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Managed Network and Messaging Services—Western Europe, 1990-1995

Managed network services provide the user with an independently managed alternative to the public service. Messaging services offer the user an opportunity to interconnect disparate private mail systems with each other and with a variety of public services of differing levels of sophistication.

There are a number of reasons for the dynamic growth of the overall network application services market that encompasses these two sectors and that, as INPUT's research shows, will grow at a CAGR (compound annual growth rate) of 34% over the forecast period 1990 to 1995.

Among several primary driving forces fuelling this growth are:

- The number of personal computers in business and professional use. The majority of PCs are still used on a standalone basis only; network-based services are being used by only a small percentage.

- Integrated services digital networks (ISDN) will develop over the forecast period and be promoted by the European PTTs. ISDN can support integrated voice/data/image networks and thus facilitate transmission and interchange of information that might otherwise travel by mail or courier. This will accelerate the use of multimedia communications services that become available to run under an ISDN environment.

- Private wide-area networks are available in many large organisations to assist in tying LANs together into tactical communications systems within each organisation and between different organisations. The explosive growth of LANs to connect the plethora of standalone PCs will indirectly, therefore, promote the growth of network services applications over the forecast period.

- The rapid growth of fax, as a replacement for and enhancement of the old-fashioned telex, has spread the use of electronic messaging down the industry pyramid to even the smallest one-man businesses.

Exhibit 1 lists the key features and key vendors for the two sectors of the market reviewed in depth in INPUT's report, *Managed Network and Messaging Services, Western Europe 1990-1995*.

The complexity of communications networks is increasing rapidly. Only the largest organisations possess the knowledge to operate, maintain and continually enhance these networks by themselves. Business opportunities exist in providing network management skills and control in a variety of ways, such as:

- Remote network management services
- Implementation of network management software
- Professional consulting services associated with planning and performance measurement

The globalisation of the world's economic system is a significant contributor to network services growth. As more business transactions become internationally orientated, a network services capability to support these transactions and their underlying relationships becomes more crucial.

Finally, the development of a global network communications infrastructure in the 1990s will itself stimulate demand for such capabilities. The capacity for rapid transmission of data, voice and images across continents will emerge in the mid-1990s as a powerful impetus for person-to-person, business-to-consumer and business-to-business use of such facilities.

Exhibit 1

Market Sector Characteristics—Western Europe

Subsector	Key Features	Key Vendors
Managed Network Services	Global capabilities Regional capabilities National capabilities Design facilities Operational capability Network Management	DBP Telekom France Telecom BT GEIS EDS Andersen Consulting IBM
Messaging Services	Global capability X.400 Messaging <—> EDI Interface to vertical applications	France Telecom BT (Telecom Gold) GEIS Infonet Swift SITA

As a result of these forces, the markets for managed network and messaging services will grow at rates above that of the overall information services market, i.e., at rates of 25% and 42%, respectively, over the forecast period. This scenario of two fast-growing and interdependent sectors is summarised in Exhibit 2.

Managed Network Services (MNS)

Network services vary in the kinds of value they provide, often serving market segments other than those for which regulation is intended. Private network operators can meet the specific needs of customers to a degree that public network operators, with their statutory requirements for universal provision, are unable to do.

Liberalisation of European telecommunications is allowing private operators to meet specific market demands at competitive prices. Yet, the existence of numerous private networks in the marketplace can and does result in too many standards, each with its own protocols. As a result, widely accepted industry standards have been slow to emerge, and most manufacturers have been reluctant to provide the necessary software to support the entire range of network access protocols. This situation has provided part of the impetus for developing public and private integrated services digital networks (ISDNs), which integrate the communications of a range of equipment through a single network.

The issue of managing pan-European open networks has been complicated by the development of:

- Interworking of national X.25 networks through X.75 gateways at level 3 in the OSI model
- Generic applications of electronic mail (X.400) and electronic directories (X.500) at level 7 of the OSI model.

Effective management of a managed network service requires:

- Diagnostic data to be collected at each of the network process levels
- Effective database handling and management of the data collected
- Reporting of daily and other periodic statistics, and presentation of trends discovered through their analysis
- Interactive management of the network at the session and application levels.

The management of the network processes at the network level (level 3) is rudimentary in open networks (we include in this stricture the X.25 public data networks in Europe). Management at higher levels is nonexistent and has not yet been specified in the OSI model. The management issue is further complicated because multilevel management will be needed within international networks as the traffic load increases:

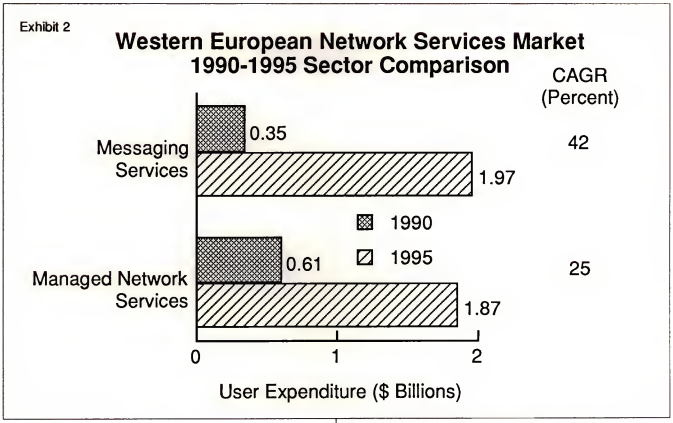
- Regional level
- Country level
- Continental level
- Intercontinental level.

Provision of a private managed network service using limited computer equipment is understood, and yet the implementation task is complex. Provision of a public managed network service based upon a proprietary architecture such as an IBM SNA network can only be achieved with difficulty. IBM itself has spent over 10 years building its own network.

Messaging Services

Electronic messaging has been available for several years, but has until recently been something of a service solution looking for a market. Implemented primarily to meet the needs of intraorganisational communications, the

Exhibit 2



market has grown only moderately, fostered by the availability of MNS as promoted by the independent vendors. The situation is likely to change dramatically over the forecast period.

The globalisation of business, the emergence of EDI and greater ability to interconnect services are changes that will result in an increasing use of electronic mail services. Information transmitted that is associated with EDI transactions, such as delivery schedule inquiries, is regarded as electronic messaging. This type of control information is vital to the successful day-to-day management of data being processed by EDI communities.

The forecast for the electronic messaging market is robust for the simple reason that increased capability to interconnect disparate systems using X.400 will result in a rapid globalisation of the market. It may well be that the 42% CAGR predicted by INPUT for the forecast period will turn out to have been conservative!

The Strategic Challenge of Positioning

Much of the projected growth for network applications will come from the increased role of the network operators (the PTTs) in the network services market. Many network operators currently offer packet-switching services and are expanding their service portfolios by implementing intelligent network offerings that enable them to customise services more precisely. This new competition presents a considerable challenge to the established independent vendors.

Faced with new competition and the loss of processing services contracts, these established vendors are investing heavily in developing applications and services. As a result, vendor consolidation is likely, with only brand leaders retaining their market positions.

Squeezed between these two groups lie the IT equipment vendors led by IBM. This group of vendors has traditionally acted as supplier to the PTTs and to large organisations with private networks, including the independent third-party network services vendors. The current market positioning of the three competitive groups is illustrated in Exhibit 3.

The future strategies for all three must lie in managing the trade-off between consolidating their current positions and in expanding their offerings into more comprehensive service catalogues:

- PTTs can seek bilateral alliances to increase their global reach.
- Network service providers can move from generic service provision into more vertical applications marketed within national contexts.
- Equipment vendors could build on their tied communities of suppliers and customers to provide combined EDI and messaging applications serving the national markets of Western Europe.

An example of two companies facing the need to establish the correct trade-off is afforded by the recent discussions between British Telecom (BT) and IBM:

- BT seeks to extend its MNS and messaging capabilities to a more global scale by running IBM's internal network.
- IBM seeks access to BT's user base in voice-related sectors in order to sell its equipment and services, and to build a salient into the integrated network sector in preparation for expansion in this area.

The running of such a joint partnership with the correct degree of formality or informality is the key to its success.

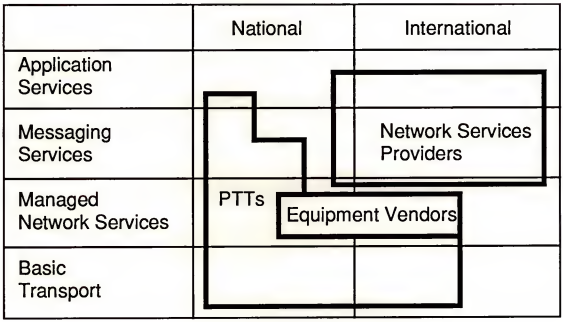
Conclusion

The outlook is particularly bright for vendors that can merge their rapidly evolving network capabilities into a global communications structure and can manage the marketing of timely information services within that structure. If any single trend stands out, it is the rapid growth of the world network infrastructure during the forecast period. This environmental upgrade will stimulate the demand for information. Communications-orientated services, functions and capabilities are certain to follow.

Finally, one very important outcome of the evolution of intelligent networks will be the development of virtual private networks (VPNs). These are advanced, end-to-end digital networks, fully tailored to the requirements of their users but owned, managed, maintained and operated by public network operators or third-party suppliers. VPNs will be a new stage in network-based communications, narrowing the gap between public and private networking. Though not offering dedicated communications, VPNs will relieve users of complex and expensive day-to-day network management, and of the need to update their equipment whenever technology changes. Thus, the aim of the VPN is to offer a flexible, user-friendly mixture of private network security with the ubiquitous access and economies of scale of a public network.

Exhibit 3

Current Competitive Positioning



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