



PC56-SLS-OPC

ControlLogix Platform
OPC Server for PC56-SLS

Setup Guide

May 17, 2007



Please Read This Notice

The use and configuration of this software requires a reasonable working knowledge of the involved protocols and the application in which they are to be used. For this reason, it is important that those responsible for implementation satisfy themselves that the combination will meet the needs of the application without exposing personnel or equipment to unsafe or inappropriate working conditions.

This manual is provided to assist the user. Every attempt has been made to assure that the information provided is accurate and a true reflection of the product's functionality. In order to assure a complete understanding of the operation of the product, the user should read all applicable ProSoft documentation on the operation of the module and protocol driver.

Under no conditions will ProSoft Technology, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of the product. Reproduction of the contents of this manual, in whole or in part, without written permission from ProSoft Technology, Inc. is prohibited.

Information in this manual is subject to change without notice and does not represent a commitment on the part of ProSoft Technology, Inc. Improvements and/or changes in this manual or the product may be made at any time. These changes will be made periodically to correct technical inaccuracies or typographical errors.

Your Feedback Please

We always want you to feel that you made the right decision to use our products. If you have suggestions, comments, compliments or complaints about the product, documentation or support, please write or call us.

ProSoft Technology

1675 Chester Avenue, Fourth Floor
Bakersfield, CA 93301
+1 (661) 716-5100
+1 (661) 716-5101 (Fax)
<http://www.prosoft-technology.com>

Copyright © ProSoft Technology, Inc. 2000 - 2007. All Rights Reserved.

PC56-SLS-OPC Setup Guide
May 17, 2007
PSFT...UM.07.05.17

ProSoft Technology®, ProLinx®, inRAx®, ProTalk® and RadioLinx® are Registered Trademarks of ProSoft Technology, Inc.

Contents

PLEASE READ THIS NOTICE.....	2
Your Feedback Please	2
1 CONFIGURING THE PC56-SLS/OPC	5
1.1 System Management Console (SMC)	5
1.2 PC56SLSOPC Interface.....	6
1.2.1 BACKPLANE_PC56	6
1.2.2 LOGIX5000_PC56	7
1.3 Configure PC56SLSOPC.....	8
1.3.1 Local Backplane Communication	8
1.3.2 Remote ControlNet Network Communication.....	9
1.3.3 Remote Ethernet Network Communication	10
1.3.4 Configure Device Groups tab.....	11
1.3.5 Configure Device Items tab.....	13
1.4 Server Activation	15
1.5 Saving Changes.....	16
2 ARCHIVING CONFIGURATION SETS.....	17
3 ACCESSING ITEMS VIA THE PC56-SLS/OPC	19
4 GENERIC OPC SYNTAX	21
5 PC56-SLS/OPC ARCHITECTURE	23
5.1 PC56SLSOPC Servers.....	24
5.2 Plug-ins.....	24
5.3 DAS Engine	24
5.4 Backplane Protocol Layer	24
6 COMPONENT ENVIRONMENTS	25
SUPPORT, SERVICE & WARRANTY	27
Module Service and Repair	27
General Warranty Policy – Terms and Conditions.....	28
Limitation of Liability	29
RMA Procedures.....	29
INDEX	31

1 Configuring the PC56-SLS/OPC

In This Chapter

- System Management Console (SMC)..... 5
- PC56SLSOPC Interface..... 5
- Configure PC56SLSOPC 7
- Server Activation 14
- Saving Changes 15

After the PC56-SLS/OPC Server has been installed, a small amount of configuration is required. This configuration is performed using the PC56-SLS/OPC Manager hosted in the System Management Console.

Before the PC56-SLS/OPC is activated, the device hierarchy, simulating the physical hardware layout, must first be built to establish communications to each of the controllers. After the PC56-SLS/OPC hierarchy has been built, the respective devices for communications can be configured. Finally, the desired Device Groups for each controller may be created.

1.1 System Management Console (SMC)

In order to configure PC56SLSOPC server, first run System Management Console (SMC). The server can be configured to automatically activate when Windows starts, or manually activated in the System Management Console (SMC). SMC's shortcut is located under Start > Programs > ArchestrA.

Figure 1: System Management Console (SMC).



1.2 PC56SLSOPC Interface

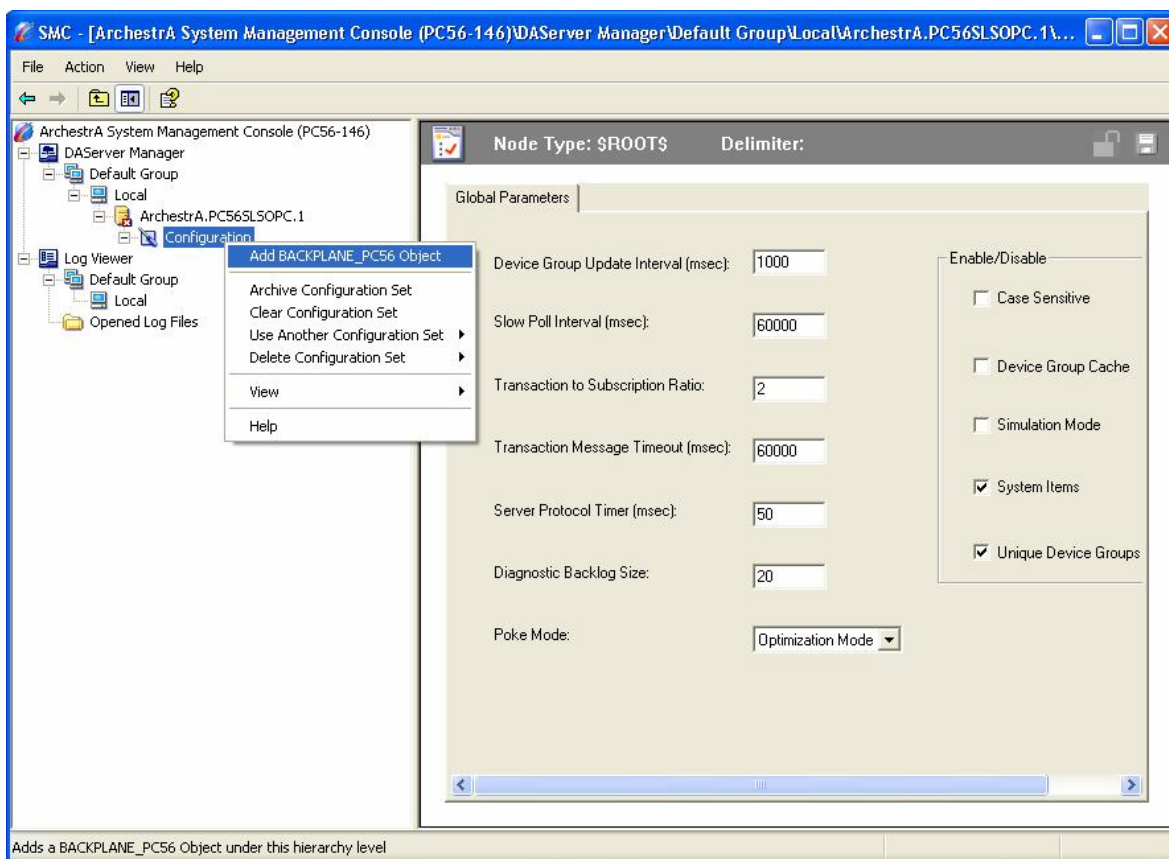
To open the PC56SLSOPC server configuration interface, add the following device hierarchies:

- BACKPLANE_PC56
- LOGIX5000_PC56

1.2.1 *BACKPLANE_PC56*

To add the BACKPLANE_PC56 object, expand the server tree and right click Configuration to open a shortcut menu. On the shortcut menu, choose "Add BACKPLANE_PC56 Object". Note that "Global Parameters" will usually be set to the default value for optimal performance and only one BACKPLANE_PC56 instance is allowed.

Figure 2: Add BACKPLANE_PC56.

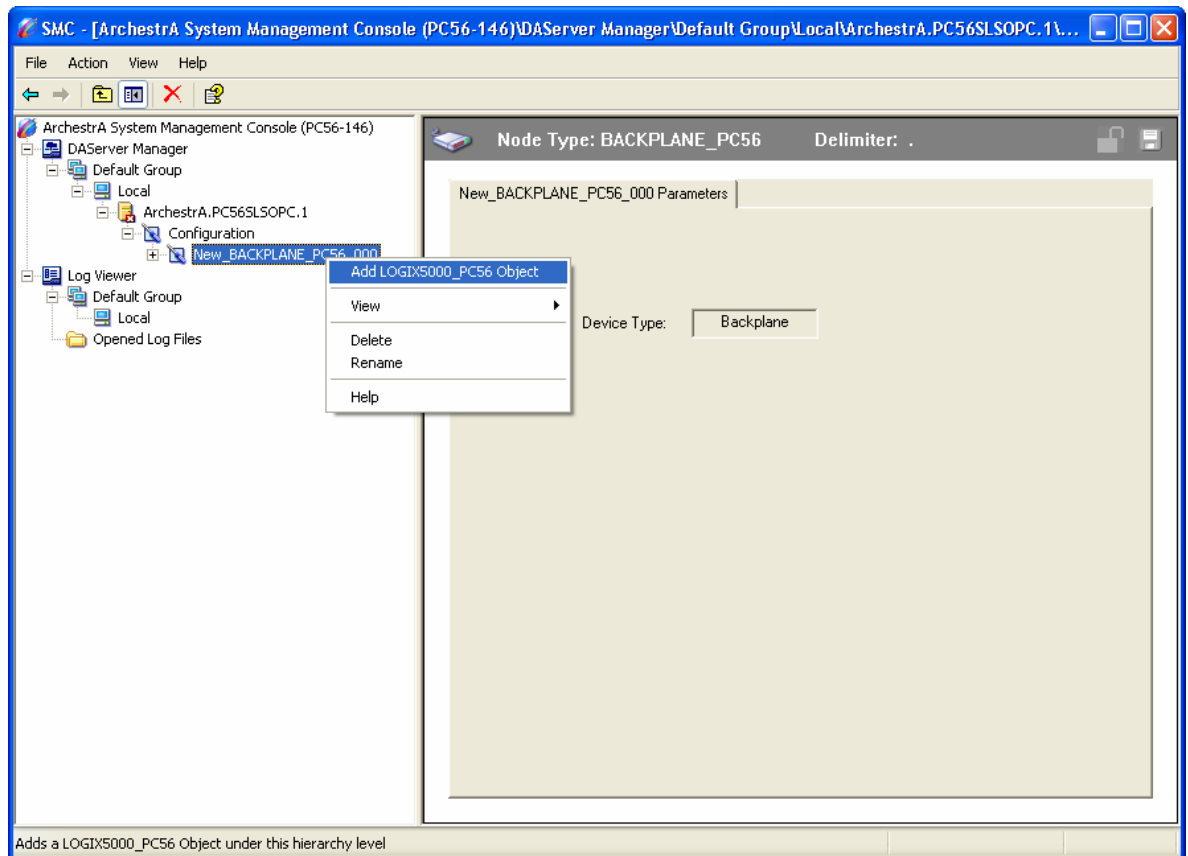


1.2.2 LOGIX5000_PC56

To add LOGIX5000_PC56 object, right click the new BACKPLANE_PC56 entry that you just added. On the shortcut menu, choose "Add LOGIX5000_PC56 Object". To configure more LOGIX5000_PC56, repeat this step.

You can add up to 16 LOGIX5000_PC56 objects under each BACKPLANE_PC56 instance.

Figure 3: Add LOGIX5000_PC56.



1.3 Configure PC56SLSOPC

You can configure PC56SLSOPC to communicate with a ControlLogix Processor in the following ways:

- Local Backplane
- Remote ControlNet Network
- Remote Ethernet Network Communication.

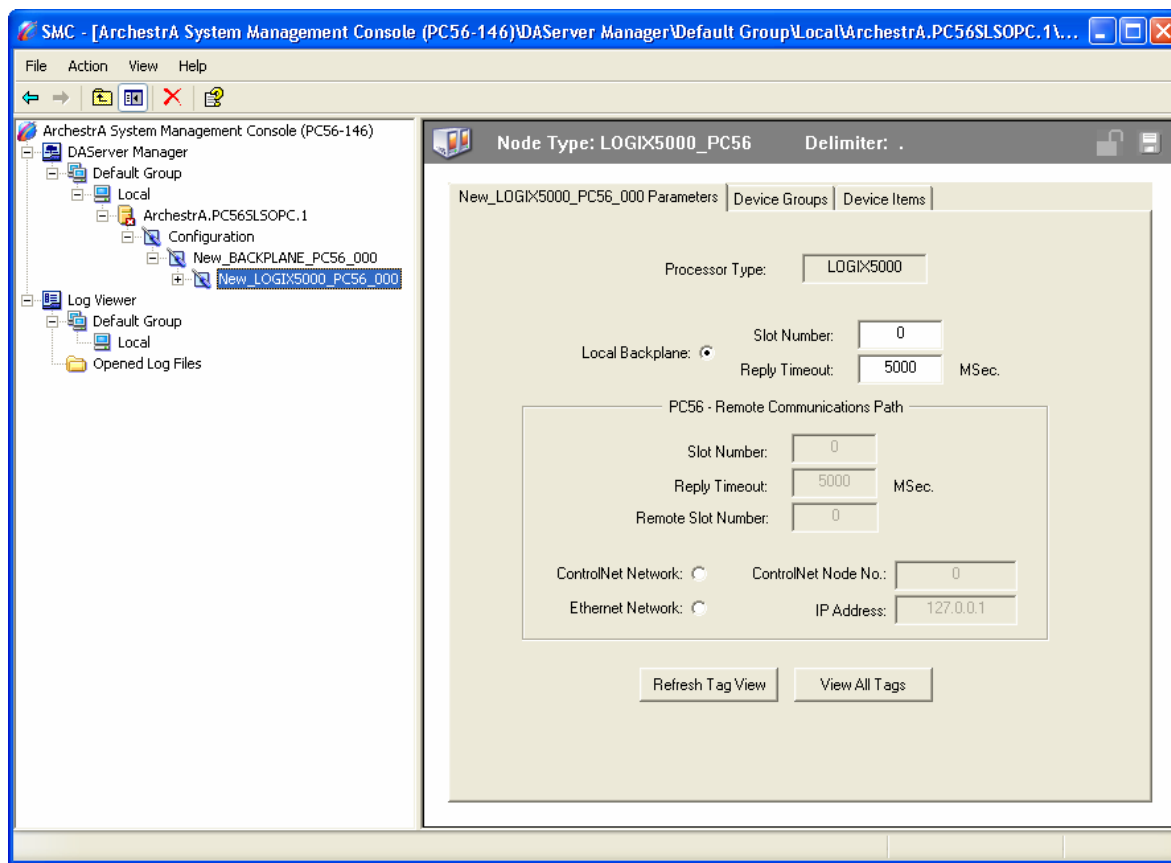
1.3.1 Local Backplane Communication

This communication type uses the following variables:

Variable	Description
Slot Number:	Number of Slot where ControlLogix Processor is located.
Reply Timeout:	Number in Millisecond before retry.

For example, on Figure 4, regardless of what slot number your PC56 is on, this tells the server to communicate directly to ControlLogix Processor in slot number 0.

Figure 4: Configure PC56SLSOPC to communicate via local Backplane (Processor on the same rack).



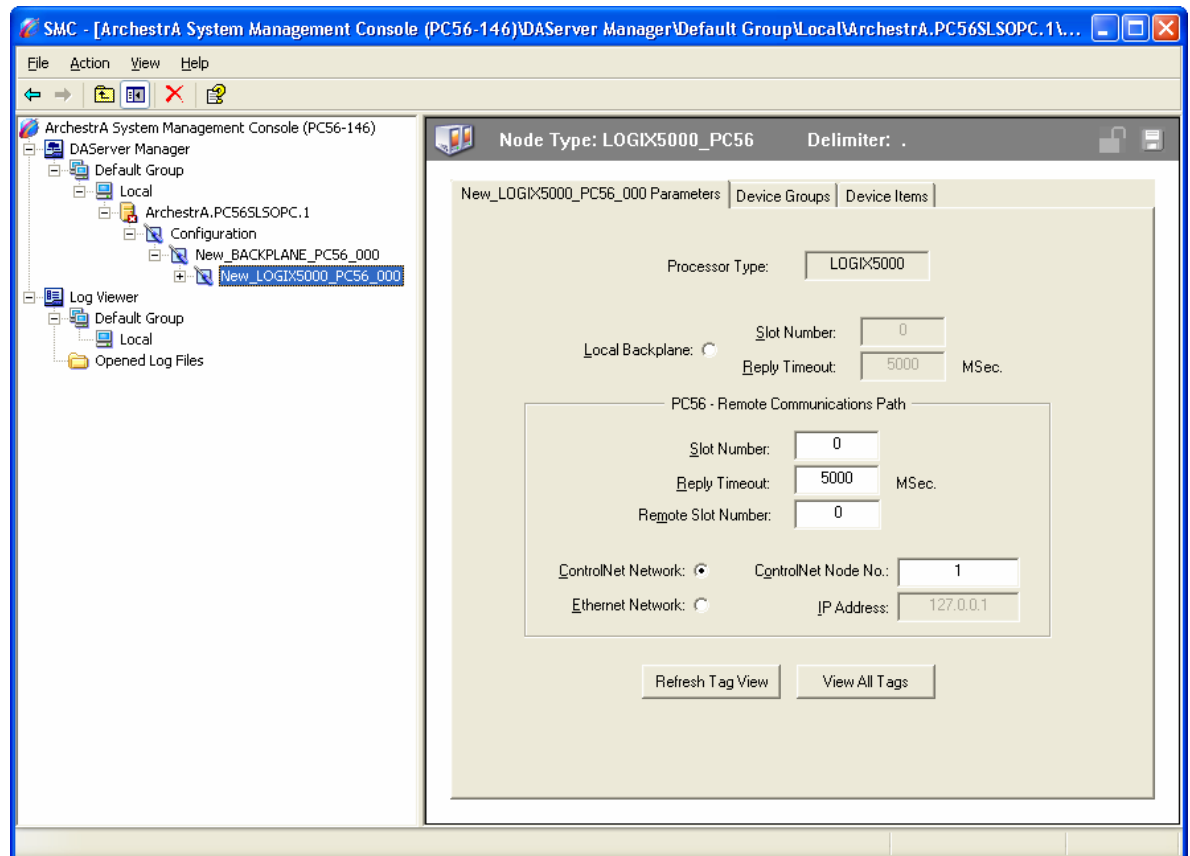
1.3.2 Remote ControlNet Network Communication

There are four variables associated with this type of communication: Slot Number, Reply Timeout, Remote Slot Number, and ControlNet Node Number.

Variable	Description
Slot Number:	Number of Slot where ControlNet module is located.
Reply Timeout:	Number in Millisecond before retry.
Remote Slot Number:	Number of Slot on remote rack where ControlLogix is located.
ControlNet Node No:	ControlNet Node Address assign on the ControlNet module on the remote rack.

For example, on Figure 5, regardless of what slot number your PC56 is on, this tells the server to remotely communicate via ControlNet module on the local slot rack number 0 to another ControlNet module with node address number 1 on a remote rack that has ControlLogix Processor on the remote rack slot number 0.

Figure 5: Configure PC56SLSOPC to communicate via ControlNet module (Processor on a remote rack via ControlNet Network).



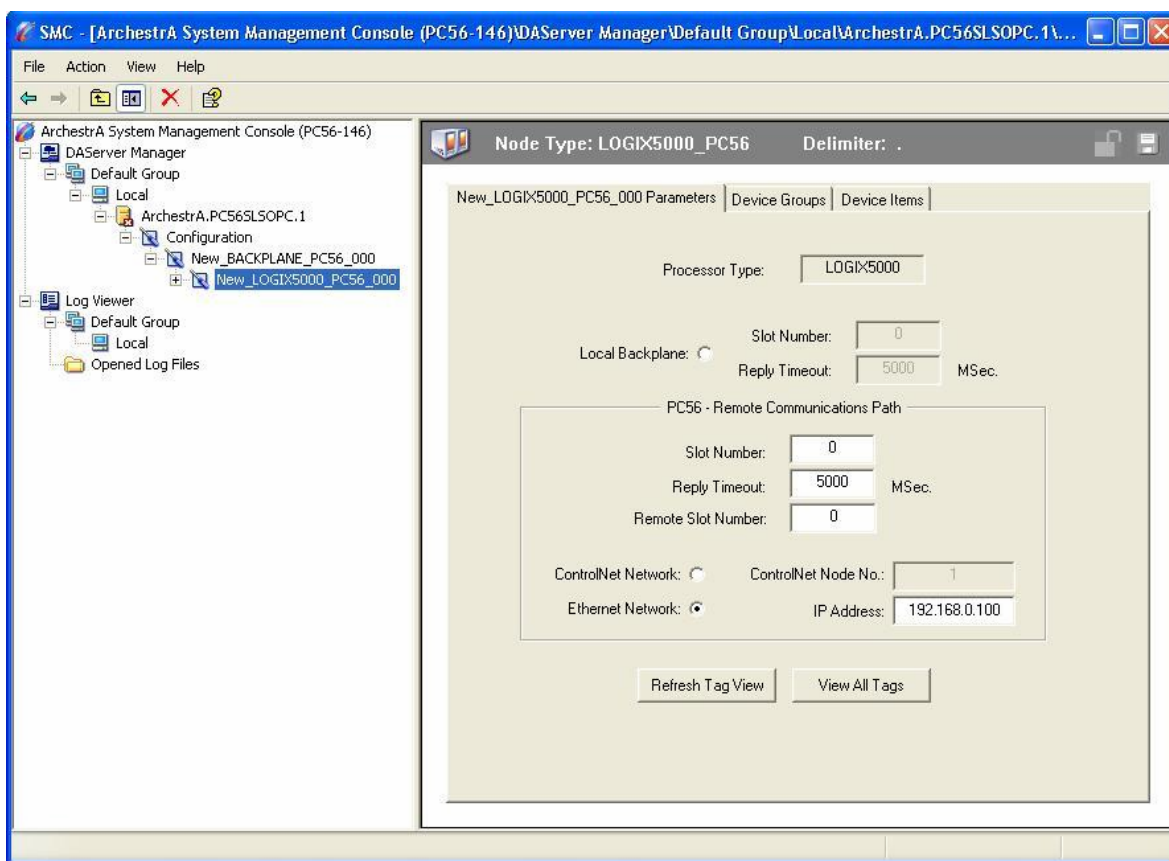
1.3.3 Remote Ethernet Network Communication

This communication type uses the following variables:

Variable	Description
Slot Number:	Number of Slot where the Ethernet module is located.
Reply Timeout:	Number in Millisecond before retry.
Remote Slot Number:	Number of Slot on remote rack where ControlLogix is located.
IP Address:	IP Address assign to the Ethernet module on the remote rack.

For example, on Figure 6, regardless of what slot number your PC56 is on, this tells the server to remotely communicate via Ethernet module on the local slot rack number 0 to another Ethernet module with IP Address 192.168.0.100 on a remote rack that has ControlLogix Processor on the remote rack slot number 0.

Figure 6: Configure PC56SLSOPC to communicate via Ethernet module (Processor on a remote rack via TCP/IP Network).



1.3.4 *Configure Device Groups tab*

Click on Device Groups, and then right click the entry of the group to add.

➤ *Configuring Device Group Definitions*

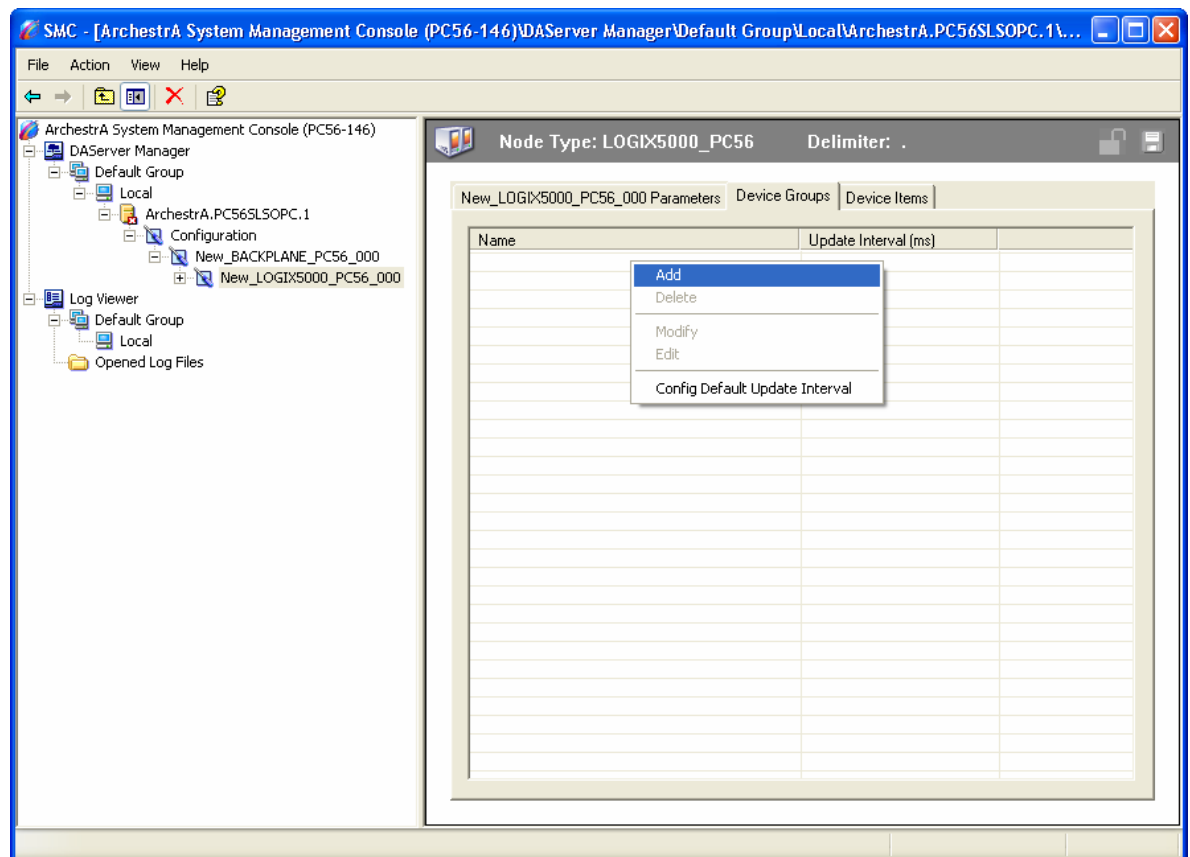
Use the Device Groups tab in the PC56-SLS/OPC Manager to create new, modify, or delete device group definitions for an object. For DDE/SuiteLink communications, one or more device group definitions must exist for each ControlLogix that the PC56SLSOPC server will communicate with. Each device group (topic) definition should contain a unique name for the ControlLogix associated with it.

➤ *Device Group Definitions*

Use the Device Groups dialog box to add, define, and delete device groups, and to configure default update intervals and update intervals for the objects.

When you add a new device group, enter a unique name. When you select another part of the PC56SLSOPC tree hierarchy, you are prompted to save the modifications to the configuration set.

Figure 7-8: Configure Device Group tab.



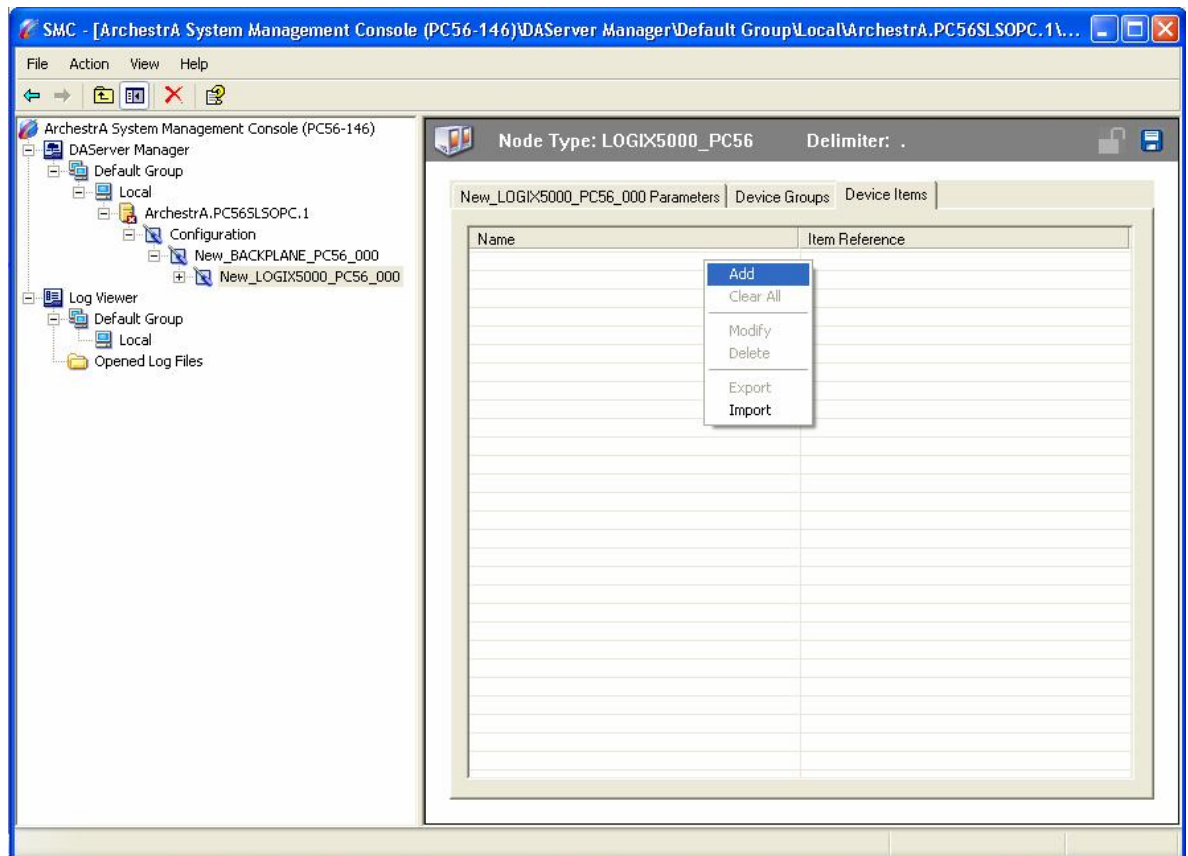
[illegible]

1.3.5 *Configure Device Items tab*

Click on Device Items, and then right click the entry of the Item to add.

Note: Device Items in the ArchestrA System Management Console are equivalent to RSLogix 5000 Controller Tags.

Figure 9-10: Configure Device Items tab.



The screenshot shows the Archestra System Management Console (PC56-146) interface. The main window is divided into two panes. The left pane displays a tree view of the system hierarchy, including the following nodes:

- Archestra System Management Console (PC56-146)
 - DAServer Manager
 - Default Group
 - Local
 - Archestra.PC56SLSOPC.1
 - Configuration
 - New_BACKPLANE_PC56_000
 - New_LOGIX5000_PC56_000
 - Log Viewer
 - Default Group
 - Local
 - Opened Log Files

The right pane displays the configuration details for the selected node, "New_LOGIX5000_PC56_000". The pane title is "Node Type: LOGIX5000_PC56" and "Delimiter: .". The pane contains a tabbed interface with three tabs: "New_LOGIX5000_PC56_000 Parameters", "Device Groups", and "Device Items". The "Device Items" tab is currently selected, showing a table with the following columns: "Name" and "Item Reference". The table contains one row with the value "Item_0" in the "Name" column and an empty cell in the "Item Reference" column.

Name	Item Reference
Item_0	

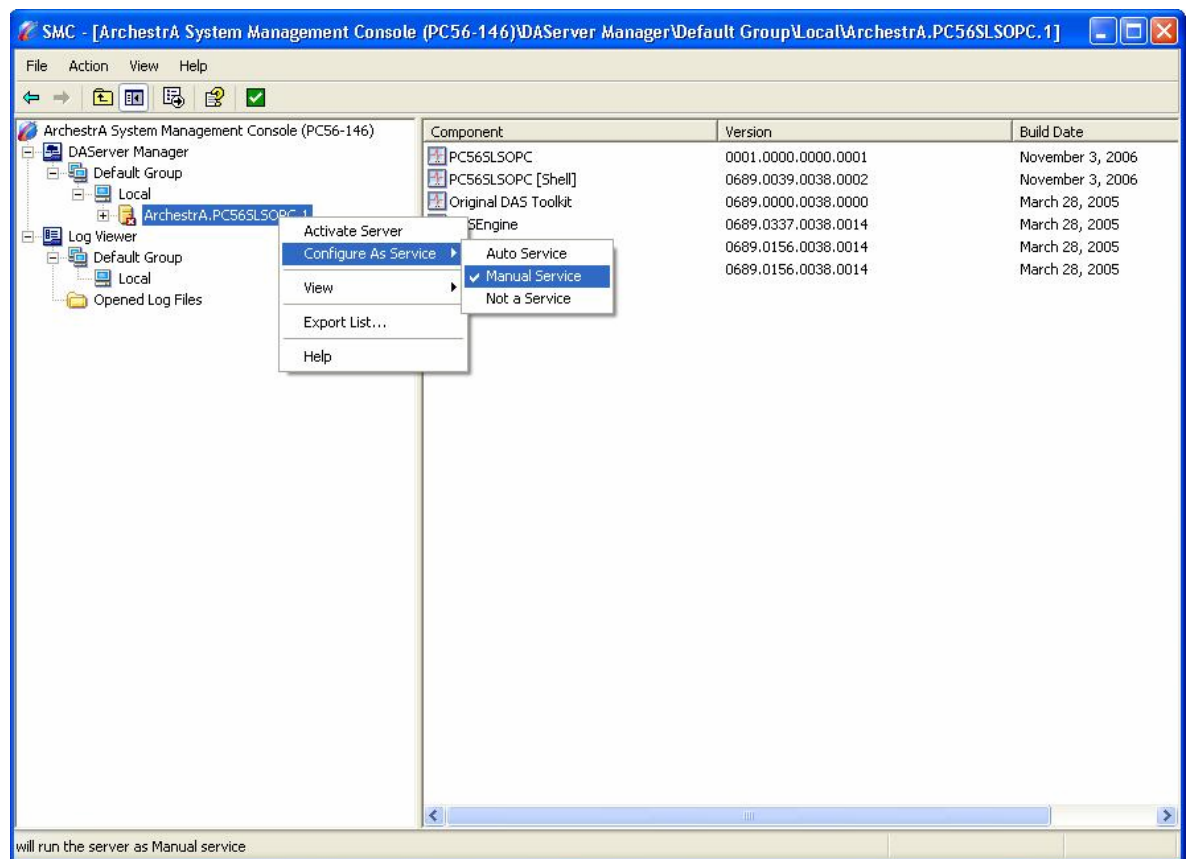
1.4 Server Activation

To activate the server, expand the left pane tree to locate PC56SLSOPC server. Select the server, and then click the right mouse button to open a shortcut menu. On the shortcut menu, choose "Configure As Service".

You can choose to activate the server automatically or manually. To activate the server manually, choose Auto Service or Manual Service.

Note: When you activate the server using OPC Client, the client will activate PC56SLSOPC server when it creates a connection to the server. It is therefore not necessary to activate the PC56SLSOPC server manually or automatically yourself.

Figure 11: Server Activation.



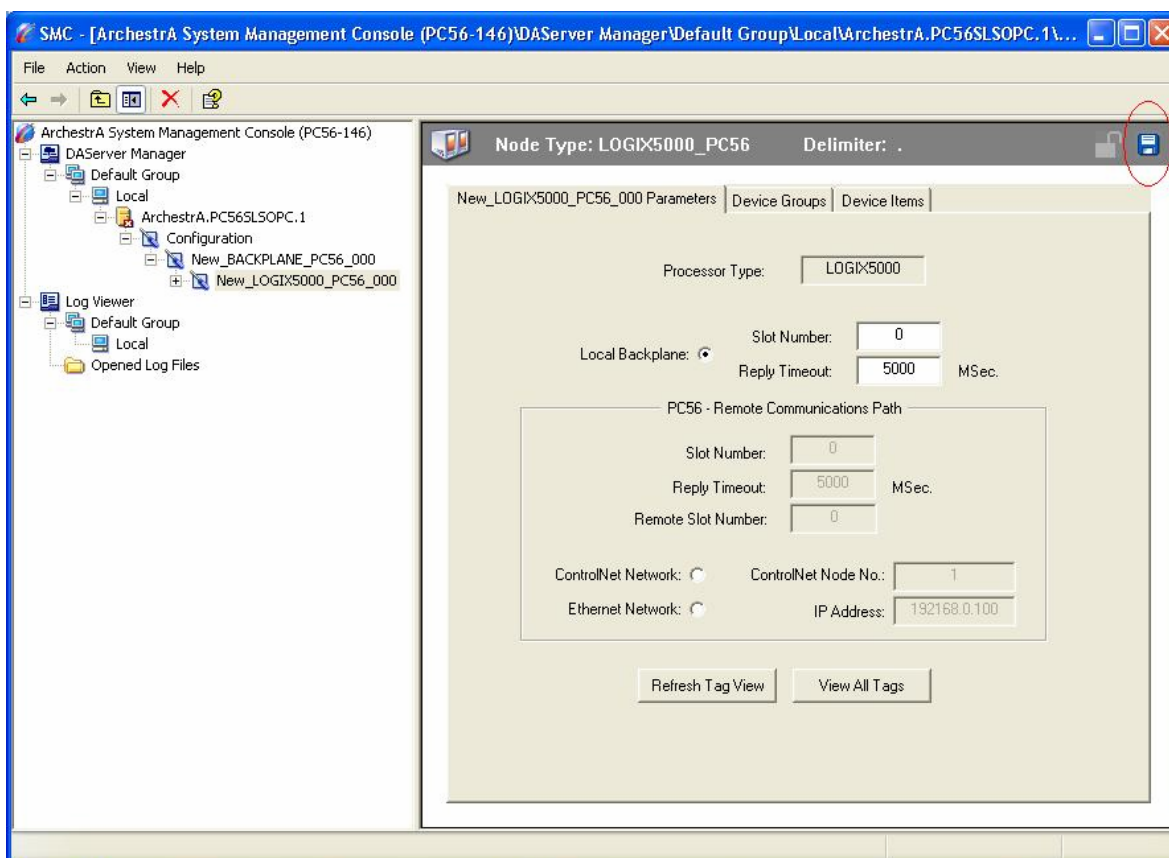
1.5 Saving Changes

In order for PC56SLSOPC server to successfully communicate with ControlLogix, you must save any changes you have made to the configuration parameters.

Whenever a variable has been changed, the "Save" button at the top right corner of the dialog box will become available. Click the button to save your configuration.

Note also that when you click the Refresh Tag View button, the save button will also be enabled to ensure that the latest tag information is retrieved.

Figure 12: Saving Changes.



2 Archiving Configuration Sets

After you have configured the PC56SLSOPC server, you can archive the configuration you created. You can archive more than one configuration set, and then choose these configurations for different purposes.

➤ ***To archive configuration sets***

- 1 In the PC56-SLS/OPC Manager, right-click on the Configuration node in the hierarchy below the PC56SLSOPC.
- 2 Select Archive Configuration Set from the shortcut menu.
- 3 In the Archive Configuration Set configuration view, enter a Configuration Set Name.
- 4 Click Archive.
- 5 All current configuration values are saved to the archived set.

After you have archived at least one configuration set, you can select it for use.

➤ ***To use a different configuration set***

- 1 In the PC56-SLS/OPC Manager, right-click the Configuration node in the hierarchy below the PC56SLSOPC.
- 2 Select Use Another Configuration Set from the shortcut menu and select the configuration set to use from the sub-menu.
- 3 All parameters in the PC56SLSOPC configuration hierarchy change to the chosen configuration set.

3 Accessing Items via the PC56-SLS/OPC

The method for accessing items (RSLogix 5000 Controller Tags) through the PC56SLSOPC server depends on the communications protocol being used.

In the case of OPC communications, the protocol addresses an element of data in a conversation with six characteristics: node name, program name, group name, device group, link name, and item name.

- The node name (required for remote access) and device group are optional.
- A fully qualified OPC Item name (ItemID) is composed of the link name and item name.
- All other characteristics are specified through separate PC56SLSOPC server means.

To access an OPC item, the OPC client needs to connect to the PC56SLSOPC server (either in-process or out-of-process) and create an OPC group defining the data-acquisition properties for the collection of items to be added. OPC groups can be either public or private. Public OPC groups are shared across multiple clients, whereas private OPC groups are local to a single client. Optionally, a device group, which indicates the access path to the items for read/write, can be specified from the PC56SLSOPC server.

The following briefly describes each characteristic of the OPC protocol:

- **Node name:** Computer (host) name identifying a specific node on the network (for Remote Access ONLY).
- **Program name:** The registered OPC server name uniquely identifying a specific server (ProgID). For this PC56SLSOPC, the program name is ArchestrA.PC56SLSOPC.1.
- **Group name:** The OPC group created from the client for organizing a collection of items logically with the same data acquisition properties between the client and the server, such as update rate.
- **Device group:** Meaningful names configured in the PC56SLSOPC server under a specific controller for the common custom attributes between the PC56SLSOPC server and the device, such as update interval. If not specified from the client, the default device group using the global configuration attribute values from the PC56SLSOPC server is assumed. Functionally, a device group is equivalent to an access path (optional).
- **Link name:** The set of hierarchy node names, representing the specific devices on a communications path link from the hierarchy root to a specific controller as configured for this PC56SLSOPC under the PC56-SLS/OPC Manager, separated by delimiters.
- **Item name:** A specific data element, the leaf of the hierarchy tree of this PC56SLSOPC server, within the specified group. For example, when using this PC56SLSOPC server, an item can be a relay, timer, counter, register, and so on, in the controller.

Note: Device Items in the ArchestrA System Management Console are equivalent to RSLogix 5000 Controller Tags.

In the case of DDE/SuiteLink communications, the protocol addresses an element of data in a conversation that uses a four-part naming convention that includes the node name, application name, topic name, and item name. The fully qualified DDE/SuiteLink naming convention includes all four parts, although the node name part (required for remote access only) is optional. The following briefly describes each portion of this naming convention:

- **Node name:** Computer (host) name identifying a specific node on the network (for Remote Access ONLY).
- **Application name:** The name of the Windows program that will be accessing the data element. For example: PC56SLSOPC.
- **Topic name:** Meaningful names are configured in the PC56SLSOPC server to identify specific devices. These names are then used as the topic names in all conversations with that device. For example, Topic_0. Topic name maps to a device group defined in the PC56SLSOPC.

You can define multiple device-group (topic) names for the same device (ControlLogix) to poll different points at different rates.

- **Item name:** A specific data element within the specified topic. For example, when using this PC56SLSOPC server, an item can be a relay, timer, counter, register, and so on, in the ControlLogix.

Note: Device Items in the ArchestrA System Management Console are equivalent to RSLogix 5000 Controller Tags.

The term "point" is used interchangeably with the term "item" in this user's guide. For more information on item/point names, see the Item Names section of this user's guide.

4 Generic OPC Syntax

PC56SLSOPC serves as a container for the OPC Groups, which provide the mechanism for containing and logically organizing OPC items. Within each OPC Group, an OPC-compliant client can register OPC items, which represent connections to data sources in the field device. In other words, all access to OPC items is maintained through the OPC Group.

The fully qualified name for an OPC item is called the Item ID (equivalent to Item Name). The syntax for specifying a unique Item ID is PC56SLSOPC-dependent. In OPC data acquisition PC56SLSOPC server, the syntax can be as follows:

`AREA10.VESSEL1.TIC1.PLC.IntVal`

where each component (delimited by a period) represents a branch or leaf of the field device's hierarchy. In this example:

- PLC is the name of the target PLC.
- IntVal is the specific data point (Item) desired.
- An item is typically a single value such as an analog, digital, or string value.

Where Item ID describes the syntax for defining the desired data point, OPC provides for another parameter, called Access Path, that defines optional specifications for obtaining that data.

In PC56SLSOPC server, Access Paths are equivalent to Device Groups; it is this parameter that is used to define the update interval between the PC56SLSOPC server and the field device for accessing the values of data points in the PLC.

5 PC56-SLS/OPC Architecture

In This Chapter

➤ PC56SLSOPC Servers	23
➤ Plug-ins	24
➤ DAS Engine	24
➤ Backplane Protocol Layer	24

PC56SLSOPC server is supported on Microsoft Windows 2000 and Windows XP only. NetDDE protocol is not supported by PC56SLSOPC.

This PC56SLSOPC server is a collection of components that work in concert to provide communications access with hardware field devices. These components include:

- **PC56-SLS/OPC Manager:** This is the Microsoft Management Console (MMC) snap-in that is part of the Archedra System Management Console suite of utilities, supplied with the PC56SLSOPC server. It provides the necessary user-interface for diagnostics, configuration, and activation.
- **Client Plug-ins:** These are the components that are added to a PC56SLSOPC server to enable communications with clients. Examples are: OPC, DDE/Suitelink, and so on.
- **DAS Engine:** This is the library that contains all the common logic to drive data access.
- **Device Protocol:** This is the custom code provided by this PC56SLSOPC server to define the communications with a particular device.

To access the server, a default Admin user account is also created for this PC56. The default login is:

- login: psft
- password: admin

This account is used in services for the Server Common Communication Infrastructure.

Important: The login and password are case sensitive. Enter them exactly as shown, in lower case.

5.1 PC56SLSOPC Servers

A PC56SLSOPC server is comprised of three physical parts. They are the following:

- **Plug-in Component(s):** Responsible for communicating with clients.
- **DAS Engine:** This common component is used by PC56SLSOPC server.
- **Device Protocol Layer, PC56-SLS/OPC-specific:** This component is responsible for communicating with the hardware.

Each physical part of a PC56SLSOPC server is comprised of a set of .exe and/or .dll modules. The DAS Toolkit user creates the Device Protocol Layer (PC56-SLS/OPC-specific) modules. All three sets of modules are required for a fully functioning PC56SLSOPC server.

5.2 Plug-ins

Plug-ins provide a protocol-translation function for device integration clients. Typical Plug-ins communicate in DDE, SuiteLink, or OPC protocol, and serve as interfaces between their clients and the DAS Engine.

Items of an array are not supported in the DDE/SL plug-in. These arrays are converted to HEXASCII strings, which provide legacy behavior for PC56SLSOPC server that support this in the PC56-SLS/OPC-specific code.

5.3 DAS Engine

The DAS Engine is a middleware component that exposes two sets of unique interfaces, one for communicating with the Plug-ins and the other one for communicating with the PLC Protocol Layer components.

5.4 Backplane Protocol Layer

The Backplane Protocol Layer provides a protocol-translation function for specific hardware; and it serves as an interface between the DAS Engine and the hardware.

6 Component Environments

Stand-alone PC56-SLS/OPC have the following characteristics:

- The DAS Engine is dynamically linked to the other PC56-SLS/OPC components. In other words, a new DAS Engine (feature enhancement or bug fix) would not require relinking to the other components, nor re-QA of those other components. When deployed to the system, the new DAS Engine would attach to all existing PC56-SLS/OPC components.
- Newly deployed Plug-ins (feature enhancements or bug fixes) do not require relinking, nor re-QA of associated components. Even new Plug-ins (for example, OPC Alarm & Events) would not require any development changes to the other components, and therefore no relinking in a customer- installed base. In fact, it is feasible to implement new functionality in a Plug-in to enhance the PC56SLSOPC server without any involvement of the code of the other components.
- PC56SLSOPC server can be configured in one stand-alone configuration utility (PC56-SLS/OPC Manager), and is capable of displaying specific configuration views for the PC56SLSOPC server. This utility allows the browsing and editing of PC56SLSOPC server on different nodes.
- The PC56-SLS/OPC Manager diagnostics tool displays generic diagnostic objects common to PC56SLSOPC server, in addition to the PC56-SLS/OPC-specific/ PC56-SLS/OPC-developer-defined diagnostic data.

Support, Service & Warranty

ProSoft Technology, Inc. survives on its ability to provide meaningful support to its customers. Should any questions or problems arise, please feel free to contact us at:

Internet	Web Site: http://www.prosoft-technology.com/support
	E-mail address: support@prosoft-technology.com
Phone	+1 (661) 716-5100
	+1 (661) 716-5101 (Fax)
Postal Mail	ProSoft Technology, Inc.
	1675 Chester Avenue, Fourth Floor
	Bakersfield, CA 93301

Before calling for support, please prepare yourself for the call. In order to provide the best and quickest support possible, we will most likely ask for the following information:

- 1 Product Version Number
- 2 System architecture
- 3 Module configuration and contents of configuration file
- 4 Module Operation
 - o Configuration/Debug status information
 - o LED patterns
- 5 Information about the processor and user data files as viewed through the processor configuration software and LED patterns on the processor
- 6 Details about the serial devices interfaced

An after-hours answering system allows pager access to one of our qualified technical and/or application support engineers at any time to answer the questions that are important to you.

Module Service and Repair

The PC56-SLS-OPC device is an electronic product, designed and manufactured to function under somewhat adverse conditions. As with any product, through age, misapplication, or any one of many possible problems the device may require repair.

When purchased from ProSoft Technology, Inc., the device has a 1 year parts and labor warranty (3 years for RadioLinx) according to the limits specified in the warranty. Replacement and/or returns should be directed to the distributor from whom the product was purchased. If you must return the device for repair, obtain an RMA (Returned Material Authorization) number from ProSoft Technology, Inc. Please call the factory for this number, and print the number prominently on the outside of the shipping carton used to return the device.

General Warranty Policy – Terms and Conditions

ProSoft Technology, Inc. (hereinafter referred to as ProSoft) warrants that the Product shall conform to and perform in accordance with published technical specifications and the accompanying written materials, and shall be free of defects in materials and workmanship, for the period of time herein indicated, such warranty period commencing upon receipt of the Product. Limited warranty service may be obtained by delivering the Product to ProSoft in accordance with our product return procedures and providing proof of purchase and receipt date. Customer agrees to insure the Product or assume the risk of loss or damage in transit, to prepay shipping charges to ProSoft, and to use the original shipping container or equivalent. Contact ProSoft Customer Service for more information.

This warranty is limited to the repair and/or replacement, at ProSoft's election, of defective or non-conforming Product, and ProSoft shall not be responsible for the failure of the Product to perform specified functions, or any other non-conformance caused by or attributable to: (a) any misuse, misapplication, accidental damage, abnormal or unusually heavy use, neglect, abuse, alteration (b) failure of Customer to adhere to ProSoft's specifications or instructions, (c) any associated or complementary equipment, software, or user-created programming including, but not limited to, programs developed with any IEC1131-3 programming languages, 'C' for example, and not furnished by ProSoft, (d) improper installation, unauthorized repair or modification (e) improper testing, or causes external to the product such as, but not limited to, excessive heat or humidity, power failure, power surges or natural disaster, compatibility with other hardware and software products introduced after the time of purchase, or products or accessories not manufactured by ProSoft; all of which components, software and products are provided as-is. In no event will ProSoft be held liable for any direct or indirect, incidental consequential damage, loss of data, or other malady arising from the purchase or use of ProSoft products.

ProSoft's software or electronic products are designed and manufactured to function under adverse environmental conditions as described in the hardware specifications for this product. As with any product, however, through age, misapplication, or any one of many possible problems, the device may require repair.

ProSoft warrants its products to be free from defects in material and workmanship and shall conform to and perform in accordance with published technical specifications and the accompanying written materials for up to one year (12 months) from the date of original purchase (3 years for RadioLinx products) from ProSoft. If you need to return the device for repair, obtain an RMA (Returned Material Authorization) number from ProSoft Technology, Inc. in accordance with the RMA instructions below. Please call the factory for this number, and print the number prominently on the outside of the shipping carton used to return the device.

If the product is received within the warranty period ProSoft will repair or replace the defective product at our option and cost.

Warranty Procedure: Upon return of the hardware product ProSoft will, at its option, repair or replace the product at no additional charge, freight prepaid, except as set forth below. Repair parts and replacement product will be furnished on an exchange basis and will be either reconditioned or new. All replaced product and parts become the property of ProSoft. If ProSoft determines that the Product is not under warranty, it will, at the Customer's option, repair the Product using then current ProSoft standard rates for parts and labor, and return the product freight collect.

Limitation of Liability

EXCEPT AS EXPRESSLY PROVIDED HEREIN, PROSOFT MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, WITH RESPECT TO ANY EQUIPMENT, PARTS OR SERVICES PROVIDED PURSUANT TO THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NEITHER PROSOFT OR ITS DEALER SHALL BE LIABLE FOR ANY OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION IN CONTRACT OR TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), SUCH AS, BUT NOT LIMITED TO, LOSS OF ANTICIPATED PROFITS OR BENEFITS RESULTING FROM, OR ARISING OUT OF, OR IN CONNECTION WITH THE USE OR FURNISHING OF EQUIPMENT, PARTS OR SERVICES HEREUNDER OR THE PERFORMANCE, USE OR INABILITY TO USE THE SAME, EVEN IF ProSoft OR ITS DEALER'S TOTAL LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT.

Where directed by State Law, some of the above exclusions or limitations may not be applicable in some states. This warranty provides specific legal rights; other rights that vary from state to state may also exist. This warranty shall not be applicable to the extent that any provisions of this warranty are prohibited by any Federal, State or Municipal Law that cannot be preempted. Contact ProSoft Customer Service at +1 (661) 716-5100 for more information.

RMA Procedures

In the event that repairs are required for any reason, contact ProSoft Technical Support at +1 661.716.5100. A Technical Support Engineer will ask you to perform several tests in an attempt to diagnose the problem. Simply calling and asking for a RMA without following our diagnostic instructions or suggestions will lead to the return request being denied. If, after these tests are completed, the module is found to be defective, we will provide the necessary RMA number with instructions on returning the module for repair.

System Management Console (SMC) • 5**Y**

Your Feedback Please • 2

Index**A**Accessing Items via the PC56-SLS/OPC • 19
Archiving Configuration Sets • 17**B**Backplane Protocol Layer • 24
BACKPLANE_PC56 • 6**C**Component Environments • 25
Configure Device Groups tab • 11
Configure Device Items tab • 13
Configure PC56SLSOPC • 8
Configuring the PC56-SLS/OPC • 5**D**

DAS Engine • 24

G

Generic OPC Syntax • 21

LLocal Backplane Communication • 8
LOGIX5000_PC56 • 7**P**PC56-SLS/OPC Architecture • 23
PC56SLSOPC Interface • 6
PC56SLSOPC Servers • 24
Please Read This Notice • 2
Plug-ins • 24**R**Remote ControlNet Network Communication
• 9
Remote Ethernet Network Communication •
10**S**Saving Changes • 16
Server Activation • 15
Support, Service & Warranty • 27