# Tech Note 834 Configuring the MBTCP DAServer (Version 2.0) to Communicate with a MODICON Bridge

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### Introduction

The MBTCP DAServer is one of Wonderware's® ArchestrA<sup>™</sup>-based products that provides connectivity to the following PLCs via a Direct Ethernet Connection:

- Quantum
- Momentum
- Premium
- Generic Modbus TCP Device

The MBTCP DAServer also provides connectivity to the following PLCs via a Modbus Bridge Device:

- Compact 984
- Micso
- Momentum
- Generic Modbus Device

This *Tech Note* provides step by step instructions for configuring a connection to a Modbus device via an ethernet bridge using the SMC (System Management Console) where the MBTCP DASServer resides.

### **Application Versions**

- MBTCP DAServer 2.0
- InTouch® 10.1 and later

### Adding a TCPIP\_PORT Object

1. Open the SMC from the Start menu (Start/Programs/Wonderware).

SMC - [ArchestrA System Management Console (WIN-D)	VOI5QYFG3)\DAServer Manager\Default Group\Local\ArchestrA.	DASMBTCP.2\Configuration]
<ul> <li>ArchestrA System Management Console (WIN-DXVOI5QYFG3)</li> <li>Galaxy Database Manager</li> <li>DAServer Manager</li> </ul>	Node Type: \$ROOT\$ Delimiter:	
<ul> <li>Local</li> <li>Local</li> <li>ArchestrA.FSGateway.2</li> <li>ArchestrA.DASABCIP.4</li> <li>ArchestrA.DASMBTCP.2</li> </ul>	Global Parameters Device Group Update Interval (msec):	Enable/Disable
<ul> <li>E Computation</li> <li>E Log Viewer</li> <li>E Platform Manager</li> </ul>	Slow Poll Interval (msec): 10000 Transaction to Subscription Ratio: 3 Transaction Message Timeout (msec): 50000	Device Group Cache
	Server Protocol Timer (msec): 50	Simulation Mode           System Items
	Maximum Queued Transactions: 75 Maximum Queued Updates: 1	III Unique Device Groups
	DDE/SuiteLink Timer Tick (msec): 50 Poke Mode: Optimization Mode 💌	
	2	
	L	

FIGURE 1: SMC

- 2. Expand the ArchestrA.DASMBTCP.2 server item.
- 3. Right-click Configuration (just below Archestra.DASMBTCP.2) and select Add TCPIP\_PORT Object.

A new faceplate appears labeled New\_TCPIP\_PORT\_000 Parameters (Figure 2 below):



FIGURE 2: NEW\_TCPIP\_PORT\_000 PARAMETERS

Note: You can right-click on any of the items below the Configuration item above and rename them to whatever you like.

## Adding a "ModbusBridge" Object

- 1. Right-click New\_TCPIP\_ Port\_000 and click Add a ModbusBridge Object.
- 2. You should now see a new faceplate appear labeled New\_ModbusBridge\_000 (Figure 3 below):

💋 SMC - [ArchestrA System Management Console (WIN-D)	XVOI5QYFG3)\DAServer Manager\Default Group\Local\ArchestrA.DA5MBTCP.2\Configuration\New_	ТСРІР 💶 🗙
<u>File Action View Help</u>		
🗇 🔿 🔀 📰 🔀 🖬		
ArchestrA System Management Console (WIN-DXVOI5QYFG3) Galaxy Database Manager DAServer Manager Local Cola ArchestrA.FSGateway.2 ArchestrA.DASABCIP.4 ArchestrA.DASABCIP.4 Configuration New_TCPIP_PORT_000 Def Use Wer Platform Manager	Node Type: ModbusBridge       Delimiter: .         New_ModbusBridge_000 Parameters	

FIGURE 3: NEW MODBUSBRIDGE FACEPLATE

Note: You must provide the Network (IP) address of the device, as shown in Figure 3 above.

# Adding a PLC Object

1. Right click the **New\_ModbusBridge\_000** icon and add a PLC device node. In Figure 4 (below), **Add ModbusPLCRS Object** is selected. It is a generic Modbus device.

🌠 SMC - [ArchestrA System Management Console (WIN-D	XV015QYFG3)\DAServer Manager\Default Group\	Local\ArchestrA.DASMBTCP.2\Configuration\New_TCPIP 💶 🗙
Eile <u>A</u> ction <u>V</u> iew <u>H</u> elp		
🗢 🔿 🗾 🔀 🔢 🖬		
ArchestrA System Management Console (WIN-DXVOI5QYFG3)  Calaxy Database Manager  DAServer Manager  Coffault Group  Code ArchestrA.FSGateway.2  ArchestrA.DASABCIP.4  ArchestrA.DASABCIP.4  ArchestrA.DASMBTCP.2  ArchestrA.DASMBTCP.2  New_ModbusBridge_000  New_ModbusPLCRS_000  Default Group  Platform Manager	Node Type: ModbusPLCRS         New_ModbusPLCRS_000 Parameters       Device Grout         PLC unit ID:       3         Reply timeout (sec):       20         Image: Use Concept data structures (Longs)         Image: Use Concept data structures	Delimiter:   ps Device Items   ps Device Items     Image: Support multiple register write   Image: Swap string bytes     Image: Register size (digits):   Image: Register type   Image: Binary   Image: Binary </th

FIGURE 4: NEW\_MODBUSPLCRS\_000 FACEPLATE

2. Enter the **PLC unit ID** of the end device. (Figure 4 above).

## Set Up a Topic Definition in the Device Group

You must set up a Topic Definition so that Suitelink/DDE clients can communicate with the MBTCP DAServer.

- 1. Select the Device Groups tab (Figure 4, above).
- 2. Right-click in the first row, and select Add. A new topic appears with a default name of Topic\_0.
- 3. Change Topic\_0 to whatever you want by right-clicking on it and clicking Rename. In the following figure, the Topic is called PLC3 (Figure 5 below):

Ele	💋 SMC - [ArchestrA System Management Console (WIN-DXVOI5QYFG3)\DAServer Manager\Default Group\Local\ArchestrA.DASMBTCP.2\Configuration\New_TCPIP 📮 🗖 🗙						
Image: Constant State Manager       Image: Constant Manager         Image: Constant Application       Image: Constant Application         Image: Constant Applic	<u>File Action View Help</u>						
Image: Control (W1M-DXNOISCYFG)   Image:	🧇 🄿 🔀 📰 💥 🖬 🖬						
Image: Default Group	ArchestrA System Management Console (WIN-DXVOI5QYFG3)     Galaxy Database Manager     DAServer Manager	🐠 Node Type: Modbu	usPLCRS Delimiter: .	<b>-</b>			
Image: Archestr.A.DSABCIP.4   Archestr.A.DSABCIP.2   Configuration   Image: New ModusBridge_000	E Default Group	New_ModbusPLCRS_000 Paran	neters Device Groups Device Items				
Image: Archestr.A.DASABCIP.4   Image: Archestr.A.DASABCIP.2   Image: Monodustrices.good   Image: Monodustrices.good     Image: Mon	🕀 🛃 ArchestrA.FSGateway.2	Name	Update Interval (ms)				
	<ul> <li>ArchestrA.DASABCIP.4</li> <li>ArchestrA.DASMBTCP.2</li> <li>Configuration</li> <li>New_TCPIP_PORT_000</li> <li>New_ModbusBridge_000</li> <li>New_ModbusPLCRS_000</li> <li>New_ModbusPLCRS_000</li> <li>Platform Manager</li> </ul>	PLC3					

FIGURE 5: RENAME THE TOPIC

# Creating a Test InTouch® Application to Communicate with the MBTCP DAServer

- 1. Launch InTouch WindowMaker<sup>™</sup>.
- 2. Click Special/Access Names from the top menu bar. The Access Names dialog box appears.
- 3. Click the  $\boldsymbol{Add}$  button. The  $\boldsymbol{Add}$   $\boldsymbol{Access}$   $\boldsymbol{Name}$  dialog box appears:

Configuring the MBTCP DAServer (Version 2.0) to Communicate with a MODICON Bridge

Access  MBTCP_PLC3	OK
	Cancel
Application Name:	Failove
DASMBTCP	
<u>T</u> opic Name:	
PLC3	
Which protocol to use	Link C Message Exchange
When to advise server	Advise only active items

FIGURE 6: ADD ACCESS NAME

- 4. Type the information for the Access and Application Name field as it appears in Figure 6 (above).
- 5. For the topic name, type the name of the topic you renamed in the **Device Groups** tab field (Figure 5, above) of the MBTCP DAServer.
- 6. Click OK then click Close.
- 7. Click Special/Tagname Dictionary from the top menu bar. The Tagname Dictionary dialog box appears.
- 8. Click the **New** button and enter the following information:
  - Tagname: r400001
  - Type: I/O Integer
  - Min EU: 0
  - Min Raw: 0
  - Max EU: 65535
  - Max Raw: 65535
  - Access Name: MBTCP\_PLC3
  - Item: 400001

Tagname Dictionary						×
C Main C Details C	🛛 Alarms 🕜 Details & Alarms	C Members				
New Restore Dela	te Save << S	ielect >>	Cancel Clo	se		
Tagname: r400001		Туре:  /О	Integer			
Group: \$System		C Read only	Read Write			
Comment: AccessLevel						
🗖 Log Data 🔲 Log Ev	vents 🗖 Re	tentive Value 🗖	Retentive Parame	eters		
Initial Value: 0	Min	EU: 0		Max EU:	65535	
Deadband: 0	Min	Raw: 0		Max Raw:	65535	
Eng Units:	Log	Deadband: 0		<ul> <li>Convers</li> <li>Linea</li> </ul>	ion ar 🧿 Square Ro	oot
Access Name:	MBTCP_PLC3		1			
Item: 400001				🗂 Use T	agname as Item	Name

FIGURE 7: TAGNAME DICTIONARY

- 9. Click the Save button then click the Close button.
- 10. Select File/New Window from the top menu bar. The Window Properties dialog box will appear.
- 11. Enter a Name for the window then click OK.
- 12. Select the Text object from the Draw Object Toolbar.
- 13. Place the **Text** object on the new window then type a #. The screen should look similar to Figure 8 (below):



#### FIGURE 8: INTOUCH WINDOW

- 14. Double click the # then select Analog under the Value Display section.
- 15. Enter the name of the tag you created (see Figure 7) in the Expression box.

#### Configuring the MBTCP DAServer (Version 2.0) to Communicate with a MODICON Bridge

Object type: Text	<u>Prev Link</u> Next Lin <u>k</u>	ОК
		Cancel
	Output -> Analog Expression	
Expression:		OK
r400001		Cancel
		Clear

FIGURE 9: ASSIGNING AN EXPRESSION

- 16. Select **OK** then click **OK** again.
- 17. Select File/Save Window then click OK.

### Testing Communication

- 1. From the SMC, right click on ArchestrA.DASMBTCP.2 then select Activate Server.
- 2. From Window Maker, select File/WindowViewer from the top menu.
- 3. Make sure the window that was created in WindowMaker is selected, then click OK.
- 4. WindowViewer should show the value for register **400001** (Figure 10 below).



FIGURE 10: WINDOW VIEWER

You can also use **DASMBTCP Diagnostics** to view the register value:

- 1. Open the SMC.
- 2. Under ArchestrA.DASMBTCP.2 click Diagnostics/Device Groups/PLC3

🌠 SMC - [ArchestrA System Management Console (WIN-DXVOI5QYFG3)\DAServer Manager\Default Group\Local\ArchestrA.DA5MBTCP.2\Diagnostics\Device Groups\PLC3] 💦 💶 🗙							
Eile <u>A</u> ction ⊻iew <u>H</u> elp							
🧇 🧼 📶 📑 🛛 🖬							
ArchestrA System Management Console (WIN-DXVOI5QYFG3)	Name	R/W Status	Value	Time	Qualit	MsgID	Location
🗄 🔛 Galaxy Database Manager	400001	R/W	12	11:14:43 PM	00C0	100000B	New_TCPIP_PORT_000.New_ModbusBridge_000
DAServer Manager							
🔄 📆 🕞 ArchestrA.FSGateway.2							
🕀 🛃 ArchestrA.DASABCIP.4							
🖃 🛃 ArchestrA.DASMBTCP.2							
E L New ModbusBridge 000							
🗄 🔏 New_ModbusPLCRS_000							
🖂 🔣 Diagnostics							
🕀 🌆 Client Groups							
Intersections     Intersections							
🖃 🧱 Device Groups							
PLC3							
Elim Log Viewer							
I	1						

#### FIGURE 11: DASMBTCP DIAGNOSTICS

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