

TANGO



Connecting things together

FormulaConf

To create attributes with the result of configurable formulas using: dynamic attributes, events

Elettra-Sincrotrone Trieste S.C.p.A

<http://www.tango-controls.org/>

FormulaConf

- Formulas with:
 - attributes values, attributes quality
 - mathematical and logical operators (+ - / * ! >> << > < >= <= != == & | ^ && ||)
 - some functions (abs, sin, cos, max, min, pow)
 - conditional operator cond ? act1 : act2
- Results in DevBoolean, DevLong, DevDouble attributes
- Subscribe Events (but fallback to polling on errors or if not configured) and push events with results
- Configuration via device properties (Attr_config_prop, Attr_config_file):
 - attr;double;AttrName;0;**a/b/c/d ? 1.5*abs(e/f/g/h) : (i/j/k/l - 2);Desc1**
 - attr;bool;AttrName2;0;**quality(a/b/c/d) == ATTR_VALID || e/f/g/h;Desc2**

FormulaConf

- Largely used at Elettra as:
 - Support for complex Synoptic GUIs (many lines and boxes state based on formulas)
 - Support for GUIs
 - Support for Alarms
- Based on Boost.Spirit for the parser
- What's missing:
 - Documentation
- Where to get it:
 - <https://github.com/ELETTRA-SincrotroneTrieste/servers/tree/master/formulaconf>