MAJOR PROGRAMME 3

Communications

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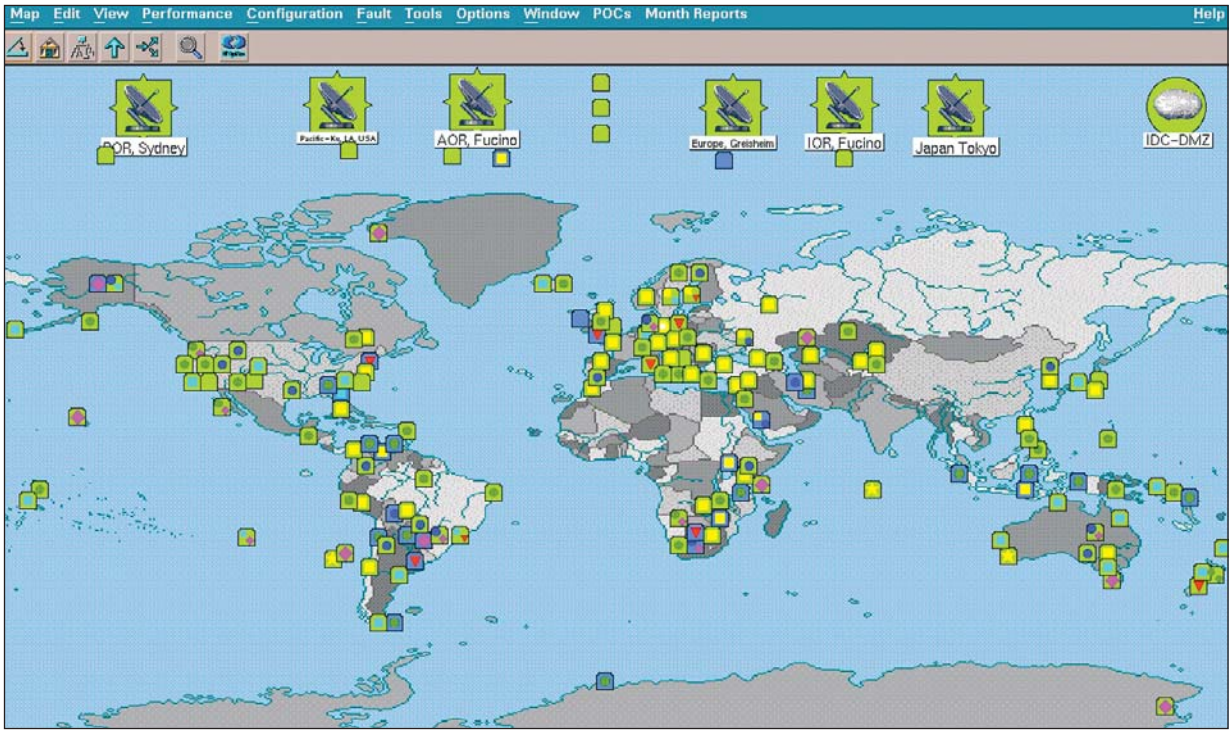
Major Programme 3 has as its main components the transport of data from the IMS facilities, the distribution of IMS data and IDC products to States Signatories and the transport of the necessary ancillary data using the GCI.

GCI MANAGEMENT

As directed by the Commission, negotiations were continued with the GCI contractor, HOT Telecommunications Ltd, in order to find savings within the GCI contract to fund additional services and to support additional sites moved from the independent subnetwork topology to the basic topology at the request of the host States Signatories, as well as additional NDCs which requested to be connected to the GCI via very small aperture satellite terminal (VSAT). In addition, the PTS was requested to modify the GCI service level agreement to be more compatible with the IMS provisional O&M concept. The negotiations were successful, and the GCI contract can now support 250 VSAT sites, increased from 217 prior to the negotiations. It could also support an additional 100 sites utilizing the new virtual private network (VPN) topology, if the use of this technology is approved by the Commission as an option within the basic topology. Security has been enhanced for critical services such as email, DNS, telnet and file transfer protocol proxies.



Network management system for the GCI (screenshot).

NDC, Caracas, Venezuela.

AS50, Valguarnera, Sicily, Italy.

AS41, Jayapura, Irian Jaya, Indonesia.

AS11, Riachuelo, Brazil.

GCI TOPOLOGY

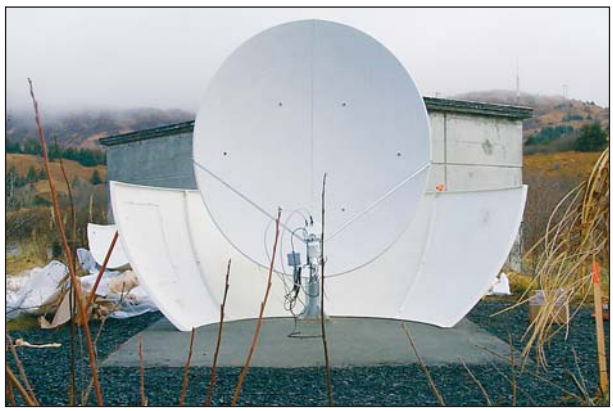
The secure VPN was installed and tested with connections at various sites. This topology may allow connection to difficult sites, or at sites where obtaining a licence to operate a VSAT is either not allowed or too expensive.

Progress continued to be made in the polar regions, where two stations were connected to the GCI through the use of shared resources with agencies of each of the countries concerned. The two polar region stations are now providing data, and three more will be connected in the first half of 2003.

Service providers of some of the GCI frame relay circuits were changed as a result of corporate restructuring in the telecommunications industry. The frame relay circuits to four VSAT hubs and to five NDCs were changed without incident. The ISDN back-up circuits to all of these points were also changed and tested. WorldCom, which filed for bankruptcy in 2002, has undertaken to continue to operate its network and to provide frame relay services for the GCI, but the PTS is exploring alternative solutions.

GCI IMPLEMENTATION

GCI coverage continued to expand. As of 31 December 2002, 181 GCI site surveys had been completed, and VSATs had been installed at 138 IMS, NDC and development sites. Also, 51 VSAT installations were completed in 2002, nearly meeting the planned number of 52 for the year. Difficulties in obtaining licences for VSATs continued to be an obstacle to installation of new sites, and the Commission appealed to States Signatories for their continued support. The PTS also conducted several missions to South American and



Installation of a VSAT antenna in a radome at auxiliary seismic station AS110, Kodiak Island, Alaska, USA, December 2002.

AS56, Tel-Alasfar, Jordan.

NDC/PS43, Belbashi, Turkey.

RN18, Punta Arenas, Chile.

AS105, Guam, Marianas Islands, USA.

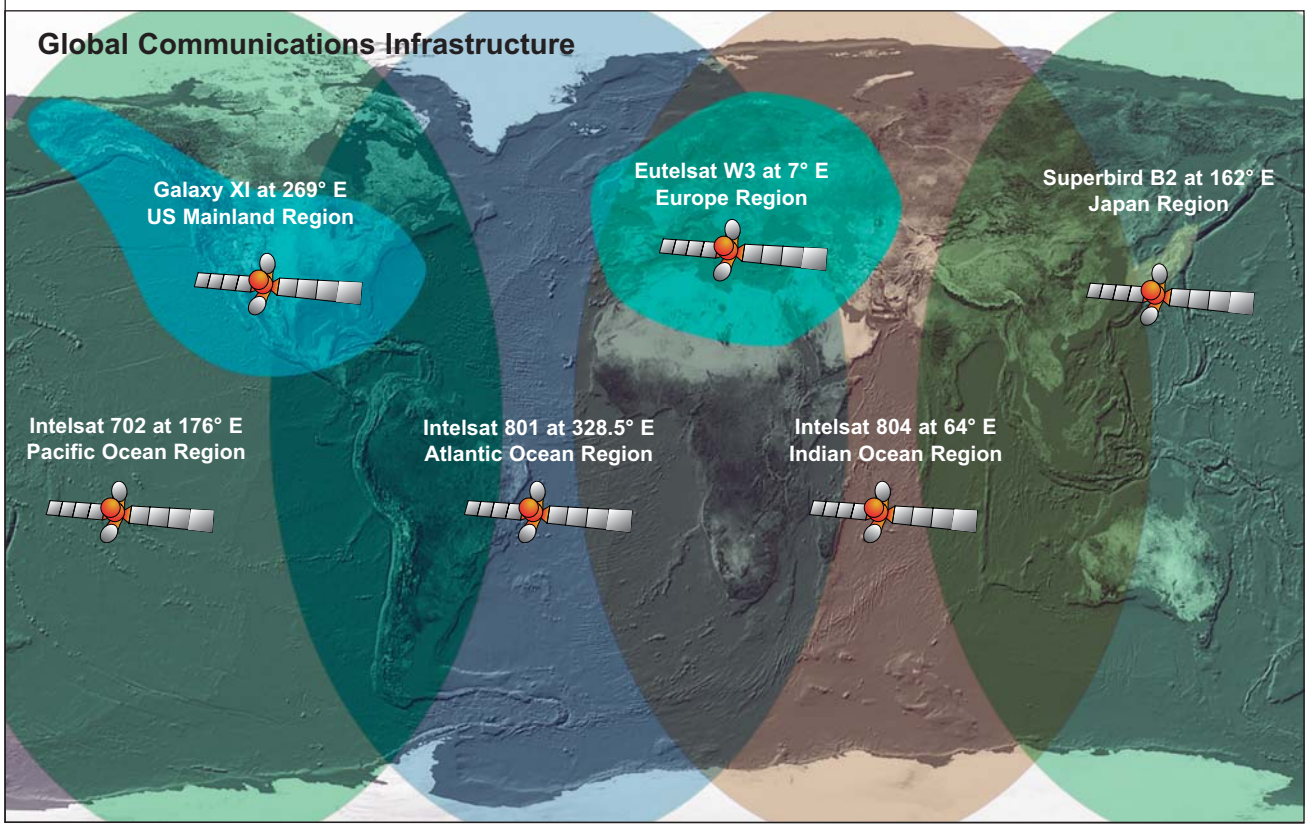
Asian countries to accelerate the licence process. Positive results were achieved with the addition of 22 VSAT licences obtained in nine countries.

Development work continued on the network management system (NMS), which provides availability and performance reports for all GCI connections. The GCI contractor began development of a more comprehensive problem tracking system, to be linked with the NMS and to provide systematic reporting of incidents and corrective actions taken. The new DNS and email services were implemented with the installation of servers at the IDC, as required, to enable the sending of email between the IDC, NDCs and stations.

Possibilities for sharing the GCI with third parties and forwarding primary data from the IDC to the NDCs of States Signatories were assessed by the PTS. The Commission subsequently adopted a set of rules for the provisional shared use of the GCI. These rules will be implemented in 2003.

INTERNET COMMUNICATION

The performance of the current Internet link (2 megabits per second) was consistent during 2002, with an average availability of 99.95%. During 2001, one major incident adversely affected the availability of the PTS



RL4/RN11, Rio de Janeiro, Brazil.

NDC, Daeion, Republic of Korea.

AS95, Afiamalu, Samoa.

AS78, Nana, Peru.

link to the Internet, causing a denial of service for about 10 hours. To prevent this from happening again, a second Internet link using a second service provider was established in 2002; this utilizes a new optical fibre connection to the Vienna International Centre (VIC) installed in 2001. The PTS now has two 2-megabit links, fully diverse and load sharing, to handle the normal Internet traffic and the new VPN traffic for the GCI.

WORKSHOP

A GCI–Evaluation Workshop was held from 21 to 24 October 2002 in Vienna for the purposes of training and technical discussion for GCI users. There were 70 participants from 20 States Signatories. The workshop focused on GCI operations, maintenance and functionality. Five recommendations were made concerning the establishment of single points of contact for the PTS and station operators; the enhancement of GCI security; the reporting of near real time status of the GCI, IMS and IDC to station operators and NDCs; and the advancement of simulation work. These recommendations will be considered by WGB in 2003. (See also “Workshops” in Major Programme 5.)