

# SNEWS Update

Neutrino 2012

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- What's new since Nu2010
- Review of operational mode/nomenclature
- Operational mode history
- Other notes

# Since last SNEWS meeting at Neutrino 2010:

- **Server code has been running with very little downtime at BNL;**  
**regular shift checks by SNEWS 'subgroup'**  
disk failure in 2011, moved to bnlboom2  
new virtualized bnlboom1 set up in March 2012;  
testing nearly complete  
new BNL sysadmin E. McAlvin (+ B. Viren)
- **Backup server at the U. of Bologna also running smoothly**
  - receives alarms from clients
  - email output only enabled if other server  
or BNL network disabled (few times per year)
  - part of regular shift check
- **3-year grant from NSF, 2010**  
**(undergrad+outreach+travel)**

# Operational Mode History

**Since Spring 2009: Operational mode 4.0  
SK+LVD+ Borexino+IceCube**

# Packet Types

## Packet types

**PING:** test only

**ALARM:** action depends on level flag

**RETRACTION:** remove alarm from queue in  
time windows (for given expt)

## Level flags (decided by individual experiment)

**TEST:** for test queue

**POSSIBLE:** for alarm queue, lower quality

**GOOD:** for alarm queue, all OK

**RETRACTED:** removal packet (redundant)

**OVERRIDE:** for alarm queue, confirmed good

# Coincidence Alert Types

**GOLD alert: clean, unambiguous  
AUTOMATED alert, to  
experimenters and astronomers**

**SILVER alert: coincidence with  
one or more problems, to  
experimenters only (NOT lost, just delayed)**

- calibration or other tag on any alarm
- too few in coincidence at distant locations
- history of high rate

**Experiments define procedure for each**

# **GOLD alert must have *all* of the following conditions met: (otherwise, it's SILVER)**

**1. A two- or more fold coincidence within 10 seconds**



**(can modify for more experiments)**

**2. At least two experiments at different laboratories**



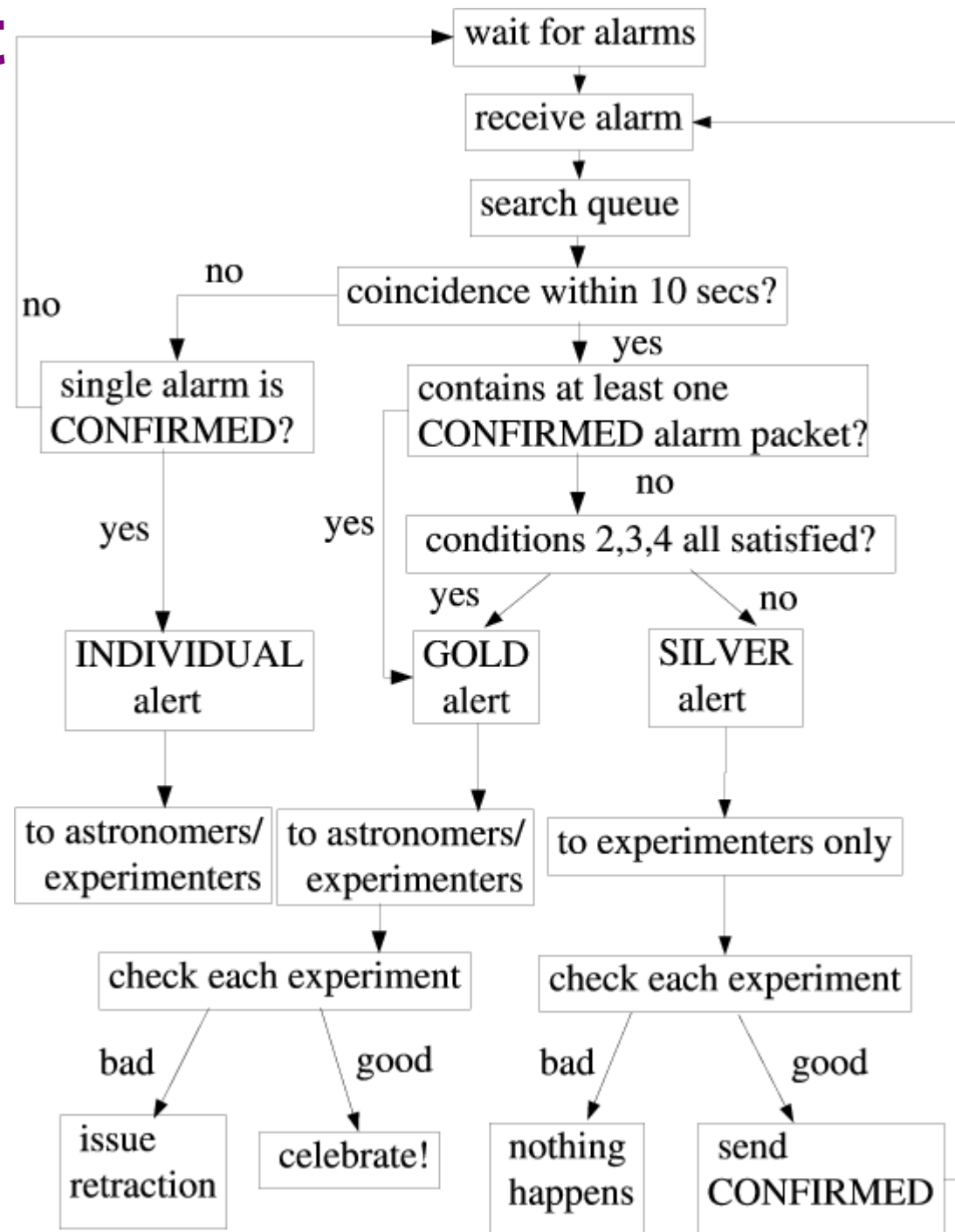
**3. Two or more alarms flagged as GOOD**



**4. Rate of alarms in past time intervals for at least 2 experiments involved must not be too high (require  $< 1/100$  yr accidental coincidence)**



# Flowchart



# Alert Dissemination

- **PGP-signed email sent to `snews-alert` mailing list maintained at BNL  
(anyone can sign up)**
- **Addresses include Sky&Telescope  
AstroAlert mailing list**
- **Subscriber list is private for SPAM/security reasons but is available upon request**
- **`Express-line' output to experiments  
upon request  
(+ ANTARES, LIGO)**



## Planned Downtime Table

This table is automatically generated.

**NOTE THAT ALL TIMES ARE IN UTC**

Only recent entries are printed.

Entry No.	Experiment	Start Date and Time				End Date and Time				Grade	Comment
		Year	Month	Day	Hour	Year	Month	Day	Hour		

Grading corresponds to the following rough levels:

- Red: Detector is completely dead.
- Yellow: Detector is mostly sensitive to a supernova burst but alarm is offline (e.g. during calibrations).
- Green: Detector is on but alarm is offline.

Click [here](#) to download an entry form.

*Problems, questions, suggestions? Send email to [snews-downtime@snews.bnl.gov](mailto:snews-downtime@snews.bnl.gov)*

## Planned Downtime Entry Form

Entry number:

☒ New ☐ Modify ☐ Delete

Name of person entering record:

E-mail:

Experiment:

ANONE (The Almost Never Off Neutrino Experiment)  
IceCube  
KamLAND  
LVD  
Borexino  
Super-Kamiokande

Short descriptive comment (e.g., "Calibration", "Power Outage", etc.):

### Start of Downtime:

Year:	Month:	Day:	Hour:	Minute:	Time Zone:
2010	January	1	00		UTC
2011	February	2	01		America/Montreal
2012	March	3	02	00	Asia/Tokyo
2013	April	4	03	15	US/Eastern
2014	May	5	04	30	US/Central
	June	6	05	45	US/Mountain
	July	7	06		US/Pacific
	August	8	07		Europe/Rome

# Summary

**SNEWS server running smoothly at BNL  
with backup at Bologna:  
SK IV, LVD, Borexino, IceCube**

**Version 4.0 of operational mode in effect**

**Don't forget about the downtime page**