

# Alarm Tool

## Collaboration MAX-IV/SOLEIL

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## September 2008 : MACARENA (Mambo ArChiving AlaRm EveNt Addon ☺)

- Needs was defined by our machine operators. They want to know when a tango :
  - device state is in FAULT, ALARM and come back to a normal state.
  - numerical scalar attribute is out of range defined in the MaxAlarm and MinAlarm property.
- Integrated in the Archiving package with MAMBO and BENSIKIN.
- Event information are stored in a database.

Timestamp	Name	Value	min Alarm	max Alarm	min Warning	maxWarning	Reason	Severity	IsAck	Ack Time
2013-10-14 09:...	ANS-C13/E...	1.2800858	1.7014	1.7021			1	HIGH	<input type="checkbox"/>	
2013-10-14 09:...	ANS/AE/S9/...	-0.22545	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-14 09:...	ANS/AE/S5/...	-0.232200...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-14 09:...	ANS/AE/S7/...	-0.22545	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-15 10:...	ANS-C07/VL...	35.099998...		35.0			1	HIGH	<input type="checkbox"/>	
2013-10-15 10:...	ANS-C07/VL...	55.200000...		55.0			1	HIGH	<input type="checkbox"/>	
2013-10-15 11:...	ANS-C06/VL...	65.199996...		65.0			1	HIGH	<input type="checkbox"/>	
2013-10-15 13:...	ANS-C07/VL...	55.099998...		55.0			1	HIGH	<input type="checkbox"/>	
2013-10-15 14:...	ANS-C07/VL...	55.0		55.0			1	HIGH	<input type="checkbox"/>	
2013-10-16 03:...	ANS-C13/E...	2.2377694	1.7014	1.7021			1	HIGH	<input type="checkbox"/>	
2013-10-17 09:...	ANS-C02/VL...	18.799999...		-5.0			1	HIGH	<input type="checkbox"/>	
2013-10-17 10:...	ANS-C04/VL...	19.299999...		-5.0			1	HIGH	<input type="checkbox"/>	
2013-10-17 10:...	ANS-C04/VL...	20.5		-5.0			1	HIGH	<input type="checkbox"/>	
2013-10-17 10:...	ANS-C04/VL...	18.600000...		-5.0			1	HIGH	<input type="checkbox"/>	
2013-10-17 11:...	ANS-C10/A...	0.4593550...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 11:...	ANS-C10/A...	-0.495644...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 11:...	ANS-C10/A...	-0.163305...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 11:...	ANS-C10/A...	0.5214299...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 11:...	ANS-C10/A...	-0.553899...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 12:...	ANS-C10/A...	0.5128349...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 12:...	ANS-C10/A...	246.39955...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	0.4937349...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	-0.18527...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	-0.483229...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	-9.550000...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	0.5099700...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	0.0038199...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	-0.106005...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	0.0	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	-0.106005...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	0.0028649...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	-0.163305...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	-0.001910...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 15:...	ANS-C10/A...	0.12224	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	-0.002864...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	0.12988	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	0.0028649...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	0.4412100...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	0.0019099...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	-0.18527...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	9.5500000...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 14:...	ANS-C10/A...	0.4937349...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 12:...	ANS-C10/A...	-0.08977...	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 12:...	ANS-C10/A...	246.39955...	-0.1	0.1			1	HIGH	<input type="checkbox"/>	
2013-10-17 12:...	ANS-C10/A...	0.0	-0.1	0.1			1	NO	<input type="checkbox"/>	
2013-10-17 12:...	ANS-C10/A...	0.0	-0.1	0.1			1	NO	<input type="checkbox"/>	

## Pro :

- Integrated solution in archiving package (GUI and soft deployment).
- Alarm event information was useful for the operation (timestamp, localization, severity...)
- Using attribute properties make easier the alarm configuration.

## Cons :

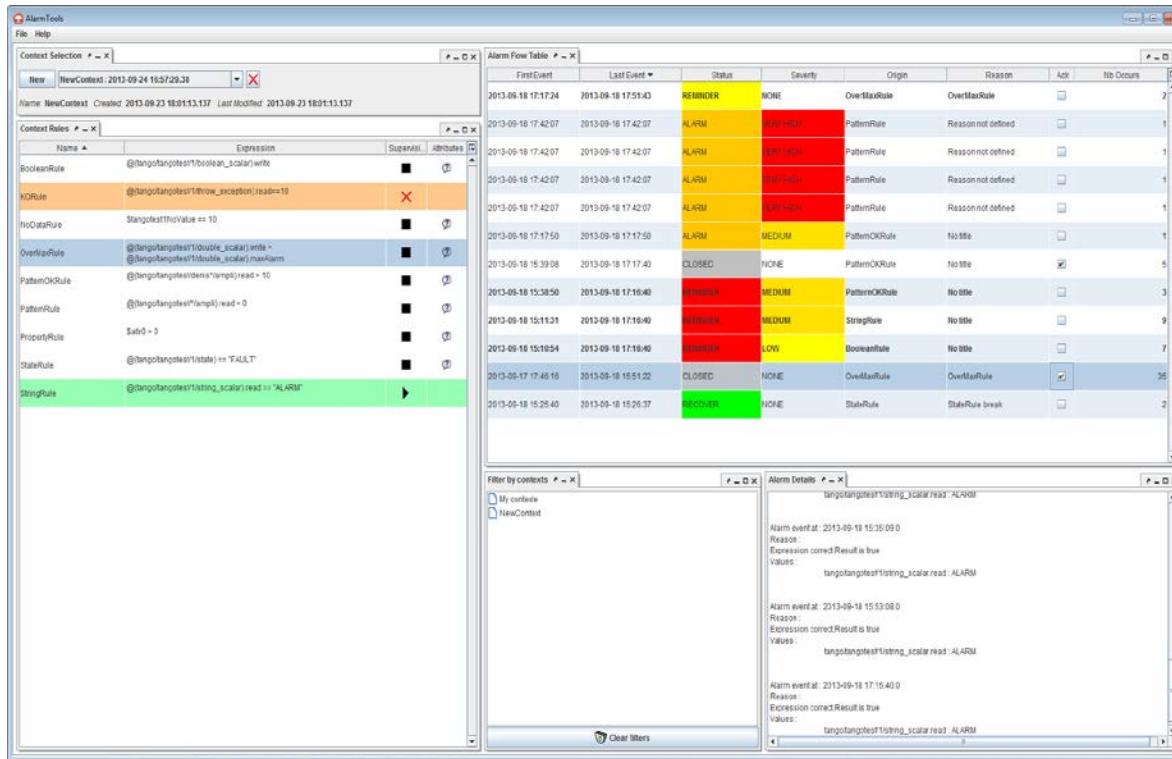
- The state and attributes was separated in two different tools (State was only a command at the beginning).
- Only numerical scalar attributes can be supervised
- The alarm event table was unreadable because to numerous event.
- The condition for an alarm event was too restrictive (value > maxAlarmValue)
- It is mandatory to defined minAlarm and maxAlarm value.

## December 2011 : Max-IV collaboration on control command subproject

- Archiving project definition (Watchers enhancement and Macarena enhancement)

## January 2013 : AlarmTools

- Start up of AlarmTool under Max-IV collaboration.
- Specification was inspired from industrial product and existing tools in other institute.
- Solution description was provided to SOLEIL machine operator and MAX-IV in March 2013.
- AlarmTool prototype version was delivered and tested at SOLEIL in September 2013 and to MAX-IV in November 2013.



The screenshot displays the AlarmTools application interface. It features a 'Context Selection' window at the top left, a 'Context Rules' list in the middle left, and an 'Alarm Flow Table' in the main central area. The 'Alarm Flow Table' contains the following data:

FirstEvent	LastEvent	Status	Severity	Origin	Reason	Act	nb Occurs
2013-06-18 17:17:24	2013-09-18 17:51:43	REMINDER	NONE	OverMaxRule	OverMaxRule	<input type="checkbox"/>	7
2013-09-18 17:42:07	2013-09-18 17:42:07	ALARM	HIGH	PatternRule	Reason not defined	<input type="checkbox"/>	1
2013-09-18 17:42:07	2013-09-18 17:42:07	ALARM	HIGH	PatternRule	Reason not defined	<input type="checkbox"/>	1
2013-09-18 17:42:07	2013-09-18 17:42:07	ALARM	HIGH	PatternRule	Reason not defined	<input type="checkbox"/>	1
2013-09-18 17:42:07	2013-09-18 17:42:07	ALARM	HIGH	PatternRule	Reason not defined	<input type="checkbox"/>	1
2013-06-18 17:17:50	2013-09-18 17:17:50	ALARM	MEDIUM	PatternOKRule	No title	<input type="checkbox"/>	1
2013-09-18 15:39:08	2013-09-18 17:17:40	CLOSED	NONE	PatternOKRule	No title	<input checked="" type="checkbox"/>	5
2013-09-18 15:38:50	2013-09-18 17:16:40	REMINDER	MEDIUM	PatternOKRule	No title	<input type="checkbox"/>	3
2013-09-18 15:11:21	2013-09-18 17:16:40	REMINDER	MEDIUM	StringRule	No title	<input type="checkbox"/>	9
2013-09-18 15:10:54	2013-09-18 17:16:40	REMINDER	LOW	BooleanRule	No title	<input type="checkbox"/>	7
2013-09-17 17:48:16	2015-09-18 15:51:22	CLOSED	NONE	OverMaxRule	OverMaxRule	<input checked="" type="checkbox"/>	35
2013-09-18 15:25:40	2013-09-18 15:25:37	RECOVER	NONE	StateRule	StateRule break	<input type="checkbox"/>	2

The 'Context Rules' list on the left includes rules such as 'BooleanRule', 'XORRule', 'NoDataRule', 'OverMaxRule', 'PatternOKRule', 'PatternRule', 'PropertyRule', 'StateRule', and 'StringRule'. The 'Alarm Details' window at the bottom right shows the following information for an alarm event:

```

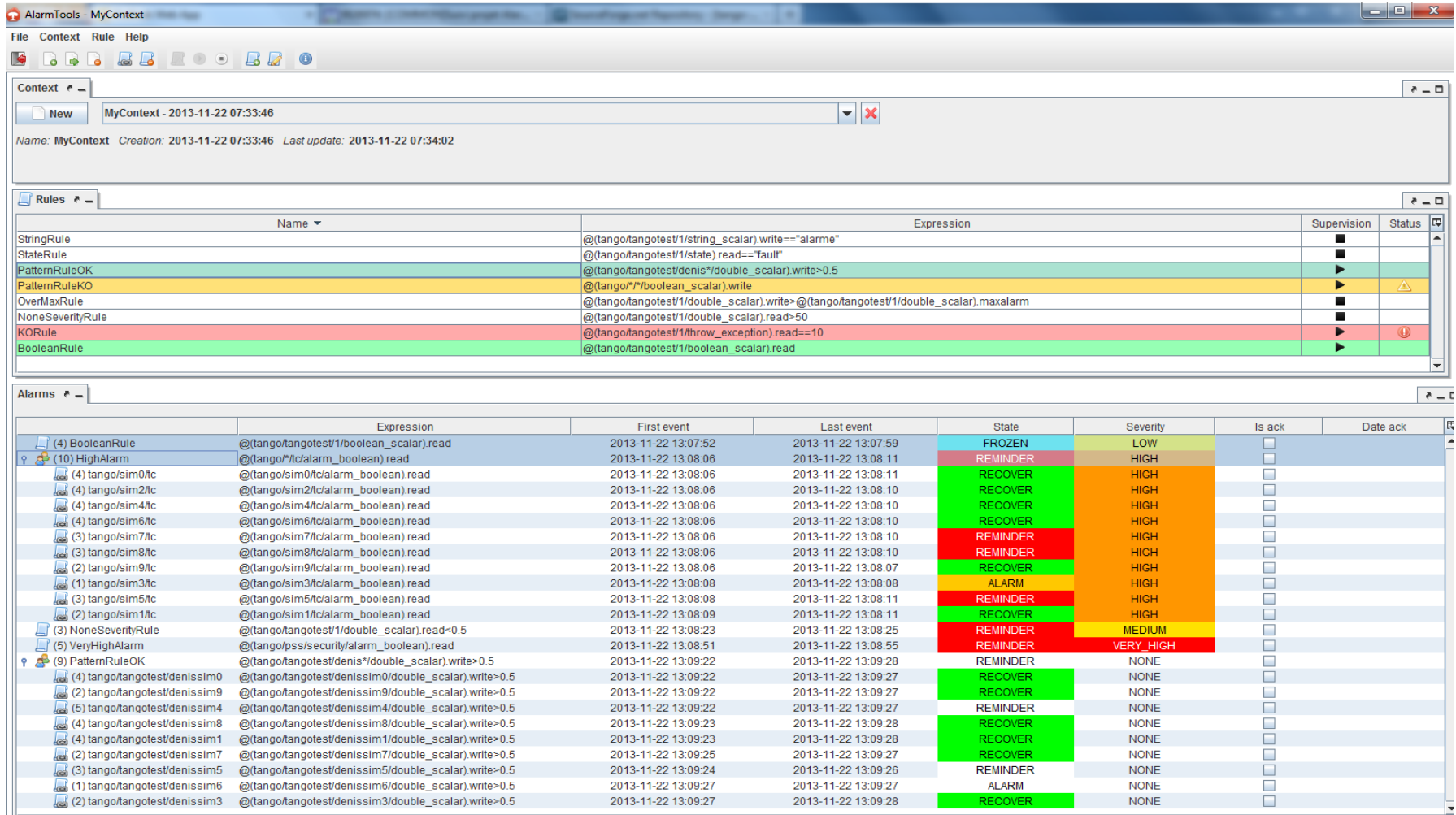
Alarm event at: 2013-09-18 15:35:08.0
Reason:
Expression conet3.Result is true
Values:
  tango.tango.test.tisting_scalar.read: ALARM

Alarm event at: 2013-09-18 15:53:08.0
Reason:
Expression conet3.Result is true
Values:
  tango.tango.test.tisting_scalar.read: ALARM

Alarm event at: 2013-09-18 17:16:40.0
Reason:
Expression conet3.Result is true
Values:
  tango.tango.test.tisting_scalar.read: ALARM
  
```

## November 2013 :

- MAX-IV STI committee approved of one year more funding of the project after the tests and few recommendations. The budget is used on 2 CODRA subcontractors.



The screenshot shows the AlarmTools - MyContext application interface. It features a menu bar (File, Context, Rule, Help) and a toolbar. The main window is divided into three panes: Context, Rules, and Alarms.

**Context Pane:** Shows the current context name "MyContext - 2013-11-22 07:33:46" and its creation and last update dates.

**Rules Pane:** A table listing various rules with their expressions and supervision status.

Name	Expression	Supervision	Status
StringRule	@(tango/tangotest/1/string_scalar).write=="alarme"	■	
StateRule	@(tango/tangotest/1/state).read=="fault"	■	
PatternRuleOK	@(tango/tangotest/denis*/double_scalar).write>0.5	▶	
PatternRuleKO	@(tango/*/*boolean_scalar).write	▶	⚠
OverMaxRule	@(tango/tangotest/1/double_scalar).write>@(tango/tangotest/1/double_scalar).maxalarm	▶	
NoneSeverityRule	@(tango/tangotest/1/double_scalar).read>50	■	
KORule	@(tango/tangotest/1/throw_exception).read==10	▶	!
BooleanRule	@(tango/tangotest/1/boolean_scalar).read	▶	

**Alarms Pane:** A table listing active alarms with their expressions, event times, states, and severities.

Expression	First event	Last event	State	Severity	Is ack	Date ack
@(tango/tangotest/1/boolean_scalar).read	2013-11-22 13:07:52	2013-11-22 13:07:59	FROZEN	LOW	<input type="checkbox"/>	
@(tango/*/*alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:11	REMINDER	HIGH	<input type="checkbox"/>	
@(tango/sim0/tc/alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:11	RECOVER	HIGH	<input type="checkbox"/>	
@(tango/sim2/tc/alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:10	RECOVER	HIGH	<input type="checkbox"/>	
@(tango/sim4/tc/alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:10	RECOVER	HIGH	<input type="checkbox"/>	
@(tango/sim6/tc/alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:10	RECOVER	HIGH	<input type="checkbox"/>	
@(tango/sim7/tc/alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:10	REMINDER	HIGH	<input type="checkbox"/>	
@(tango/sim8/tc/alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:10	REMINDER	HIGH	<input type="checkbox"/>	
@(tango/sim9/tc/alarm_boolean).read	2013-11-22 13:08:06	2013-11-22 13:08:07	RECOVER	HIGH	<input type="checkbox"/>	
@(tango/sim3/tc/alarm_boolean).read	2013-11-22 13:08:08	2013-11-22 13:08:08	ALARM	HIGH	<input type="checkbox"/>	
@(tango/sim5/tc/alarm_boolean).read	2013-11-22 13:08:08	2013-11-22 13:08:11	REMINDER	HIGH	<input type="checkbox"/>	
@(tango/sim1/tc/alarm_boolean).read	2013-11-22 13:08:09	2013-11-22 13:08:11	RECOVER	HIGH	<input type="checkbox"/>	
@(tango/tangotest/1/double_scalar).read<0.5	2013-11-22 13:08:23	2013-11-22 13:08:25	REMINDER	MEDIUM	<input type="checkbox"/>	
@(tango/pss/security/alarm_boolean).read	2013-11-22 13:08:51	2013-11-22 13:08:55	REMINDER	VERY_HIGH	<input type="checkbox"/>	
@(tango/tangotest/denis*/double_scalar).write>0.5	2013-11-22 13:09:22	2013-11-22 13:09:28	REMINDER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim0/double_scalar).write>0.5	2013-11-22 13:09:22	2013-11-22 13:09:27	RECOVER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim9/double_scalar).write>0.5	2013-11-22 13:09:22	2013-11-22 13:09:27	RECOVER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim4/double_scalar).write>0.5	2013-11-22 13:09:22	2013-11-22 13:09:27	REMINDER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim8/double_scalar).write>0.5	2013-11-22 13:09:23	2013-11-22 13:09:28	RECOVER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim1/double_scalar).write>0.5	2013-11-22 13:09:23	2013-11-22 13:09:28	RECOVER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim7/double_scalar).write>0.5	2013-11-22 13:09:25	2013-11-22 13:09:27	RECOVER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim5/double_scalar).write>0.5	2013-11-22 13:09:24	2013-11-22 13:09:26	REMINDER	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim6/double_scalar).write>0.5	2013-11-22 13:09:27	2013-11-22 13:09:27	ALARM	NONE	<input type="checkbox"/>	
@(tango/tangotest/denissim3/double_scalar).write>0.5	2013-11-22 13:09:27	2013-11-22 13:09:28	RECOVER	NONE	<input type="checkbox"/>	

The system is used **to detect alarms on a working tango control system**. (No device crash detection). See Majid OUNSY presentation “Using the DROOL expert system for C.S diagnostic)

## Simple expression

- Boolean expression, should evaluate to TRUE for an alarm cases
- Based on values of scalar (for now) attributes (Number, Boolean, String)
- The attribute’s read property is used by default, but you can choose between:  
read, write, minAlarm, maxAlarm

## Example:

```
@(ans/vi/pi/pressure).read > @(ans/vi/pi/pressure).maxAlarm && @(ans/vi/pi/state).read == « fault »
```

## Expression with pattern

- We can use \* to define a pattern in the expression,
- Can be uses only to define a device name (not attribute),
- Cannot use several different patterns in a single expression

## Example:

```
@(tango/test/*/double_scalar).read > 0 && @(tango/test*/short_scalar).write < 5 VALID  
@(tango/test/*/double_scalar).read > 0 && @(tango*/1/double_scalar).read < 5 NOT VALID  
@(tango/test/*/*).read > 0 NOT VALID
```

## Rule

- Consists of an expression and some parameters which affect the life cycle of alarms (explained later)
- Can handle a list of devices to exclude, if the expression contains a pattern
- Can be in one of the following states:

STOPPED

The rule is not monitored.

STARTED

The rule is being monitored.

WARNING

The rule is being monitored. It uses a pattern, and at least one of the expressions cannot be evaluated.

ERROR

The rule is being monitored. The expression cannot be evaluated.

- An alarm **event** is produced when the expression of a rule is evaluated to TRUE.
- An **alarm group** contains all events corresponding to a rule and to a simple expression.
- A **parent alarm group** contains alarm groups corresponding to a pattern expression.
- Possible states for an alarm group are:

**ALARM**

Default state (expression is evaluated to TRUE)

**RECOVER**

Return to normal (expression is evaluated to FALSE)

**REMINDER**

Reminder period has been exceeded. The alarm is highlighted to warn the operator.

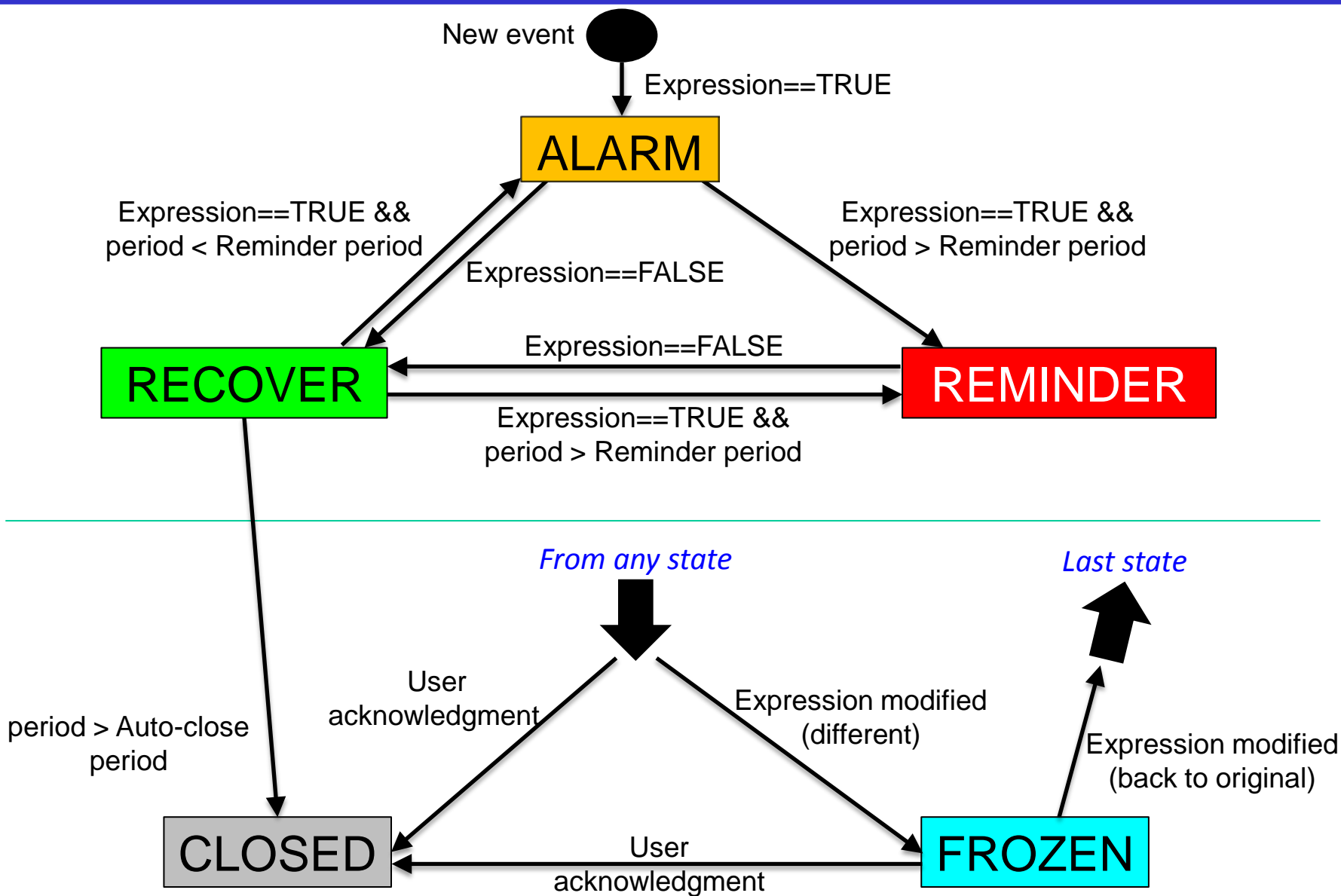
**FROZEN**

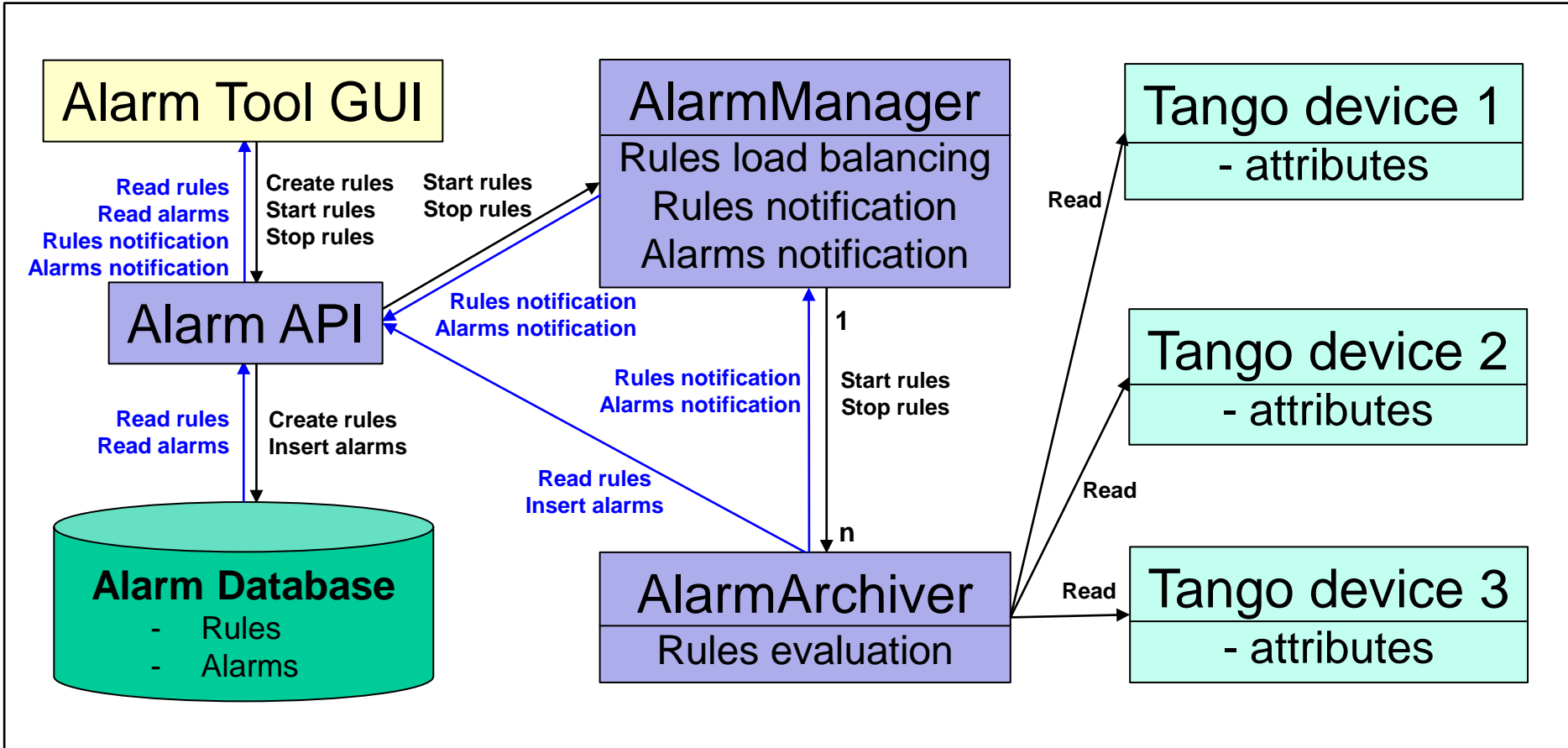
The expression has been modified. This alarm will no longer be updated, it is now uncorrelated to the rule.

**CLOSED**

The alarm has been acknowledged (closed), it will no longer be updated. A new alarm will be created on next event.







The project must answer to 2 MAX-IV recommendations :

- 1 - The alarm tool must be usable separated from the provided GUI.
- 2 – The alarm tool must provide a solution to insert alarm event from another alarm system.

Waiting from MAX-IV a feedback and information !!

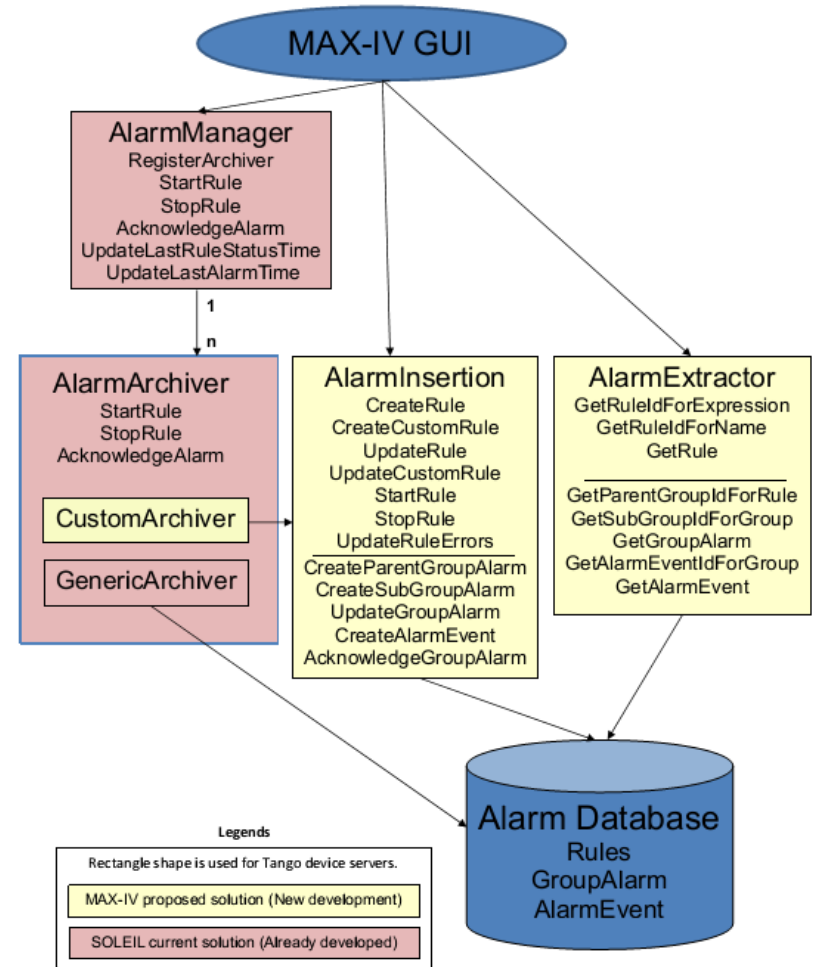
⇒ AlarmTool-1.0.5 will be delivered in June/July

For MAX-IV accelerator users :

- 1- Add a Jive Tree to edit an expression
- 2- Open an ATKPanel on an used device.

For SOLEIL operators and Beam line users :

- 1 – Advanced expression with Image and Spectrum
- 2 – Snapshot integration.
- 3 – Archiving CDMA plugin integration.
- 4 – Notification service (mail, SMS, TextTalker ...)
- 5 –Web access thanks to WebTangORB



AlarmTool - Context1

File Context Rule Alarm Variable Window Help

Context ↕

New Context1 - 11:19:33 24-01-2014 ✕

Name: Context1 Creation: 11:19:33 24-01-2014 Last update: 15:01:23 27-01-2014

Rules ↕

Name	Expression	Supervision	Status
NoneSeverityRule	@(sys/tg_test/1/double_scalar).read>25	▶	▶
OverMaxRule	@(sys/tg_test/1/double_scalar).write>@(sys/tg_...	▶	✕
PatternRuleKO	@(sys!*/boolean_scalar).write	▶	⚠
PatternRuleOK	@(sim/motor!*/steps).write>0.5	▶	▶
StateRule	@(sys/tg_test/1/state).read=="fault"	■	■
StringRule	@(sys/tg_test/1/string_scalar).read=="alarme"	▶	▶

Filters ↕

Hide closed  
Keep severe  
MyFilter

Name: MyFilter

Ack  Search

Status Date

State

>  CLOSED

Severity

>  NONE

Save Revert

Apply Cancel

Alarms (Hide closed) ↕

	First event	Last event	State	Severity	Is ack	Date ack
(1) BooleanRule	15:35:26 27-01-2014	15:35:25 27-01-2014	ALARM	LOW	<input type="checkbox"/>	
(2) NoneSeverityRule	14:37:29 21-03-2014	14:37:40 21-03-2014	ALARM	NONE	<input type="checkbox"/>	
(148) NoneSeverityRule	14:36:37 21-03-2014	13:13:51 27-03-2014	ALARM	NONE	<input type="checkbox"/>	
(1) PatternRuleKO	17:47:50 06-03-2014	17:47:50 06-03-2014	ALARM	LOW	<input type="checkbox"/>	
(2) PatternRuleOK	15:13:27 27-01-2014	17:09:54 31-01-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sim/motor/1	15:13:27 27-01-2014	15:13:26 27-01-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sim/motor/3	17:09:55 31-01-2014	17:09:54 31-01-2014	ALARM	LOW	<input type="checkbox"/>	

One of the alarm Archiver is in WARNING or in ERROR

Name	Expression	Supervision	Status
NoneSeverityRule	@(sys/tg_test/1/double_scalar).read>25	▶	▶
OverMaxRule	@(sys/tg_test/1/double_scalar).write>@(sys/tg_test/1/double_scalar...	▶	✘
PatternRuleKO	@(sys!*/boolean_scalar).write	▶	⚠
PatternRuleOK	@(sim/motor*/steps).write>0.5	▶	▶
StateRule	@(sys/tg_test/1/state).read=="fault"	■	
StringRule	@(sys/tg_test/1/string_scalar).read=="alarme"	▶	▶

**Edit rule**

Name:

Expression:

Severity:  NONE

Reminder state delay:  s

Auto-reset period:  s

Archiver:

Description:

Beep:  On ALARM and REMINDER states

**Evaluate expression**

Expression: @ (sim/motor\*/steps).write>0.5

Device name	Evaluation
sim/motor/1	⚠
sim/motor/2	✔
sim/motor/3	⚠

True

Expression: @ (sim/motor/3/steps).write>0.5

Error message:

Attribute	Value
sim/motor/3/steps.write	300

Nb result(s): 3

	First event	Last event	State	Severity	Is ack	Date ack
(2) NoneSeverityRule	14:37:29 21-03-2014	14:37:40 21-03-2014	ALARM	NONE	<input type="checkbox"/>	
(136) NoneSeverityRule	14:36:37 21-03-2014	18:06:57 26-03-2014	ALARM	NONE	<input type="checkbox"/>	
(1) PatternRuleKO	17:47:50 06-03-2014	17:47:50 06-03-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sys/tg_test/1	17:47:50 06-03-2014	17:47:49 06-03-2014	ALARM	LOW	<input type="checkbox"/>	
(4) PatternRuleOK	15:13:27 27-01-2014	17:00:54 31-01-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sim/motor/1	15:13:27 27-01-2014	15:13:06 27-01-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sim/motor/3	17:09:55 31-01-2014	17:09:55 31-01-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sim/motor/3	15:26:00 27-01-2014	15:25:59 27-01-2014	CLOSED	LOW	<input checked="" type="checkbox"/>	17:09:55 31-01-2014
(1) sim/motor/3	15:13:29 27-01-2014	15:13:28 27-01-2014	CLOSED	LOW	<input checked="" type="checkbox"/>	15:26:00 27-01-2014
(4) BooleanRule	15:32:04 27-01-2014	15:34:43 27-01-2014	CLOSED	LOW	<input checked="" type="checkbox"/>	15:35:13 27-01-2014
(2) BooleanRule	15:28:32 27-01-2014	15:31:22 27-01-2014	CLOSED	LOW	<input checked="" type="checkbox"/>	15:31:52 27-01-2014

1 row selected | @(sys/tg\_test/1/double\_scalar).read>25

**Alarm events - NoneSeverityRule**

Expression  
@(sys/tg\_test/1/double\_scalar).read>25

Date	Evaluation
18:06:57 26-03-2014	!
18:00:27 26-03-2014	✓
17:54:41 26-03-2014	!
17:48:12 26-03-2014	✓
17:42:26 26-03-2014	! False
17:35:56 26-03-2014	✓
17:30:10 26-03-2014	!

---

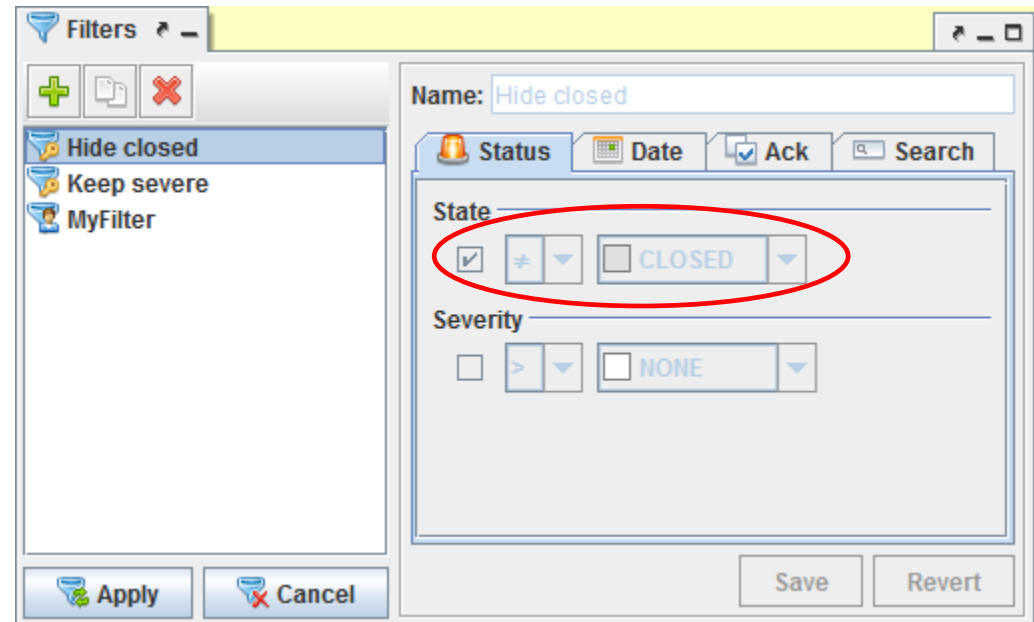
Values

Attribute	Value
sys/tg_test/1/double_scalar.read	22.312528079133646

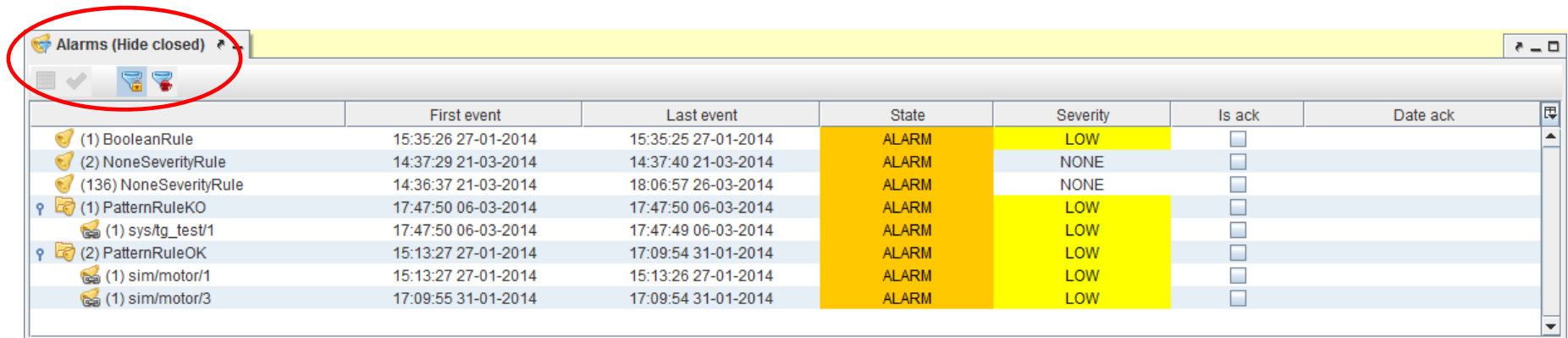
Nb event(s): 136

Use predefined filter to hide closed alarms.

User's filters are stored in his profile.



Alarms view is filtered,



	First event	Last event	State	Severity	Is ack	Date ack
(1) BooleanRule	15:35:26 27-01-2014	15:35:25 27-01-2014	ALARM	LOW	<input type="checkbox"/>	
(2) NoneSeverityRule	14:37:29 21-03-2014	14:37:40 21-03-2014	ALARM	NONE	<input type="checkbox"/>	
(136) NoneSeverityRule	14:36:37 21-03-2014	18:06:57 26-03-2014	ALARM	NONE	<input type="checkbox"/>	
(1) PatternRuleKO	17:47:50 06-03-2014	17:47:50 06-03-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sys/fg_test/1	17:47:50 06-03-2014	17:47:49 06-03-2014	ALARM	LOW	<input type="checkbox"/>	
(2) PatternRuleOK	15:13:27 27-01-2014	17:09:54 31-01-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sim/motor/1	15:13:27 27-01-2014	15:13:26 27-01-2014	ALARM	LOW	<input type="checkbox"/>	
(1) sim/motor/3	17:09:55 31-01-2014	17:09:54 31-01-2014	ALARM	LOW	<input type="checkbox"/>	

**//Codra**

Sylvain Mainguy,

The logo for MAXIV LABORATORY, featuring the word "MAXIV" in a bold, sans-serif font with a stylized orange swoosh above it, and the word "LABORATORY" in a smaller, sans-serif font below it.

MAXIV  
LABORATORY

Vincent Hardion

The logo for SOLEIL SYNCHROTRON, featuring a stylized sun icon above the text "SOLEIL" and "SYNCHROTRON" below it.

SOLEIL  
SYNCHROTRON

Xavier Deletoille and Amor Nadji