

Periodic Progress Report 2

Period: 1.2003 - 3.2003

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SILK Project Operations Networking and GEANT Extension

SPONGE

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1 OVERVIEW

2 TECHNICAL ACHIEVEMENT

WP 1 - Administration and Management

The project has had to set up both the administration of the Silk Project and of the Sponge Project itself. There are three tasks:

- A1.1 SPONGE Project Management
- A1.2 SILK Project Management
- A1.3 Relationships with Funders.

Sponge Project Management

Again the first activity has not taken up very much effort. We have decided that for many purposes, the technical management of the Silk Network is so important to SPONGE purposes that Hans Frese (DESY, Germany), its Technical Manager, and Sergey Berezhnev (MSU, Russia), its Network Operations Centre Manager be invited to join the SPONGE distribution list. In addition, another part of the SPONGE project concerns User Groups and training; Zita Wenzel (ISI, US) is the NATO Networking Panel Consultant in this area, and has been invited also.

During the quarter, we have held one teleconference specifically for SPONGE, and had a physical meeting coinciding with the Silk Board meeting in Istanbul. The IP telephony is now in routine use for the Silk and SPONGE teleconferences. The technical aspects of this are considered under WP3. The usage is so satisfactory, that Cisco has agreed to provide two such telephones to each Silk installation.

Silk Project Management

This second SILK Board meeting, chaired by Prof Kirstein, was held in Istanbul, February 21-23, The minutes of this meeting are given in [1]. This considered a number of items important to the Silk Project;. amongst the more significant points mentioned in the Silk Board meeting are the following:

- Cisco is already a Board member and so was represented. There was representation from potential funders from the Open Society Initiative (Soros), NATO IMS and the World Bank.
- It settled the main lines of the Terms of Reference (ToR) of the Silk Board and its parts. This is also the subject of the first SPONGE Deliverable (D1, [2]). The ToR was subsequently modified following a presentation to the full Networking Panel, but have now been ratified.
- It mentioned that 5 sites had been brought up (Armenia, Georgia, Kyrgyz Republic, Tajikistan, Uzbekistan). Since then, equipment has been delivered to Azerbaijan.
- Acceptable Use Policies have been received from most partner NRENs; one, from Armenia, is still unsatisfactory.
- There are some problems remaining with receiving government policies; for example the Uzbek station may have to be moved to a site which could cause technical problems.
- There have been failures of some components; until repaired parts are received the remaining two sites (Kazakhstan and Turkmenistan) cannot be brought up. This should occur during April.
- There are equipment difficulties with the earth-station transmitters; until these are resolved, we cannot reach the full 1.5 Mbps transmit speeds for each earth station
- We could reach about 3 Mbps transmit speed with either more power or a larger dish. Cost considerations make the latter choice much superior.
- In view of the success of the VoIP activity, two such units will be provided by Cisco to each site
- The bandwidth plan now envisages going to a total of 5.5/19.5 Mbps transmit/receive speed for the system by the end of the period from NATO resources. Higher speeds will require co-funding.
- There would be a training workshop for Silk country technicians, given in Russian, in the next few weeks.
- Cisco has agreed to provide support for its equipment for the first year; after that arrangements must be made for its provision. Various costs were quoted.
- Cisco Academy and the Soros Foundation can help in workshops.
- Various statements were made about co-funding, which are considered in the next section.
- Presentation on the potential impact of the INTAS activity.

The next two Silk Board meetings will be in Tblisi, Georgia in June and Baku, Azerbaijan in September. The first is adjacent to a NATO Networking Panel meeting; the second to a workshop.

As a result of the ratification of some of the recommendations of the Board by the NATO Networking Panel, the Silk Task Force will cease to exist from the end of March. An Executive Committee of the Silk Board will take its place from April 1- with largely the same members; full details are given in [2].

Relationship with Funders

There have been discussions with four organisations; the NATO IMS activity, the World Bank, the US State Department, the Soros Foundation and the University of Central Asia. These are listed in the order of probable finalisation.

- The NATO IMS activity concerns the usage of the Silk network for military education. There was a presentation at the Silk Board, and various other presentations inside NATO. At the Silk Board it became clear that participation by the military part of NATO would make co-funding by others very unlikely. It was agreed to recommend strongly that this proposal be dropped. There has been subsequent discussion on the matter both with the NATO Networking Panel and others in NATO up to a high level; the Board recommendation has been upheld.
- The World Bank is very interested in setting up Distance Learning Centres, with video conferencing facilities, at one site in each of the Central Asian partner countries. They normally use H.323 equipment – most of it via ISDN rather than IP. There have been tests between DESY, Silk network sites and the World Bank in Washington. These look very promising, and it is possible that the World Bank will contribute towards an extra 768 Mbps transmit/receive for each Central Asian site. When not used for the World Bank training, this could be used for similar activity or general Internet access by the relevant countries. This should be decided during the next quarter.
- The US State Department is consider a proposal to provide two extra earth stations and some small amounts of bandwidth. This should be decided during the next quarter.
- The Soros Foundation may provide bandwidth in some countries for access to libraries and schools. It may also assist with translating some of the Silk documentation into Russian and some workshops. Some of the funding may come centrally, and some from national Soros organisations.
- The University of Central Asia is being set up with centres in Kazakhstan, the Kyrgyz Republic and Tajikistan. It is considering using the Silk Network for connecting its campuses. They will make a presentation at the next Silk Board meeting.

WP 2 - Infrastructure Services

Here the project has three tasks:

A2.1 Liaison with other relevant projects

A2.2 Dissemination of information on the SILK project itself

A2.3 Workshops

Under the first, we gave a general talk on the SILK project at an INTAS meeting hosted by the Commission in November, and have started contact with the electronic library access activities that are being piloted there; there is a strong possibility of their wanting to use the SILK network. We have made contact with another project providing satellite-based voice/IP in Afghanistan; there we have agreed to share information, but different satellites are being used, and that project is not really targeted at Internet access. We have had serious discussions with the World Bank, who have a Global Distance Learning Network (GDLN). They have many centres in Africa, and are now interested in expanding into Central Asia. Early tests have been done between Tashkent, Hamburg and Washington with PCs. Now we are planning how more ambitious videoconferencing tests could be carried out, with a view to the World Bank making a serious investment into the SILK Network, and providing videoconferencing equipment in each Central Asian SILK partner country.

Under the second, we have given two talks on the SILK project. The first was at the Internetworking conference in Perth, October 13-16; the second at the INTAS meeting in Brussels November 14. In addition a paper has been submitted to the Terena Networking Conference to be held in Zagreb in May.

Also under dissemination, a web site has been set up <http://www.silkproject.org> This has a considerable amount of information on the SILK project, and a pointer to the SPONGE project <http://www.silkproject.org/sponge/sponge.htm>. The site is also starting to contain pointers to the Acceptable Use Policies of the different SILK NRENS <http://www.silkproject.org/NRENaups.htm>. The web site also operates two mailing lists for the Silk project: Silk and Silk-NREN.

No Workshops have been set up yet; these will be discussed at the next SILK Board meeting in February.

WP 3 – Technical Activities

Here the project has three tasks:

A3.1 Configuration

A3.2 Infrastructure Measurement

A3.3 Caching

A SILK Network Operations Centre (NOC) has been set up under joint SILK auspices <http://www.radio-msu.net/>. It is run by Sergey Berezhnev at the Moscow State University (MSU). The actual statistics we have chosen to put onto a password-protected set of pages, since this information can be considered sensitive. The SPONGE partners all have access to this page, of course, and are discussing what additional statistics the NOC or the partners should gather. To this end, we have obtained a Cisco network measurement package as part of their support for the project, and have put it up in Groningen and Tbilisi.

The figures already show that our assumed 1:4 ratio of transmit/receive bandwidth is not necessarily accurate, and we are reviewing our policies on bandwidth expansion in the light of these figures.

By the end of the reporting period, only stations (Tbilisi and Tashkent) were operational; we had not had the effect to investigate the caching, nor was it valuable until the network had grown somewhat.

WP 4 – Personal Communications

The first important task here was to obtain voice communication between the SPONGE partners. The Georgian and Armenian ones could not really afford the telephone charges, and we wanted larger conferences also for the SILK Task Force (STF). Hence Cisco donated two IP phones to the Georgian and Armenian SPONGE partners, and also to the Kyrgyz partner who is also on the STF. UCL put up a telephone server – deliberately using the SIP version of the software, since it is this that may be extended more broadly. The present Cisco phone software allows only three-way conversations on the phones by themselves. By dialling into the server at UCL, and then organising dial-out into a commercial audio-conferencing system, the number of participants can be increased greatly. Because UCL controls the software, we can ensure that the system is used only for carefully controlled usage – avoiding the accusation of running a general telephony system. We then arranged that the server dial out to a constrained set of telephone numbers. These are currently the Cisco and the BT audio-conferencing systems.

This arrangement has required tuning of the router parameters; the early perceived performance was too poor for comfortable usage. It is now used on a regular basis both for the STF phone conferences and for the SPONGE ones. This is considered so successful, that Cisco is now adding two phones to all its future shipments of equipment to the SILK partner sites.

The SIP server will also be used for one-to-one communication between the project participants. A small test using soft phones between Groningen and Tbilisi was successfully executed in November. Soft phones will allow more flexible communication between the participants as it is not necessary that one has to go to the location where the Cisco phone is located.

3 STATUS OF DELIVERABLES AND MILESTONES

The Technical Deliverables

Del. No	Del. Name	WP No	Lead Parti-Pant	Est. pm	Plan	Target	Actual
D1	Terms of Reference of the Different Committees	1	UCL	1	03-03	03-03	
D2	Covering paper on the services available and the status of the Silk Sites	2	RUG	6	09-03	09-03	
D3	Detailed Report on the performance of the SILK system over the previous quarter	3	RUG	3	08-03	08-03	
D4	Report on resources required for, parameters needed for, and experience with VoIP in the SILK Environment	4	UCL	4	09-03	09-03	
D5	Status of NRENs and their regulatory environment in the SILK countries	1	UCL	1	12-03	12-03	
D6	Minutes and Working Papers of the Committees after first year of operation	1	UCL	1	03-04	03-04	
D7	Table of Contents of two co-sponsored workshops	2	RUG	2	03-04	03-04	
D8	Preliminary Report on the advantages gained on caching	3	RUG	3	03-04	03-04	
D9	Report on the performance of the SILK system over the previous quarter	3	RUG	4	08-04	08-04	
D10	Report on resources required for parameters needed for, and experience with the Mbone tools in the SILK Environment	4	UCL	4	11-04	11-04	
D11	Minutes and Working Papers of the Committees after second year of operation	1	UCL	1	11-04	11-04	
D12	Final Report on the advantages of caching	3	RUG	4	02-05	02-05	
	Total			34			

No Deliverables are due during the quarter, and none has been produced.

4 ISSUES

None

5 PARTNER DETAILS

None

6 MEETINGS

Project Meetings

Here we list only physical meetings. The bulk of the meetings are telephone meetings.

Date	Location	Participants	Outcome
February 21-23	Istanbul, TU	Babayan, Janz, Kirstein, Kvatadge	Successful Silk Board and SPONGE Project Physical Meeting
March 14	Brussels	Kirstein	Letter to NATO ASG re use of Silk facilities

Conferences/workshops organised

Date	Location	Participants	Outcome
February 21-23	Istanbul, TU	Babayan, Janz, Kirstein, Kvatadge	Silk Board Meeting

Conferences attended

Date	Location	Topic	Participants	Outcome
March 14	Brussels	NATO Networking Panel	Kirstein	Presentation on Silk Status

Submission of papers

Topic	Abstract	Journal/Conference	Status

7 EFFORT FOR THE REPORTING PERIOD

Resource allocation (Partner vs. WP) for the reporting period (man-months)

SUMMARY – Q2

	WP 1	WP 2	WP 3	WP 4	Total	Est	Uncharged
P01	0.8			0.5	1.3	1.2	0.5
P02	0	1.0	0	0	1.0	0	1.0
P03							

P04							
Total							
Est							

Previous – Q1 – Q1

	WP 1	WP 2	WP 3	WP 4	Total	Est	Uncharged
P01	0.6			0.5	1.1	1.2	0.5
P02							
P03							
P04							
Total	0.6			0.5	1.1	1.2	0.5
Est							

Cumulative – Q1 – Q2

	WP 1	WP 2	WP 3	WP 4	Total	Est	Uncharged
P01	1.4			1.0	2.4	2.4	1.0
P02	0	1.0	0	0	1.0	0	1.0
P03							
P04							
Total	1.4	1.0	0	1.0	3.4	2.4	2.0
Est							

8 EXPENDITURE

The financial information contained in this report is estimated and does not represent a legally binding statement of costs.

The figures are quoted in Euros, using the exchange rates on 31 December 2002.

Durable Equipment Expenditures

Date*	Description	Depr	% Allocation to Project	Used for	Amount
Total Cumulative from start of the project					
Total Cumulative from start of the project as originally planned					

Travel and Subsistence Expenditures

Date*	Description	Used for	Amount
Total Cumulative from start of the project			
Total Cumulative from start of the project as originally planned			

Consumables Expenditures

Date*	Description	Depr	% Allocation to Project	Used for	Amount

Total Cumulative from start of the project					
Total Cumulative from start of the project as originally planned					

* Invoice Date

9 OTHER INFORMATION

None

REFERENCES

1. Wenzel, Z and PT Kirstein : “Silk Board Meeting #2, Istanbul, Turkey, 21/22 March, 2003.
2. Kirstein, PT and Z. Wenzel: “Deliverable D1: Terms of Reference of the Silk Committees”