Import alarms from Schneider Electric / Invensys Wonderware System Platform to Nimbus

Nimbus will use the *Wonderware Alarm Printer* feature to retrieve alarm events from System Platform. First of all, install Nimbus and configure it properly.

Configure Nimbus to import ALG-files

Run Nimbus Explorer (right click and select *Run as Administrator*) using its shortcut. Nimbus Explorer shall always be run as Administrator.

🔞 🛛 Nimbus Explorer 3.00.08ß3 - Reactor Demo / [no users] 📃 💻 🗖	x
File Setup Log	
la 🖓 🔇 😵 😒 🚱 🕹 🕹	
C:\ProgramData\TroSoft\Nimbus Alarm Server 3\Project STOP 12/30/2016 8:44	AM 🔏
Copy path to Clipboard	
Open Explorer at this location	

Right-click the Project-path in the statusbar and select *Open Explorer at this location*.

The path defaults to C:\ProgramData\TroSoft\Nimbus Alarm Server 3\Project

Be aware of that the *ProgramData* folder is hidden if you try to find the folder in File Explorer manually.



Create a new folder inte the Project folder, name it InTouch

6		Nimbus Explorer 3.00.08B3 - Reactor Demo / [no users]
File	Setu	up Log
<u> </u>		Receiver Setup
		Receiver Type Setup
		SCADA import Setup
		Server Setup
	✓	Toolbar
		C:\ProgramData\TroSoft\Nimbus Alarm Server 3\Project STOP 12/30/2016 8:49 AM 🧷

Select Setup - SCADA import setup

📮 Nimbi	Sauter Automation novaPro Enterprise
SCADA System	Sauter Automation novaPro Open (RAW/TCP printer)
Add SCADA system import	Sauter Automation novaPro32
	Sauter moduWeb Vision
Remove this SCADA system import	Schneider Electric Citect/VijeoCitect
	Schneider Electric TAC Vista / StruxureWare (file)
	Schneider Electric Xenta / StruxureWare Automation Server (SMTP)
	Siemens Building Technology Desigo CC
	Siemens Building Technology Desigo InSight
	Siemens Building Technology Unigyr
	Siemens Building Technology Visonik
	Siemens WinCC
	Swegon Gold / Nestor
	Trend 96x Supervisor (RAW/TCP printer)
	Trend 96x Supervisor (file)
	WEBfactory
	Wonderware InTouch (RAW/TCP printer)
	Wonderware System Platform InTouch (ALG file)

Select Wonderware System Platform InTouch (ALG file)

9	Nimbus - SCADA import	_ □	x
<u>S</u> CADA System			
Nimbus - SCADA import			
🖃 Wonderware System Platform InTo	uch (ALG file)		
File path to scan	C:\ProgramData\TroSoft\Nimbus Alarm Server 3\Proj	ect\InTouch	
Scan interval (msecs)	2000		
	Cancel	Ok	

Select the newly created folder C:\ProgramData\TroSoft\Nimbus Alarm Server 3\Project\InTouch. Ensure the path is complete, also with InTouch at the end. Select Ok.

Start Nimbus Server. It will now continously scan the folder for ALG-files.

Now you can setup InTouch.

Configure Wonderware InTouch to export ALG-files

The ALG-files are created by the *Alarm Printer application*, even if we not use any printer.

🏭 l 💽 🔝 = l	Application Tools		InTou	ch		_	D X
File Home Share	View Manage						v 🕐
🔄 🍥 🔻 🕇 <u>)</u> « Loc	al Disk (C:) 🔸 Program Files (x86) 🔸 W	/onden	ware 🕨 InTouch	~ ¢	Search Ir	nTouch	Q,
🎉 PerfLogs 📃 🛆	Name		Date modified	Туре		Size	^
퉬 Program Files	👔 AlarmPareto.chm		8/18/2014 3:15 PM	Compiled	HTML	128 KB	
鷆 Program Files (🚳 AlarmParetoCtrl.ocx		2/5/2016 2:13 AM	ActiveX co	ntrol	360 KB	≡
퉬 ArchestrA	🚳 almdbprg.dll		2/5/2016 2:13 AM	Application	n extens	838 KB	
鷆 Common File	🚳 almdbview.ocx		2/5/2016 2:13 AM	ActiveX co	ntrol	565 KB	
🔋 IIS	🔹 almlogwiz.exe		2/5/2016 2:13 AM	Application	n	401 KB	
鷆 Internet Explo	🤳 almlogwiz.exe.manifest		2/5/2016 2:13 AM	MANIFEST	File	1 KB	
퉬 Invensys	📝 almprt.chm		9/9/2014 5:59 AM	Compiled	HTML	168 KB	
퉬 Microsoft An	🧟 almprt.exe		2/5/2016 2:13 AM	Applicatio	n	673 KB	
) Microsoft Off	🤳 almprt.exe.manifest		Open		File	1 KB	
🍑 Microsoft SD 🔤	🐔 AlmPrt4BinSpy.exe	0	Run as administrator		n	88 KB	
퉬 Microsoft SQ 🗌	🚳 AlmPrt4DII.dll		Troubleshoot compatibili	ity	n extens	119 KB	
) Microsoft Vis	🐔 AlmPrt4Exe.exe		Pin to Start		n	39 KB	
) Microsoft Vis	🐔 AlmPrt4Svc.exe		Pin to Taskbar		n	54 KB	
🍌 Microsoft.NE	🚳 AlmPrtSfi.dll		Restore previous versions		n extens	80 KB	
鷆 MSBuild	📄 almprtsfi.wdf	-	, Sand to			4 KB	
鷆 Reference As	🗟 AnnotateWindow.dll	-	Senu to		n extens	495 KB	
鷆 TroSoft	🚳 appltype.dll		Cut		n extens	37 KB	
鷆 Windows Ma	🚳 AppServerSecurity.dll		Сору		n extens	55 KB	
鷆 Windows NT	🚳 AppServerSecurityDlg.dll		Create shortcut		n extens	1,985 KB	
📗 WindowsPow 🗸	🚳 ArchestrA.Historian.CM.dll	۲	Delete		n extens	31 KB	~
227 items 1 item selected	672 KB	0	Rename				:==
			Properties				

Open the InTouch installation folder, usually *C*:*Program Files* (*x86*)*Wonderware**InTouch*. Find the *Alarm Printer application*, run it as administrator.

Configuration Settings					
Query Message File Logging Printing					
Query Properties:					
Erom Priority: 1 To Priority: 999					
Alarm <u>S</u> tate All V					
Alarm Query: \InTouch!\$System \Galaxy!Demo_Area					
Record alarms generated after query starts.					
OK Cancel Apply Help					

Select *Configure - Query*. Select relevant priorities to export to Nimbus. In *Alarm Query*, add the Areas to export, separate them using a space. Select *Record alarms generated after query starts* or you will get all old not-returned alarms exported to Nimbus every time you restart the Alarm Printer.

Configuration Settings						
Query Message File Logging Printing						
Date/Time						
	✔] Alarm <u>N</u> ame	Length: 60				
✓ Iime HH:MM:SS.SSS ✓	✓ Group Name	Length: 60				
ICT - Last Changed Time (sort order)	🖌 Alarm Provider	Length: 60				
	✓ Value at Alarm	Length: 15				
✓ Alarm <u>S</u> tate (UnAck, Ack) 15	✓ Limit	Length: 15				
✓ Alarm Class (VALUE, DEV, ROC,)	✓ Operator Node	Length: 15				
Alarm Type (HIHI, LO, MAJDEV,)	✓ Operator Name	Length: 15				
✓ Priority	✓ Comment	Length: 60				
7.1 Default 7.11 Default	✓ User1	Length: 15				
Remove Trailing Spaces	✔ User2	Length: 15				
Minimum Column Spacing	✔ User3	Length: 15				
OK	Cancel	Apply Help				

Fill in above information in the *Message* tab. It is essential all info is correct, also the date and time formats.

Nimbus will read the ALG-files and parse information from specific locations in each alarm row, if the above information is not correct Nimbus will not parse the alarm events correctly.

Where Nimbus finds each field is defined in an import definition file (*Import_InTouch.imp*) in the *Import* subfolder in the Nimbus *project* folder. Usually there is no need to change anything in the import definition file.

Configuration Settings
Query Message File Logging Printing
✓ Enable Alarm File Logging
Directory: sta\TroSoft\Nimbus Alarm Server 3\Project\InTouch
Number of Hours to Cycle Filename: 24 Starting at Hour (0-23): 0 Keep Log Files for: 2 Log File Name Extension: ALG Remove Trailing Spaces in Log Entries Field Separator Character: Diriginal Column Ordering
OK Cancel <u>Apply</u> Help

Fill in above information in the *File Logging* tab. The *Directory* should be the same directory entered in Nimbus SCADA Import, C:\ProgramData\TroSoft\Nimbus Alarm Server 3\Project\InTouch

Starting hours should be set to 0 and the log files should be kept at least 2 days.

Configuration Settings					
Query Message File Logging Printing					
Print To:					
○ C0M <u>1</u> ○ C0M <u>2</u> ○ C0M <u>3</u> ○ C0M <u>4</u> Port Configuration					
O Printer Browse					
Enable Printing Disable Realtime Alarm Printing Enable initialize printer codes: Alternate Color Printing					
Enable alternate color printing for alarm priority range.					
Printer codes: Alternate color: Normal color:					
OK Cancel Apply Help					

In the Printing tab, ensure None is selected

Click Ok.

Select File - Save As and save the configuration file (ALC-file) to C:\Program Files (x86)\Wonderware\InTouch (or where you found the Alarm Printer application)

0	Save As		×
🔄 🍥 🔻 🕇 🚺 🕅	Program Files (x86)\Wonderware\InTouch	C Search InTouc	h ዖ
Organize 🔻 New folde	r		:== 👻 🔞
Windows Ma Windows NT Windows NT WindowsPow	Name Name DemoApp	Date modified 5/22/2016 9:54 PM 5/22/2016 9:54 PM	Type File folder File folder
DAServer Historian HistorianCl	🕌 ITPDFCatalog 逼 SymFac	5/22/2016 9:54 PM 5/22/2016 9:54 PM	File folder File folder
퉬 InTouch 🗸	< III		>
File <u>n</u> ame: Nim Save as <u>t</u> ype: Alar	ibus.alc m Printer Configuration (*.alc)		✓
) Hide Folders		<u>S</u> ave	Cancel

Name the configuration file *Nimbus.alc*

It is essential that *AlmPrt.exe* and *the Nimbus.alc* files are located in the same folder.

🧟 Alarm Printer - C:\Pro	gram Files 🗕 🗖 🗙
File View Configure Que	ery Output Help
1 🖆 🗟 🤌 👔 🗹	Start/Stop
Printer Port or Name:	<disabled></disabled>
Alarm Log File:	C:\ProgramData\TroSoft\Nimbt
Number of Historical Alarms	503
Process ID:	3132
Alarm State:	All
Priority:	1 - 999
Statistics:	
0 \InTouch!\$System 100 \Galaxy!Demo_Area	
start/stop query	

Now test the configuration using Query - Start Query



Have a look in Nimbus Explorer, alarms should now appear as they occurs. Double-click any of them to see what Nimbus parses into each filed. If everything is fine, it should look as above.

For Nimbus to always retrieve alarms from InTouch, the *Alarm Printer application* must be running using the *Nimbus.alc* file as configuration.

You can either start the *Alarm Printer application* manually and load the *Nimbus.alc* file and then start *Query* using the menu choices or do it automatically in two ways.

Alternative 1. Configure Alarm Printer shortcut to start the Nimbus.alc querys automatically (using shortcut)

🕿 alr	mprt.exe - Shortcu	it Properties	x	
Security	Details	Previous Versions		
General	Shortcut	Compatibility		
2 a	Imprt.exe - Shortcut			
Target type:	Application			
Target location	n: InTouch			
Target:	\Wonderware\InTouc	h\almprt.exe'' -q nimbus.a	ilc	
Start in:	"C:\Program Files (x86	i)\Wonderware\InTouch''		
Shortcut key:	None			
Bun:	Normal window		✓	
Comment:				
Open File L	location Change lo	con Advanced		
		Advanced Properti	es	X
	Choose the ac	lvanced properties you w	ant for	this shortcut.
	💽 Run as administra	tor		
	This option allows administrator, wh unauthorized acti	you to run this shortcut a ile protecting your compu vity.	as an ter fron	n
	🕑 Run in separate m	nemory space		
			ОК	Cancel

Find the Alarm Printer applilcation file AlmPrt.exe and create a shortcut.

Change the shortcut properties. In Target, add the sentence -q nimbus.alc

Select Advanced - Run as administrator

Place the shortcut in C:\Users\<user name>\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\Startup to ensure it starts when the always logged in user logs in (if there is a user that always logs in).

The *AppData* folder is hidden so you must use the *Control Panel - Folder options - View* and select *Show hidden files, folders and drives*

Alternative 2. Configure Alarm Printer to run as a service (using *NSSM - the Non-Sucking Service Manager*)

There are some applications which can be used to make the *Alarm Printer* to run as a service, one is the *Non-Sucking Service Manager (NSMM)*.

Download the program from *https://nssm.cc/download* (correct version depending of the OS, 32 or 64-bit). It is an open source project developed using *Microsoft Visual Studio C/C++*.

Copy the file *nssm.exe* to the *C*:*Program Files* (*x86*)*Wonderware**InTouch* folder.

📓 l 🕞 📓 = l		Application Tools	h	nTou	ch	-		x
File							~	0
Open <u>n</u> ew window	•	Open comma	and prompt		✓ Ċ Search II	nTouch	ļ	,o
					Туре	Size		^
Open command prompt	t 🕨	Open comma	nd prompt as <u>a</u> dministrator	AM	Alarm Printer Con	1 KB		
				м	Application extens	36 KB		
Open Windows Powe <u>r</u> S	hell 🕨			M	WDF File	4 KB		
				M	WDF File	1 KB		
Delete history	•			(AM	Application	324 KB		
				м	Application extens	26 KB		
Pelp	•			M	Application extens	384 KB		
				M	WDO File	1 KB		
Close				M	Application extens	446 KB		
				м	Application extens	164 KB		_
	,	211010001		M	WDF File	1 KB		=
📕 Historian	📄 prin	twin.wdf	2/5/2016 2:13 /	AM	WDF File	1 KB		
📕 HistorianCl	📄 Prot	tocol.pdf	9/9/2014 5:48 /	AM	PDF File	38 0 KB		
📕 InTouch	🚳 ptao	c.dll	2/5/2016 2:13 /	AM	Application extens	38 KB		
📕 RecipeMng ≡	🚳 Qui	ckScriptLibrary.dll	2/5/2016 2:13 /	AM	Application extens	43 KB		
🃕 StoreForward	🚳 Rea	defFromXML.dll	2/5/2016 2:13 /	AM	Application extens	382 KB		
users 🥌	📄 Rea	dme.html	1/28/2016 2:35	PM	HTML File	167 KB		
🕌 Windows	욹 Rec	ipe.chm	8/23/2014 7:26	PM	Compiled HTML	256 KB		
雬 c\$ (\\192.168.123	📑 reci	pe.exe	2/5/2016 2:13 /	AM	Application	231 KB		
▼	🧾 reci	pe.exe.manifest	2/5/2016 2:13 /	AM	MANIFEST File	1 KB		\sim
229 items 1 item selected 323 KB							8==	

In the InTouch program folder select File - Open command prompt as administrator



Enter *nssm install* at the command prompt

N NSSM service installer	x					
Application Details Log on Dependencies Process Shutdown Exit						
Path: gram Files (x86)\Wonderware\InTouch\alarmprt.exe						
Startup directory: C:\Program Files (x86)\Wonderware\InTouch						
Arguments: -q nimbus.alc						
Service name: srware Alarm Printer to Nimbus Install service Cancel						

Set Path to C:\Program Files (x86)\Wonderware\InTouch\almprt.exe

Set Startup directory to C:\Program Files (x86)\Wonderware\InTouch

Set Arguments to *-q nimbus.alc*

Set Service name to Wonderware Alarm Printer to Nimbus

Ν		NSSM service installer			
A	pplication Details	Log on Dependencies Process Shutdown Exit			
	Details Display name: Wonderware Alarm Printer to Nimbus Description: Sends alarm events to Nimbus				
	Startup type:	Automatic			
Se	rvice name: 🛛 🕅 🤋 🤋 🤋 🤋 🤋	are Alarm Printer to Nimbus Install service Cancel			

Set Display name to Wonderware Alarm Printer to Nimbus

Set Description to Sends alarm events to Nimbus

Click Install service



You will get a message box similar to above

<u>Q</u>		Services		L	- 🗆 X			
<u>File Action View H</u> elp								
🚡 Services (Local) 🛛 🕥	Services (Local)							
Wond	derware Alarm Printer to	Name 📩	Description	Status	Startup Typ \land			
Nimb	us	🧠 Windows Management Instrumenta	Provides a comm	Running	Automatic			
		🧠 Windows Modules Installer	Enables installati		Manual			
Stop t	the service	🧠 Windows Presentation Foundation	Optimizes perfor		Manual			
Restar	rt the service	🤐 Windows Process Activation Service	The Windows Pro	Running	Manual			
		🥨 Windows Remote Management (W	Windows Remote	Running	Automatic			
Descri	intion	🥋 Windows Store Service (WSService)	Provides infrastru		Manual (Tri			
Sends	alarm events to Nimbus	🥋 Windows Time	Maintains date a		Manual (Tri			
		🥋 Windows Update	Enables the detec		Disabled			
		WinHTTP Web Proxy Auto-Discover	WinHTTP imple		Manual			
		🤐 Wired AutoConfig	The Wired AutoC		Manual			
		🔍 WMI Performance Adapter	Provides perform		Manual			
		Wonderware Alarm Printer to Nimbus	Sends alarm even	Running	Automatic			
		🥨 Wonderware Historian Client Acces	Manages client c	Running	Automatic			
		🥵 Wonderware Historian Configuration	Manages configu	Running	Automatic			
		🥨 Wonderware Historian Data Acquisi	Acquires data fro	Running	Manual			
		🥋 Wonderware Historian Event System	Detects user-defi	Running	Manual			
		😪 Wonderware Historian Indexing	Manages indexin	Running	Manual			
		😪 Wonderware Historian IOServer	Exposes live histo	Running	Manual _			
		🥨 Wonderware Historian Manual Stor	Processes late, fo	Running	Manual 📒			
		Wonderware Historian Replication	Replicates the tag	Running	Manual			
		Wonderware Historian Retrieval	Manages data ret	Running	Manual 🧹			
		<			>			
Kara Kara Kara Kara Kara Kara Kara Kara	nded / Standard /							

Open the *Service Control Manager* and start the *Wonderware Alarm Printer to Nimbus* service. It will start automatically when rebooting the server but will have to be manually started the first time.

Have a look in Nimbus Explorer that alarm events arrives as expected.

To be really sure everything works fine some alarms should be tested when the server is restarted

To remove the service use the following command line

nssm remove "wonderware alarm printer to nimbus"

Select Yes to remove the service