



MEMORANDUM OF UNDERSTANDING

BETWEEN

ER-flow and Somnonetz

The purpose of this Memorandum of Understanding (MoU) is to define a framework of collaboration between ER-flow, a European Project supported by the FP7 Capacities Programme under contract n°312579, with address: Centre for Parallel Computing, University of Westminster, School of Informatics, 115 New Cavendish Street, London W1W 6UW, and Somnonetz, funded by the German Ministry of Science and Education, funding ID 01EZ1132, with address: HTW Berlin, Wilhelminenhofstr. 75A, 12459 Berlin, Germany (hereafter also referred to as “the Party”). Hereafter ER-flow and Somnonetz are referred to as “the Parties”.

The Parties recognise, by this MoU, the opening of a wider and longer-term cooperation in activities, which will bring visible mutual benefits.

The Parties are desirous of entering into this Memorandum of Understanding to declare their respective intentions and to establish a basis of cooperation and collaboration between the Parties upon the terms as contained herein. This MoU is a counterpart to an MoU to be established in the future between SCI-BUS and Somnonetz. They are intended to support one another in contributing to the same overall outcomes.

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1. BACKGROUND

Somnonetz is a national research project that is building science gateways for sleep medicine and sleep research. The project currently provides services for over 300 sleep laboratories organized in the German Sleep Society, but aims to extend its scope to the European level. The open source front end front-end for clinical trials within the sleep-research community is provided by the web interface of the eXtensible Neuroimaging Archive Toolkit (XNAT), which is a popular tool to manage medical imaging data and meta-data. XNAT is an open source IMS that offers an integrated framework for storage, management, electronic exchange, and consumption of medical imaging data and its complementary meta-data. This system, however, does not have capacity to carry out large-scale data processing. Therefore Somnonetz will extend this system to remotely execute biosignal processing pipelines on a cloud infrastructure that is available for this project. This cloud infrastructure is private and based on OpenStack. Somnonetz is currently looking for solutions to realize this vision. HTW Berlin is in charge of carrying out this task in the Somnonetz project.

At the AMC, which takes part in the ER-flow and SCI-BUS projects, a Science Gateway has been developed to facilitate large-scale data analysis for neuroscience applications. This gateway was developed in the scope of the SCI-BUS project, being based on WS-PGRADE and using XNAT as main data source for the neuroimaging data. The applications running on this gateway have been ported to a gLite infrastructure (Dutch e-science Grid) to WS-PGRADE in the scope of ER-flow.

The motivation for this MoU is the expectation that the expertise available at the AMC, as result of ER-flow and SCI-BUS activities, will be useful to enable Somnonetz to evaluate and eventually adopt WS-PGRADE as back-end system to scale-up the XNAT-based gateway.

The two partners, HTW Berlin and AMC, have a long collaboration history that dates back to the SHIWA project. Therefore the contacts and agreements towards this MoU have been smooth and the expectation of fruitful collaboration, with high impact on both projects, is high.

2. AREAS OF COOPERATION

The main goals of the activities developed in the context of this MoU as support to the activities under the ER-flow / Somnonetz MoU are:

1. To explore and evaluate workflow technology available through the SHIWA Simulation Platform and any other relevant technologies developed under ER-flow for porting of applications from the Somnonetz community to run on clouds.
2. To port applications for sleep research to run on cloud infrastructures.
3. To facilitate dissemination of the ported applications to other communities via their publication in the SHIWA workflow repository.
4. To promote and disseminate the joint outcomes of the ER-flow and Somnonetz projects.

Commitments of ER-flow:

- ▲ Inform the Somnonetz community about all the material, guides, training courses

that may be interesting for this collaboration.

- ✦ Give training and advice on the usage of the SHIWA Simulation Platform and the associated technologies such as WS-PGRADE.
- ✦ Give application support for developing applications from the Somnonetz community as WS-PGRADE workflows. This may include providing access to the SHIWA Simulation Platform and resources to aid prototyping of solutions and training. It also may include investigating how to port the applications to OpenStack-based infrastructure using WS-PGRADE.
- ✦ Disseminate the collaboration and promote the Somnonetz community and its science gateway as appropriate.
- ✦ Promote Somnonetz as an associated partner on the ER-flow web page and at events organized by ER-flow.
- ✦ Enable Somnonetz participation at ER-flow workshops and meetings as appropriate.
- ✦ Coordinate the collaboration between the Parties.

Commitments of Somnonetz:

- ✦ To explore the adoption of WS-PGRADE/gUSE to extend the current science gateway to perform medical data processing on clouds. The solutions will build on the potential of the relevant technologies and expertise available and developed under ER-flow.
- ✦ Encourage the Somnonetz user community to use the SHIWA Simulation Platform to develop, publish and share workflows.
- ✦ Define a roadmap for the planned work alongside the SCI-BUS / Somnonetz MoU.
- ✦ Promote the SHIWA User Forum in the Somnonetz community to be involved in the discussions on the SHIWA Simulation Platform and to communicate their needs.
- ✦ Promote the collaboration with the ER-flow project on the Somnonetz webpages and science gateways.
- ✦ Ensure that usage of the Somnonetz workflow service will not relate to an area under ethical compromise or biosecurity such as military research or bioethical studies.
- ✦ Participate in one ER-flow workshop or summer school, if financially possible.
- ✦ Register the necessary individuals on the SHIWA Portal and workflow repository.

3. JOINT WORK PLAN AND TIMELINE

The following workplan will be carried out between the parties

Milestone	End date (2014)	Target	Er-flow	Somnonetz
M1	20 Feb	Write and sign MoU between projects	X	X
M2	1 March	Get familiar with SHIWA platform		X
M3	1 March	Add information about collaboration on respective websites	X	X
M4	1 March	Assess cloud capabilities of WS-PGRADE	X	
M5	1 March	Connect Somnonetz infrastructure to the test WS-PGRADE portal	X	X
M6	30 Mar	Port 1 application as workflow using the test WS-PGRADE portal	X	
M7	30 Mar	Publish workflow to the SHIWA repository		X
M8	30 Mar	Evaluate solution	X	X
M9	30 May	Port at least two additional applications and publish them to SHIWA repository		X
M10	30 June	Write scientific paper about pilot	X	X
M11	30 June	Write Final report	X	X

4. FINANCIAL ARRANGEMENTS

This Memorandum of Understanding will not give rise to any financial obligation between the Parties. Both Somnonetz and ER-flow will bear its own cost and expenses in relation to this Memorandum of Understanding.

Note: if necessary, one developer from Somnonetz will visit the AMC for the maximum duration of one month to speed-up expertise and technology transfer. The costs of this trip will be shared between ER-flow and Somnonetz.

5. COMMUNICATION

The Parties shall keep each other informed on all their respective activities and on their progress and shall consult regularly in areas offering potential for cooperation. Brief weekly progress meetings between the technical teams will be organized for this goal.

Each of the parties shall designate a "point of contact" that shall be responsible for monitoring the implementation of this MoU and for taking measures to assist in the further development.

For ER-flow: Silvia Olabbarriaga (S.D.Olabbarriaga@amc.uva.nl)

For Somnonetz: Dagmar Krefling (Dagmar.Krefling@htw-berlin.de)

6. EFFECT AND DURATION

This Memorandum of Understanding will come into effect on the date of signing and will remain in effect for the combined period of the two projects. Somnonetz is currently scheduled to conclude in 1st July 2014 and ER-flow in 1st September 2014. As such, this Memorandum of Understanding will conclude in July 2014. This Memorandum of Understanding may be extended for a further period as may be agreed in writing by the Parties.

Signed in duplicate by, for and on behalf of ER-Flow on

Prof. Dr Gabor Terstyanszky,
ER-Flow Project Coordinator

Signed in duplicate by, for and on behalf of Somnonetz on

Prof. Dr. Dagmar Krefting,
Somnonetz Project Coordinator