Status of Lanka Education and Research Network (LEARN)

Prepared by Shantha Fernando <shantha@cse.mrt.ac.lk>
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With reference to the questions you sent, I have compiled the response as follows:

1. How has LEARN's topology and connectivity changed since 2004? Please include a topology map or a URL reference to one if possible.

> I have included the current status of the links as well as some operational, management and client details for your information. (Refer the sections a, b, c and d for administrative, operational and client details. Refer section e for topology and connectivity details).
>
> One major change is the current work on the 100 Mbps fiber link between the universities. Once that is in place International bandwidth also will match it. LEARN is working on it in parallel to another separate project called ScholNet funded by ADB and handled by the Ministry of Education (under SEMP – Secondary Education Modernization Project). The infrastructure and services will be shared by the SchoolNet and LEARN.

2. Are there any applications currently supported by LEARN? If so please describe.

> The details are given in the section f.

3. Is LEARN participating in Internet 2?

> Currently LEARN is member of APAN and participates in the conferences etc. However, still LEARN has not connected to the APAN network, through which Internet 2 is provided to this region. There are no firm plans on connecting to Internet 2 at the moment, but may consider in the future.

4. What could help the development of the Academic and Research network in Srilanka?

> You may contact Dr. Nimal Ratnayake who is the current Technical Manager (refer section b). One way may be by helping them to do some research on Internet 2, or having a pilot project on it. Even if LEARN is not immediately connected to Internet 2, they may use IPv6 in their backbone network locally.

a. General Information	
a 1. Administration:	Organizational: University Grants Commission Technical: University of Peradeniya Financial: University of Colombo
a 2: Contact numbers	Telephone: +94-(0)81-447 5805 Fax: +94-(0)81-238 8944 E-Mail: noc@learn.ac.lk
a 3: Operating(Working) Hours of Maintenance Staff:	Weekdays 8am-5pm, on call otherwise
a 4. Other general information Date Established: 1992 Parent Organization: Sri Lanka Inter University Committee on Computing (SLIUCC) Brief History: The network was established in the early 90's with support from University Grants Commission. It was expanded in the late 1990's with support from Sida (Sweden). Currently it connects all state funded universities and some state funded research institutions in Sri Lanka. The universities share the operational costs. Local link and internet access costs are born by the respective member institutions.	

b. Management Information:		
Post:	**Name:**	**E-Mail:**
1. Chairman, Management Committee	A member of the University Grants Commission	
2. Technical Manager	Nimal Ratnayake	nimalr@learn.ac.lk
3. Treasurer	Ajantha Atukorale	ajantha@cmb.ac.lk
4. Members of the management Committee	One from each primary member institution	mgtcom@learn.ac.lk

c. Charging Scheme:		
Service	**Charges/Rates**	**Comments**
Internet Access	Approx Rs.13,500 per 64kbps monthly	Individual institutions pay for their usage
Local Link charges	Variable	Individual institutions pay for their links
Electronic Mail and other services	Rs. 120,000 (full member) or Rs. 60.000 (affiliate member) per year per institution	Each institution pays only once even if it has multiple sites connected
Connection charges	Rs. 50,000 per year per connection	Charged for each separate connection

d. Clients:			
Name of the Client	**Service Offered**	**Length of Service in Years**	**Comments**
U of Colombo, U of Moratuwa, Open U	Local connectivity, Internet Access and e-mail	Since 1991	U of Moratuwa currently has another separate link for Internet Access
U of Kelaniya, U of Peradeniya, U of Sri Jayawardenapura, U of Ruhuna National Science Foundation University Grants Commission	Local connectivity, Internet Access and e-mail	Approx since 1997	U of Ruhuna has 3 sites
Eastern U, U of Jaffna, South Eastern U Arthur C Clarke Center	Local connectivity, Internet Access and e-mail	Approx since 2002	South Eastern U has 3 sites
Wayamba U, Rajarata U IIM Rajagiriya	Local connectivity, Internet Access and e-mail	Approx since 2003	Wayamba U has two sites
Atomic Energy Authority	Local connectivity, Internet Access and e-mail	Since 2006	
Institute of Fundamental Studies, Tea Research Institute, Rice Research Institute, etc	Affiliate members (registered in the ac.lk domain but not connected to the LEARN network)		

e. Communication Infrastructure:		
c 1. Link Details:		
Type of Link:	Data Rates/Bandwidth:	Comments:
Optical Fiber	100Mbps (currently)	Will be used for Internet Access. Currently it is set up between Moratuwa and Peradeniya, may be operational towards the end of 2006.
Microwave links (7 Nos)	2Mbps	Provided by Suntel
IP-VPN links (various technologies)	2Mbps (9Nos), 1Mbps (2Nos), 512kbps (1Nos), 256/128/64kbps (11Nos)	Provided by Sri Lanka Telecom
c 2. Equipment Details:		
Equipment Description:	Number of Unites:	Purpose of the Equipment and Comments:
Cisco 7206 router	1	Connect to Internet, provide class based QoS, Firewall
Cisco 2600 routers	4	Local connectivity
Cisoc 800/1600/1700 series access routers	16	Access routers, Firewall
c 3. Third Party Service Providers:		
Service Providers:	Service:	Comments:
Sri Lanka Telecom	IP-VPN links and Internet Access	
Suntel Ltd	2Mbps leased lines	

f. Application and other Services:			
d 1. Application Services:			
Application Services Description:	**Types of Equipment and Services:**	**Current Level of Service: (Describe with respect to Popularity & Spread, Reliability, Expandability, etc.)**	**Any Other Comments:**
Internet Access with bandwidth guarantee	Cisco Router 7200 series router	Bandwidth guarantee for Internet Access with ability to share the spare bandwidth in proportion to the individual subscription	
Electronic Mail	Linux server running Postfix MTA	Virus and Spam filtering	All incoming mail into the LEARN network processed centrally
Proxy server	Linux server running Squid proxy server		Used by institutions that do not operate their own proxy server
NTP server	Linux server	Used to synchronize clocks of all LEARN devices/servers	
MIT OCW Mirror	Linux server	Provides a local mirror of MIT OCW	
SIP server/VoIP gateways	Linux server	Provides SIP based VoIP services to member institutions. Interconnection of conventional PBXs on campuses provided by the gateways	

d 2. Network Security Infrastructure:

Router based firewall at the LEARN connection to the Internet
Router based firewall at the access router located at the sites

d 3. Disaster Recovery and Contingency Planning:

Router configurations and server configurations backed up
All services (except proxy server) duplicated on multiple machines
Spare server for quick deployment
Eight institutions have more than one link used for redundant connectivity