

ISA 18.2 WG8

Purpose
Definitions
Status

By: Lieven Dubois, Co-chair

About the presenter ...

Lieven Dubois

Studied Electronic Engineering in Belgium

In industrial automation since 1982

First Alarm Management project in 1990

Member of ISA since 1996

Member of ISA 18.2 since 2009, voting member since 2012

Contributor to TR4 (2009 – 2012), Elected co-chair WG8 of ISA 18.2

Member of ISA 101 since 2014, voting member since 2017



Overview of ISA standards

To help you understand this presentation

ANSI/ISA-18.2-2016, Management of Alarm Systems for the Process Industries

ISA-84.00.01-2004 (IEC 61511-1 Mod) Functional Safety: Safety Instrumented Systems for the Process Industry Sector

ANSI/ISA-88.00.01-2010 Batch Control Part 1: Models and Terminology

ANSI/ISA-TR99.00.01-2007 Security Technologies for Industrial Automation and Control Systems

ANSI/ISA-101.01-2015, Human Machine Interfaces for Process Automation Systems

ISA-TR106.00.01 Procedure Automation for Continuous Process Operations - Models and Terminology

ISA108, Intelligent Device Management

Terms & Definitions

To help you understand this presentation

ISA: International Society of Automation

FLM: ISA's yearly fall leaders meeting

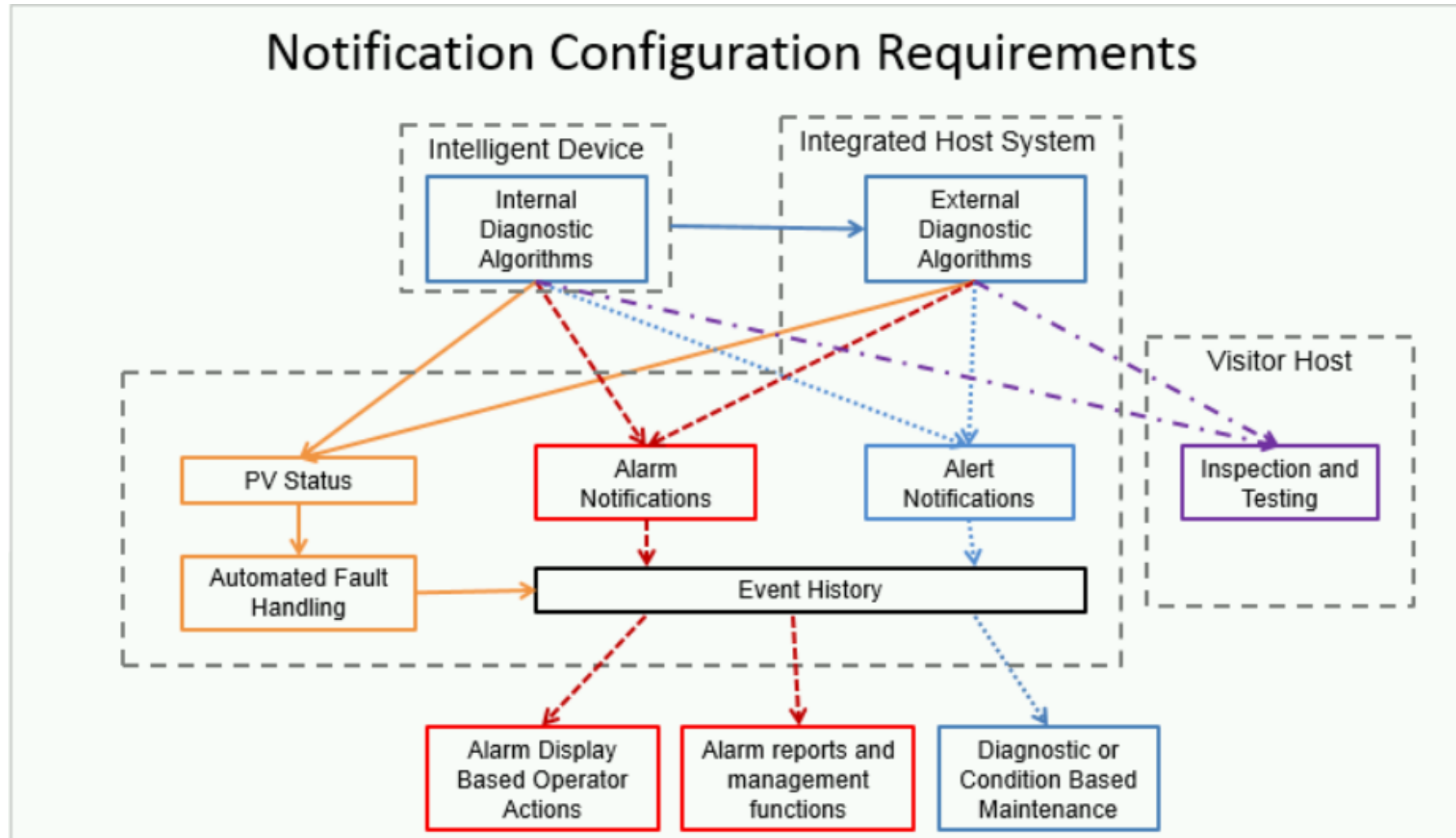
TR: Technical Report

WG: Working Group

Origins of WG8

- ISA 18.2 2016 work completed
- Requests from FLM ISA 18.2 participants to write a TR on 'Alerts'
- Request from ISA 18.2 co-chairs to potentially involve other standard committees
- ISA18.2 clearly defined alarms and the processes to manage alarms, resulting in many notifications being classified as alerts

Alignment with ISA 108: intelligent devices generating alarms and alerts



WG8 Scope

TR8 will provide guidance on the application of techniques to notifications such as Alerts, Prompts and Notices that do not qualify as Alarms as defined by the standard

Guidance includes good practices for identifying, rationalizing, routing, designing, configuring, auditing and maintaining the entire process notification system

It's a TR, it can include guidelines on how to do things

From the definitions of 18.2 (IEC 62682)

3.1.7

alarm

audible and/or visible means of indicating to the operator an equipment malfunction, process deviation, or abnormal condition requiring a timely response

3.1.32

alert

audible and/or visible means of indicating to the operator an equipment or process condition that requires awareness and which does not meet the criteria for an alarm

Anything that matches the criteria of an alarm is an alarm, everything that does not match these criteria is an alert?

Cosa ?

Overview

Visual or audible indication	For the operator	Abnormal condition	Requiring at timely response	18.2
Y	Y	Y	Y	Alarm
Y	Y	Y	N	Alert
Y	Y	N	Y	Alert
Y	Y	N	N	Alert
Y	N	Y	Y	Alert
Y	N	Y	N	Alert
Y	N	N	Y	Alert
Y	N	N	N	Alert
N	n.a.	n.a.	n.a.	Alert

No wonder this creates confusion!

A lot of discussions ...

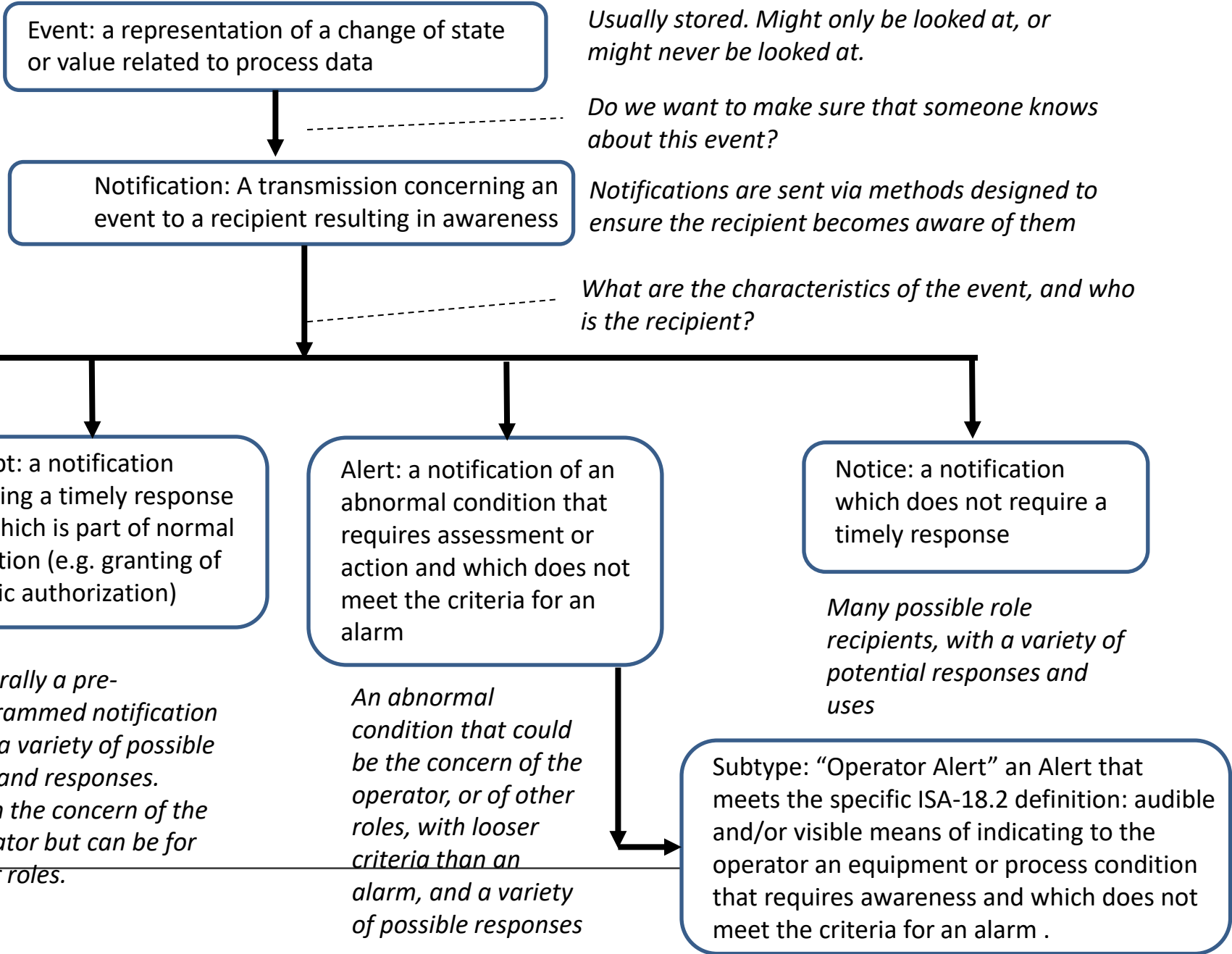
- Between 18.2 people and 108 people
- Between people with software background and automation engineers
- On conference calls and at FLM meeting
- Reaching consensus is a hard goal to achieve

Terms & Definitions

In order to come up with proper definitions
ISO 10241-1:2011 provided guidance:

- one designation (i.e. term, symbol or appellation) corresponds to one concept and only one concept corresponds to one designation in each domain or subject in a given language
 - every effort shall be made to avoid use of a single term for multiple concepts and multiple terms for a single concept,
 - every effort shall be made to avoid contradictions occurring in terminological entries in closely related standards,
 - only the concepts relevant to the domain, subject or **scope** of the standard shall be defined, and
 - the form of a definition shall be such that it can replace the term in context (i.e. principle of substitution)

ISA-18.2 Technical Report 8 Definitions February 5, 2018



New Overview

Visual or audible indication	For the operator	Abnormal condition	Requiring at timely response	TR8
Y	Y	Y	Y	Alarm
Y	Y	Y	N	Operator Alert
Y	Y	N	Y	Prompt
Y	Y	N	N	Notice
Y	N	Y	Y	Alert for others
Y	N	Y	N	Alert for others
Y	N	N	Y	Prompt for others
Y	N	N	N	Notice
N	n.a.	n.a.	n.a.	Event

This should provide guidance ...

Some constraints

- Alerts do not fall under alarm management and should not be counted in alarm reports
- However, the operator should not be overloaded with alerts for the same reasons he should not be overloaded with alarms (ANSI/ISA-101.01-2015 material on “operator cognitive limits”)
- Alerts are also often called pre-alarms
- Alerts should not figure in the alarm list
- Different lists for different users (if the HMI allows):
 - Maintenance
 - System Engineering
 - Others
- Prompts should be handled separately
- Notices can be handled by indications in the HMI

The HMI should be task oriented

In order to notice 'notices' the HMI should be designed properly

[picture of Xmas tree display] [picture of redesigned display]

Status and evaluation of TR8

At this stage

Clause editing using the agreed terms & definitions

Next:

Commenting round in TR8

Next:

Clause improvements until consensus within WG8

Next:

Commenting round by other standard committees

After consensus: approval by S&P board

Expected time of release: 2020?

Questions?

Domande?



- WG8 accepts volunteers who want to add clauses, sections or want to comment on clauses and sections
- Please refer to:
 - Dale Reed, dereed@ra.rockwell.com
 - Lieven Dubois, Lieven@alarmmanagement4u.com