Operator Interface Tech Note 27

Crimson[®] FTP Sync Manager



Abstract:

The purpose of this document is to describe Crimson's FTP feature and the configuration steps necessary to use it with an approved Red Lion Controls (RLC) product. This document does NOT provide a detailed description of FTP communication, but only an introduction sufficient to define the terms that are used throughout the remainder of this document.

Products:

CR3000 Human Machine Interface (HMI), Data Station Plus (DSP) (excludes LE model), G3 HMI, Graphite Controller, Graphite HMI, Modular Controller (excludes LE and V2 models) and ProducTVity Station™

Use Case:

This document describes using Crimson to configure a device that will initiate FTP file transfers between its memory card and an FTP server. It also describes setting up FileZilla FTP server software for test and demonstration purposes.

Required Software:

Crimson 3.1, Crimson 3.0, or Crimson 2.0

Required Firmware:

Crimson 2.0: build 230+ Crimson 3.0 and 3.1: all builds

Required Operating System:

Microsoft Windows 2000, or above

Introduction

FTP stands for File Transfer Protocol. It's used on TCP/IP networks to exchange files between devices. An exchange is always made in a client/server fashion; a client connects to a server to access information by uploading (transfer to the server) or downloading (transfer from the server) data.

The Crimson's Sync Manager is an FTP client and therefore has to connect to a server for the functionality to work.

There are numerous FTP servers available on the market, some are free, and others are more professional but licensed. The example used in this document is FileZilla Server.

NOTE: Crimson FTP Sync Manager requires Crimson 2.0 (build 230+) or above and is only available to Windows 2000 or above users. Please update your version of Crimson to the latest; available online at www.redlion.net

Crimson Configuration

- 1. Start Crimson and go to the Navigation Pane and click on Communications, as shown in Figure 1.
- 2. Click on Network.
- 3. Click on the appropriate Ethernet tab; *Ethernet 1* in this case.
- 4. Configure the port settings as required by the application.

File Edit View Go Link Help	
	1 -
Navigation Pane Communications - Network 🕐 🕡 Resource	e Pane 🗙
K New - X Ethernet 1 Ethernet 2 ZeroConfig TLS - SSL Routing Download Add Ports	
Pol Settings Pol Settings 6 Photocol 1 Pot Mode: Naual Configuration Photocol 2 IP Address 192.166.0.20 Photocol 4 Network Matic 255.255.0 Ot S2.22 Program Port Gateway: 0.0.00	Vodules Vot Mapped
• Q) 25-435 Comms Fort • Q) 55-25 Comms Fort • Q) 6-25 Comms Fort • DMS Settings ■ Memory Stack DMS Settings ■ Kepboard Name Server 11 ■ Sinvers Name Server 25 ■ Sinvers Name Server 20	
FP Stever FP Stever	
Display Pages	
🚴 Programs	
Web Server	
C Data Logger	
😓 seunty	evices
🔂 SQL Queries	ata Tags
🖧 control	rograms
🙀 V0 Modules 😔 S	ystem

Figure 1.

- 5. Referring to Figure 2, go to the Navigation Pane and under Services, click on Sync Manager.
- 6. Set the Enable Sync Manager option to Yes.
- 7. Set the Enable Log File Sync option as appropriate for the application; Yes in this example.
- 8. Configure the FTP Client settings as required by the application.

- Untitled File - G09 - Crimson 3.1		- • •
<u>File Edit View Go Link H</u> elp		
G O I 👌 🖬 🖬 🖬 🕆 🗎 🏞	A 💿 🖉	0 •
Navigation Pane X	Communications - Services - Sync Manager	Resource Pane X
A New - X		0
Communications	Settings	Devices
😑 🕫 Network	Enable Sync Manager: Yes 👻	🗄 🏢 Modules
Protocol 1	Enable Ion File Sync. Yes	Not Mapped
Protocol 2		
Protocol 4	FTP Client	
Serial Ports		
RS-232 Program Port	Server IP Address: * Fixed IP 192.168.0.253	
RS-485 Comms Port	Port Number: 21	
I Part ISB Hast Parts	Logon Username: ric	
Memory Stick		
E Keyboard	Lugon Password:	
Mouse	Data Connection: Standard -	
🖃 🌉 Services	LIST Mode: Per Directory	
Carline Manager		
FTP Server	Test File Size: Disabled •	
Sync Manager	Keep Alive: 10 secs	
🚔 Mail Manager	Record Log File: No.	
SQL Sync		
I TOMINY MODILIPY	Log Synchronization	
Communications	Price Directorya (TMO127)	
Data Tara	Dase Directory, ////OL//	
Sata rags	Sync Hours: 1 hours	
👥 Display Pages	Sync Minutes: 0 minutes	
	Sync Offset: 0 minutes	
Programs		
De marcana		
W neb server		
Data Logger		
₹3 Security		Po Devices
		Dela Tara
CH Str Queres		ata rags
Control		Programs
200		0.0
I/O Modules		System
	im	rs Circular Translate READ CAPS NUM

Figure 2.

- **9.** The Record Log File option should only be set to Yes for troubleshooting purposes, otherwise set it to *No*, as in this example.
- **10.**If the Log File Sync option was previously enabled, configure the Log Synchronization section:
 - **a.** Base Directory: directory structure BEYOND the user's home directory.

NOTE: RLC's home directory is C:\FTP\rlc; using "/TNOI27/" as the base directory will store files in C:\FTP\rlc\TNOI27 on the server.

- **b.** Sync Hours: how often, in hours, to sync.
- **c.** Sync Minutes: how often, in minutes, to sync.
- **d.** Sync Offset: used to offset sync if multiple devices are configured with the same sync frequency.

NOTE: Use only Sync Hours or Sync Minutes to quantify sync settings.



Functions for Manual FTP Exchange

Sending a File Manually to the Server

This function is used to transfer the defined file from the RLC device's memory card to the FTP server.

FtpPutFile(connection, local, remote, delete)

Argument	Туре	Description
connection	int	FTP connection number, always 0
local	cstring	Local file name on memory card
remote	cstring	Remote file name on server
delete	int	If True, the source file is deleted after transfer

This function returns true if the transfer is successful, false otherwise.

In the following example, the file Report.txt will be transferred to the FTP server and deleted from the memory card upon successfully completing the transfer:

Example: Success = FtpPutFile(0, "/LOGS/Report.txt", "/Reports/Report.txt", 1);

File remote path is relative to server FTP root folder path.

Transferring a File Manually to the Server

This function will transfer the defined file from the FTP Server to the RLC device's memory card.

FtpGetFile(connection, local, remote, delete)

Argument	Туре	Description
connection	int	FTP connection number, always 0
local	cstring	Local file name on memory card
remote	cstring	Remote file name on server
delete	int	If True, the source file is deleted after transfer

This function returns true if the transfer is successful, false otherwise.

In the following example, the file Recipes.csv will be transferred from the FTP server to the CompactFlash Card but the original file will not be deleted from the PC:

Example: Success = FtpGetFile(0, "/Recipes.csv", "/Recipes/Rec001.csv", 0);

File remote path is relative to server FTP root folder path.



Install and Configure FileZilla Server

- 1. Download the FileZilla server setup file from https://filezilla-project.org
- 2. Run the setup file.
- 3. Referring to Figure 3, select the following options (at minimum):
 - **a.** FileZilla Server (Service)
 - **b.** Administration interface



Figure 3.

- 4. Click Next; the Startup Settings popup appears, as shown in Figure 4.
- **5.** Referring to Figure 4, choose the appropriate Startup settings.

🔁 FileZilla Server beta 0.9.60 Setup	- • -
Startup settings Select startup behaviour for FileZilla Server	E
Please choose how FileZilla Server should be started:	
Install as service, started with Windows (default)	•
Note: This port is only used to administrate the server using the FileZilla Server is not the FIP port used by FIP clients.	er Interface. It
Start Server after setup completes	
< Back Next	Cancel

Figure 4.

6. Click Next.



7. Referring to Figure 5, select how it should be started.





- 8. Click Install.
- **9.** Wait for the installation to complete. When the installation has been successfully completed, the Installation Complete popup appears, as shown in Figure 6.

Installation Complete Setup was completed successfully.		Z
Completed		
Create shortcut: C: (ProgramData)/ Create shortcut: C: (ProgramData)/ Create shortcut: C: (ProgramData)/ Create shortcut: C: (ProgramData)/ Execute: "C: (Program Files (x86)/Fi Execute: "C: (Program Files (x86)/Fi Installing Service	licrosoft\Windows\Start N licrosoft\Windows\Start N licrosoft\Windows\Start N ficrosoft\Windows\Start N lezilla Server\Filezilla Serv lezilla Server\Filezilla Serv lezilla Server\Filezilla Serv	Ienu\Programs\FileZilla S Ienu\Programs\FileZilla S Ienu\Programs\FileZilla S Ienu\Programs\FileZilla S Ienu\Programs\FileZilla S rer.exe* [admin rer.exe* [admin

Figure 6.

10.Click Close.

11.Start the FileZilla Server Interface (if it did not automatically open after completing the install).



12.Referring to Figure 7, choose the appropriate Host and Port, as previously defined in Step 5.

Z FileZilla Server	
File Server Edit ?	
夕 台 絵 望 信 ? /2/ ○○ 部・	
Fields Sover Field Sover Mark Media proper to g' Field Sover Pease effer the address and port of the Field Sorver Pease effer the address and port of the Field Sorver Pease effer the address and port of the Field Sorver Pease effer the address and port of the Field Sorver Pease effer the address and port of the Field Sorver Pease effer the address and port of the Field Sorver Port 14147 Det detainstate Detainstate IP Transfer	
Ready 0 bytes received 0 B/s 0 bytes sent 0 B/s	

Figure 7.

13.Click Connect.



Create and Configure a New User in FileZilla

- 1. Referring to Figure 8, click *Edit-Users* from the Menu bar.
- 2. Select General under the Page heading.
- 3. Click the Add button under the Users heading.
- 4. Define the new user's name and group (as applicable).

FileZilla Server (127.0.0.1)		
File Server Edit ?		
🗲 🗄 💺 🕰 📽 💡 📶 GA 🎫 🗸		
FikeZill Scorer 0 500 beta Copyright 2010 116 by Tim Noise effikusilia project org) Convected, willing to the Tim Noise effikusilia project org) Convected, willing to sufficience of the Convected org Convected, willing to sufficience of the Convected org Convected, willing to sufficience org Convected, willing to sufficience org Visuado to be beind a NMT code. Please configure the passw mode web Please willing, please willing, please web, willing Please configure the passw mode web Visuado to be beind a NMT code. Please configure the passw mode web Please web, pleas	Vers 20 *Pop:	
neauy		o bytes received o b/s 0 bytes sent 0 b/s 👒

Figure 8.

5. Click OK.



- 6. Referring to Figure 9, enable the Password option under Account settings, by selecting the box.
- 7. Specify a password for the new user and click OK.

						-
Eile Server Edit 2						
The Zet Sore 19 50 beta Coopyrt 2021-2015 I'm Kose (Inkose@Hoslay.org) https://Heslay.org/d top://Letial.org/d Loggd on Connector.yetary for adhericition Loggd on Warring FTP or adhericition Reterving account enting, Reserved. Second society by n. Reterving account enting, Reserved. Bone reterving account entings One reterving account entings Deve technique account entities Deve technique account entities Deve technique account entities Deve technique account entities Deve technique accoun	Users Page: General General General Definition Definiti	Account settings	Users K Add Remove Rename Copy			
IU A Account IP Inanste		Progress Speed				
Ready				0 bytes received 0 B/s	0 bytes sent 0 B/s	

Figure 9.

- 8. Referring to Figure 10, click Shared folders under the Page: heading.
- **9.** Click the new user's name under the Users heading; *rlc* in this case.

FileZilla Server (127.0.0.1)					8
File Server Edit ?					
두 🏦 💺 🕰 🕰 💡 🕼 🖓 🚓 📰 🗸					
Ele Zila Senser () 9 60 heta					_
Copyright 2001-2016 by Tim Kosse (tim kosse @filezilla-project.org)					
https://filezilla-project.org/					
Connected, waiting for authentication					
Logged on					
You appear to be behind a NAT router. Please configure the passive mode sett Warring: ETP over TLS is not enabled, users cannot securely log in	·····				
Retrieving account settings, please wat	Users				
Done retrieving account settings	Page:	Shared folders	Lisers		
Netneving account settings, please wat Done retrieving account settings	Canaral	Files			
	Shared folders	Directories Aliases Read	nc		
	- Speed Limits	Wite			
	IP Filter	Delete			
		Append			
		District			
		Directories			
		Delate			
		Deter			
		m + Suburs	Add Remove		
		Add Remove Rename Set as home dr	Rename Conv		
			[tertaine] [copy]		
		A directory alias will also appear at the specified location. Aliases m	ust contain the full virtual		
		path. Separate multiple aliases for one directory with the pipe chara	acter (1)		
		If using aliases, please avoid cyclic directory structures, it will only o	confuse FTP clients.		
	ОК				
		-			
	Cancel				
ID A Account IP Transfer		Progress Speed			
Ready				0 bytes received 0 B/s 0 bytes sent 0 B/s @	•

Figure 10.

10.Click the *Add* button under Shared folders; the Browse for Folder popup appears, as shown in Figure 11.



11.Referring to Figure 11, browse to the location to use as this user's Home Directory.

·		
Z FileZilla Server (127.0.0.1)		
File Server Edit ?		
🗲 🗄 📓 🕰 💈 707 cn 🎫 -		
TR-ZBL Sever 0.9 50 beta Copyrt 200 - 30 Fb p Training Emilia Server 0.9 (1) Copyrt 200 - 30 Fb p Training Emilia Server 0.9 (1) Connecting the Training Emilia Server 147 Defining account setting Pairs Mail. Defining Pairs Mail. Defining Pairs Mail. Defining Account Setting Pairs Mail. Defining Acc	Viers Page: Sever fixed Page: Page: Prove for folder Prove for folder Prove for folder Prove for folder Prove for folder Prove for folder Prove for folder Prove for folder Prove for	
ID A Account IP Transfer	Progress Speed	
Ready	01	bytes received 0 B/s 0 bytes sent 0 B/s 🔹 👁

Figure 11.

12.Click OK.

13.Referring to Figure 12, select all of the boxes under the Files heading.

14.Select all of the boxes under the Directories heading.

FileZilla Server (127.0.0.1)						• ×
File Server Edit ?						
🗲 🗄 😹 🚅 📽 💡 /0/ 64 🎫 -						
FitzBis Sover 0 360 beta Comprix 2007-118 by The Noise BitKosle BitKosle project org) Converted, and this by The Noise BitKosle BitKosle project org) Converted, and this by The Noise BitKosle BitK	Vers Page: P	Stand foldes	Users			
ID A Account IP Transfer		Progress Speed				
Ready				0 bytes received 0 B/s 0 I	bytes sent 0 B/s	

Figure 12.

15.Click the *Set as home dir* button. **16.**Click *OK*.



Disclaimer

It is the customer's responsibility to review the advice provided herein and its applicability to the system. Red Lion makes no representation about specific knowledge of the customer's system or the specific performance of the system. Red Lion is not responsible for any damage to equipment or connected systems. The use of this document is at your own risk. Red Lion standard product warranty applies.

Red Lion Technical Support

If you have any questions or trouble contact Red Lion Technical Support by emailing <u>support@redlion.net</u> or calling 1-877-432-9908.

For more information: http://www.redlion.net/support/policies-statements/warranty-statement

