Working Paper

FLOW OF INTERNATIONAL NEWS OVER DATA NETWORKS

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PREFACE

This working paper is part of the IIASA study "Telecommunication Equipment and Administrative Procedures relevant to Experimental and Operational East-West Computer Connections". This work is supported both by the Control Data Corporation in Minneapolis and the Austrian Ministry for Science and Research in Vienna.

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I. Sebestyen

0. INTRODUCTION

The history of news agencies goes back well into the last century. The first French news agency Havas--a predecessor of AFP, the present French News Agency-- was founded as early as 1835; Reuters--a news agency owned by the newspapers of the UK, Australia, and New Zealand--was created in 1851 by the German-born Paul Julius Reuter; and Associated Press (A.P.), the oldest and largest US agency, started its activities in May of 1848 when six New York City dailies joined to finance a telegraphic relay of foreign news brought by ships to Boston, the first US port for westbound transatlantic ships.

According to Encyclopedia Brittanica [1]

> a news agency is an organization that supplies news reports to newspapers, magazines, radio and television stations, and other users. It does not publish news itself but supplies news to its subscribers who, by sharing costs, obtain services they could not otherwise afford. All of the mass media depend upon the agencies for the bulk of the news, even including those few that have extensive news-gathering resources of their own.
>
> The news agency has a variety of forms. In some cities, newspapers, and radio and television stations have joined forces to obtain routine coverage of news about the police, courts, government offices, and the like. National agencies have extended the area of such coverage by gathering and distributing stock-market information, sports results, and election reports. A few agencies have extended their service to include news interpretation, special columns, news photographs, and motion-picture film for television news reports.
>
> Many agencies are co-operatives and the trend has been in that direction since World War II. Under this form of organization, individual members provide news from their own circulation areas to an agency pool for general use. In major news centers the national and worldwide agencies have their own reporters to cover important events, and they maintain offices to facilitate distribution of their service.

1. NEWS OVER DATA NETWORKS

Thus, the business with news is a most traditional one with well established business rules and practices. From the technical point of view of the early days of news agencies, the dissemination and exchange of information was carried by telegraph channels. These were slowly taken over by telex networks, which started in the 1930s. With the advance of new information and telecommunication technologies, the nature of how news agencies work is just about to change. It was soon recognized in the 1960s that computers were extremely suitable for collecting, editing, archiving, retrieving, and disseminating news information. With the advance of modern telecommunication technologies, in particular of com-

puter networks, it became technically feasible to build information networks based on computer mediated communication. Such networks obviously by their nature, represent a special category of transborder data flow of computerized information.

East and West were interlinked by news networks naturally, long before special computerized news networks started to emerge. The development in this field obviously does not stop on the border between countries, and we are witnessing, also in East-West relations, the increased computerization of the news agencies' networks.

One of the first news agencies that started to use computer networks for their news services was Reuters, who, in 1973 in London, launched their Reuter Monitor Service, enabling foreign exchange dealers, banks, commodity traders, and brokers, to receive up-to-the-minute, market-related news on terminals. According to [2] the Reuter Money Rates Service had only 14 subscribers on its launch date in 1973 but by 1981 had nearly 5000 located in 350 centers in 58 countries.

Reuter News Services include up-to-date minute news on *traditional news* and *money rate news* on the major international monetary "stages" of the world including

- foreign exchange
- a money news service
- economical data services on trade, balance of payments, consumer prices, money supply, official reserves, and discount rates, etc.

-- rate quotation of domestic and international markets, etc.

Also offered are *commodity* and *oil market news*, *securities news service*, and *shipping news service*.

In the Reuter News Services two types of information are provided: that generated by Reuters itself, and the so-called contributed data provided by subscribers to the service. In the Monitor Oil Service, for example, subscribers receive data directly from the dealing rooms of major oil brokers, merchants, and traders. Any subscriber to the Oil Service may contribute prices, observations, and other information to the system using his standard terminal. Such information is then stored in computers and is available for retrieval by all subscribers, provided they are permitted by the contributor to see it. This facility to grant selective permission or inhibit access to contributed data ensures that any particular competitors are barred from access to the contributor's data. Information contributed by subscribers complements the news and prices content of the service.

The Reuter Monitor Commodity Service operates in a similar fashion. Information contributed by subscribers complements the news and prices content of the service and is in the following categories: Softs, Grains/Oilseeds, Non-Ferrous Metals, and Precious Metals.

The Reuter Monitor Shipping Service is designed for international shipping markets. It enables essential market data such as Enquiries, Fixtures, and Market Reports to be channelled rapidly and accurately to the required destination. The service enhances and reinforces existing systems between shipbrokers, owners, and charterers. By subscribing to

the service, shipbrokers, owners, and charterers can use their terminal to receive fast-moving market information vital to their business. They can use the system either as contributors or recipients. Contributors inset items of information into their terminal and this information, under their own name, becomes available to the shipping market worldwide. Market data may be directed to recipients at the discretion and under the control of the contributor.

The philosophy adopted by Reuters, i.e., that both Reuters and its subscribers may put up information, is somewhat similar to the philosophy applied in PTT videotex services, where the PTTs, although often information providers themselves, primarily collect and distribute information provided by so-called information providers who are often the users of the system themselves. One of the main functions of such a service is not only the distribution of information by the news agency, but also to provide a broad, active information forum for the entire business community. The broad online user community in this sense is an essence of such services. International applications of this philosophy--such as in the case of Reuters--create a typical example of transborder data flow, which could not be done otherwise.

Reuters is, however, not the only news agency providing computerized information services. AP and UPI have also been providing news data services for a couple of years. AFP--the French News Agency--has recently introduced its Agora Service with three databases allowing selective and retrospective search of information. The database AGORA GENERAL stores all the information generated by the general AFP Service for the last 12 months. AGORA DOCUMENTATION stores the total AFP-

Documentation, such as biographies of politicians, with no time limit.

According to [3], the computerization of national news agencies has been developed so far that about 90% of the news agencies today already have starshaped computer networks for their domestic services. In this fashion, collecting, editing, and storing of their own messages are done on small, medium sized computer configurations. The distribution of messages to the domestic network is naturally supported by computer too. The Austrian Press Agency (APA) runs for its domestic purposes on an IBM S/7 "store and forward" system linked to a Thompson-CSF computer used for text preparation purposes. Similar computerized systems are applied at other national news agencies and the agencies of the Eastern European countries are no exception from this practice. However, according to [3], the computerized systems used for domestic services in East-West relations do not yet provide news internationally, but there is good reason to assume that this will be the direction of development.

2. INTERNATIONAL TRADE OF NEWS INFORMATION

Regardless of whether normal telex or computer supported distributing systems are used, the trade of news information between news agencies is not new but daily practice. With the growing interest in international trade for computerized information it is worthwhile for other categories of the information industry to learn from the experiences of the news agencies in this respect.

As an example, according to [3], APA, which is a consortium of its subscribers, buys and sells information from and to the news agencies in the West and exchanges information with the agencies of the Socialist

countries. Business with, say, Reuters, is also partly done on a compensative basis. For example, if APA, buys information for 100 units and Reuters buys back APA news for 30 units, then APA will transfer in cash the difference from the total. With Socialist countries the deal is on an exchange basis, for example, APA services MTI the Hungarian News Agency, and in return MTI provides APA with its export service free of charge. The export services of the news agencies of the Socialist countries are in English, French, or German. Although the domestic services are already computerized as mentioned earlier, the export services are not yet.

APA in total receives about one million words per day in three languages from all agencies around the world. From this they filter out and condense 50,000 words per day for domestic distribution in German.

The philosophy of mutual dependence is the guiding one for the work of news agencies and this is certainly the notion that should be taken over by other transborder data flow applications wherever possible.

3. NETWORK TOPOLOGY OF NEWS AGENCIES

Each news agency is practically the source and destination of information. The physical networks that connect the agencies are very complicated and often the result of a long historical development. Figure 1, for example, shows the European section of Reuters' worldwide communication network, the computer data centers being located in London, Paris, Amsterdam, and Frankfurt. In East-West relations, access from the Socialist countries is made through the Frankfurt center. As an example, according to [3], the dedicated channels to Budapest from Frankfurt go

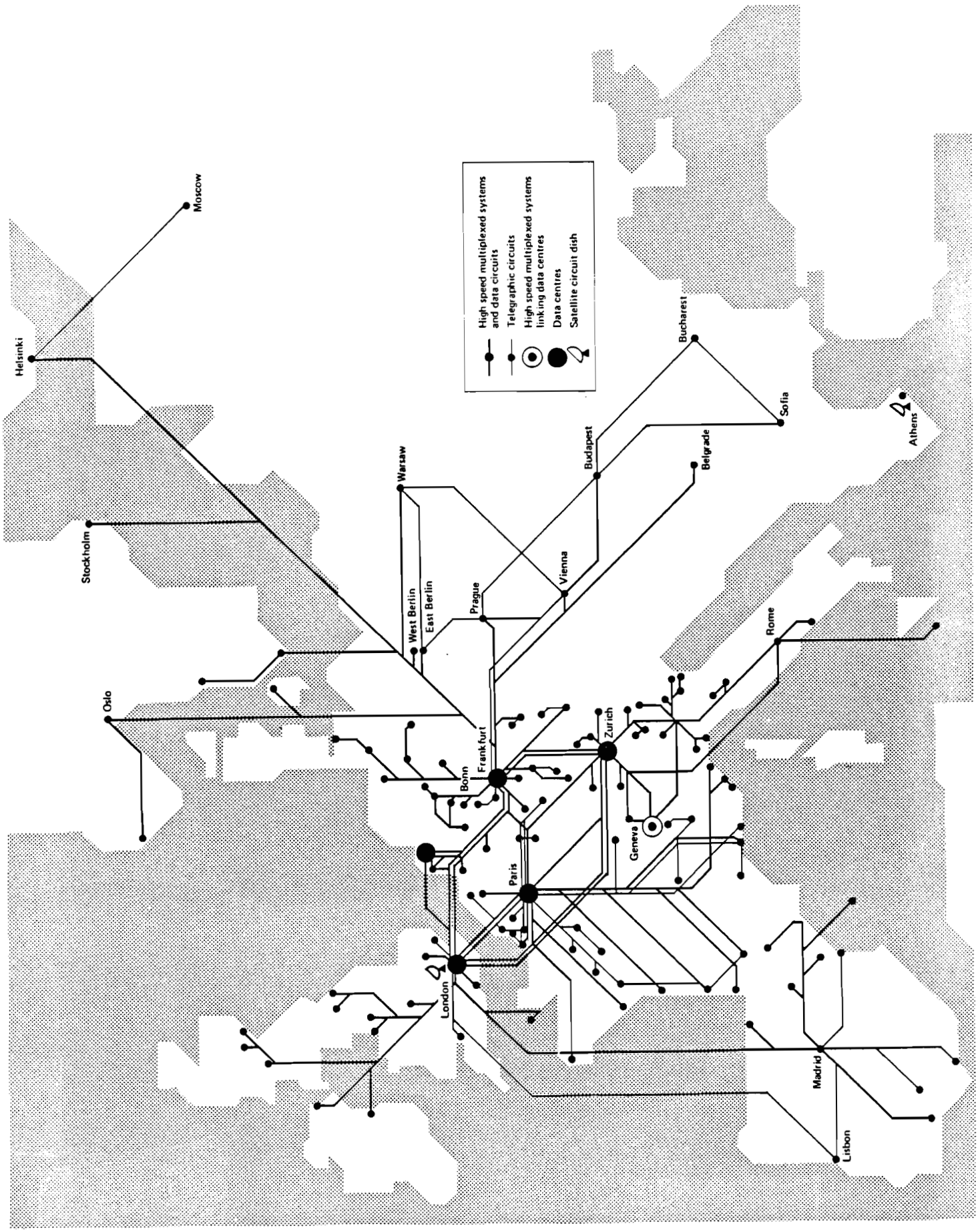

Figure 1. Reuters Communication Network (European part)

via the direct link APA (Vienna) - Reuters (Frankfurt) in a multiplexed mode. This line is rented by APA and is also used for their own purposes. In addition, the line has dedicated channels for carrying traffic between DPA--the West German News Agency--and MTI. As a rule, APA will establish such connections provided appropriate agreement and willingness between the two destination news agencies exists. With this policy, APA and Austria are playing an important role in exchanging news information between East and West.

The multiplexed high speed connection between MTI in Budapest and APA in Vienna is provided by MTI. Through this arrangement there is no need for MTI to establish a direct channel to Frankfurt or for APA to maintain direct links to news agencies in Socialist countries, which are brought to Vienna over the dedicated channels multiplexed by MTI. This fine example of cooperation demonstrates how effectively news agencies support each other's work and how dependent they are on each other.

Figure 2 [3] shows the communication network used by APA. It can be seen that this complicated network is built upon different technologies, depending on the partner news agency concerned. According to [3], their present main connection to the CMEA countries goes through the multiplexed high speed line to Budapest, which, however, is only used for sending text and data. The multiplexed connections to Prague, Warsaw, and Belgrade carry both facsimile pictures and text. MTI Budapest, which has its own extensive network and is itself linked to other news agencies, can facsimile services through its other channels. In practice, this very dense and sophisticated mesh of networks ensures that all information, be it text, data, or pictures, gets to the news agencies in some form or

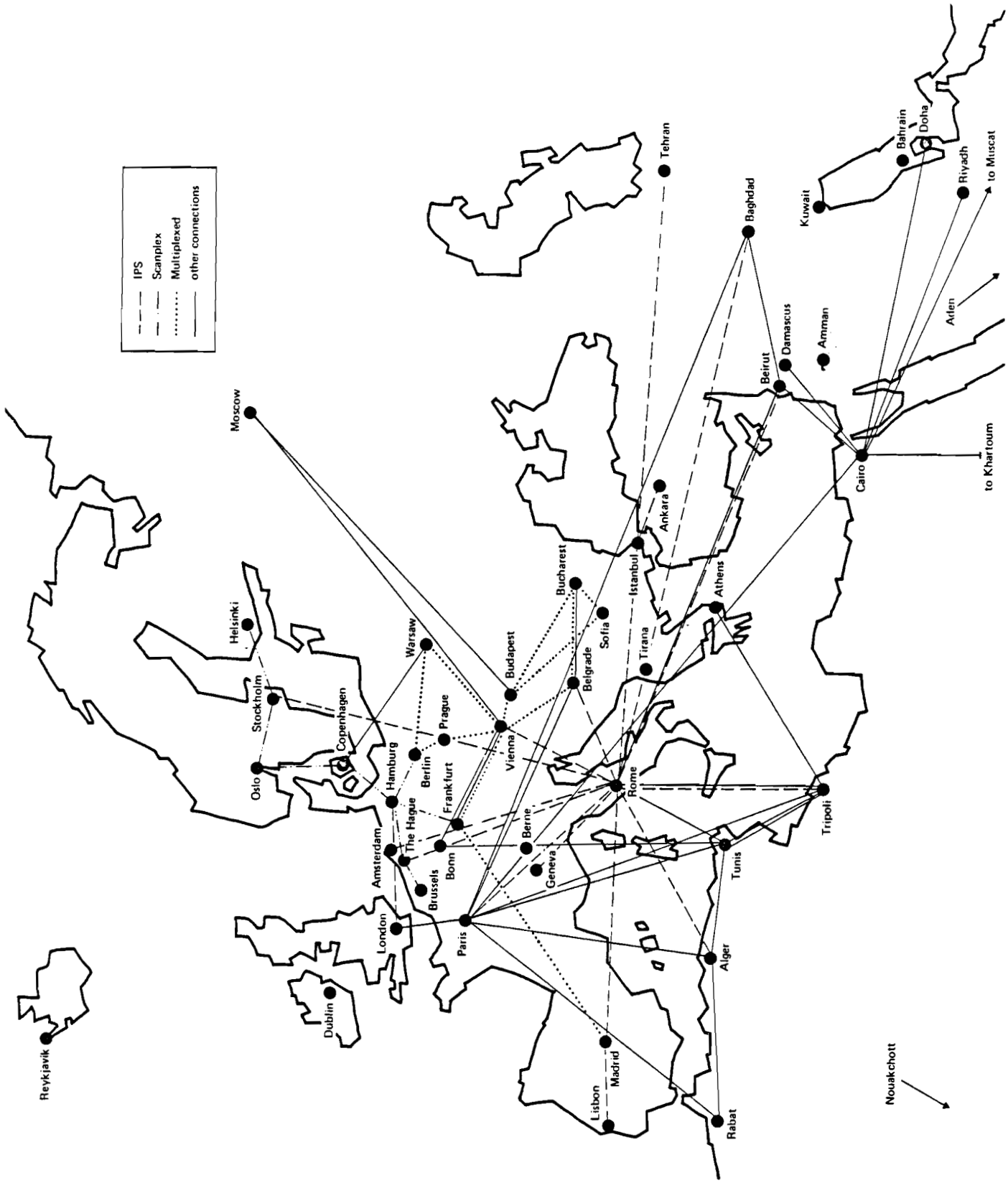

Figure 2. APA World News Network

another instantaneously, even if some hardware problems should occur.

4. FUTURE TECHNICAL DEVELOPMENTS

New, more "unorthodox" developments in the field of news agencies network distribution are already visible at this point. John Ison [4] reports that the Reuter Monitor Shipping Service is increasingly used by ships sailing on oceans through the data communication channels provided by the communication satellite services of INMARSAT.

Another satellite communication technology is used for terrestrial communication of networks news services in the USA and Canada by IDR Inc., a subsidiary of Reuters [5]. Their information system, called the IDR Row-Grabbing System, is the result of the marriage between Reuters information services and their television and satellite technologies (Figure 3). Row-Grabbing is actually a sophisticated full-channel teletext system allowing a one way information stream of 30 million characters a minute in a cyclical fashion, from which users with the appropriate terminals can select information for display, printout, or processing. Terminal types range from highly sophisticated multi-function, professional units to very low-cost display-only terminals using standard television sets.

The system has, among others, two interesting aspects from the information policy point of view. First, it shows an increasing tendency for major "news monopolies" to try to reach end users, even residential users, directly without utilizing the services of an intermediary such as local newspapers. Second, the system is already linked to Canadian cable television network, which brings these services over the border to domestic and business users in Canada.

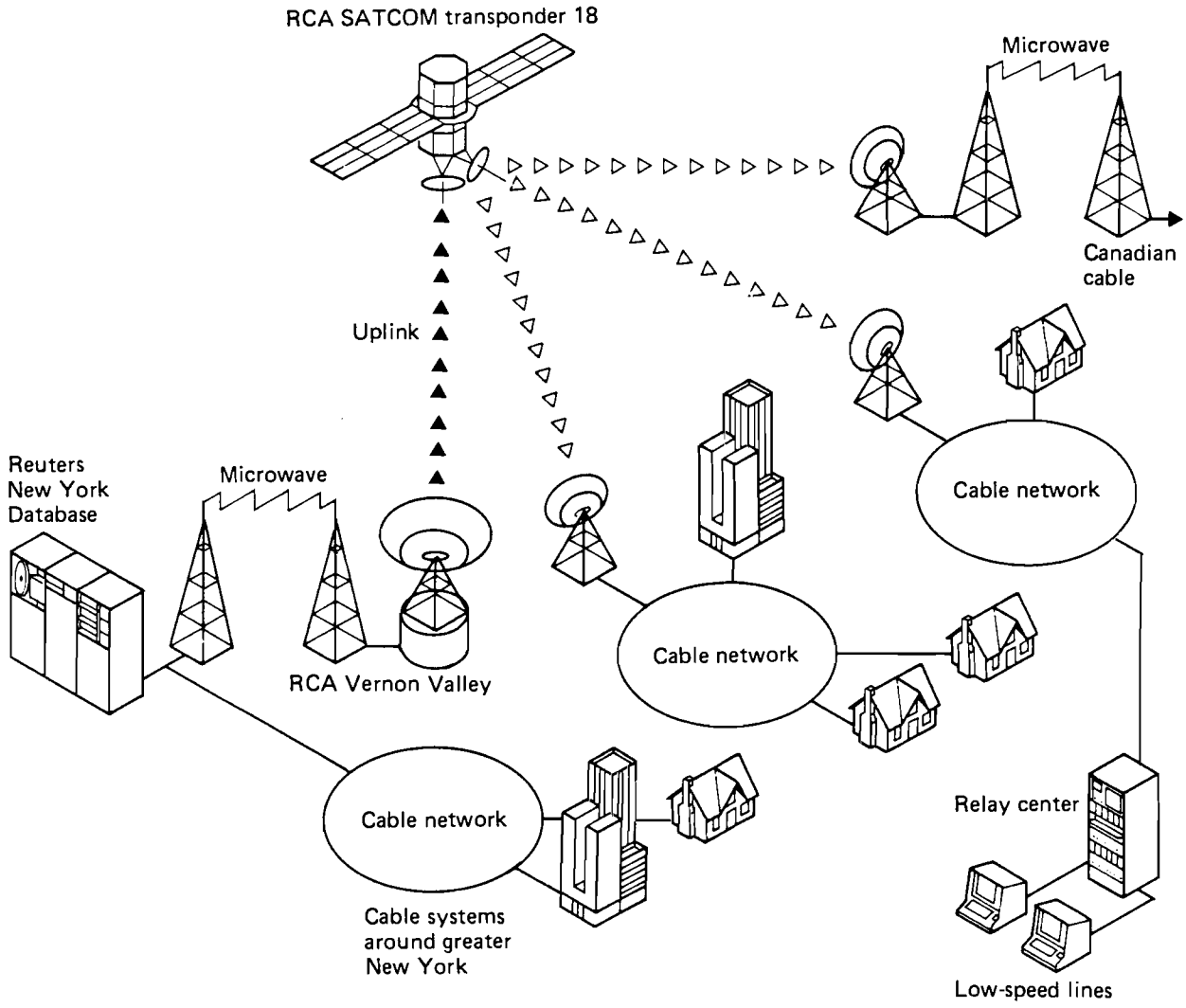

Figure 3. IDR Row-Grabbing System.

5. SUMMARY

To sum up, most of the present transport of news information between East and West is done on telex channels, but there can be no doubt that with the further development of computerized systems, exchange of news will be the internal affair of computers.

There are early signs that in the future major news agencies will service and users--business, and public--directly without the involvement of intermediaries such as national news agencies or local papers. This might not only impose some problems domestically but also internationally in many countries, also in the sense that the public at large will be confronted with transborder data flow problems.

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