2.x or earlier, configure the Code42 servers to listen on all IPv4 and IPv6 addresses associated with the host server.
Network security impact
Implementing this change may impact your Code42 environment’s security by accepting inbound connections on all IPv4 and IPv6 addresses associated with the host server.

1. Sign in to the Code42 server’s Code42 console.
3. Run the following commands:
   
   ```
   address.bind peer ::
   address.bind superpeer ::
   address.bind space ::
   ```

4. Restart the Code42 server. (https://support.code42.com/Administrator/6/Troubleshooting/Stop_and_start_the_Code42_server)

Viewing a Code42 server’s bind configuration
To view a Code42 server’s bind configuration, run the `address.bind status` command from the Code42 console CLI.

Step 3: Add IPv6 records to Code42 server hostnames

Based on the Code42 server address configuration option that is best for your Code42 environment, configure your DNS server to add AAAA (IPv6) records for Code42 server hostnames.

Step 4: Configure Code42 server addresses in the Code42 console

Perform these steps for each Code42 server in your Code42 environment:

1. Sign in to the Code42 console.
2. Navigate to Storage > Servers.
3. Click the name of the server.
4. From the action menu, select Edit.
5. Configure the Code42 server's addresses:
   ◦ **Website protocol, host, and port**: Make sure the URL includes the Code42 server's hostname, and the hostname has A (IPv4) and AAAA (IPv6) records in DNS.
   ◦ **Primary network address**: Configure this address based on the Code42 server address configuration option that is best for your Code42 environment.
   ◦ **Secondary network address**: Configure this address based on the Code42 server address configuration option that is best for your Code42 environment.
   ◦ **Private address**: Enter a hostname that has A (IPv4) and AAAA (IPv6) records in DNS.

6. [Restart the Code42 server](https://support.code42.com/Administrator/6/Troubleshooting/Stop_and_start_the_Code42_server)

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**Step 5: Assign IPv6 addresses to your devices**

Perform these steps for each device in your environment that will use IPv6:

1. Use the operating system to assign an IPv6 address.

2. Restart the Code42 service:
   ◦ [From the Code42 console](https://support.code42.com/Administrator/6/Code42_console_reference/Devices_reference#Action_menu).
   ◦ [From the Code42 app](https://support.code42.com/CrashPlan/6/Troubleshooting/Stop_and_start_the_Code42_app_service).

3. Verify that the Code42 app can back up:
   ◦ From the Code42 console:
     1. *(Version 6.5 and later):* Go to **Devices > Active**.
        *(Version 6.0.x):* Go to **Devices**.
     2. Click the name of the device to view backup status.
   ◦ From the Code42 app, go to **Backup** to view backup status.

[https://support.code42.com/Administrator/6/Configuring/How_to_use_both_IPv4_and_IPv6_in_your_Code42_environment](https://support.code42.com/Administrator/6/Configuring/How_to_use_both_IPv4_and_IPv6_in_your_Code42_environment)
External resources


Related topics

- Install the Code42 platform (on-premises) (https://support.code42.com/Administrator/6/Planning_and_installing/Install_the_Code42_platform_private_cloud)
- IP addresses and ports used by the Code42 platform (https://support.code42.com/Administrator/6/Planning_and_installing/IP_addresses_and_ports_used_by_the_Code42_platform)
- Change a Code42 server’s network address (https://support.code42.com/Administrator/6/Monitoring_and_managing/Change_a_Code42_servers_network_address)