

# **VOBOX-TO project: Status of ALICE VOBOXES**

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# Introduction

- The VOBOX-T0 project has started before summer 2009 for the 4 LHC experiments
- GOALS:
  - Track the specific experiment services running at all T0 VOBOXES
  - Provide the operators with a standard protocol to recover those services in case of problems
    - Although VOBOXES do not have piquets, we can ensure a 1st level of support with easy procedures
- The 1st complete prototype is now ready for ALICE and its presentation is the scope of these slides

# Prototype

- Applied to voalice06
- Special situation for ALICE  
VOBOXES@CERN that is ideal to build the prototype
  - voalice03 and voalice06 are both in production
  - They are however not quattorized
  - We can perform tests and operations with the operators without bothering FIO
  - Situation changes totally with the new set of voboxes

# Test suite

- A test suite has been created based on some critical tests executed in our SAM test suite
- Installed in the root area of voalice06, executed each 10min via a cron job
- Test suite:
  - Status of the proxy renewal daemon
  - Proper registration of the vbox into myproxy server
  - Status of the gsisshd daemon

# What if any test fails?

- Each test will update a local file containing the results of the execution
- The contents of these files will be parsed (details in the next slides)
- If the results are not 0 an exception will trigger an alarm visible for the operator at the T0
- We have created a set of instructions that the operator must follow in these cases

# Introduction

- What?
  - Three metrics: what is a metric?
  - Exception (what to do in case something fails)
- Why?
  - Test the functionality of three critical deamons:
    - alice-box-proxyrenewal
    - Registration of the vbox inside myproxy
    - Gsisshd
- How?
  - Parsing the output of a script which is testing the three deamons
- Where?
  - For the moment in voalice06
  - It will be extended to other machines

# METRICS

- Include the template `/prod/custimization/alice/pro_params_voalice_acl` in `voalice06` profile with the three new metrics:
- Important parameters :
  - Name: the name of the metric
  - Desc: short description
  - Class: name of the method, `module::method` (perl)
  - Param: any parameters that need to be passed to the metric class
  - Period: time period for measuring the metric
  - Active: whether the metric is active or not
  - Latestonly: whether you want to keep the history or not. If not, say true here.
  - Local: whether the metric should be local only or whether the data should be reported to the server

# METRICS

- Example of metric 4036:

```
"/system/monitoring/metric/_4036" = nlist(  
    "name", "VOBOX_Alice_Proxy Renewal",  
    "descr", "Check Proxy Renewal test's output",  
    "class", "log.Parse",  
    "param", list("logfile", "/var/log/voboxTest/vobox-test-1.result", "istring",  
        "VOBOX-Proxy-Renewal_result=0", "dformat", "%Y-%m-%d %T", "sincelast", "30m"),  
    "period", 13,  
    "smooth", nlist("typeString", false, "maxdiff", 0.0, "maxtime", 600),  
    "active", true,  
    "latestonly", false,);
```

# Exception

- Included in the same template as the metrics:
  - Exception 5210: in case of failure of any metric, sends an email ([lolass@cern.ch](mailto:lolass@cern.ch) for the moment)
  - In the future follow procedures (explain in te next slide)
  - It also checks :
    - cron job is working
    - scrpit is running correctly
    - there is any missed file
- If any metric fails, exception turns into an alarm:
  - An alarm raises and the operator should following procedure:

[file:///tmp/alice\\_operator\\_instructions.html](file:///tmp/alice_operator_instructions.html)

# Exception

- Important parameters:
  - name: name of the exception
  - descr: short description
  - active: whether exception should be active or not
  - latestonly: keep the history of exception values
  - importance: what is the alarm's importance?
    - 0 - informative
    - 1 - low - 9/5 support
    - 2 - high - 24/24 support
  - Alarmtext: alarm text that operators would see on their screens
  - minoccurs: specifies how many time the exception should occur before rising the exception
  - correlation: when the exception should actuate
  - actuator: what to do whether the actuator is active

# Instructions for the operator

## Operations Help Guide

### *alice\_daemons nodes*

#### Applies to nodes:

Apply to PRODUCTION nodes belonging to cluster "vobox" and subcluster "alice". See [full list here](#) (voalice03, voalice06, voalice11, voalice12, voalice13, voalice14)

**Service Description:** in these machines the ALICE experiment runs specific experiment services fundamental for the good behavior of the production and analysis of the experiment. All these nodes have the same configuration and the treatment they deliver in case of problems are the same for all of them. Take into account that all these nodes are independent with each other; any bad behavior on any of them should not necessarily be observed in any other node of the same cluster and subcluster.

#### Response to alarms: *alice\_daemons*

Unless otherwise stated, instructions apply 24h/day, 7 days/week.

As soon as the alarm: "*alice\_daemons*" appears in any of these nodes the actions to apply are the following:

1. log into the machine as **root**
2. Read the three following files:
  - A. **/tmp/CERN-<name\_of\_the\_node>.cern.ch/vobox-test-1.result**
    1. If the file contains the string: VOBOX-Proxy-Renewal\_result=0 THERE IS NOTHING TO DO for this alarm and you can jump to the section B)
    2. Otherwise execute the commands: `"/etc/rc.d/init.d/alice-box-proxyrenewal stop"` and after this: `"/etc/rc.d/init.d/alice-box-proxyrenewal start"`
    3. **NOTE:** Do not pay attention to any warning and or error message appearing while executing these operations. They are expected
    4. Check the good behavior of this service executing the following command: `"/etc/rc.d/init.d/alice-box-proxyrenewal status"`
      - NOTE: if the daemon is running properly, you should be able to see the following message on the screen:
        - `"Service running in pid: 20896"`
        - `alicesgm 20896 0.0 0.0 5328 1088 pts/2 S 17:48 0:00 /bin/bash /opt/lcg/sbin/vobox-renewd alice alicesgm /opt/vobox"`
    5. If you do not see this message and the output contains the sentence: **Service not running**, please follow these actions:
    6. **ACTION:** *Please contact the persons appearing in the SDB service (see below this page) via phone (CERN mobil phone), just informing them the node <name of the node with problems> is having some problems*
  - B. **/tmp/CERN-<name\_of\_the\_node>.cern.ch/vobox-test-2.result**
    1. If the file contains the string: VOBOX-Proxy-Server-Registration\_result=0 THERE IS NOTHING TO DO for this alarm and you can jump to the section C)
    2. Otherwise please follow the same procedure as in the previous case (A6)
  - C. **/tmp/CERN-<name\_of\_the\_node>.cern.ch/vobox-test-3.result**
    1. If the file contains the string: gsisshd\_daemon\_result=0 THERE IS NOTHING TO DO
    2. otherwise execute the command: `"/etc/rc.d/init.d/gsisshd start"`
    3. If the problem persists after 15 min please follow the same procedure as in the previous cases (A6)
3. **Any other alarms:**

For any other alarms, send a mail to the Service Manager using the dedicated Remedy button.

#### Contacts and Support:

Please consult [SDB service](#) support and piquet page.

# Procedures for the operator

- The operator will see that voalice06 is triggering an alarm called « alice\_daemons » and close to the alarm he will have a look to the instructions
- If he cannot solve the problem he will contact the persons already included in the SDB:
  - Pablo and Patricia for the VOBBOX services
  - Ricardo and Patricia for the hw

# Future plans

- As soon as the IT experts validate the exception we are ready to make a test of the full chain
  - «Destroy» one of the services
  - Sit together with the operator to see whether the instructions can be validated
- We will document all what we have done for the rest of experiments
- We need to put the same infrastructure in the new voboxes: `voalice[11-14].cern.ch`
  - This machines are quattorized
  - Install the new gLite3.2 service
  - Install the leamon rpms and the test suite