



Knowledge Base Article

Connecting Devices to Pure Access™

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1: INTRODUCTION

This knowledge base article will review how to connect ISONAS PowerNet™ devices to Pure Access™ Cloud. These devices will initiate a connection from inside the network out to Pure Access™. For those familiar with DBCrystal this is the opposite of how devices were configured. In addition, ISONAS has added a new tool to make this addressing streamlined and easy for the installer.

2: PLANNING AND CONFIGURATION

2.1: Network Configuration

2.1.1: IP Addressing

The recommended setting for PowerNet™ devices connecting to Pure Access™ is DHCP. When using DHCP ensure that the DHCP has the correct default gateway and DNS address configured. These settings are critical for the device to connect outside the network (gateway) and to resolve the Pure Access™ address to an IP address (DNS).

Static addresses can be used with PowerNet™ devices connecting to Pure Access™. When assigning static addresses ensure all of the following items are configured with the correct address:

1. IP Address
2. Subnet Mask
3. Gateway
4. DNS Address

2.1.2: Firewall

When connecting PowerNet™ devices to Pure Access™ the device (client) initiates the connection to Pure Access™. This setting is "Client Mode" for PowerNet™ devices (see figure 3 on next page). Since the device initiates the connection out to Pure Access™ minimal firewall configuration is needed. If your firewall is blocking outbound ports or ephemeral ports (see description below) then rules may need to be added to the firewall to ensure a connection can be made.

PowerNet™ RC-03 devices will initiate a connection on port 55533 and Pure Access™ will use an ephemeral port to complete the connection.

PowerNet™ IP-Bridge devices will initiate a connection on port 55533 and Pure Access™ will use ports 10001-10003 to complete the connection. IP-Bridges come in either two or three door units. For a two door unit ports 10001 and 10002 will be used, for a three door unit the same ports are used in addition to 10003.

An ephemeral port is a random port used to complete a TCP connection for the session. This is typically a random port between 49152 and 65535. The port number is used only for that connection period and will change if the connection is reset. **In most cases this is not an issue unless severe security restrictions are placed on a network.**

TCP	192.168.1.210:55533	192.168.1.32:54259	ESTABLISHED
Server Connection		Ephemeral Port	

Figure 1 - RC-03 Example Connection

TCP	192.168.1.210:55533	192.168.1.97:10001	ESTABLISHED
TCP	192.168.1.210:55533	192.168.1.97:10002	ESTABLISHED
TCP	192.168.1.210:55533	192.168.1.97:10003	ESTABLISHED

Figure 2 – IP-Bridge Example Connection

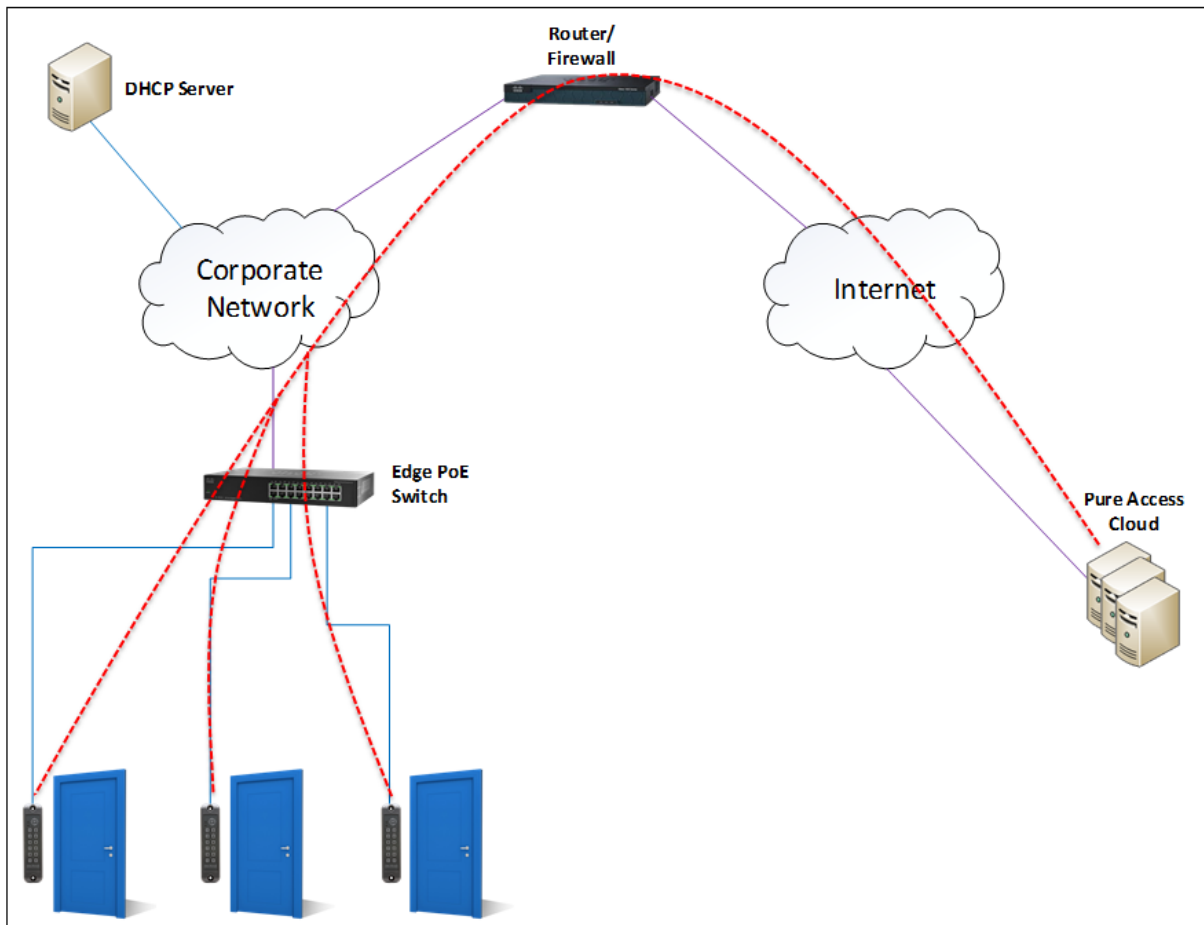


Figure 3- PowerNet Connections

2.1.3: Multiple NAT/Firewall Configurations

Multiple NATs are strongly discouraged as they can cause communication issues for the PowerNet™ devices. Multiple Firewalls are also strongly discouraged for the same reason. If these must be used for security purposes, ensure that all rules are configured properly and that the IP address and Ports are free to communicate through the multiple layers of Firewall and/or NAT.

Tech Tip!

Configure your PowerNet™ devices in your shop before installing them on site. This will allow for easy install and easier troubleshooting if devices do not connect.

2.2: CONFIGURING POWERNET™ DEVICES

2.2.1: Reader Configuration Tool Overview

The Reader Configuration Tool is a program that allows an installer to configure PowerNet™ devices. It broadcasts out on the local network to find PowerNet™ devices. Once they are found the devices can then be configured to connect to Pure Access™. The IP addressing method is configured with program as well.

2.2.2: Using the Configuration Tool

First simply download the Configuration Tool from the ISONAS website www.isonas.com under the quick links section on the homepage. Run the application (see figure 4 on next page). Clicking on "Discover Units" will find any PowerNet™ devices on the local area network. Clicking on "Connection Test" will determine if the network segment that the Configuration Tool is running on can make a connection to Pure Access™.

After finding the devices on the network we can now proceed to configuring these devices. Clicking on "Adv Mode" will bring up the options needed to fully configure these devices. After clicking on this option there are now two available options. The first setting allows for the changing of how the PowerNet™ device connects and the second will set either DHCP (preferred and default) or static (see figure 7 on page 7).

If no devices show up or you do not see all devices, check the following items:

1. Verify that all devices are powered up and fully booted. A fully booted RC-03 will have the top LED on with a color of red. A fully booted IP-Bridge will have the top left LED on with a color of green. See figures 5 and 6 on the next page.
2. Verify that the windows PC the Configuration tool is running on is connected to the correct network and has a valid IP address for that network.

3. Ensure that all PowerNet™ devices are on the same subnet and network. The Configuration Tool uses broadcast packets on the network to find the devices. Broadcast traffic is dropped by routers so only PowerNet™ devices on the network segment the Configuration Tool is ran on will be seen.
4. If using VLAN's verify with the IT Administrator that all the switch ports PowerNet™ devices are plugged into are on the correct VLAN.

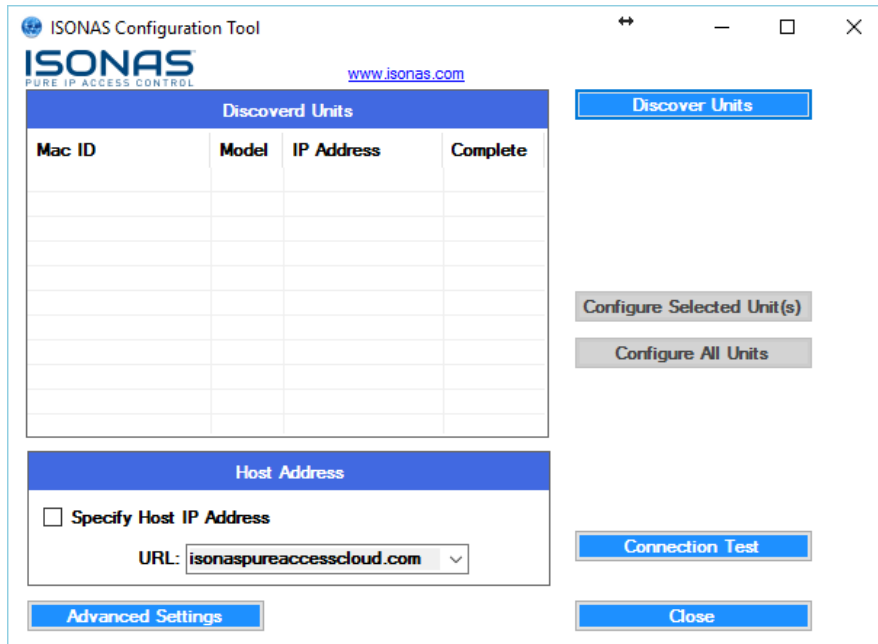


Figure 4 - Configuration Tool



Figure 5 – Fully Booted RC-03



Figure 6 – Fully Booted IP-Bridge

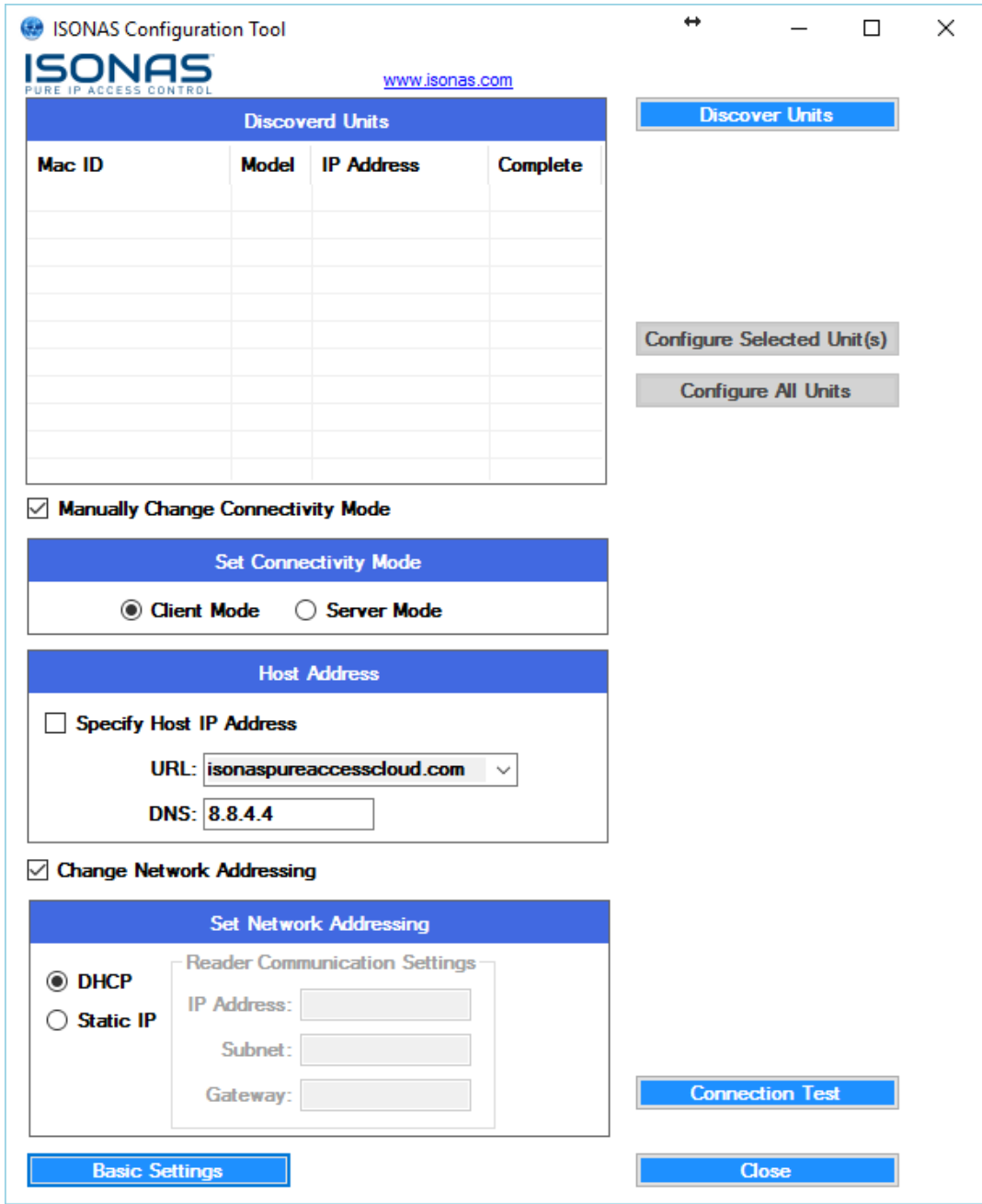


Figure 7 - Configuration Tool Advanced

All PowerNet™ devices must be set to "Client Mode". This configures the device to initiate the connection out to Pure Access™. The Host Address URL can be accessed via the dropdown menu. This will most likely be isonaspureaccesscloud.com though, if this is a demo system, it may be on isonaspureaccessdemo.com. The DNS should be left at default as this is a free Google DNS service provided. If this value is changed ensure it is a working DNS server.

All PowerNet™ devices are set to DHCP by default. DHCP is the recommended IP addressing method for Pure Access™. If a static address is used ensure that all values are correct, especially the default gateway!

Once all values have been set highlight the device in the “Discovered Units” window and click “Configure Selected Unit”. The “Complete” column should say Yes, the Configure button should have a green check mark next to it and the unit should reboot (see figure 8 below).

The “Configure all Units” option can be used unless static addresses are being assigned. When using static address units must be configured individually.

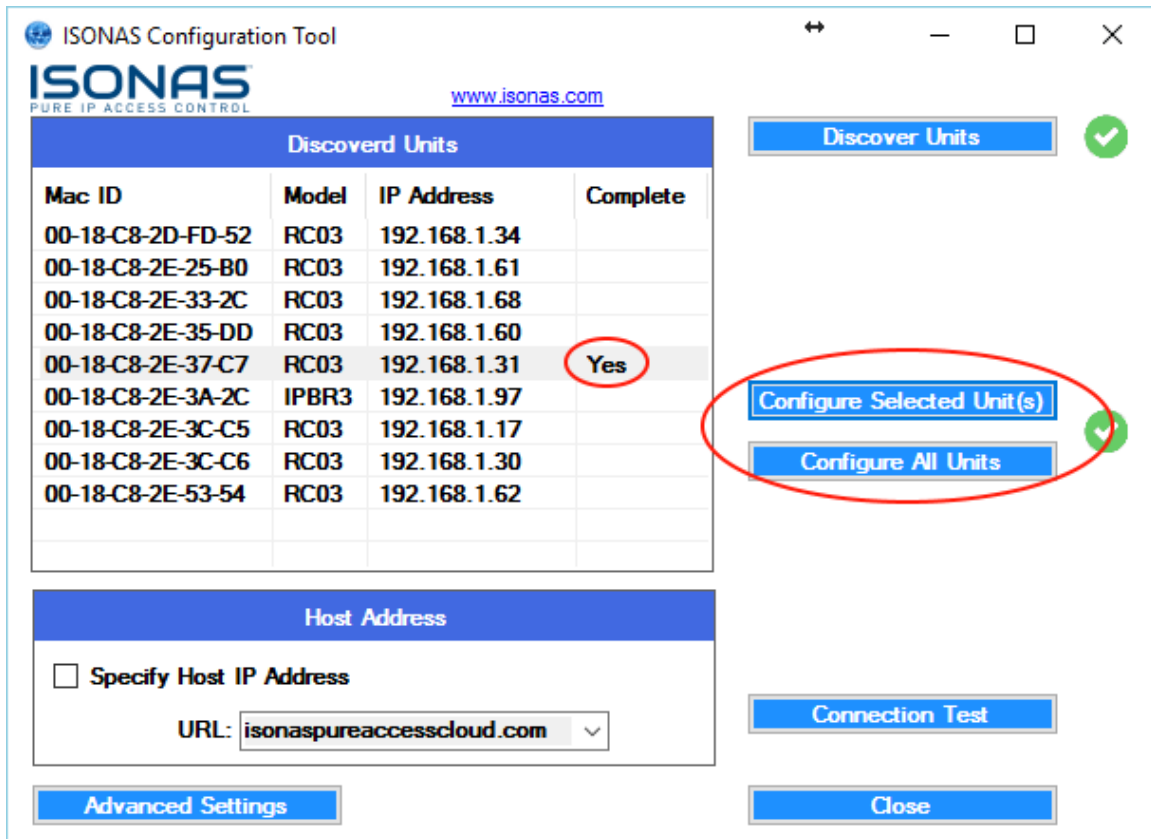


Figure 8 - Configure Selected Unit

From here your PowerNet™ devices have been configured to point to Pure Access™ Cloud. The next step is to login to your Pure Access™ portal, register your software and begin adding your access points by using their MAC addresses. From here you can complete the configuration of your system!

For more information on how to set up your access points, check out our [YouTube](#) channel for further details.

For more information:

Web: www.ISONAS.com **E-mail:** sales@ISONAS.com

Tel: 800-581-0083 (toll-free) or 303-567-6516 (CO)

Fax: 303-567-6991

ISONAS Headquarters:

4750 Walnut Street, Suite 110, Boulder, Colorado 80301 USA