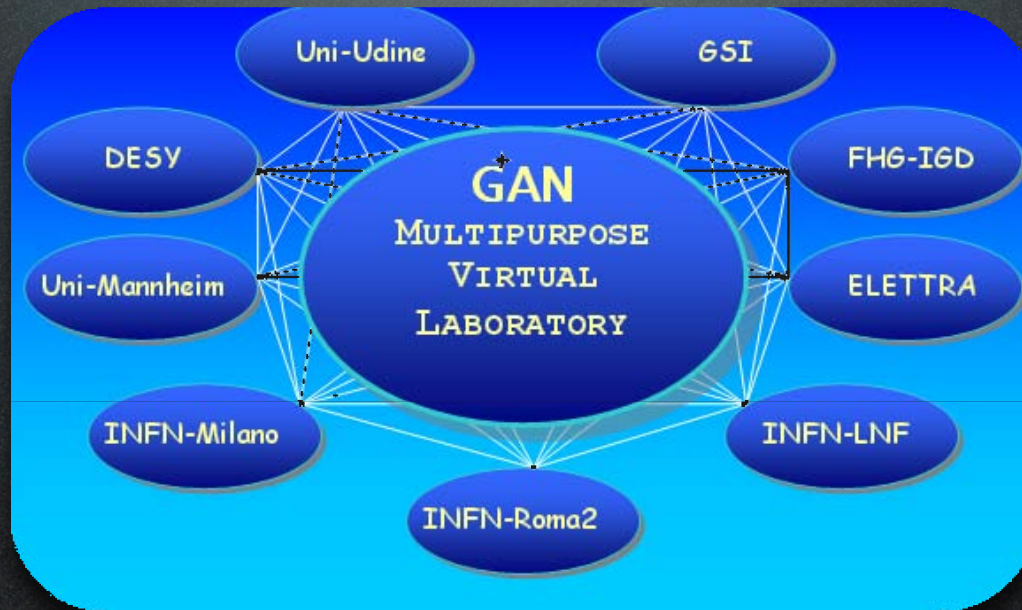


GANMVL Portal

Example Applications



G. Di Pirro

INFN LNF

D. Sertore
P. Borione
R. Paparella

INFN Milano - LASA

L. Catani
D. Di Giovenale
D. Caradio

INFN Rome Tor Vergata

INFN in GANMVL

Tasks		INFN Mi	INFN Ro TV	INFN LNF
Organization of Meetings and Reviews	MA-1			
Budget follow-up and reporting	MA-2			
Coordination of work packages & Schedule	MA-3			
Reporting	MA-4	x	x	x
Coordination with 'EURO-TeV'	MA-5			
Analysis of User Needs	ODI-1	x	x	x
Overall Design Requirements	ODI-2	x	x	x
Develop, maintain update system design	ODI-3	x		
Organise integration events	ODI-4	x		
Intermediate design evaluations	ODI-5	x		
Human Computer Interface Issues	ODI-6			
Collaboratory Issues	ODI-7			
Immersive audio/video	VA-1			x
Desktop Video Conferencing	VA-3			x
Virtual Instrumentation Integration	IS-1			
Integration of controls	IS-2	x	x	
Integration of Data Access	IS-3			
Networking and Security	IS-5			
MVL operational software applications	IS-4			
Analysis based on WP 3 and WP4 results	ME-1		x	
Electrical Specifications	ME-2			
Electrical Design	ME-3			
Mechanical Design	ME-4			
Procurement of Components	ME-5			
Construction and Assembly	ME-6			
TTF far remote operation	DFG-1	x	x	x
ELETTTRA remote access	DFG-6			
Usability Analysis of Components	IS-6			
Performance plan and Evaluations	DFG-7			

D.Sertore

Deputy Leader of WP ODI

“Overall Design and
Integration”

L.Catani

Deputy Leader of WP ODI

“ Mechanical and
Electrical Design”

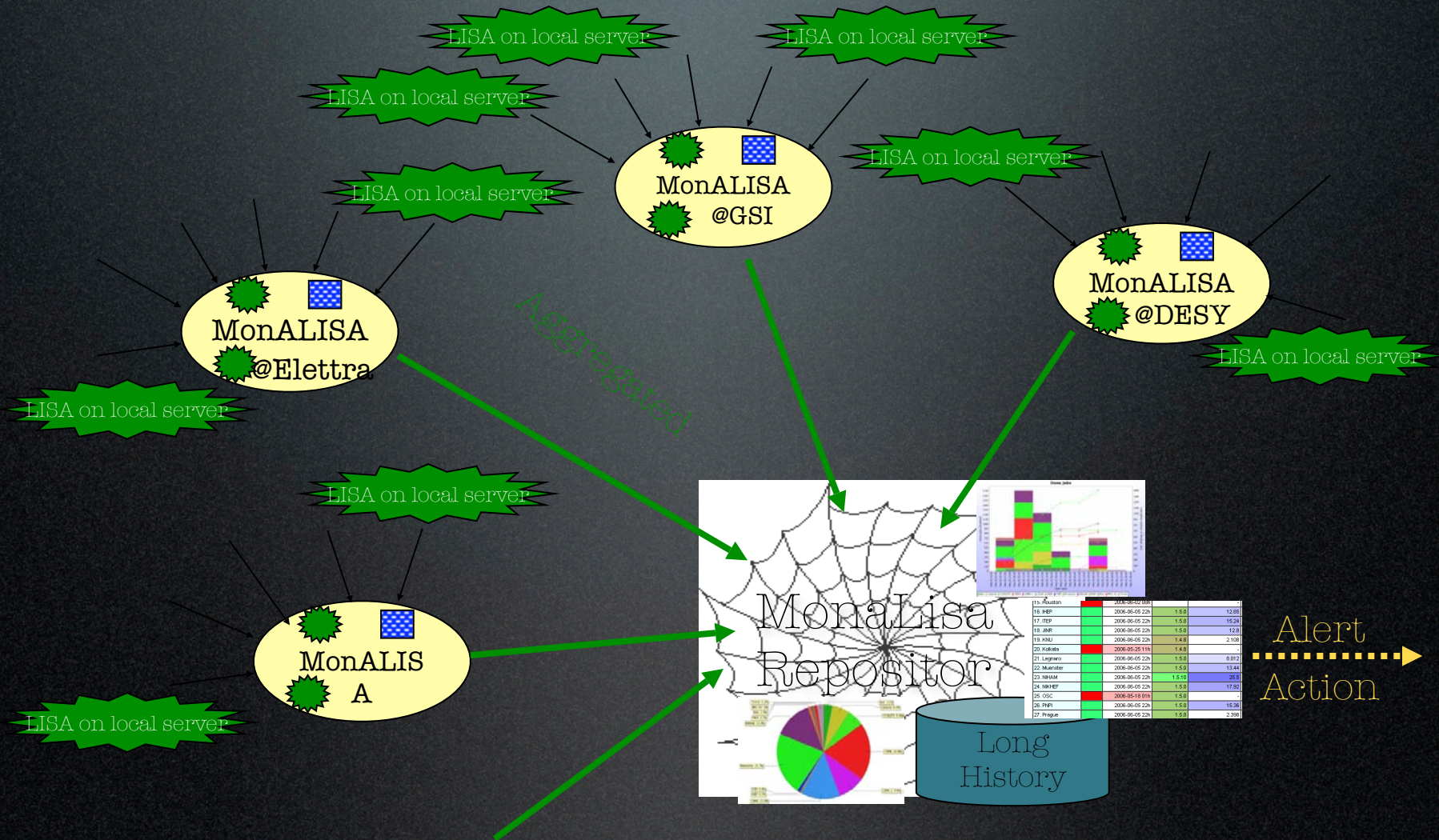
GANMVL Development and Operation (INFN-Mi experience)

- GANMVL monitoring system
- experience on remote operation
- Access to internal resources
- Development of Fast and Slow Tuning Systems for High Accelerating Gradient Superconducting Cavities

GANMVL MonALISA tool

- Each local station runs a LISA client to monitor the client itself and the connection quality to the server.
- A repository collects all the data and make them available to the users.
- An external client downloads a LISA client when it is needed to check the quality of network connection with the GANMVL server.

GANMVL MonALISA Layout



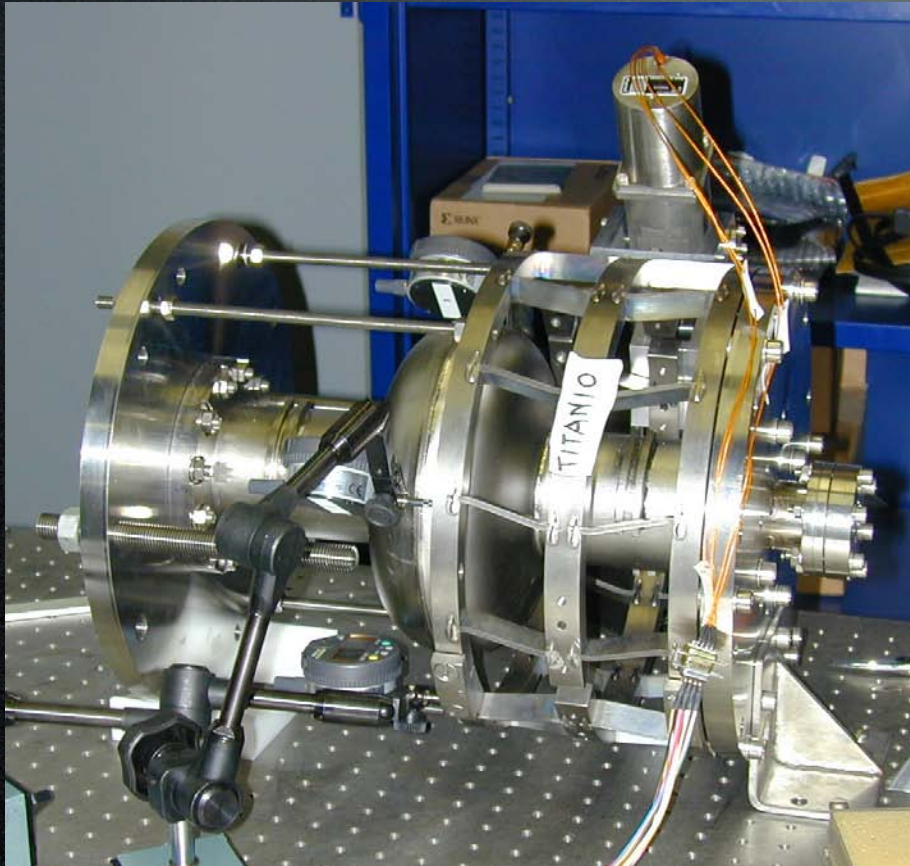
GANMVL MonALISA

-highlights-

- The MonALISA structure for monitoring the GANMVL has been extensively tested.
- The LISA client has been tested too. We are in the process to deliver the package to the users.
- A link to the GUI of MonALISA for the “ganmvl” group is already available from the portal section.
- Presently two “real” MonALISA servers are under tests and running in Milano and in Trieste.
- We expect to have the whole GANMVL structure under MonALISA control in the next weeks.

The tuner testing facility

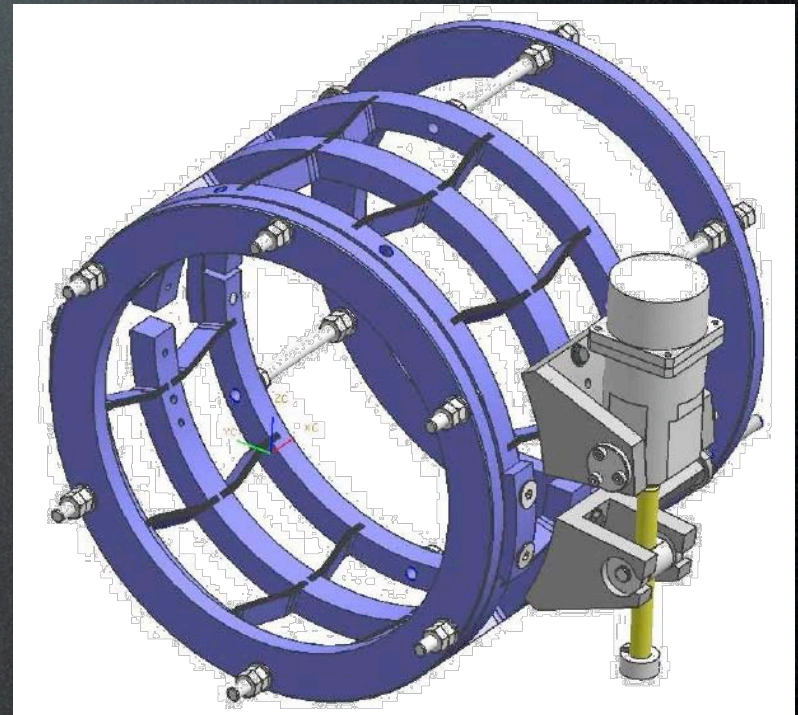
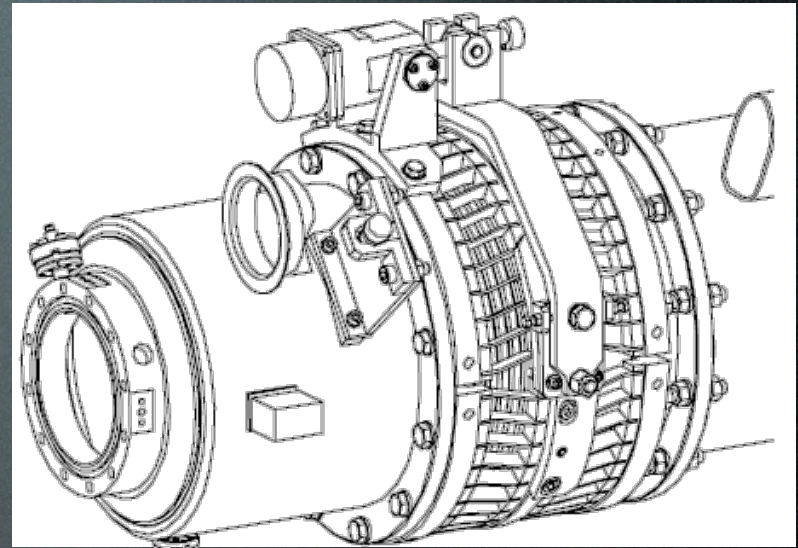
- Based on a TESLA 1.3 GHz Nb RF cavity, single cell
- RF tests, tuner and actuators characterization are possible
- The facility allows measurements to be performed both at room temperature and in cryogenic environment.



Test facility details: tuners

Different models of coaxial tuners for TESLA cavities can be hosted in the test facility.

Recently, both the Superstructures Blade Tuner and the revised design Blade Tuner have been installed and tested.



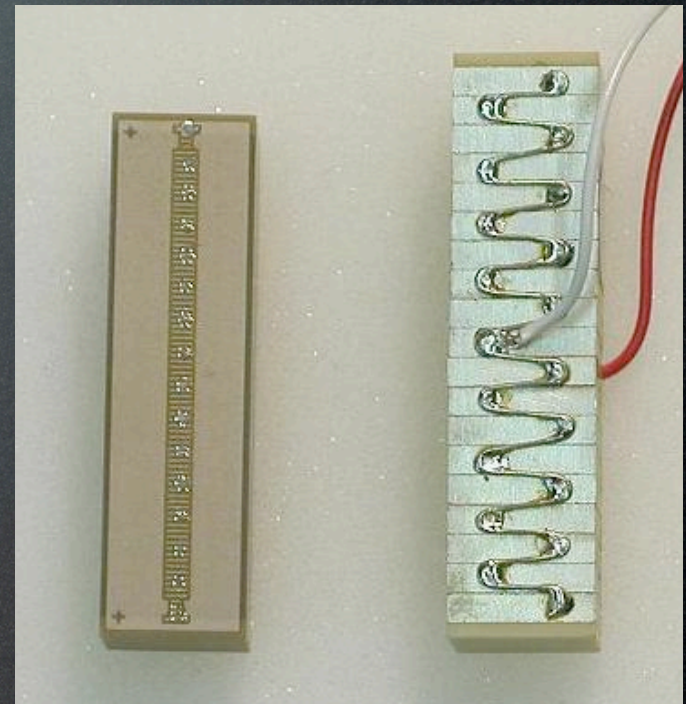
Piezo and Stepper motors

Both stepper motors and piezoelectric actuators have been used during tests to operate the cavity tune.

Both components must be controlled by the control system environment.

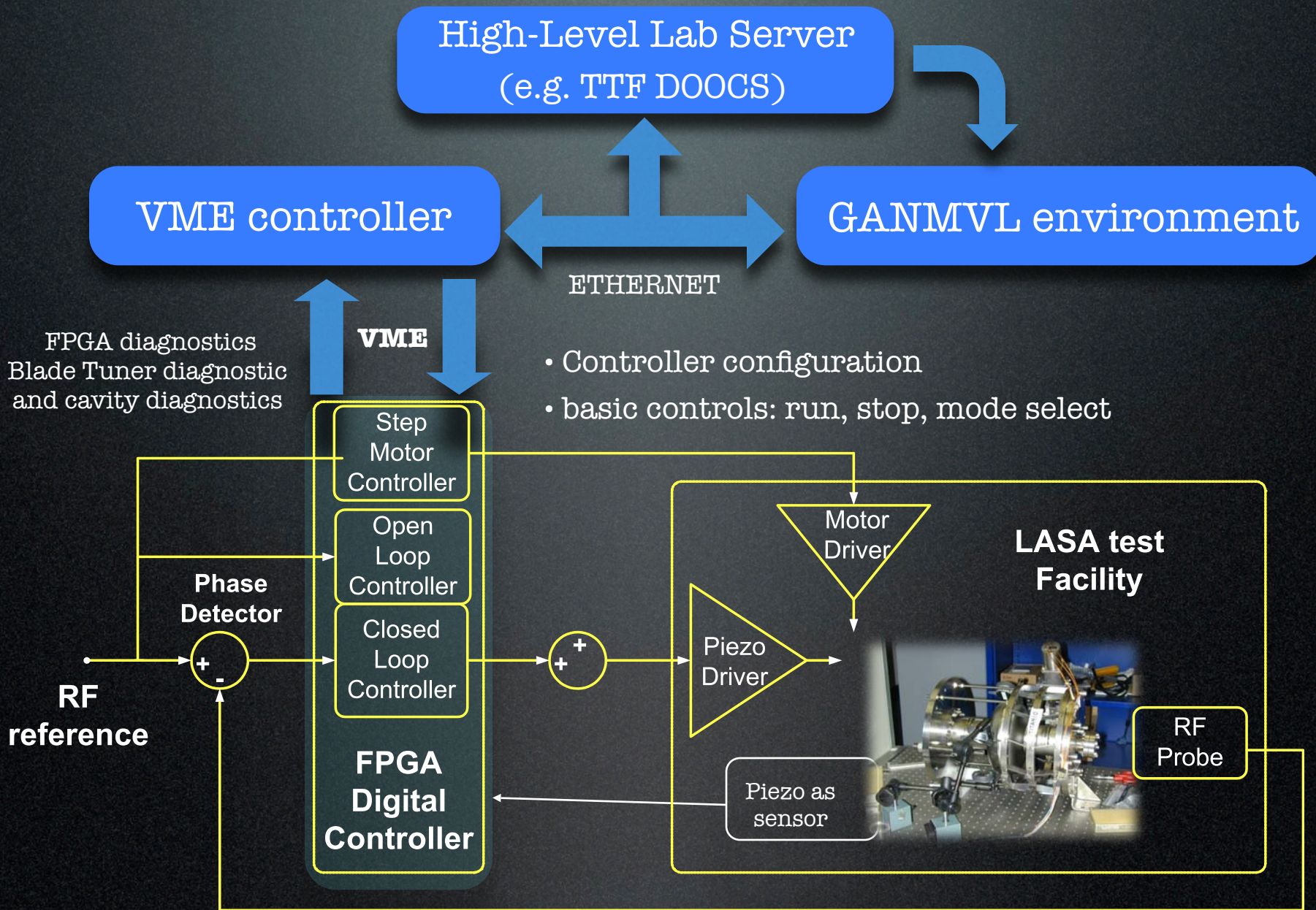


Phytron VSS-52 stepper motor



PI and NOLIAC piezo actuators

LASA facility control scenario



LASA facility control scenario

Remote management of the test set-up is required.

A graphical user interface is needed to access the rack controller for basic data acquisition, plots and basic analyses.

Several tasks to accomplish:

- Control of amplitude and phase (I and Q components) of cavity RF signal
- Generation of stepper motor control signal
- Generation of the piezo driving signal.
- Acquisition of piezo voltage when used as a force sensor
- Acquisition of eventual additional sensors as load cells, T sensors etc.

LASA facility real scenario 1/2

- In order to test in real situation the usability of the GANMVL Portal we have attached the following problem.
 - Fine cavity tuning action provided by piezo actuator (piezo #1) on cavity is absent. A second piezo (piezo #2) is used as a sensor. A time-varying control voltage, a 100 Hz sinusoidal waveform 10 Vpp has been applied but no corresponding effect has been observed on cavity tune.
- An operator has been trained and equipped as follows:
 - Laptop Win XP based, Firefox, Skype, VNC, and VLC clients installed.
 - Dual channel digital oscilloscope already configured with IVI driver via the configuration steps described in the GANMVL help system.
 - High resolution camera, USB connection to laptop.
 - Microphones and speakers.
 - On site: Network cables and connection, power cables, signal cables and probes.
- The operator called an expert and collaborating through the portal they have solved the problem.

LASA facility real scenario 2/2

- The whole operation has been logged to be analyzed by the Uni. Udine colleagues.
- Operational results and comments about the test:
 - From the operator we had very positive feedback. The tool is performing well and he had good feeling during the interaction with the expert. The main drawback was given by the High Resolution Camera but this was due to a low performance PC.
 - Experts also gave positive comments. He mainly recognized the advantage to have collected in a single interface all the tools needed to solve that specific problem.
 - From the portal manager, to setup the scenario and provide the resources to operator and expert has been quite easy. There are points where improvements are needed and/or welcome mainly in the management of HRC and “Factotum Wizard”. The overall impression is also quite good and seen as promising mainly for the possibility to create “aggregate” of resources based on specific needs.

Photocathode Remote Operation

INFN-Mi is on the way to deliver two photocathode systems to FNAL

- a Preparation Chamber
- a Transfer System

Preparation chamber is used to produce photocathodes used as electron sources in RF guns. A remote access to the control station in case of troubleshooting and assistance to the preparation is required!

Photocathode Remote Operation

- INFN-Mi is on the way to deliver one Preparation System to DESY
- Also in this case a remote access to the control station in case of troubleshooting and assistance to the preparation is warmly welcome!

Access to Internal Resources

- Access to internal resources, either control station as well as electronic logbooks would be really helpful.
- Among the different options, the portal would allow to have a unified access points

GANMVL Development and Operation (INFN-RomaTV experience)

- Development of Help System
- Test of an ultra-portable GANMVL station
- GANMVL installation for the remote control of SC films laboratory

Help System

- definition -

.1 User Help Utility

GANMVL User Help will be available on-line from the GANMVL main website in order to provide users the most recent and complete version anytime.

It will be implemented using *wiki* technology allowing developers of different components of GANMVL to easily and **directly edit or update** the entries pertaining to their contribution.

It should have a clean interface and must be easy to use with special attention to GANMVL **users that might need to set up and operate** the remote client hw&sw with very minimum effort and in a short time.

Moreover it should include sections in which **users could provide hints to other or complete the documentation** describing their **experience** with **standard or even customised** version of the hardware and software set-ups.



e-helpbook

HELP INDEX

1 Registration to GANMVL

- [1.1 Registration Form](#)
- [1.2 User Privileges](#)

2 GANMVL Client

- [2.1 Prerequisites](#)
- [2.2 Installation](#)
- [2.3 GANMVL Environment](#)
- [2.4 Tools and services for user](#)
 - [2.4.1 Capability Admin](#)
 - [2.4.2 Factotum Wizard](#)
 - [2.4.3 Global Accelerator Node Admin](#)
 - [2.4.4 Laboratory Admin](#)
 - [2.4.5 Script Admin](#)
 - [2.4.6 Tunnel Monitor](#)
 - [2.4.7 User Profile](#)
 - [2.4.8 User Profile Manager](#)

3 GANMVL LABSERVER

- [3.1 Prerequisites](#)
- [3.2 Installation](#)
- [3.3 LABSERVER Administrator Guide](#)

Frequently Asked Questions

Help System News

[search](#)

[next](#)

[add new post](#)

Help Home

Help Home

HELP INDEX

1 Registration to GANMVL

1.1 Registration Form

1.2 User Privileges

2 GANMVL Client

2.1 Prerequisites

2.2 Installation

2.3 GANMVL Environment

2.4 Tools and services for user

2.4.1 Capability Admin

2.4.2 Factotum Wizard

2.4.3 Global Accelerator Node Admin

2.4.4 Laboratory Admin

2.4.5 Script Admin

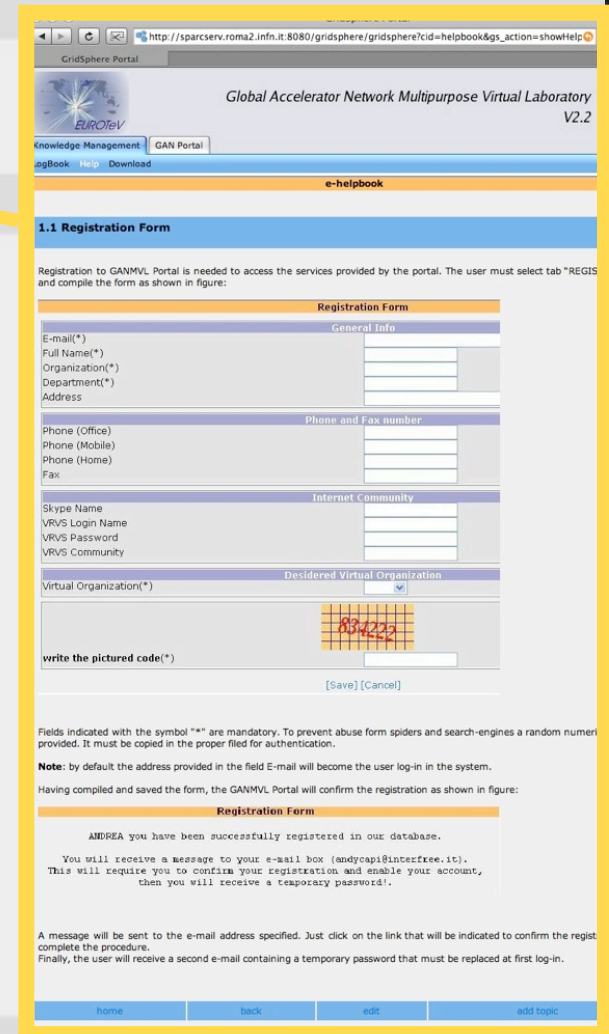
2.4.6 Tunnel Monitor

2.4.7 User Profile

2.4.8 User Profile Manager

3 GANMVL LABSERVER

3.1 Prerequisites



The screenshot shows a web browser window displaying the registration form for the Global Accelerator Network Multipurpose Virtual Laboratory (GANMVL). The browser address bar shows the URL: http://sparserv.roma2.infn.it:8080/gridsphere/gridsphere?cid=helpbook&gs_action=showhelp. The page title is "Global Accelerator Network Multipurpose Virtual Laboratory V2.2". The navigation menu includes "e-helpbook". The main content area is titled "1.1 Registration Form".

Registration to GANMVL Portal is needed to access the services provided by the portal. The user must select tab "REGISTRATION" and complete the form as shown in figure:

Registration Form

General Info

E-mail(*)
Full Name(*)
Organization(*)
Department(*)
Address

Phone and Fax number

Phone (Office)
Phone (Mobile)
Phone (Home)
Fax

Internet Community

Skype Name
VRVS Login Name
VRVS Password
VRVS Community

Desidered Virtual Organization

Virtual Organization(*)

write the pictured code(*)

[Save] [Cancel]

Fields indicated with the symbol "*" are mandatory. To prevent abuse form spiders and search-engines a random number is provided. It must be copied in the proper field for authentication.

Note: by default the address provided in the field E-mail will become the user log-in in the system.

Having compiled and saved the form, the GANMVL Portal will confirm the registration as shown in figure:

Registration Form

ANDREA you have been successfully registered in our database.

You will receive a message to your e-mail box (andycapi@interfree.it). This will require you to confirm your registration and enable your account, then you will receive a temporary password!

A message will be sent to the e-mail address specified. Just click on the link that will be indicated to confirm the registration complete the procedure. Finally, the user will receive a second e-mail containing a temporary password that must be replaced at first log-in.

home back edit add topic

Sections: examples

GridSphere Portal

Global Accelerator Network Multipurpose Virtual Laboratory V2.2

Logout Welcome, admin

Knowledge Management GAN Portal

LogBook Help Download

e-helpbook

2.4.1 Capability Admin

The **Capability Admin** tool allows to manage (install, configure etc.) the **Capabilities** available to users of that particular GANMVL node (see figure below):

Currently available capabilities will be listed below the Toolbar as the Capability Admin is selected. By selecting an item in the list the configuration parameters for that particular capability are shown (see figure below). Administrator can edit and modify these parameters or add a new capability by clicking the Upload button.

Upload capability

Stogias Upload

ganmvl.htztunnel.admin.portlet.httpWizzy
ganmvl.sparc.htztunnel.viewer.portlet.Elettra
ganmvl.sparc.htztunnel.viewer.portlet.inf
vos.portlet.TunnelMonitor
vos.portlet.UserProfile
vos.portlet.RegistrationPortlet
vos.portlet.UserProfileManager
ganmvl.allgroups.collaborations.viewer.portlet.skype
vos.portlet.manage.capabilities
vos.portlet.UserManager
vos.portal.core.ResourceBrowser
vos.portal.core.Toolbar
vnc.tunnel.admin.portlet.vncWizard
vos.portlet.FileManagerPortlet
ganmvl.viewer.portlet.CameraSetter
ganmvl.htztunnel.admin.portlet.HttpWizard
vos.helper.ScriptService
vos.portlet.ScriptAdmin
vos.portlet.RemoteServicesPanel
vos.portlet.manage.ALLVO
vos.portlet.manageVO
vos.portlet.manageStation
vos.portlet.manageProject
vos.portlet.Calendario
ganmvl.hrztunnel.admin.portlet.hrctWizard

HTTP Wizard

ID: ff80808113b53e6a

Name: ganmvl.htztunnel.admin.p

Description: HTTP Wizard

Class Name: it.trieste.elettra.capabilities

Proxy/FortHandler:

Facility: elettra

Role: ADMIN

Level constraint: -1

Group constraint:

Floating:

Toolbar label: HTTP Wizard

Toolbar icon: /images/wizard.png [Save]

If you want add capabilities or you want remove or modify an existing capability, you must to see the section 2.4.2 "FACTOTUM WIZARD"

home back edit add topic

August 19, 2008

Display a menu

GridSphere Portal

Global Accelerator Network Multipurpose Virtual Laboratory V2.2

Logout Welcome, admin

Knowledge Management GAN Portal

LogBook Help Download

e-helpbook

2.4.2 Factotum Wizard

The **Factotum Wizard** tool allows to create a new capability or to delete and modify an existing capability in the toolbar (see figure below):

It is possible add a new capability in the toolbar filling the form shown below.

You need only add a few parameters: the **capability name**, the **host** to connect, the **remote port** and the **local port**. It is possible to check if the local port inserted is already in use. It is also possible select the type of connection you want to create, that are: **SSH Connection**, **Telnet Connection** or **Generic Connection**. If you want to use a generic connection you must specify the application that you want use and arguments needs for application.

Search Generic Desktop Form

Enter your query

[Search]

Edit Generic Desktop Form

Name: VirtualOrganizations.factotumtunnel.viewer.portlet.test

Host: VirtualOrganizations.factotumtunnel.viewer.portlet.test

Remote Port: 5000

Localport: 7000 [Check Port Availability]

Share with other groups?

Please select the type of connection you want to create. If you want to use a generic connection please specify the application that will be used and arguments.

Connection Type: SSH Connection

Please type here the application that you want to use for this connection and the arguments it needs.

Application and arguments: null

[Save] [Delete] [NEW]

After saving these parameters there is a new entry in the list of capability as shown below:

Search Generic Desktop Form

Enter your query

[Search]

Edit Generic Desktop Form

Name: VirtualOrganizations.factotumtunnel.viewer.portlet.test

Host: VirtualOrganizations.factotumtunnel.viewer.portlet.test

Remote Port: 5000

Localport: 7000 [Check Port Availability]

Share with other groups?

Please select the type of connection you want to create. If you want to use a generic connection please specify the application that will be used and arguments.

Connection Type: SSH Connection

Please type here the application that you want to use for this connection and the arguments it needs.

Application and arguments: null

[Save] [Delete] [NEW]

home back edit add topic

August 19, 2008

Display a menu

test of a GANMVL ultra-mobile station



useful features for GANMVL applications

- standard PC operating system: dedicated sw not needed (tested with WindowsXP)
- wired and wireless network connections
- touch screen and keyboard-mouse controls
- built-in microphone and camera(s)
- front camera for video conferencing and rear camera for site/equipment inspection
- switch between cameras while connected
- GPS external device can automatically include position information
- video and USB ports for more “comfortable” in/out

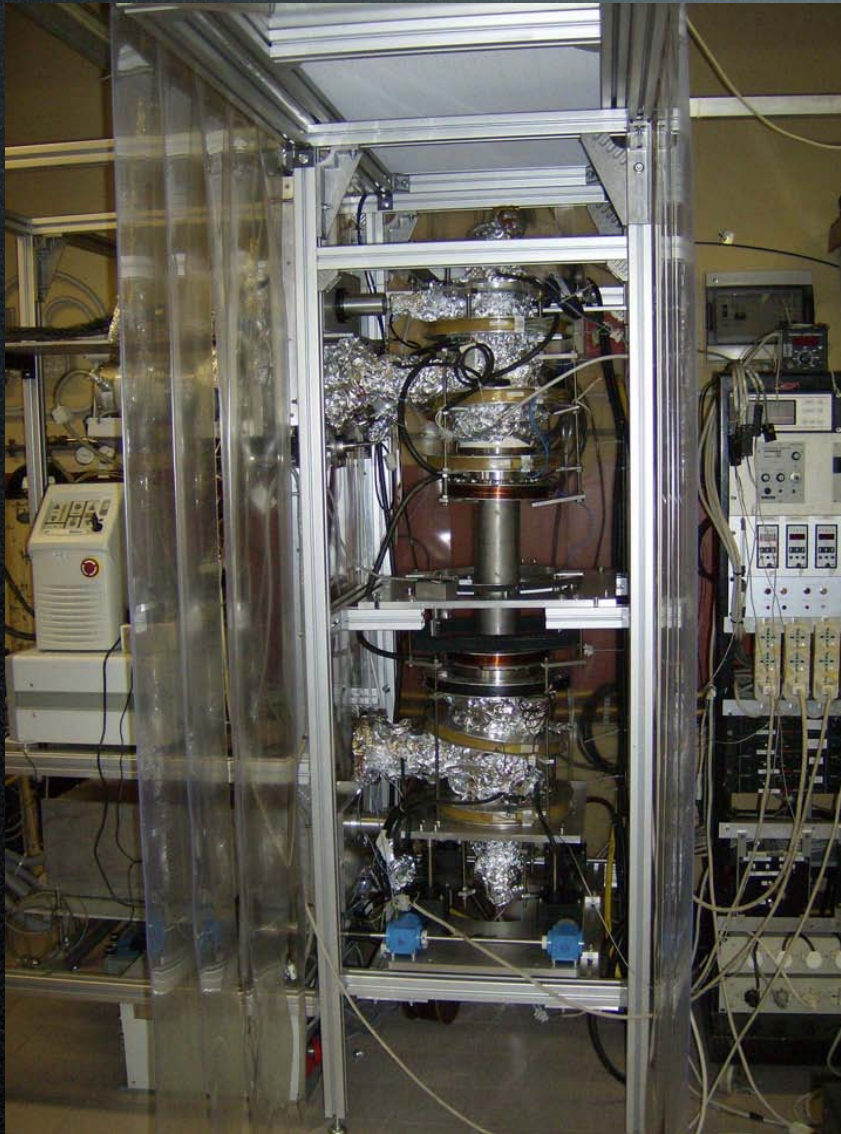
single click operations



possible GANMVL applications

- site/equipment inspection
 - VERY portable GANMVL station
 - to be used for troubleshooting in the tunnel or in the equipment/experimental hall while connected with a remote expert
 - inspect and communicate with a single application (e.g. Skype)

the remote control of the SC films lab.



access from remote:

- main equipments interfaces
- operations control panel
- e-logbook

the remote control of the SC films lab.

GridSphere Portal - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Getting Started EUROTeV Portal

Knowledge Management GAN Portal

Welcome to GAN

resource browser

Global Accelerator Network

- desy
 - camera
 - confpcs
 - eLogbooks
 - Scope
 - VNC sessions
- eisberg
- admin
- eisberg

Calendar

January 2007

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Both Private and Virtual Organization Events

Private Event(s)

Virtual Organization Event(s)

From 00:00 To 24:00 **No appointments**

Transferring data from mvpmeet1.desy.de...

mvpmeet1.desy.de

mass spectr. via VNC

Ion Current [A]

Mass [amu]

EUROTeV

the remote control of the SC films lab.

The screenshot displays a remote control interface for a laser system, accessed via a web browser. The interface is titled "GridSphere Portal - Mozilla Firefox" and shows a URL: <https://mvpmeet1.desy.de/gridsphere/gridsphere?cid=GAN+Portal>. The main content area is titled "Global Accelerator Network Multi" and "EUROTeV". A navigation bar includes "Knowledge Management" and "GAN Portal". Below this, a "resource browser" window shows a tree view of resources. The central control panel displays various parameters and controls:

- Info: Energy of first pyroelectric/time.
- Date: 17.10.2005 Time: 12:22:00
- Save default
- X: 112.625 Y: 31
- Lamp mode: Internal QSW mode: Inter
- Frequency, Hz: 11
- Lamp energy, J: 6.3
- Q-SW delay, us: 100
- Output energy, mJ: 31
- Scan mode: Normal
- Buttons: Scan, Lamp, Q-SW, Shutter, Stop
- Status: The Laser in the operational mode.
- Calendar: Shows a calendar for January with dates 1, 7, 14, 21, 28.
- Events: Both Private and Virtual Organization Events, Private Event(s), Virtual Organization Event(s).
- Appointments: From 00:00 To 24:00 No appointments

A histogram window on the right displays a distribution curve with the following statistics:

The mathematical statistics	
Mean	= 24.072
Dispersion	= 121.718
Probability	= 26.496 % (155 of 585)
Mean-Square Deviation	= 11.033
Fluctuation	= 45.83 %
Deviation	0

A blue speech bubble with white text is overlaid on the right side of the interface, stating: "laser controller via VNC". The bottom of the interface shows a status bar with "Transferring data from mvpmeet1.desy.de..." and "mvpmeet1.desy.de".

the remote control of the SC films lab.

GridSphere Portal - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://myvmeet1.desy.de/gridsphere/gridsphere?cid=GAN+Portal

Getting Started EUROTeV Portal

Global Accelerator Laboratory

Logout
Welcome, admin

Knowledge Management GAN Portal

Welcome to GAN

resource brows

- Global Accelerator Laboratory
 - desy
 - camera
 - confpcs
 - eLogbooks
 - Scope
 - VNC sessions
 - eisberg
 - admin
 - eisberg

Calendar

January 2007

Su	Mo	Tu	We	Th
	1	2	3	4
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	29	30	31	

Both Private and Virtual Events

Private Event(s)

Virtual Organization Events

From 00:00 To 24:00 No appointments

Transferring data from myvmeet1.d

ARCO eLogBook, Page 1 of 6

ARCO eLog

ARCO-drawings

New | Find | Select | CSV Import | Config | Logout | Menu

Select Filter Date:

End date: 05/20/05

Full | Summary | Threaded


Show last | All entries | Type: All entries | 110 Entries

Goto page 1, 2, 3, 4, 5, 6 Next All

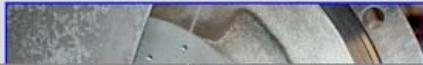
Subject	Type	Author	Date
Anomal peeling inside the N system	Problem	alessandro	Fri 2005-05-20, 10:35

We opened the N system.
A huge peeling was discovered, both on the sample holder, the shutter and the main chamber.
One of the zapphire sample, attached with silver paint fell down.
Here some pictures

Attachment 1: arco1.jpg



Attachment 2: arco2.jpg



ARCO

http://arcolog.roma2.infn.it

May 2005

Mo	Tu	We	Th	Fr	Sa	Su
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

access the eLogbook

conclusions

- access to research facilities from remote is becoming an issue for scientific collaborations, (almost) independently of their size
- GANMVL could provide a valid support for remote operations, maintenance and troubleshooting