



Grant agreement no. 283562

N4U

NeuGRID for you:

expansion of NeuGRID services and outreach to new user communities

Combination of Collaborative Project and Coordination and Support Action

Objective INFRA-2011-1.2.1 - e-Science environments

Start date: July 1st 2011 - **Duration:** 42 months

Deliverable data

Deliverable reference number and title: D4.1 SSC Protocols, Structure and initial Portfolio Report

Due date: month 12, 30 June 2012

Actual submission date: 13 July 2012

Due resubmission date: month 19, 7 January 2013

Actual resubmission date: 27 January 2013

Organisation name of lead contractor for this deliverable: CO1 FBF

Dissemination level: public

Authors

Libera Cavaliere, Giovanni B. Frisoni (CO1 FBF)
Jerôme Revillard, Baptiste Grenier (P2 maatG)

Approval

Workpackage Leader: Libera Cavaliere(CO1 FBF)

Project Coordinator: G.B. Frisoni (CO1 FBF)

PMT members: G.B. Frisoni (CO1 FBF), D. Manset (P2 maatG), S. Liaquat (P3 UWE)

History Record

Issue	Date	Notes
1 st draft	02/04/2012	FBF prepared the 1 st draft
Review	12/04/2012	FBF reviewed “Front Desk Team” and “Online Help Desk” according to MaatG comments
Expansion	19/04/2012	MaatG identified the operators of the Front Desk Team
Expansion	03/07/2012	MaatG added the description of the dashboard and use examples for issue tracker and forum
Final version	12/07/2012	FBF final editing and review
	7/11/2012	Review Report received: Rejection of v1 by reviewers
V2 1 st draft	12/12/2012	FBF prepared the 1 st draft
Expansion	24/12/2012	MaatG added First year’s N4U User Support Report
Review	10/01/2013	FBF and MaatG reviewed the document
Final version	24/01/2013	FBF final editing and review

Table of Contents

- 1. Introduction..... 4
 - 1.1 Purpose of the Document..... 4
 - 1.2 Document Organisation 4
 - 1.3 Document Review..... 4
- 2. N4U SSC 5
 - 2.1 N4U SSC STRATEGY 5
 - 2.2 N4U User Support..... 6
 - 2.2.1 SSC Structure..... 6
 - 2.2.2 User support tools..... 7
 - 2.3 Services for Monitoring..... 10
 - 2.3.1 Dashboard 10
- 3. First year’s N4U User Support Report..... 11
- 4. Conclusions 11

1. Introduction

1.1 Purpose of the Document

D4.1 *SSC Management Protocols, Structure and Initial Portfolio Report* describes the results achieved in T4.1 “SSC Management Protocols Definitions”, T4.2 “SSC Management Structure and Portfolio Setup”, T4.3 “Front Desk Team Setup and Operation”, T4.4 “DCI Liaison and Planning Team Setup and Operation”, T4.5 “Online Help Desk and Knowledge-Base Operation”. The main results are the definition and implementation of a management structure and protocols of the N4U SSC, which has been developed in the first year, as well as the production of a first set of services into the N4U SSC. These services will allow the bodies of the management structure to support end-users in their daily research activities.

1.2 Document Organisation

The deliverable has 4 chapters. The first describes purpose, structure, and future updates of the document. The second chapter aims at illustrating the N4U Specific Support Centre (SSC) strategy and structure together with the tools available for users to get support. At the same time, the monitoring systems of the performance levels of the SSC and statistics of the use of the infrastructure are addressed. The third chapter describes the support activities carried out in Year 1. The fourth chapter presents conclusions. Although the SSC will be operational in the context of a specific legal entity that will be defined by D4.7 *SSC Statutes Release and Legal Launch*, for the purpose of the present deliverable no specific entity will be assumed and the generic term “Consortium” will be used throughout the document.

1.3 Document Review

According to the Description of Work (DoW), an update of this document will be released in June 2013 (M24) under the name of D4.2 *SSC Portfolio Update Report*. This document will be mainly focused on updating the portfolio of support services offered by N4U. However, it is possible that an update of the structure and of operational activities might also be required, according to user feedback.

2. N4U SSC

2.1 N4U SSC STRATEGY

As stated in deliverable D1.2, N4U Vision Statement, the final goal of N4U is to provide neuroscientists and clinicians worldwide the innovative online neuGRID functional environment where they can efficiently upload/use/share relevant algorithms for brain features extraction/computational power/large image datasets, and access support and training.

In N4U strategy, the setting up of a **Specific Support Centre (SSC)** plays a key role, welcoming information and knowledge from all work packages and structuring the services provided by the neuGRID functional environment. The SSC integrates the overall project portfolio into one single set of coherent assistance services. By establishing the SSC, N4U intends to obtain a robust but flexible structure that fits the needs of end-users and which can be legally launched post-project to sustain user communities and corresponding activities.

The SSC acts as the focal point to the N4U-community and aims at enabling users to make use of the grid technology as applied to the neuroscience field. Not only does it result in the improvement of users capabilities and satisfaction, but it also facilitates the implementation of practices that improve the internal organization, make the services easier to improve, and in the end will increase N4U business value.

N4U SSC STRATEGY

Table 1. The table shows how the SSC is essential to translate N4U's vision and strategies into practice.

AREA OF IMPACT	SSC ASSETS		FINAL OUTCOME
	<i>EXTERNAL</i> (user point of view)	<i>INTERNAL</i> (management point of view)	
<i>ORGANISATION</i>	Better knowledge base (formalization of tacit knowledge held by staff, developers)	Easier and more effective knowledge transfer (reusable knowledge)	Efficient and effective use of staff
<i>SERVICE</i>	Improvement of the aspects of the infrastructures the are hardest for users to use and prone to errors	More self-sufficient users	Structured feedback in order to make N4U more reliable, friendly, and customizable
<i>USER/CONSUMER MANAGEMENT</i>	Increase quality and quantity of users	User satisfaction with support experience	Augmented offer of value
POST-PROJECT			
<i>FINACIAL</i>	Increased revenues	Lower internal cost	Increased profits

2.2 N4U User Support

N4U Specific Support Centre acts as a liaison between users and Consortium Partners and is in charge of supporting users in their daily use of the e-Infrastructure.

2.2.1 SSC Structure

The support centre embraces different level of activities based on the processing of users queries about N4U. It covers the query information recording, management and the monitoring process.

The first task is to size the organisational structure and design it to resist the expected demand. An important factor is that the SSC must be modular in order to let it grow if the demand grows too: as the usage of the neuGRID online environment grows in terms of numbers of users and resources available, the need for support will grow proportionally.

The structure is divided into 2 levels:

- The first level, **the Front Desk Team**, is made up of a set of N4U users. Their task is to handle all the enquiries and escalate the most complicated ones to the second level.
- The second level, **the Developer Team**, consists of specific application experts, who will engage the prioritized enquiries for a better resolution, since these type of queries require an in-depth knowledge

The reason for providing a multi-level support system instead of a general support group is to provide the best possible service in the most efficient manner.

The responsibility of the two levels is shared nearly among all partners, for various reasons. First of all, this complies with N4U “European approach”. Secondly, this allows the project to take advantage of each partner specific competencies and resources, and at the same time, each partner would be in contact with users, having a “first hand” knowledge of the infrastructure usage and what needs to be improved.

2.2.1.1 Front Desk Team

The Front Desk Team (FDT) can be defined as a “peer support group”, meaning that its components have personal experience in the subject of the group's focus. For this reason, the Front Desk team will attend all user queries. The FDT is managed by people having basic knowledge about the platform (services or domain specific). This means that they have the same needs and requirements of the users asking for support, but, at the same time, have the knowledge to analyze user requests and either solve them or redirect them appropriately.

Therefore the FDT will be in charge of:

- ❖ Redirecting users to documentation and material already available where users can find solutions for their problems.
- ❖ Answering to users questions, when possible
- ❖ Redirecting users requests to Level 2 if they cannot solve the problem.

2.2.1.2 Developer Team

The Developer team gets involved in case of task-specific issues, which will be assigned to the responsible partner:

Here an initial list:

- Authentication/login support: MaatG (P2)
- Data Atlas: UWE (P3)
- Datasets: CEA (P7)
- Desktop Fusion: MaatG (P2)
- ExpressLane: VUA (P4)
- Grid Browser: MaatG (P2)
- Grid infrastructure support: MaatG (P2)
- Image processing: VUA (P4)
- Portal usage support: MaatG (P2)
- Specific Application Support: MaatG (P2)
- Other: MaatG (P2)

As soon as other tools and services will be made available the related task will be assigned to the partner responsible.

2.2.2 User support tools

N4U has a multichannel support approach. This means that users are provided with different options to reach support.

Currently the tools available are:

- The Knowledge Base, which contains all the knowledge available in the N4U Science Gateway.
- The Online help desk

The first one can be defined as a “self-support” tool, whereas the latter implies the Front-Desk Team intervention.

For general enquires a dedicate email address support@neugrid4you.eu has been created. All the emails are taken in charges by the FDT that will start the appropriate procedure (direct reply to the user, issue submission and so on).

2.2.2.1 KNOWLEDGE-BASE

The N4U Knowledge-Base contains all the knowledge available in the N4U Science Gateway and it is spread across several tools, which can be grouped in three categories:

- Document library. Tools for static documentation provided and maintained by N4U partners;
- Wiki. Tools for dynamic documentation that can be created and maintained by N4U partners or users, who will need to be logged in to update these documents, so that any change might be tracked;

- Blog and calendar. Tools for announcements and communications destined to the user community.

DOCUMENT LIBRARY. The document library includes all static documentation provided and maintained by neuGRID4you partners.

Currently, it includes:

- The poster presented during the first User Session that took place on January, 23rd 2012 in Geneva, Switzerland;
- The poster presented during the Second User Session that took place on March, 21st 2012 in Stockholm, Sweden;
- The first issue of N4U newsletter;
- A “Documentation” folder containing a training demo and the N4all Science Gateway Manual.

WIKI. The wiki is a tool for dynamic documentation that can be created and maintained by both N4U partners or users, who will need to be logged in to update these documents, so that any change might be tracked and kept to enable error corrections. The wiki pages have a hierarchical organisation and are interlinked so that users are able to click back and forth from one concept to another. N4U partners provided a set of basic contents related to:

- Data registration, management, and QC (anonymization, upload, grid browsing)
- Data access, querying, and browsing
- Workflow development, execution, and management (running applications with ExpressLane, running applications with LONI)
- Validation of results and workflows using provenance
- Sharing workflows histories and results
- Visualization of the results
- Tutorials

Within the wiki, FAQ is also hosted, explaining users how to get help and linking all the available support facilities. Currently, FAQ section includes contents related to how to be helped through the Online Help Desk and suggestions about how to use this facility.

BLOG and CALENDAR. The blog provides news about the N4U Science Gateway to its community of users. News might be related to several topics, such as the publication of new tools or documents, incoming events, notice of planned or unplanned downtime, possibility of longer response time and/or error due to maintenance, temporary unavailability of tools. Users are allowed to comment, tag, and rate any post, so they might react to contents and express their opinions.

In the blog page, a calendar is also available where all planned events of N4U are posted.

2.1.2.2 ONLINE HELPDESK

The Online Help Desk is based on the Redmine project management tool. It is completely separated from the neuGRID4you Liferay web portal and having a simple local authentication system. This solution avoids potential login problems occurring with the more complex system used to access the N4U portal.

The support tools consist of an issue tracker and a forum. The former is targeted to advanced users, and the latter to novice users.

ISSUE TRACKER. The issue tracker is a database containing issues associated with the N4U Science Gateway allowing to track events and discussions taking place during the lifecycle of an issue while making it accessible to all concerned parties. Issues can be searched to find the existing ones about any possible subject. N4U users will act as reporters (they will report issues); the Front Desk Team has to make sure that issues are submitted correctly or will directly submit issues, when needed, from requests arrived through other systems (i.e. emails).

To submit an issue, users need to be registered to N4U Help Desk so that they can be identified as reporters. Through this system, users submit bugs or problems they encounter when using the N4U infrastructure, as well as requests of support or tool evolution. The tracker allows reporters to choose among: bug, evolution, support.

All the new issues are always assigned to the FDT (Level 1) team. An automatic email is sent to the members of this team when it is created or modified. If the FDT is not able to answer a specific issue, it then assigns it to Level 2.

The status of issues conveys their resolution state, which can be: new, ongoing, resolved, closed, or rejected. It is constantly updated according to the development of each discussion.

The issue tracker should be used under different circumstances to contact the N4U support team:

- A user encounters a bug or a problem when using the N4U platform;
- A user requests support to use the N4U platform;
- A user asks for a new features or improvement.

Before using the issue tracker, one should first do a query among the issues to see if it has already been reported and possibly completed with a solution. If needed, a user can comment on an existing issue.

FORUM. The Forum allows users to easily find and reuse contents thanks to its structure: according to its use, it can include a number of sections, each of which has several topics; within topic, new discussions are started as threads, and can be replied to by as many people as necessary. Questions posted recurrently will be included into the Knowledge-Base. In addition, having a strong self-support and mutual aid element, a forum allows to foster social interactions among users and to develop the sense of a community.

The Forum is managed by administrators who are helped by a number of moderators, if necessary. Moderators are divided in subgroups and each of these subgroups is in charge of a different category.

The Forum should be used by users willing to help themselves or ask the support team without having (or when it does not seem to be needed) to create a new issue in the N4U Help Desk. It allows searching existing messages and if needed post new threads for requesting some help from the user community. As it is managed by the N4U support team, if needed, they will redirect the user to the appropriate solution or help them in creating an issue in case of a new problem. The Forum is the recommended first step before reporting a new issue.

2.3 Services for Monitoring

The SSC objectives achievement could be focused in:

- Analysis of the level of user expectation fulfilment: assessment of user satisfaction level, on the basis of its requirements, previous knowledge, expectation and the outcome of the whole query process.
- Analysis of level target achievement: it evaluates the set of support center objectives for each closed query and the contribution of the results to reach the Leveraging Center goals.

Support centre activities will give useful information for subsequent analysis. Volume, variety and level of information recorded will depend on the desired analysis outcome.

Some important useful information/parameters for evaluate our help desk:

- Volume of queries processed/recorded at each level and its results.
- Monitoring system performance.
- Preventive/corrective actions conducted at this level.

2.3.1 Dashboard

The dashboard is made of two parts:

- A nagios-based DCI infrastructure monitoring the health of N4U infrastructure. This low-level component has already been deployed;
- A high-level user interface allowing to extract key measurements. Available solutions are being evaluated and selected.

The dashboard allows users to quickly have a concise overview of the N4U platform availability and reliability, helping users and administrators to quickly see if the N4U infrastructure is up and running.

N4U SSC IMPACT MEASUREMENTS

Table 2. The table shows a list of Key Performance Indicator to measure SSC performance level

AREA OF IMPACT	FINAL OUTCOME	METRICS
<i>ORGANISATIONAL</i>	Efficient and effective use of staff	Time to solution (average days from issue awareness to published solution) Currency (percentage of solution added, deleted or updated) Transparency (percent of solution publicly available) Knowledge reuse rate
<i>SERVICE</i>	Structured feedback in order to make N4U more reliable, friendly and customizable	Number of issues submitted weekly, monthly First contact close rate Incidents per analyst-month Solution handle time Improvements suggested Percentage of changes implemented
<i>USER/CONSUMER MANAGEMENT</i>	Augmented offer of value	Satisfaction survey scores Unsuccessful request for support rate Number of non-solved issues

3. First year's N4U User Support Report

During this first year, the User Support has been improved regularly. Of course, as far as the knowledge base is concerned, it took some time to populate it and therefore, it was not immediately available to new users. Nevertheless, the N4U Online HelpDesk was put in place really quickly and was quickly adopted by new users. At the time of writing, 29 users already registered into the system. Also, as shown in the following screen capture, a total of 120 issues have already been reported and most of them were already closed

Figure 1: Helpdesk issues summary

	open	closed	Total
Bug	9	76	85
Evolution	3	8	11
Support	2	22	24

Category

	open	closed	Total
Authentication/login support	1	20	21
Data Atlas	-	-	-
Desktop Fusion	4	4	8
Grid browser	-	6	6
Grid infrastructure support	-	14	14
Others	1	7	8
Portal usage support	-	3	3
Specific application support	3	27	30
Terminal	1	1	2
Virtual Imaging Plateform	-	-	-

The Online Helpdesk was the preferred user's tool for support as only 2 threads were created into the forum for a total of 18 messages.

Also, it is important to notice that the number of reported issues is decreasing whereas the number of user increases. This is due to the fact that a lot of work has been done in the Knowledge base to populate the wiki, create tutorials, etc. and of course, the system is more and more stable.

4. Conclusions

This document illustrates the organizational structure and the tool available for users support.

Mapping the user requirements onto N4U SSC will go on during the second year of the project at the end of which an update of this document will be delivered: *D4.2 SSC Portfolio Update Report*. The increasing attention that N4U is paying to users will allow its SSC to meet their needs at the highest possible degree.