

Report of Task Force 2
Data Base Systems and Hardware

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This task group reorganized the topics assigned into somewhat different terms, believing that the issues could be better addressed in terms of: host hardware general capabilities, host operating system capabilities, host application program languages and capabilities, then user data capture devices and the potential of a sharable utility library to facilitate user access. The main thrust of the discussion was to explore the user capabilities in terms of liberation from many, if not most, prior hardware constraints. Of 10 participants in the session, users employed the full spectrum of large mainframes to stand-alone micro-processor systems, many if not all having some nutrition oriented application.

In probing hardware capabilities in terms of user needs, it was revealed that each type of system was capable of hosting processing capability that would meet users functional needs. It was however, discussed at length how users could make this acquisition in terms of both the database and the supporting software. We discussed the telecommunications links which have already been demonstrated and which allow two micro-processors to exchange, in 1-1/4 hours at modest speeds, a complete software system without error; databases limited to any size host. When the time of transport limitation is disposed of, the potential in hierarchical and regional sharing of both data and programs was discussed in terms of immediate user accessibility and the resulting elimination of transfer media problems. With an organization structured to serve the user, this process can be effectively managed and utilities can be made available to expedite the process.

Awareness of what capabilities are available though intercommunication between users with common problems or areas of interest could be facilitated by the same communication network and hardware hosts used to exchange programs and data. It was pointed out that multiple additional uses of the same hardware, such as for word processing, augments the justification for acquisition of hardware. A practical upper limit presently exists of about 75 million characters of data storage on a micro-processor system costing \$13,000 and hosting about three simultaneous users; this capability provides a huge resource available to the user for application to any practical problem of

immediate interest. Adding network expands these capabilities by orders of magnitude and yet allows both security and control of the system.

Discussion turned to the flexibility and power offered by the newer operating systems and programming languages and the need to exploit information processing standards for software in order for the users to reap the benefits in both general and transportable systems. Software translation capabilities were described which allows conversions to be relatively easy when the systems distributed are supervised by an activity that reviews software for its adherence to both programming and language conventions which allow transportability. Again this activity is directed at user accessibility to programs and data which provides them the freedom and flexibility to define their requirements and address their own stated goals and objectives.

User data capture hardware employing newer devices (bar codes, OCR, magnetic strip devices) offers options in facilitating accuracy and speed for data entry in the clinical environment, thereby exercising the power inherent in the newer programming languages. In the local stand-alone mode this capability allows both sophisticated and rapid data checking and thus the reliability of input. The output of machine coded, as well as human readable, paper documents using these devices facilitates the data capture capabilities now available to build systems which are responsive to user needs. Interlaced within this discussion were threads of a discussion of practical procedure for managing user collaboration and interfacing with suppliers of both data and programs to these overall goals. It was recognized that a direct discussion of a specific potential that was explored could be made to happen. This discussion was postponed until the scheduled agenda item which would address the attendees willingness to take such steps.