I.2 : Developments in networking and communication at RRCAT

RRCATNet planning, expansion and upgradation : Work related to Phase IV of Optical Fiber Communication (OFC) networking was started. Phase IV of the OFC networking will include nine buildings namely Training School Hostel, Training School Building, LCW Extension, Beam Alignment Lab., RFM Lab., Laser Lab., Cryogenics Extension, Chemical Treatment Facility and Photo Cathode Laboratory. In all, 400 nodes will be added to RRCATNet, which will subsequently become 2200 node network from existing 1800 node network.

Central Complex was enabled with WiFi access for the APAC-07 international conference. A separate high speed network was also setup to facilitate internet access for APAC-07 participants. The setup will be utilized for international level conferences in future.

Email and internet access setup enhancements : Centralized anti-spam software was upgraded to include bayesian filtering module for increasing the spam filtering rate. New versions of anti-virus software were installed on email gateways to take care of major virus threats. Monitoring software was installed for measuring the antispam, antivirus effectiveness. Fig.I.2.1 shows the effectiveness of antispam.
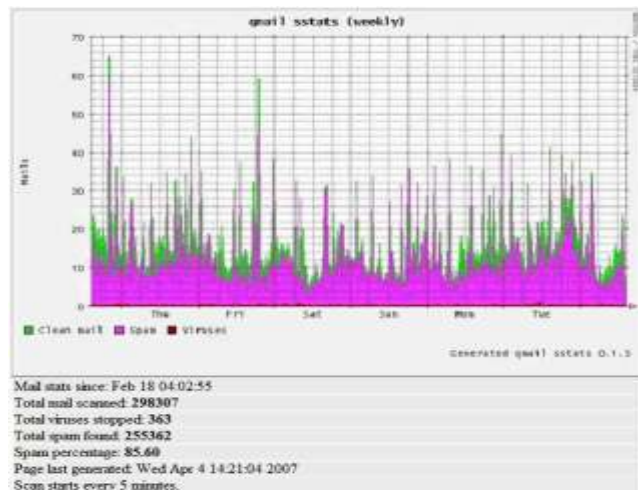

Fig.I.2.1: Statistics of spam filtering.

Internet access bandwidth was enhanced by the addition of a 2Mb (1:4) Internet leased link to the pool of already existing 2Mb and 512 Kb links. All the links were configured in load sharing manner for maximizing usage of the links. Monitoring software was installed to measure the load on each link. To further increase the bandwidth availability, filters for unwanted sites and traffic have been configured on the gateways. Fig.I.2.2 shows weekly usage of internet bandwidth.
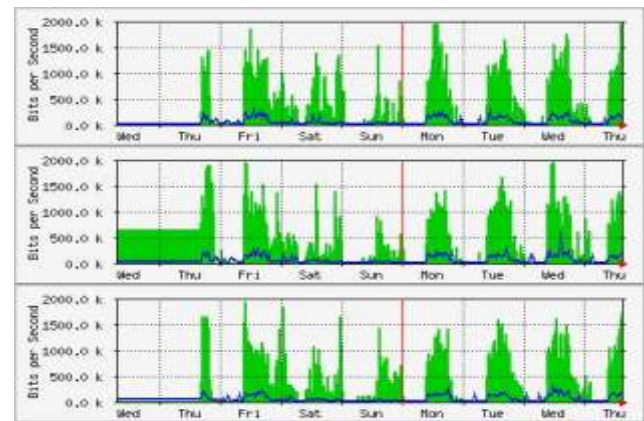

Fig.I.2.2: Weekly usage graphs, of all three Internet links.

Enhancements to RRCAT data center : Our data center provides round the clock computing/ information management/ IT services to the users. With a campus wide network in place to access the data center, it is crucial to have reliable access to the data center. Network management software was commissioned to monitor the health of the network and other data center components on round the clock basis and thus figure out the operational problems. With the introduction of various reliability measures, we have achieved nearly 100% uptime of data center. Users are now benefited by having more reliable services.

Anunet setup: Anunet setup, for facilitating voice communication and email/ intra DAE data communication was shifted from the old computer center to the new IT building. This is expected to increase reliability of the setup, since the setup has now been housed in a better equipped data center.

Expansion of the telecommunication network : Telecommunication facilities were extended to 32 more locations inside the RRCAT campus. Computer Centre has also made plan for providing voice connectivity to new laboratory buildings.

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