



GISELA

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Abstract: This document describes the GISELA activities and achievements during the third semester of the Project (September 2011 to February 2012). It is shown that the GISELA results have been guided by the Reviewers' recommendations following the First-year Project Review (15/09/2011) and the Extra Project Review (08/12/2011).



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1. PURPOSE OF THE DOCUMENT

This document aims at describing all the relevant activities of the GISELA Project during the reporting period 01/09/11 - 29/02/12. The achievements of the project are reviewed and the advances of the activities are presented. Financial matters are also addressed. Reviewers' recommendations expressed in the Technical Reports following the First-year Project review (15/09/2011) and the Extra Project Review (08/12/2011) have been taken into account.

For a comprehensive view of the Project and of the GISELA Consortium, the Description of Work (DoW)¹ and the Consortium Agreement (CoA)² should be consulted.

1.1. DOCUMENT ORGANISATION

Section 2 gives an Executive Summary of the achievements presented in the document. In Section 3, the six Work packages, WP1 to WP6, and the CLARA Transition Team (CLARA TT), expose their progress and their short-term plans. Conclusions are drawn in Section 4.

1.2. APPLICATION AREA

This activity report should enable both the EC to assess the status of GISELA and the Partners to have a synthesised view of the Project advancement, as compared to the goals and milestones set in the DoW and upgraded after the 1st-year Review and the Extra-Review.

1.3. DOCUMENT AMENDMENT PROCEDURE

Amendments to this document can be requested by any Project Member to the Project Coordinator, via the Project Office (hlp-gisela@hlpdeveloppement.fr).

1.4. GLOSSARY

CIEMAT	Centro de Investigaciones Energéticas Medio Ambientales y Tecnológicas (Spain)
CLARA TT	CLARA Transition Team
CoA	Consortium Agreement
DoW	Description of Work
EAC	External Advisory Committee
EC	European Commission
EGI	European Grid Initiative
gLite	Lightweight middleware for Grid Computing

¹ <http://documents.gisela-grid.eu/record/32?ln=en>

² Consortium Agreement (CoA) available upon request to the GISELA Project Office (hlp-gisela@hlpdeveloppement.fr)

GGUS	Global Grid User Support
GOC	Grid Operation Centre (Regional Operations, GISELA context)
GSC	GISELA Science Gateway
HLP	HLP Développement SAS (France)
IGALC	Iniciativa de Grid de America Latina - Caribe
NGI	National Grid Initiative
OLA	Operation Level Agreement
OurGrid	Opportunistic Grid Middleware (www.ourgrid.org)
PC	Project Coordinator
PO	Project Office
RC	Resource Centre
ROC	Regional Operation Centre (EGI context)
ROC_IGALC	The IGALC ROC (www.igalc.org)
SG	Science Gateway
TB	Technical Board
TC	Technical Coordinator
VO	Virtual Organisation
VRC	Virtual Research Community
WP	Work package
WP1	Administrative and Technical management of the Project
WP2	Dissemination and Outreach
WP3	User Communities Support
WP4	NGI / LGI Infrastructure Services
WP5	Network Resource Provision
WP6	Infrastructure and Applications-oriented Services for User Communities
XGUS	Regional version of GGUS

2. EXECUTIVE SUMMARY

This Intermediate Activity Report presents the GISELA achievements during the third semester of the Project (September 2011 to February 2012) through progress reports of the various Work Packages.

The accomplishments over the period have been much influenced by the Recommendations of the First year Project Review (15/09/2011) and the Extra Project Review (08/12/2011).

Indeed, these Recommendations induced a major evolution of the Project objectives towards the development and deployment of a VRC-driven GISELA Science Gateways (GSG). The expectation is that it will stimulate new Latin American Scientific Communities to adopt the CLARA Advanced Computing Services (ACS) derived from the current GISELA Grid Services and therefore ease their future marketing through the CLARA Business Plan.

WP1 - Administrative and Technical Management

The inclusion of the ten (10) 3rd Parties foreseen since the first Intermediate Report was delayed due to several administrative issues. It has eventually been officialised. The long unresponsiveness of RAAP (Peru) came to an end in December 2011 and a new legal representative and a contact person have been appointed.

In the context sketched in introduction, the efforts of the Management, beside the baseline Administrative Tasks and the Technical Coordination, have been focused on supporting the various Work Packages involved in the development, commissioning and dissemination of the GSG.

WP2 - Dissemination and Outreach

In the spirit of developing the dissemination of the Project while complying with the recommendations of the Reviewers, WP2 has:

- Interacted with several new User groups from the RedCLARA Applications Committee, such as the Venezuelan Computational Modelling Centre (*CMC* - Centro de Modelado Científico - <http://cmc.org.ve/>), Regional Communities in seismology and bioinformatics to identify Applications that could profitably run on GISELA. One group from the Geophysical Laboratory of the Universidad de Los Andes (Venezuela) is already deploying applications;
- Cooperated with WP3 ("*User Communities Support*") to the deployment of the GISELA Sciences Gateway (GSG) by
 - Participating in the realization of its Web implementation
 - Setting up an e-Infrastructure Virtual Day on May 2, 2012, to spread the functionality of Science Gateways for Grid users.
- Pursued actively its baseline activities such as caring of the Website update, releasing the second GISELA Bulletin and a special issue of it, and publishing appealing flyers on the "*10 Good Reasons to Become a GISELA User*" and on the RedCLARA Advanced Computing Services.

WP2 is currently working on the organisation and dissemination of the Joint GISELA-CHAIN Conference to be held in Mexico City (27th – 29th June 2012) - <http://www.gisela-grid.eu/conference>.

WP3 – User Communities Support

Besides dealing with the usual User support tasks, WP3 achievements have fostered on the development and deployment of the GISELA Science Gateway. This had direct implications on both the VRC support and the Training activity.

- **VRC Support:** For the VRCs, the implementation of the GSG Website included the release of a new and simpler Authentication mechanism controlled by Identity Federations and the creation of a new Applications registry allowing easy submission of Applications.

Three GSG Web sections have been created for Life Sciences, Mathematics and Industry, providing complete information on these VRCs and their Applications. First Applications have been ported to the GSG, such as GATE, R, OCTAVE, Phylogenetics, ClustalW, Industry@Grid.

A survey to find out Applications to be ported to the GSG has got positive feedback from 5 communities.

The promotion of the GSG has been another preoccupation of WP3. VRCs from Life Sciences (e-Health, outGRID, Central American Bio-Informatics network), Earth Science (Seismology, Weather / Climate change) and Industry (Cámara Nacional de la Industria de Transformación - Mexico) have been contacted over the last months with the help of WP2.

- **Training:** On top of ordinary training events, several initiatives have been taken to stimulate the use of the GSG. A number of Virtual meetings have been held with precise goals such as
 - Creating a CLARA & NRENs Task Force on Science Gateways;
 - Appointing GSG “Ambassadors” and iii) how to deploy the 1st Applications on the GSG.

Self-training material has been produced to support upcoming Science Gateways Application Schools.

WP4 – NGI / LGI Infrastructure Services

WP4 is now presenting the usage of the e-Infrastructure in terms of accumulated wall-time hours, for all the VOs supported by the project. It shows that the use of GISELA has been fairly constant over the reporting period.

The occupancy of the e-Infrastructure is also presented. It reveals that Resource Centres offering the largest numbers of CPUs are the most solicited as if users would prefer to concentrate the running of their Applications on those powerful sites.

WP4 had the task to ensure the proper technical deployment of the Applications ported to the GISELA Science Gateway.

Three new Resource Centres from CETA (Spain), UFCG-LSD and CEFET-RJ (Brazil) have been integrated into the e-Infrastructure. As of the end of the reporting period 1658 gLite and 264 OurGrid CPU cores compose the e-Infrastructure. Furthermore the production VO has access to 3054 CPU cores from non-GISELA RCs.

Finally WP4 is preparing the handover of the management of the e-Infrastructure to CLARA and NRENs.

WP5 – Network Resource Provision

A nice step forward has been accomplished by WP5 in delivering its *Network Resource Provision Operational Manual* - <http://documents.gisela-grid.eu/record/321?ln=en>. This comprehensive document aims at guiding the System Administrators of Resource Centres in all their Network Support activities. Its procedures cover the whole Network Operation from the Resource Centre integration, its certification, the registering procedure of Network issues to their follow up. The set of procedures involves a direct, well defined interchange of information between the RC System Administrator and the Network Operation Centre (NOC) of RedCLARA.

Special attention is given to the test and monitoring of the network performance at the NOC level. The Monitoring platform has got a new Measurement Point installed in the new RC at Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA) in Ecuador.

CEDIA has also organized with the collaboration of WP3, a course covering most aspects of Grid computing. It has been attended by 33 people.

Regarding the CLARA Business Plan, the WP5 team has developed the prototype of the workflow to access the future Advanced Computing Services.

WP6 – Infrastructure and Application-oriented Services for User Communities

Over the reporting period, WP6 has both supported and enhanced the services already available in the GISELA portfolio and collaborated to development of new Services such as the GISELA Science Gateway.

Support of exiting Services

- DIRAC has undergone several updates. Presentations for DIRAC Administrator Tutorial have been prepared;
- The OurGrid middleware has been the subject of several improvements to ease its installation on Resource Centres.

Provision of new Services

- In collaboration with WP3, The GISELA Science Gateway (GSG) has been developed using international standards for Web Portal development and the Simple API for Grid Applications (SAGA) particularly useful for a multi-middleware e-infrastructure such as GISELA;
- The Customised Virtual Cluster (CVC) Services have been upgraded for better user interactivity with the CVC unaGrid platform at Uniandes.
- The OurGrid middleware has been enhanced to support Cloudbursting to a public Cloud computing provider. A poster entitled “Cloudbursting a Peer-to-Peer Grid” that describes this work will be presented at the EGI Community Forum in March 2012.

CLARA Transition Team

The CLARA Transition Team is now interacting actively with all Work Packages and contributing effectively to their achievements.

In collaboration with WP2 and WP3, the Team is raising awareness in the thematic communities and NRENs to use the Science Gateway Service Model. It has identified three communities interested from Seismology & Disaster Mitigation, Bioinformatics and Cultural Heritage.

With WP3, the Team is preparing a set of tutorials for the applications ported in the GSG framework. Targeted to students of graduate courses.

The Team has also been very instrumental in contacting new communities in collaboration with WP2 and in the creation of the CLARA & NRENs Task Force on Science Gateways, mentioned respectively in the WP2 and WP3 summaries above.

For the elaboration of the Business Plan, it has initiated a series of actions to:

- Sensitise and inform its VRCs of the opportunities that Advanced Services could bring to their environment;
- Identify their real needs of Advanced Computing Services;
- Extend the technical potentialities and capacities of the Science Gateway;
- Train Research Communities on the use of the Science Gateway.

3. STATUS REPORT OF THE WORK PACKAGES

This section contains the status reports of all GISELA activities. For each of these, the following information is provided:

- Activities carried out;
- Deliverables completed and published;
- Milestones reached;
- Evolution of resources (human and material);
- Open issues and/or deviations from the work plan;
- Implementation of the Reviewer's recommendations;
- Plans for the next reporting period.

3.1. WP1 - ADMINISTRATIVE AND TECHNICAL MANAGEMENT OF THE PROJECT

3.1.1. Activities

3.1.1.1. *Project Management matters*

- **Consortium status**

As can be traced from Table 1 and Table 2 of the revised version of D1.3³, the inclusion of twelve (12) 3rd Parties in the Project was underway⁴. However, several administrative issues prevented 2 Mexican Institutions (ITV and UAEM) from joining the Consortium. This is now achieved and the actual 3rd Parties and their committed resources & human effort are listed in Table 1 and Table 2, respectively, of the current document. Since these institutions are actually active in the Project since its beginning, the insertion has been effective retroactively to 01/09/2010.

The long unresponsiveness of Beneficiary 11 (RAAP - Peru) came to an end in December 2011 and new legal representative and contact person have been named. During the Extra Project review (08/12/11), the Project Management was pleased to report a satisfactory interaction between all members of the Consortium.

³ <http://documents.gisela-grid.eu/record/214?ln=en>

⁴ CPPM and IPGP are indeed 3rd Parties of CNRS-France since the start of GISELA.

Table 1: GISELA Beneficiaries and their Third Parties

Country	Beneficiary Acronym / Number	Third Party Acronym	Third Party Full Name
BRAZIL	URFJ / 15	CEFET-RJ	Centro Federal de Educação Tecnológico Celso Suckow da Fonseca
CHILE	REUNA / 12	UFRO	Universidad de La Frontera
		UTFSM	Universidad Técnica Federico Santa María
COLOMBIA	UNIANDES / 18	PUJ	Pontificia Universidad Javeriana
		UIS	Universidad Industrial de Santander
MEXICO	UNAM / 17	CICESE	Centro de Investigación Científica y Educación Superior de Ensenada
		IPN - CIC	Instituto Politécnico Nacional - Centro de Investigación en Computación
		ITESM	Instituto Tecnológico y de Estudios Superiores de Monterrey
		UNISON	Universidad de Sonora
FRANCE	CNRS ⁵ / 5	CPPM	Centre de Physique des Particules de Marseille
		IPGP	Institut de Physique du Globe de Paris
PORTUGAL	UPORTO / 19	UMinho	Universidade do Minho

⁵ CNRS, involved on behalf of the Institut des Grilles (IDG), will work with the following Third Parties:

- Université de la Méditerranée Aix-Marseille II (UNIVMED), involved on behalf of the Centre de Physique des Particules de Marseille (CPPM, UMR6550). UNIVMED will not support any human effort (0 PM) and therefore will not declare cost in relation with the GISELA project. However, as UNIVMED and CNRS are both legal entities forming the CPPM Joint Research Unit, UNIVMED has to be named as such in the GISELA Grant Agreement.
- Institut de Physique du Globe de Paris (IPGP), involved on behalf of the Institut de Physique du Globe de Paris (IPGP, UMR7154), which will be mobilised on WP3 in relation with Earth Sciences Applications.

Table 2: Third Parties Committed Resources and Human Effort

Country	Beneficiary Acronym / Number	Third Party Acronym	Third Party Committed Resources	Third Party Committed Human Effort (PMs)
BRAZIL	URFJ / 15	CEFET-RJ	22 Cores / 1 TB	6
CHILE	REUNA / 12	UFRO	12 Cores / 3 TB	4
		UTFSM	44 Cores / 5 TB	12
COLOMBIA	UNIANDES / 18	PUJ	18 Cores	6
		UIS	16 Cores / 1 TB	24
MEXICO	UNAM / 17	CICESE	16 Cores	3
		IPN - CIC	20 Cores	3
		ITESM	18 Cores	3
		UNISON	20 Cores	3
FRANCE	CNRS / 5	CPPM	--	26
		IPGP	40 cores	12
PORTUGAL	UPORTO / 19	UMinho	16 Cores / 0.1 TB	4
Third Parties Contribution			242 Cores / 10.1 TB	106

• Technical Coordination Matters

The Recommendations of the First-year Project Review (15/09/2011) and the Extra Project Review (08/12/2011) have induced a major evolution of the Project objectives towards the development and deployment of a VRC-driven GISELA Science Gateways (GSG).

The expectation is that it will stimulate new Latin American Scientific Communities to adopt the CLARA Advanced Computing Services (ACS) derived from the current GISELA Grid Services and therefore ease their future marketing through the CLARA Business Plan.

In this context the efforts of the Technical Coordination, beside its baseline follow up of the project progress, have been focused on supporting the various Work Packages involved in the development, commissioning and dissemination of the GSG.

3.1.1.2. Administrative Policies & Procedures

The reference document that governs the GISELA Administrative Policies & Procedures, the so-called “GISELA Project Management Modus Operandi” - <http://documents.gisela-grid.eu/record/26?ln=en>, has been regularly updated following successive changes in the Management of the Project.

3.1.1.3. Web site

During the course of the Project, regular improvements of the Web site have been performed:

- Updates of the contents of the existing pages;
- Creation of new pages: Science Gateways, Applications, Bulletin, Site Map, Publications, and Web site & Documents Server Analytics.

Figure 1 shows the current Home Page of the GISELA Web site.



- HOME
- ABOUT GISELA
- PROJECT ACTIVITIES
- HOW TO JOIN / COLLABORATE
- USER DOCUMENTATION
- EVENTS
- MONITORING & STATISTICS
- DOCUMENT SERVER
- PUBLICATIONS
- OUTREACH
- TIMESHEETS
- GISELA-2 WEBSITE
- WEBSITE & DOCUMENT SERVER ANALYTICS

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The GISELA Project (Grid Initiatives for e-Science virtual communities in Europe and Latin America) aims at:

- Implementing the Latin American Grid Initiative (LGI) sustainability model rooted on National Grid Initiatives (NGI) or Equivalent Domestic Grid Structures (EDGS), in association with CLARA, the Latin American NRENs and collaborating with the European Grid Initiative (EGI)
- Providing Virtual Research Communities (VRCs) with the e-Infrastructure and Application-related Services required to improve the effectiveness of their research.

The Project encompasses 19 Partners from 15 countries in Europe and Latin America.

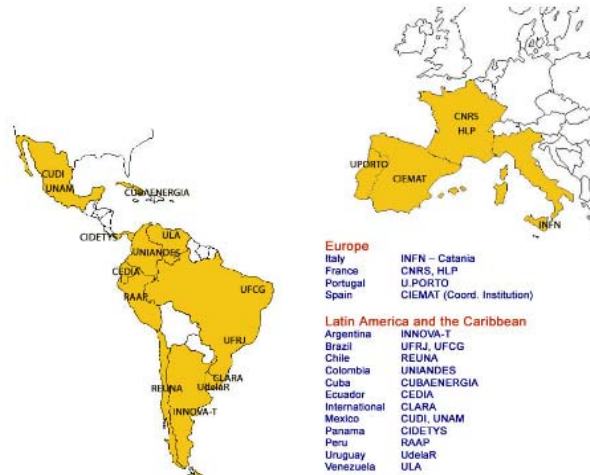


Figure 1: Current Home page of the GISELA Web site

3.1.1.4. Collaboration with WP2 and HLP to organise events

During the reporting period, the remote or face-to-face GISELA events, are those in Figure 2. The purpose of the CLARA TT f2f Meeting was to prepare the final version of the Business Plan.

GISELA EVENTS SERVER

You will find entries to GISELA events: past and programmed ones.

GISELA EVENTS

Date	Event	Place
14-16 Nov 2011	CLARA-TT f2f Meeting	Bucaramanga - Colombia
03 Nov 2011	Session with management and research in risk prevention and seismic issues communities	Videoconference
01 Nov 2011	Session with Information Technology Directors in Latin America	Videoconference
28 Oct 2011	Session with experts	Videoconference
27 Oct 2011	Session with national academic networks in Latin America	Videoconference

Figure 2: GISELA events organised between M13 and M18

3.1.1.5. Management participation in / contribution to external events

During the reporting period, the Project Management attended the following events with the corresponding contributions:

- **EGI Technical Forum, 19th - 23rd September 2011 (Lyon – France)**
 - Event URL: <http://tf2011.egi.eu/>
 - Presentations:
 - “GISELA: A Resource Provider - An opportunity for VRCs”: <http://documents.gisela-grid.eu/record/255>
- **4th Latin American Conference on High Performance Computing - CLCAR 2011, 5th to 9th September 2011 (Colima - Mexico)**
 - Event URL: <http://clear.itcolima.edu.mx/>
- **EVALSO - ELLA Meeting, 17th – 18th October 2011 (Rio de Janeiro - Brazil)**
 - Event URL: http://ec.europa.eu/information_society/events/ict/2010/index_en.htm
 - Presentation:
 - “A Grid Story in LA: from EELA to CLARA via GISELA” <http://documents.gisela-grid.eu/record/273?ln=en>
- **XVII Argentine Congress on Computer Sciences (CACIC), 10th to 14th October 2011 (La Plata - Argentina)**
 - Event URL: <http://cacic.info.unlp.edu.ar/index.php>
- **Capacidades de Cómputo para la investigación en Chile, 17th February 2012 (Santiago de Chile - Chile)**

- Event URL:
http://reuna.cl/index.php?option=com_content&task=view&id=1764&Itemid=345
- Presentation:
 - “Comunidades de Investigación y Servicios de Computación Avanzada”
<http://documents.gisela-grid.eu/record/308?ln=en>
- **outGRID - ITU High Level Workshop, 20th - 21st February 2012 (Geneva – Switzerland)**
 - Event URL: http://www.outgrid.eu/site/pagine/final_event.php
 - Presentation:
 - “GISELA: A Resource Infrastructure Provider - An opportunity for Virtual Research Communities”
<http://documents.gisela-grid.eu/record/320?ln=en>
- **International Symposium on Grids and Clouds (ISGC) 2012, 26th February to 2nd March 2012 (Taipei - Taiwan)**
 - Event URL: <http://event.twgrid.org/isgc2012/index.html>
 - Presentation:
 - “A sustainable future is in the hands of RedCLARA and the Latin American NRENs”
<http://documents.gisela-grid.eu/record/327?ln=en>

3.1.2. Deliverables

The only WP1 Deliverable due during the reporting period is the current one (D1.5 – 2nd Intermediate Activity Report)

3.1.3. Milestones

The *Assessment of the implementation of the CLARA Sustainability Model* (Milestone #4) is provided in Section 3.1.7.

3.1.4. Human Resources

Table 3 provides the breakdown of the WP1 human resources. As can be seen, the technical coordination of the Project has been changed, Luis A. Nuñez de Villavicencio Martinez and Ramon Diacovo replacing Luis A. Trejo Rodriguez and Raul Ramos Pollán, respectively.

Table 3: WP1 Human Resources

Name	Role	Institution
Bernard Marechal	Project Coordinator - WP1 Manager TWP1.1 Task Leader	CIEMAT / UFRJ
Philippe Gavillet	Deputy Project Coordinator - WP1 Deputy Manager	CIEMAT / CERN
Salma Jalife Villalón	Deputy Project Coordinator - WP1 Deputy Manager	CUDI / CLARA
Luis A. Nuñez de Villavicencio Martinez	Technical Coordinator TWP1.3 Task Leader	UIS
Roberto Barbera	Deputy Technical Coordinator TWP1.2 Task Leader	INFN
Ramon Diacovo	Deputy Technical Coordinator	UFRJ
Carmen Martin Moreno	CIEMAT Administrative Officer in EELA-2	CIEMAT
Fabien Marty	Financial Manager - Head of the Project Office	HLP
Magdalena Salik	Project Office support	HLP
Thomas Woerly	Webmaster and HLP PROMERA tool manager	HLP
Patricia Danjoie	Project Office support	HLP

In addition, GISELA benefits from:

- The kind and efficient help of Guillermo Díaz and his team at CETA-CIEMAT who manage both the Indico and Invenio Servers for Events and Documents, respectively;
- The support of WP4 for the maintenance of the mailing lists of the project.

3.1.5. Financial matters

Human effort (PMs) and corresponding costs during the reporting period are shown in Table 4 and Table 5, respectively. In Table 4, the *acronyms in italic* refer to *Third Parties* linked to Beneficiaries.

Table 4: Human effort for the reporting period (M13 – M18)

	WP1	WP2	WP3	WP4	WP5	WP6	TOTAL
CIEMAT	7.2	0	3.9	1.7	0	0	12.8
CEDIA	0	0	0	0	0	0	0
CIDETYS	0	2.3	3.7	0	0	0	6
CLARA	2.8	7.2	0	0	0	0	10

	WP1	WP2	WP3	WP4	WP5	WP6	TOTAL
CNRS	0	0	0	0.4	0	2.9	3.3
<i>UNIVMED</i>	0	0	0	0	0	0	0
<i>IPGP</i>	0	0	0	0	0	0	0
CUBAENERGIA	0	0	2.7	0	0	0	2.7
CUDI	6.6	0	0	0	0	0	6.6
HLP	1.7	0.6	0	0	0	0	2.3
INFN	0	0	6	0	0	0	6
INNOVA-T	0	0	0	0	0	0	0
RAAP	0	0	0	0	0	0	0
REUNA	0	0	0	0	0	0	0
<i>UFRO</i>	0	0	0	0	0	0	0
<i>UTFSM</i>	0	0	0	1.7	0	0	1.7
UdelaR	0	3.5	11.3	0	0	0	14.8
UFCG	0	0	0	7.2	0	16.9	24.1
UFRJ	0	0	0	11.7	0	0	11.7
<i>CEFET/RJ</i>	0	0	6.8	0.1	0	0	6.9
ULA	0	3.1	0	0	0	0	3.11
UNAM	0	0	0	0	0	0	0
<i>CICESE</i>	0	0	0	0	0	0	0
<i>IPN</i>	0	0	0	0	0	0	0
<i>ITESM</i>	0.2	0	0.1	0.1	0	0	0.4
<i>UNISON</i>	0	0	0	0	0	0	0
UNIANDES	0	1.6	4.7	8.7	0	5.7	20.720.7
<i>PUJ</i>	0	0	2	0	0	0	2
<i>UIS</i>	0	0	0	2	0	0	2
UPORTO	0	0	0	0.9	0	0	0.9
<i>UMinho</i>	0	0	0	0	0	0	0
TOTAL	18.5	18.3	41.2	34.5	0	25.5	138

As can be seen, the actual human effort reported for the period is lower than the one that could be expected, possibly because:

- As usual, many people did not provide their working hours, in spite of several requests;
- Several 3rd Parties did not provide any information;
- The reporting period coincide with the holiday period in most of the Latin American countries.

In Table 5, for sake of simplicity, the personnel costs are those of the Beneficiaries **and** of their related Third Parties.

Table 5: Project direct costs for the reporting period (M13 – M18) - Euros

	WP1	WP2	WP3	WP4	WP5	WP6	TOTAL
CIEMAT	28,022	0	15,179	6,616	0	0	49,817
CEDIA	0	0	0	0	0	0	0
CIDETYS	0	3,150	0	4,995	0	0	8,100
CLARA	3,640	9,360	0	0	0	0	13,000
CNRS	0	0	0	2,387	0	17,306	19,693
CUBAENERGIA	0	0	2,700	0	0	0	2,700
CUDI	8,580	0	0	0	0	0	8,580
HLP	10,200	3,600	0	0	0	0	13,800
INFN	0	0	30,000	0	0	0	30,000
INNOVA-T	0	0	0	0	0	0	00
RAAP	0	0	0	0	0	0	0
REUNA	0	0	0	1,700	0	0	1,700
UdelaR	0	6,125	19,775	0	0	0	25,900
UFCG	0	0	0	11,880	0	27,885	39,765
UFRJ	0	0	12,852	22,302	0	0	35,154
ULA	0	6,200	0	0	0	0	6,200
UNAM	200	0	100	100	0	0	400
UNIANDES	0	1,600	6,700	10,700	0	5,700	24,700
UPORTO	0	0	0	3,270	0	0	3,270
TOTAL	50,642	29,990	87,306	63,950	0	50891	282,779

Figure 3 and Figure 4 show, respectively, how the current human effort and corresponding costs at M18 compare to the total human effort (PMs) and associated personnel costs (Euros) foreseen for the whole duration of the project. Here again, information concerning Third Parties is included in the Beneficiaries one.

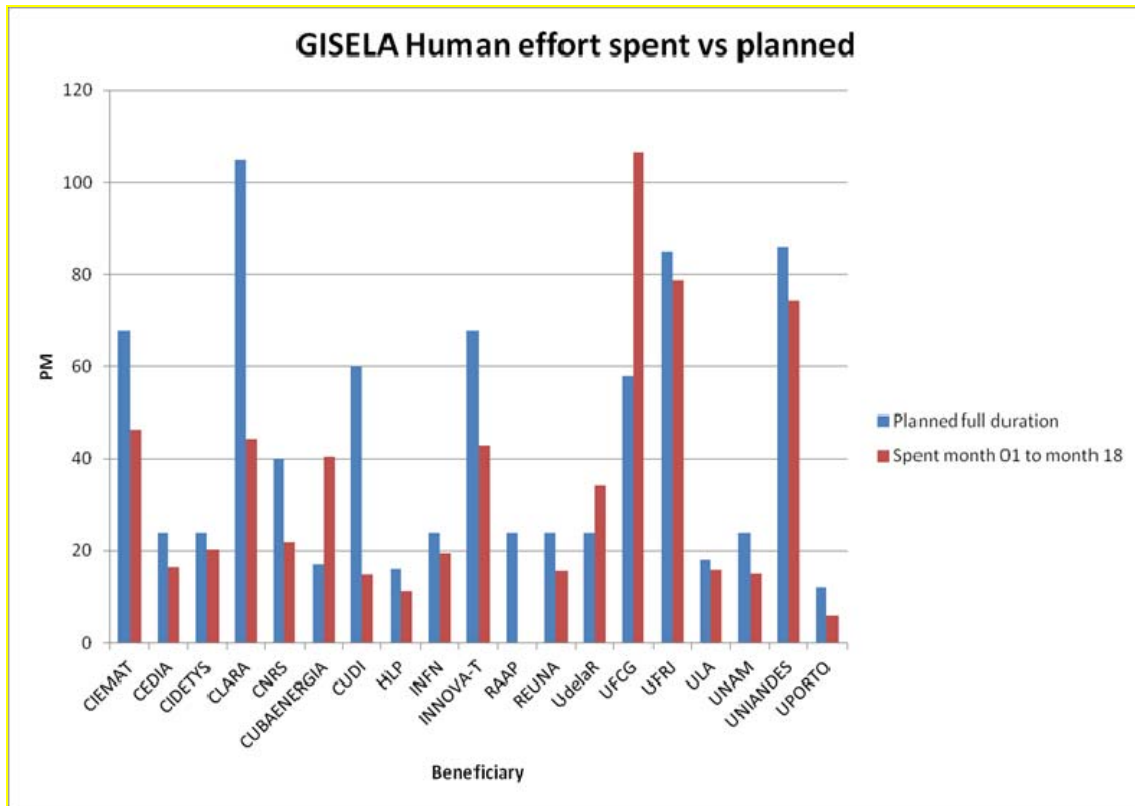


Figure 3: Current (at M18) and total (for a 2-year period) human effort

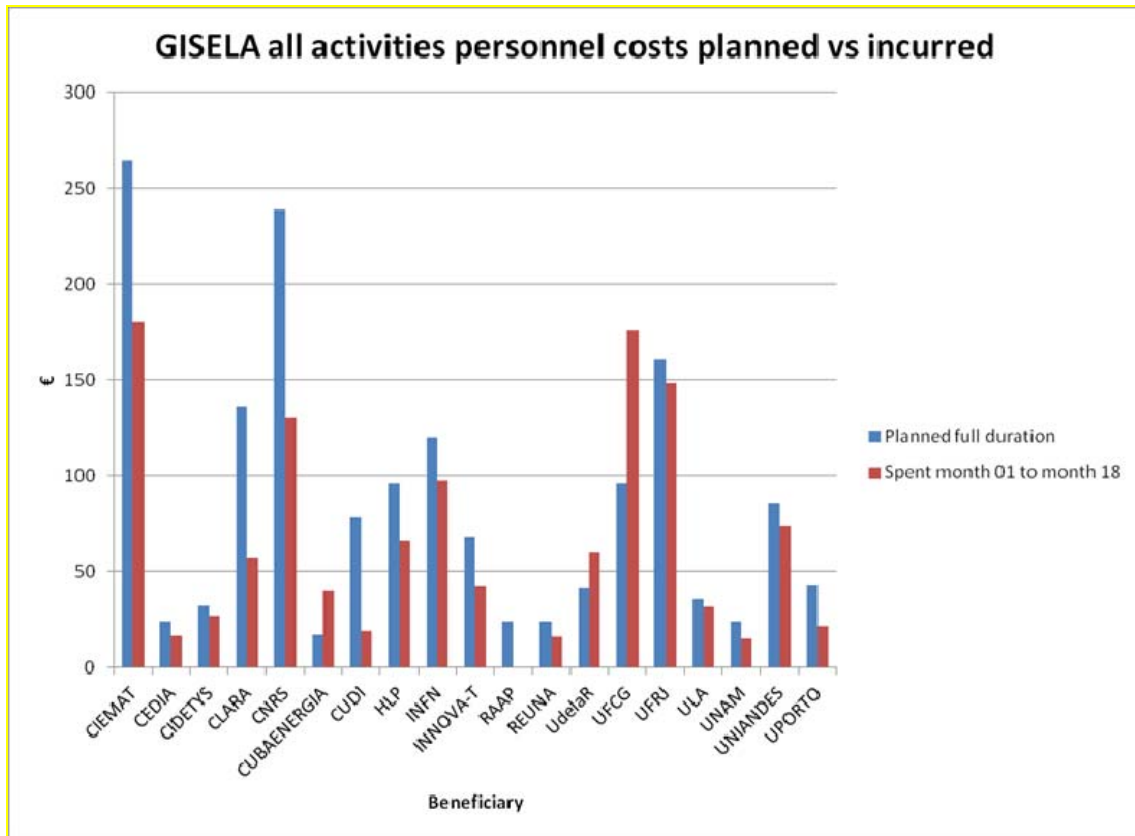


Figure 4: Personnel Costs incurred at M18 and Total Personnel Costs for 2 years

3.1.6. Short-term issues

Considering the GISELA objectives, the current and important issues are still:

- To overcome the unresponsiveness of some beneficiaries;
- To ensure that committed resources (human and computing power & storage) are actually provided;
- To guarantee the accomplishment of the Project activities, in particular those dealing with dissemination and training, in spite of the lack of funds (the second installment has not been yet released).

3.1.7. Implementation of the Reviewer’s recommendations

Recommendation 1.3: the project should include the identified key sustainability components in the business plan and report on how they have been taken into consideration.

Recommendation 1.4: *the project should continuously apply the stated plan/do/check/act methodology, and report on this continuous monitoring and updated actions at the next review.*

Recommendation 1.5: *the project should present at the next review evidence in comparison to the actual situation at this review of the progress and overall success achieved within the remaining months, i.e. increase in use of infrastructure, increase of actual users, increase of the registered entities in CLARA web site, increase of applications, etc.*

(Also for the CLARA TT): *The project should identify which stakeholders and users are important for its future, in terms of:*

- *Policy makers and*
- *Industrial and scientific users and user groups*

For them, set a plan for which are important for the sustainability and how they are going to be reached. This should go in line with the requested action plan for the implementation of the D1.4 which should soon be developed and reported in D1.5 and also immediately put in action by all partners.

(Also for the CLARA TT): *The interaction with CLARA/RedCLARA is very important for the region and should be continued. After signing a MoU with ERINA+ it could be useful to consult them concerning appropriate measures for success.*

As witnessed by the minutes of the Management⁶ and Technical⁷ Boards, the GISELA Management is permanently following the progresses of the implementation of the Business Plan and of the progressive handover of the activities to RedCLARA and the NRENs.

The new GISELA Technical Coordinator being also the Coordinator of the RedCLARA Academic Affairs, the interaction between GISELA and RedCLARA has been strengthened, contributing to speed up both the implementation of the Business Plan and the handover process.

Recommendations 1.3, 1.4 and 1.5 are addressed in the status reports of WP2 (Section 3.2), WP3 (Section 3.3), WP6 (Section 3.6) and CLARA TT (Section 3.7).

3.1.8. Plans for the next reporting period

GISELA is going to end within 6 months and the Project Management will focus its attention to the completion of the main Project objectives as defined in the DoW:

- To ensure the sustainability of the EU-LA e-Infrastructure;
- To support Virtual Research Communities

⁶ <http://documents.gisela-grid.eu/collection/MB-minutes?ln=en>

⁷ <http://documents.gisela-grid.eu/collection/TB-minutes?ln=en>

This will require an active participation of every Work Package, in particular of WP2, WP3 and of the CLARA TT.

The next reporting period should witness the conclusion of the handover of GISELA activities to RedCRA and NRENs. This handover is of most importance after 6 years of efforts in EELA, EELA-2 and GISELA, and because no GISELA-2 Project is foreseen.

Besides this, WP1 will follow very closely the integration of Resources Centres and the, as intensive as possible, use of the GISELA e-Infrastructure by the VRC teams.

3.2. WP2 - DISSEMINATION AND OUTREACH

3.2.1. Activities

From September 2011 to February 2012 (M13 to M18), the following activities related to, but not exclusive of, WP2 took place.

WP2 is targeting specific groups:

- Work with the Computational Modelling Centre (CMC - Centro de Modelado Científico - <http://cmc.org.ve/>) in order to integrate its resources and applications in the GISELA e-Infrastructure.
- Interaction with groups that have ported applications on the GISELA e-Infrastructure to know
 - The status of their work;
 - The usage of their application(s);
 - If the application(s) could be helpful to other groups & areas, and if so, which ones.

Experts from various fields, members of the RedCLARA Applications Committee, are being consulted on the potential use of the available applications, according to the knowledge of regional communities and we are waiting for the next meeting of this Committee.

<http://www.cecalc.ula.ve/gisela/?p=413>

<http://www.cecalc.ula.ve/gisela/?p=410>

<http://www.cecalc.ula.ve/gisela/?p=405>

<http://www.cecalc.ula.ve/gisela/?p=398>

- Contacts have been made with regional communities in seismology and bioinformatics, advertising applications and detecting possible usage and collaborations. WP2 conducted a series of sessions, through videoconferences, with regional authorities in science and technology, experts and researchers, encouraging the discussion on the possible scenarios to consolidate a collaborative service of advanced computing in Latin America.

<http://www.cecalc.ula.ve/gisela/?p=363>

<http://indico.ceta-ciemat.es/categoryDisplay.py?categId=7>

The session with national networks confirmed that actions at national level are possible. However, almost every country is in favour for a proposal at a regional level. It has generally been recognised as a challenge to generate national state policies for the development of e-infrastructures and for the creation of a pilot experience. It has been proposed to create a loud voice regional block to encourage these policies, to organise a continent-wide conference during the GISELA Conference and to form a Regional Political Committee to work in this issue.

During the session with regional communities in Seismology it was agreed to put in contact the technical part of the groups with GISELA representatives to initiate a review of the technical aspects and select the most attractive applications for researchers, according to their expectations. As an outcome after the meeting, the Geophysical Laboratory of the Universidad de Los Andes (Venezuela) requested to start the first gridification experiences of their application, activity being done jointly by WP2, WP3 and representatives of the CLARA-TT.

<http://documents.gisela-grid.eu/record/285?ln=en>

WP2 is working with WP3 to improve the look of the GISELA Science Gateway (GSG):

<https://gisela-gw.ct.infn.it/>

To reinforce the impact and usage of the Gateway Science in the research communities in Latin America, the profile of an e-Infrastructure Virtual Day is being worked out. This Virtual Day will be held on May 2, 2012.

Concerning Dissemination activities:

- WP2 keeps updating constantly the GISELA website (<http://www.gisela-grid.eu/>), the online GISELA Bulletin (<http://www.cecalc.ula.ve/gisela/>) and providing information through the Project mailings lists and Twitter (@gisela_grid);
- The 2nd GISELA bulletin was released and announced through by third parties:
http://www.gisela-grid.eu/index.php?option=com_content&view=article&id=24&Itemid=28
- A GISELA Special Edition Bulletin was published and distributed:
http://www.gisela-grid.eu/index.php?option=com_content&view=article&id=24&Itemid=28
- WP2 is working on a bulletin to be released in April;
- A flyer enplaning the model of advanced computing services proposed by RedCLARA under the auspices of GISELA was produced and distributed:
http://www.cecalc.ula.ve/gisela/wp-content/uploads/2012/01/portafolio_sca.pdf
- Translation to Portuguese of the flyer *10 Good Reasons to Become a GISELA User*:
<http://documents.gisela-grid.eu/record/150/files/>
- A flyer on how to use the GSG was produced:
http://www.gisela-grid.eu/index.php?option=com_content&view=article&id=26&Itemid=30
- WP2 is working on the organisation and dissemination of the Joint GISELA-CHAIN Conference:
<http://indico.ceta-ciemat.es//conferenceDisplay.py?confId=26>

Finally, WP2 keeps committed in disseminating the relevance of the GISELA project and attracting relevant communities that can benefit from its e-Infrastructure and support.

3.2.2. Deliverables

There were no deliverables due for this period.

3.2.3. Milestones

There were no milestones programmed for this period.

3.2.4. Human Resources

The current human resources collaborating in WP2 are given in Table 6.

Table 6: WP2 Human Resources

Name	Role	Institution
Herbert Hoeger	WP2 Manager TWP2.1 and TWP2.2 Task Leader	ULA
Ysabel Briceño	WP2 Deputy Manager TWP2.3 Task Leader	ULA
María Eugenia Hernández	Design/Art	ULA
Maria Torres	Design/Art	ULA
Alicia Bohórquez	Translations	ULA
Tania Altamirano	Dissemination of GISELA news through CLARA bulletin/site	RedCLARA
Martha Ávila	Dissemination of GISELA news through CUDI bulletin/site	CUDI
Camilo Jaimes Ocazióne	Dissemination of GISELA news through RENATA bulletin/site	RENATA
Sérgio Afonso	Translation to Portuguese of the flyer <i>10 Good Reasons to Become a GISELA User.</i>	UPorto

3.2.5. Short-term issues

There are no short-term issues to report.

3.2.6. Implementation of the Reviewer's recommendations

Recommendation 2.2 (also for the CLARA TT, WP3 and also WP4, WP6): Establish a process for collecting feedback from the users as well as partners supporting the sustainability in order to understand what are missing services and features of the science gateway. Differentiate the feedback from different user groups and aim to identify ambassadors in the different communities in order to benefit from a multiplier effect. Ambassadors might be per region, per university or per application community or a mixture of all.

Points of the last report are still valid. In particular the change in the user interface from an e- Infrastructure based on GRIDs towards a science gateway needs to be spread to the community.

(From 1st Review, also for WP3, WP4) As mentioned above clear measures on user take-up need to be developed and employed. Existing users and user groups should be assessed and measured, strategies to further increase them should be presented and implemented.

Following the suggestions made by the reviewers of the project the following actions have been undertaken:

- WP2 contacted researchers of strategic areas in order to promote the use of the already integrated applications in the GSG:
 - Users of *Industry@Grid*, members of the CLARA TT and some experts in the field of industrial production have been invited to a presentation of the application that has been scheduled for the last week of February 2012;
 - Experts in the field of industrial production have been contacted to review the application features of *Industry@Grid* and to provide feedback;
 - Users of *CLUSTALW* have been contacted to integrate this application in the GSG.
- To encourage the integration of new applications in the GSG, a review was done and, for those applications with a potential demand, the possible interested parties are being contacted:
 - A technical agreement was promoted between WP3 and the seismology community, represented by the Department of Geophysics, University of Los Andes (Venezuela), for the gridification of SPECFEM3D, given the interest this community has in this application;
 - Assessments on the potential use of the application Metadock were followed by contacts with the Autonomous University of Mexico (UNAM) and the Universidad Nacional de Río Cuarto (UNRC) in Argentina. A survey will be launched through the Bio list, in collaboration with the Bioinformatics area of the National Centre for Scientific Computing at the University of Los Andes (Venezuela), to detect possible interest in this application and in others available in the area of Bioinformatics;
 - Regional contacts began with people involved with the management of Cultural Heritage, to detect interest in a pilot proposal for preservation of historic images,

using a G-Library application. Positive answers were obtained from Venezuela, Colombia and Mexico. A meeting is planned for late February with the promoters of the application in order to work out the nature of the pilot experience;

- A contact was established with the Centre for Scientific Modelling (CMC - Venezuela) to evaluate the possible gridification of *CavanaTuit*, an application developed by them to preserve and process statistical data of social networks, with potential interest for sociologists and journalists.

3.2.7. Plans for the next reporting period

WP2 will keep working on the following tasks:

- Organisation and running of the Joint GISELA-CHAIN Conference;
- Production of Bulletins to be released in April and August 2012;
- Promote the use of the GSC;
- Contact research groups to detect their needs in terms of applications that may be ported on the GSG.

3.3. WP3 – USER COMMUNITIES SUPPORT

3.3.1. Activities

All the activities performed by WP3 from September 2011 to February 2012 (M13 to M18) are listed below, split in activities for VRC support and for training.

The activity plan has been based on the new VRC Driven Science Gateway model as described in D3.3 (<http://documents.gisela-grid.eu/record/267?ln=en>).

3.3.1.1. VRC Support

- Deployment and validation of GISELA's VRC Driven Science Gateways Website (<https://gisela-gw.ct.infn.it/>):
 - Authentication based on username/password pair provided by an Identity Federation, hiding digital certificates.
 - Integration of several Identity Federations: SIR (Spain), IDEM (Italy), RCTSaa (Portugal), CAFè (Brasil);
 - Integration a catch-all federation to allow users coming from countries without a federation to exploit the GISELA SG capabilities (GrIDP, <http://gridp.ct.infn.it/>);
 - Access to the information on WP3, VRCs and Applications supported by GISELA;
 - Availability of a new concept of Applications registry allowing users to directly submit selected high impact applications on the GISELA e-infrastructure in an easy way;
 - Deployment and operation of first applications made available through GISELA's Science Gateways website: GATE, R, OCTAVE, Phylogenetics, ClustalW, Industry@Grid;
 - Creation of three sections, respectively for the Life Science, Mathematics and Industry VRCs. These sections contain specific information on the VRCs applications such as application characteristics, case studies and success stories. These Website areas are offered as specialised Science Gateways for the VRCs users assuming the role of access point to submit applications on the e-Infrastructure.
- Definition of a survey to identify applications to be integrated in the GISELA Science Gateway:
 - Five scientific communities asked us to integrate their applications on the SG;
- Promoting interest on GISELA's Science Gateways offer among several research communities. Below the most important communities contacted in the last months are listed:
 - Earth Science:
 - Seismology: UNAM - Mexico, ULA - Venezuela;

- Weather / Climate Change: UNICAN - Spain, INPA - Brazil, INPE - Brazil;
- Life Science:
 - e-Health: UNAL - Colombia, ITBA - Argentine, Instituto Oceanográfico de la Armada (INOCAR) - Ecuador, BioInfo Network in Central America;
- Industry:
 - Industry@Grid (Brazil), CANACINTRA (Cámara Nacional de la Industria de Transformación - Mexico);

3.3.1.2. Training

- Planning of upcoming training events;
- Virtual meetings for the organisation of planned Training Events in Ecuador (January 2012), Italy (February 2012), Italy (April & July 2012) and Colombia (June 2012);
- Coordination of specialised training for CEDIA system administrators (<http://indico.cetaciemat.es//conferenceDisplay.py?confId=25>)
- Coordination of specialised training for CEDIA system administrators;
- Virtual meetings to create the CLARA & NRENS Task Force on Science Gateway:
 - Identification of possible candidates in collaboration with CLARA & NRENS;
 - Interviews with the candidates;
 - Definition of the work-plan of the activities that will be performed in Italy.
- Organisation of the first virtual training (29th February 2012) event to integrate new applications on the SG;
- Virtual meetings to identify application “ambassadors”: the idea is to identify one or more expert for application that could explain to LA scientist how to exploit applications integrated on the SG. We just identified the “ambassadors” for GATE, Fernando Quiñones. He is a researcher of the LAGO Collaboration. He is organising a virtual seminar on GATE for the next 20th March (as listed in the updated training plan table);
- Self-training and knowledge acquirement to build LA tutors task force, qualified to support upcoming Science Gateways Application Schools;
- New self-training material for Science Gateways referred from GISELA Documents Server;
- Contacts and virtual meetings established with potentially interested groups;
- Support to WP2 for the dissemination and publication of new brochures, announcements, presentations concerning Science Gateways;
- Dissemination activities planned in collaboration with WP2 to promote Science Gateways;

- Document server analytics made available in the GISELA website (http://www.gisela-grid.eu/index.php?option=com_content&view=article&id=67&Itemid=45);

Table 7 shows the updated training plan.

Table 7: Updated GISELA Training Plan.

Month	Country	Targeted Audience	Focus-on	Co-organizers
16 th – 27 th January 2012	Ecuador	CEDIA site administrators	Installing RC and pledge resources	CEDIA <i>This institution funds travel of two tutors from Colombia and Venezuela</i>
13 th – 17 th February 2012	Italy	CIEMAT Applications developers	Integrating new applications in the GSGs;	CIEMAT
29 th February 2012	<i>Internet</i>	LA Application Developers	Integrating new applications in the GSGs;	CLARA, NRENS
20 th March 2012	<i>Internet</i>	LA Scientists	How to use GATE applications on the GSG	CLARA, NRENS
April - July 2012	Italy	CLARA & NRENS Task Force	GSG Management; Building Capacity on Identity Federation; Integrating new applications in the GSG;	CLARA, NRENS and EPIKH
28 th May -1 st June 2012	Colombia (Bucaramanga)	Building system administrators capacities	Building a group able to manage GOCs	EPIKH, RENATA <i>EPIKH accepted to fund tutor travels to Colombia</i>
4 th June – 15 th June 2012	Colombia (Bogota)	Research communities active in bioinformatics, biomedicine and medical image processing.	Integrating new applications into SGs; Disseminating available SGs in LA;	EPIKH, RENATA <i>EPIKH accepted to fund tutor travels to Colombia</i>

3.3.1.3. WP3 Metrics

Table 8 presents the WP3 metrics, showing the their status nowadays as compared with the official value set for year-1 and year-2 in the DoW.

Table 8: WP3 Metrics

Quality metric	Current Status	After year I	After year II
1 Number of supported VRCs	4	≥ 2	≥ 3
2 Number of application's groups from Latin America	19	≥ 15	≥ 36
3 Number of training events	6	≥ 1	≥ 4
4 Number of self-training material (video-lessons or guideline documents)	44	≥ 20	≥ 40
5 Number of papers published	5	≥ 5	≥ 20

Table 9 shows the status of additional metrics defined in D3.3 to better understand the WP3 activity status.

Table 9: WP3 Additional Metrics

Quality metric	Current status	Expected outcome Y2
1 Number of Active Users in the catch-all VO (prod.vo.eu-eela.eu)	94	100
2 Number of Active Users in the VRC-driven Science Gateway	75	100
3 Number of Applications in production status on the e-Infrastructure	46	40
4 Number of Applications integrated in VRC-driven Science Gateways	6	15

3.3.2. Deliverables

D3.3 (<http://documents.gisela-grid.eu/record/267?ln=en>) has been submitted in due time.

3.3.3. Milestones

The *Assessment of the implementation of the CLARA Sustainability Model* (Milestone #4) is provided in Section 3.1.7.

3.3.4. Human Resources

The current human resources allocated in WP3 are listed in Table 10.

Table 10: WP3 Human resources.

Name	Role	Institution
Diego Scardaci	Manager	INFN - Catania
Rafael Mayo	Deputy Manager	CIEMAT
Guillermo Diaz	Deputy Manager & TWP 3.3 Task Leader	CIEMAT
Carlos Jaime Barrios Hernandez	TWP 3.2 Task Leader & CLARA TT	RENATA
Luiz Rossi	Associate expert	CEFET/RJ
Dago Bedoya	CLARA TT	RENATA
Diego Alberto Rincón Yáñez	CLARA TT	RENATA
Fernando Quiñones	Associate expert	UIS

3.3.5. Open issues and/or deviations from the work plan

- The GISELA Science Gateways Website has to be translated into Spanish and Portuguese: the LA task force will take care of that;
- Explore possible interest in LA concerning exploitation of GISELA e-infrastructure to host digitised historical manuscript;

- The training events in Mexico have been cancelled. However, they will be replaced by several virtual meetings that will be organised in the next months.

3.3.6. Implementation of the Reviewer's recommendations

Recommendation 2.2 (also for the CLARA TT, WP2 and also WP4, WP6): Establish a process for collecting feedback from the users as well as partners supporting the sustainability in order to understand what are missing services and features of the science gateway. Differentiate the feedback from different user groups and aim to identify ambassadors in the different communities in order to benefit from a multiplier effect. Ambassadors might be per region, per university or per application community or a mixture of all.

Every user registered in the GISELA SG belongs to a specific mailing list where:

- She/he can convey their opinion on the SG;
- She/he can require new features and services.

A full user profile is stored in the GISELA SG database, allowing us to identify scientific communities asking for new feature or expressing their opinion.

Moreover, users can evaluate applications integrated in the GISELA SG using an on-line rating system available in each application Web page.

WP3 is currently working to identify “ambassadors” for every application supported by the GISELA SG. As stated above, we just identified an “ambassador” for the GATE application.

(From 1st Review, also for WP2, WP4): As mentioned above clear measures on user take-up need to be developed and employed. Existing users and user groups should be assessed and measured, strategies to further increase them should be presented and implemented.

The additional metrics defined in the D3.3 allow us to better measure the number of existing users.

We decided to adopt the Science Gateway model to increase the number of existing users reaching, until now, good results (more than 50 users in about 3 months). The promotion of the SG in the next month will allow us to increase more this number.

3.3.7. Plans for the next reporting period

For the next reporting period the WP3 team has planned the following activities:

- Integrate in the GISELA Science Gateway applications of the scientific communities contacted during the last months;
- Organise several virtual training events to teach how to integrate scientific applications in the GSG;

-
- Identify “ambassadors” for other applications integrated in the SG and, then, organise new application-oriented training events to explain how to exploit these applications;
 - Continue the promotion of the VRC-Driven GISELA Science Gateway, in conjunction with WP2, looking for new scientific communities willing to use GISELA e-Infrastructure;
 - Promoting general purpose tools available in the GSG, as R and OCTAVE:
 - A contest will be organised to identify the best scientific project that will exploit R and Octave through the GISELA SG.
 - Complete the process of creation of a CLARA & NRENS task force able, after the end of GISELA, to:
 - Manage the GISELA Science Gateway;
 - Integrate applications on the GISELA Science Gateway;
 - Improve the GISELA Science Gateway adding new contents and sections.

3.4. WP4 – NGI / LGI INFRASTRUCTURE SERVICES

3.4.1. Activities

3.4.1.1. Infrastructure Usage

From the present reporting period onwards, usage data shall be presented in terms of wall-time hours instead of the previously adopted normalised CPU hours. Although the latter method better reflects the infrastructure contribution to the VRCs, an understanding has been reached during the first Project Review that data must be presented in a way that allows for easier inference on the weight of the infrastructure utilisation.

Figure 5 depicts the infrastructure usage in terms of wall-time hours, from September 1st. It only takes into account data in compliance to the policies defined in D1.4 (<http://documents.gisela-grid.eu/record/252?ln=en>). Usage has fairly constant, with no significant peaks during the reporting period.

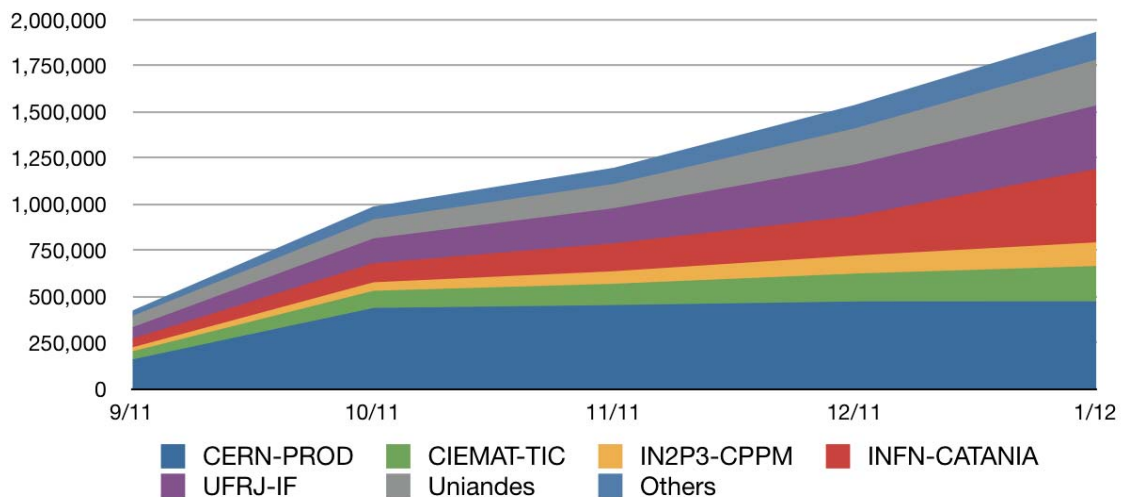


Figure 5: Accumulated wall-time hours (all supported VOs)

Figure 6 depicts estimates for the infrastructure occupancy. Occupancy is defined as the ratio between the used accountable hours and the theoretical maximum available hours, both measured in wall-time. On the graph, accountable hours are shown in blue, and the theoretical maximum available hours is denoted by the full length of each bar. It is imperative to note that:

- The theoretical maximum available hours does not take into account partial site failures or pre-downtime time periods, where the available CPU cores amount is actually less than the amount published by the information system. This fact is enough to turn the theoretical maximum available hours into an upper bound of the real available hours, unlikely achieved. Nevertheless, it is the best approximation available with the current tools.

- The green section of the bars (non-consumed hours) denotes hours that have not been consumed by GISELA-supported VOs. Support for other initiatives (VOs), actual idle time and local cluster usage, when applicable, fall into this category.
- Determining the ideal occupancy would involve simulations and system developments not within the WP4 scope. Therefore, no assessment of adequacy is made here concerning this measurement. It is worth mentioning that, where the occupancy approaches 100%, queues would begin to grow and user experience would be greatly impaired.

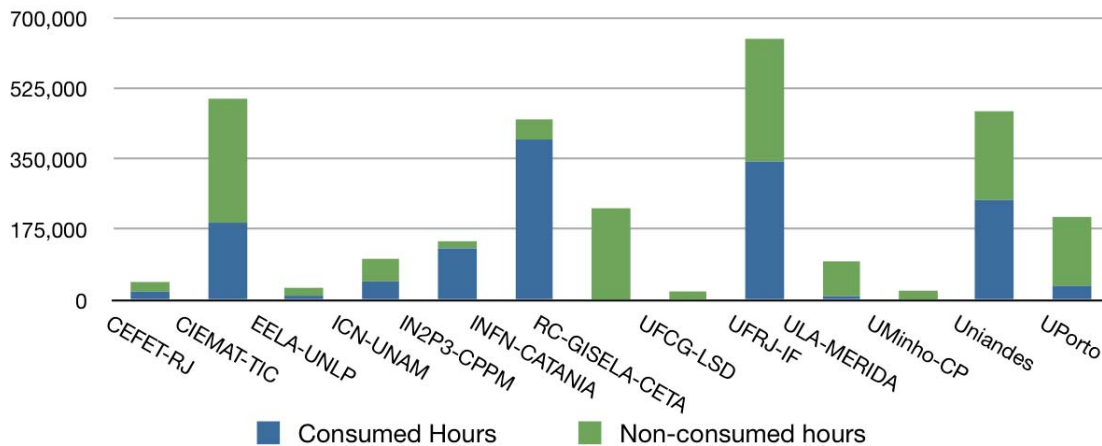


Figure 6: Infrastructure Occupancy

About half of the Resource Centres are working within a lower bound of 30% to 60% of their capacity. Higher occupancy outliers happen on sites that count with at least twice the amount of CPUs pledged to – and accountable by – GISELA. Since the accounting systems are not able to split sites between “GISELA” and “non-GISELA”, sites in this particular situation seem to be handling a larger share of the load.

On the other hand, reasons for lower occupancy outliers are more straightforward: Lack of close Storage Elements, different activity levels on the supported VOs, as well as user preference are among potential reasons.

3.4.1.2. VRC Support

For the new Science Gateway effort, WP3 has requested a series of base applications to be deployed on the infrastructure. WP4 has complied, and now the GISELA infrastructure counts on R, GATE and Octave in several Resource Centres. For more information on the three aforementioned applications, one should refer to Section 3.3.

3.4.1.3. Resource Centre Integration

Table 11 and Table 12 depict the status of the Resource Centres integration, and Table 13 shows the Resource Centres that, although not part of the GISELA consortium, contribute by enabling the prod.vo.eu-eela.eu VO. Changes from the previous report are the inclusions of RC-GISELA-CETA and UFCG-LSD, as well as the reinsertion of CEFET-RJ into the production infrastructure.

Table 11: GISELA gLite Resources

Resource Centre	CPU Cores	Storage (TBs)	Status
CEFET-RJ	24	0	Production
CIEMAT-TIC	90	35	Production
EELA-UNLP	17	0.6	Production
ICN-UNAM	170	16	Production
IN2P3-CPPM	388	0	Production
INFN-CATANIA	100	14	Production
RC-GISELA-CETA	120	0	Production
UFCG-LSD	8	0	Production
UFRJ-IF	355	11	Production
ULA-MERIDA	53	1	Production
UMinho-CP	16	0.1	Production
Uniandes	176	0.5	Production
UIS-BUCARAMANGA	26	1	Certification
UFCG-LSD	10	1	Production
UTP-PANAMA	15	0	Certification
UPorto	90	1	Production
Total	1658	81.2	

Table 12: GISELA OurGrid Resources

Resource Centre	CPU Cores	Status
LCC2	74	Production
AESA	36	Production
LCC1	78	Production
LSD	76	Production
Total	264	

Table 13: Non-GISELA Resource Centres accepting the prod.vo.eu-eela.eu VO

Resource Centre	CPU Cores	Status
CERN-PROD	2000	Production
csTCDie	800	Production
EELA-UTFSM	44	Production
IEETA	10	Production
UNICAN	200	Production
Total	3054	

3.4.2. Deliverables

There are no WP4 deliverables foreseen for the reporting period.

3.4.3. Milestones

The *Assessment of the implementation of the CLARA Sustainability Model* (Milestone #4) is provided in Section 3.1.7.

3.4.4. Human Resources

The current human resources allocated to WP4 are listed in Table 14. Data have been extracted from the GISELA Timesheets system.

Table 14: WP4 Human Resources

Name	Role	Partner
Jhoanna Serpa	CEDIA site administrator	CEDIA
Querube Urriola	CIDETYS site administrator	CIDETYS
Antonio Rubio	CIEMAT-TIC site administrator	CIEMAT
Andres Barbieri	CA Operator	INNOVA-T
Daniel Bellomo	UNRC site administrator	INNOVA-T
Fernando Lopez	EELA-UNLP site administrator	INNOVA-T
Joaquín Bogado	EELA-UNLP site administrator	INNOVA-T
Lia Molinari	Partner Representative	INNOVA-T

Name	Role	Partner
Matias Banchoff	CA Operator	INNOVA-T
Sérgio Afonso	UPorto site administrator	U. Porto
Antonio Rodrigues	LSD-UFCG site administrator	UFCG
Heitor de Melo	LSD-UFCG site administrator	UFCG
Allan Gomes	Core services administrator	UFRJ
Antonio Guia	UFRJ-IF site administrator	UFRJ
Bruno Azevedo	CEFET-RJ site administrator	UFRJ
Gabriel Almeida de Oliveira	UFRJ GSC staff	UFRJ
Leonardo Paula	UFRJ-IF site administrator	UFRJ
Mariana Sampaio	UFRJ GSC staff	UFRJ
Ramon Diacovo	WP4 Manager TWP4.1 and TWP4.2 Task Leader	UFRJ
Vinicius Ferrão	UFRJ GSC staff	UFRJ
Gilberto Diaz	ULA-MERIDA site administrator	ULA
Abelardo Rodriguez	Peyote-Grid site administrator	UNAM
Carnem Heras	UNISON-GRID site administrator	UNAM
Jerome Verleyen	GRID-UNAM site administrator	UNAM
Jesus Cruz Guzman	CLARA Transition Team	UNAM
Jorge Luís Chacon Velasco	UIS representative	UNAM
Rene Luna-Garcia	IPN-GRID site administrator	UNAM
Andres Holguin	UNIANDES site administrator	UNIANDES
Antonio Lobo	UIS-BUCARAMANGA site administrator	UNIANDES
Artur Oviedo	Uniandes site administrator	UNIANDES
Daniel Burbano	Uniandes site administrator	UNIANDES
Harold Enrique Castro Barrera	WP4 Deputy Manager TWP4.3 Task Leader	UNIANDES
Juan Carlos Escobar	UIS site administrator	UNIANDES

3.4.5. Open issues and/or deviations from the work plan

There are no deviations from the work plan or open issues for the current reporting period.

3.4.6. Implementation of the Reviewer's recommendations

Recommendation 2.2 (mainly for the CLARA TT, WP3, WP2 but also WP4, WP6): Establish a process for collecting feedback from the users as well as partners supporting the sustainability in order to understand what are missing services and features of the science gateway. Differentiate the feedback from different user groups and aim to identify ambassadors in the different communities in order to benefit from a multiplier effect. Ambassadors might be per region, per university or per application community or a mixture of all.

(From 1st Review, also for WP2, WP3): As mentioned above clear measures on user take-up need to be developed and employed. Existing users and user groups should be assessed and measured, strategies to further increase them should be presented and implemented.

The main recommendation concerning WP4 is related to the accounting provided, as the method employed in the previous Deliverable is insufficient to infer the actual utilisation of the infrastructure. In order to address this issue, a new method has been conceived, making data (see Section 3.4.1.1) more useful and meaningful.

3.4.7. Plans for the next reporting period

WP4 will keep working on the fronts defined in D4.2 (<http://documents.gisela-grid.eu/record/249?ln=en>) and summarised below:

- To provide full support to CLARA on the process of handing over the management of the infrastructure;
- To keep working on the operations, aiming at an ever-improving end-user experience;
- To integrate the remaining consortium resources into the infrastructure as they become available, as well as to encourage new partners to federate resources.

3.5. WP5 - NETWORK RESOURCE PROVISION

3.5.1. Activities

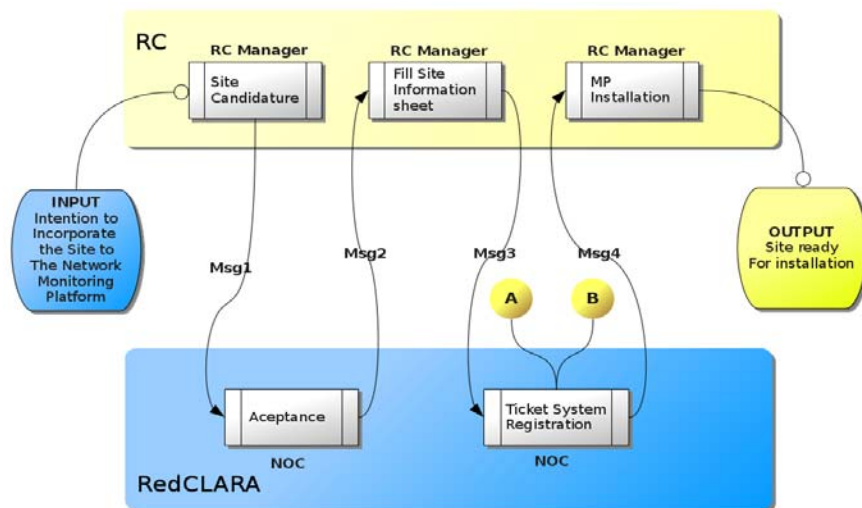
In order to have a guide that helps to the network administrators to treat any network issue, a set of procedures have been developed in the *Network Resource Provision Operational Manual* (<http://documents.gisela-grid.eu/record/321?ln=en>). These procedures are based on a set of workflows, each one comprising a specific course of action for network resource provisioning issues in a Resource Centre (RC). Here follows a short description of the procedures.

3.5.1.1. Network Operation Procedures

The network administrator of the RC is responsible for detecting any network problems, attending network-provisioning requests, coordinating the proper actions and starting the follow-up procedure. The network administrators are also responsible for tracking issues and documenting the solutions. All actions must be coordinated with the corresponding NREN and the Network Operation Centre.

3.5.1.1.1. Resource Centre Integration

This workflow describes how to integrate a Resource Centre in the monitoring platform of RedCLARA. The participants are: the manager of the candidate RC and the NOC of RedCLARA. The input of the workflow is an E-mail, from the manager of the RC to the NOC, stating the intention to incorporate the RC to the monitoring platform, and the outputs are: the manager registration into the mailing list and a new ticket created for the MP installation.



The steps accomplished by every participant are:

Resource Centre:

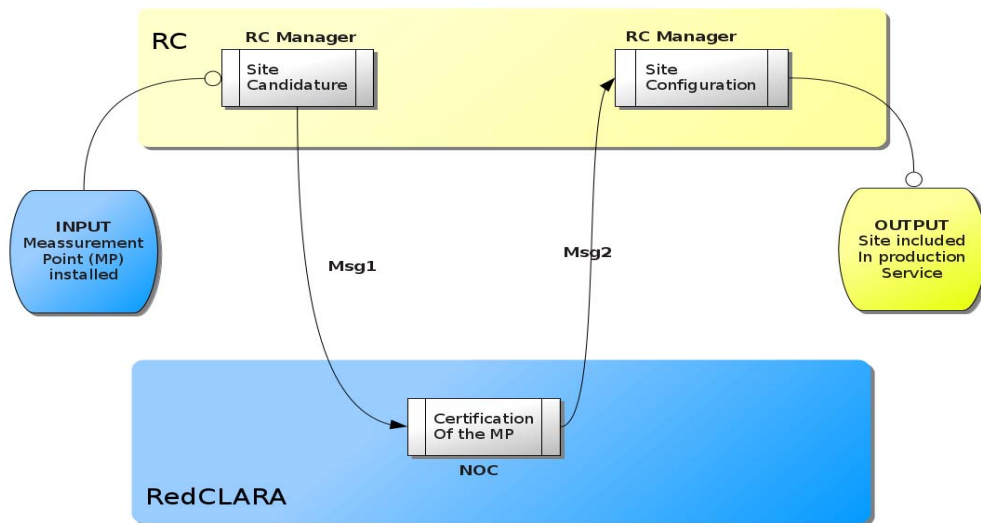
- **Site Candidature:** To initiate the integration procedure of the site to the monitoring platform of RedCLARA. The output of this step is an e-mail sent by the Resource Centre Administrator to the NOC of CLARA, notifying the intention of the site incorporation (**Message 1**).
- **Fill Site Information Sheet:** The purpose of this step is to provide the documentation of the procedures to the RC manager and a form that must be filled with the site information. Both documents are attached to the **Message 2** (input of this step). The output is the **Message 3** attached to the filled form.
- **MP Installation:** This step includes the start of the installation of the monitoring tools. The input (**Message 4**) contains the information concerning the installation procedure and the corresponding links to the documentation.

NOC of RedCLARA:

- **Acceptance:** A verification procedure determines the validity of the application.
- **Ticket System Registration:** The NOC performs the inclusion of the site in the Ticket System and opens a new ticket indicating that the new Measurement Point (MP) is being installed.

3.5.1.1.2. Resource Centre Certification

This procedure describes how a RC is certificated and put it in production. The participants are the manager of the RC and the NOC of RedCLARA. The inputs are the Measurement Point of the RC Installed and working and an E-mail sent by the RC manager to the NOC of RedCLARA notifying that the MP installation procedure is done. The output is the RC included into the monitoring system.



The activities performed by each participant are:

Resource Centre

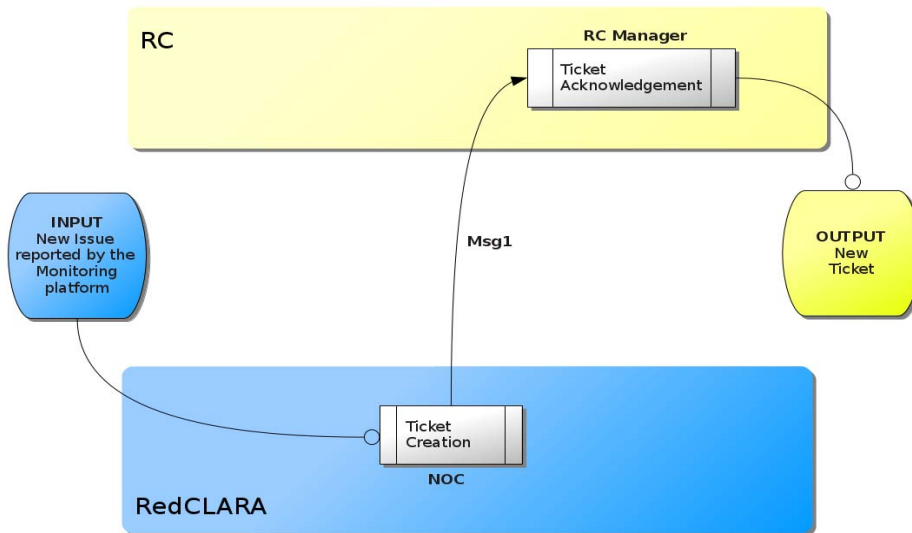
- **Site Candidature:** The purpose of this step is to inform the NOC of RedCLARA that the MP is installed and ready for the certification.
- **Site Configuration:** This step comprises the set of actions required for tuning the MP according to the RedCLARA parameters.

NOC of RedCLARA

- **Certification of the MP:** The NOC of RedCLARA revises the operation of the new MP and sends corrections, if necessary. Finally, the NOC certifies it in order to put it in production.

3.5.1.1.3. Issue Creation

This procedure comprise the steps that must be followed for create a new ticket due a network issue. The participants are: RC manager and the NOC of RedCLARA. Its input is: a new problem reported by the monitoring system. The output is a new entry in the ticket system.



The activities performed by each participant are:

Resource Centre

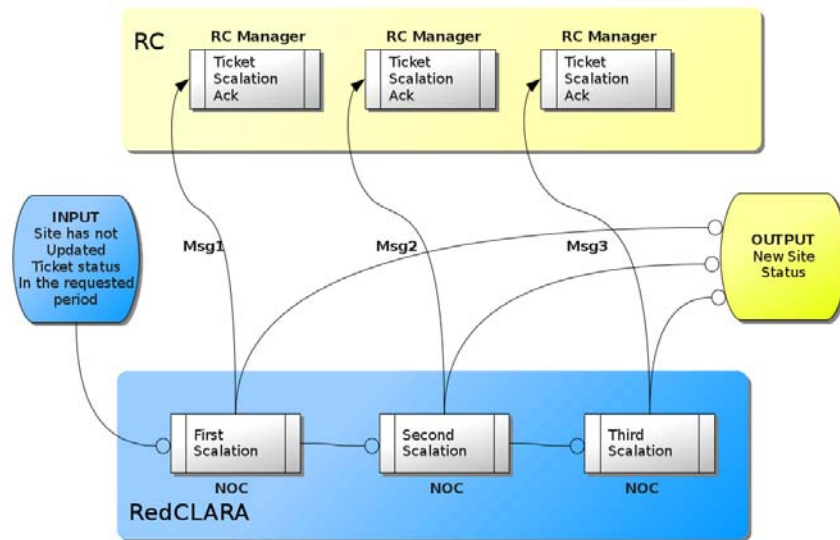
- **Ticket Acknowledgement:** The manager of the RC must reply the e-mail in order to acknowledge the reception.

NOC of RedCLARA

- **Ticket Creation:** Once the NOC observes an alarm from the monitoring platform an e-mail is sent to the manager in order to notify the failure. A new ticket is created in order to register the failure

3.5.1.1.4. Issue Follow-up

This workflow describes the steps for a ticket follow-up procedure. The participants are: RC manager, Representative of the Resource Centre and the NOC of RedCLARA. The input is a ticket without been updated in the proper time. The output are: an E-mail to the RC manager asking for update the ticket, an E-mail to the representative of the RC and a possible site suspension.



The activities performed by every participant are:

Resource Centre

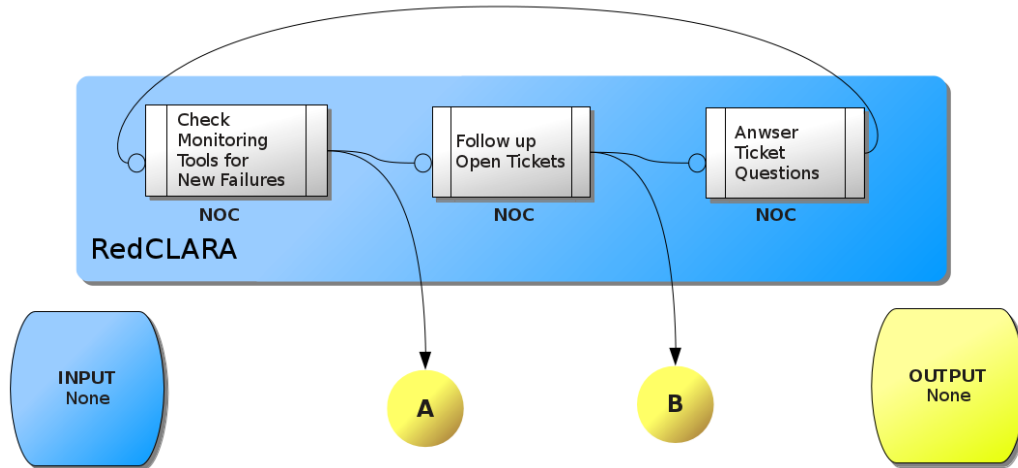
- **First Escalation Acknowledgement:** The manager of the RC must reply the e-mail in order to acknowledge its reception.
- **Second Ticket Escalation Acknowledgement:** The manager of the RC must reply the email in order to acknowledge its reception.
- **Third Ticket Escalation Acknowledgement:** The manager of the RC must reply the email in order to acknowledge its reception.

NOC of RedCLARA

- **First Ticket Escalation:** The NOC send an e-mail (Message 1) to the RC manager notifying that the problem is being escalated for first time.
- **Second Ticket Escalation:** The NOC send an e-mail (Message 2) to the RC manager notifying that the MP of the site will be suspended temporary from the production platform.
- **Third Ticket Escalation:** The NOC send an e-mail (Message 3) to the RC manager notifying that the MP will be suspended permanently from the monitoring platform. To reincorporate the MP, it will have to be certified again.

3.5.1.1.5. Continuous Testing Monitoring

This procedure describes the activity of monitoring the network performance. The participant is the NOC of RedCLARA. Its outputs are a new ticket reporting a network problem and the ticket follow-up.



The activities corresponding to this procedure are:

- **Check the monitoring tools:** This step comprises the constant check of the monitoring tools in order to detect any possible new failure. In case of any failure, the workflow WF3 (Issue creation) must be executed (output A). A failure is considered new only if there is not a corresponding ticket.
- **Follow-up of open tickets:** The NOC must revise the ticket system looking for tickets issued to sites without the proper update. For all such tickets WF4 (issue follow up) is executed. This is the output B.
- **Answer ticket questions:** Answer the question submitted by RC managers in the best possible way.

3.5.1.2. Network Monitoring Platform

Regarding to monitoring infrastructure, a new Measurement Point has been installed in the new RC in Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA) in Ecuador. The monitoring platform status is shown in Table 15.

Table 15: Sites currently hosting MDM perfSONAR

Institution	Contact Person	Status
Universidad Politécnica de Panamá - Panamá	Salvador Salado	Installed
Universidad de Los Andes – Venezuela	Gilberto Díaz	Installed

Institution	Contact Person	Status
Universidad Industrial de Santander -Colombia	Sergio Orostegui	Installed
CEDIA - Ecuador	Jhoanna Serpa	Installed

3.5.1.3. Collaboration with WP3

From the 22nd to 27th of January, a course for Grid Users was dictated in *La Universidad de Cuenca* in Cuenca - Ecuador. This course was organized by CEDIA. The 33 participants came from several universities: UTE⁸, ESPOCH⁹, UPS¹⁰, UTN¹¹, UNACH¹², Universidad de Cuenca¹³, UTPL¹⁴, ESPE¹⁵ and from research institutions: CEDIA¹⁶, INOCAR¹⁷.

The matter covered in this course was:

- Introduction to grid computing;
- Security policies on the grid platform;
- gLite middleware and its components;
- Security certificates;
- Job description language;
- Job submission;
- Job management;
- Science Gateway as a web interface for the grid platform.

3.5.1.4. Collaboration with WP4

A new Resource Centre was installed at CEDIA, the components installed were: One Storage Element with 1TB of capacity, One Computing Element, One APEL node, 6 Worker Nodes with 24 Intel cores, 26 GB of RAM each, One user interface and one Workload Management Service. All the administrative procedures were performed in order to incorporate the RC to the ROC IGALC.

⁸ Universidad Tecnológica Equinoccial (<http://www.ute.edu.ec>)

⁹ Escuela Superior Politécnica del Chimborazo (<http://www.espoch.edu.ec/>)

¹⁰ Universidad Politécnica Salesiana (<http://www.ups.edu.ec/>)

¹¹ Universidad Técnica del Norte (<http://www.utn.edu.ec/>)

¹² Universidad Nacional del Chimborazo (<http://www.unach.edu.ec/>)

¹³ Universidad de Cuenca (<http://www.ucuenca.edu.ec/>)

¹⁴ Universidad Técnica Particular de Loja (<http://www.utpl.edu.ec/>)

¹⁵ Escuela Politécnica del Ejército (<http://www.espe.edu.ec/>)

¹⁶ Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (www.cedia.org.ec)

¹⁷ Instituto Oceanográfico de la Armada (<http://www.inocar.mil.ec/>)

3.5.1.5. Collaboration with CLARA TT

Regarding the CLARA Business Plan, the WP5 team developed the prototype of the workflow for the Advance Computing Services which describes the procedure about how a user can obtain access to the services.

3.5.2. Deliverables

There are no WP5 deliverables foreseen for the reporting period.

3.5.3. Milestones

The *Assessment of the implementation of the CLARA Sustainability Model* (Milestone #4) is provided in Section 3.1.7.

3.5.4. Human Resources

The persons currently involved in the WP5 management are listed in Table 16.

Table 16: WP5 current management

Name	Role	Institution
Gilberto Díaz	WP5 Manager TWP5.3, TWP5.2 Task Leader	ULA
Leandro Ciuffo	WP5 Deputy Manager	ULA
Sandra Jaque	TWP5.1 Task Leader	REUNA

3.5.5. Open issues and/or deviations from the work plan

No open issues were detected during the reporting period.

3.5.6. Implementation of the Reviewer's recommendations

No specific Reviewer's recommendations concerned WP5.

3.5.7. Plans for the next reporting period

For the next reporting period, WP5 team will incorporate Measurement Points at UNLP - Argentina, UFRJ - Brazil and UNAM - Mexico. The other activity is to complete the web interface for the monitoring platform based on the *Cacti* software.

3.6. WP6 - INFRASTRUCTURE AND APPLICATION-ORIENTED SERVICES FOR USER COMMUNITIES

3.6.1. Activities

WP6 is split in three tasks. The activities performed in each of these tasks are described in the next three subsections.

3.6.1.1. TWP6.1

This task is concerned with the overall management of the work package. The following activities were performed in the period:

- Updates of the Redmine project used to keep track of WP6 activities;
- Update of the GISELA web site in what concerns WP6;
- Coordination of regular meetings with the WP6 staff (using teleconference tools).

3.6.1.2. TWP6.2

This task aims at providing support and enhancements to the services already available in the GISELA portfolio. The following activities have been performed:

- Several updates on the DIRAC service including:
 - SSHGECOMPUTINGELEMENT was developed in order to allow DIRAC to submit pilots jobs to Grid Engine Clusters;
 - Resources available in GISELA were checked and integrate in the GISELA DIRAC servers;
 - GISELA servers were updated to DIRAC v6r1p4 version;
 - Several DIRAC versions were tested (v6r0-pre11, v6r0-pre15, v6r0-pre16, v6r1p4);
 - mpich2, cctools and SPECFEM3D application were tested;
 - Presentations for DIRAC Administrator Tutorial were prepared.
- Regarding OurGrid, several improvements have been developed, mainly with the goal of facilitating the installation of OurGrid resource centres. In this direction, the following activities were performed:
 - The Dynamic Worker feature inverts the interest between the Peer and the Worker components. Now the Worker tries to login in its Peer during its starting process. If that Worker has a certificate issued by the Peer, the login process ends successfully and that Peer will manage the Worker. This feature allows for easy addition of new Workers and for voluntary computing;
 - OurGrid components can now be installed via Debian packages. This feature will dramatically decrease configuration overhead, mainly regarding virtualization configuration and dependency management;
 - The same benefits of the Debian installers are also available for MS Windows platforms. In addition, sandboxing with Virtual Box is now available, allowing MS Windows platforms to operate in full support for virtualization;

- A Generic Executor was developed to isolate hypervisor-specific tasks from the Worker execution process. Now, OurGrid uses a single executor implementation for every sandbox strategy;
- OurVirt is a Java API for Virtual Machine managers, developed in the LSD, UFCG. Emerged from the needs of the OurGrid's GenericExecutor, OurVirt delivers a common interface for creating, starting, stopping, destroying, creating shared folders, mounting shared folders, getting status, executing commands, taking and restoring snapshots, cloning disks/images of virtual machines. Currently it implements VServer and VirtualBox strategies;
- The Worker Admin goes to the web. Now a single web application is deployed for the administrator that wants to manage its OurGrid community remotely. Management means deploying, starting, stopping, killing process, issuing certificates, updating workers remotely via SSH;

3.6.1.3. TWP6.3

This task is related with the provision of new services for the GISELA portfolio. The following activities have been performed:

- Deployment, together with WP3, of the GISELA Science Gateway

Science Gateways are considered as valid and innovative tools to increase grid adoption and usage. By hiding the complexity of the grid environment, Science Gateways can indeed allow large Virtual Research Communities to easily access the e-infrastructures, reducing the skills needed today to fully exploit them. In collaboration with WP3, the WP6 team decided to design and develop a Science Gateway for GISELA applications. The GISELA Science Gateway (GSG) has been developed using international standard as JSR 168 e JSR 286 for Web Portal development and the Simple API for Grid Applications (SAGA) Core API, a high level, application-oriented, software library for grid application development specified by the Open Grid Forum. SAGA allows the creation of a unique interface towards different middleware stacks and makes Scientific Gateways able to exploit resources coming from different Grid worlds. This is particularly useful for a multi-middleware e-infrastructure such as GISELA's one.

At the moment, the following applications have been ported to GSG: Phylogenetics/MrBayes, GATE, Industry@Grid, CLUSTALW, Octave, and R. Several other applications are currently in the process of being ported to the GSG.

- Improvement of the Customised Virtual Cluster (CVC) service

In the third semester of the project, we have been testing and improving the CVC services over Opportunistic infrastructures.

The current service, unaGrid, is deployed and available at Uniandes and has been used as the infrastructure for different local e-science projects, mainly in the areas of bioinformatics and computational chemistry. From these experiences, we detected new requirements from users to make unaGrid a widely adopted tool. Users complained about the difficulty to build the CVC and also about the difficulties on tuning a CVC to match a scientific problem's requirements.

To address these issues, we modified unaGrid to adopt the benefits of popular cloud approaches, where users, through a web interface, can express their needs. We then turned unaGrid into unaCloud, a new tool offering the same CVC service, but with a much friendlier interface, intended to facilitate the interaction of scientific users with this platform. With unaCloud, users can graphically design the virtual cluster they need, upload to the platform

and deploy it when they need it. This is achieved working with a set of templates and using specific tools to configure software on the virtual images.

- Seamless execution of applications in hybrid e-Infrastructures augmented with the capability of interfacing with cloud computing providers

The OurGrid middleware has been enhanced to support cloudbursting to a public Cloud computing provider. Currently, the software supports the automatic creation of AWS EC2 instances, whenever the performance of the grid is below a user-defined threshold. Depending on the budget that the user is willing so spend, OurGrid Workers are dynamically instantiated over virtual machines running on the AWS EC2 spot-market service. A poster entitled “Cloudbursting a Peer-to-Peer Grid” that describes this work is going to be presented at the EGI Community Forum in March 2012.

3.6.2. Deliverables

There are no deliverables planned for the period.

3.6.3. Milestones

There are no milestones planned for the period.

3.6.4. Human Resources

The current human resources allocated in WP6 are listed in Table 17.

Table 17: WP6 Human Resources

Name	Role	Institution
Francisco Vilar Brasileiro	WP6 Manager TWP6.1 and TWP6.3 Task Leader	UFCG
Rodrigo Duarte	TWP6.2 staff	UFCG
Raquel Lopes	TWP6.3 staff	
Guilherme Santos	TWP6.3 staff	UFCG
Tarciso Oliveira	TWP6.3 staff	UFCG
Vanessa Hamar	WP6 Deputy Manager TWP6.2 Task Leader	CNRS
Andrei Tsaregorodtsev	TWP6.2 staff	CNRS
Harold Enrique Castro Barrera	TWP6.3 staff	UNIANDES
Mario Villamizar	TWP6.3 staff	UNIANDES
Germán Sotelo	TWP6.3 staff	UNIANDES
Claudia Jiménez	TWP6.3 staff	UNIANDES

Diego Scardaci	TWP6.2 staff	INFN
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3.6.5. Open issues and/or deviations from the work plan

There are no open issues in the period.

3.6.6. Implementation of the Reviewer's recommendations

Recommendation 2.2 (mainly for the CLARA TT, WP3, WP2 but also WP4, WP6): Establish a process for collecting feedback from the users as well as partners supporting the sustainability in order to understand what are missing services and features of the science gateway. Differentiate the feedback from different user groups and aim to identify ambassadors in the different communities in order to benefit from a multiplier effect. Ambassadors might be per region, per university or per application community or a mixture of all.

We have established a close communication channel with both WP3 and WP4, so that users requests can be accurately and promptly made available to WP6. As a consequence of this improved exchange of information, we have focus a substantial part of the WP6 work force to support the GSG development activities. This is materialised both in the port of new applications to the GSG, as well as in the development of adaptors that will augment the number of backend processing facilities to which jobs originated from the GSG may be scheduled and executed.

3.6.7. Plans for the next reporting period

For the next reporting period the WP6 team will continue the promotion of WP6 portfolio in GISELA community in conjunction with WP2 and WP3, and keep supporting the gridification of applications using the WP6 services, particularly in the direction of making these applications available through GSG. In addition, the following activities are planned:

- Develop JSAGA adaptors for OurGrid;
- Improve the capacity planning of CVC to support the elasticity of applications.

3.7. CLARA TRANSITION TEAM

3.7.1. Activities

The CLARA TT has concentrated in pursuing the sustainability business model. The three main aspect considered are:

- In collaboration with WP2 and WP3, and following the recommendations of the reviewers, the CLARA TT continues to raise awareness in the thematic communities and NRENs to use the Science Gateway service model, and explaining interested institutions on how they could join the sustainability model.
 - The WP5 Manager assisted Ecuador in a training workshop for the local NREN and communities. He met the weather community from Ecuador that could benefit from the use of WRF application in the framework of the GSG. He also contacted the General Director of CEDIA (Ecuadorian NREN) and his technical staff for the promotion and use of the GSG.
 - The GISELA Technical Coordinator participated as a speaker in the workshop *Capacidades de Cómputo para la investigación en Chile* (Santiago, January 17th 2012) - **Comunidades de Investigación y Servicios de Computación Avanzada** - <http://documents.gisela-grid.eu/record/308?ln=en>. There, he had the opportunity to talk with the HPC academic community. There were more than a dozen of very enthusiastic researchers who expressed their need of High Performance Computing Capabilities. In particular representatives from the areas of Bioinformatics, Environmental Sciences and Seismology. The month of February is the holiday season for Chilean Universities, therefore, the CLARA TT agreed to look for specific cooperation initiative by mid-March with the interested parties. This contact is the result of joint efforts between GISELA and REUNA (the Chilean NREN), and was aimed to identify both, potential users and the potential participation of resource centres with a significant amount of cores.
 - In cooperation with WP2, the CLARA TT has identified three main communities towards which all the efforts will be emphasised. These communities are: Seismology & Disaster Mitigation, Bioinformatics and Cultural Heritage. We have conducted a series of virtual meeting and videoconferences to promote the use of the GSG within these communities.
 - <http://www.cecalc.ula.ve/gisela/?p=363>
 - <http://indico.ceta-ciemat.es//categoryDisplay.py?categId=7>
- In collaboration with WP3, the CLARA TT started to develop a set of tutorials for the applications available in the GSG framework. The idea is to increase the base of users that can profit from the GSG platform. A particular emphasis will be put on students of graduate courses that can massively use these facilities. We will start with a tutorial of GATE (Simulations of Preclinical and Clinical Scans in Emission Tomography - <http://www.opengatecollaboration.org/>). The second tutorial will concern WRF (Weather Research & Forecasting Model - <http://www.wrf-model.org>).
- In collaboration with WP2 and following the Recommendation 2.2 of the reviewers, the CLARA TT contacted (by mail and virtual meeting) different communities in order to identify their reluctance to use the e-infrastructure. As it was reported by WP2 (see Section 3.2.1):

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- Users of Industry@Grid and some experts in the field of industrial production were contacted to review the application features and provide feedback;
 - A technical agreement was promoted between WP2 and WP3 with one of the seismology community (Geophysics Lab, University of Los Andes - Venezuela) for the gridification of SPECFEM3D, given the interest this community has in this application.
 - Several meetings were organised, to assess the potential use of the application Metadock, with the National Autonomous University of Mexico (UNAM) and Universidad Nacional de Río Cuarto (UNRC) in Argentina. In collaboration with the Bioinformatics area of the National Center for Scientific Computing at the University of Los Andes (Venezuela), a survey will be launched through the Bio list to detect interest in this application and others available in the area of Bioinformatics.
 - Regional contacts began with people involved with the management of Cultural Heritage, to detect interest in a pilot proposal for preservation of historic images, using a G-Library application. Positive response was obtained from Venezuela, Colombia and Mexico. A meeting is planned for late February with the promoters of the application in order to work out the nature of the pilot experience.
 - Contact was initiated with the Centre for Scientific Modeling (Venezuela) to evaluate a possible gridification of *CavanaTuit*, an application developed by them to preserve and process statistical data of social networks, with potential interest from sociologists and journalists.
- In collaboration with WP3, several actions were taken to empower user communities to deploy and maintain their own applications in the framework of the GSG service model:
 - LA Science Gateway Task Force. As it was reported by WP3, we have identified key personnel from the NRENs and some communities, initiating a process of knowledge transfer in order to allow them to maintain and implement applications within the GSG. We have interviewed and defined with them a roadmap to accompany this process of knowhow transfer.

Organizing the Science Gateway Technical Webminar. To increase the number of technical people we will organise a set of Technical Webminars every other week starting on the 29th February 2012. This activity will be carried through videoconference with the participation of almost a dozen of technical people.

3.7.2. Human Resources

The current human resources allocated in the CLARA TT are listed in Table 18.

Table 18: CLARA TT Human Resources

Name	Role	Institution
Ysabel Briceño	CLARA TT representative in WP2	ULA
Dago Bedoya	CLARA TT representative in WP3	RENATA
Jesus Cruz Guzman	CLARA TT representative in WP4	UNAM
Gilberto Díaz	CLARA TT representative in WP5	ULA
Carlos Jaime Barrios	CLARA TT representative in WP6	UIS

3.7.3. Open issues and/or deviations from the work plan

Although the CLARA TT members are well integrated in their Work Package(s) and their contribution is now effective, they need to become more proactive in the construction of the set of services that the CLARA Business Plan will include.

3.7.4. Implementation of the Reviewer's recommendations

Recommendation 2.1: *Complement the business plan with a detailed action plan specifying the actions necessary for each activity moving it from a concept to implementation and document this in D1.5. A report on the execution of this action plan should be presented at the next review. Especially for D1.5 the reviewers suggest that the project should not copy/paste objectives from DoW but only for each task outline achievements. The Action Plan derived from the Business plan implementation should be separately and clearly documented where necessary explaining the rational taken based on actual measurements/situation and identified gaps.*

Recommendation 2.2: *(also for WP2, WP3 and also WP4, WP6). Establish a process for collecting feedback from the users as well as partners supporting the sustainability in order to understand what are missing services and features of the science gateway. Differentiate the feedback from different user groups and aim to identify ambassadors in the different communities in order to benefit from a multiplier effect. Ambassadors might be per region, per university or per application community or a mixture of all.*

(Also for WPI): *The project should identify which stakeholders and users are important for its future, in terms of:*

- *Policy makers and*

- *Industrial and scientific users and user groups*

For them, set a plan for which are important for the sustainability and how they are going to be reached. This should go in line with the requested action plan for the implementation of the D1.4 which should soon be developed and reported in D1.5 and also immediately put in action by all partners.

(Also for WP1): The interaction with CLARA/RedCLARA is very important for the region and should be continued. After signing a MoU with ERINA+ it could be useful to consult them concerning appropriate measures for success.

Following Recommendation 2.1 and 2.2 of the reviewers, the CLARA TT has agreed to implement an Action Plan with four main objectives:

- **Objective 1:** Raise awareness, sensitize and inform on the different opportunities that Advanced Services can bring to decision makers, research communities and the public. This objective will be accomplished for the aforementioned audiences in two levels:
 - *Sensitizing and informing research communities of the opportunities that Advanced Services could bring to their environment.*

The CLARA TT has approached the authorities of the NRENs, the experts of the Applications Committee in RedCLARA and researchers of different communities that are in the CLARA domain. It is generally felt that the offering of Web interfaces and Applications portals, such as the Science Gateway, will give the CLARA TT a great opportunity to promote Advanced Computing Services towards these researchers and communities.

Actions:

- **Organise Virtual Days on Technology and the Community:** Experimented researchers meet new researchers (using advance computing technology and services) to share their experiences. CLARA has programmed several Virtual Days:
 - March 28th, 2012: Virtual Day on Culture as an user of advanced networks. NRENs participating: CUDI (MX) and RNP (BR);
 - May 2nd, 2012: Virtual Day on e-infrastructure and computing tools. GISELA and ComCLARA community on HPC-SCALA
 - June 6th, 2012, Virtual Day on Technology and Preservation of the Cultural Patrimony
- **Organise courses and competencies for students who have applications of general use:** The Science Gateway recently included new applications of general use: Octave (numeric calculus and matrix algebra) and R (statistic utilization of data). These two applications can raise interest in students to start using advanced computing tools. The intention is to include a large group of students (users) and expose them to the use of the GISELA Science Gateway as a calculus tool. This group will be previously selected applying them different ability tests. As of today, the CLARA TT is defining the conceptual structure of those tests and the type of activities they will have to follow.

- **Document the existing applications of the GISELA Science Gateway:** Some applications that are currently available in the GISELA Science Gateway have proved to be successful in different parts of the world. Several Latin American researchers are interested in using them. Among these applications, the CLARA TT has found GATE (Simulations of Preclinical and Clinical Scans in Emission Tomography - <http://www.opengatecollaboration.org/>) and WRF (Weather Research & Forecasting Model - <http://www.wrf-model.org/>). These two applications could have a positive social impact; therefore, the CLARA TT is creating tutorials to ease the use and appropriation of these applications by Latin American research groups.
- *Raise awareness, sensitize and inform the decision makers of S & T and the Directors of the National Research and Education Networks (NRENs) on the opportunities that Advanced Computing Services could bring to Science and Technology.*

The CLARA TT has continuously informed the NREN Directors about the development of GISELA and the importance of its sustainability after the end of the project. However, there are still some concerns in the CLARA council because most of the representatives of the NRENs have not evidenced the presence of a massive use of these computing tools in the academic and research institutions in their country. If this issue is added to the fact that very few countries have initiated a public policy oriented to the development of advanced computing infrastructure and services for the benefit of science and technology, it is true that more sensitization is needed in the level high authorities of decision makers and directors of the NRENs.

Actions:

- **Interviews with Latin American high authorities and decision makers in Science and Technology:** The CLARA Academic Manager is coordinating interviews with decision makers (Ministers, Directors and General Secretaries) of S&T in the LA region. These interviews will include information of the recent development of the e-infrastructure, its implementation and operation in the region, those services that are currently being offered and the benefits of global cooperation with other research groups of different regions. CLARA has established a calendar of interviews for March 2012 in the countries that were identified in the CLARA Business Plan as potential new users of computing tools:
 - Colombia, March 7th, 2012: interview with Dr. Jaime Restrepo Cuartas, Director of Colciencias;
 - Ecuador, March 9th, 2012: interview with Eco. René Ramirez, Secretario Nacional de Educación Superior, Ciencia y Tecnología;
 - Panamá, March 12th, 2012 interview with a person to be defined;
 - Costa Rica, March 14th, 2012 interview with Ing. Alejandro Cruz, Ministro de Ciencia y Tecnología and Dr. Carlos González, Director del CONICIT;

- Place to be defined, March 15th, 2012, interview with Dr. Julio Calvo, Presidente del Consejo Nacional de Rectores - CONARE;
 - Venezuela, March 29th, 2012, interview with Directores de Investigación de las Universidades Nacionales;
 - Venezuela, March 30th, 2012, interview with Dr. Jorge Arreaza Ministro de Ciencia y Tecnología.
 - In addition, CLARA is preparing a second set of interviews for the second half of April and May 2012, in those countries where e-infrastructures and NGIs or EDGS are more developed (Argentina, Brazil, Chile and Mexico).
- **Objective 2:** Identify the real needs of Advanced Computing Services of research communities.

It is necessary to understand real needs of advanced computing services in the LA region. The communities need to produce a positive social impact in their research results in order to attract the S & T decision makers' and NRENs Directors' attention. In this way they can become sensible to the real needs of computing power for their research and academic communities.

Actions:

- **Identify communities that produce research results with high positive social impact as potential users of advanced computing services.** The result of a series of interviews that took place from December 2011 to February 2012, with some NREN directors, experts of the Applications Committee of RedCLARA and other managers of RedCLARA was the identification of three thematic areas of interest, with social impact and that are highly dependable on advanced computing services and e-Infrastructure. These three areas are Natural Disasters, Bioinformatics and Preservation of the Cultural Patrimony.
- **Connect potential research communities.** After having identified these three communities, a closer approach with them through interviews was established. This action leads to the identification of “ambassadors” of each community to conduct a series of actions to first understand the community needs and then to induce the communities to use Advanced Computing Services. The CLARA TT has:
 - Fostered a technical meeting with the seismology community, represented by the Department of Geophysics of the Universidad de los Andes (Venezuela) for the gridification and the future integration of the application SPECFEM3D into the Science Gateway, this application has been demanded previously.
 - Celebrated a meeting with the National Autonomous University of Mexico (UNAM), the Universidad Nacional de Río Cuarto (UNRC) in Argentina and the area of Bioinformatics of the Centro Nacional de Cálculo Científico de la ULA (Venezuela) to test the use of the application METADOCK. The group agreed to design and send a questionnaire to the Bio e-mail list to find out the level of interest in the community to use this application and to find out if there are other applications that may be of interest to the community. This questionnaire will be sent in March 2012.

- Initiated regional contacts with representatives of institutions related to Cultural Heritage and Patrimony. The approach led to find out if they are interested in participating in a pilot test to preserve historic images using the application G-Library. Venezuela, Colombia and Mexico have shown interest. A meeting will take place by the end of February 2012 with the promoters of the application to determine the characteristics of the pilot test together with the interested institutions.
 - Approached the Centro de Modelado Científico (Venezuela) to determine if the application *CavanaTuit* can be gridified. This is a local application developed to preserve and process statistic data of social networks, with a potential interest for sociologists and social communication researchers.
- **Objective 3:** Increase technical potentialities and capacities of the Science Gateway.

The web oriented environments or portals for scientific applications provide an easy and friendly interface that can be used to access different web services through different platforms. This fact allows those who are familiar with different middlewares to access the interface and execute different tasks in their own platform. Moreover, the CLARA Business Plan has integrated the Advanced Computing Service Model centred on the Science Gateway concept because portals allow the utilisation of hardware as a service, giving thus the SG a longer life cycle or permanence (more flexibility) as well as introducing additional services such as Cloud computing.

Actions:

- **Develop plug-ins for different middlewares:** The CLARA TT together with GISELA have joined efforts to incorporate OSG and OurGrid middlewares to the Science Gateway;
 - **Develop adapters to access cloud computing services:** The CLARA TT and GISELA are evaluating strategies and methodologies to incorporate the virtual machine service;
 - **Develop applications installers:** The CLARA TT and GISELA are evaluating strategies and methodologies to achieve automatic mechanisms to install computing tools.
- **Objective 4:** Train research communities to induce the daily use of the Science Gateway environment in their research.

Sustainability depends on the way research communities understand and value the use of a Science Gateway for their applications. They need to feel the appropriation of the technology in their daily research. Researchers need to be able to build and maintain their own portal and include all the applications they need to develop research projects.

Actions:

- **Creation of a Task Force to implement and give technical support to applications running in a Science Gateway environment:** The CLARATT has identified at least 6 professionals with a technical background that have presented their curriculum and a work plan to attend the EPIKH workshop exchange program (Exchange Programme

to advance on e-Infrastructure Know-How - <http://wiki.epikh.eu/>) for two months. The 6 professionals will be committed to:

- Install applications of communities with social impact: Seismology and climate;
- Install Identity Federation Systems in at least two countries of the Latin American region to add this capability to the one Brazil has already put in place;
- Document extensively the processes of adaptation and configuration of the Science Gateway;
- Redefine the web interface and usability of the portal;
- Create on-line and detailed technical documentation.

There is already a detailed base of documentation

<http://gilda.ct.infn.it/wikimain/-/wiki/Main/Science%20Gateway%20Developer%20Pages>

developed by WP3 and which is a permanent reference for the Task Force professionals and local technical representatives of the different institutions involved in the e-infrastructure and resource centres. They should be aware that this information is relevant for the daily work to install applications in the web portal.

In addition to the actions being developed in this plan, the CLARA TT has decided to **organise a cycle of technical seminars for the follow up and supervision of the installation of applications**. Every fifteen days, a videoconference will occur, starting on February 29th, 2012 to grant continuity to the action plan activities. These webinars are looking for a closer relationship among all the professionals participating in the buildout of the e-infrastructure, resource centres and installation of applications in the Science Gateway.

3.7.5. Plans for the next reporting period

For the rest of the GISELA project (until to 31st August 2012) the CLARA TT plans to increase the number of activities of each of the four objectives presented in Section 3.7.4, to be able to reach a critical mass for the use of Advanced Computing Services centred on the Science Gateway Approach. The CLARA TT will help RedCLARA to increase both awareness and commitment of decision makers of S&T, to be able to influence the development of public policy supporting the development of strategies to use advanced computing services in the academia and research projects and to increase the social impact on real needs in the region. The results will lead to a better-positioned CLARA TT group to support the sustainability after GISELA.

4. CONCLUSIONS

Although their scope is defined in the DoW, the GISELA objectives over the reporting period have been guided, in practice, by the Recommendations of the First-year Project Review (15/09/2011) and the Extra Project Review (08/12/2011).

The Recommendations induced a major evolution of the Project objectives towards the development and deployment of a VRC-driven GISELA Science Gateways (GSG). The expectation is that the GSG will stimulate new Latin American scientific communities to adopt the CLARA Advanced Computing Services and therefore ease their merchandizing on the basis of the CLARA Business Plan.

Hence, the efforts of the management, beside the baseline Administrative Tasks and the Technical Coordination, have been focused on supporting the various Work Packages involved in the *mise en oeuvre* of the GSG.

WP2 - Dissemination and Outreach - has been most instrumental in collaborating to the Web implementation of the GSG and has initiated several contacts with new User groups such as from the RedCLARA Applications Committee.

WP3 - User Communities Support - had the leading responsibility in the GSG project. In a couple of months, the INFN - Univ. Catania Partner has been able to deliver a professional quality product, to setup its support and to organise its dissemination.

WP4 - NGI / LGI Infrastructure Services - was keeping integrating new Resource Centres while preparing the handover of the e-Infrastructure Operation and Support to CLARA and the Latin American NRENs.

WP5 - Network Resource Provision - has largely compensated its late engagement in the project. It has produced the *Network Resource Provision Operational Manual* that has become a reference document for the GISELA System Administrators.

WP6 - Infrastructure and Application-oriented Services for User Communities - has ensured the consolidation of the Services it developed in the past with special attention to those related to OurGrid. It has become the Latin American counter part of the INFN-Catania in the development and commissioning of the GSG.

The CLARA Transition Team is now interacting actively with all Work Packages and contributing effectively to their achievements. In the framework of the elaboration of its Business Plan, it has initiated as series of actions aiming at

- Sensitising and informing Research Communities of the opportunities that Advanced Services could bring to their environment;
- Identifying their real needs of Advanced Computing Services;
- Extending the technical potentialities and capacities of the Science Gateway;
- Training Research Communities to enforce the daily use of the Science Gateway.

Altogether the progress achieved by most of the Work Packages is well on track with the milestones redefined after the Reviews and the corresponding Recommendations.