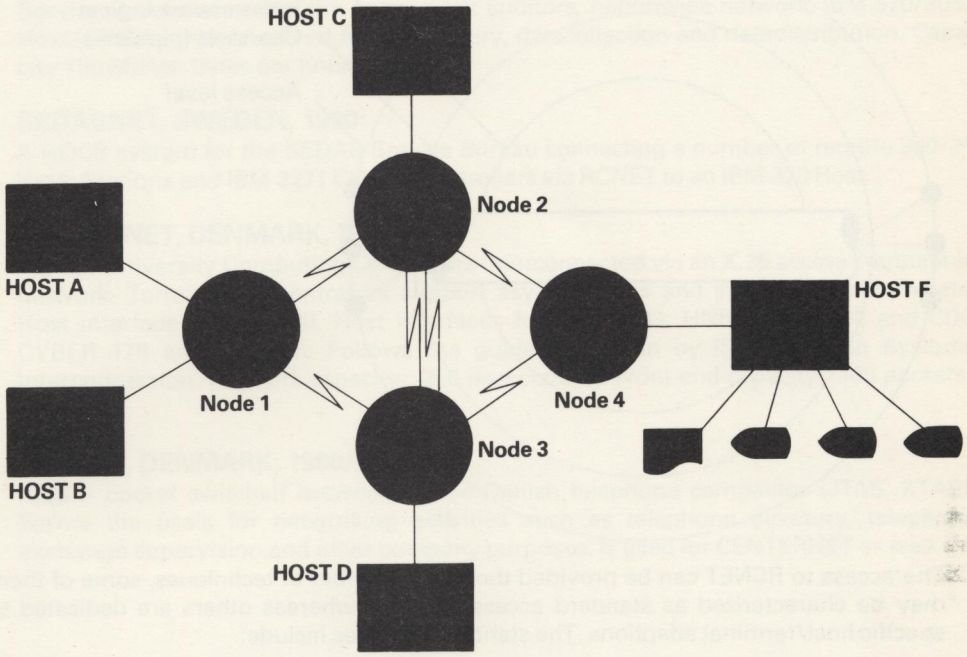
Networks



- STANDARD TRANSPORTATION SERVICE FOR ALL COMMUNICATION TASKS
- PACKET SWITCHING SERVICE
- HDLC PROTOCOL, FULL DUPLEX
- INDEPENDENTLY STRUCTURED
- FOR IMPROVED UTILIZATION OF DATA PROCESSING EQUIPMENT

RCNET is a packet switched network, i.e. all information exchange is carried out by transporting unified packet-items.

These packets are generated at the entrance of the network and each packet is forwarded independently through the network. If the user information (letter) to be transported can not be contained in one packet the letter is fragmented into a number of packets.

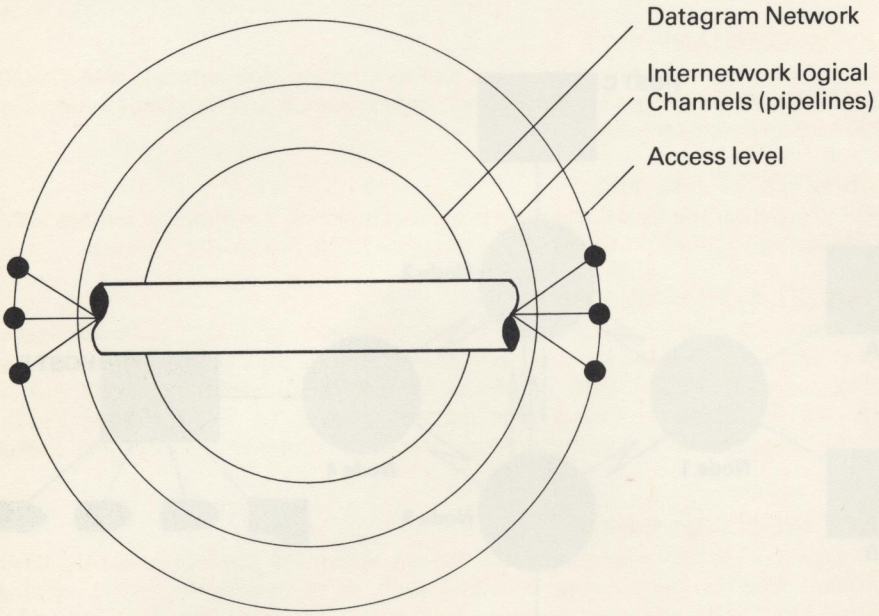
RCNET is able to transport packets at different priority levels, e.g. RJE traffic can be assigned to a lower priority than interactive traffic.

The routing mechanism of RCNET incorporates adaptive as well as fixed routing, the adaptive routing being the 'shortest path' method. Updating of routing tables are performed dynamically, which means that no software changes are needed if new communication lines, nodes or users are connected (autonomous network service). A method for automatic creation of links through a public circuit switched service is supported as well, meaning that RCNET does not require permanent network links.

The basic link protocol of RCNET is HDLC (X.25 LAP B) offering full duplex, non-polled, link service. Furthermore RCNET supports link protocols on high-speed intercomputer links.

The next level of control within RCNET include a datagram network service with adaptive routing techniques, a number of network control functions and the availability (if required) of an internetwork virtual channel facility (pipeline). The pipeline offers end-to-end security and flow control between two RCNET users.

A substantial part of the RCNET tools incorporate facilities for network control and monitoring. These facilities allow a network operational center (NOC) to supervise and control all functions within the network.



The access to RCNET can be provided through a number of techniques, some of them may be characterized as standard access methods whereas others are dedicated to specific host/terminal adaptions. The standard accesses include:

- X.25 DCE access as specified in the CCITT orange book (and later revised versions).
- Synchronous access with PAD (Packet Assembly/Disassembly) facilities for BSC Communication such as IBM 3271, IBM 360/25 WS, IBM 3780, 2780 or compatible units.
- Asynchronous access via PAD's according to X.28, allowing start-stop type of terminals (TTY) to access the network.

The special access facilities include IBM host connections via channel attachments.

Other host adaptions include RC8000, Univac and CDC mainframes.

The access facilities of the RC3600 network computer may be extended to incorporate the local intelligence of the RC3600 Support System, which e.g. offers file editing, data entry and data collection tasks.

Summarizing the previously mentioned features, RCNET offers an ideal base for establishing network systems, ranging from simple RJE stations to complex network architectures interconnecting a large range of different terminals and several different host computers. The key-words to this capability are:

- selfcontained and independent transportation service
- adaption to different mainframes/terminals
- compatibility to public network services
- down line loading of network nodes
- advanced network control and monitoring
- the flexibility of the RC3600 Support Systems offers add-on facilities to the network
- flexible adaption of new network services.

Several significant network tasks have been carried out by RC, the experience of which has proven the advantages of RCNET.

JTAS, DENMARK, 1976:
A telephone directory inquiry system, regional network, RC8000 Host, 200 terminals. 12.000 transactions per hour.

SPARDAT, AUSTRIA, 1978:
A saving bank servicing system, nationwide network, IBM 370/303X Host, 2500 terminals served for datainquiry, datacollection and datadistribution. Capacity 180 Million bytes per hour.

SBCS, CZECHOSLOVAKIA, 1979:
A filetransfer network for data collection and data distribution for the Czechoslovakian State Bank. Two main centers are connected to nine remote centers.

DATEV, W. GERMANY, 1979:
Service Bureau servicing the german tax auditors, nationwide network, IBM 370/3033 Host, 2500 terminals served for datainquiry, datacollection and datadistribution. Capacity 180 Million bytes per hour.

SEDABNET, SWEDEN, 1980:
A ROCS system for the SEDAB Service Bureau connecting a number of remote 360/25 Work Stations and IBM 3271 Cluster Controllers via RCNET to an IBM 370 Host.

CENTERNET, DENMARK, 1980/81:
Danish University Computing Centres are interconnected via an X.25 access compatible network. Terminal concentrators support asynchronous and synchronous terminals. Host interface for RC8000. Host interfaces for IBM 3033, UNIVAC 1100/82 and CDC CYBER 175 are foreseen. Follows the guidelines given by ISO for Open Systems Interconnection. Network capacity: 250 packets/sec. Front-end capacity: 100 packets/sec.

PAXNET, DENMARK, 1980/81:
X.25 – packet switched network for the Danish telephone companies (JTAS, KTAS). Forms the basis for networking activities such as telephone directory, telephone exchange supervision and other company purposes. Is used for CENTERNET as well.