AC0082-001, rev B



# UAT - TestStand Integration User Manual



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	Administrator	Developer	Operator	Technician		
admin						
johan jonas	_					
magnus						





# Contents

Support information	2
Technical support and Product information	2
WireFlow headquarters	2
Important information	2
Copyright	2
EULA	2
Introduction	6
Requirements	6
Quick Start	6
TestStand Login	7
Installation	7
Step-by-step for first time installation	7
Step-by-step to enroll a user with fingerprints	15
UAT configuration	20
TestStand installation	
TestStand integration configuration	20
Configuration	
UAT configuration	23
The menus	23
System information	24
User configuration	25
Troubleshooting	30
Error codes	30
Technical support and Professional services	



# Support information

### Technical support and Product information

www.wireflow.se

### WireFlow headquarters

WireFlow AB Theres Svenssons gata 10 SE-417 55 Göteborg

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# Introduction

The WireFlow "UAT - TestStand Integration" product is a TestStand plugin that enables TestStand to use the WF-2111 fingerprint reader for authentication.

Users are managed using the User Access Toolkit management GUI.

# Requirements

- LabVIEW runtime 2012 or higher
- Fingerprint reader (WF2111) + Windows Device driver
- TestStand

## Quick Start

Once the UAT - TestStand Integration has been installed for the desired TestStand version, the standard TestStand login dialog is replaced by a fingerprint enabled dialog.

Fingerprint login Login	
User name	Fingerprint
John_Doe	MAMA
Password TS direct	
If fingerprint login fails, enter username and password and press login.	
V Login X Cancel	•

Figure 1. UAT-TestStand Login dialog

When the dialog, see Figure 1, is shown just place the finger on the fingerprint read and wait for the UAT to login the user in TestStand. If the fingerprint is not recognized, it is always possible to use the fallback of user name and password.

It is even possible to use TestStand defined users, in this case the TS direct checkbox must be checked. This means that the user name and password are passed directly to TestStand and never involves UAT.

The groups in UAT should match the groups that are defined in TestStand, and once the user is logged in he/she will get access rights according to the group membership in TestStand.

The installed UAT-TS applications can be found in the Windows start menu under "UAT-TestStand Integration"



# TestStand Login

If the UAT TestStand integration add-on is installed it means that every time TestStand starts or whenever a login is invoked (from a sequence or from the TestStand menus), the UAT- TestStand Login dialog is shown instead of the standard TestStand dialog.



Figure 2. The standard TestStand dialog is replaced by the UAT dialog

This dialog connects to the UAT user database and uses this information to manage users in TestStand, as well as performing login when UAT successfully identifies the user.

NOTE: For the fingerprint to work it has to be enabled and activated for the users (described later in this document).

# Installation

### Step-by-step for first time installation

First time installation of the UAT – TestStand Integration is done using the supplied setup.exe. Run setup.exe and follow the instructions. Two applications are installed and can be accessed in the Windows start menu in the UAT-TS integration folder.

- UAT-TS\_Installation
- UAT-TS\_Configurator

Once the application is installed, the UAT-TS\_Installation application pops up and lets the user do initial configuration of the system.



UAT-TestStand Installation		- • •
🕴 UAT - TestSt	and installation	admin? 🔑 Login
UAT configuration file		v1.0.3
_		
Encryption Key		
	🎨 configure	New
Specify a valid UAT configurat encryption key to access the fi installations will use the same	le. All TestStand	
N.B. admin user access requ	ired	Save UAT-TS
TestStand installation		
TestStand 2014 (32· 🔺	Select the teststand installation	n to be configured (Only checked
TestStand 2014 (64-	versions are installed).	
-	Double click to install/uninstal version.	l UAT support for a specific
T - 60 - 1 - 1 - 1	T 101 1 1	
TestStand admin user	TestStand ad	min password
🤣 Validate 🔘		Save TS config
	ds an administrator user-pwd	to be able to add/
	ccess rights. : user is created, e.g. UAT-admi (this has to be done manually)	n, and keep the default
		Close

Click New to create a UAT configuration file. An encryption key dialog appears.

📴 Finger	print login	×
Щ	Enter encryption key	
	Encryption Key	
	Repeat encryption key ****	
	The encryption key is protecting the configuration from beeing altered.	
	V OK Cancel	



Write an encryption key twice and click OK. The User Access Toolkit – Configuration Editor appears.

User Access Configuration		
File Edit Help		
	Access Toolkit - Configu r configuration file changed date 2018-06-15 11:21:02	changed by Sebastian
System information User/Group config	Feature config	
System name	Major 1Minor 0Bugfix 0increment1000Specify system name and version of the configuration. IncrementRemember to activate the authentication methods that your system will use.	Metrics Number of features 0 Number of groups 4 Number of active groups 4 Number of users 1 Number of active users 1

Click File – Save. A configuration file path dialog appears.

😰 Select User Access Toolkit configuration	
🤹 Select configuration	
Configuration file path	
	V OK Cancel

Click the open button to specify a new filename (.uat).



😰 Select User Access Too	lkit conf	iguration file				×
OO V 📔 « Docur	ments 🕨	Public Documents  WireFlow  UAT-TS in	tegration 🕨	<b>▼</b> <sup>4</sup> 7	Search UAT-TS integrat	ion 🔎
Organize 🔻 New f	older				:== •	
ጵ Favorites 🌗 Time		Documents library			Arrange by: Fo	lder 🔻
🧮 Desktop 强 Downloads	N	lame	Date modified	Туре	Size	
Downloads Recent Places	Е	TestStand	2018-06-15 11:16	File folder		
🭊 OneDrive						
Libraries Documents My Documents Public Docume Logishrd National Instr WireFlow UAT-TS int Music	•					
Fil	e <u>n</u> ame:	UAT-TS_Config_File.uat		•	UAT configuration (*.uat	t) 🔻
					ок 🔽 🖸	ancel

#### Click OK.

Select User Access Toolkit configuration	×
Select configuration	
Configuration file path	
$\label{eq:c:Users} C: \label{eq:users} C: \label{eq:users} UAT-TS integration \label{users} UAT-TS_Config_File.uat$	
<b>ОК</b>	K Cancel

Click OK.

Optional: add or manage the groups and users. You can return at any time using the configure button or the UAT-TS\_Configurator application.

Close the window to return to UAT-T\_Installation. An encryption key dialog appears.



📴 Finge	erprint login
Щ́	Enter encryption key
	Encryption Key
	The encryption key is protecting the configuration from beeing altered.
	V OK Cancel

Enter the encryption key that you created earlier. Click OK. A login dialog appears.

🖪 Login
📫 Login
User
admin
Password
****
OK Kancel

Enter the user and password. The default user/pass is admin/admin. Click OK. The UAT-TS\_Installation window appears.



UAT - Test		mation			Logir
UAT configuration file					v1.0.3
C:\Users\Public\Document	s\WireFlow\UAT-1	S integration\U	AT-TS	_Config_File.uat	
Encryption Key		-		-	
****	🧶 co	nfigure		New	
Specify a valid UAT configur encryption key to access the installations will use the sar	file. All TestStand	on.			
N.B. admin user access req	quired			Save UAT-TS	
TestStand 2014 (32· A TestStand 2014 (64·	Select the teststa versions are insta Double click to ir version.	alled).			
TestStand admin user		TestStand adm	in pass	word	
UAT-admin		******	-		
🤣 Validate 🌘				Save TS config	3
The TestStand integration n remove users and configure We recommend that a speci administrator user in paralle	access rights. fic user is created, (	e.g. UAT-admin,			

Click Save UAT-TS to save the User Access Toolkit connection to TestStand.

#### Save UAT-TS

Double-click on a TestStand version in the TestStand installation list to install UAT support for that TestStand version. A confirmation dialog appears.



WAT - TestStand installation         VI.03         C:\Users\Public\Documents\WireFlow\UAT-TS integration\UAT-TS_Config_File.uat         C:\Users\Public\Documents\WireFlow\UAT-TS integration\UAT-TS_Config_File.uat         Encryption Key         ****         Specify a valid UAT configuration file, and the encryption key to access the file. All TestStand installations will use the some UAT configuration.         N.B. admin user access required         TestStand installation         TestStand 2014 (22 TestStand 2014 (24 TestStand 2014 (32-bit): Do you really want to install UAT support. OK         Cancel         Matter         TestStand admin user         Validate         Save TS config         The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.         We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	UAT-TestStand Installation		
UAT configuration file C:\Users\Public\Documents\WireFlow\UAT-TS integration\UAT-TS_Config_File.uat Encryption Key **** Configure New Specify a valid UAT configuration file, and the encryption key to access the file. All TestStand installations will use the same UAT configuration. N.B. admin user access required TestStand installation TestStand 2014 (32 TestStand 2014 (32 TestStand 2014 (64 TestStand 2014 (64 TestStand 2014 (64 TestStand 2014 (64 TestStand 2014 (64 TestStand 2014 (64 TestStand admin user TestStand admin user Walidate The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights. We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	🕴 UAT - TestStar	nd installation	
C:\Users\Public\Documents\WireFlow\UAT-TS integration\UAT-TS_Config_File.uat     Encryption Key     *****     Specify a valid UAT configuration file, and the encryption key to access the file. All TestStand installations will use the same UAT configuration.   N.B. admin user access required   Save UAT-TS   TestStand installation   TestStand 2014 (64   TestStand 2014 (64 TestStand 2014 (64 TestStand 2014 (64 TestStand admin user Walidate TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights. We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	UAT configuration file		v1.0.3
****       Configure       New         Specify a valid UAT configuration file, and the encryption key to access the file. All TestStand installations will use the same UAT configuration.       N.B. admin user access required       Image: Save UAT-TS         N.B. admin user access required       Image: Save UAT-TS       Image: Save UAT-TS         TestStand installation       Image: Save UAT-TS       Image: Save UAT-TS         TestStand 2014 (32)       TestStand 2014 (32-bit): Do you really want to install UAT support. Image: Cancel       Image: Save Tipe Conception for a specific         TestStand 2014 (64       TestStand admin user       TestStand admin password       Image: Save TS config         UAT-admin       Image: Save TS config       Image: Save TS config       Image: Save TS config         The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.       We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)		eFlow\UAT-TS integration\l	UAT-TS_Config_File.uat 🗁
Specify a valid UAT configuration file, and the encryption key to access the file. All TestStand installations will use the same UAT configuration.         N.B. admin user access required         TestStand installation         TestStand 2014 (32)         TestStand 2014 (4)         TestStand 2014 (64         TestStand 2014 (64         TestStand 2014 (64         TestStand admin user         TestStand admin user         TestStand admin user         Validate         Validate         TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.         We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	Encryption Key		
encryption key to access the file. All TestStand installations will use the same UAT configuration. N.B. admin user access required TestStand installation TestStand 2014 (32 TestStand 2014 (32 TestStand 2014 (64 TestStand 2014 (64 TestStand 2014 (64 TestStand 2014 (64 TestStand admin user TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights. We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	****	🎨 configure	New
TestStand installation       Image: Stand 2014 (32)         TestStand 2014 (64       TestStand 2014 (32-bit):         Do you really want to install UAT support.       ort for a specific         OK       Cancel         Validate       TestStand admin password         Validate       Save TS config         The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.         We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	encryption key to access the file.	All TestStand	
TestStand 2014 (32)       TestStand 2014 (32-bit): Do you really want to install UAT support.       figured (Only checked ort for a specific         OK       Cancel       ort for a specific         TestStand admin user       TestStand admin password         UAT-admin       *********         Validate       Save TS config         The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.       We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	N.B. admin user access required	1	Save UAT-TS
TestStand 2014 (64       TestStand 2014 (52-bit):       ort for a specific         OK       Cancel       ort for a specific         UAT-admin       *********         Validate       Save TS config         The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.       We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	TestStand installation		
Ob you really want to install OAT support.         OK       Cancel         Ort for a specific         UAT-admin         Image: Save TS config         The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.         We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	TestStand 2014 (64)		
OK       Cancel         TestStand admin user       TestStand admin password         UAT-admin       *********         Validate       Save TS config         The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights.       Save TS config         We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	Do you	really want to install UAT su	
UAT-admin          Validate       ************************************		OK Cancel	
UAT-admin          Validate       ************************************	TestSteed admin uses	TastStandada	
Validate Save TS config The TestStand integration needs an administrator user-pwd to be able to add/ remove users and configure access rights. We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)			nin password
remove users and configure access rights. We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)			Save TS config
remove users and configure access rights. We recommend that a specific user is created, e.g. UAT-admin, and keep the default administrator user in parallel (this has to be done manually)	The TestStand interesting and	an administration and t	
administrator user in parallel (this has to be done manually)	remove users and configure acces	ss rights.	
Close			n, and keep the default
Close			Close
			Close

Click OK to confirm and return.



UAT configuration file		v1.0.3
C:\Users\Public\Document	s\WireFlow\UAT-TS integration	UAT-TS_Config_File.uat
Encryption Key		
****	🎨 configure	New
Specify a valid UAT configur encryption key to access the installations will use the sar	file. All TestStand	
N.B. admin user access req	quired	Save UAT-TS
▼ TestStand 2014 (32 ■ TestStand 2014 (64- ▼	Select the teststand installation versions are installed). Double click to install/uninstal version.	n to be configured (Only checked Il UAT support for a specific
	TestStand 2014 (32-bit)	
TestStand admin user		min password
UAT-admin	********	Save TS config
remove users and configure We recommend that a speci	eeds an administrator user-pwd access rights. fic user is created, e.g. UAT-adm el (this has to be done manually)	in, and keep the default

Click Validate to validate the default UAT-admin TestStand user.



The Boolean indicator lights up to indicate success.



UAT - Test	Stand installation	admin? 🔱 Login
UAT configuration file		v1.0.3
C:\Users\Public\Documen	ts\WireFlow\UAT-TS integration\	UAT-TS_Config_File.uat 🛛 🗁
Encryption Key		
****	🎨 configure	New
Specify a valid UAT configu encryption key to access the installations will use the sa	e file. All TestStand	
N.B. admin user access re	quired	Save UAT-TS
<ul> <li>✓ TestStand 2014 (32)</li> <li>▲ TestStand 2014 (64)</li> <li>▼</li> </ul>	Select the teststand installation versions are installed). Double click to install/uninstall version.	n to be configured (Only checked UAT support for a specific
	TestStand 2014 (32-bit)	
TestStand admin user	TestStand adr	nin password
UAT-admin		Save TS config
remove users and configure We recommend that a spec	needs an administrator user-pwd i e access rights. ific user is created, e.g. UAT-admi lel (this has to be done manually)	

### Step-by-step to enroll a user with fingerprints

🎨 configure

Click configure to open the User Access Toolkit.



	Current user	configuration file lic\Documents\WireFlov	v\UAT-TS integration\	<u> </u>	ration Ed	itor Sebastian
ystem information	User/Group config	Feature config				
Administrator     Developer     Operator     Oreator     Technician	Add G Remov	select grou each user Click a cel disable gr specific us A colored part of the	I to enable or oup access for a er. cell means user is	User Name     Image: state of the	Expiration date NEVER	Add User Remove Use
admin	Administrator	Developer	Operator	Technician		

Click the System information tab and make sure that Auth\_Fingerprint-reader is checked.

Current user	Access Toolkit - Config configuration file lic\Documents\WireFlow\UAT-TS integration\(EDIT)_UAT-TS_Cc	
wireflow.se	changed date 2018-06-15 14:20:15	changed by Sebastian
System information User/Group config	Feature config         Major Minor Bugfix increment         1       0       0         Specify system name and version of the configuration. Increment         Remember to activate the authentication methods that your system will use.	Metrics Number of features 0 Number of groups 4 Number of active groups 4 Number of users 1 Number of active users 1

Go to the User/Group config tab and click add User.



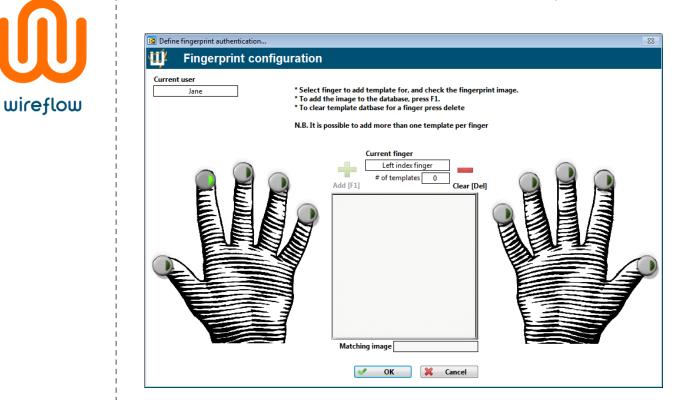
e Edit Help	Current user	Access		<u> </u>	ration Ed	itor
wireflow.s	e	cha	inged date 2018-	06-15 14:20:15	changed by	Sebastian
System information	User/Group config	Feature config				
User Groups	Max 5 groups			User list		
OPereloper     Operator     Technician	Add Gr Remov	roup each user l Click a cel disable gro specific us A colored o part of the	l to enable or oup access for a er. cell means user is	✓ admin	NEVER	Add User Remove Us
Group vs. Osers	Administrator	Developer	Operator	Technician		
admin						

The User configuration dialog appears. Write a name, select Auth\_Fingerprintreader and click Configure.

😰 User information	<b>×</b>
📫 User configur	ration
Name	Active
Jane	
14:27:	tion date :06 07-15
Authentication methods	
Auth_LoginDialog	^ @x
Auth_Fingerprint-reader	Configure
	-
	+ Remove
💉 ОК	X Cancel

The fingerprint configuration dialog appears.

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Place a finger on the fingerprint reader, click Add [F1] and then OK. Click OK again go get back to the user access toolkit main screen. Note the new user in the user list.

User Access Configura e Edit Help	Current user C:\Users\Publ	configuration file ic\Documents\WireFlow chai	\UAT-TS integration\	<u> </u>	ration Ed	itor Sebastian
System information User Groups	User/Group config	Feature config		User list		
Administrator     Developer     Operator     Technician	Add Gr Remov	select group oup each user b Click a cell disable gro specific use A colored c part of the	to enable or up access for a r. ell means user is	User Name User Name Jane admin	Expiration date NEVER NEVER	Add User Remove User
Group vs. Users Jane admin	Administrator	Developer	Operator	Technician		

Click File – Save. Close the window. A login dialog appears.



📴 Log	in
Щ́	Login
Use	er
	admin
Pas	ssword
	****
	OK Cancel

Enter the user and password (default admin/admin) and click OK to return to UAT-TS\_Installation. Click Save UAT-TS to save the User Access Toolkit connection to TestStand.

Save UAT-TS	
-------------	--

Click Close to exit the application.

Close
-------

Open TestStand.

NI TestStand - Sequence Editor [Logging In]   Ele Edit View Execute Debug Configure Source Control Tools Window Help   Image: Ima					
Insertion Palette     Insertion Palette <td>NI TestStand - Sequence Editor [L</td> <td>ogging In]</td> <td></td> <td></td> <td></td>	NI TestStand - Sequence Editor [L	ogging In]			
Insection Palette     Insection Palette     Image: Sequence Call     Image: Sequen	<u>File Edit View Execute Debug</u>	Configure Source Control	<u>T</u> ools <u>W</u> indow <u>H</u> elp		
Step Types   Step Types   Action   Action   Action   Action   Sequence Call   Action   Sequence Call   Action   Begeneration   Action   Action   Action   Begeneration   Action   Action   Begeneration   Begeneration   Begeneration     If fingerprint login fails, enter username and password and press login.	: 2016日時   X 自自191	(a) 🖆 🖿 🖬 👘 付	📬 🗼 🛄 📠 🥃 🖅 LabVIEW	▼ ●锥鼻 ≪	Q & 3
Step Types     Step Types     Step Types     Sequence Call     Sequence Call     Statement     Label     Wessage Popup   Call Executable   Property Loader   Property Loader   Password   TS direct     If fingerprint login fails, enter username and password and press login.	: ⊕ • ⊕ - <b>₽ ₽ ₽ ₽ ₽ ₽ ₽</b>	. ▶3 ■3 <u>5</u> 5 8 ,	🤣 🎘 🐪 🏷 🧞 💂		
<ul> <li>Results</li> <li>Results</li> <li>Results</li> <li>Results</li> <li>Synchronization</li> </ul>	📲 Insertion Palette 🛛 🚽 🗙				
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Message Popup       User name       Fingerprint         Call Executable       Image: Call Executable       Image: Call Executable         Property Loader       Password       TS direct         Password       TS direct       Image: Call Executable         Property Loader       Password       TS direct         Password       TS direct       Image: Call Executable         Password       If fingerprint login fails, enter username and password and press login.       Image: Call Executable			Login		
Call Executable     Image: Call Executable       Property Loader     Password       Property Loader     Password       Password     TS direct       Password     TS direct       If fingerprint login fails, enter username and password and press login.					
Property Loader       Password         PFF       FTP Files         -*% <sup>®</sup> Additional Results       If fingerprint login fails, enter username and password and press login.         Pine Synchronization       If fingerprint login fails, enter username and password and press login.			User name	Fingerprint	
Password     Password       Pripe FTP Files       -*%0 Additional Results       If fingerprint login fails, enter username and password and press login.					
→ **       Additional Results         ⊕ → Row Control       If fingerprint login fails, enter username and password and press login.         ⊕ → Synchronization       If fingerprint login fails, enter username and password and press login.			Password	S direct 🔲	
Image: Second system     If fingerprint login fails, enter username and password and press login.					
Password and press login.	10		If fingerprint login fails, enter userno	ime and	
🗄 🗔 Database					-
E Cancel			💙 Login 💥	Cancel	
E LabVIEW Utility	LabVIEW Utility				

Place the finger on the fingerprint reader to log in.



### UAT configuration

The top section in the GUI is used to setup the UAT connection, and contains the following items.

Encryption Key		
	🎨 configure	New
Specify a valid UAT configu encryption key to access the installations will use the sa	file. All TestStand	
installations will ase the sal		
N.B. admin user access re	quired	Save UAT-TS

- UAT configuration file
  - Specifies the UAT configuration to be used. This can be placed on a network share to use the same user configuration on several test stations. At runtime each test station uses a local cached copy of this file.
- Encryption key
  - The key used to access the UAT configuration file (the file is encrypted).
- Configure
  - Open the UAT configuration GUI for configuration
  - Requires an admin user (according to the UAT configuration) to be able to edit configuration (default user/password the first time UAT -TS is installed is admin/admin).
- New
  - If we install the UAT-TS for the very first time we have to create a new UAT configuration (default admin/password is admin/admin).
- Save UAT-TS
  - Updates this test station configuration with info about location of UAT configuration and Keys.

### TestStand installation

Next Section in the GUI is the TestStand installation.

TestStand installation	
TestStand 2012           TestStand 2014 (32-           TestStand 2014 (64-	*
	÷

Figure 4. List of TestStand installations

This section lists all config folders detected for different TestStand versions, and by double clicking on an item UAT – TestStand integration can be enabled/disabled for a specific TestStand version (indicated by a checkmark).

### TestStand integration configuration

At the bottom is a section where the TestStand integration is configured.

l				J
w	ire	∋fl	loi	IJ

TestStand admin user	TestStand admin password
🤔 Validate 🌑	Save TS config

#### Figure 5. TestStand integration configuration

UAT-TS needs a TestStand administrator account in order for the UAT configuration to be able to synch users/group with TestStand. WF recommends a specific admin user just for UAT-TS integration, as this user is never used outside the UAT-TS configuration.

Enter the name and password for the UAT-admin to be used (default is UATadmin), and when Save TS config is pressed, the application checks with TestStand if the user exists

If it doesn't exist, the system tries to add the user using the default TestStand admin account. If the default admin user is not valid, a dialog asks for TestStand admin credentials to be used.

The username and password is then stored in another encrypted configuration file.

Use the Validate button to check if the entered credentials are actually valid.



# Configuration

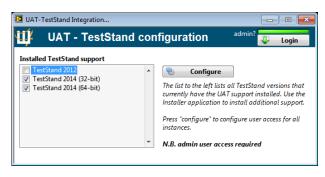


Figure 6. The UAT-TS\_Configurator application

When everything is up and running we still might have to add new users, change credentials etc. To do this we can use the included Configuration application (UAT-TS\_Configurator). This application is a stripped down version of the Installation application, and does not show any path details since it should only access the current configuration.

To the left is a list of the currently installed TestStand versions, and once an admin user is logged in, it is possible to press Configure to add users, change credentials or user groups.

Since the UAT - TestStand Integration uses locally cached files during runtime, it is possible to edit the configuration from any computer with access to the network-share. This means that the test-stations could be given read-only access to the network share and that a separate PC could be used to manage all users/test stations in the system.

NOTE. When the UAT configuration panel is open no other instances can access the shared configuration, and has to use the cached configuration data. Therefore don't forget to close the UAT configuration editor.



### UAT configuration

This section is a modified excerpt from the User Access Toolkit manual, which can be downloaded in full from <u>www.wireflow.se</u>.

This application can edit the configuration in terms of authentication methods, users and groups.

Edit Help	Current user C:\Users\wire	Access Tool configuration file flow/Desktop/myconfig.uat changed date		changed by	tor wireflow
System information	User/Group config	Feature config			
User Groups	Max 5 groups		User list		
Administrator     Developer     Operator     Technician	Add Gi Remov	Click a cell to enabli disable group access specific user. A colored cell means part of the group	rship for ♥ admin ♥ johan ♥ jonas s for a ♥ magnus ♥ stefan	Expiration date NEVER NEVER NEVER 2014-12-12 11:32:58	Add User Remove Use
Group vs. Users	Administrator		r Technician		
admin johan jonas magnus stefan		Developer Operato			

Figure 7. The configuration UI

The configuration panel has three configuration pages

- System information
  - General system info and configuration overview
  - Import and export of configurations
- User/Group config
  - Add, remove, enable or disable users
  - Configure expiration and credentials for users.
  - Add, remove, enable or disable groups
  - Configure user group access
- Feature config (not used in the TestStand add-on)
  - Add or remove features
  - Configure feature access for different groups

Using these pages it is possible to configure access for users in the system.

### The menus

Opening, saving and creating new configurations is done through menu actions.

This section briefly describes the available menu selection



File:New	Creates a new User Access Toolkit configuration from scratch (with only the root admin user at the start)
File:Open	Opens an existing configuration, prompting the user for a password to load the file. If the password is not correct the configuration is not loaded
File:Save	Saves the current configuration to file, prompting the user for a password to save the file.
	N.B. the password must match the password used in the application, otherwise the application cannot read the configuration data.
File:Save As	Saves a copy of the current configuration to a new file, prompting the user for a password to save the file. N.B. only available if configuration UI launched with empty path.
File:Exit	Exits the application
Edit:Revert	Reverts all edits to the last loaded state
Help:Show Context Help	Opens the context help window

### System information

At the top of the panel, in the WireFlow banner, general file information is displayed;

- Current user configuration file = path to the configuration currently edited.
- changed date = date/time when the configuration file was saved.
- changed by = user (in the system) that last saved the configuration



#### Figure 8. UAT WireFlow banner field

The first thing to do when creating a new configuration is to define what type of authentications the application should use.



stem information User/Group config	Feature config	
System name User Access Toolkit Default user          User Access Toolkit         Default user         Image:	Major       Minor       Bugfix       increment         1       0       0       13         Specify system name and version of the configuration. Increment         Remember to activate the authentication methods that your system will use.	Metrics          Number of features         3         Number of groups         4         Number of active groups         4         Number of users         5



When an authentication method is enabled, the button is green, e.g.

**Login dialog**, and the option is enabled in the user configuration panel (see Figure 12). The TestStand add-on can only use Login-dialog and the WF fingerprint reader, i.e. the dongle is currently not supported.

System name is only informational, but can be read by the API for information to the end user.

If default user is set, this will be the user that is activated when the configuration is applied when a session is initiated.

The default user should never be an admin user, and will not be activated when configuration is applied.

The right hand side of the information page shows some metrics for the system, like number of groups, users and features.

### User configuration

Without a valid user configuration the UAT cannot perform login or access checks.

Configuring a user involves giving the user a unique name, set the user credentials and optionally setting an expiration date as well as group membership.



lser Groups	M			User list			
Administrator	Max 5 groups	Add gro	oup and/or user and	User Name	Expiration date	<b>A</b>	
Developer			roup membership for	😺 admin	NEVER		
Operator	Add Gro	oup each us	er below.	👽 johan	NEVER	Add Use	er
🔽 Technician		hnician Click a cell to enable or	cell to enable or	😺 jonas	NEVER		
		disable group access for a specific user.	🗸 magnus	NEVER			
	Pamau			✓ stefan	2014-12-12 11:32:58	Remove	o He
	Kellove					Keniova	205
			ed cell means user is the group				
		partoj	the group			6	
	100 P					1000	
	- 400					~~~~~~	
	- Configu	ıre				▼ Configu	ire
Group vs. Users	Configu     Administrator	Developer	Operator	Technician		← Configu	
admin	_		Operator	Technician		Configu	
admin	_		Operator	Technician		Configu	
admin johan	_		Operator	Technician	•	← Configu	
admin johan jonas magnus	_		Operator	Technician		← Configu	
admin johan jonas	_		Operator	Technician		← Configu	
admin johan jonas magnus	_		Operator	Technician		▼ Configu	
admin johan jonas magnus	_		Operator	Technician		← Configu	
admin johan jonas magnus	_		Operator	Technician		₹ Configu	
admin johan jonas magnus	_		Operator	Technician		Configu	ire

Figure 10. User configuration

Figure 10 shows the configuration of user and groups;

- The "User Groups" shows the groups in the system and their active state.
- The "User list" shows the current users in the system and their active state as well as the expiration date
- "Group vs. User" shows and defines the group membership for each user in the system. Groups are in columns and users are in rows.

The checkboxes to the left of a user or group name can be used to disable or enable the selected item (disabling is not possible for the default admin user or admin group):

- Disabling a user means that the user cannot access the system, but that the user information is still stored in the configuration data.
- Disabling a group means that all users that are member of that group loose the access right defined for that group.

Exactly how a group/user can be configured is described in more detail in the following subchapters.

#### Adding a new group

ł

To add a new group, press Add Group and give the new group a name and optionally set the group inactive (group name cannot contain spaces, and while name is invalid the OK button will be disabled).



Group config	
Name	Active
Administrator	
Give the group a name. Must start with letter A-Z	

Figure 11. Group configuration dialog.

#### Removing an existing group

To remove an existing group, select one or more groups in the group list and press

Remove Group and either accept or cancel the deletion. The default admin group cannot be removed.

#### Renaming a group

To rename a group, double-click the group name or press the Configure button next to the group list, and change the name in the Group config dialog.

#### Adding a new user

To add a new user, press Add User and fill in the information in the pop-up. A checkmark to the left of an authentication type means that the authentication is configured.

4Þ

Name		Activ
jonas		
	xpiration 14:55:29 2014-12-2	10
Authentication methods		
		600
Auth_LoginDialog Auth_WE-USB-Dongler		333
<ul> <li>Auth_LoginDialog</li> <li>Auth_WF-USB-Dongles</li> <li>Auth_Fingerprint-reade</li> </ul>		Configure
Auth_WF-USB-Dongles		Configure



- Name
  - Must be a unique name and can only contain the characters:

a-z, A-Z, 0-9, \_-().@

- Active
  - Sets the user to be active or inactive. Can also be set from the user list
- Time limited
  - If the user account is time limited, set this checkbox and fill in the Expiration date
- Expiration date



- Expiration date is only active if the "Time limited" checkbox is set.
- Authentication methods
  - List of the currently active authentication methods and their status. A checkmark before an authentication indicates that it is configured and ready to be used.
- Configure
  - Opens up a dialog to configure the selected authentication method.

#### Login dialog authentication

Login dialog is the most basic user validation. To configure a user with the login dialog option, we have to specify the password.

User	
jonas	
Old Password	
New Password	Hide characters
Confirm New Password	d

Figure 13. Specifying user password for login dialog

The configuration dialog we have to specify the new password, and if "Hide characters" is selected we have to specify the password twice. When the "Confirm New Password" and "New Password" matches (or if Hide characters is unchecked) the OK button is activated.

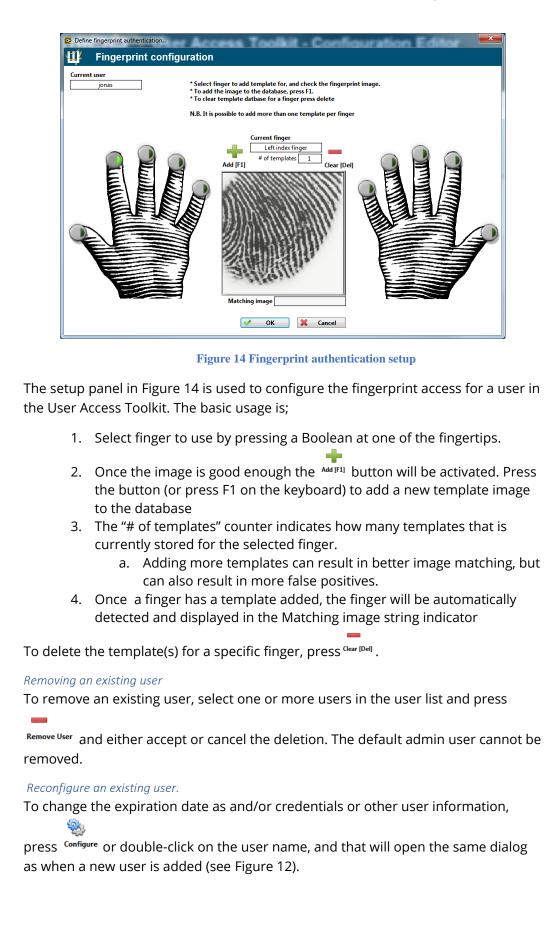
The password is hashed using the SHA-256 algorithm, and the only thing that is saved to configuration is the username and the hash. Since the SHA-256 algorithm is one-direction, it is impossible to reveal the password from the hash value.

#### Fingerprint reader credentials

Even if the fingerprint authentication works on many LabVIEW platforms, the configuration of the user has to be performed on a desktop version of LabVIEW. Configuration requires a connected WF fingerprint reader.

Configuring a user for fingerprint access means that we have to take a number of captures of one or more fingers.







# Troubleshooting

### Error codes

The toolkit can return the following custom error codes, in the configuration UIs.

Code	Source text	Explanation
6400	Invalid block size for	The cypher algorithm cannot use this block
	cypher!	size (internal error).
6401	Invalid Key size for cypher!	The cypher algorithm cannot use this key size (internal error).
6402	Unrecognized configuration format! Make sure a valid configuration is selected.	UAT is initializes with an unrecognized configuration format! Older versions of UAT might not read new UST config versions.
6403	Invalid configuration data! Check encryption password and make sure a valid configuration is selected.	The configuration data is invalid after decryption, check password and that a valid configuration is selected.
6404	Write Key failed! Check parent key value.	Update of USB dongle key value failed.
6405	User "%s" don't exist!	Unknown user name (internal error)
6406	User access toolkit is not initialized!	UAT has to be initialized before any checks can be performed.
6407	Programmatic login not possible with authentication "%s"!	The current authentication doesn't support programmatic login (internal error)
6408	Group "%s" don't exist!	Unknown user group name (internal error)
6409	Feature name "%s" not found!	Unknown feature name (internal error)
6410	Group "%s" already exists!	The user group name already exists in configuration (internal error)
6411	Invalid feature name "%s"	The name of the feature is invalid (internal error).
6412	User "%s" already Exists!	The user name already exists in the system (internal error).
6413	Authentication failed; User: %s Expired: %s	Optional error if a login fails
6414	Feature "%s" not active for the current user "%s".	Optional error for an unsupported feature.
6415	Validation failed; User "%s" Expired: %s	Optional error if a validation fails
6416	Current user "%s" is not a member of the expected groups.	Optional error for user-group check



6417	Current user "%s" is not an administrator!	Optional error if not an admin user.
6418	Attribute "%s" was not found!	Optional error if attribute not found.
6419	Authentication type is invalid!	The specified authentication type is invalid (internal error)

# **Technical support and Professional services**

For support please check LabVIEW Tools network for updates and/or send an email to <a href="mailto:support@wireflow.se">support@wireflow.se</a>

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