

Colloquium at AIAA ICSSC'21

- Satellite Internet, Latest Technologies, Systems and Services -

A colloquium session was held on April 15, 2003 at Pacifico Yokohama in advance of the regular sessions of AIAA ICSSC'21. The theme of the session was "Satellite Internet: Latest Technologies, Systems and Services." Recent worldwide activities in satellite Internet technologies and services were presented.

Eight presentations were made including a keynote speech by Prof. Helm of George Washington University. The presentations were very informative giving complete and detailed information on different aspects of the satellite Internet. Taken together, the session lived up to its claim, "Through this one-day colloquium, latest trends of satellite internet can easily be understood," to identify the latest trends in satellite Internet technologies. The presentations are briefly summarized below.

At the beginning of the colloquium, Prof. Helm gave the keynote speech. He asked the panelists and the audience what topics they would like to hear discussed in the colloquium session and added his own suggestions.

The regular presentations were initiated by Mr. Ed Laase of Connexion by Boeing (CBB). He revealed the importance of the Internet services to aircraft passengers. In his presentation, he described the aeronautical Internet service by CBB, which realizes very low cost per bit, using a higher frequency band such as Ku-band. He showed the comparison results with the Inmarsat service, which is now providing aeronautical Internet services using L-band via satellite.

Mr. Laase's presentation was followed by that of his close friend, Dr. Toshio Mizuno of Mitsubishi Electric Corporation. His presentation covered various aspects of technologies for aeronautical Internet services via satellite. He also covered future technologies such as the IP6 and QoS mechanism in satellite Internet systems.

After the lunch break, the session restarted with the presentation by Mr. Matthias Holzbock of DLR, Germany. First, he presented results obtained through the research activities on satellite Internet at DLR. Next he presented European research activities relating to the satellite Internet such as ABATE, WirelessCabin, SUITED, FIFTH, and so

forth.

Dr. Naoto Kadowaki introduced the WINDS project, Wideband InterNetworking engineering test & Demonstration Satellite. Then he explained the technical consideration of the onboard ATM switch mounted on WINDS and showed the superiority of the technology.

The following presentation by Prof. Suguru Yamaguchi of Nara Institute of Science and Technology was on application of the satellite Internet. The professor claimed that a wide-area communication network could easily and quickly be constructed utilizing satellite networks. He also mentioned that construction of R&D networks covering Asian nations including developing countries contributes to resolving the “digital divide” problems among nations.

Mr. Shinsuke Katsuragi of Space Communication Corporation (SCC) stated that from a business viewpoint, large file transfer to multiple users such as CDN (Contents Delivery Network) is a promising service for the satellite Internet and introduced one of the company's related services. He also introduced the SCC's activity on the development of a satellite Internet network for Japanese schools.

The final presentation was made by Ed Ashford of SES Global. He showed the results of his analyses and observations on the current situation of the satellite Internet business. Noting that the situation remained tough, he highlighted some promising signs. He said, “we should have no fear and ‘better mousetraps’ may soon be here, so don’t sit back and relax, but don’t give up either.”

The presentations were followed by very active discussions in the Q&A sessions. “Off-line Q&A sessions” after the regular presentations were also conducted.

Several months before the conference, the absence of presenters and decrease of audience were anticipated due to the war. In the event, SARS (Severe Acute Respiratory Syndrome) had a bigger impact, and the number of participants at the colloquium was less than at the last conference held in Japan 1998. However, all presentations were made in person and a considerable number of people joined the session despite the problems. The colloquium was concluded successfully.



Coffee break between presentations.