

Integration Objects' Solution for Secure File Transfer

File Tunneller

Version 1.1. Rev0

USER GUIDE



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TABLE OF CONTENTS

IN	TRO	DUCTION	9
1.	Ove	erview	9
2.	Fea	atures1	0
3.	Sys	stem Requirements1	0
G		NG STARTED1	1
1.	Pre	-Installation Considerations1	1
2	Inst	talling And Running	1
2. ว	Sto.		' 7
ა. ,	5ta		<i>1</i>
4.	Log	g Files 1	7
5.	Rer	moving the File Tunneller1	7
U	SING	FILE TUNNELLER 1	9
1.	Mai	in Interface Overview1	9
	1.1.	Manage file transfers	20
	1.2.	Manage Connections	20
	1.3.	Monitor Transfers	21
2.	Mai	naging administrator account2	!1
	2.1.	Login Into File Tunneller	21
	2.2.	Edit Administrator Credential	22
3.	File	e Tunneller Functionalities2	23
	3.1.	Add Shared Folders	23
	3.2.	Configure Server Settings	27
	3.2.1.	Communication Parameters	27
	3.2.2.	Security Settings	29
	3.2.3.	User Management	31
	3.2.4.	Display	34
	3.2.5.	Log Settings	35





5.	Lice	ense Authorization	53
4.	Ste	p by Step Procedure to Use File Tunneller	47
	3.6.	Transfer Properties	.45
	3.5.4.	Schedule File Transfer	.43
	3.5.3.	Bridge File Transfer	.42
	3.5.2.	Download File	.40
	3.5.1.	Upload File	.38
	3.5.	Transfer Operations	.38
	3.4.	Connection Properties	37
	3.3.	Configure Connections	.35



TABLE OF FIGURES

Figure 1: File Tunneller Architecture	9
Figure 2: Installation Welcome Dialog	.12
Figure 3: License Agreement Dialog	.13
Figure 4: Customer Information Dialog	.14
Figure 5: Choose Destination Folder Dialog	.15
Figure 6: Installation Dialog	.16
Figure 7: File Tunneller Start Menu	. 17
Figure 8: Uninstall the File Tunneller	.18
Figure 9: File Tunneller Main View	. 19
Figure 10: Home menu	.20
Figure 11: Connections Context Menu	.20
Figure 12: Available Connections	.21
Figure 13: Server Context Menu	.21
Figure 14: Current File Transfers	.21
Figure 15: Enter Admin Credential	. 22
Figure 16: Edit Admin Credential	.22
Figure 17: Shared Folders	.23
Figure 18: Add shared folder	.24
Figure 19: Edit Shared Folder	.24
Figure 20: Manage folder	.25
Figure 21: Add extension	.25
Figure 22: File Filter	.26
Figure 23: Set users' permissions	.26
Figure 24: Configure Server Security Mode	.29
Figure 25: Add Trust	. 30
Figure 26: Configure a Trust	. 30
Figure 27: Trusted Accounts Configuration	.31
Figure 28: Add User	. 32
Figure 29: Set User's Password	. 32
Figure 30: Add Application Authentication	.33
Figure 31: Change Password	.33
Figure 32: Set a New Password	. 34
Figure 33: Change display settings	. 34
Figure 34: Configure log settings	. 35
Figure 35: Add connection	.36
Figure 36: Add connection with authentication	.36
Figure 37: Remove connections	. 37
Figure 38: Connection properties	. 37
Figure 39: Server properties	. 38
Figure 40: Current transfer menu	. 38
Figure 41: Set destination folder	. 39



Figure 42: Add file or folder	
Figure 43: Upload files	40
Figure 44: Browse remote machine's files	41
Figure 45: Download file	42
Figure 46: Add new bridge	43
Figure 47: Select destination folder	43
Figure 48: Add new schedule send	
Figure 49: Configured scheduled transfers	45
Figure 50: Scheduled transfer options	45
Figure 51: Scheduled transfer general options	45
Figure 52: Current transfer	
Figure 53: Open containing folder	
Figure 54: Main interface	47
Figure 55: Server settings	
Figure 56: Set security mode	
Figure 57: Configure shared folders	
Figure 58: User's access rights	50
Figure 59: Manage filters	50
Figure 60: Add new connection	51
Figure 61: Connections tree view	51
Figure 62: Choose the destination folder	52
Figure 63: Upload your files	52
Figure 64: License authorization tool	53
Figure 65: Registration dialog	54
Figure 66: Valid license	54

TABLE OF TABLES

Table 1: Communication Settings



PREFACE

ABOUT THIS USER GUIDE

This guide:

- Portrays the need for Integration Objects' File Tunneller, describes its main offered features, and lists the system requirements for installing and running File Tunneller.
- Explains how to install and run File Tunneller components following a typical configuration.
- Explains how to use, configure, and run File Tunneller for different scenarios.
- And recapitulates the main steps and instructions to follow in order to successfully configure and run the File Tunneller application.

TARGET AUDIENCE

This document is intended for Integration Objects' File Tunneller users who need to securely transfer files between networks and domains.

DOCUMENT CONVENTIONS

Convention	Description
Bold	Click/selection action required
Monospaced type	Indicates a file reference
	Information to be noted



CUSTOMER SUPPORT SERVICES

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INTRODUCTION

1. Overview

Several products available today on the market offer file transfer features between machines, but most of these software do not encrypt their communications on the network and therefore are not secure. Using a non-secure transfer makes your network vulnerable for multiple attacks during the transfer of data, such as:

- Bounce attacks
- Spoof attacks
- Brute force attacks
- Packet sniffing
- User name protection
- Port sealing

File Tunneller is an Integration Objects' solution providing you with a secure method to exchange files over TCP-based network.

File Tunneller is firewall friendly software that ensures fast, reliable, and secure remote communication to transfer files between different domains, through both LAN and WAN networks.



Figure 1: File Tunneller Architecture

Integration Objects' File Tunneller should be installed on both machines involved in the files transfer. Each machine acts as both server and client and securely communicates with the remote machine through TCP.

The machine will act as a server when it shares folders and files to be downloaded/uploaded. Any other machine that connects to the server and access the shared folders will act as a client.

2. Features

Integration Objects' File Tunneller features include:

- Easy-to-use user interface: A simple and interactive graphical interface is made available for the end users allowing them to quickly create and manage their file transfers.
- Multiple connections and transfers: The user can add multiple connections to different remote machines where the File Tunneller is installed and set up simultaneous uploads and downloads.
- User authentication: To avoid unauthorized access, the file transfers are protected with user authentication feature. The user can also configure the application to either use application based authentication or integrate with an existing active directory.
- Secure remote communications: Track and encrypt client/server communications and so ensuring data integrity and enhancing the security of the systems in order to protect assets, critical applications and the information confidentiality of the network.
- Limiting the number of open ports within your firewalls to a single TCP port to minimize security holes.
- Uploading and downloading any file's format or size: File Tunneller does not present limitations on the transferred file format or size.
- Robustness against network disruptions (automatic reconnection): File Tunneller automatically reconnects file transfer operations after a broken network connection and resume the transfer.
- User profiles management: File Tunneller allows the application administrator to set up different access rights to access the shared folders
- Scheduling files transfer operations: The user can schedule transfers of any file or folder to run automatically at the specified time and per the specified configuration.

3. System Requirements

File Tunneller was successfully installed and executed under the following operating systems:

- Windows 2003 SP2
- Windows XP SP3
- Windows Server 2008
- Windows 7
- Windows 8
- Windows Server 2012
- Windows 10

GETTING STARTED

1. Pre-Installation Considerations

In order to properly run File Tunneller, install these software components on both the Server and Client computers:

• Microsoft .NET Framework (Microsoft .NET Framework 4) or higher.

2. Installing And Running

To install the File Tunneller:

1. Double click on the **Integration Objects' File Tunneller.exe**. The installation welcome dialog box will appear.

Integration Objects' File Tunneller - InstallShield Wizard		
Integration Objects' File Tunneller	InstallShield Wizard Welcome to the InstallShield Wizard for Integration Objects' File Tunneller The InstallShield Wizard will install Integration Objects' File Tunneller on your computer. To continue, click Next.	
InstallShield	< <u>B</u> ack Canc	el

Figure 2: Installation Welcome Dialog

2. Click the Next button. The license agreement (Figure below) will be displayed

Integration Objects' File Tunneller - I	InstallShield Wizard	×
License Agreement Please read the following license ag	reement carefully.	
	Integration Objects End-User License & Customer Support and Services Agreement Integration Objects End-User License Agreement PLEASE READ THIS END-USER LICENSE AGREEMENT (the "Agreement") CAREFULLY BEFORE PROCEEDING. THIS AGREEMENT LICENSES THE SOFTWARE TO YOU AND CONTAINS WARRANTY AND LIABILITY DISCLAIMERS. BY INSTALLING THE SOFTWARE, YOU ARE CONFIRMING YOUR ACCEPTANCE OF THE SOFTWARE AND AGREEING TO BECOME BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT WISH TO DO SO, CLICK "Do not accept" BELOW AND DO NOT INSTALL THE SOFTWARE. 1. Definitions (a) "IO Software" means the software program covered by this Agreement and all related updates supplied by IO. (b) "IO Product" means the IO Software and the related documentation and content and all related updates supplied by IO. 2. License This Agreement (f) gocept the terms of the license agreement (f) I go not accept the terms of the license agreement	< III
InstallShield	< <u>B</u> ack <u>N</u> ext > Cano	el

Figure 3: License Agreement Dialog

3. By proceeding, you are accepting all of the license agreement terms. Otherwise, you can cancel the installation. Next, the customer information dialog will appear.

Integration Objects' File Tunneller	- InstallShield Wizard	×
Customer Information Please enter your information.		
	Please enter your name and the name of the company for which you work.	
	User Name: IO Company Name: Integration Objects	
Install Shield	< <u>B</u> ack <u>N</u> ext > Ca	incel

Figure 4: Customer Information Dialog

4. Enter user name and company name and then click the **Next** button. The dialog box for choosing the destination folder (Figure below) will be displayed.

Integration Objects' File Tunneller -	InstallShield Wizard	×
Choose Destination Location Select folder where setup will instal	l files.	
	Setup will install Integration Objects' File Tunneller in the following folder. To install to this folder, click Next. To install to a different folder, click Browse and select another folder.	
Install Shield	< <u>B</u> ack <u>Next</u> > Cancel	

Figure 5: Choose Destination Folder Dialog

5. Click the **Next** button to continue the installation, or the **Browse** button to select a different destination folder. The installation dialog box (Figure below) will then appear.

Integration Objects' File Tunneller - InstallShield Wizard		
Ready to Install the Program The wizard is ready to begin installa	tion.	
	Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to e wizard.	xit the
InstallShield	< <u>B</u> ack [Instal] Car	ncel

Figure 6: Installation Dialog

6. Click the **Install** button to start installation.

The setup will then:

- Copy the necessary files to the selected target folder,
- Create shortcut icons to launch the File Tunneller and Authorization License executable from the start menu and the desktop,
- And make an un-installation entry in the Add/Remove Programs in the Control Panel.
- 7. Click Finish.

3. Start-up

To manually start the File Tunneller graphical user interface, click on Start → Programs → Integration Objects → File Tunneller → File Tunneller

Figure 7: File Tunneller Start Menu

4. Log Files

The file transfer service produces the FileTunnellerService.log default log file under the File Tunneller installation folder.

The main GUI interface executable generates the FileTunnellerApp.log default log file also located under the installation folder.

These files record information, errors and debugging messages for respectively the service and the graphical user interface.

If any difficulties occur with the File Tunneller application, these recorded messages can be extremely valuable for troubleshooting.

Logging parameters can be changed using both the ServiceConfig.ini and GUIConfig.ini configuration files or using the log settings after starting the application.

5. Removing the File Tunneller

To uninstall the File Tunneller, you need to follow the steps below:

1. Click the Uninstall shortcut icon available in the start menu.

The following dialog box will appear:

Figure 8: Uninstall the File Tunneller

- 2. Click Yes to start uninstalling.
- 3. The wizard will take you through the removal steps. Click **Finish** when the un-installation is complete.

The File Tunneller can also be manually removed as follows:

- 1. Go to the **Control Panel**.
- 2. Click Add/Remove Programs.
- 3. In the Add/Remove Programs dialog screen, select Integration Objects' File Tunneller.
- 4. Click Change/Remove then OK.

USING FILE TUNNELLER

In this section, you will find an overview of the File Tunneller user interface as well as the required steps to configure and use this product.

1. Main Interface Overview

The File Tunneller user interface allows you to configure the local server, connect to remote machines, download, upload files and schedule file transfer.

- Q					Integ	ration Object	s' File Tunneller				- 1	= x
Home	Help											
Add Remov	e Share folders	Settings	Upload	Download	Bridge	Configure		1				
Connection	Configu	ration		Transfer		Schedule						
	$\mathcal{P}(\mathbf{X})$	Current	Transfer	Schedule	d Transfer	Bridged Tr	ansfer					
🔮 Connectio	ns	N	lame				From	То	Start time	Size	Status	
2	2 3											
× × •												
Message Type	Timestamp		Mess	age								
[Control]	06/10/2016	13:43:03	Initial	ization suc	ceeded. Co	onnected to t	he local server thro	ugh port 5120				
						4	•					
1 Message												

Figure 9: File Tunneller Main View

There are four parts in the main user interface, as highlighted above:

- Menu bar (1): This part contains the Home menu and the Help menu. These menus provide quick access to functions that help the user interact with the application.
- Connections (2): This part contains the list of server the File Tunneller is connected to.
- Transfer operations (3): This control contains 3 tabs, which are:

- o Current Transfer: list all current transfers.
- o Scheduled Transfer: list all the transfers that have been scheduled.
- o Bridged Transfer: list of all configured bridged transfers.
- Log messages browser (4): This part displays log messages. The most recent messages are displayed at the top of the messages list.

1.1. MANAGE FILE TRANSFERS

Using the different buttons in the main menu:

- You can add a new connection to a remote machine using the Add button.
- You can remove an existing connection by click in the **Remove** button.
- The **Share Folders** action allows you to add shared folders. Only these folders will be accessible from the client side.
- The **Settings** actions will enable you to manage your connection parameters, log and security settings
- By clicking on the **Access rights** button, you can manage access to your shared folders.
- You can upload files to a remote machine using the **Upload** option.
- To download files from a shared folder configured in a remote server, use the **Download** option.
- Click Configure to schedule files in order be sent in a specific date or time

Figure 10: Home Menu

1.2. MANAGE CONNECTIONS

To add a new connection, you can either use the **Add** button in the Home menu or use the **Add connection** action by right click on the **Connections** node in the left tree view.

Figure 11: Connections Context Menu

You can check the available servers as well as their respective shared folder below the **Connections** node.

Figure 12: Available Connections

Right click on any added server and the following menu will be displayed:

Figure 13: Server Context Menu

1.3. MONITOR TRANSFERS

You can monitor the current transfers and their statuses in the main interface (see figure 14). You can also check and manage the scheduled and bridged transfers by consulting respectively the **Scheduled transfer** and the **Bridged Transfer** tab.

Cun	Current Transfer Scheduled Transfer Bridged Transfer							
	Name From To Start time Size Status							
1	license.io		192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:28:19	496B	Completed	
1	Integration Ob	ojects' OPC EasyArchiver.exe	192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:28:19	38.7MB	Completed	
1	Crypted\		192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:28:19	19.9MB	Completed	
♣	Configuration.	zip	192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	404.6MB	3,00 %.	
♣	SLicense.io		192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	21.4KB	Completed	
♣	c:\users\admi	inistrator\desktop\TCPView	192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	543.4KB	Completed	
♣	license.ofa		192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	1.2KB	Completed	
1	myExcel.xlsx		192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:30:13	5.6KB	Completed	
♣	Integration Ob	ojects' OPC UA Wrapper.exe	192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:30:34	10.5MB	71,99 %.	

Figure 14: Current File Transfers

2. Managing administrator account

2.1. LOGIN INTO FILE TUNNELLER

The administrator logon is disabled by default. When this option is enabled, the File Tunneller will prompt the for admin logon credentials on start-up.

餯 Login		x
Login	FTAdmin	
Password	•••••	
	<u>O</u> K <u>C</u> ancel]

Figure 15: Enter Admin Credential

The default login is:

- Login: FTAdmin
- Password: FT5@dmin

It is recommended that users change the default password once they complete the installation.

2.2. EDIT ADMINISTRATOR CREDENTIAL

You can edit your login credential using the following windows:

陀 Edit Admin Credential	x
Username	
FTAdmin	
Old password	
•••••	
Password	
•••••	
Re-type password	
•••••	
I Enable logon on start	
<u>O</u> K <u>C</u> ancel	

Figure 16: Edit Admin Credential

You can change your user name as well as your password.

3. File Tunneller Functionalities

3.1. ADD SHARED FOLDERS

This interface enables the end user to select the folders from where files will be downloaded or to be uploaded.

To do so, click the **Share Folders** button in the menu bar.

Shared folders		х
C:\Program Files\Integration Objects	Browse	folders
Path	Configure	Remove
C:\Files	1	1
C:\Program Files\Integration Objects	1	8
<u>O</u> K		<u>C</u> ancel

Figure 17: Shared Folders

You can browse the folder name using the **Browse Folders** button or just enter the folder path in the respective entry. You can also add them by simply right click on the blank area and select the **Add folder** option.

Shared folders		x	
C:\Program Files\Integration Objects	Browse folders		
Path	Configure	Remove	
C:\Files	1	8	
C:\Program Files\Integration Objects	1	8	
Add folder Remove all			
<u>0</u> K		<u>C</u> ancel	

Figure 18: Add shared folder

To remove a shared folder, right click on the folder you want to remove and select **Remove folder** from the displayed menu.

C:\Files			
C:\Program Files (x86)\Integram	tion	Objects	
		Edit path	
6	3	Properties	
8	1	Remove folder	

Figure 19: Edit Shared Folder

The **Edit path** option enables you to change the path of the selected folder. File

When selecting properties, you can manage the shared folder properties such as the allowed extensions.

Manage fold	ler	Х
File Filter	Allow only Exclude only	
		Add
		Edit
		Delete
-	Exclude hidden files and folders	

Figure 20: Manage Folder

You can allow or exclude specific extensions by checking the Allow only\Exlude only check box and hit the **Add** button.

Add extension		х
.txt	<u>0</u> K	Cancel

Figure 21: Add File Extension

ly hidder

Figure 22: File Filter

You can manage the users' access rights to the shared folders by using the security tab. This tab is only available in the **With encryption and authentication** mode.

Manage fold	der	x
File Filter Security	User names Administrateur User1	
	Permission for Administrateur	Allow
	Upload	
	Download	
-		

Figure 23: Set Users' Permissions

This interface will display the configured users in the user management dialog. When using one of the configured accounts to connect, the remote machine can only upload or download files to/from the allowed shared folders.

3.2. CONFIGURE SERVER SETTINGS

The Server side should be configured before adding a new connection to this end. To configure the server, click the **Settings** button.in the menu bar.

After the configuration, the user must click **OK** to save the changes. Otherwise, the changes will be lost.

3.2.1. Communication Parameters

The communication settings are used to configure the server's connection parameters.

🔀 Server settings					x
Communication	Security	Display	Log		
Priority				1000 🌩	
Port				5120 🌲	
Reconnection P	eriod			180 🌲 (s)	
Compression		true		-	
Max Messages	ize			20000 🌲 (kł	o)
Queue Size				100 🌲	
Max Total Size				20000 🌲 (kł	o)
Recon. Tries				180 🌲	
Ping				40000 🌲 (m	is)
Waiting Time				1000 🌲 (m	ıs)
Invoc. TimeOut				30 🔹 (s)
			<u>0</u> K	<u>C</u> ance	

Figure 13: Configure Server Communication Settings

For more explanation about the different communication settings, please refer to the table below:

Communication Setting	Description	Default Value
Priority	An integer value representing the priority assigned to this connection. The higher the priority is, the higher is the chance for this connection to be established first.	100
Port	This is the port on which the Server will listen to connected clients	5120
Reconnection Period	When the client connection through the TCP channel is broken, it is expected to re- establish the connection within the specified time interval. Otherwise, the Server declares the connection as closed.	180 (seconds)
Compression	To enable compression on the server side, set this flag to true. Possible options: • True: Enable compression • False: Disable compression	true
Max Message Size	The maximum size of a transmitted message.	20000 (kilobytes)
Queue Size	The total number of queued messages.	100
Max Total Size	The maximum total size of queued messages.	20000 (kilobytes)
Recon. Tries	The number of reconnection attempts before declaring that the connection as lost.	180
Ping	The client sends ping messages to the server within this ping time period.	40000 (milliseconds)
Waiting Time	The waiting time after every reconnection failure.	1000 (milliseconds)
Invoc. TimeOut	The request is recognized as failed when the client does not receive a response from the server within this time period.	30 (seconds)

Table 1: Communication	n Settings
------------------------	------------

3.2.2. Security Settings

Select **Security** in the server settings dialog to configure security options. You will then get the following screen:

🔀 Server settings					x
Communication 5	Security	Display	Log		
Security mode					
Without encrypt	ion				
With encryption					
With encryption	and authe	ntication	Config	jure Users	
Trusted accounts					_
Enable trust					
Machine IP	User	Account			
			<u>О</u> К	<u>C</u> ancel	

Figure 24: Configure Server Security Mode

The server can be accessed using one of the three security modes:

- Without encryption: This mode is not recommended because it disables the data encryption for the network communications. But it may be used for testing or troubleshooting purposes.
- With encryption: This is the default mode which enables using data encryption.
- With encryption and authentication: This is the most secure mode enabling both data encryption and user authentication in order to ensure both data integrity and confidentiality.

You can also strengthen your data confidentially scheme by adding another authentication layer to your communications. To do so, you can configure a trust between the server and the client machines by checking the **Enable trust** check box

and adding the machines and users you trust. This option works with the three connection modes listed above. Only the configured users in the trust can access this server.

Right click on the **Trusted accounts** table in the **Security Settings** window and select **Add trust** from the displayed menu.

Trusted acco	ounts ist		
Machine IP		User Account	
	Add	trust	

Figure 25: Add Trust

The window shown in the figure below should appear. The end user should enter the IP address of the trusted client machine and the authorized user account information:

🎯 Trust propert	ties X
IP address :	192.168.1.45
Domain :	MYDOMAIN
User account :	Peter
<u>O</u> ł	Cancel

Figure 26: Configure a Trust

The security settings window will be updated and the configured user accounts will be added as shown in the figure below:

🔀 Server settings		х
Communication Secu	urity Display Log	
Security mode		
Without encryption With encryption With encryption and	authentication Config	ure Users
Trusted accounts		
Enable trust		
Machine IP	User Account	
192.168.1.45	MYDOMAIN\Peter	
	<u>o</u> k	<u>C</u> ancel

Figure 27: Trusted Accounts Configuration

If you enable the trust, only the configured machines can have access to the server. When adding a machine with an empty user accounts, all users having access to that machine have permission to add a connection to the server.

3.2.3. User Management

User configuration is required for secured communication. This tool manages user accounts configured on the server machine. Also, it manages the client accounts when using the **With encryption and authentication** mode.

Select the server side account from the **Available Users** List and then click the >> button to add one server user to the list of **Configured Users**.

👗 User management	x
Configure the users allow	d to connect to the File Tunneller
Local NT users Current domain users	Configured users
Administrator DatabaseAdmin Guest IOUser	~
	Apply Cancel

Figure 28: Add User

You will be asked to set the password and confirm it: you can enter the NT user account password or a custom password. An empty value is not permitted. Then, click the **OK** button.

Set password		x
Login:	Administrator	
Password:	•••••	
Confirm password:	•••••]
	<u>O</u> K Cancel	

Figure 29: Set User's Password

To add a custom user, right click on an empty field on the configured user list and click the **Add user** button.

Add user	x	
Login:	User1	
Password:	•••••	
Confirm password:	•••••	
	<u>O</u> K Cancel	

Figure 30: Add Application Authentication

To change a configured user password, select one user from the configured user list and then click on **Set password** button.

🕹 User management	x
Configure the users allo	wed to connect to the File Tunneller
 Local NT users Current domain users 	Configured users Administrator
DatabaseAdmin Guest IOUser	UserF* Set password Remove user
	Apply Cancel

Figure 31: Change Password

The dialog below will be displayed. Enter the new password and click **OK** to confirm.

Set password		x
Login:	User1	
Password:	•••••	
Confirm password:	•••••	
	<u>O</u> K Cancel	

Figure 32: Set a New Password

Click the **Apply** button to save the configuration.

3.2.4. Display

This tab allows users to change the File Tunneller theme. The default theme is Windows7Blue.

🔀 Server settings				x	
Communication	Security	Display	Log		
	1	Theme			
	Wi	ndows7Blue	e	-	
		ayout			
	F	Reset Views	s		
			<u>о</u> к	<u>C</u> ance	1

Figure 33: Change display settings

3.2.5. Log Settings

Select the **Log** tab from the server settings window to configure log options. This tab contains the configuration of both the File Tunneller service and the application log files.

The below window will appear:

🔀 Server settings				x
Communication Security		Display	Log	
🖃 🌼 Configuration		Auto Ap	pend *	🗷 True
- 🧊 GUI Log		Buffer S	ize	100
Service Log		File Max	Size	10
		File Nan	ne *	FileTunnellerApp
		Folder P	ath *	C:\Program Files
		Level		Error
	۹ •	Maximu	ım Files	0
		Save Tin	neout	10
	: ∢			
	ľ	Cile Nam	₩ ····	····· *
		The file na null, empty	e " ame, it n y or a sp	nust different of pecial name
* Restart the application	fo	or the chan	ges to t	ake effect.
<u>O</u> K <u>C</u> ancel				

Figure 34: Configure Log Settings

3.3. CONFIGURE CONNECTIONS

Using the File Tunneller, you can connect to different machines. The connection dialog is shown in the figure below:

퇺 Add new machi	ne	x
	Host information	
Address	192.168.0.66	×
Port		5120 🌲
Security mode	With encryption	•
	<u>o</u> k	<u>C</u> ancel

Figure 35: Add Connection

Enter the IP address of the remote machine and the port configured in the server. You have the choice between three different connection modes (**Without Encryption**, **With Encryption** and **With Encryption and Authentication**).

When selecting the **With Encryption and Authentication** mode, the following dialog will appear where you can enter the login and the password of the authorized user.

💐 Add new machir	ne X
	Host information
Address	192.168.0.66
Port	5120 🗬
Security mode	With encryption and authentication
F	ile Tunneller credentials
Login	Administrator
Password	••••••
	<u>O</u> K <u>C</u> ancel

Figure 36: Add Connection with Authentication

To remove a connection, click the **Remove** button in the connection tab of the main user interface. Select the servers you want to disconnect from and then click "**OK**".

Kemove connections	x
Double click to select the machines to be remove	ed :
Available connections	
192.168.0.66	
192.168.0.148	
*All servers will be removed	
<u>O</u> K <u>C</u> ance	el 🛛

Figure 37: Remove Connections

The connection will be destroyed and you can no longer download or upload files from/to this location.

3.4. CONNECTION PROPERTIES

When right clicking on a connection from the left tree view, you can check the connection properties by selecting the **Properties** button from the displayed menu.

Figure 38: Connection Properties

The **Refresh** button will refresh the connection of the respective shared folders list. The **Disconnect** button will allow to disconnect from the remote machine but enables you to reconnect when needed.

Server properties	X
Priority	1000 🌲
Reconnection period	180 🛖 (s)
Compression	true
Max message size	20000 🚖 (kb)
Queue size	100 🚖
Max total size	20000 🖨 (kb)
Recon. Tries	180 🚔
Ping	40000 📥 (ms)
Waiting time	1000 📥 (ms)
Invoc. TimeOut	30 🛓 (s)
Enable automatic reco	onnection
Save	<u>C</u> ancel

Figure 39: Server Properties

You can also refresh or remove all connections by selecting the respective option and by right clicking on the connections node.

3.5. TRANSFER OPERATIONS

3.5.1. Upload File

To upload a file:

1. Click on the **Upload** button from the transfer menu or right click on the current transfer grid and select **Add new upload**

Figure 40: Current Transfer Menu

- 2. Choose the remote machine. The configured shared folders in that machine will be listed.
- 3. Select the destination folder from that list and click OK

📴 Upload file	x
Server machine : 192.168.0.66	
Path	
c:\users\administrator\desktop	
c:\program files\integration objects	
c:\shared folder	
<u>O</u> K <u>C</u> ance	el

Figure 41: Set Destination Folder

4. Add the files or folders to be sent to the destination machine by either drag and drop them into the upload list or by right click and select the **Add** action.

K	Upload files					x
	Drag and drop files here to sh	are				
	Path	Туре	Size	Action		
	C:\KNet Analytics Setup.exe	File	132.2 MB	Rename		
		Add 🕨	Add fi	ile older	OK	Canad

Figure 42: Add File or Folder

5. If the file already exists in the destination machine's shared folder, select either rename or overwrite it, then click **OK**.

🚺 Upload files				x
Drag and drop files here to share)			
Path	Type	Size	Action	
C:\KNet Analytics Setup.exe	File	132.2 MB	Rename	
C:\Files\MyDatabase.accdb	File	484.0 KB	Overwrite	
C:\LogFiles\ONBS_Log.log	File	8.9 KB	Rename	
			<u>O</u> K	<u>C</u> ancel

Figure 43: Upload Files

If the file already exists in the remote folder:

- The default action is to rename it. The new file name will show the time of reception at the end of the file's name
- When you choose the **Overwrite** option, the older file will be removed.

3.5.2. Download File

To download a file:

- 1. Click the **Download** button from the transfer menu in the main user interface.
- 2. Select the destination machine.
- 3. Select the shared folder containing the files you are interested in. You can browse the shared subfolders by double clicking on them. You can go back to the main folder by right clicking on the subfolder and selecting the **Get back to parent** from the displayed menu or by clicking on the first row in the subfolder.

Download file		x
Server machine:	192.168.0.66	
Server's shared folder :	c:\shared folder	-
Select the file you want to	download :	
Shared		
 c:\shared folder\New folde	r\Log folder\	
c:\shared folder\New folde	r\Projects\ S Get back to parent	
c:\shared folder\New folde	r\Training\	
c:\shared folder\New folde	r\ONBClientDA_Log.log	
c:\shared folder\New folde	r\OPC EasyArchiver.zip	-
Save under C:\F	iles	
If the file already exists :	Rename Overwrite <u>O</u> K <u>C</u> and	cel

Figure 44: Browse Remote Machine's Files

4. After that, you have to specify where the folder will be saved in your machine using the **Save under** field.

🛅 Download file	х	
Server machine: 192.168.0.66		
Server's shared folder : c:\shared folder	-	
Select the file you want to download :		
Shared	-	
c:\shared folder\New folder\Projects\		
c:\shared folder\New folder\Training\		
c:\shared folder\New folder\ONBClientDA_Log.log		
c:\shared folder\New folder\OPC EasyArchiver.zip		
c:\shared folder\New folder\Security.docx		
	-	
Save under C:\Files		
If the file already exists : Rename Overwrite OK Ca	incel	

Figure 45: Download File

- 5. Select the files to be downloaded.
- 6. Specify the action to take if the file already exists.
- 7. Click OK.

3.5.3. Bridge File Transfer

To configure a bridge file transfer, click the **Bridge** button from the transfer bar in the main user interface or right click on the bridged transfer grid and select **Add bridge**. Whenever you receive a transfer from the **Source IP Address** and in the configured **Local shared folder**, the File Tunneller will automatically transfer the received file to the configured destination folder in **Destination IP Address**.

🛀 Add new bridge		x
Source IP Address	192.168.0.34	
Destination IP Address	192.168.0.66	
Destination shared folder	c:\shared folder	-
Local shared folder	c:\files	-
If the file already exists	: • Rename Overwrite	
Save a local copy	<u>O</u> K Cance	el

Figure 46: Add New Bridge

3.5.4. Schedule File Transfer

To configure a scheduled file transfer, click the **Configure** button from the schedule bar in the main user interface or right click on the schedule transfer grid and select **Add schedule**.

Then, you will have to:

- 1. Choose the remote machine. The configured shared folders in that machine will be listed.
- 2. Select the destination folder from that list and click OK

🖸 Upload file	x
Server machine : 192.168.0.66	
Path	
c:\users\administrator\desktop	
c:\program files\integration objects	
c:\shared folder	
<u>O</u> K <u>C</u> an	cel

- 3. Browse and select the file\folder that will be sent
- 4. Specify the time when the operation will be executed
- 5. Choose what to do if the file already exists.

Schedule send		x
C:\LogFiles\ONBS	_Log.log	
Recurrence		
Periodicity	Weekly	
Every	Monday at 8:03:00 AM	
File option		
If the file alread	ly exists : Rename Overwrite	
Select the actio	n to perform if the file is locked :	
Transfer anyw	ay 💌	
Timeout	1 🚔 (s)	
Check every	1 🔔 (s)	
Occurrence		
End date :	No end date	
	End by 01/01/2020 00:00	
	○ End after 5 → occurrences	
	<u>O</u> K <u>C</u>	ancel

Figure 48: Schedule Send

You can view the scheduled operation by selecting **Configure** button in the schedule bar in the main user interface. This dialog offers you the needed information about the scheduled operations and enables you to pause, remove a scheduled operation or resume a paused one.

CurrentTr	ansfer	Scheduled Transfer	Bridged Transfer							
Status Fr	m		Destination IP	To	Туре	Time				
	C:\Log	gFiles\ONBS_Log.	log.txt				192.168.0.148	c:\perflogs	Weekly	Monday at 8:00:00 PM
	C:\AIF	Files\Configuration	zip				192.168.0.148	c:\shared folder	Specific time	25/03/2015 10:20
	C:\Pro	gram Files (x86)\lr	tegration Object	s\Integration Objects' OPCNet	t Broker Cli	ent Side\DA\ONBClientDA_Log.log	192.168.0.148	c:\shared folder	Daily	at 08:30:00
	C:\Exe	ecutable\New fold	er				192.168.0.148	c:\shared folder	Hourly	at 5 minutes 5 seconds

Figure 49: Configured Scheduled Transfers

To configure the available file transfer schedules, right click on the transfer and select to either stop, edit or remove it.

Figure 50: Scheduled Transfer Options

You can also refresh or remove all scheduled transfer by right clicking on the scheduled transfer tab empty area.

Figure 51: Scheduled Transfer General Options

3.6. TRANSFER PROPERTIES

When downloading or uploading files, the main interface will be updated to display the ongoing transfers along their respective status in the status column:

\$ 1					Int	egration Objects' File Tunneller			- 1	s x
Home	Help									
Add Remove Connection	Share Settings folders Settings Configuration	oad Download Bridge Transfer ster Scheduled Transfe	Configure Schedule	er From	То	Start time	Size	Status		
🛓 💁 192.168.0.1	133 👚 license	oi		192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:28:19	496B	Completed		
😑 desktop	p 👚 Integra	ion Objects' OPC EasyArchi	iver.exe	192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:28:19	38.7MB	Completed		
🤐 🚔 perflogs	s 👚 Crypter	Λ		192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:28:19	19.9MB	Completed		
	🕹 Config.	.ration.zip		192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	404.6MB	3,00 %.		
	SLicen	se.io		192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	21.4KB	Completed		
	🔶 c:\use	s\administrator\desktop\TCI	.PView	192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	543.4KB	Completed		
	🔶 icense	ofa		192.168.0.133	192.168.0.124	Friday, June 10, 2016 13:29:05	1.2KB	Completed		
	The myExc	dolar - Long - Long		192.168.0.124	192.168.0.133	Friday, June 10, 2016 13:30:13	5.6KB	Completed		
X 4 1	1					á á				\$
Message Type	Timestamp		Message							
[Control]	06/10/2016 13:	10:34	Download File	: Downloading Integ	ation Objects' OPC	UA Wrapper.exe from 192.168.0.	133 to the local fo	older C:\Test		
[Inform]	06/10/2016 13:	0:13	FileTransferSer	ver: Sending myExcel	xlsx to 192.168.0.1	33:5120 completed				
[Control]	06/10/2016 13:	:0:13	File Tunneller:	Send file : Sending m	/Excel.xlsx to c:\use	rs\administrator\desktop located	on 192.168.0.133	i		
[Inform]	06/10/2016 13:	29.06	CileTerroforCo.							_
			- File fransierser	ver: Download license	ofatrom 192.168.0	.133:5120 succeeded.				-

Figure 52: Current Transfer

You can clear the completed transfers by right clicking on the empty area in the **Current transfer** tab.

You can also check the file location by right clicking on the file as shown in the figure below:

	Name	From To
1	Integration Objects' OPC EasyArchiver.exe	192.168.0.24 192.168.0.148
1	OPCNet Broker.zip	192.168.0.24 192.168.0.148
1	Tag configuration xlsx	192.168.0.24 192.168.0.148
T	Text.txt	192.168.0.24 192.168.0.148
1		192.168.0.24 192.168.0.148
♣	ONBClientDA_Log.log	192.168.0.148 192.168.0.24
♣	ONBS_Log.log	192.168.0.148 192.168.0.24
♣	OPCNet Broker Training.pdf	192.168.0.148 192.168.0.24
1	Copyright.png	192.168.0.24 192.168.0.148
-	KNet Analytics Setup.exe	192.168.0.148 192.168.0.24
-	archiverDatabase.accdb	192.168.0.148 192.168.0.24

Figure 53: Open Containing Folder

4. Step by Step Procedure to Use File Tunneller

When starting the main interface of the File Tunneller, and after logging into the application, you can see that the service is running and the graphical user interface has been successfully initialized.

<u>.</u>				Integr	ation Object	ts' File Tunneller				-	x
- Home	Help										
Ø Ø		× 6									
Add Remov	e Share S folders	Settings Uplo	oad Download	Bridge	Configure						
Connection	Configura	ation	Transfer		Schedule						
	2X	Current Tran	sfer Schedule	ed Transfer	Bridged Tr	ansfer					
Connectio	ns	Name				From	То	Start time	Size	Status	
		4				ųų					
	Timoctomo		1000000								 ~
wessage type	mestamp		nessaye								
[Control]	[Control] 06/10/2016 13:43:03 Initialization succeeded. Connected to t						ugh port 5120				
1 Message Service is running											

Figure 54: Main User Interface

First of all, if you are in the server machine, you need to configure the communication settings. Click on the **Settings** button, the following dialog shall appear:

🔀 Server settings				Х
Communication	Security	Display	Log	
Priority				1000 🚔
Port				5120 🚔
Reconnection P	eriod			180 🌲 (s)
Compression		true		•
Max Messages	Max Message size			20000 🚔 (kb)
Queue Size				100 🌲
Max Total Size				20000 🖨 (kb)
Recon. Tries				180 🌲
Ping				40000 🛖 (ms)
Waiting Time	Waiting Time			1000 🚔 (ms)
Invoc. TimeOut	Invoc. TimeOut			30 🚔 (s)
			<u>0</u> K	<u>C</u> ancel

Figure 55: Server Settings

You can change these parameters to suit your needs. You can also modify the security mode you will be using for the remote communication by going to the security tab:

🔀 Server settings	5				x			
Communication	Security	Display	Log					
Security mode	-							
 Without encryption With encryption With encryption and authentication Configure Users 								
Trusted accounts]							
Enable trust								
Machine IP	User	Account						
			<u>о</u> к	<u>C</u> ancel				

Figure 56: Set Security Mode

You need to select **Share Folders** button in the main user interface. To add folders, use the **Browse Folders** button or just copy/past the folder path in the appropriate field as shown in following tab:

Figure 57: Configure Shared Folders

If you are using **With encryption and authentication** security mode, you should grant the configured users access rights to your shared folders to be able to exchange files.

To do so, click on the **Access rights** button in the main user interface, change and save the configuration as shown in the figure below:

Manage fold	der	x
File Filter Security	User names Administrateur User1	
	Permission for User1	Allow
	Upload	
	Download	
•		

Figure 58: User's Access Rights

You can also add your folder's file filter.

Manage fold	er	х
File Filter Security	Allow only Exclude only .exe .exe Exclude hidden files and folders	Add Edit Delete

Figure 59: Manage Filters

The configuration of the server side is now completed.

Note that the File Tunneller acts as a server and client.

From the client machine, select **Add**. You need to enter the IP address of the server side machine, the port and the security mode previously configured.

	Host information	
Address	192.168.0.148	×
Port		5120 🌲
Security mode	With encryption	•

Figure 60: Add New Connection

After establishing the connection, the server node along with its respective shared folders will be added to the connection tree view.

Figure 61: Connections Tree View

Now that the connection is established, you can download, upload and schedule files using the File Tunneller application.

When you select the upload option, you first need to set the destination folder.

🖸 Upload file	x
Server machine : 192.168.0.66	
Path	
c:\users\administrator\desktop	
c:\program files\integration objects	
c:\shared folder	
<u>OK</u> <u>C</u> anc	el

Figure 62: Choose Destination Folder

After selecting the destination folder which is *c:\shared folder* in our case, you can add the files and folders you want to upload.

Upload files				x
Drag and drop files here to share				
Path	Туре	Size	Action	
C:\KNet Analytics Setup.exe	File	132.2 MB	Rename	
C:\Files\MyDatabase.accdb	File	484.0 KB	Overwrite	
C:\LogFiles\ONBS_Log.log	File	8.9 KB	Rename	
			<u>O</u> K <u>C</u> ance	

Figure 63: Upload your Files

5. License Authorization

Integration Objects provides a 16-day demo license by default allowing you to evaluate and test the product.

Once purchasing is completed, you need to register your license. Open the Integration Objects' License Authorization Tool from the start menu or the installation folder under the License management folder. The figure below will appear:

🐉 Integration Objects' License Authorization Tool 🛛 🗙 🗙				
io integ object	Your partner for operations excellence			
, General Information -				
Product Name :	Integration Objects' File Tunneller			
Company Name :	Integration Objects			
User Name :	Administrator			
Demo Version				
You have 16 days left since today.				
Manual Registration				
To register Integration Objects' File Tunneller, buy and activate the license with our activation process based on user ID and activation code.				
Click the register button to proceed.				
Please contact our customer service at:				
customerservice@integrationobjects.com				
www.integrationobjects.com				

Figure 64: License Authorization Tool

In the company name and user name field you shall see the respective names that you have entered during the installation.

Now, click the Register button. The following registration dialog should appear:

Ҏ Register	x
User ID :	A80E18EF499B3785592F4BB515CE31F301A424AE945DF6DA4298D9C2B8AF6872
Activation code :	
	Register Cancel

Figure 65: Registration Dialog

To receive your activation key, copy the **User ID** then send it to Integration Objects' sales team and they will get back to you with the requested code.

🐉 Integration Objects' License Authorization Tool 🛛 🗙				
io integ object	Your partner for operations excellence			
General Information				
Product Name :	Integration Objects' File Tunneller			
Company Name :	Integration Objects			
User Name :	Administrator			
Valid License.				
, Activation Information				
User ID : A	80E18EF499B3785592F4BB515CE31F301A424AE945DF6DA4298D9C2B8AF6872			
Activation Code : F852363FA899B9986456D6C433BCD58C5FE7AC06D7260C5A6831F26CB4CBAA11				
For further information, please contact our customer support service at:				
www.integrationobjects.com				

Figure 66: Valid Full License

For additional information on this guide, questions or problems to report, please contact:

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