TINE Release 4.0 News

(March 11, 2011: That was the month that was !)

"What a long, strange trip it's been"

Both C Lib and Java Lib at 4.2.1 !

- 'Save-and-Restore' Features:
 - Allow a 'Restore only' capability
 - READ-ONLY Properties can register with the CA_SAVERESTORE flag!
 - Can only rely on the equipment module handler to know what to do to restore the property settings.
 - EQM handler will be called at initialization with the access set to CA_WRITE|CA_SAVERESTORE
 - Handler must be willing to check this and accept the call (and do the 'right thing') in this case.

TCP Transfers

- Server-side *memory-leak* found and fixed!
- Fixed client-side problem shutting down socket after the '*idle time*' expired.
- Improved diagnostics
 - => Introduced exotic bug (noticed by MSK)

Fixed in 4.2.1

Local Alarm System Improvements

- Individual alarm codes now maintain their own *'oscillation windows*'
 - Oscillating Alarm:
 - "persistent alarm which *comes and goes* over a 'short' time range."
 - 'short time range' defines the oscillation window
 - default: 5 'clear counts' (=> 5 secs at 1 Hz i/o)
 - can grow to **128** 'clear counts' (~2 minutes)
 - If alarm DOES disappear -> can still appear active for up to the 'oscillation window' time.
 - Note: a call to TerminateAlarm() clears alarm immediately.
 - Was a 'one-size-fits-all' global variable
 - Now applies to each alarm code individually!

Local Alarm System Improvements

SetAlarmOscillationWindow(value)

- Sets 'global' value of oscillation window and '*pin*' the window to this value (no 'learning').
- Establishes a 'default' value

SetAlarmCodeOscillationWindow(eqm,code,value)

- Sets the oscillation window for given alarm code and 'pin' the window to this value.
- Supersedes the 'default' value.

Local Alarm System Improvements

- Alarm Watch Table entries now incorporate the 'watched' property in the alarm tag!
 - Previously: a generic tag such as e.g.
 - 'value too high'

Example:

	A	В	C	D	E	F	G	Н		J	ł
	LOCALNAME	DEVICENAM	PROPERTY	SIZE	FORMAT	SEVERITY	HIGH	LOW	HIGHWAR	LOWWARN	
2	SINEQM	#0	Amplitude	10	float.CHANNEL	12	300	10	200	20	
	SINEQM	#0	Frequency	10	float.CHANNEL	12	4	1	3	1	
ł											

ontext: TES	gate <u>H</u> elp T								
Estal			Error		1	Alaming	Alarm Display		
0			4.4			F	🔛 🔍 Live 🔿 Archive		
			TT -			3			
hu Mar 10 17:37:42	Warning Sev	erity >= 0	Selected/Total No. o	f Alarms	:16/16 Active A	larms Only (1 Disable	ed)		
Magnet Se	rver	000	BPM		000) System	001		
VAC		000	BLM		000	Hardware	e 001		
Temp.Yury	,	001	● SineServe	rs	0 11 1	Services	0 0 0		
Temp.Suse	en 1	001	Current Mo	onitor	- 00C) Pilotherm	000		
System	Device N	ame	Messade	Sev	Alarm Descripto	r Alarm Time	▼ Duration		
Servers	SineGen0		/O error	8 (Dscillating	17:37:34.802 - Mar	r 10 CET 16 sec		
Servers	SineGen0		Amplitude too high	12 1	New	17:36:48.573 - Mar	r 10 CET 59 sec		
Servers	SineGen4		Amplitude too high	12 1	New	17:36:48.573 - Mar	r 10 CET 59 sec		
Servers	SineGen1		Amplitude near limit	10 1	New	17:36:48:573 - Mar 17:36:48:573 - Mar	r 10 CET 59 sec		
neServers SineGen3			Amplitude near limit	10	Vew	17:36:48:573 - Mar	r 10 CET 59 sec		
Servers	SineGen4		requency near limit	10 1	New	17:36:48.573 - Mar	r 10 CET 59 sec		
Servers	SineGen5	1	Amplitude near limit	10 1	New	17:36:48.573 - Mar	r 10 CET 59 sec		
neServers SineGen6			Amplitude near limit	10 1	New	17:36:48.573 - Mar	r 10 CET 59 sec		
ineServers SineGen7			Amplitude near limit	10 1	New	17:36:48.573 - Mar	r 10 CET 59 sec		
	SineGen8		Amplitude near limit	10 1	New	17:36:48.573 - Mar	riu CET 59 sec		
eServers	QineCon0		lean lituda na ar lieait		LOW	1 7 96 10 6 7 1 10 6	x 10 CET 50 coc		

Time Synchronization

- Servers schedule activity based on the *local* system clock !
- Clients accept/reject incoming (linked) data based on the *data timestamp* !
- TINE Time Server provides all servers with a *reference timestamp*.
- Servers apply an *offset* to the data timestamp returned to a caller based on the timestamp reference.
- Stability of system clock and incoming references intervals required !

New to Release 4.2.1

- A negative 'jump' in the system clock at the server applies an 'immediate' correction to the timestamp offset.
 - Likely only if corrected by hand or via RDATE.
- C-Lib: new routine SetUseGlobalSynchronization(value) can be used to turn OFF synchronization.
- Environment variable: TINE_USE_GLOBAL_SYNCHRONIZATION can likewise be used to turn OFF synchronization.