Connection Sharing Plug-In

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Table of Contents

Connection Sharing Plug-In **1**
Table of Contents **2**
Connection Sharing Plug-In 3
Overview 3
Connectivity Scenarios 4
Using a Dialup Modem 5
Index **6**

Connection Sharing Plug-In

Help version 1.006

CONTENTS

Overview
What is the Connection Sharing Plug-In?

Connectivity Scenarios
In what situations would connection sharing be useful?

Using a Dialup Modem
How does connection sharing work when using a dialup modem?

Overview

The Connection Sharing Plug-In is provided to support the serialization of communications from multiple channels through a single physical connection. The connection type can be a physical serial port or a modem. Users whose applications require data gathering from multiple remote devices that are only accessible by radio modem or dialup may have need for the capabilities provided by this plug-in.

Channels share a connection through communication serialization, which is a server feature that allows a set of channels to be placed in their own virtual network such that only one channel is allowed to use the connection at a time. Access to the communications hardware is provided sequentially to each channel in the virtual network in a round-robin fashion.

When utilizing connection sharing, users can define a specific virtual network that will communicate using the same physical medium. Alternatively, users can let the server implicitly create a virtual network for the connection by leaving the Virtual Network selection at its default setting of "None".

Note: The server will not allow a channel to share a connection with another channel unless they are part of the same virtual network. For more information, refer to "Communication Serialization" in the server help.

Requirements

In order for a channel to share a connection with another channel, the following requirements must be met:

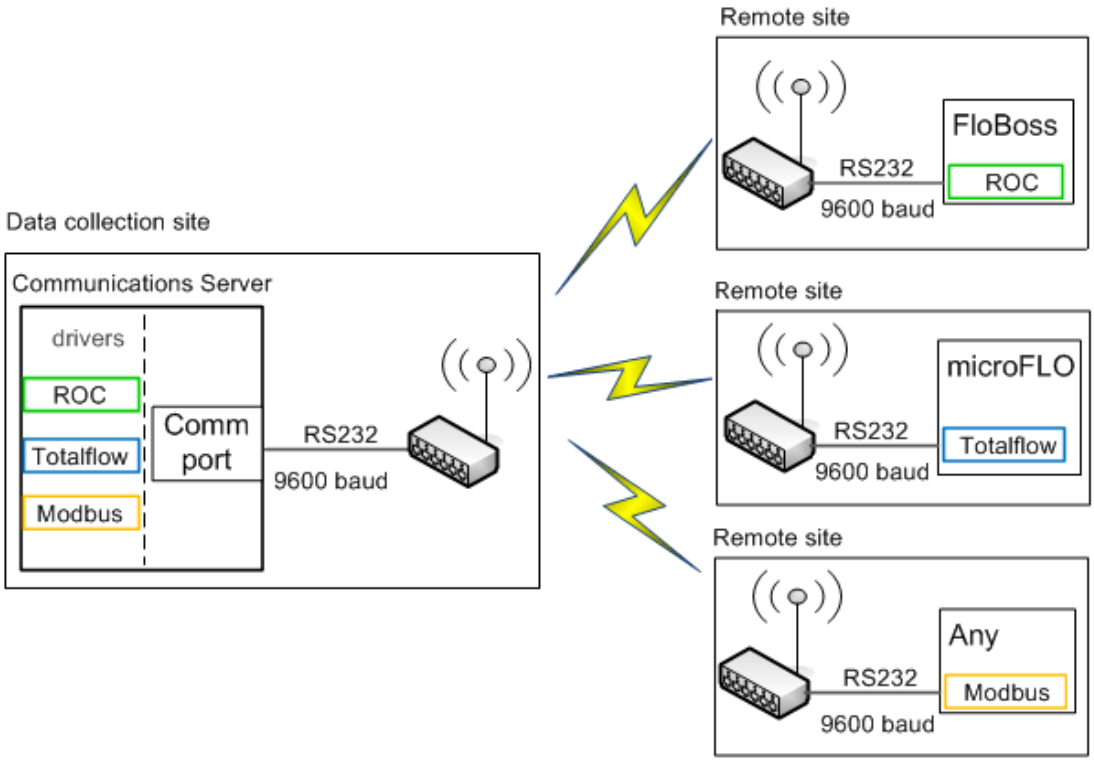
- The channel must use a serial driver that performs the function of a master.
- The channel must be configured to use a modem or COM Port.
- When using a modem, the channel must be configured with the auto-dial feature enabled. For more information, refer to **Using a Dialup Modem**.

Shared Connection Usage

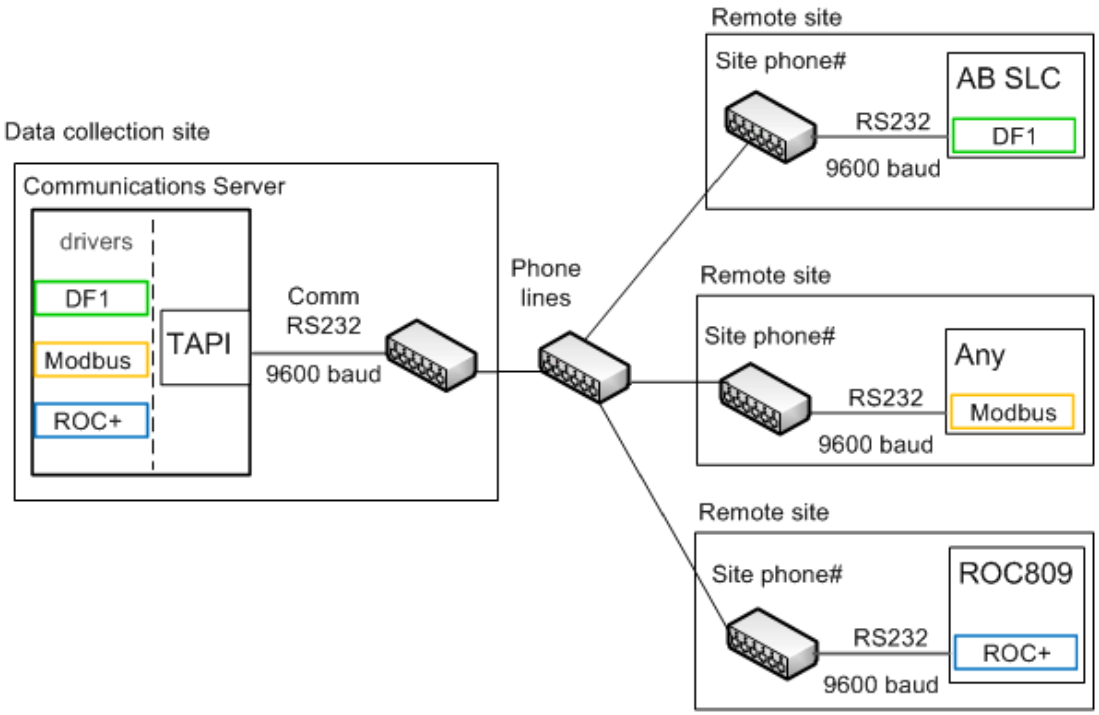
When using a shared connection among multiple channels, the underlying serial port or modem will be opened when needed for communications and closed when the specified number of transactions have completed. For modem communications, this means that the connection will be dropped. The modem will return to an idle state between uses. If no reads or writes are pending on a channel that is sharing a connection, the port will remain closed and the next channel in line to use it will be given its turn (and so on).

Connectivity Scenarios

Scenario One: Radio Modem Connection



Scenario Two: Dialup Modem Connection



Using a Dialup Modem

When sharing a modem, the auto-dial feature will be automatically enabled. Users must define at least one phone number for each channel that will share the modem connection. The phone numbers will be stored in a channel-level phonebook. Only the modem is shared: the phonebook is not.

As each channel gets its turn to communicate, the modem that is associated with the connection will be initialized and asked to dial the first phone number in the phonebook that is assigned to the channel. Once the connection is established, the driver will communicate with the remote device by default. It will perform one read or write transaction depending on the requests that it has pending. Users can increase the number of transactions that are executed on each cycle through the Advanced tab located in Channel Properties. The Transactions per Cycle setting may be changed regardless of whether a modem is used; however, users that utilize a modem may be more likely to increase the transaction count in order to maximize the amount of data that is obtained for each dial attempt.

Important: For more information on channel-level communications features and parameters, refer to the server help file.

Index

A

Auto-Dial 3, 5

C

Communication Serialization 3
Connectivity Scenarios 4

H

Help Contents 3

M

Modem 3, 5

O

Overview 3

P

Phonebook 5
Physical Serial Port 3

R

Requirements 3

S

Shared Connection Usage 3

T

Transactions per Cycle 5

U

Using a Dialup Modem 3, 5

V

Virtual Network 3