Computer link-up

IBM fills the European gap

IBM, the American computer giant, is prepared to spend some millions of dollars to set up a computer network in Europe, linking universities and research centres. The similar US BITNET will also be linked to the European network, through nodes in Rome and at the City University of New York (CUNY). In this way, the establishment of the system will put researchers with computer access in communication from the west coast of the United States to Haifa in Israel (in the European net) and all points between.

According to IBM Europe, based in Paris, IBM will provide all the hardware and most of the software necessary to enable computer users in Europe to send files and electronic mail to each other. The network is being called "EARN" for the European Academic and Research Network, and will not be restricted to IBM users.

IBM will itself gain by being on the network — and thus in touch with a vast community of researchers — and by establishing greater "visibility" in Europe. According to David Lord, the head of communications at the European Organization for Nuclear Research (CERN), near

Geneva, the EARN network could be operating within a couple of months. This rapid progress is possible because the technology is identical to the existing BITNET system, and is essentially simple.

There are two essential reasons for connecting computers, says Lord: to control one computer with another (to make one act as a terminal to the other); and to transfer messages and files. Existing telephone-line communications between computers using a simple international communications protocol dubbed X25 coped well with the first use (terminal access). But X25 is clumsy at file transfer.

BITNET and EARN are designed for this latter use — file transfer — which will, for example, enable a researcher in one country to send a research paper or a preprint to a researcher in another, with the minimum of fuss, provided the paper was first produced on-line.

Already the main nodes (junctions) of the EARN network are defined. Rome will be linked to Haifa, to CUNY in New York and to CERN in Geneva. CERN will link in turn to Paris, GSI Darmstadt in West Germany and the Rutherford Appleton Laboratory in Britain which will provide a gateway into the existing British JNT (or Janet) nationwide academic network. Paris will link to Madrid and to Stockholm, a gateway into a Nordic network.

At present, Britain seems to be best provided with academic networking, with Germany rising fast in second place. Germany is planning to provide 10 internal (national) access points to EARN.

But why has Europe left it to a US computer company to establish such a network? This is a difficult question to answer. The information directorate of the European Commission in Luxembourg does in fact run a substantial network, Euronet Dyane, but in practice this has been developed mostly to provide terminal access to various databases and database hosts in Europe. And since databases are mostly abstracting services of most use to librarians, Euronet Dyane has developed more towards library services than to linkage between researchers.

Meanwhile, though, the Commission is developing programmes such as the European Programme of Research in Information Technology (Esprit). In such programmes, new standards for inter-computer communication are being developed — standards that will be more powerful than BITNET and EARN. This is the right job for the Commission, Lord thinks. But meanwhile users in urgent need of communications should not ignore *ad hoc* offers like IBM's EARN. The danger to Europe and the benefit to IBM is that IBM standards will be deep-rooted by the time Europe decides on its own protocols.

Robert Walgate

Toxin weapons

Softening of US charges

Washington

THE US State Department may be backing off from its charges of Soviet use of chemical and toxin weapons in Afghanistan and South-East Asia. In a report submitted to the United Nations last week, the State Department said that in 1983 — for the first time since it began levelling charges of Soviet use of chemical weapons three years ago — it could find no confirmed evidence of chemical attacks in Afghanistan. And in Laos and Kampuchea, where the State Department has accused Soviet-backed government forces of attacking resistance fighters with "yellow rain", supposedly a mixture of trichothecene mycotoxins derived from fungi, the report said that the "lethality of attacks" had decreased in 1983.

Only one of more than 200 environmental and biological samples collected in all three areas in 1983 proved positive for the presence of these toxins. The State Department apparently based its allegations of continued attacks in Laos and Kampuchea on intelligence reports, eyewitness accounts and medical data on symptoms suffered by victims of the alleged attacks.

While maintaining that the United States had "strong evidence" to support its earlier charges, the report seemed at least to open the door to some explanations that stop short of toxin-weapon use, which is a violation of international treaties. "Some deaths associated with toxic attacks occurring in 1983 resulted from secondary effects", the report acknowledged, "such as eating contaminated animal products after an attack."

Critics of the State Department's earlier reports have suggested that use of non-lethal agents such as tear gas may explain the symptoms reported and the presence of gas masks and other material among Soviet forces in Afghanistan. Tear gas is not considered by the United States to be a chemical weapon under the 1925 Geneva Protocol banning chemical warfare.

Other critics, notably Matthew Meselson of Harvard University, have reported strong evidence for a natural explanation of the illnesses reported. Meselson said last week that he is now firmly convinced that the "yellow rain" samples collected by the State Department are in fact pollen-laden bee droppings, perhaps naturally contaminated by toxin-producing fungi.

Meselson, who called last week's report a "retreat" from the State Department's earlier accusations, was particularly critical of the government's continuing failure to publish its findings in an appropriate scientific format, with full details of when and where the samples were collected and of how control samples were chosen.

Stephen Budiansky

Up and away

Tokyo

ALTITUDE control and telemetry tests of the Exos-C satellite, launched last week by Japan's Institute of Space and Astronautical Science (ISAS) from the Kagoshima Space Centre, have proved successful and the first scientific data are expected to be transmitted back in the next few days.

Exos-C, given the Japanese name Oozora (sky), is a part of Japan's contribution to the Middle Atmosphere Program (MAP). It is the ninth scientific satellite to be successfully launched by ISAS, the academic space institute run by the universities, in a space programme totally independent of Japan's commercial space organizations. Launched into a low elliptical orbit (perigee 354 km, apogee 865 km, inclination 74.6 degree, period 96.9 minutes) by an MU 3S rocket, the satellite carries a range of equipment designed to measure minor constituents of the middle atmosphere — carbon dioxide, ozone and aerosols, including those of volcanic origin — from all regions of the globe. Data on ionospheric plasma conditions will also be collected.

The principal instruments on board are a scanning 1.2- μ m infrared radiometer for measuring ozone density at 70–90 km altitude, a back-scatter ultraviolet spectrometer which will give the ozone profile at 25–60 km, and a solar image radiometer for observing stratospheric aerosols and ozone levels.

Alun Anderson