

# Choreography of the Tango ballet

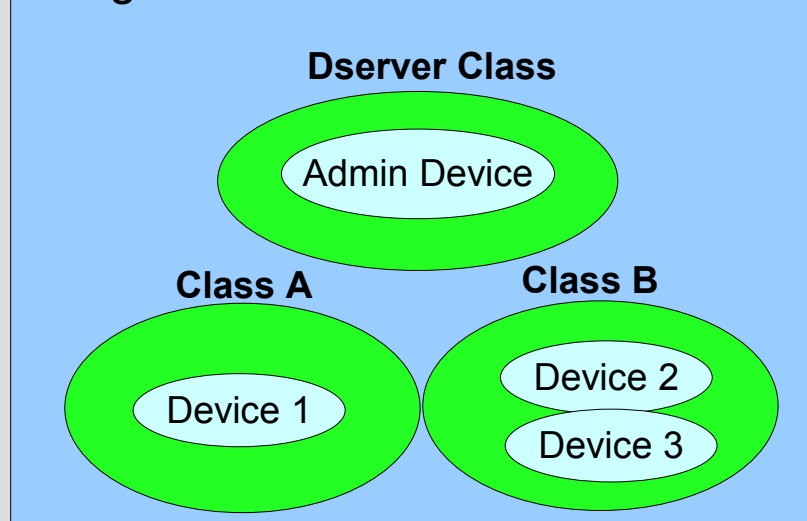
## Managing Tango

- How to manage a Tango Server
- How to manage a Tango Control System
- How to manage the logging system

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## How to Manage a Tango Server

### Tango Server



- All tango servers have a DServer class
- This class have a device in charge to administrate all classes/devices defined in the server.
- This administration device is named:  
*dserver/<server name>/<instance name>*  
e.g. : *dserver/PSImpl/test*

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## The Administration Device

- This device supports 20 commands
  - 8 miscellaneous commands
  - 7 commands for the logging system
  - 1 command for the event system
  - 7 commands for the polling system

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## The Administration Device

- Miscellaneous commands
  - DevRestart destroy and re-create a Device.
  - RestartServer to restart a complete device server
  - QueryClass to get a class list
  - QueryDevice to get a device list
  - Kill to kill the process
  - State, Status, Init

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## How to Manage a Tango Control System

Made of several servers

Made of several hosts.

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Each host needs a Tango servers called

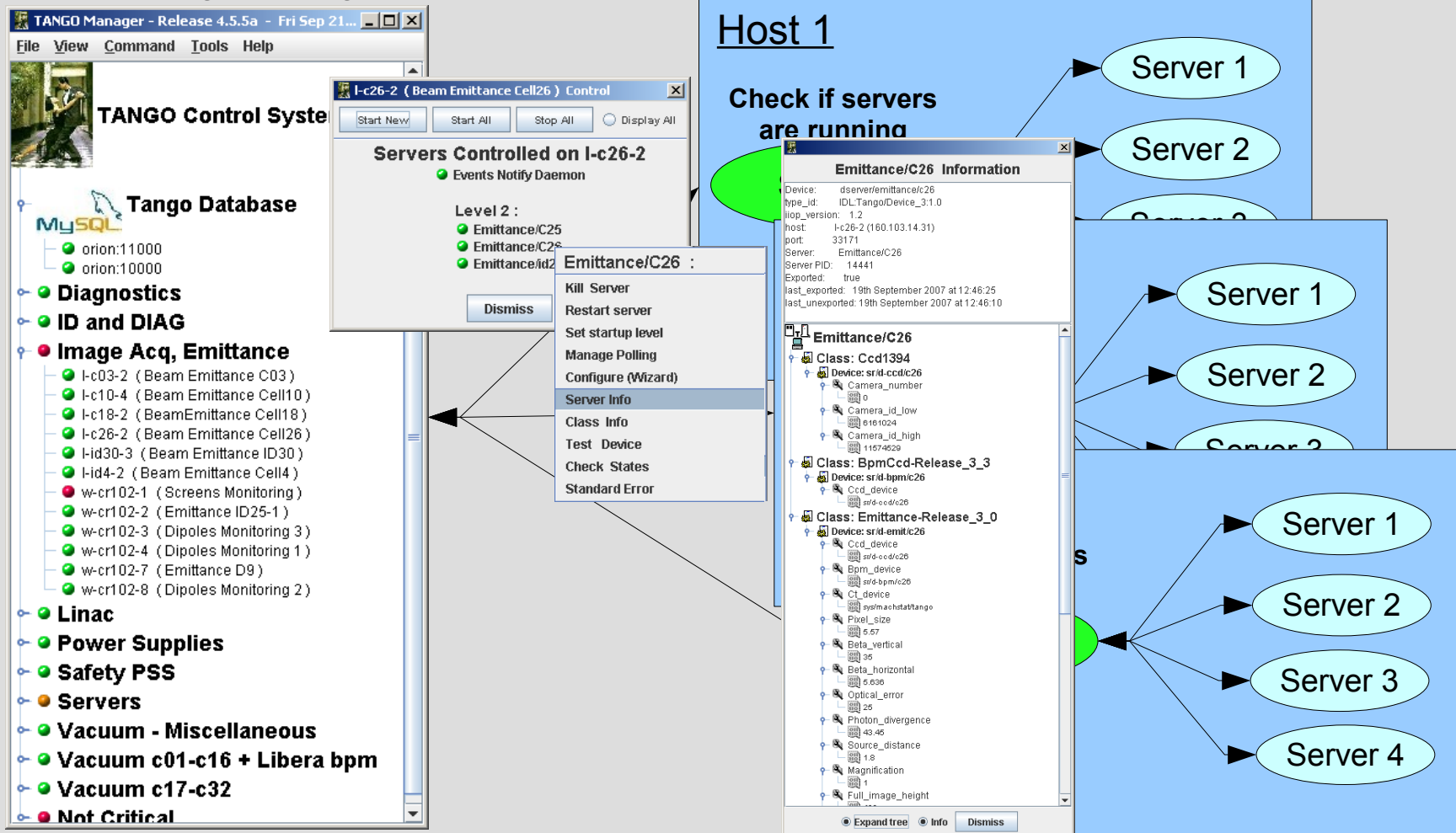
## **Starter**

This server is in charge to :

- to Start/Stop servers on this host
- to check if servers are running

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## Astor (Tango manager)



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## Servers status or startup diagnostics

TANGO Manager - Release 4.5.5a - Fri Sep 21...

File View Command Tools Help

**TANGO Control System**

**Tango Database**

- MySQL
  - orion:11000
  - orion:10000
- Diagnosics
- ID and DIAG
- Image Acq, Emittance
- Linac
- Power Supplies
- Safety PSS
- Servers
  - antares (HDB)
  - aries (DC load)
  - hydra
  - orion (Mstatus, Mastersources, loggers)
  - pc-alarm (Speaker)
  - w-cb078-1 (Video Synopsis)
  - w-cr102-10 (OPC infra)
- Vacuum - Miscellaneous
  - Vacuum c01-c16 + Libera bpm
  - Vacuum c17-c32
  - Not Critical

orion ( Mstatus, Mastersources, loggers ) Control

Start New Start All Stop All Display All

**Servers Controlled on orion**

Events Notify Daemon

Level 1 :

- MachstatWrap/inst1
- MSTATUS/inst1
- MSTATUS/startup
- MSTATUS\_ADMINinst1

MSTATUS/startup :

Level 2 :

- GpibDeviceServe
- GpibDeviceServe

Level 3 :

- Agilent33x20A/ct
- RohdeSchwarzSI
- Screensds/allscr

Level 4 :

- DevicesMux/ct
- FluidsData/infra
- HqpsAlarm/Alarm
- Scan/radmap

Level 5 :

- CorrectedBpm/sr
- GfdbkLogger/sr
- MultiFastSteerer/sr
- PssEquip/pss
- PssZone/pss
- ScreenManager/1

Dismiss

ftmp/ds.log/MSTATUS\_startup.log

25/09/07 15:42:42

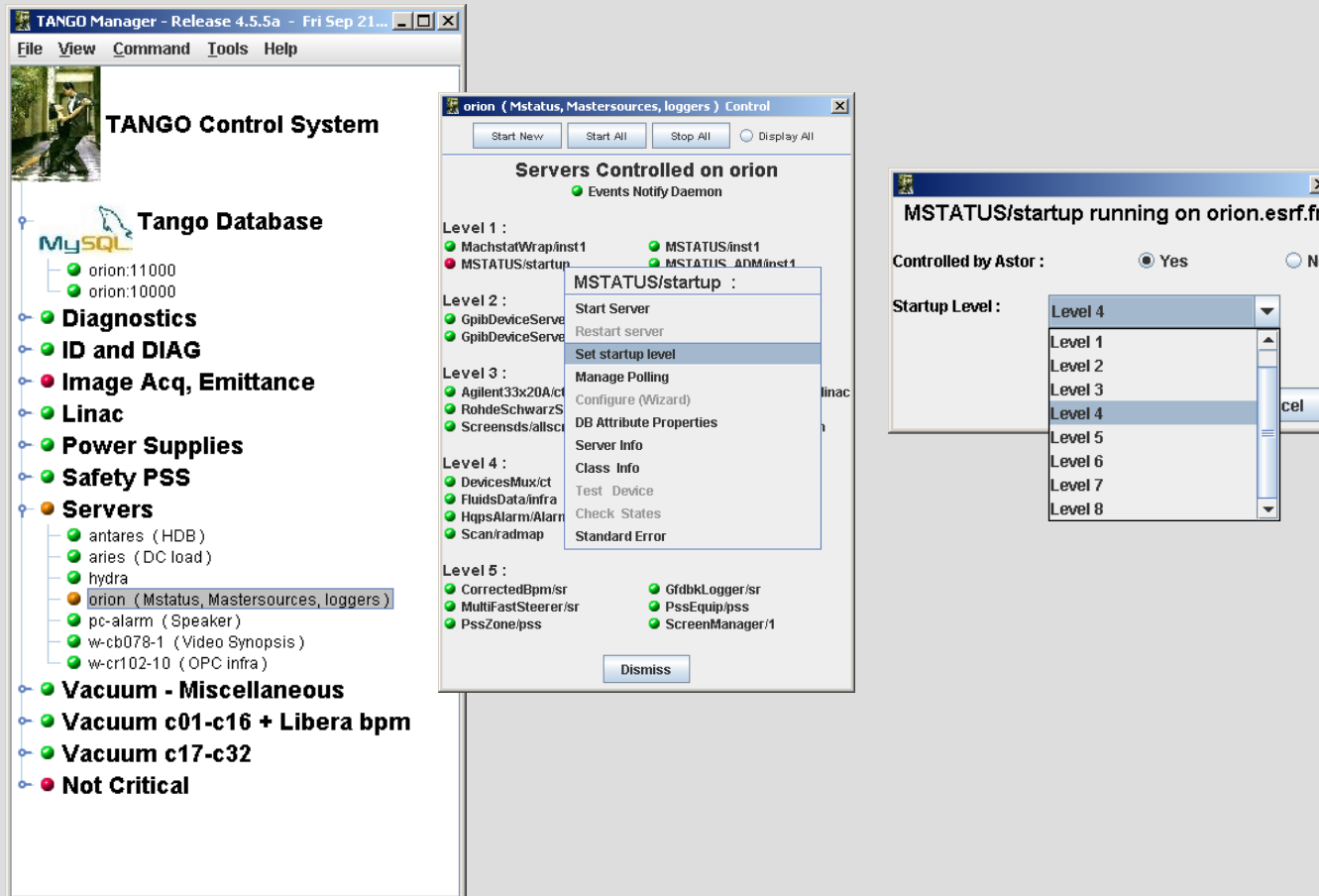
```

Could not find platform independent libraries <prefix>
Could not find platform dependent libraries <exec_prefix>
Consider setting $PYTHONHOME to <prefix>[-<exec_prefix>]
'import site' failed; use -v for traceback
    
```

Dismiss

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## Defining a startup order



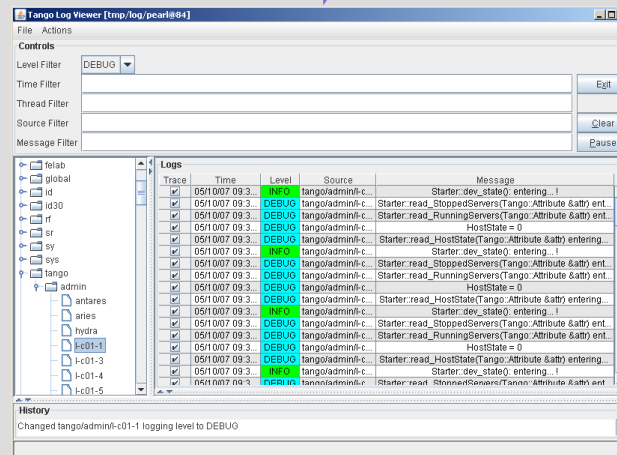
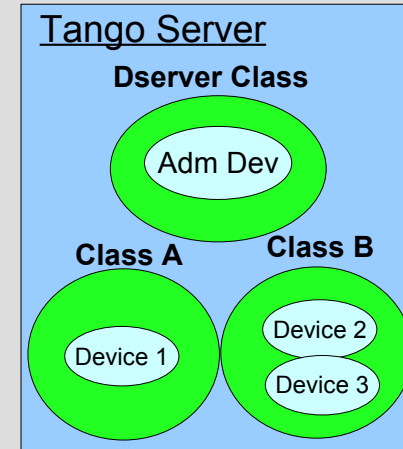
The screenshot displays the TANGO Manager interface with several windows open:

- TANGO Control System:** Shows a tree view of the system components:
  - Tango Database (MySQL)
    - orion:11000
    - orion:10000
  - Diagnostics
  - ID and DIAG
  - Image Acq, Emittance
  - Linac
  - Power Supplies
  - Safety PSS
  - Servers
    - antares (HDB)
    - aries (DC load)
    - hydra
    - orion (Mstatus, Mastersources, loggers) - **Selected**
    - pc-alarm (Speaker)
    - w-cb078-1 (Video Synopsis)
    - w-cr102-10 (OPC infra)
  - Vacuum - Miscellaneous
    - Vacuum c01-c16 + Libera bpm
    - Vacuum c17-c32
  - Not Critical
- orion (Mstatus, Mastersources, loggers) Control:** Shows a list of servers controlled on orion:
  - Level 1:
    - Machsta/Wrapinst1
    - MSTATUS/startup
    - MSTATUS/inst1
    - MSTATUS\_ADMinst1
  - Level 2:
    - GpibDeviceServe
    - GpibDeviceServe
  - Level 3:
    - Agilent33x20A/ct
    - RohdeSchwarzS
    - Screensds/allsc
  - Level 4:
    - DevicesMux/ct
    - FluidsData/infra
    - HqpsAlarm/Alarm
    - Scan/admap
  - Level 5:
    - CorrectedBpm/sr
    - MultiFastSteerer/sr
    - PssZone/pss
    - GfdbkLogger/sr
    - PssEquip/pss
    - ScreenManager/1
- MSTATUS/startup running on orion.esrf.fr:** A dialog box showing:
  - Controlled by Astor:  Yes  No
  - Startup Level: A dropdown menu with options Level 1 through Level 8. Level 4 is currently selected.
  - Buttons: OK, Cancel, Dismiss.

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## The Tango Logging System

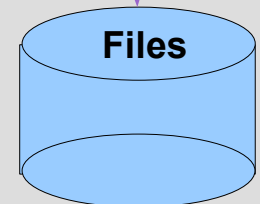
- Send device server messages to a target
  - A file
  - The console
  - A centralized application called **LogViewer**



Console



Files



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## The Tango Logging System

- Each Tango device has a logging level
- Each logging request also has a logging level
- Six ordered logging levels are defined
  - DEBUG < INFO < WARN < ERROR < FATAL < OFF
- Each logging request with a level lower than the device logging level is ignored
- Device default logging level is WARN

C++ log usage :

```
<level>_STREAM << « Hello world ! » << endl;
```

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## The Tango Logging System

- Logging on a console
  - Send messages to the console on which the device server has been started  
Log level can set at server startup with **-v** option (e.g.: -v5 for debug level).  
Log level can be changed by administration device command.
  
- Logging in a file
  - Logging message stored in a XML file
  - Manage 2 files with swap, when file size is greater than a pre-defined value (a property).  
Rename the old one as “xxx\_1”.
  - Default file size threshold is 2 MBytes
  - Read files with the “LogViewer” application