**EGI-InSPIRE**

User Community Support Process

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| Abstract:  This document describes the user community support process used within the EGI-InSPIRE project. This process is focussed on delivering an excellent user experience for existing and new users of the infrastructure and comprises the EGI help desk and support team, the NGI help desks and support teams together with various services including a ported application database, a community and VO management portal and a training calendar with a register of materials and accredited trainers. |

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EGI-InSPIRE (“European Grid Initiative: Integrated Sustainable Pan-European Infrastructure for Researchers in Europe”) is a project co-funded by the European Commission as an Integrated Infrastructure Initiative within the 7th Framework Programme. EGI-InSPIRE began in May 2010 and will run for 4 years.

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# Introduction

## Purpose

This document describes the user community support process within EGI. These processes are being established within the EGI-InSPIRE project with the goal that they will be sustainable within EGI.eu in the future. This public report lists the support units (operational, software, applied, ...) detailing their interfaces into EGI.eu and their roles, responsibilities, metrics and escalation procedures. [month 3]

## Application area

This document is a formal deliverable for the European Commission, applicable to all members of the EGI-InSPIRE project, beneficiaries and Joint Research Unit members, as well as its collaborating projects.

## References

**Table 1: Table of references**

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## Document amendment procedure

Amendments, comments and suggestions should be sent to the authors. The procedures documented in the EGI-InSPIRE “Document Management Procedure” will be followed:  
<https://wiki.egi.eu/wiki/Procedures>

This document is the first version of three documents, updates taking place during the project at month 15, 27 and 39, evolutions and new supporting tasks and mechanisms being reported in the latest version, according to the EGI inspire project advancements and the partners projects. This report will be also complemented by information made available from the publicly available Annual Report on EGI’s user communities (month 11, 23, 35 and 47).

## Terminology

A complete project glossary is provided in the EGI-InSPIRE glossary:

<http://www.egi.eu/results/glossary/>.

# rational for user support

Scientific research is becoming increasingly cross boundaries and trans-disciplinary between scientific communities. It generates larger sets of data and necessitates larger-scale use and analysis of data, consequently increasing the need for larger e-infrastructure to support the applications generated to make use of these data.

EGI.eu through several initiatives and the project EGI-inspire continues its transition toward a sustainable e-infrastructure which started with the EGEEIII project. EGI will therefore support grids for high performance and high throughput computing resources and seek to integrate new DCIs[[1]](#footnote-1) as interoperability and agility are prerequisites from the Users Communities.

The focus of the EGI-InSPIRE project is an **In**tegrated **S**ustainable **P**an-European **I**nfrastructure for **R**esearchers in **E**urope. This will be achieved through:

* The continued operation and expansion of today‘s production infrastructure by transitioning to a governance model and operational infrastructure that will be increasingly sustained beyond specific project funding.
* The continued support for researchers within Europe and their international collaborators that are using the current production infrastructure.
* The support for current heavy users of the infrastructure in Earth Science, Astronomy & Astrophysics, Fusion research, Computational Chemistry and Materials Science, Life Sciences and High Energy Physics as they move to sustainable support models for their own communities.
* Interfaces that expand access to new user communities including new potential heavy users of the infrastructure from the ESFRI projects.
* Mechanisms to integrate existing infrastructure providers in Europe and around the world into the production infrastructure so as to provide transparent access to all authorised users.
* Establishment of processes and procedures to allow the inclusion of new DCI technologies and resources (e.g. Cloud infrastructures, volunteer desktop grids, etc.) into the production infrastructure as they mature and demonstrate value to the European community.

EGI.eu, as the central coordinating organisation will support the collaborations with the NGIs throughout Europe, thus allowing the integration and interoperation with individual National Grids Infrastructures. Further to this vision’s implementation, EGI.eu will be the coordinating hub for European DCIs, bringing existing technologies into a single integrated production Infrastructure for Researchers in the European Research Area and beyond, with the international collaborations initiatied by and for the VOs.

EGI-InSPIRE will collect requirements and provide user-support for the current and new (e.g. ESFRI) users. Support will also be given for the current heavy users as they move their critical services and tools from a central support model to ones driven by their own individual communities. The project will define, verify and integrate within the Unified Middleware Distribution, the middleware from external providers needed to access the e-Infrastructure. The operational tools will be extended by the project to support a national operational deployment model, include new DCI technologies in the production infrastructure and the associated accounting information to help define EGI’s future revenue model.

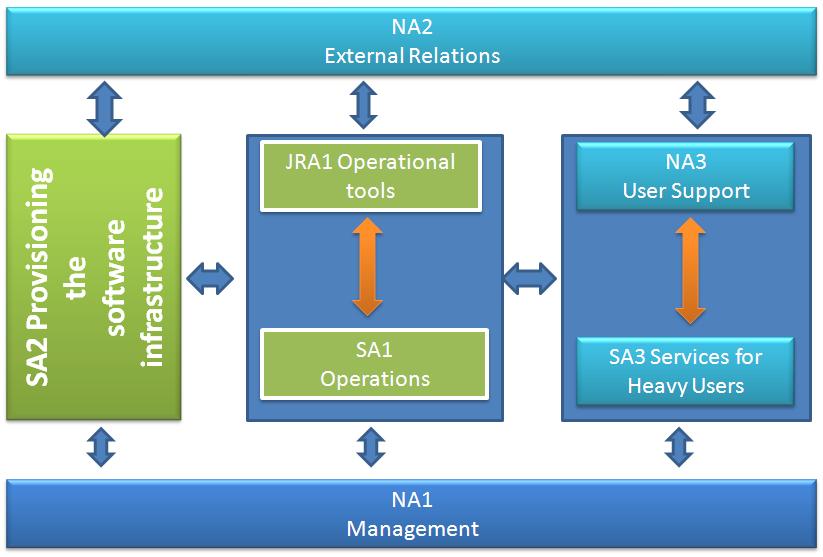
This document presents the supporting mechanisms in place in EGI and within the NGis for supporting user’s communities when creating, using and sharing their applications, providing the ground for further collaboration between the grid infrastructure represented by EGI.eu and the user communities.

# Overview of User Community Support Processes

## User support within the EGI ecosystem

*[Here is a description to be taken from the DoW and other related documents/roadmaps fromEGEE3]*

User Community Support Process: The support EGI offers to the user community is built around the Support Units located within the EGI-InSPIRE’s partners or collaborating projects and accessed through the EGI Helpdesk.



*Figure xxx: relationship between the EGI-Inspire work packages*

## The EGI User and Community Support Team

EGI’s e-Infrastructure will need to support different sized user communities – ranging from the small international research collaborations, to large internationally funded research labs and research projects. The support provided will be reactive (i.e. dealing with issues referred to it through the helpdesk system and referred to it through other sources) and proactive (i.e. by engaging with the user communities through VRC and other community meetings). Through the EGI Helpdesk, EGI-InSPIRE will provide a ‘front desk’ for new users, new communities and non-operational issues with which the user community requires assistance. This may include requests for changes to the operational tools or deployed middleware, support for setting up new VOs or porting applications to the infrastructure. These requests will be passed to the relevant NGI support teams, teams within EGI.eu and partner projects as required. EGI will contribute to the established Winter and Summer Schools on Grid Computing as part of a broader community resourced effort. The availability and accessibility of documentation relating to the use of the infrastructure will be continually reviewed. This will include an analysis of issues reported to the EGI Helpdesk to see if the documentation could be improved, identifying where there are gaps in the training material coming from the software providers, and the material EGI.eu provides to guide access to its services. These documentation issues will be reported to the relevant teams in EGI.eu, the NGIs and other projects for correction.

## The NGI User Support Teams

To ensure the feasibility of the user’s support mechanisms, the NGIs contribute efforts to distributed user-support teams. These are brought together as support units within the EGI Helpdesk and provide:

 Consulting for New Communities: Providing technical advice on the available technical and support services available to new users and the various DCI technologies that EGI could provide access to in order to support their research activities.

 Application Database: Staff within the NGI will come into regular contact with users who have ported applications to the EGI production infrastructure. These applications will be recorded in the applications database to benefit other users and user communities.

 Documentation: Experts in the NGI will be available to contribute to new documentation as new technologies and procedures become available. This work will leverage documentation activities already taking place within many NGIs.

 Training: Many NGIs already provide their own training facilities. This support unit will provide a link between EGI training coordination and national training resources.

 Portals and Science Gateways: Expertise within the NGIs will be made available to users to deal with consultancy and issues around the provision of web-based technologies to access DCI platforms.

 Dashboards: VO Dashboards are used by communities to validate that the sites claiming to support their VOs really are able to do so. NGI expertise will assist VOs in developing their community specific site validation tests using the frameworks supported by SA3.

 Application Porting Support: Experts within the NGIs will be available to support user communities in the porting of applications to the production infrastructure.

 Resource Allocation: Responding to requests for access to resources from user communities.

Trainers for generic grid training and the necessary training resources will be provided through NGI support teams. Technical experts in the NGIs will be able to provide consultancy to new communities, advice on application porting support and interaction with the application database. Once established the NGI teams will provide support relating to dashboards to provide customised views of the resources available to the VOs, and help to establish portals or science gateways. Across all of these activities, the NGIs will contribute expertise to revise the documentation as it is required.

## The role of the virtual Research Community

[From VRC accreditation document – forthcoming]

Virtual Research Community (VRC) projects such as WeNMR, GISELA and others which seek to bring research communities together and support their use of DCI production infrastructures As the research communities using the European e-Infrastructures continue to grow, scalable support models need to be developed that will support both large and small communities.

Within EGI, the focus of this scalable user support model will be the Virtual Research Community (VRC) which provides a focus for large structured research communities to interact with EGI – both in obtaining support and for expressing their requirements. Direct support for user communities relating to their use of the infrastructure will be provided through the NGI support teams within EGI-InSPIRE. Domain specific support is one of the services that will be provided through the VRC, alongside training, dissemination and general community coordination activities. It is envisaged that some VRCs will be initially funded through EC projects, but will migrate to self-sustaining entities supported by their own communities over the next few years. Smaller collaborations will continue to make direct use

of EGI‘s support mechanisms without going through a VRC..

## Mechanisms for new Community Integration

EGEE has been generating new partnerships between communities’ members and across the board throughout its lifespan, thus increasing the interaction with scientific communities as to design a well thought user based support infrastructure. The communities having experience with EGEE are part of the EGI User Communities will be benefiting from the services offered through EGI and the NGIs. While support is an evolving process adapting to the needs of the communities, the already known user communities will continue contributing to best practices and tools definition for EGI and the subsequent NGIs to best support them in their activities.

However, as the infrastructure evolved within EGEE and now EGI, various communities having large need for computational power have been created such as the ESFRI projects, aiming at establishing large scales e-infrastructures. EGI intends to link these new HUCs with the existing e-infrastructure and support them in their integration mechanisms. These new user communities will therefore benefit from the experience of EGI members and their own user communities that have already been working alongside the European Grid Initiative to define best practices and governance mechanisms that respond to the need for larger community based support.

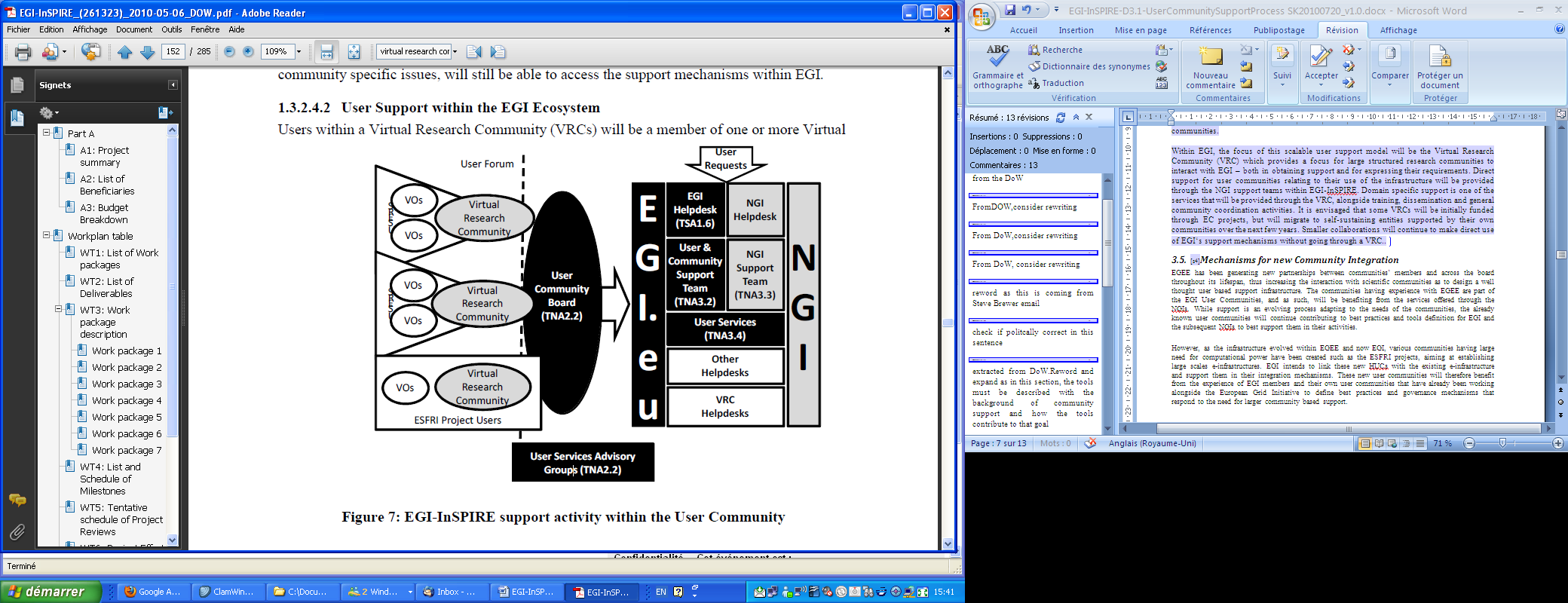
## How are new communities being supported

While some communities have been involved with EGEE and its supporting mechanisms since the early stages of the infrastructure definition assisting in building coherent architecture and services, new communities joining the EGI infrastructure currently need to enter a learning process where they will have the chance to explore their needs against the currently existing services. A thorough definition of the newly integrated communities needs will therefore be required prior to fully benefit from the EGI infrastructure.

In order to support the integration and collaboration with the new communities, EGI and the related NGIs will therefore engage into a larger set of activities compared to already integrated communities. This will result in more e-marked definition of needs and services, comparison with existing sets of services, middleware’s and very often, a direct work onto better interoperability with the already in use sets of software’s and middleware’s.

EGI Inspire therefore, as an integrative infrastructure will analyse the communities’ needs in order to best provide the necessary transformations for a faster and easier integration of new communities. These will be described in detail in the coming chapters of the document.

Once the gap analysis will have been performed, the communities VOs will be supported through a subsequent set of tools, applications and integration mechanisms and become a full part of the EGI infrastructure and provide EGI.eu with the requirements needed to expand the infrastructure and increase the infrastructure interoperability both with the VO’s sets of tools and applications but also with other infrastructures that already have supported some of these new communities.



**EGI-InSPIRE support activity within the User Community**

Assistance for new users and new communities in their initial use of the production infrastructure is essential for the community to expand and will be delivered through the User

& Community Support Team within EGI.eu (See Figure 8). All users will be encouraged to make contact through the EGI Helpdesk so that the activity associated with their request can be tracked and the response monitored. For new users and communities this initial interaction will be followed by a face-to-face meeting to understand their needs – if contact has not already been established on previous occasions.

The User & Community Support Team (UCST) will be involved in delivering:

Documentation: Effort is provided to ensure that the documentation being presented to new users is complete and matches their experiences when they start using the infrastructure.

Training: New users and communities will be directed to the training opportunities (grid schools, online training, national training sessions, domain specific, etc.) coordinated by EGI through its NGIs and partner projects to smooth their adoption and use of DCIs.

Consulting for New Communities: Staff in the UCST will make initial contact with new users and communities to assess their needs. Once an assessment is made the users will be redirected to the appropriate VRC, SSC or NGI consulting services.

Application Porting Support: Some communities may also need to access the application porting support capabilities provided within the NGIs, VRCs or by partner projects which will be facilitated by the UCST.

Requirements Gathering: Experienced users and user’s communities (frequently represented by VRCs) will inevitably make complex demands of the infrastructure.

Dedicated staff will be able to build relationships with the relevant VRC contacts by attending their meetings and understanding their evolving needs, enabling representatives to provide a voice‘ for the community within EGI.eu‘s various management groups.

Infrastructure Planning: Any technical changes in the production infrastructure gathered from the users will be coordinated by the UCST within the relevant EGI.eu management bodies – which is in addition to the dedicated representation that heavy user communities will have.

Resource Allocation: Brokering requests from new communities (VOs) for resources with resource providers in the infrastructure. It is expected that most communities will

integrate their own community‘s resources into the production infrastructure.

# operational tools and services for communities

The User Community Support Process work package is strongly interacting with other WPs and defines the mechanisms for the users to better apprehend the different sets of tools and services through provision of general services, technical and specific services.

Intended to provide an overview of the existing operational services and tools that are accessible for the community, the present chapter will illustrate the community support mechanism that will allow communities and users to access, use and develop further their applications. This document will be evolving within the lifespan of the EGI inspire project, providing lessons learned as well as new supporting mechanisms, thus easing discussions between services providers, user communities and grid infrastructures. This shall impact strongly on other issues such as interoperation, sharing of technologies and applications across the board, which in turn will provide the ground for a full user experience of the production infrastructure EGI.eu and the related middleware’s, software’s and applications.

## General Services to VOs

### Trainings

#### General Information Training

Essential to the user community support process is the training scheme that will be provided by EGI, the NGIs and the Heavy Users Communities (HUC). In order to provide the best support to the scientific user communities, EGI Inspire will therefore organise the monitoring of the trainings and trainers to establish a coherent training scheme.

EGI.eu itself will not be providing training. EGI will coordinate information about training and trainers together with the hosting and accreditation of training material and resources. In addition, EGI will be able to provide valuable information about the training needs of the various communities which will guide future directions from training providers whoever they may be.

Trainings will therefore be provided by VOs for application aspects, by NGIs for the technical aspect of grid related application porting to the grid and for grid technologies while other actors already involved with HUCs, ESFRI and other communities will be providing specific trainings related to their applications. EGI-Inspire will therefore encourage the rationalisation of training schemes and contents, enhancing the coherence of the use of grids, related softwares and applications by communities.

Core to the understanding of the limits of training is the concept that each community will both provide and receive training depending on their needs and capacity and that EGI-inspire will remain agile to be able to coordinate and increase the impact and the dissemination of the core functionalities, infrastructures software and applications from and to the communities. New comers and new communities will specifically be targeted to assist in designing training schemes and plans and a particular effort will be made in interlinking the existing training, thus avoid redundancy and incoherencies that could endanger the ongoing collaborations between EGI-inspire and the communities.

#### Training Schemes

**STILL TO BE DEFINED**

**Tutorials:** Using the tools for the first time may require additional information for the user group. Tutorials will be made available by the development teams. An example is for the dashboard where the teams will make tutorials available (see MS601 explanations).

**Introduction to the grid infrastructures and applications**

**Sys admin training modules: basics**

**Sys admin training modules: advanced**

**Specific training modules:**

#### Training on existing applications (HUC’s tools and applications)

Applications that have been deployed on the grid infrastructures and particularly on EGEE/EGI.eu will be proposed to all communities as an effort for standardizing tools developed and apply proven technologies to new categories of users

#### Training events: the training calendar

**To be defined at later stage**

#### Training repository: material and accredited trainers

EGI Inspire web portal is currently integrating all information on material available and accredited trainers. The DB is also to evolve with new tools and services being considered for User Community Support, consequently, the number and varieties in terms of training and trainers will be increasing at fast pace. The NGIs trainers and training scheme shall be integrated in there as to provide a thorough overview of the actual training landscape.

### Applications database: ported applications library and support

### Other service

## Specific Services for User Communities

### Shared Services(TSA3.2)

#### User’s Registration and SSO

#### User’s Support Help Desks

1. **EGI Help desk:**
2. **NGIs help desks:**
3. **Communities Help Desks (including HUCs, communities and ESFRIs):**

#### The Dashboard

Dashboards provide a generic framework to monitor sites and their services within a VO

using tests specific to that community. Dashboards have emerged from within the HEP community, and are now being adopted by the LS community, to monitor their resources

The Dashboard system provides multiple applications. Depending on the information source, some of them are shared by several virtual organizations (VOs) whereas others are VO-specific.

Bugs and feature requests are tracked through [Savannah](https://savannah.cern.ch/bugs/?group=dashboard).

There are 16 different categories, 1 for the Dashboard framework and 15 for various Dashboard applications. As for the status for the 13th of June 2010 there are 200 open bugs and feature requests and 1135 closed ones.

In addition to the Savannah system there is a dashboard support list where users can ask their questions or request help.

The dashboard team organizes regular tutorials for users of the dashboard applications and takes part in the VO tutorials for Grid users.

The link to the material of the user tutorial sessions can be found [here](http://dashboard.cern.ch/tutorials/)

#### Applications

**GANGA : insert description and how it is included in the user support mechanism**

New feature and development requests for Ganga are tracked via Savannah (items called “Feature Requests”). This is also used to do a basic prioritization of new features and following up the evolution of the tool. The priorities are discussed during the weekly Ganga [meetings](http://indico.cern.ch/categoryDisplay.py?categId=504). This [link](http://savannah.cern.ch/bugs/index.php?go_report=Apply&group=ganga&func=browse&set=custom&msort=0&report_id=218&advsrch=0&assigned_to=0&submitted_by=0&custom_sb1=102&priority=0&status_id=1&history_search=0&history_field=0&history_event=modified&history_dat) points to the open feature requests in Savannah.

Presently there are ~60 open feature requests and ~260 closed ones logged in the system (for reference: there are currently ~70 open bug reports and ~960 closed ones). Some special views (display forms) have been developed by the Ganga project in order to track the “originator” of a request (user community) and map them against a given (or future) release.

In this [view](http://savannah.cern.ch/bugs/index.php?go_report=Apply&group=ganga&func=browse&set=custom&msort=0&report_id=136&advsrch=0&assigned_to=0&bug_id=&resolution_id=0&category_id=0&priority=0&status_id=1&summary=&history_search=0&history_field=0&history_event=mod) one can see bug reports (with corresponding fixes for closed reports) and feature requests alike. N.B. the “originator” of a feature request is only an approximate indication of the request's area of impact. For example, certain functionalities prototyped in ATLAS or LHCb may be re-factored into the Core. The same applies to bug fixes: for example, a bug found in ATLAS may become critical because of a potential big impact on LHCb.

**DIANE Same as above**

**Glite PLATFORM: Samuel as above**

**Other applications not in the DoW? Gateway from HeC or should it be in services. workflows etc?**

#### Services

**GReIC**

**HYDRA**

Other services?

#### Workflows and Schedulers

**SOMA2: Description and how it supports communities to be inserted here ( Person in charge?)**

**TAVERNA: Same as above**

**MD/RAS/KEPLER: Same as above**

**GRIDWAY: Same as above**

#### Parallel Computing (MPI)

Integration and improvement of core services to support MPI

Engaging with CCMST & Fusion to meet their requirements

### User Community Support on Services for HEP (TSA3.3)

LHC experiments generate large amount of data and metadata

Need for optimisation of long-term production data acquisition

CERN manages the Grid Support Group for HEP community

Scalable solutions to the experiments needs for data distribution, detector conditions and access

Reconstruction and analysis of physics data

Automation of the management of experiment specific services

Development and deployment of efficient monitoring tools essential to the tasks of the shifts operators

GRG to expand from HEP use to other communities

The support model for High Energy Physics will be described in the document MS603 – Services for High Energy Physics and made available in the next version of the present deliverable.

### User Community Support on Services for LifeScience (TSA3.4)

LifeScience communities include Biomedical, bio informatics and medical communities. The synergy between these interlinked communities has been demonstrated in publications, white papers[[2]](#footnote-2) and roadmaps[[3]](#footnote-3) and whitepapers[[4]](#footnote-4) in relation with the use of grid technologies for medical bio-informatics and biomedical applications, namely the healthgrids. Healthgrids are now the reference for all medical applications using the grids.

Life Science communities are currently experiencing a long term structural problem due to scarce funding, and lack of investment in new technologies, rendering difficult new experiences and projects.

The EGI-Inspire project, conscious that Life Science communities have been a key driver for e-science before and during the EGEE project, is therefore engaging further with the LifeScience larger community as a key partner for enhancing the capacities of the community to reach beyond the lines through innovative supporting mechanisms. While parts of policy making supporting the LSVRC (Life Science Virtual Research Community) will be done in coordination with EGI.eu, a strong community based engagement is necessary. The supporting mechanisms for accessing the grid infrastructures and the tools developed, which are mainly supported by the communities themselves under the technical support of the NGIs and the mandated organisations, will be developed jointly, taking the emerging needs into account for defining user’s needs based supporting mechanisms.

To that level, the LSVRC is currently getting structured in link with the EGI objectives and will develop stronger relationships during the lifespan of the EGI-inspire, promoting the existing tools for a use in other communities, widening to other new communities such as the ESFRI[[5]](#footnote-5) projects on LifeScience. The strong links created will therefore help in designing a better ecosystem coherent within the landscape of the e-infrastructures and promote participation in innovation with tools and services usability being the key driver. EGI-inspire, through the NGIs and communities, is to become part of the gluing mechanism to federate new porting of applications on the grids, clouds and other infrastructures.

The following applications are therefore e-marked as supporting services:

**Distributed Medical Data Management:**

**Integration of Molecular Biology Core Resources on the Biomed VO:**

**Middleware for Grid Integration and Deployment of Bioinformatics and Biomedical Services and Data:**

**WIDSDOM PRODUCTION ENVIRONMENT (WPE)**

**Other?**

### Services for Astronomy & Astrophysics (TSA3.5)

MPI-based computational simulations the A&A community

VisIVO

HPC (DEISA/PRACE) and HTC resources integrated as proof of concept

### Services for Earth Science (TSA3.6)

Implement, deploy and maintain the EGDR service to provide access from the grid to resources within

GENESI-DR.

### Services for New Communities

#### Defining the New Communities’ needs

#### Adapting Existing Services from HUC and VOs for New Communities

check in DoW, especially HUC services but also ESFRIs etc…

# relation and task sharing between EGI, the NGIs and the VRCs

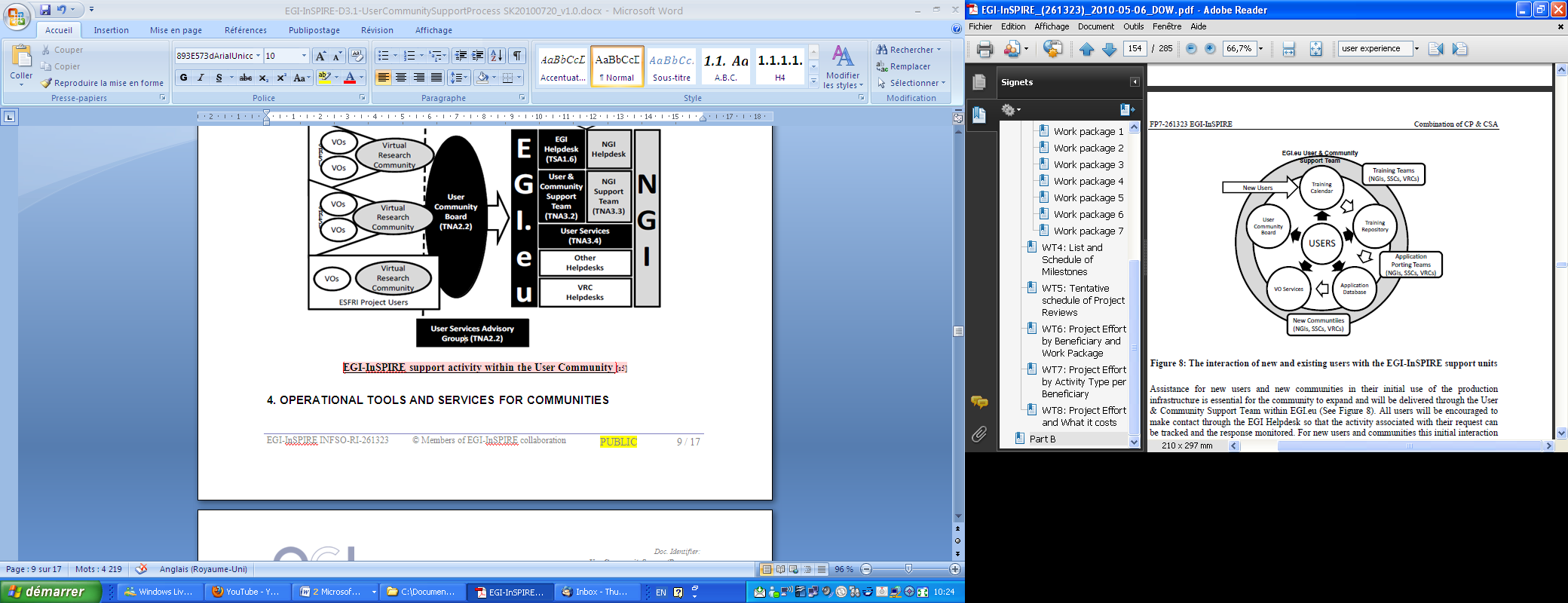
Essential to the project support to user communities is the strong link between EGI and its production environment, the NGIs and the Virtual Research Communities. This strong link implies collaboration at several levels, which in turn implies that each of the considered partners mentioned above builds on the core competencies of the others. In order to do so, and under the coordination of the EGI.eu organisation, the NGIs and the VRCs will collaborate to use the community supports mechanisms that are already in place and consider new developments in the light of the constantly evolving needs of the user communities.

**Need input from Steve Brewer in here**

# integration of all services: the user experience

All services require a level of expertise for an extensive further use by the communities. The users are therefore being supported by experts within EGI, the NGIs and the VRCs.

The following figure describes the user experience and the supporting mechanisms that are in place to maximise the user experience benefits in this process.



**Figure xxx: The interaction of new and existing users with the EGI-InSPIRE support units**

The integration of all services to users provides the base for an understandable user experience, supporting the communities’ users at each step of the process; however, due to the nature of the needs and the disparate experience of the user communities’ members, this scheme will remain extremely agile and adaptive.

# conclusion

1. Distributed Computing Infastructures: Clouds,supercomputing, Desktop grids etc… [↑](#footnote-ref-1)
2. HealthGrid White Paper 2005 <http://initiative.healthgrid.org/fileadmin/whitepaper/HealthGrid_whitepaper_full.pdf> [↑](#footnote-ref-2)
3. SHARE project roadmap2008 <http://www.healthgrid.org/documents/pdf/eHealth-SHARE-A4.pdf> [↑](#footnote-ref-3)
4. [↑](#footnote-ref-4)
5. insert ELIXIR and other ESFRI here [↑](#footnote-ref-5)