

## **LinkMaster**<sup>™</sup> OPC Bridging Software — *The Best Way to Link OPC servers*<sup>™</sup>

Due to the widespread adoption of the OPC standard in the industrial automation market, the use of OPC servers as a connection between device systems and data collection applications continues to increase. Unfortunately, even compliant OPC DA servers don't know how to share data with other OPC servers. LinkMaster is the best way to solve this problem.

LinkMaster is a proven software product that allows OPC servers to reliably share or "link" data.

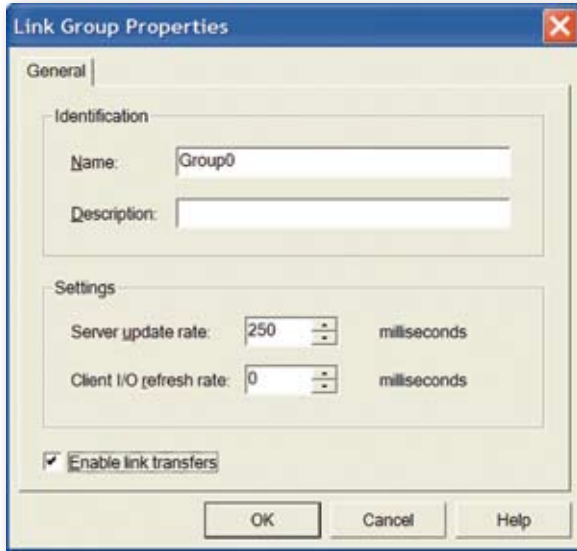


# Performance

Reliable connectivity for industrial applications

## Server Update Rate

In LinkMaster Server update rate can be modified through the Link Group properties. Right-click over a Link Group to set preferred update rates. Multiple Link Groups can be defined in LinkMaster and each Group can have its own update rate.



## Multi-threaded 32-bit Application

LinkMaster is a truly multi-threaded application where each LinkGroup is a separate task running inside the application. By distributing the data load across multiple threads, maximum throughput can be achieved. The use of multiple tasks to improve data throughput may immediately raise the concern of potential negative impacts on the host PC. Rest assured, LinkMaster has been real-world tested in large applications, and produces negligible effects on the host PC's CPU usage and memory.



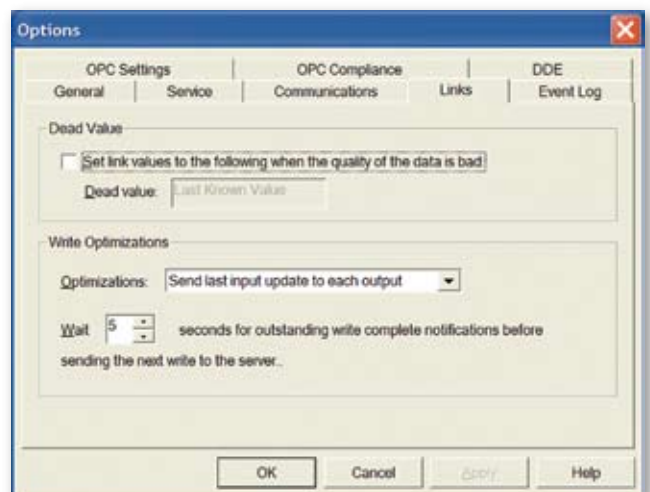
## Solution Chronicles

Due to the reliability and ease of use of the in-house evaluation system, SCHMIDT engineers made the decision to use LinkMaster.



## Write Optimizations

Writing data can place a heavy burden on OPC servers. LinkMaster provides a number of "Write Optimization" settings that can be used to determine how often OPC tag data is written to an OPC server. This can greatly reduce the load on the OPC server and improve system performance.



# Typical Application

## Linking server to server via OPC

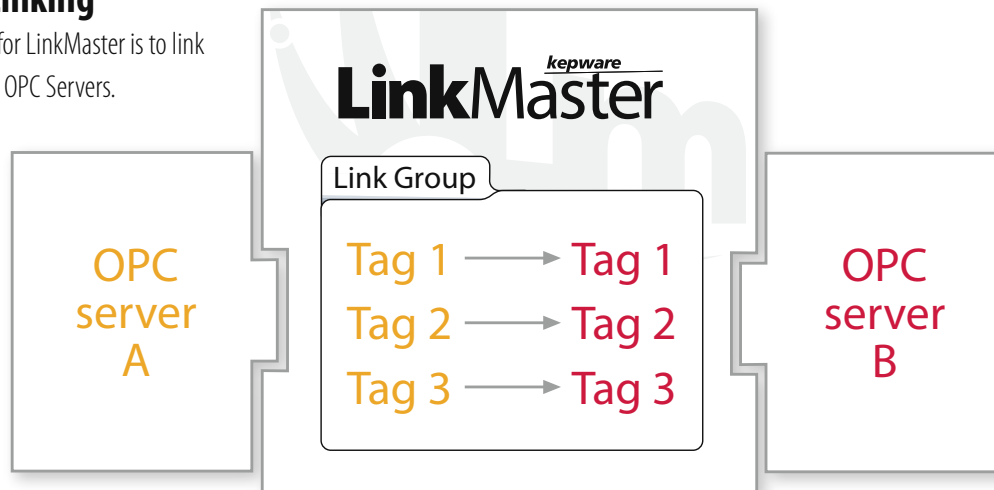
### How does it work?

Open Process Control (OPC) technology enables a wide range of applications to be developed using an industrial Client/Server standard. Common uses include enabling Human Machine Interface and Reporting software to access industrial devices. As a Client/Server architecture the OPC server publishes data and the OPC client consumes data. These very specific roles for both OPC server and client work perfectly in the typical applications mentioned above. What happens when an application needs to move data between OPC servers? Since OPC servers can only publish data and not consume it there is no specified way to link two or more OPC servers together. It begins to feel like you actually are trying to connect apples to oranges.

What is needed is a unique piece of software that is essentially a back-to-back OPC client application that can connect with two or more OPC servers. This specialized OPC client should allow easy configuration for linking data items between OPC servers. Enhanced features might allow control over the rate data items are moved between OPC servers. This unique piece of software is LinkMaster, Kepware's server to server bridging solution.

### Server to Server Linking

The most common scenario for LinkMaster is to link data between two (or more) OPC Servers.



#### Steps to Link Success

- Download then install LinkMaster
- Click to add a LinkGroup, then set Update Rate
- Browse to the OPC server that will provide the LinkGroup Input item
- Browse to the OPC server that will provide the LinkGroup Output item
- Drag the Input item and drop it on the Output item

#### Optimize your Application

- Take advantage of Server Update Rates (see Performance page)
- Use multiple LinkGroups for multi-threading (see Performance page)
- Control the `_Enabled` tag from your OPC client (see Features page)
- Review default Write Optimization settings (see Performance)
- Review default Auto Reconnect settings (see Features)

### Solution Chronicles

*Since an OPC server was already connected to both controllers it made sense to look for a way to link data between these items in the OPC server. The engineers at Proton Energy downloaded Kepware's LinkMaster product and in minutes they were able to implement their strategy. This method reliably solved the connection problem and saved valuable time (and money) on the project.*

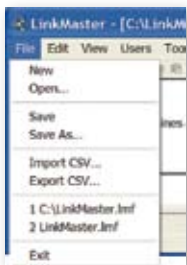
# Ease of Use

Integrate data from multiple servers

## Link Item Management

Linking data items between OPC servers would be limited without the ability to properly control when and at what rate those items are transferred. LinkMaster's link management system allows you to create independent "LinkGroups". These user configurable LinkGroups contain all of the items that are to be transferred from one OPC server to another. Each LinkGroup can have its own unique update rate and can be turned on/off independently. Using multiple LinkGroups, your applications can be configured to move OPC server data items at high speed such as user interface tags which need rapid response for user feedback, while other LinkGroups can be configured at much slower update rates to transfer slow moving process data.

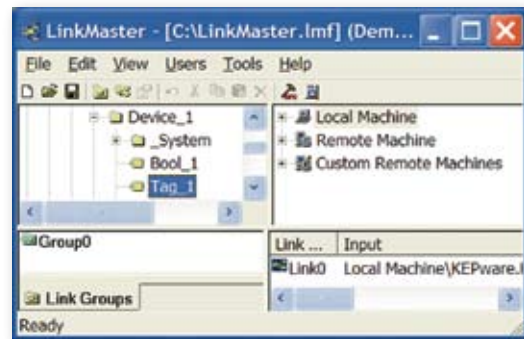
Configuring link items can be done using simple **Drag and Drop** editing or for larger projects a powerful **CSV import/export** function allows you to create and edit LinkMaster projects in any application you wish.



Record Type	Name	Server Update Rate
LINKGROUP	Group0	250
LINKGROUP	Group1	400

Record Type	Link Group	Name
LINKITEM	Group0	Link0
LINKITEM	Group1	Link1

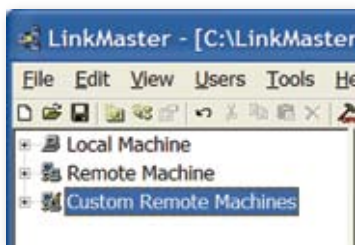


### Quick Client

We include an OPC Quick Client application to assist you with your initial connectivity testing. It is a full featured OPC Client application, included free with the LinkMaster demo product suite. Using the Quick Client, you can read data from stand alone OPC servers available or you can read Link Item outputs exposed by LinkMaster's OPC server capability.

## Browse by PC name or IP

To aid in connecting with OPC servers located on both local and remote PCs, LinkMaster allows OPC servers to be browsed by either machine name or by IP address.



A custom remote machine is defined by name or IP address. A user can add these entries to the "Custom Remote Machines" branch in any of the child windows (as shown above) to simplify the network browse hierarchy or for machines that are not available through Windows network browsing.

## Detailed Help

Keppure strives to make products easy to use, but we know nothing beats first rate documentation. LinkMaster configuration details can be found in our comprehensive help file.





# Features

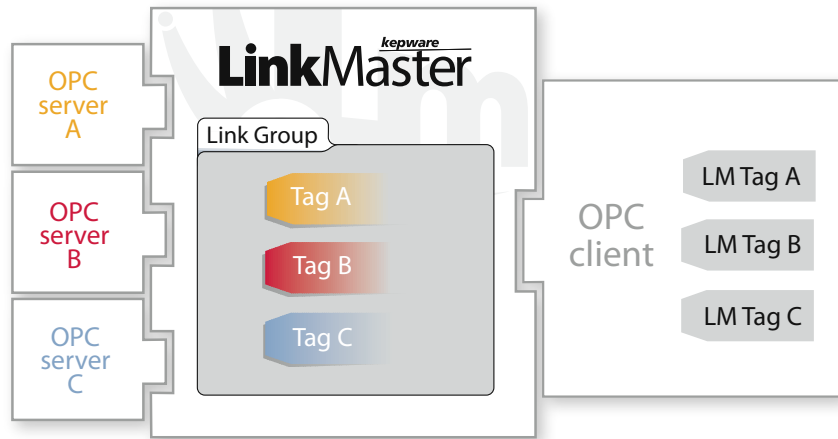
Real world features for real world applications

## OPC client & OPC server

Many people use LinkMaster to link data between OPC servers, but it contains robust OPC server functionality to serve data to OPC DA clients as well. LinkMaster's OPC server functionality passes the compliance test available to OPC Foundation members.

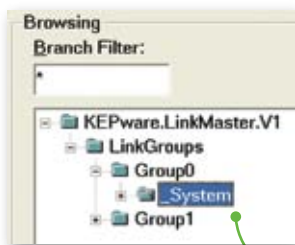
### Collector or Gateway

Another interesting application scenario for LinkMaster is to function as a single OPC server which serves data from multiple OPC servers. This approach demonstrates LinkMaster's capability of acting as both a client and server. An example might be when a customer has a single OPC connection available from an OPC client application but multiple OPC servers that they want to acquire data from.



### \_\_System Tags (LinkGroup Enable / Disable)

Use the \_\_Enabled tag to control LinkGroup operation from your OPC client application. Combined with the Server Update Rate you can effectively trigger link transfers based on events monitored by the OPC server(s).



Browse to \_\_System Tags from your OPC client



### Supports COM and DCOM

LinkMaster has been designed to allow for both COM and DCOM methods of remote server access. LinkMaster will properly configure your DCOM settings to allow remote OPC clients to access and browse LinkMaster. LinkMaster allows remote servers to be accessed by both Machine name and IP address for the widest flexibility in accessing OPC data.

### Runs as NT Service

LinkMaster supports running as a service under Windows NT/2000/Server 2003/XP. Service operation is completely user configurable from the Tools|Options menu, and can be changed at any time allowing you to move from normal, stand alone program operation, to NT service mode.

### Data Scaling

LinkMaster supports direct scaling of link item data. Scaling allows raw data to be converted to engineering units for OPC client applications.

### Auto Server & Item Reconnect

LinkMaster automatically detects and restores connections to OPC servers in the event of lost communications. This can be helpful when the application requires linking data from OPC servers located on remote PCs, where the OPC server is embedded directly within a device or system. LinkMaster also detects when OPC tags fail to connect and offers the ability to automatically reattach to OPC tags that fail.

### Application Connectivity Support

- OPC Data Access Version 1.0a, 2.05a
- DDE Format CF\_Text
- DDE Format XL\_Table
- DDE Format Advanced DDE



### System Requirements:

#### Supported Operating Systems:

Windows NT  
Windows 2000  
Windows Server 2003  
Windows XP

#### PC Hardware:

##### Minimum

Pentium 200 MHz CPU  
32 MB RAM  
10 MB of Free Hard Drive Space

##### Recommended

Pentium 400 MHz CPU  
64 MB RAM  
10 MB of Free Hard Drive Space

### Complete system requirements and recommendations

available at: [www.kepware.com](http://www.kepware.com)



## Support:

### Technical Support:

207-775-1660 or 1-888-Kepware extension 211  
technical.support@kepware.com

### Sales:

Pricing, Quotes and Pre-Sales Support  
207-775-1660 or 1-888-Kepware extension 208  
sales@kepware.com

### Orders:

online: [www.kepware.com](http://www.kepware.com)  
email: [orders@kepware.com](mailto:orders@kepware.com)  
phone: 207-775-1660 or 1-888-Kepware extension 228  
fax: 207-775-1799

**Note:** With all purchases please include Company Name, Your Name, Daytime Phone Number, Shipping and Billing Addresses, Your Email Address, Product Description, Product ID and Product Quantities.

This computer program is protected by copyright law and international treaties. Unauthorized use, reproduction or distribution of these programs, or any portion of them, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. LinkMaster, Proton Energy and Schmidt Technology are registered trademarks or trademarks of their respective owners. All other marks are the properties of their respective owners.

## Your local Kepware Technologies Representative

Contact your local Kepware Representative/Distributor for more information:



Logic, Inc.

Main (913)764-4400

Fax (913)764-2828

[sales@logic-control.com](mailto:sales@logic-control.com)

[www.logic-control.com](http://www.logic-control.com)



Automation's Best Friend™  
[www.kepware.com](http://www.kepware.com)

