PROJECT IST-2001-37580 – SPONGE

Review 03 – Final Review

Brussels (BE), 15-11-2005

REVIEW REPORT

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REVIEWERS:	Rene Belsø, Tryfon Chiotis, Tugrul Yilmaz
PROJECT OFFICER:	Bernhard Fabianek
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1. Content

2. Introduction

On 15 November 2005, there was a review of the SPONGE project (IST-2001-37580 – SPONGE) performed by the persons listed below. The review meeting was held in Brussels, Belgium. The review covers project months 25 through 37 (October 2004 – November 2005), of 37 months in total.

The review was initiated by Bernhard Fabianek at the European Commission.

Name	Function	Affiliation	Email
KIRSTEIN Peter	Project SPONGE	UCL	P.Kirstein@cs.ucl.ac.uk
JANZ Robert	Project SPONGE	RUG	R.F.Janz@RC.RUG.NL
CHIOTIS Tryfon	Reviewer	GRNET	tchiotis@grnet.gr
BELSØ Rene	Reviewer	Nordic Council of Ministers	rb@norden.org
YILMAZ Tugrul	Reviewer		tugrul@heraklit.physics.metu.edu.tr
FABIANEK Bernhard	Project Officer	EC	Bernhard.Fabianek@cec.eu.int

The reviewers were provided with all the relevant project's documentation and deliverables ahead of the meeting. The review meeting was well organised and the meeting room was well laid out. The presentation presented by the project was of reasonable quality and the presentation gave the reviewers a good overview of the project's activities and achievements.

The SPONGE project is very closely related to the SILK project. The SPONGE project is an *Accompanying Measure* to the SILK project. SPONGE has provided overall management for SILK etc. through the work packages outlined below. Hence, the success of SPONGE is related to that of SILK, the objectives of which, however, go beyond the SPONGE mandate as such, making a meaningful review of SPONGE only, very complicated if not impossible.

SILK

The primary aim of SILK is to provide satellite networking (Internet) access to the European dedicated research and education information technology network, GÉANT, for the newly independent states (NIS) of the Southern Caucuses and

Central Asia (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan; Afghanistan has newly joined the group). The access from GÉANT to NIS (and vis-à-vis) was planed to go via National Research and Education Network (NREN) organisations in the target countries, which thereby act as "point of contact" both in technical terms and in organisational terms. Hence, the NRENs where responsible for running national networks and for distribution of available SILK bandwidth to national institutions, as well strategic planing and budget analysis. The pre-existence or initial creation of NREN organisations (or the equivalent) in each NIS was, therefore, of fundamental importance to SILK success, and in turn to the success of SPONGE.

It is important to note that SILK, as a NATO funded project, by and large, only consisted of providing bandwidth to the NIS states, i.e. SILK can be understood simply as a grant to the NIS states. Furthermore NATO decided to distribute the bandwidth equally, without regard to *needs*, and without any declared wish to use the available bandwidth as a leverage instrument – e.g. giving more to those actively pursuing sustainability and/or putting it to good use, and less to those which might misuse or in any way not respect or appreciate the purpose of the grant.

SPONGE

The main services to be provided under the SPONGE project, as an *Accompanying Measure* to SILK are according to the *Description of Work* (DoW) page 5:

- Project Management of the SILK Project
- Information Services for the SILK Project
- Detailed traffic and service monitoring
- Assistance in people-to-people communication (here called personal communication), information services, management and co-ordination for the project members (both in the West and the NIS countries).
- Assistance in organising that the network is sustainable when the first phase of the NATO Networks Programme (NNP) ends in July 2005.

Providing these services must be seen in the light of how NATO has decided to grant SILK bandwidth – i.e. on a "*no demands, no questions asked*" basis.

Organisation and implementation of SPONGE

The SPONGE project is organised and implemented by four partners: University College London (UCL), Computing Centre of the University of Groningen (RUG), the Armenian Research & Educational Networking Association (ARENA) and the Georgian Research & Educational Networking Association (GRENA). The partners have transformed the list of deliverables (SPONGE project proposal, July 2, 2002, page 16) into 4 work packages:

- **WP1**: Administration and Management
- **WP2**: Infrastructure Services
- **WP3**: Technical Activities
- **WP4**: Personal Communications

The review process
The project representatives from UCL and RUG presented an overview of the SPONGE Project broken down as following:

- Introduction
- Overview
- Response to last Review
- Sustainability – country activities
- WP1 Silk & SPONGE Manage
- WP2 Infrastructure Services
- WP2 Dissemination, workshops and Interactions
- WP3 Measurement & Caching
- WP3 IPv6
- WP4 – VoIP & Conferencing
- Impact Analysis and the Future
- Future Plans – OCCASION

The reviewers see the task of reviewing SPONGE, as reviewing the successful completion of the project in terms of establishing NRENs in all SILK countries and bringing them as close as possible to sustainability.

The SPONGE project is in its final stage but the reviewers understand that a continuation of SPONGE is planed in the OCCASION project – although the OCCASION project has been modified on the basis of experience from SPONGE.

It is against this background that the reviewers, when giving *recommendations* and pointing at *required actions*, attempt to recognize the mistakes of the past and make suggestions to the OCCASION project management for the future.

3. Executive Summary

The review team, like previous review teams, support the holistic approach of adding SPONGE to SILK, thereby aiding an extremely complex nature of assistance – both technical and substantive – in a very complex regional context. I.e. an approach where SPONGE assists the NIS states to make the most of the bandwidth provided by the SILK project, mainly setting up national NRENs which in turn can distribute the bandwidth to the research and education user communities at large and, not least, pave the way to sustainable networks in NIS countries.

National distribution through a permanents structure (NRENs) and optimal utilization of available bandwidth, i.e. the ***impact*** of the SILK and SPONGE projects, should thus be seen as the main project success criteria. Though there is no direct deliverable aiming at this, it is deducible from the SPONGE *Description of Work (DoW)*, since both SILK and SPONGE aim to ensure that the NIS countries, through a set of NRENs or the like, are able to attain sustainable longer-term services. However, if more narrowly reading the DoW, a SPONGE success criteria *could* also be, simply to assist NATO give away the SILK bandwidth for what ever use the receiving NIS country may put it to. The review team presumes the former success criteria, since the later is understood to be absurd.

Two projects in a complex political and cultural and economic setting

Accomplishments within SILK and SPONGE must be understood against the background of the political, cultural and economical situation in the NIS region, with

weak political structures in many countries and many pressing problems straining national budgets. Possible conflicting aims within the community of grantees and funding bodies related to SILK and SPONGE might further complicate project implementation. E.g. excluding NRENs/countries that weaken project objectives or tend not to cooperate with or contribute to SPONGE, might go against SILK project policy and/or jeopardise alternative NATO goals, priorities among which are unclear. Furthermore, the very nature of the SILK project might conflict with national interests in controlling information in general, and telecommunications in particular.

The reviewers believe that an unclear relationship to SILK, and soft or unclear SILK project terms, hampering SPONGE objectives. In regard to this, it should be noted:

- That SILK has no set conditions which might influence if or to what extent bandwidth is provided.
- That SPONGE has no direct influence on SILK, nor does it have funding instruments of its own to facilitate the construction of national NRENs. The project has no or unclear influence on national funding mechanisms and policy priorities related to establishing national ICT infrastructures.

A significant proportion of the responsibility for successful project implementation rests only on national commitment to build - and in turn finance – NRENs, and to pursue optimal impact on national research and education communities, on the bases of optimal distribution of delivered bandwidth to SILK from NATO. The reviewers note that some NIS governments can not only, not be expected to give such commitment, but must be expected to even be against.

The complexity in the above mentioned line of reasoning and its possible consequences for project implementation are not clear in the SPONGE project proposal (July 2, 2002), nor its list of project deliverables (page 16), thus making it unclear how fully to assess the *success* of SPONGE – or for that matter the success of SILK.

The reviewers wish to believe that SILK is not only about handing over bandwidth to NIS countries, but indeed to assist the creation of a sustainable network infrastructure in the NIS countries, which distributes bandwidth to the research and education institutions in the region. In turn SPONGE is understood to support and assist this aim. Moreover, both SILK and SPONGE are both seen as *development aid projects*, and as such are expected to have sustainability and lasting impact at the top of their agenda. This line of reasoning is also the impression given in previous reviews and reports issued by both projects.

In this light, the project, in the reviews opinion, can not be said to have been a success.

But, according to the *Description of Work (DoW)* SPONGE can be said to be successful, except for the fact, that the project still can not provide convincing evidence of network sustainability being forthcoming or of any tangible lasting impact on the regions research and education community. The success lies in the fact that the bandwidth has been delivered and that impact is best understood as the outside world having shown that the grass root level pursuing ICT infrastructure, is not alone in the world but can relay on outside help.

The SPONGE consortium can not be held responsible for NATO project implementation practices (i.e. the unfortunate consequences of what is seen as an

unconditional SILK grants to NIS countries). Likewise, the SPONGE project consortium and participants should, however, not be held accountable for lack of clarity, as to the motives of NATO and EU COM engaging in the endeavour in the first place, but simply be held accountable in regard to the DoW. Therefore, the DoW's many references to ***sustainability*** will indeed be given very high weight in this review.

Though modest results regarding sustainability *have* been attained; the reviewers find that much better results could have been attained if the uncertainties outlined above had been acknowledged at a much earlier stage by NATO/SILK and by SPONGE. Namely the fact that the funding bodies (NATO and EU COM) should have moulded a more coordinated approach to what they wanted to attain with the project, and how they would go about attaining this, in terms of managing various incentive structures and engaging in political dialog with NIS governments. It has not been helpful to project implementation that NATO has given the grant with *no strings attached*, since there has been no national incentive (neither top-down nor bottom-up) to pursuer sustainability. Also, the fact that SPONGE has had no funds for use in NIS countries, to get things done, has not been helpful. Finally, the review meeting revealed that NATO would like to provide bandwidth for future SILK operations at a price higher than market price, making it unreasonable to expect that NIS countries would be willing to co-fund this bandwidth as part of their national bandwidth purchases in future upgrades.

Apart from the above, the reviewers can only repeat the analysis, conclusions and recommendations of the previous SPONGE reviews – most of which have not or could not been followed.

SPONGE has now reached its closing phase. The reviewers have been brought to understand that SPONGE is intended to continue aiding SILK, albeit under a new project name, OCCASION, with modifications in deliverables and workpackages – possibly, or possibly not, adding remedy to problems identified in SPONGE by the reviews and possibly addressed well with a higher budget.

When giving recommendations and pointing at required actions, the reviewers would like to conclude the lessons learnt, thereby possibly aiding future like projects, including OCCASION. Many of the points made below are simply repeats of earlier reviews, to which satisfactory answers have not been obtained.

The reviewers hope that the higher OCCASION budget could give to this excellent consortium the chance to achieve more, especially if more attention is paid to the following recommendation and required actions.

Having in mind that the SPONGE project has closed, all required actions can only be seen as recommendations to any follow-up (e.g. OCCASION) to the SPONGE project.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- Consensus among NATO and EU COM implementation partners, as to how one might best obtain sustainability, should be reached, a.s.a.p. Namely, such consensus should better analyse the consequences of what looks like a NATO grant policy of "*no demands, no questions asked*". Pros and cons of limiting bandwidth and OCCASION services to the countries showing the highest committed to the project should be investigated.

- The European Commission should insure that the upcoming OCCASION project is reviewed very soon after it has started, so that lessons learnt and problems from SPONGE are guaranteed to be addressed within OCCASION. It is advised that the NATO project officer be present at the review.
- At the request of the SPONGE review team, the three review reports from SPONGE should explicitly be given to the OCCASION review team, as input to the first OCCASION review.
- In OCCASION much more emphasis should be put on ensuring that the set of NRENs pursuer sustainable longer-term services based on national commitment (top-down and/or bottom-up) in terms of time or other resources allocation, if not direct funding. It should be better recognised that, if no or very little progress is made in terms of sustainability, the provided European Commission funds will have no or very little impact – thus making OCCASION not worth pursuing any further.
- In OCCASION incentive structures should be strengthened among national participants (technicians, administrators and low-level policy makers) in building a strong NREN organisational structure, by applying direct funding to pay for needed services and other work. However, it is *not* recommended to build NRENs on work funded only from external sources.
- In OCCASION NRENs should be expected to give more support to the preparation of project deliverables. Not doing so, beyond what is financed from the outside, should be understood as lacking commitment from the bottom-up level, leaving OCCASION as a project not worth continuing, since top-down commitment seems absent for most countries. Experts from the OCCASION NRENs should be used as activity or work package leaders in as many as possible work packages, asking of them to direct work, write reports etc.
- Adequate links to or consultations with other related ICT infrastructure projects (GEANT2, SEEREN2, etc.) or organisations, like DANTE, or NRENs associations like TERENA, CEEnet, etc. should be better exploited.
- In OCCASION, before the first review meeting, **NRENs should report on**:
  - How *their* NREN sustainability might be ensured in the shorter as well as longer run. I.e. a short *individual* NREN strategy document should be drawn up.
  - The role of external partners should be stated,
  - The role of their governments and/or host institution/university,
  - The role and work commitment of their individual NRENs in regard to the SILK/SPONGE community,
  - Common regional NREN responsibilities. I.e. a short *collective* NREN strategy document, "*A Sustainability Roadmap*", should be drawn up,
  - de-facto internal national use and distribution of the bandwidth within the research and education communities. Statistics should be provided with the number of institutes connected to each NREN, the number of users behind each NREN, etc. OCCASION management should be asked to comment on the provided data.

  Failing to report on the above issues, makes it impossible to estimate the degree of commitment as well as and project impact within the research and education

communities. The European Commission should insist on such reporting before transfer of any more funding.

- Future funding from external means should be directly linked to tangible national commitment (from top-down or at the least bottom-up) to insure reasonable network sustainability. "*Commitment*" includes, but also goes beyond, the above mentioned reporting. European Commission engagement, through OCCASION or otherwise, should be discontinued if tangible national commitment can not insure a reasonable level network sustainability.

4. Approval of Deliverables

The following Deliverables and Reports were due according to the Technical Annex 1 – Description of work – (month 25 through month 37) of the SPONGE project:

Deliv.	Due	Delivered	Comments
D10	30-11-2004	10-06-2005	Minutes and Working Papers of the Committees after second year of operation. Deliverable accepted
D11	30-06-2005	30-09-2005	Choice of Communications Carrier for the SILK network for 2005-2007. Deliverable accepted
D12	31-07-2005	26-10-2005	Experience with IPv6 in the SILK project. Deliverable accepted
D13	31-08-2005	26-10-2005	Report on resources required for parameters needed for, and experience with the Mbone tools in the SILK Environment. Deliverable accepted
D14	31-08-2005	26-10-2005	Final Report on the advantages of caching. Deliverable accepted
Q9	31-01-2005	30-09-2005	Quarterly Report 9. Deliverable accepted
Q10	30-04-2005	30-09-2005	Quarterly Report 10. Deliverable accepted
Q11	31-07-2005	30-08-2005	Quarterly Report 11. Deliverable accepted
Q12	31-10-2005	26-10-2005	Quarterly Report 12. Deliverable accepted
A3	30-11-2005	07-11-2005	3rd Annual Report. Deliverable accepted
F12	31-12-2005		Final Report to be delivered within 2 months after project end. Deliverable pending

Analysis

The SPONGE project has now reached its closing phase.

As outlined above, the main problems with SPONGE have not been related to deliverables, but more to the original project design, links to the SILK project and the fact that review recommendations have not been followed, or have not been possible to follow, in terms of altering work packages and modifying deliverables. To some extent the project can, however, not be held accountable for this.

The above listed deliverables (except F12) were due for the 3rd review meeting. The project is expected to terminate on schedule given the extension the project has

received in continuation of the previous review. All deliverables, except one, have been delivered in due time, or reasonably close to the original planed time. The performance of the whole system has been good.

To the above listed deliverables the reviewers have the following comments:

D5 Discussion of the status of the NRENs and their regulatory environment after the first year of the project

D5 is not part of this review – but of the previous.

However, the reviewers find it necessary to recall that, at the last review, D5 just give superficial information about NRENs; not mentioning beneficiaries, commitment and impact. Recommendations where not, or could not be, followed by SPONGE

Finding the weakness of D5 to be an important issue, OCASSION should considerably elaborate such a deliverable with detailed country reports covering NRENs, beneficiary organizations, impact, utilization of the network etc.

D11 Choice of Communications Carrier for the SILK network for 2005-2007

Considerable effort has been spent on the choice of Carrier for Silk-2. There was not a large choice of satellite providers. One could continue with the current carrier or move to a different one. The detailed choices involved have been discussed in D11. SPONGE recommended using the EXPRESS-AMI satellite, operated by the Russian carrier RSCC, since that choice was significantly cheaper than any of the other possible carriers. Its offering was also considerably better technically than the current carrier – Eurasiasat. Unfortunately, according to SPONGE consortium, the relevant Assistant Secretary General of NATO (ASG) stated that the choice of a supplier who is not from a NATO member is not permitted under NATO financial regulations, unless there is no viable alternative. Considerable discussion, with NATO and others, on how to proceed, were initiated. To further complicate matters, DESY is not permitted by EU rules to hold a tender excluding Russia. The matter is said to be unresolved and SPONGE does not expect to be able to have a new system in operation before May 2006.

However NATO has stated that they would make up for any financial over-runs arising from the delay caused and from the higher costs potentially arising out of an eventual different supplier.

The reviewers find the above problem to be indicative of the unfortunate consequences of SILK and SPONGE being two separate projects with seemingly two different ways of managing the common goal of both. More important, though, is the fact that there does not seem to be consensus among NATO and EU COM as to how one obtains sustainability, since one major goal is for the NIS countries to, slowly but surly, move towards self financing. Self financing, however, can under no conditions be expected, if what is to be financed is artificially above marked price. Even if NATO would make up for any financial over-runs arising from the delay caused *and especially* from the higher costs potentially arising out of an eventual different supplier, this would still cause significant complications to the goal of sustainability.

In addition to the above problems, deemed beyond SPONGE, there was a lengthy discussion at the review as to the merits of going for fiber connections, thereby leaving the principle of "*unified approach*" for all SILK members, since fiber obviously is not possible in all the geographical locations. SPONGE and SILK (NATO) have clearly stated that they want a unified approach to this phase of SILK.

The reviewers did not quite agree with this, since fiber connections are indeed becoming a viable option for some of the SILK countries, seems to be price computable with satellite connections and much better suited for long term sustainability. But since no long term commitment is in place and since the SILK NRENs are still only weak organisations without any strategic planning the "*unified approach*" might be understandable – though running the risk that certain countries might abandon SILK, or simply consume the free NATO bandwidth parallel to there independent plans and activities. This discussion must be part of discussions within OCCASION and in any case presumes NIS NRENs active participation in strategic planning.

D12 Experience with IPv6 in the SILK project

The reviewers do not think that the most important aspect, of neither SILK nor SPONGE, is to experiment with IPv6. Most important is to get the NRENs operational, engaged in becoming sustainable, and committed to servicing the research and educational communities. Had this already been obtained, experiment with IPv6, would however have been worth pursuing.

The reviewers, therefore, find it understandable that the "*...NRENs at the Silk sites did not regard IPv6 as high priority, did not have the end-user equipment to put in interesting deployments – in spite of the bandwidth they were receiving under the aegis of the 6NET project*".

D13 Report on resources required for parameters needed for, and experience with the Mbone tools in the SILK Environment

SPONGE states that because of the lack of available manpower at the Silk NREN sites, SPONGE decided to concentrate exclusively on dedicated VoIP and H.323 equipment – rather than PC-based ones. There will be a complete re-think of these activities under the OCCASION project.

The reviewers believe that more might have been done to get VoIP implemented successfully throughout the projects geographical scope. I.e. VoIP could have been offered all SILK developers to aid technical development.

D14 Final Report on the advantages of caching

The Content Engines donated by Cisco proved to be unmaintainable without an upgrade to a newer version of the software. However the recent software all contains security code, which can be exported to Silk countries only with specific export permission from the US Government. Although this was requested, it had not arrived by the end of the period. As a result the project was unable to do further caching work, and the Deliverable D14 only explains why the project was unable to obtain results.

The absence of adequate links to or consultations with other related ICT infrastructure projects or organisation, like DANTE, TERENA or EUMEDconnect, has limited the projects ability to overcome difficulties – in this case with caching. The problem might have been handled more adequately much earlier, had such links existed.

Consequently a report could not be made and as such the deliverable is not valid.

General remark on SPONGE deliverables

The reviewers find that, while SPONGE can not be held accountable for NATO policies (e.g. choice of communications carrier) and the resulting potential non-

market pricing policy, SPONGE could have done more to avoid the problems as to D14 (caching).

In accordance with the DoW, the operational performance of the whole system has all in all been good. SPONGE *has* proceeded along its DoW, without any substantial deviations, and the performance of the project with respect to the DoW is as expected.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- In OCCASION, the project design must address the main issues and problems raised in the SPONGE reviews – namely the link to the SILK project in terms of having common goals and a common approach, and the fact that SPONGE review recommendations have, arguably, not been possible to follow, in terms of altering work packages and modifying deliverables.
- NRENs pro-active participation and involvement in providing timely sub-reports with comments and material for the preparation of deliverables, in the format compatible with EC regulations and containing realistic estimations of their work effort, should be seen as national commitment.
- Since fiber connections are becoming a viable option for some of the SILK countries, this option should be better analysed (e.g. within the above mentioned reporting on long term sustainability strategy) regarding some of the SILK countries. Thus, the reviewers see no need for the "*unified approach*". Liaison with regional fiber projects, like e.g. Porta Optica Study and SEEFire, is advised.
- NATO should be brought to understand that choice of carrier for SILK must favour the cheapest and technologically best carrier if NRENs should be expected pursuer network sustainability through SILK. For NATO to make up for any financial over-runs is not a viable solution.
- The first review of OCCASION should take note of the fact that SPONGE did not follow or could not follow recommendations as to D5. OCCASION should considerably elaborate such a deliverable, with detailed country reports covering NRENs, beneficiary organizations, impact, utilization of the network etc.

5. Conformance with Work Plan

Analysis

Sponge is organised into 4 work packages including, in total, 11 activities:

WP1: Administration and Management
A1.1 SPONGE Project Management
A1.2 SILK Project Management
A1.3 Relationships with Funders

WP2: Infrastructure Services
A2.1 Liaison with other relevant projects
A2.2 Dissemination of information on the SILK Project itself
A2.3 Workshops

WP3: Technical Activities
A3.1 Configuration
A3.2 Infrastructure Measurement
A3.3 Caching

WP4: Personal Communications

A4.1 Voice over IP (VoIP)
A4.2 Multimedia Conferencing

The project has reached an operational phase, with a further station installed in Afghanistan. The reviewers note that the future plan (SILK-2/OCCASION) is a system of providing an equal amount of bandwidth free to each SILK NREN, allowing them to purchase additional bandwidth at 50% of the Eurasiasat charges to Silk; the other 50% is subsidised from the SILK NATO grant. The aim of this subsidy is to encourage local contributions in order to move towards a sustainable system. At the time of writing, four NRENs are said to be taking advantage of this offer: Georgia, Kazakhstan, Kyrgyzstan and Uzbekistan. This is a positive step towards sustainability – though it leaves the situation regrading the other countries uncertain.

The amount of work done by SILK partners was still not quoted in the review, making difficult the estimation of their contribution to the total project effort made (in original DoW, their contribution has been planned to be more than 50% of the consortium total). Lack of national contributions from government and/or NRENs is seen to damage credibility of the SILK and SPONGE project.

It is noted that the project consortium lack sufficient instrument (financial or otherwise motivating instruments) to fully engage technicians and policymakers. This leaves only bottom-up self-motivation and personal commitment from individual participants. Top-down national priorities committed to SILK/SPONGE and a *line of command* as a driving force is clearly weak or insufficient.

Going through the Technical Work programme Description, one work package and activity at a time, the reviewers would like to comment the following:

WP1: Administration and Management
Administration and management consists of management of SILK, SPONGE and external relations with fonders.

A1.4 SPONGE Project Management
SPONGE Project Management is considers to have been good, though the reviewers find that the project might have acted too much in isolation. Better contacts to and cooperation with other regional networking bodies, like DANTE, would have strengthened the project. Better attempts should have been made to clarify problems raised in previous reviews and explain way they can not be eliminated. Namely, the problems with NATO project design and its consequences for SILK/SPONGE should have been addressed in cooperation with NATO, and a report should have been formulated on this issue.

A1.5 SILK Project Management
SPONGE is, in effect, not able to manage SILK, since the project is under the complete control of NATO. Problems with NATO project design and its consequences for SILK/SPONGE have not been addressed.

Since SPONGE it closing as a project it seems irrelevant to forward recommendations and suggestions for required actions. However, the reviewers being aware of the fact that EU COM has decided to finance, what can be termed a continuation of SPONGE,

the OCCASION project, giving recommendations and pointing to required actions still seem to make sense.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- A special work packages should be designed in OCCASION to handle the sustainability issue – including the reportings from NRENs on **sustainability**, **strategy** and **impact analysis** (distribution of bandwidth to R&D communities) and long term **regional NRENs cooperation** as outlined above in this review.
- Work packages in OCCASION should clearly state what is expected from national NREN technicians as well as institutional and national policymakers.

6. Project Management and Co-ordination

Analysis

The SPONGE project has two management aspects: the management of SPONGE itself and the management of SILK project. Most of the SPONGE own management has been done well by Western partners although the contribution of SILK partners was still – at the end of the project – not in a form of timely delivered written sub-reports or any other sign of. This might be seen to be a sign of project management and coordination weakness. SPONGE management has not been able to set in motion active national project management. This should be faced as soon as possible in the OCCASION project in order no to put in danger future cooperation. Failing to do so must been seen as ether SPONGE management shortcomings or lacking national interest in the SILK/SPONGE project – both threatening willingness from external parties to finance future activities.

The SPONGE consortium operates without a formal Consortium agreement, despite uneven shares of responsibilities and funding (in kind). A formal Consortium agreement, recommended in previous reviews, might have been a good step preparing NIS countries to handle the complexity of issues in the view of future national self financing of networking bandwidth (describing distribution of labour and costs etc.). Other regional network co-operation endeavours (SEEREN, NORDUnet etc.) have put considerable effort into discussing such distribution of labour and costs etc. and its hard to see how a credible co-operation can come into place without.

As mentioned, the success of SPONGE management services depend to a large extent on the implementation of SILK objectives, which go beyond the SPONGE mandate as such. In the light of this, SPONGE *has* provided good and strong project management and co-ordination - thus facilitating implementation of SILK objectives. Information and dissemination services; Chairing of the Silk Board meetings and organizing them, creating SILK Websites and organizing distribution lists, issuing a newsletter, implementing VoIP, conducting teleconferences/videoconferencing, caching (is an in-built feature), assistance in setting up NREN Web pages in local languages, wider use of web-sites are the cases in point.

Project management and co-ordination efforts should, to the end of the project, have (as mentioned in the previous review) been focused on liaison with government agencies/ministries and potential international bodies active in the region, leading to sustainable longer-term services. This has proven to be difficult and made clear that government commitment might indeed not be present.

Better liaison with other networking organisations like DANTE, or NRENs associations (like TERENA, CEEnet etc.) or the project management of other networking projects (GÉANT/GÉANT2, SEEREN/SEEREN2, etc.) could also have been beneficial. Report on such liaison activity could have given the funding bodies a clearer picture of the potential of SILK ever obtaining sustainability. This, not being the case, leaves SILK-2 and OCCASION in an uncertain position.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- More emphasis among the beneficiary countries NRENs managements, should be given to attaining a "sense of community" aiming for NREN development as well as cooperation among the region NRENs. (I.e. like other regional NREN groupings like SEEREN and NORDUnet, buying common bandwidth at lower prices and coordination strategic developments, hence being able to share bandwidth and costs, experience and solutions)
- OCCASION project management should use more effort explaining NRENs managements, that external funding is dependant on visible national interest (bottom-up or top-down) in the SILK/SPONGE project, i.e. on committed work effort, if not direct funding, as well as documented project impact among research and education user communities.
- One SILK board meeting should be devoted to the issue of NREN sustainability, strategy and impact analysis and long term regional NRENs cooperation.
- The reviewers note that previous Review recommendations have not been followed. Reviewers have repeatedly asked for sustainability plans, strategy and impact analysis (distribution of bandwidth to R&D communities) and views on long term regional NRENs cooperation. Unfortunately, this is still forthcoming and should be presented to the SILK Board and SPONGE/OCCASION Project Officer. Lacking such reporting must be seen as lacking willingness and/or ability to address the question of sustainability. The European Commission should not continue funding OCCASION, if this situation remains unchanged.

7. Relations to state of the Art, Other Projects

Analysis

There were some good results here, since the SPONGE team has arranged for SILK partners to attend various workshops and conferences, and made several presentations.

Several members of the SILK ExCo's have participating in world-wide meetings of regional networks. Unfortunately there is no financing for SILK countries representatives to do this on any interesting scale – neither from SPONGE, SILK nor from national sources.

Contacts to other NRENs and NREN associations (CEENet, TERENA) as well as regional networking projects (like GEANT, SEEREN, EUMEDconnect, NORDUnet, etc.) would have been good to intensified, since much could have been learned. Interaction of this kind, deemed important, should be supported in SILK-2/OCCASION, though some national self-financing must be present to document genuine national commitment.

SILK NRENs should, on a yearly basis, have provided their data to the TERENA compendium – as recommended by a previous review. The fact that it has not happened is taken to indicate lack of commitment.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- Relations to state of the art and other projects should be intensified. Namely, SPONGE/OCCASION should expand its liaison and cooperation with other regional networking bodies. One obvious possibility is DANTE.
- SILK NRENs should be encouraged to yearly update their data to TERENA compendium.

8. Activities related to Standards

The SPONGE project is not involved in creating new standards but SPONGE, now OCCASION, is like all networks using standards and in turn is setting standards.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- It is recommended to encourage SILK NRENs to get acquainted with rules, procedures, practices, software tools, etc. used within European Networking cooperation (GÉANT / NORDUnet / SEEREN / EUMEDconnect / etc.).

9. Plans for Industrial Exploitation of Results

Analysis

Although the SPONGE results will be used to optimise the performance of SILK network, there are no plans to exploit industrially the acquired knowledge.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- None.

10. Plans for Dissemination of results/Web-Site

Analysis

Lessons learnt from the creation of the central Web-site and the Web-sites of the SILK countries should have been summarized for discussion and studied. Comments from this discussion and the study of the web logs and the statistics of the web-site usage should also have been summarized in a document containing recommendations on how to provide more useful information and what is the appropriate design of the project Web-site.

Dissemination of results, via the SILK web-Site and otherwise, has been extensive – the region and user community taken into account. It is doubtful if more could have been done by others than the national NRENs on a national level. However, little if not nothing is known about national dissemination. Indeed, little is known about national impact in terms of which user communities (universities and research groups) has been informed about the provided services, as well as what the user communities have used the infrastructure for.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- SILK NRENs should report on dissemination of:
  1. Results and offered services to national user communities,
  2. National use of the infrastructure, i.e. document the distribution of bandwidth to and impact on universities and research groups.

11. Summary Of Reviewers' Technical Comments

Analysis

The main activities within SPONGE are of managerial or dissemination type. There is little effort that deals with technical issues, apart from configuration, infrastructure measurement and caching etc. The results obtained, some promising, were found helpful in fine-tuning of the day-to-day operations of SILK network.

The project has in its ending period reached an operational phase in most SILK countries. The VoIP services ware fully tested and implemented, though mostly used for periphery/centre communications within the SILK operational staff (as opposed to between different research and educational project within the SILK user community).

Additional bandwidth has been requested by four countries (Georgia, Kazakhstan, Kyrgyzstan and Uzbekistan.) under the planned SILK-2 funding scheme, which indicates positive steps towards sustainability in these countries.

Although no special recommendations have been issued in previous reviews or in this review, several specific technical aspects of the project management and dissemination have been noted. In general the analysis and assessment of the SPONGE project showed that:

- under the existing technical and administrative circumstances the project management has done very well in getting the network up and running,
- this has given the SILK project itself political visibility, though it has only lead towards sustainability in some countries,
- there have been no technical problems, other then what can be expected in such a project in the SILK region,
- there are several symptoms indication that most SILK NRENs are still not able to manage the SILK project themselves, without SPONGE or the like – possibly OCCASION.

An array of recommendations and suggestions for required actions has been presented in this review, presuming that OCCASION as will succeed SPONGE in supporting SILK.

Recommendations and Required Actions (presuming OCCASION as a SPONGE succession)

- See "*Executive Summary*".