



Knowledge Base Article

**Enabling DHCP
On a PowerNet**

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1: INTRODUCTION

ISONAS supports Dynamic Host Configuration Protocol (DHCP) for managing your PowerNet reader-controller's IP address. The ISONAS implementation of DHCP support is accomplished through both the PowerNet reader and with versatile software that will listen for changes to the reader's IP address and update the Crystal Matrix database, that software is the PlugNPlay application.

This document will discuss the configuration required to fully automate the allocation of IP addresses on your PowerNet readers and keep the Crystal Matrix database synchronized with and address changes. This same process is more fully discussed in Appendix "A" of the Crystal Matrix Reference manual.

Once DHCP is enabled and the system properly configured, then any IP address changes on the reader will automatically be sent to the Crystal Matrix database so that communications to the PowerNet reader are uninterrupted.

1.1: GENERAL REQUIREMENTS:

- PowerNet reader with the Freescale firmware 12.00 or greater
- Crystal Matrix version 12.06.06 or greater
- DHCP service available on your network
- DNS service available on your network (optional)
- PlugNPlay running or installed as a Windows service.

1.2: DHCP SERVICE

DHCP service is a native component of many versions of server operating systems and it is also available in most hardware routers and access points. The actual configuration of your network's DHCP service is beyond the scope of this document but you should know that if you enable DHCP on a PowerNet reader, it will make a request from that service for its network configuration settings, which include the: Reader's IP address, Gateway, Subnet mask, and DNS server IP address.

1.3: DNS SERVICE

DNS service is a native component of many versions of server operating systems but is not usually available for any of the home releases such as XP, Vista or Windows 7. Once again the setting up of DNS service is beyond the scope of this document; however, if you have DNS then it is recommended that you make an entry in your DNS service with a name of "SrvrAcs" and the IP address of the machine that

PlugNPlay will be running on. The SvrAcs name is the default name that a PowerNet reader will look for to notify the Crystal Matrix application of any address changes. If you do not want to use the default name, then you can set up any name that you like but you must ensure that this name is correctly configured on the PowerNet reader itself which is described later on in this document.

The usage of DNS itself is completely optional, if you do not use DNS you can configure the PowerNet reader with a fixed IP address of the machine running the PlugNPlay program to achieve the same automation, this is described later on in this document.

1.4: POWERNET READER-CONTROLLER CONFIGURATION

You must enable DHCP on the PowerNet reader configure the reader so that it can find the running PlugNPlay program. There are two ways to enable DHCP on the reader; they are the PlugNPlay program or Embedded Web pages.

1.4.1: Enabling DHCP through PlugNPlay

To enable DHCP in a PowerNet reader using the PlugNPlay program, you must connect to the PowerNet reader and then use the Configuration tab to:

- Put a check mark in Enable DHCP by clicking on it
- Fill in the ACS Alias or the ACS Server IP fields

The screenshot shows the configuration interface for a PowerNet reader. The 'Configure' tab is active. The 'Enable DHCP' checkbox is checked. The 'ACS Alias' field is set to 'minimike' and the 'ACS Server IP' field is set to '0.0.0.0'. Red arrows point to the 'Enable DHCP' checkbox, the 'ACS Alias' field, and the 'ACS Server IP' field. The interface also shows network settings for two channels, including baud rates, parity, flow control, and data bits.

The ACS Alias field must be a valid DNS entry. If you do not have DNS service or do not wish to use DNS then you can put the IP address of the machine running the PlugNPlay program into the ACS Server IP field.

Note: The Password field must be filled in correctly prior to clicking on the Set button. The default password is "f0f1f2f3".

1.4.2: Enabling DHCP through Embedded Web Pages

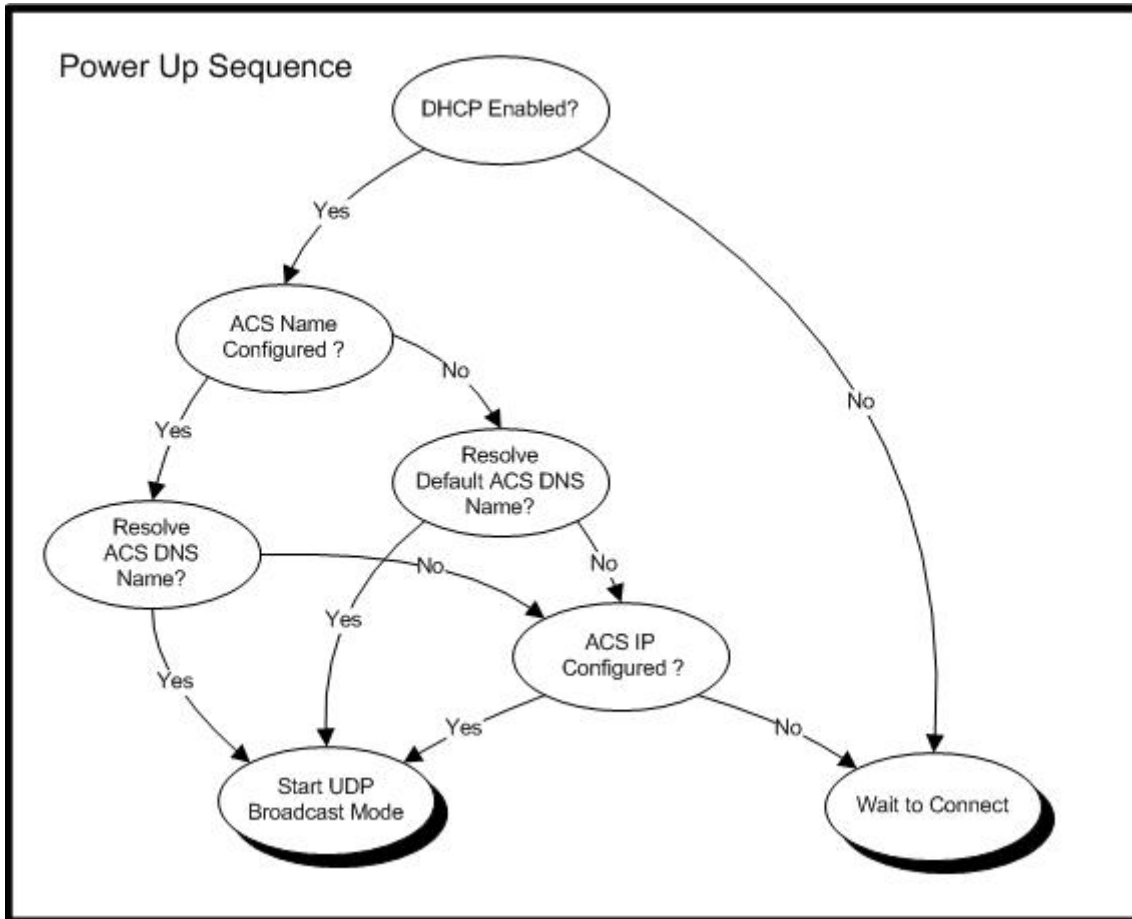
To enable DHCP in a PowerNet reader using the Embedded Web pages you must use a web browser to connect to the PowerNet reader (<http://ipaddress>) and then navigate to the LAN page and use the ACS DNS Name or IP Address field.

The screenshot displays the ISONAS PowerNet LAN configuration interface. At the top, it shows system statistics: Reader Time: 16:58:08, PIC: 03.09, Freescale: 11.18, Web: 00.29, and Time remaining: 00:19:56. Below this is a navigation bar with tabs for Basic, User, and Advanced, along with a Log Out button. The main configuration area includes fields for MAC Id (00-18-C8-00-16-A5), DHCP Enabled (checked), IP Address (172.16.104.101), Connect Port (10001), Subnet Mask (255.255.255.0), Gateway (172.16.104.1), and ACS DNS Name or IP Address (minimike). A red arrow points to the ACS DNS Name or IP Address field. A Save button is located below the ACS DNS Name or IP Address field. The page footer includes the ISONAS logo, the text 'LAN', the website 'www.isonas.com', and the copyright notice 'ISONAS Inc. Copyright 2009'.

The ACS DNS Name or IP Address field must be a valid DNS entry or the IP address of the machine running the PlugNPlay program.

2: POWER UP SEQUENCE

Once you have everything configured correctly the PowerNet reader will perform the following steps during its power up sequence.



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