Chipkin Automation Systems

Work Instruction for Editing Cummins Controller Configurations. (Rev 2 – Jan 2009)

Introduction:

A FieldServer FS2011 connects to a Cummins Engine Controller and converts the Data to BACnet.

This document describes the steps necessary to complete the FieldServer configuration with site specific information

Background:

The following information must be assembled to complete the configuration and installation:

1. Customer's BACnet network

FieldServer IP Address Settings :

Default shipped from factory is 192.168.2.xxx
Default shipped from CAS is 192.168.1.xxx. CAS place a label on the device with the actual IP address.

Ask the customer for:

IP Address: Required parameter.
Netmask: Required parameter.
Default Gateway Address: This parameters is non-essential

2. BACnet Node/Device Address

Each BACnet device must have a unique device/node address on the network. This address is a simple whole number.

The default value is 21.

Ask your customer to confirm is this address is ok or ask them for a new address.

3. Engine Controller Information

The FieldServer has been configured to extract and send data to the engine control using Network Management functions. For this reason Commissioning and Binding of the FieldServer are not necessary. In fact, attempt s to commission the FieldServer will result in errors.

You will need the Lonworks Domain, Subnet and Node_ID of the engine controller. Once the controller has been (Lonworks) commissioned the data is permanent and does not need to be re-evaluated just because a system has been broken down for shipping purposes. When it is reassembled the D-S-N will be as assigned during commissioning. Remember that Lonmaker assigns these variables values automatically.

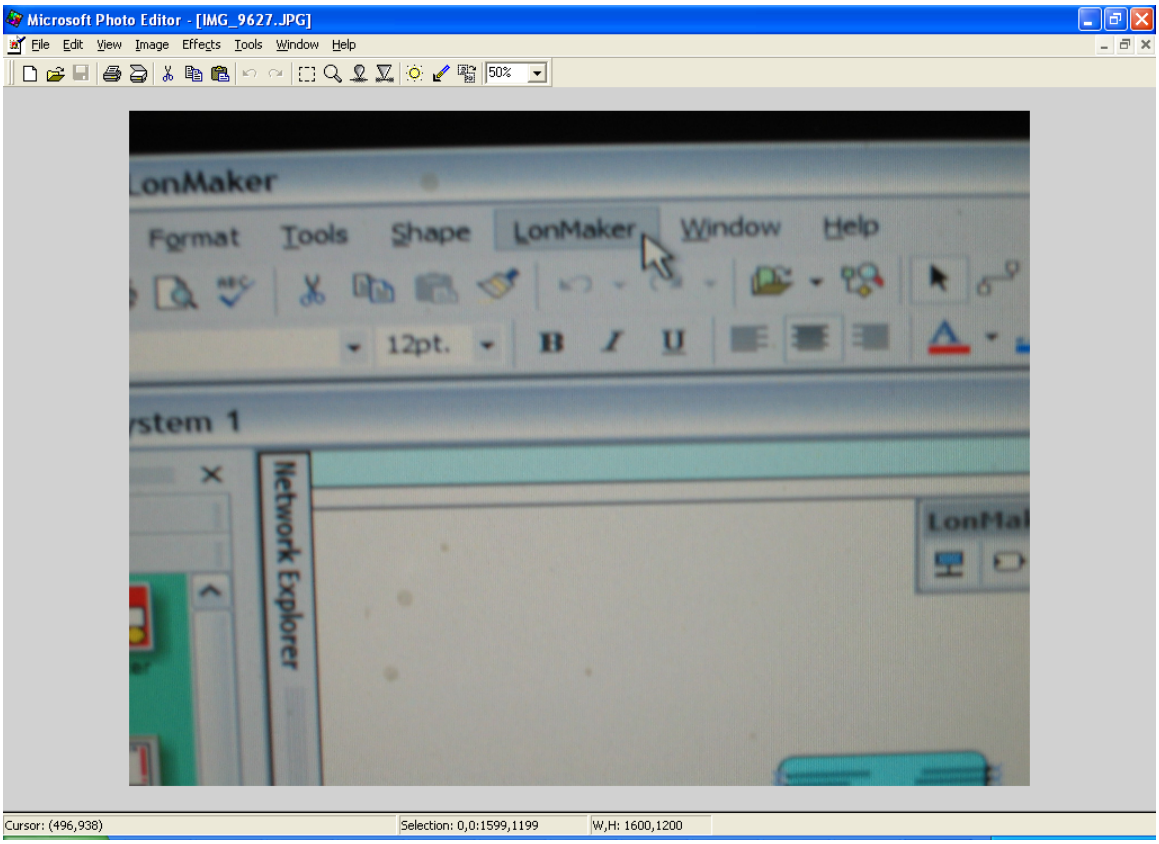
Instruction:

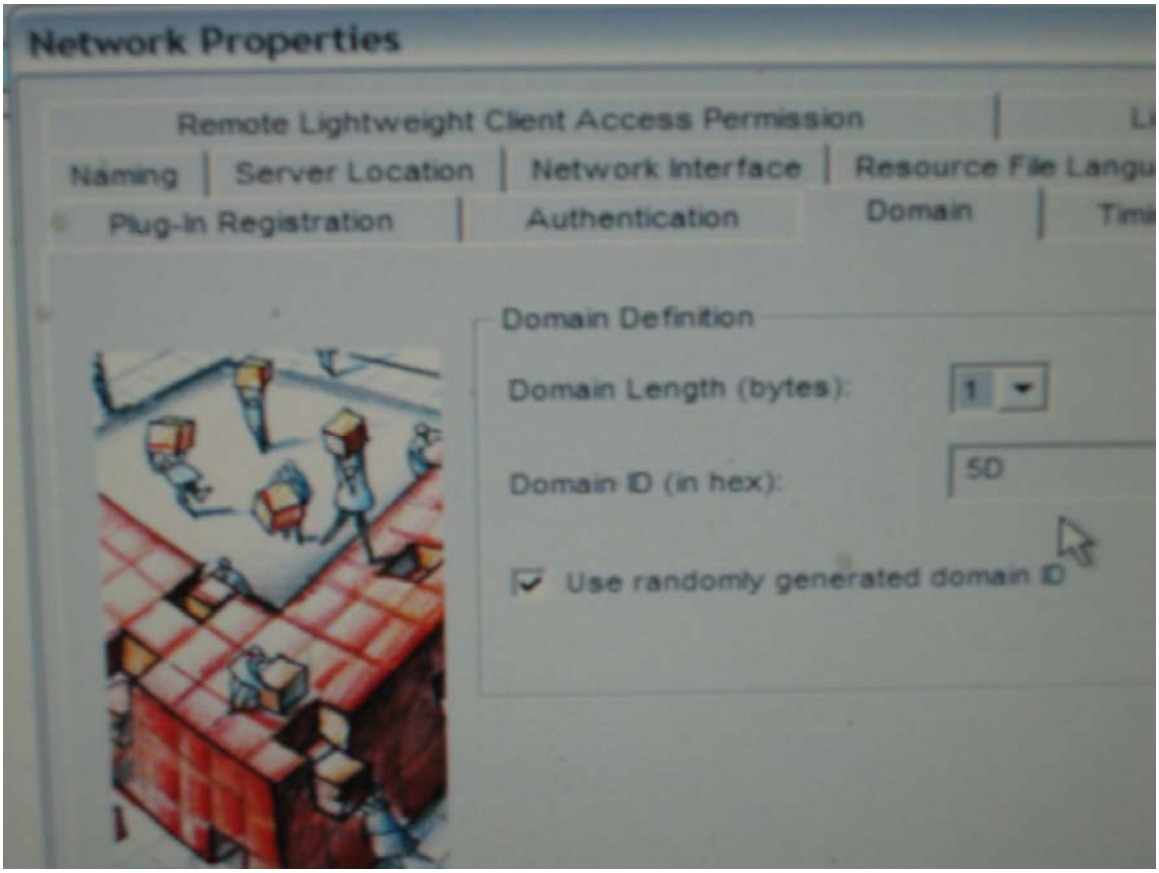
1. Make sure the FieldServer Utility CD is installed. It can be downloaded from the Web.
2. Copy the template.csv to the folder c:\program files\FieldServer Utilities\config and rename it to config.csv
3. Learn what the D-S-N of the engine controller are using Lonmaker.
4. Open the config.csv for editing using WordPad or Excel.
5. Change the parameters as required.
6. Download the config to the FieldServer
7. Reset the FieldServer for the changes to take effect.
8. Use ruinet to browse to the FieldServer and change the IP Settings
9. Use ruinet to browse to the FieldServer and check the other changes

Details:

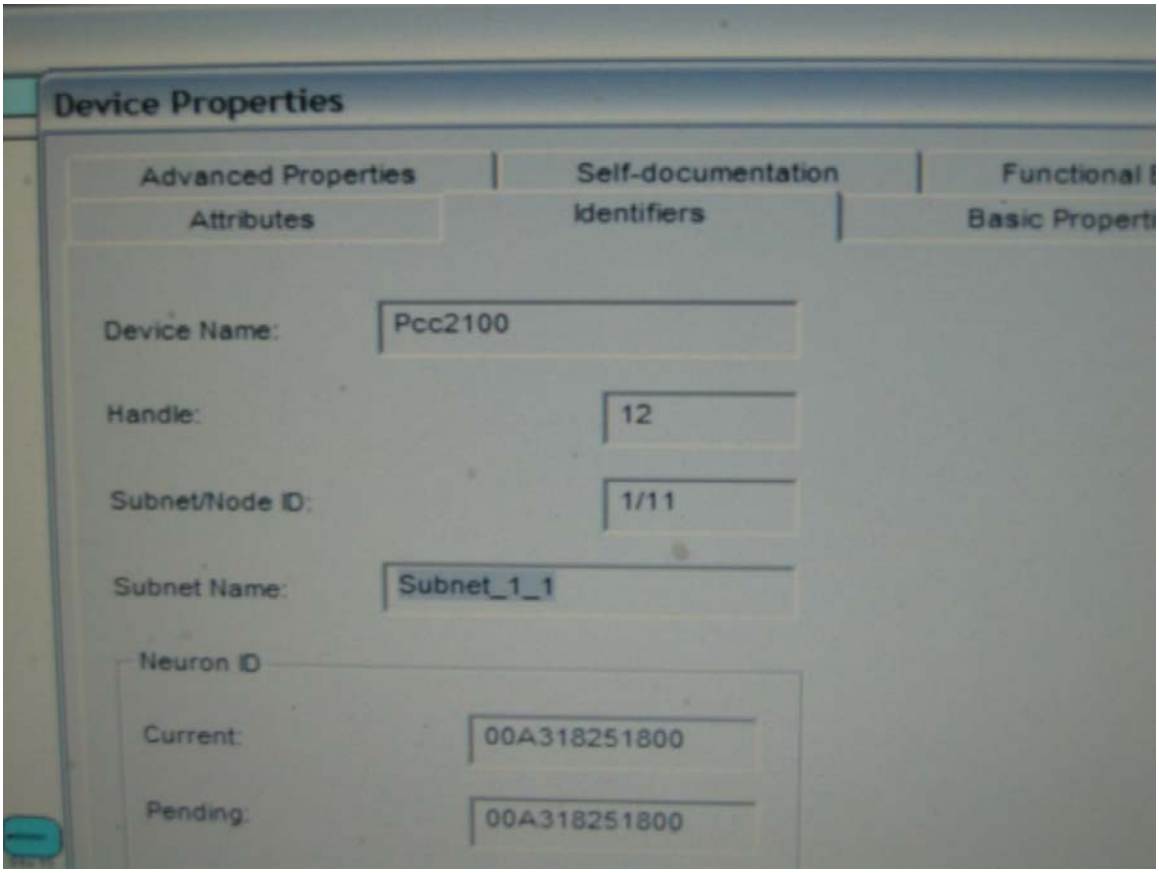
Step 3: Learn what the D-S-N of the engine controller are using Lonmaker.

Use Lonmaker: Open the appropriate network online. Within Visio, find Lonmaker in the Menu. Select ‘Network Properties’. This opens a multi-tabbed dialog. Select the tab called ‘Domain’. Note the Domain ID (in hex).





Select the engine controller device. Right click and select properties. This opens a multi-tabbed dialog. Select the tab called ‘Identifiers. Note the ‘Subnet/Node ID’. Typical shown as s/n where s is a number representing the subnet and n is a number representing the Node ID.



From the sample screens we learn the Domain=’5D’ and the Subnet = ‘1’ we will use ‘01’ to represent the subnet.

Step 4: Edit Configuration

Change the following

4.1 Add a new rev comment.
4.2 Change the title so that it reflects the new version number. The title shows up on the main menu when you connect with ruinet. Feel free to use the title for your own purposes but be careful of the D:N: part of the title.
4.3 Change the title with the Domain and Subnet info
4.4 Change the Lonworks Server Node_ID to match the controller's Lonworks Node number
4.5 Change the BACnet Server Node_ID if the customer requires a change.

Ad a rev comment if you change the file. All lines that begin with // are ignored and are used for comments.

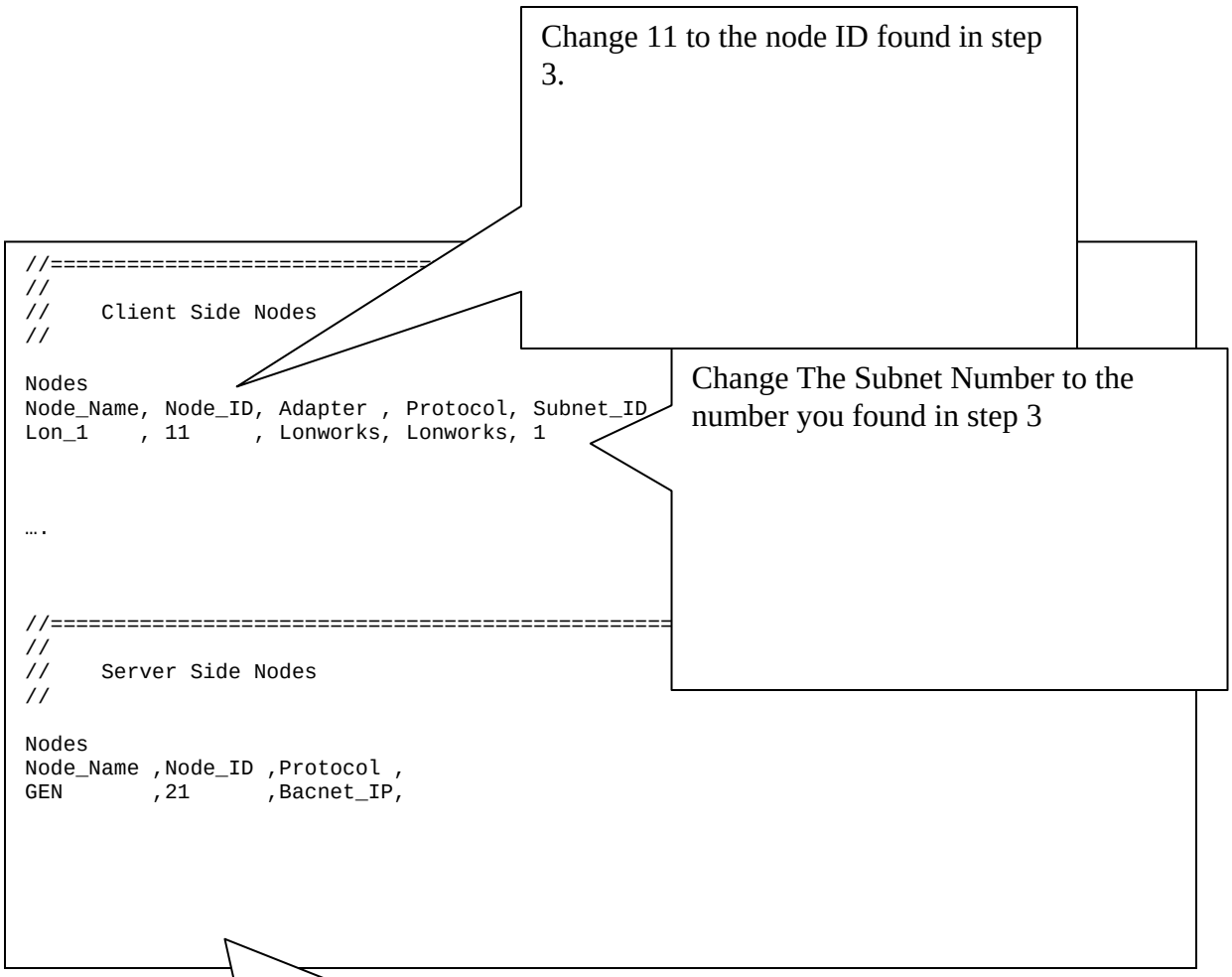
```
//=========================================================================================
//
//
//
//  Copyright (c) 2006 Sierra Foo          ntegration and Chipkin Automation Systems (A collaboration)
//  support@chipkin.com
//
//
//  1.00aA  03 Jan 07 PMC 1st Draft. Tested against The Cummins Western Canada Demo setup
//  1.00bA  19 Jan 07 PMC Corrections after testing at Cummins with Tony.
//
//=========================================================================================*/


//=========================================================================================
//
//    Common Information
//
//
//              Where does the D and S come from ?
//              ----------------------------------
//
//              Use Lonmaker, in the visio window use Lonmaker from the Menu across the top
//
//
Bridge
System_Address, Title
122           , ":D5D:S01:ConfigRev 100bA"
```

122 is the Node_ID allocated the Lonworks Client Node. Ie what Lonworks node number is the FieldServer.

The title is between double quotes: “title”. It consists of two parts. The Lonworks Domain and Subnet and a title that appears on the menu of the ruinet screen.

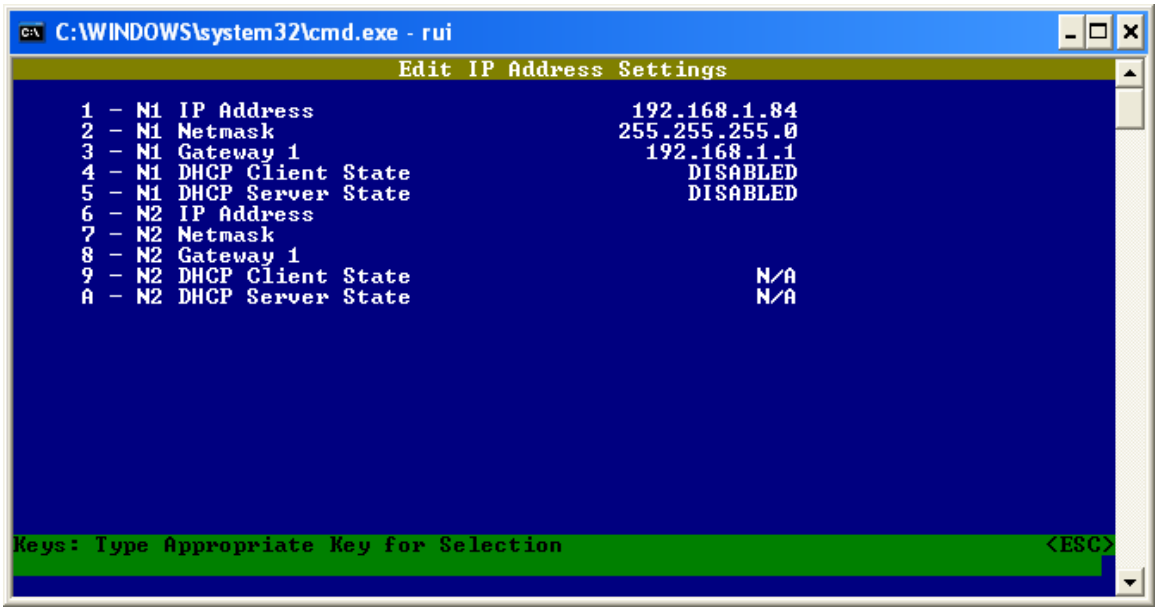
Format is as follows;

“:Dxx:Syy:zzzzzzzzzzzzzzzzzzzzzz”
Where zzzzzzzz is any string. This is the title. We use it to reflect the rev number of the config. Thus, in this example, the title will be **Config Rev 100bA.**
Dxx is the Domain number. Using the ‘5D’ and ‘01’ we found in step 3 the title becomes: “**:D5D:S01:ConfigRev 100bA"**


Change 11 to the node ID found in step 3.
//==========
//
//   Client Side Nodes
//
Nodes
Node_Name, Node_ID, Adapter , Protocol, Subnet_ID
Lon_1   , 11   , Lonworks, Lonworks, 1
….
Change The Subnet Number to the number you found in step 3
//==========
//
//   Server Side Nodes
//
Nodes
Node_Name ,Node_ID ,Protocol ,
GEN   ,21   ,Bacnet_IP,
Change the 21 to the Node_ID your customer asked you to assign to the BACnet node.

Step 8: Edit IP Settings

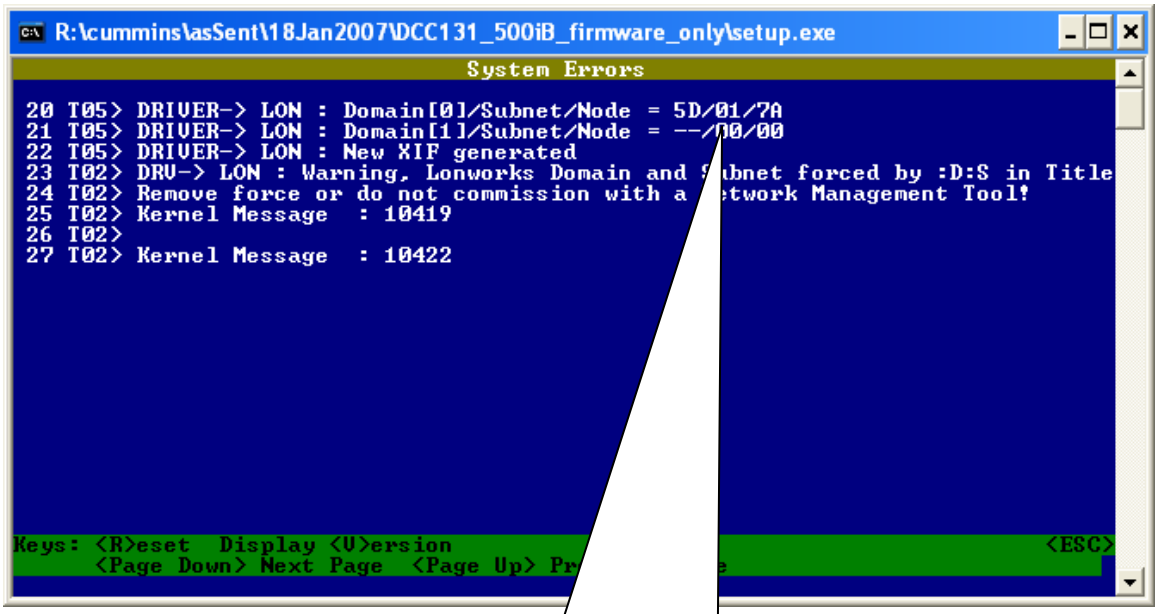
Use Ruinet. From the Main Menu, select ‘I’ for ‘Change IP Address’



Step 9: Confirm other changes

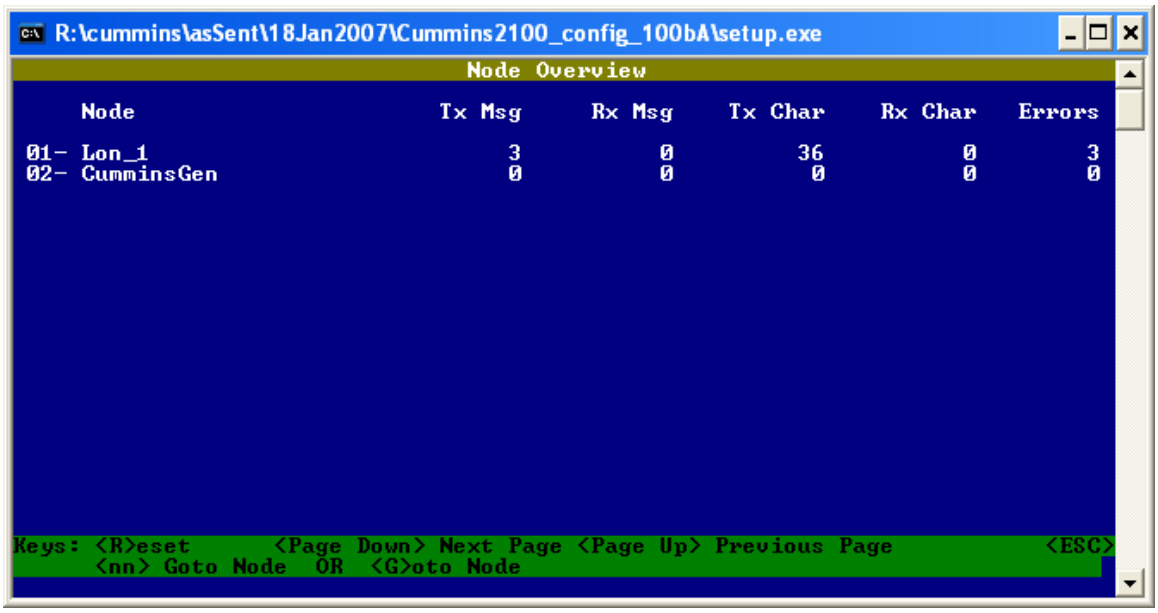
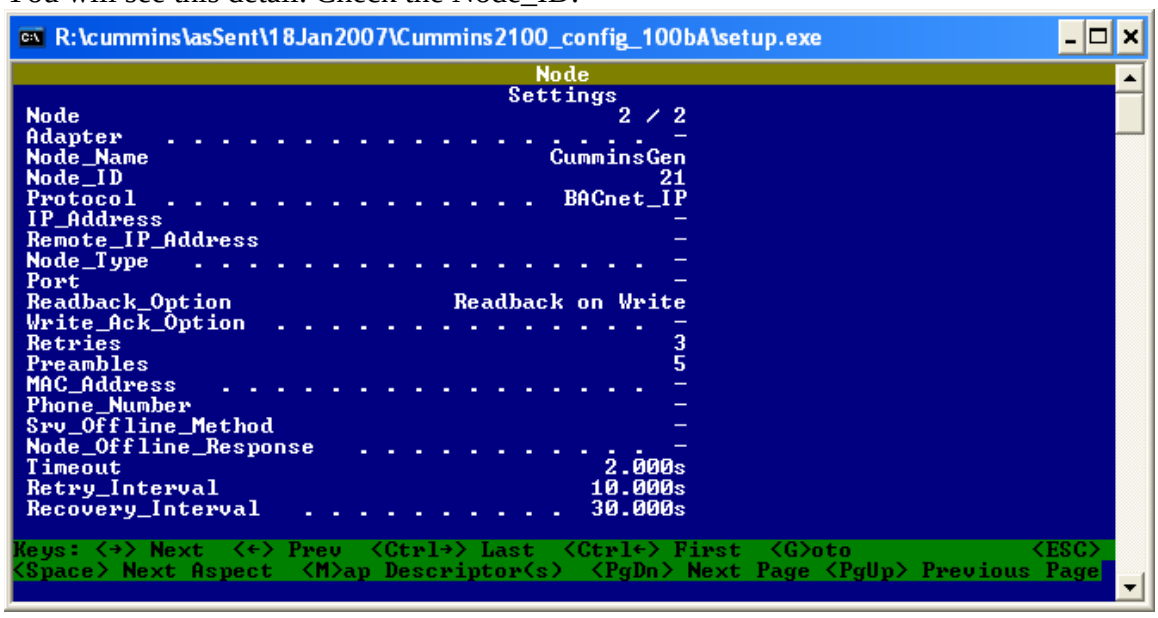
Use Ruinet.
From the Main Menu, select ‘E’ for ‘System Messages’. Check there are no configuration errors.

From the System Message (E screen)



Checks that the Domain and Subnet are as expected. The ‘7A’ is the Lonworks Server_Node ID as is set using the System_Node_ID parameters in the config. 7A is the hexadecimal equivalent of 122.

Check the BACnet Node number. From the Node Screen. Type ‘02’ to see the BACnet node.



You will see this detail. Check the Node_ID.