

# **Periodic Progress Report 3**

## **Period: 4.2003 - 6.2003**

**IST-2001-37580**

**Silk Project Operations Networking and GEANT Extension**

**SPONGE**

**Project Manager:**

Professor Peter T Kirstein

Department of Computer Science  
University College London  
Gower Street  
LONDON  
WC1E 6BT  
U.K.

Phone: +44 (0) 20 7679 7286  
Fax: +44 (0) 20 7387 1397  
Email: p.kirstein@cs.ucl.ac.uk

**Date:**

22 July 2003

## Table of Contents

1	OVERVIEW .....	3
2	TECHNICAL ACHIEVEMENT .....	3
	WP 1 - Administration and Management.....	3
	Sponge Project Management.....	3
	Silk Project Management .....	3
	Relationship with Funders .....	4
	WP 2 - Infrastructure Services .....	4
	WP 3 – Technical Activities.....	5
	WP 4 – Personal Communications.....	6
3	STATUS OF DELIVERABLES AND MILESTONES .....	6
	The Technical Deliverables .....	6
4	ISSUES .....	7
5	PARTNER DETAILS .....	7
6	MEETINGS .....	7
	Project Meetings.....	7
	Conferences/workshops organised.....	7
	Conferences attended and Presentations Given .....	7
	Submission of papers.....	7
7	EFFORT FOR THE REPORTING PERIOD .....	8
8	EXPENDITURE.....	8
	Durable Equipment Expenditures .....	8
	Travel and Subsistence Expenditures .....	9
	Consumables Expenditures .....	9
9	OTHER INFORMATION .....	9

## 1 OVERVIEW

The project has not still only reached the early operational phase, of the last quarterly report, with only one further station installed. Equipment to remedy the transmission problem mentioned in the last Quarterly Report have now been resolved – according to the manufacturer. However these will not be properly installed until early in the following quarter. The remaining Earth Stations have been shipped, and we expect them to be deployed next quarter.

One of the two sites for which the demand was exceeding its bandwidth (Georgia) has requested further bandwidth from OSI resources. Discussions with the World Bank for conferencing facilities look very promising for additional resource – and should alleviate the Uzbek problems.

The discussions with the Aga Khan Foundation are promising. It is expected that a further Earth Station in Khorog, Tajikistan will be installed to meet their needs. However it has become clear that the communications planning for the other campuses of the University of Central Asia should be coordinated with that of the Kyrgyz Republic and Kazakhstan regional networking. This coordinated planning is now being conducted.

The 3<sup>rd</sup> Meeting of the Silk Board took place in Tblisi, Georgia on June 10-12; the minutes of the meeting have been provided to the SPONGE Project Officer as part of the Trip Report for that meeting. The highpoint of the meeting was the official opening of the Silk Network by a teleconference between the Secretary General of NATO (Lord Robertson) in Brussels, and the President of Georgia (President Shevardnadze) in Tblisi. The video conference, which was very successful, used, of course, the Silk Network. The network was used for another high-profile video conference earlier in the month, when Lord Robertson used it while he was in Baku, and discussed matters with DESY in Hamburg.

The information services continue to be improved. The web site has been improved greatly; the monthly newsletter and on-line traffic measurements from the Network Operations Centre continue to be provided. More material is now being provided also in Russian. The Newsletter, Silk Board minutes and other key documents are available on Web Site in Russian. The cache activities have now started, and early improvements of performance made. A report on the mechanisms for the cache measurements has been issued. The paper presented at the Terena conference in Zagreb in May raised considerable interest.

The additional VoIP telephones have been delivered at the remote sites – but not yet put into service. Monitoring software for our GRENA partner has been provided by Cisco.

## 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.

During the quarter, we have held one teleconference specifically for SPONGE, and had a short physical meeting coinciding with the Silk Board meeting in Tblisi. The IP telephony is now in routine use for the Silk and SPONGE teleconferences. The two IP telephones, which Cisco agreed to provide to each Silk installation, have been delivered.

#### Silk Project Management

This third Silk Board meeting, chaired by Prof Kirstein, was held in Tblisi, Georgia, June 10-12. 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:

- There was representation from potential funders from the Open Society Initiative (Soros), the Aga Khan Foundation (in the context of the University of Central Asia), the Harmonie Project, UNDP and the World Bank.
- Measures for the remedy to current hardware problems were proposed and agreed.

- It mentioned that 6 sites had been brought up (Armenia, Azerbaijan, Georgia, Kyrgyz Republic, Tajikistan, Uzbekistan). Three however had some problems (Azerbaijan, Kyrgyz Republic and Tajikistan).
- An Acceptable Use Policies has not yet been received from Turkmenistan, which was also not represented at the meeting. The policy from Armenia, is still unsatisfactory.
- The problems with government policies are largely resolved.
- 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 July.
- The on-going equipment difficulties with the earth-station transmitters are now scheduled to be resolved by the beginning of August.
- Presentations from the Aga Khan Foundation, on behalf of the University of Central Asia, showed the importance of National collaboration on such initiatives
- It became clear that Turkey has major initiatives in Central Asia, with which the Silk Project does not yet have much contact.

The next two Silk Board meetings will in Baku, Azerbaijan in September 2003 and Antalya, Turkey in February 2004. The first is adjacent to a NATO workshop; the second is deliberately in Turkey to foster improved relations with Turkish initiatives.

The Silk Task Force has ceased to exist from the end of March. An Executive Committee of the Silk Board has taken its place from April 1 - with largely the same members.

### Relationship with Funders

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

- NATO has decided it would like to extend the Silk Project to include Afganistan; the additional funds will come from the Networking Panel's uncommitted funds. It was proposed also that further Network Infrastructure Grants proposals be prepared by the Silk NRENs, for discussion at the September Silk Board meeting.
- The World Bank maintains its interest in setting up Distance Learning Centres, with video conferencing facilities, at one site in each of the Central Asian partner countries. They use H.323 equipment, which will be over IP for these countries. They have delivered Polycom equipment to DESY, which will be sent to two Silk countries for further tests with DESY and the World Bank in Washington. These look very promising, and it is still intended that the World Bank 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 still requires further tests, but should be decided during the next quarter.
- The US State Department has decided it cannot fund our proposal to provide two extra earth stations and some small amounts of bandwidth.
- The Soros Foundation will provide bandwidth in some countries for access to libraries and schools. It is assisting with some workshops, e.g. it funded the Silk Board meeting in Tblisi.
- The Aga Khan foundation made a presentation concerning its plans to assist in the link-up of campuses of the University of Central Asia (UCA) in Khorog (TJ), Naryn (KG) and Tekeli (KZ). It was agreed that while the first would best be done via a further Silk Earth Station, the other two would be better done by terrestrial links. It was agreed that the UCA plans should be coordinated with those of the NRENs – to the benefit of both.
- There were early discussions with Project Harmonie. This is trying to improve connectivity in schools, and has a number of programmes in the Caucasus. We agreed to continue the discussions.

### 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 **contact with other projects**, we have had further discussions with the INTAS management, particularly on their electronic library access activities that are being piloted. They have just put out a new

Call for proposals. We agreed that further contact was needed. The ongoing discussions with the Global Learning Network (GLN) has already been mentioned. Information was provided to the Silk Board NREN members, to encourage them to contact INTS directly.

The discussions with the University of Central Asia, being set up under the aegis of the Aga Khan Foundation (AKF) have already been mentioned

Under **dissemination**, the paper mentioned earlier [2] has been present at the Terena Networking Conference held in Zagreb in May. There was a further presentation at a meeting of the International Collaboration Board meeting in Washington in April,

Further editions of the monthly Silk News Letter have been sent out – in Russian and English.

The Silk web information has been maintained and migration to a new web environment has been completed.

### WP 3 – Technical Activities

Here the project has three tasks:

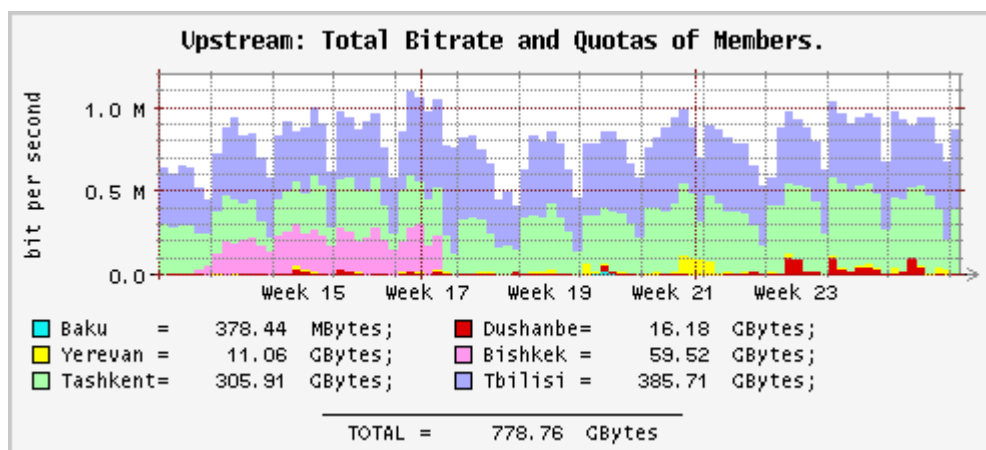
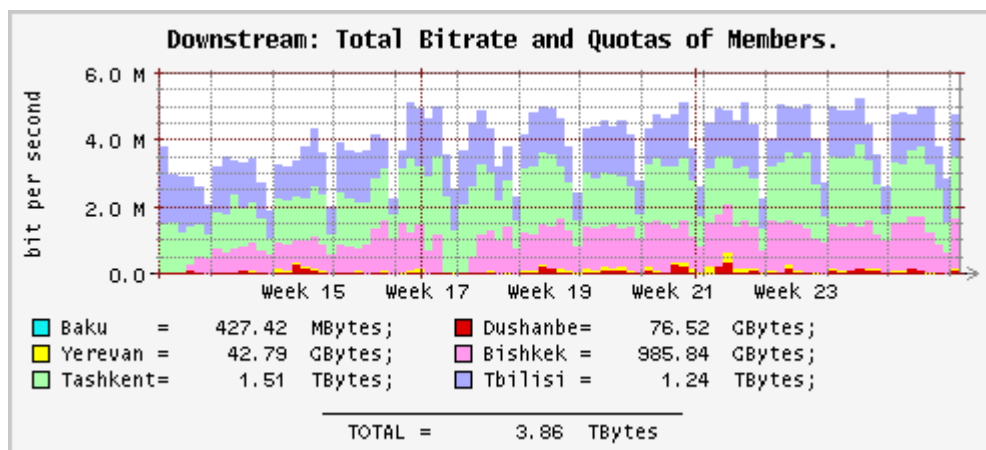
A3.1 Configuration

A3.2 Infrastructure Measurement

A3.3 Caching

The Silk Network Operations Centre (NOC), run by Sergey Berezhnev at the Moscow State University (MSU), now puts its statistics up under <http://silk.radio-msu.net/>. The actual statistics pages are password-protected, since this information can be considered sensitive. The SPONGE partners all have access to this page, of course.

The data can be processed on demand for any specific period and specific set of sites. The figures for the last quarter are shown in Fig. 1a (West to East) and 1b (East to West).



Work has begun on monitoring the Cisco Content Engine. The statistics of the Tbilisi Content Engine have been analysed. Other (Squid) research has provided means of tuning the cache parameters in order to improve the hit rate of the cache. At the end of the quarter the parameters of the Tbilisi Content Engine have been adjusted and further monitoring of the traffic is being done in order to see if there has been an improvement. A progress report on the cache research will be available with the next quarterly report.

#### WP 4 – Personal Communications

The organisation of the audio-conferencing still remains unchanged, and is now in routine use. The present Cisco phone software still allows only three-way conversations on the phones by themselves. The new server with increased capacity mentioned in the last QR has not yet materialised; when it does, it will allow the Silk partners to audio-conference without the need for an outside system. Cisco has added the two phones to all the Silk partner sites, so the multiplexing will be needed soon.

The H.323 tests between the World Bank, DESY and Tashkent have been successful as far as they went. Definitive tests on quality require that the equipment deployed over the Silk Network be fully compatible with that used by the World Bank. The World Bank is preparing to ship such equipment to Taahkent.

### 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	03-04
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						

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
April 24	Washington, USA	Kirstein	Resolved problems with World Bank
June 10-12	Tblisi, Georgia	PT Kirstein, R Janz, G Babayan, R Kvatadze	Silk Board and SPONGE Meeting

### Conferences/workshops organised

Conferences or Workshops have been organised in this Quarter.

Date	Location	Participants	Outcome
June 10-12	Tblisi, Georgia	Silk Board and Invited Guests	Described in detail in [1]

### Conferences attended and Presentations Given

Date	Location	Topic	Participants	Outcome
April 25	Washington, USA	International Collaboration Board	Kirstein	Presentation
May 19-21	Zagreb, Croatia	Research Networks	Kirstein	Presentation

### 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)

PLEASE STATE YOUR EXPENSES THIS QUARTER

### SUMMARY – Q3

	WP 1	WP 2	WP 3	WP 4	Total	Est	Uncharged
P01	0.4	0.2		0.4	1.3	1.3	0.1
P02	0.8	0.6	0.4	0	1.8	1.8	0
P03							
P04							
<b>Total</b>	1.2	0.8	0.7	0.4	3.1	3.1	0.4
<b>Est</b>							

### Previous – 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	1.0	1.0
P03							
P04							
<b>Total</b>	1.4	1.0	0	1.0	3.4	2.4	2.0
<b>Est</b>							

### Cumulative – Q1 – Q3

	WP 1	WP 2	WP 3	WP 4	Total	Est	Uncharged
P01	1.8	0.2	0	1.4	3.4	3.4	1.1
P02	0.8	1.6	0.4	0	2.8	2.8	1.0
P03							
P04							
<b>Total</b>	2.6	1.8	0.4	1.4	6.2	6.2	2.1
<b>Est</b>							

## 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 30 June 2003.

### Durable Equipment Expenditures

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

## Travel and Subsistence Expenditures

Date*	Description	Used for	Part	Euro
24-4-03	Visit World Bank, Washington	Discussions on Video Conferencing	P1	0
18-20/05/03	Attendance Terena Conf, Zagreb	Presentation on Silk Project	P1	1400
8-12/06-03	Silk Board, Tblisi	Silk Board, SPONGE Meeting	P1	1950
20-23/02-03	Silk Board, Tblisi	Silk Board, SPONGE Meeting	P2	1950
20-23/02-03	Silk Board, Tblisi	Silk Board, SPONGE Meeting	P3	0
20-23/02-03	Silk Board, Tblisi	Silk Board, SPONGE Meeting	P4	0
Total for quarter				5300
Previous Total				3400
Total Cumulative from start of the project as originally planned				8700

## Consumables Expenditures

Date*	Description	Depr	% Allocation to Project	Used for	Amount
May 03	Courier Documents		100		45
Total for quarter					45
Previous Total					0
Total Cumulative from start of the project as originally planned					45

\* Invoice Date

## 9 OTHER INFORMATION

None

### REFERENCES

1. Wenzel, Z and PT Kirstein: "The 3<sup>rd</sup> Silk Board Meeting, Tblisi, Georgia, 10-12 June, 2003.
2. Kirstein, PT : "Progress in The Silk Project", Presentation at Terena Conference, Zagreb, Croatia, June 21, 2003.

Both the above are available on the Silk Web page – <http://www.silkproject.org/>.