

the smart approach to instrumentation

IOtech, Inc.

25971 Cannon Road Cleveland, OH 44146-1833 Phone: (440) 439-4091 Fax: (440) 439-4093 E-mail (sales): sales@iotech.com E-mail (post-sales): productsupport@iotech.com Internet: http://www.iotech.com/

ScanServer User's Guide

p/n 1027-0901 Rev 2.0

©1998, 1999 by IOtech Released per EO# 2115R4 October 2000

Warranty Information

Your IOtech warranty is as stated on the product warranty card. You may contact IOtech by phone, fax machine, or e-mail in regard to warranty-related issues.

Phone: (440) 439-4091, fax: (440) 439-4093, e-mail: sales@iotech.com

Limitation of Liability

IOtech, Inc. cannot be held liable for any damages resulting from the use or misuse of this product.

Copyright, Trademark, and Licensing Notice

ScanServerTM is a registered trademark of IOtech, Inc.

ScanServer software copyright is maintained by Harmon Research and Development Corporation. © 1998, 1999

All IOtech documentation, software, and hardware are copyright with all rights reserved. No part of this product may be copied, reproduced or transmitted by any mechanical, photographic, electronic, or other method without IOtech's prior written consent. IOtech product names are trademarked; other product names, as applicable, are trademarks of their respective holders. (Microsoft, Windows, and Visual Basic are registered trademarks of Microsoft Corporation. NT and Excel are trademarks of Microsoft Corporation. RSView is a trademark of Rockwell Software. WonderWare is a registered trademark of WonderWare Corporation. InTouch is a trademark of WonderWare Corporation.

All supplied IOtech software (including miscellaneous support files, drivers, and sample programs) may only be used on one installation. You may make archival backup copies.

Quality Notice



IOtech has maintained ISO 9001 certification since 1996. Prior to shipment, we thoroughly test our products and review our documentation to assure the highest quality in all aspects. In a spirit of continuous improvement, IOtech welcomes your suggestions.

Introduction

Contents

Introduction... 1 Contents... 1 About ScanServer... 2 Features... 2 System Requirements... 2 Specifications... 2

Getting Started... 3 Installing ScanServer... 3 Quick Start... 3 Starting ScanServer... 4 Creating a Node... 5 Configuring Channels... 8 Set the Node Online... 8 Saving the Project... 9 Testing the Node... 9

Projects... 13 Overview... 13 File Menu... 13 Starting a New Project... 14 Saving a Project... 14

Nodes... 15 Overview... 15 Node Menu... 15 Creating a Node... 16 Editing a Node... 18 Deleting a Node... 18

Items... 19 Item Types... 19 Item Names... 20 Copy DDE Link... 21 Overview... 21 Copying a DDE Link... 21

Options... 23 View Menu... 23

Using Microsoft Excel with ScanServer... 25 Procedures... 25 Tips... 26

Using RSView32 6.0 with ScanServer and OPC... 27 *Procedures... 27 Tips... 31*

Using DDE Client with ScanServer... 33 Introduction... 33 Procedures... 33 Start DDE Client... 33 Connect to ScanServer and a Topic... 33 Start a Transaction... 34 Poke a Value... 34 Abandon a Transaction... 35

Glossary... 37

Index... 39

About ScanServer

ScanServer is a Microsoft Windows (95/98 & NT) application that acts as a DDE Server and/or OPC (OLE for Process Control) to allow other Windows applications to access measurement data from TempScan, MultiScan, NetScan and ChartScan instruments. ScanServer supports all Windows DDE and OPC Client applications, including Wonderware's InTouch, Rockwell Software's RSView, Microsoft's Excel, and Visual Basic.

Features

- Supports RS-232/422, IEEE 488, and Ethernet 10BASE-T (TCP/IP)
- Supports "Advanced DDE" and "Fast DDE" formats, standard XL Table, and CF_TEXT.
- Supports OPC Data Access Standard Release 1.0A.
- Supports strings and numerics in single channel and multichannel arrays.
- Provides DDE monitoring and diagnostic services.
- Supports measurement rates up to ten times a second.
- Supports unlimited modules over any number of communication ports.

System Requirements (Minimum)

- IBM®-compatible 486.
- Windows 95/98,or Windows NT 4.0.
- 8 MB (megabytes) of RAM (12 MB is recommended).
- 2 MB of hard disk space.
- RS232/RS422, IEEE 488, or Ethernet 10BASE-T (TCP/IP)

Specifications

Maximum Nodes	Unlimited.
Communication Interface	RS232/RS422, IEEE 488, and Ethernet 10BASE-T (TCP/IP)
Poll Rates	Foreground Polls: User-set from 0.1 to 100 s; default: 1 s.
	Background Polls: User-set from 1 s to 1000 s; default: 10 s.
	Time-outs: User-set from 2 sec to 10 s; default: 2 s.
	Automatic Retries: User-set from 1 to 10; default:2.

Getting Started



Reference Note: To set up NetScan, TempScan, MultiScan or ChartScan hardware, refer to the setup and installation sections of the corresponding user's manual.



Reference Note: A Net232 Ethernet/RS-232 Converter is required for TempScan, MultiScan and ChartScan Ethernet Applications. The *Net232 User's Guide* (p/n 1037-0901) contains Ethernet-related information pertaining to these data acquisition systems.

Installing ScanServer

The ScanServer disks include the ScanServer program files and a simple DDE Client application useful in testing and troubleshooting DDE communications. Complete the following steps to install ScanServer on the computer hard drive:

- **Note:** The following steps are for installing from disks. If your ScanSever program is on a CD-ROM, simply install the CD-ROM and follow the installation screen prompts.
 - 1. Close all currently running Windows applications.
 - 2. Insert ScanServer disk 1 in your floppy drive.
 - 3. Choose Start/Run (or File/Run from Program Manager).
 - 4. In the dialog box, type **a:setup.exe** (**b:setup.exe** if installing from the b drive).
 - 5. Choose **OK** and follow the on-screen instructions.
 - 6. ScanServer will install to the directory you specify during installation. The default directory is:

c:\Program Files\ScanServer

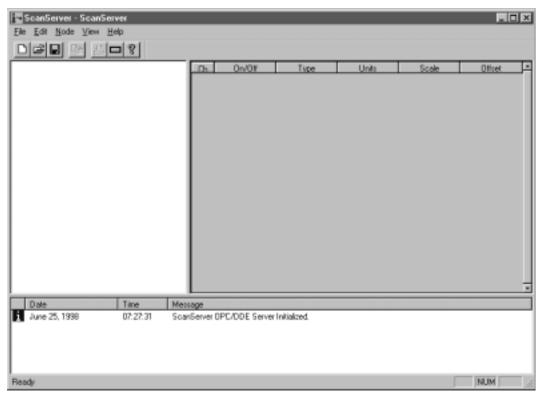
Quick Start

After you have installed ScanServer on your system, you must set up communication with the TempScan, MultiScan, NetScan, or ChartScan instrument(s) attached to your system. To do this, follow the procedures for:

- 1. Starting ScanServer.
- 2. Creating a node.
- 3. Configuring channels.
- 4. Saving the project.
- 5. Testing a node using the provided DDE Client.

Starting ScanServer

From Windows 95/98 and Windows NT4.0, choose **Start/Programs/ScanServer/ScanServer**. The ScanServer Window will open.



ScanServer Window

Creating a Node

1. From the ScanServer window, choose <u>Node/New Node</u>. The New Node dialog opens.

New Node			×
Node Name: TS1 Pol Rate (10 Sec Internal Foreground (Sec) Background (Sec)) [4	OK Cancel	
Interface G Serial Pot. C IEEE 498 C Ethernet	Baud Rate:	None 💌	

- 2. In the **Node Name** box, enter an alphanumeric string (e.g., TS1, a TempScan). This string will be used for referencing the instrument in the DDE Connect **Topic** box (discussed on page 10).
- 3. Set the **Foreground (Sec)** and **Background (Sec)** poll rates in the **Poll Rate** box:
 - Enter a value in the Foreground (Sec) box. Valid Foreground Poll Rates are 0.10 second through 10,000 seconds (in 0.10 second increments). The default Foreground Poll Rate is 1 second.
 - Enter a value in the Background (Sec) box. Valid Background Poll Rates are 1 second through 10,000 seconds (in 1 second increments). The default Background Poll Rate is 10 seconds).
- 4. From the **Interface** box; select the appropriate radio button (Serial Port, IEEE 488, or Ethernet).
- 5. Select the appropriate communications parameters in the Serial Port, IEEE 488, or Ethernet box.
 - For Serial Port (RS232/RS422) select the communication port where ScanServer is connected (e.g., COM1). Set the Baud Rate, Parity and Handshaking configuration of the device. Refer to your device user's manual as needed.

- For IEEE 488, enter the bus address or IEEE 488 device name assigned to the instrument.
- For **Ethernet**, enter the IP address or name.



Reference Note: The communications settings must correspond to the instrument's interface configuration. Refer to the appropriate user's manual(s), as needed.



Reference Note: A Net232 Ethernet/RS-232 Converter is required for TempScan, MultiScan and ChartScan **Ethernet Applications**. The *Net232 User's Guide* (p/n 1037-0901) contains Ethernet-related information pertaining to these data acquisition systems.

- 6. Ensure the instrument is connected to the selected communications port and is turned on.
- 7. Choose OK.

ScanServer now attempts to communicate with and identify an instrument using the configuration settings for the New Node.

If communications and identification are successful, a "**T**" icon and text (indicating the type of instrument found) are displayed in the project window.

ScanServer - ScanServer								_ 🗆 🗙
<u>F</u> ile <u>E</u> dit <u>N</u> ode <u>V</u> iew <u>H</u> elp			_262%5			line i	The second second	
🔁- <mark>T</mark> TS1 (COM2) TempScan/1100	V1 []	h On/Off	T	voe	Units	1. J	Scale	Offset 🗅
		1 Disabled	💌 J		° Celsius		1.00	0.00
		2 Disabled	• J	T	Celsius	-	1.00	0.00
		3 Disabled	J		' Celsius	-	1.00	0.00
		4 Disabled	▼ J		° Celsius	-	1.00	0.00
	100	5 Disabled	▼ J	•	° Celsius		1.00	0.00
	3	6 Disabled	▼ J		Celsius		1.00	0.00
	i an	7 Disabled	💌 J	-	° Celsius	-	1.00	0.00
		8 Disabled	💌 J	•	Celsius	-	1.00	0.00
		g Disabled	.▼ J		Celsius		1.00	0.00
	-	0 Disabled	▼ J		° Celsius	-	1.00	0.00
		1 Disabled	T J	1	Celsius		1.00	0.00
		2 Disabled	💌 J	•	Celsius	-	1.00	0.00
	1	3 Disabled	💌 J	T	Celsius	•	1.00	0.00
	1	4 Disabled	💌 J	•	Celsius		1.00	0.00
	1	5 Disabled	J	•	Celsius	-	1.00	0.00
	1	6 Disabled	💌 J	T	Celsius	-	1.00	0.00
	1	7 Disabled	▼ J		Celsius	-	1.00	0.00
		8 Disabled	▼ J		° Celsius	-	1.00	0.00
4	I DE	9 Disabled	💌 J		Celsius		1.00	0.00
		Dieablod			Coleine	-	1 በበ	L. Inn n
Date Time	Message							
March 25, 1999 07:27:31	ScanSe	ver OPC/DDE Se	rver Initializ	ed.				
1 March 25, 1999 07:29:42	Creating	Node: TS1.						
Ready								NUM ///

In this screen shot, the created node (TS1) is displayed. ScanServer has detected a device at COM2 and identified the device as a TempScan/1100.

If communications or identification is not successful, a question mark (?) icon is displayed; and an error is reported in the *event* window. If this occurs, check that the instrument is powered on and connected to the appropriate communications port.

旧田	Edit Node Ven			NO X
-	2 151 (COMI)		Do OniOli Tvice Uniti Scole	Dher -
	Date	Tere	Meinope	1
H	June 25, 1998	67.32.15	ScarServer DPC/DDE Server Initialized.	
я	June 25, 1998	17.32.38	Creating node 151.	
	June 25, 1998	67.32.38	Opening resial port tailed Will ta again	
lě	June 25, 1998	87 32 39	Opening serial part failed Will be again.	
lā	1	01.111.55	Parates and and taked Addies and	
Tier				M.H

In this screen shot, a new node could not be created.

Configuring Channels

Using the configuration grid on the right side of the ScanServer window, select the appropriate type channel type and enable the channels using the drop-down controls. Configure only a few channels now. More channels may be configured later.

Set the Node Online

From the ScanServer window, choose **<u>N</u>ode/<u>O</u>nline** to set the node in the online state. The Online menu selection will be checked and the Online/Offline icon in the iconbar will be displayed as depressed.

ScanServer - ScanServer										×
<u>F</u> ile <u>E</u> dit <u>N</u> ode <u>V</u> iew <u>H</u> elp										
		5 a.	er des							
	Ch	0n/Off		Type		Units	i en la	Scale	Offset	
	1	Disabled		J		* Celsius	-	1.00	0.00	
	2	Disabled	-	J		° Celsius	-	1.00	0.00	
	3	Disabled		J	T	* Celsius		1.00	0.00	
	4	Disabled	•	J		° Celsius	-	1.00	0.00	-
	5	Disabled	-	J	-	* Celsius	-	1.00	0.00	
	6	Disabled		J		° Celsius		1.00	0.00	
	7	Disabled		J		° Celsius	-	1.00	0.00	
	8	Disabled	7	J		* Celsius		1.00	0.00	
	9	Disabled		J		* Celsius	-	1.00	0.00	
	10	Disabled	•	J	•	° Celsius		1.00	0.00	
	11	Disabled	-	J	۲	* Celsius		1.00	0.00	
	12	Disabled		J	-	° Celsius	•	1.00	0.00	1973 (1973)
	13	Disabled		J		° Celsius	•	1.00	0.00	
	14	Disabled		J	-	* Celsius	-	1.00	0.00	
	15	Disabled	-	J	-	° Celsius		1.00	0.00	
	16	Disabled		J		° Celsius	1	1.00	0.00	
	17	Disabled	٠	J	1	° Celsius	•	1.00	0.00	
	18	Disabled	•	J	-	° Celsius	•	1.00	0.00	
	19	Disabled		J		* Celsius	1	1.00	0.00	
		Dieahlori			Ţ	° Coleine	-	1 00	0.00	
Date Time	Message									
i March 25, 1999 07:27:31	ScanServe	r OPC/DDE Se	rver	Initialized.						
i March 25, 1999 07:29:42	Creating No	de: TS1.								
Ready									NUM	11.

Saving the Project

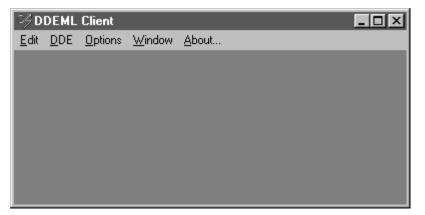
From the ScanServer window, choose **<u>File/Save Project</u>**. A dialog box will open, waiting for a filename to be entered. The default name is ScanServer. Enter a name and click the **<u>Save button</u>**.

				? ×
CanServer	•	£	Ě	8-8- 0-0- 8-8-
ScanServer.cfg				<u>S</u> ave
ScanServer Config (*.cfg)		-		Cancel
	ScanServer.cfg	<u>ScanServer.cfg</u>	ScanServer.cfg	ScanServer.cfg

Testing the Node

We will use the DDE client supplied with ScanServer to test the node we have created.

1. From Windows 95, and with ScanServer running, choose Start/Programs/ScanServer/DDE Client. The DDE Client Window will open.



2. Choose DDE/Connect. The DDE Connect dialog will open.

DDE Connect	X
Application:	ScanServer
Topic:	TS1
🗌 Keep all re	esponders
<u>C</u> onnect	Cancel

- 3. Type **ScanServer** in the Application box.
- 4. In the Topic box, type the name of the node (that you currently have configured in ScanServer).
- 5. Click on **Connect**. Information about the node will be displayed in the DDE Client Window.

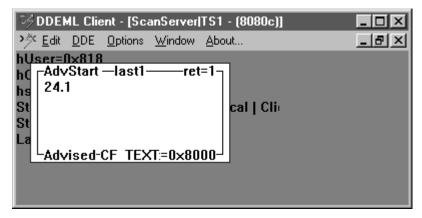


6. Choose DDE/Start Transaction. The DDE Transaction dialog will open.

DDE Transaction 🛛 🕅 🕅									
ltem:	last1								
Format:	CF_TEXT								
<u>O</u> k Op <u>t</u> ions <u>C</u> ancel	Type ○ <u>Request</u> ○ <u>P</u> oke ○ <u>Advise</u> ○ <u>E</u> xecute ○ <u>U</u> nadvise								

7. Enter **last1** in the item box to select data from channel 1.

- 8. Be sure **CF_Text** is displayed in the Format box.
- 9. Be sure <u>A</u>dvise is selected in the Type box.
- 10. Click on **Ok**. A transaction box will appear in the DDE Client window. Data from channel 1 of the attached ScanServer module should be displayed in the box.





Projects

Overview

Projects are mechanisms for saving and recalling a group of configured nodes; projects are stored as .cfg files. Nodes may be added to, deleted from, or modified within a project.

Note: Only one project may be opened at a given time.

File Menu

Project options are available from the \underline{File} menu.

ScanServer.olg - ScanServer												
Ele Edit Node Y	iew <u>H</u> elp											
New Project	Chi+N	8										
Open Project	Carl+O			_		_						_
Save Project	Carl+S	pScan/1100) V1.	Ch	0n/0#		Type	Units		Scale	Officet	-
Save Project do				1	Enabled	*	1 🗵	* Celoiuo	*	1.00		00
				2	Enabled		J <u>H</u>	* Cebius		1.00		00
<u>1</u> ScanServer.olg				3	Enabled	*	1 🗵	* Celoiuo	*	1.00		00
Egit				4	Enabled		J <u>H</u>	* Cebius		1.00		00
- C.Sr				5	Enabled	*	1 🗵	* Celoiuo	*	1.00		00
1				6	Enabled		1 1	* Cebiur		1.00		00
1				7	Enabled	×.	1 🗵	* Celoius	*	1.00		00
1				8	Disabled	-	1 1	* Celtius	-	1.00	0.	00
1				9	Disabled	*	1 🗵	* Celsius	_	1.00		00
1				10	Disabled		1 🕑	* Celtius	*	1.00		00
1				11	Disabled	۲	J <u>H</u>	* Celsius	1	1.00		00
1				12	Disabled	*	1 🗵	* Celoius	*	1.00		00
1				13	Disabled	*	J <u>H</u>	* Celsius	*	1.00		00
1					Disabled	*	1 🕑	* Celoiuo	*	1.00		00
1			- 1		Disabled	*	J <u>H</u>	* Celsius	*	1.00		00
1				16	Disabled	-	1 🗵	* Celoiuo	*	1.00	0.	00
1				17	Disabled		1 🗄	* Celtius		1.00	0.	00
1				18	Disabled	1	1 🗵	* Celoiuo	*	1.00	0.	00
1		_	11	19	Disabled	-	J 🗄	* Cebius		1.00	0.	
			_	_		-			-			
Date		Time	Mess									
June 25, 1998	1	07:33:35	Scar	Server	OPC/DDE Se	sverl	nitialized.					_
June 25, 1998	1	07:34:01	Creal	ting nod	te: TS1.							_
												_
1												_
1												
'											NUM	
											-	- Ann

From the **<u>F</u>ile** menu,

- Choose <u>New Project...</u> to open a new project window.
- Choose **Open Project...** to open a previously saved project.
- Choose **Save Project** to save changes to the open project since the last save.
- Choose Save Project <u>A</u>s... to save the open project with a new name.
- Choose a project name from the list of recently open projects to open that project.
- Choose $\mathbf{E}\mathbf{\underline{x}it}$ to close the ScanServer application.

Starting a New Project

From the ScanServer window, choose $\underline{File}/\underline{New Project}$. A fresh window is displayed without any nodes.

Saving a Project

You may save an open project by choosing **<u>File/Save Project</u>** from the ScanServer file menu. Saving a project makes the current project the default project when ScanServer is next started.

You can save an open project with a different name by choosing <u>File/Save Project As...</u> from the ScanServer window. The Save As dialog opens and allows you to name the project and save it in a folder of your choice.

Saving a project with a different name allows you to create a new project with similar node configurations. After renaming a project, nodes and channel configurations within it can be modified and saved as needed.

Nodes

Overview

A ScanServer Node defines a NetScan, TempScan, MultiScan, or ChartScan instrument including its name, communication protocol, and foreground/background poll rates.

Node Menu

Node options are available from the \underline{Node} menu.

ScanServer.olg - Scan File Edit Node View He									
D 3 v Qnine	8								
E-T TS NewNode	pScan/1100 V1.	Dh	0n/0#	Т	Type	Units		Scale	Officet 4
Disiste Node		1	Enabled	٠	1 H	* Celoiuo	*	1.00	0.00
	_	2	Enabled		J H	* Cebius		1.00	0.00
1		3	Enabled	*	1 🗵	* Celoiuo	*	1.00	0.00
1		4	Enabled	÷	1 1	* Cebius	-	1.00	0.00
1		5	Enabled	*	1 🗵	* Celoiuo		1.00	0.00
1		6	Enabled	x x x x x	1 🗄	* Cebriur	-	1.00	0.00
1		7	Enabled	*	1 🗵	* Celsius	*	1.00	0.00
1		8	Disabled	-	1 🗉	* Cebius	-	1.00	0.00
1		- 9	Disabled	*	1 🗵	* Celsius	*	1.00	0.00
1		10	Disabled		1 🗵	* Celsius		1.00	0.00
1		11	Disabled	-	1 🗵	* Celsius	1	1.00	0.00
1		12	Disabled	-	1 🗵	* Celsius		1.00	0.00
1		13	Disabled	*	1 H	* Celsius	*	1.00	0.00
1		14	Disabled	-	1 🗵	* Celoiuo	*	1.00	0.00
1		15	Disabled	-	1 1	* Cebius	*	1.00	0.00
1		16	Disabled		1 🗵	* Celoiuo	*	1.00	0.00
1		17	Disabled	-	1 1	* Cebius		1.00	0.00
1		18	Disabled	*	1 🗵	* Celoiuo	*	1.00	0.00
1		19	Disabled	-	1 1	* Cebius		1.00	0.00
				-			_		
Date June 25, 1998	Time Met 07:33:35 Scar		OPC/DDE Ser		a bia faca d		_		
Contra and, Tarata				veri	nikalized.				
June 25, 1998	07:34:01 Crea	ring noo	te: TS1.						
1									
									NUM
									, g

From the **<u>N</u>ode** menu:

- Choose **Online** to toggle all configured nodes between the online and offline states.
- **Note:** ScanServer requires the nodes to be offline before allowing configuration of nodes or channels.
- Choose <u>New Node...</u> to open the New Node dialog from which you can enter information for a new node.
- Choose <u>Edit Node...</u> to open the Edit Node dialog from which you can change information for the selected node.
- Choose **Delete Node...** to delete the selected node from the open project.

Creating a Node

1. From the ScanServer window, choose <u>Node/New Node</u>. The New Node dialog opens.

New Node			×
		C8	
Node Name: TS1		Care	sel
Poll Rate (.10 Sec Interva	la)		
Foreground (Sec):	4		
Background (Sec);	10		
Interface	Setial Port		
Serial Port	Port	COM1	•
C IEEE 400	Baud Rate:	9600	•
C Ethernet	Parity	None	2
	Handshaking:	RTS/CTS	•

 In the Node Name box, enter an alphanumeric string (e.g., TS1, a TempScan). This string will be used for referencing the instrument in the DDE Connect Topic box (discussed on page 33).

- 3. Set the **Foreground (Sec)** and **Background (Sec)** poll rates in the **Poll Rate** box:
 - Enter a value in the Foreground (Sec) box. Valid foreground poll rates are 0.10 second through 10,000 seconds (in 0.10 second increments). The default Foreground Poll Rate is 1 second.
 - Enter a value in the Background (Sec) box. Valid Background Poll Rates are 1 second through 10,000 seconds (in 1 second increments). The default Background Poll Rate is 10 seconds).
- 4. From the **Interface** box; select the appropriate radio button (Serial Port, IEEE 488, or Ethernet).
- 5. Select the appropriate communications parameters in the Serial Port, IEEE 488, or Ethernet box.
 - For Serial Port (RS232/RS422) select the communication port where ScanServer is connected (e.g., COM1). Set the Baud Rate, Parity and Handshaking configuration of the device. Refer to your device user's manual as needed.
 - For IEEE 488, enter the bus address or IEEE 488 device name assigned to the instrument.
 - For **Ethernet**, enter the IP address or name.



Reference Note: The communications settings must correspond to the instrument's interface configuration. Refer to the appropriate user's manual(s), as needed.



Reference Note: A Net232 Ethernet/RS-232 Converter is required for TempScan, MultiScan and ChartScan **Ethernet Applications**. The *Net232 User's Guide* (p/n 1037-0901) contains Ethernet-related information pertaining to these data acquisition systems.

- 6. Ensure the instrument is connected to the selected communications port and is turned on.
- 7. Choose OK.

ScanServer now attempts to communicate with and identify an instrument using the configuration settings for the New Node.

If communications and identification are successful, a "**T**" icon and text (indicating the type of instrument found) are displayed in the project window. This is indicated in the figure on page 6.

If communications or identification is not successful, a question mark icon (?) is displayed and an error is reported in the *event* window. This is indicated in the figure on page 7.

Editing a Node

To modify an existing node, first select it with a mouse click then choose the $\underline{Node}/\underline{E}dit$ Node menu selection. The Edit Node dialog opens and allows changes to be made.

Edit Node		×
		OK
Node Name: TS1		Cancel
Poll Rate (.10 Sec Interva	als)	
Foreground (Sec):	0.3	
Background (Sec):	10	
Interface	Serial Port	
Serial Port	Port:	СОМ2 -
	Baud Rate:	9600 💽
	Parity:	None
	Handshaking:	RTS/CTS 💽

Deleting a Node

Note: The following method deletes the mode immediately. There is no warning.

To delete a node:

- 1. Select the node to be deleted.
- 2. Choose the <u>Node/Delete Node</u> menu selection (from the ScanServer window).

The selected node is deleted.

Items

Item Types

ScanServer supports both strings and numeric data types for returning data.

Numeric items, indicated by a # preceding the item name, return a float or integer value for the data item retrieved. For example,

#last1 returns: 23.752 to the client in a 4-byte floating-point variable, if 23.752 degrees is read on channel 1.

String items, indicated by a \$ preceding the item name, return data in formated ASCII strings. For example,

\$last1 returns: 23.752 to the client as above but now in a 7-byte ASCII string.

Note: Items not preceded with a # or \$, default to numeric items.

Array data items return 2 or more String or Numeric data items. Channels may be indicated with commas separating them, with an inclusive dash between them, or with both. For example:

last1,3 returns two numeric data items, 23.752 and 24.567, assuming 23.752 degrees is read on channel 1 and 24.567 is read on channel 3.

Another example:

\$last1-3 returns three string data items, 23.752, 24.111 and 24.567.

In addition,

#last1-3,5 returns four numeric data items: 23.752, 24.111, 24.567 and 25.333

Item Names

Item	Valid Formats	Poll Rate	Description
Lastx	Numeric/String/Array	Foreground	Returns last stored data from channel(s) x.
			x = 1 - 992
Outputx	Numeric/String	Foreground	As a request: Returns the bit value the specified digital output bit, x, is currently set to.
			As a poke: Sets the bit value of digital output bit x.
			x = 1 - 32
Input	Numeric/String	Foreground	Returns the value of the 8 bit input port.
Inputx	Numeric/String	Foreground	Returns the bit value of the specified digital input bit x.
			x = 1 - 8
Time	Numeric/String	Foreground	As a request: Returns the current time from the device.
			As a poke: Sets the device's time; poke value syntax: hh:mm:ss .
Date	Numeric/String	Background	As a request: Returns the current date from the device.
			As a poke: Sets the device's date; poke value syntax: mm/dd/yyyy .
Status	String	Background	Returns the device's error status. This string is empty if no error exists.
Version	String	Background	Returns the device Firmware version string

Note: Output, Input, Time, Date, and Version commands are not channel-dependent.

Copy DDE Link

Overview

The DDE link copy feature allows you to copy information needed to create a DDE Link to the Windows clipboard. A DDE client that supports paste link can then use this information to start a DDE conversation. This feature simplifies many of the syntax problems encountered in DDE Client applications.

Copying a DDE Link

The Copy DDE Link dialog is accessed from the Edit Menu.

 From the ScanServer window, choose <u>Edit/Copy DDE Link...</u> The Copy DDE Link to Clipboard dialog box opens.

Copy DDE Link to Clipboard	×
DDE Link String: Server Name: ScanServer Node Name: TS1 Item Name: Iast Data Format Text Numeric Numeric	OK Cancel

- 2. Enter a DDE command in the DDE Link String box, either by typing it in manually or by selecting appropriate options from the other boxes in the dialog:
 - The **Server** name is ScanServer and cannot be modified.
 - Choose a node from the pull-down list of available nodes in the **Node Name** box.
 - Choose an item from the pull-down list of available items in the **Item Name** box.
 - For channel specific commands, select the channel(s) for the command.
 - ♦ Channels are selected/deselected by clicking on them.
 - ♦ Consecutive channels are selected by selecting one channel, then pressing **SHIFT** *and the first or last channel in the sequence*.
 - ♦ An unordered sequence of channels is selected by pressing **CTRL** and clicking on each channel in the sequence.
 - If applicable, select either Text or Numeric as the **Data Format** for the command.
- 3. Choose **OK** to copy the displayed **DDE Link String** to the clipboard.

Options

View Menu

From the View menu, you can select whether to display the Toolbar and the Status Bar.

	latus Bar	0 VI. 🗖	Ch 0n/01		Type	Units	Scale	Offset
	tims		1 Enabled				1.00	0.00
		- E	2 Enabled	ΞĴ.	1	Celoius 💌	1.00	0.00
		- E	3 Enabled	• J		Cebius 💌	1.00	0.00
		- 6	4 Enabled	₩Ĵ.	1	Celtian ·	1.00	0.0
		- E	5 Enabled	۰J		Celtius 💌	1.00	0.00
			6 Enabled		*	Celsius 💌	1.00	0.0
		- 6	7 Enabled	¥ J		Celoko 💌	1.00	0.0
			g Disabled	۰J		Celtius 💌	1.00	0.0
			9 Disabled	* J	*	Celtius Celtius Celtius Celtius Celtius	1.00	0.0
		- E	10 Disabled	N J	× 1	Celsius 💌	1.00	0.0
			11 Disabled	• J		Cetrius 💌	1.00	D.00
			12 Disabled	* J	*		1.00	0.00
			13 Disabled	N J	× 1	Celsius 💌	1.00	0.00
			14 Disabled	• 1		Celoius × Celoius × Celoius × Celoius ×	1.00	0.0
			15 Disabled	* J	*	Celoko 💌	1.00	0.0
			16 Disabled	۱	× 1	Celsius 💌	1.00	0.0
			17 Disabled	• 1	•	Cebius 💌	1.00	0.0
			18 Disabled	* J	*	Celoius 💌	1.00	0.0
		E	19 Disabled	۱.	×	Celsius 💽	1.00	0.0
Date	Time	Messag	ė					
	07:33:35	ScariSe	rver OPC/DDE Se	rver Initializ	ed.			
June 25, 1998	07:34:01	Creating	node: TS1.					
				erver Invisaliz	ed.			

From the **View** menu,

- Select/deselect <u>T</u>oolbar.
 - ♦ When checked, the Toolbar is displayed under the Menu bar in the ScanServer window.
 - ♦ When not checked, the Toolbar is not displayed.
- Select/deselect <u>Status Bar</u>.
 - ♦ When checked, the Status Bar is displayed at the bottom of the ScanServer window.
 - ♦ When not checked, the Status Bar is not displayed.



Using Microsoft Excel with ScanServer

Procedures

- Start Microsoft Excel.
 Note: In Excel, DDE information must be entered in the following format:
 =application|topicname!item
- Enter the following in any empty cell: =ScanServer|ts1!last1 where ts1 is the node name you entered when you created the node.
- 3. Press **ENTER**. Data from channel 1 should be displayed as an alphanumeric string in the cell.

XM	icresoft E	xcel - Book	1			_ 🗆 ×
🍋 <u>E</u>	ile <u>E</u> dit	<u>V</u> iew <u>I</u> nse	rt F <u>o</u> rmat	<u>T</u> ools <u>D</u> ata	<u>W</u> indow	<u>H</u> elp _
						리지
	2	<u>⊜ Q Ÿ</u>	<u>}</u>	<u>2 (</u>	ΩΣ	$f_{\infty} \xrightarrow{A} \begin{bmatrix} A \\ Z \end{bmatrix} \xrightarrow{Z} \begin{bmatrix} Z \\ A \end{bmatrix}$
Aria	al	•	10 🔹	BI	[] 트 프	≣ ፼ \$
	A1	•	=Scan	Server TS1!	ast1	
	А	В	C	D	E	F 🖬
1	24.	1				
2						
4						
5						
6						
7						
8						
	► Shee	t1 / Sheet2 /	Sheet3 / Shee	स4 / इ. र		

- 4. Now create an array by selecting six adjacent cells in any column.
- Note: In Excel, arrays of DDE information must be entered by selecting the same number of cells as channels to be read, entering =application|topicname!'item', and then pressing CTRL-SHIFT_ENTER to execute the command.
 - 5. Type the following : =ScanServer|ts1!'last1-4'

6. Press **CTRL-SHIFT-ENTER**. Numeric data from channels one through six should be displayed in the selected cells.

	<i>ficresoft</i> Ex	cel - Book1				_ D ×
*] !	<u>F</u> ile <u>E</u> dit <u>)</u>	⊻iew <u>I</u> nsert	F <u>o</u> rmat	<u>T</u> ools <u>D</u> ata	<u>W</u> indow	Help _ 리지
D		30.	X 🖻 f	a 🗸 n		
	rial	<u> </u>	10 💽	B <i>I</i> <u>U</u>	[] <u></u>]	<u>= 🗄 \$</u>
	C2	•	{=ScanS	Server TS1!'L	_ast2-6'}	
	Α	В	С	D	E	F 🗍
1	24					
2			24.1			
3			24.4			
4			24.1			
5			24.5			
6			24.3			
7						
8						
9						
Шч	▶ ▶ Sheet1	∫ Sheet2 ∫ S	iheet3 🔏 Sheet	i4 <u>/</u> ε] ∎		

Tips

In Excel, DDE information must be entered in the following format: =application|topicname!'item'

Press **CTRL-SHIFT-ENTER** to execute an array command.

The ScanServer Copy DDE Link command simplifies formatting DDE commands in Excel. We strongly recommend that you use this feature when working with Excel.

Using RSView32 6.0 with ScanServer and OPC

Procedures

- 1. Start RSView32 Works.
- 2. From an open project, create a Node using the *System Node editor*, to access the ScanServer device.

		and the second second second	-				
Data Source:	C Djrect Driver	● <u>O</u> PC Server C]	DE Server	Clos	ie .		
Name: Server:	ScanServer		.	Ena <u>b</u> led Acco	pt		
N <u>a</u> me:	ScanServer.1			Disc.	nd		
Type:	C In-Progess	© Local O	Bemote				
Server Cer Name er A	nauter	and and a second se Second second					
Access Path:			3407%				
Update Rate:		econds					
Name	<u></u>	Data Source	Device	Channel	Statio	n or Timeout	OPC Server Type
2							
3							
4 5							
6							
6 7 8							

The OPC browser may be used from within the RSView32 Node Editor to easily select ScanServer from a list of the installed OPC servers.

Server Name	Туре	Server Computer Name	OK
ScanServer.1 RSI.RSView320PCTagServer RSI.RSView320PCTagServer	Local Local Remote		Cancel
			Help

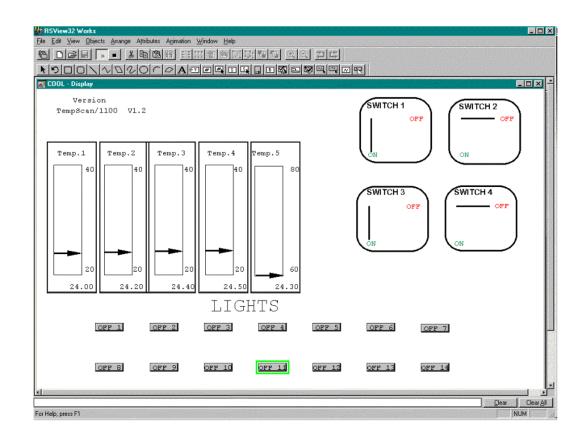
3. Create tags to access ScanServer data via the RSView32 System Tag Database Editor. The tag address uses the ScanServer node name enclosed in square brackets followed by the item name.

ag Databater	Fig. 12 second interest and a second metric of the P
tares [1] tares [1] tares [2] tares [2] tares [1,0] tares [2,0]	Imm Second P Deve Imm Second P Deve Second P Second P Deve
Addess (1976) Addess (1976) with For:	

4. Test the tags using the RSView32 System Tag Monitor.

😰 Ta	.g - 1	Fag Monitor				
	?	Tag Name	Value	State	Description	
1	Y	ts1_id	TempScan/1100 V1.2	valid	Version srting from the	
2	Y	ts1_time	19:13:13.1	valid	Time from the TempSca	
3	Y	ts1_ch1		valid	Temperature reading fro	
4	Y	ts1_ch2		valid	Temperature reading fre	
5	Y	ts1_in1		valid	Digital input 1 from the	
6	Y	ts1_out1	0ff	valid	Digital Output 1 from the	
7	-					
9	-					Edit
11	۱.,					a de la gradidese
•			- In a frame and the second			

5. Create a graphic that uses the tags.



Tips

RSView32 can uses both the DDE and OPC services of ScanServer, however the OPC services are preferred because of better performance and future compatibility.

To allow RSView32 to automatically start ScanServer, its location must be added to the "Path" environment variable.



Using DDE Client with ScanServer

Introduction

The DDE Client application is provided as a quick and convenient way of verifying that ScanServer software is configured properly; and that the data acquisition devices are connected correctly to your system.

Note: DDE Client is for configuration verification only. It is not a data collection or data analysis application.

Procedures

Start DDE Client

04 D	DEML	Client		
<u>E</u> dit	<u>D</u> DE	<u>O</u> ptions	$\underline{W} indow$	About

Start the DDE client application from the "Start" menu.

Connect to ScanServer and a Topic

DDE Connect	×				
Application:	ScanServer				
Topic:	TS1				
🗌 Keep all re	Keep all responders				
<u>C</u> onnect	Cancel				

Connect the DDE client to the ScanServer via the Connect item in the DDE menu.

Note: The ScanServer "Node" name is used for the DDE "Topic" name.

Start a Transaction

DDE Transaction 🛛 🕅					
ltem: la	ast3				
Format:	CF_TEXT				
<u>O</u> k Op <u>t</u> ions <u>C</u> ancel	Type C Request C Poke C Advise C Execute C Unadvise				

DDE transactions are started via the Start Transaction item in the DDE menu. Several types of transactions are supported. The "Advise" type is commonly used to establish a "Hot Link" with the ScanServer. Alternately the "Request" type may be used to establish a "Warn Link" with the server.

Note: ScanServer does not support Execute type transactions.

DDE Transac	tion 🛛 🕅
ltem: O	utput1
Format: [CF_TEXT
<u>0</u> k	Type
Op <u>t</u> ions	O <u>R</u> equest ⊙ <u>P</u> oke O <u>A</u> dvise O <u>E</u> xecute
<u>C</u> ancel	C <u>U</u> nadvise

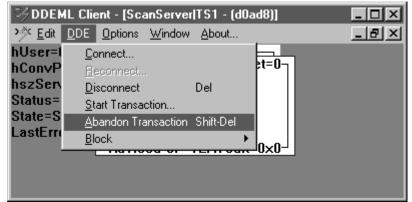
Poke a Value

The DDE client supports sending data to the ScanServer via the Poke type transaction. Using this type of transaction, a user may set an output bit on an instrument.

When a Poke transaction is selected, the DDE client then asks for the data to be sent to the selected item, in this case a "1" is sent to output bit 1.

Text Data Entry	×
	r size of huge data to generate or ppowned data handle to use.
1	
Create as appowned	<u>G</u> enerate Huge Data
<u>O</u> k <u>C</u> ancel	$\underline{U}se$ existing appowned data

Abandon a transaction



Abandon transaction is used to terminate a previously established "Advise" or "Hot Link" transaction.



Glossary

AdvanceDDE	Rockwell Software's highly optimized DDE format; capable of transferring multiple data items efficiently in a single DDE message.
Advise	A DDE service that receives the specified data item from the module continually as it changes.
Background Poll Rate	The rate at which ScanServer queries the module for static data (e.g., unit ID).
CF_Text	A standard DDE format for transferring data between a DDE Server and a DDE Client; designed to transfer a single ASCII text string in a DDE message.
Communication Protocol	Mechanism or network that ScanServer uses to communicate with the ScanServer instruments (RS232/RS422 or RS485).
DDE Client	A Windows application that requests services from a DDE Server.
DDE Server	A Windows application that provides data services to a DDE Client.
DDE	Dynamic Data Exchange; Microsoft's standard inter-process communication protocol; a mechanism for transferring data between applications.
FastDDE	WonderWare's highly optimized DDE format; capable of transferring multiple data items efficiently in a single DDE message.
Foreground Poll Rate	The rate at which ScanServer queries the module for constantly changing data (e.g., meas1).
Item	Defines the specific data sent to or received from a DDE topic through the DDE Server (e.g., time or meas1)
Poke	A DDE service that sends data to the module through the DDE Server.
Project	A mechanism for saving and recalling a group of configured nodes; stored as a .cfg file.
Request	A DDE service that receives the specified data item from the module through the DDE Server.
Node	Defines a ScanServer instrument, including its name, communication protocol, and foreground and background poll rates.
XL_Table	An optimized DDE format for transferring multiple cells of data between a DDE Server and Microsoft's Excel in a single DDE message.



Index

Α

AdvanceDDE 37 advise 37

В

Background Poll 2, 5, 15 Background Poll Rate 37

С

CF_Text 37 communication port 2, 5, 17 Communication Protocol 37 configuration 2, 5, 14, 20

D

DDE 37 DDE Client 2, 3, 5, 20, 37 DDE menu 15 DDE Server 2, 5, 20, 37

F

File menu 13 Foreground Poll 2, 5, 16 Foreground Poll Rate 37

G

Getting Started 3

1

item 2, 5, 20, 37 item name 19

Ρ

poke 20, 37 poll rate 2, 5, 20 Poll Rate 2 project 3, 8, 9, 13, 37

R

request 20, 37

S

Specifications 2 string 2, 5, 16, 19, 25

X

XL_Table 37