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Carol Tenopir
University of Tennessee - Knoxville

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ONLINE DATABASES

BY CAROL TENOPIR

Is Connect-Time Pricing Obsolete?

INTERMEDIARY SEARCHERS are accustomed to connect-time pricing. We have developed search strategies and honed input skills to get the most value for our connect hour. We have learned to estimate how much a given search on a given database is likely to cost. Connect time is easy to calculate and easy to explain to patrons. On the other hand, connect time is not always easy to predict, it is difficult to budget, and it favors searchers who can get into and out of an online system as quickly as possible.

Most of the major online systems used in libraries have kept connect-time pricing as the standard pricing scheme for over 15 years. Although there may be minor variations, in general all databases available through one vendor have been priced according to the same algorithm. Other factors in the online world and the way we search have changed in these 15 years, however.

In the fall of 1987 Chemical Abstracts announced that they will begin to move away from connect-time pricing for their databases. This controversial plan by a major database producer, together with the changes over the last few years in the way we do searches, is causing intermediaries, database producers, and online vendors to look again at connect-time pricing policies and alternatives.

Transmission speeds

One major change in the last few years is the increase in transmission speeds. When online searching began everyone searched at 110 bps or 300 bps. Today with 1200 bps common and 2400 bps available for some systems, searchers can conduct more complex searches and display more records in a shorter time online. Searching at the faster speeds with connect-time-based pricing is obvi-

ously more cost effective, especially for printing or downloading large numbers of records. Systems like the Source, Compuserve, and Dow Jones News/Retrieval charge more per hour for faster transmission speeds, but systems like DIALOG and BRS still do not. With 9600 bps access to the major online systems predicted for the near future, some differentiation in pricing depending on speed of access is likely. A single connect-time price penalizes either the searcher who does not have high-speed equipment or the database producer when searchers connect at higher speeds.

Downloading

Higher transmission speeds encourage practices like downloading when a searcher is using a microcomputer instead of a dumb terminal. A majority of online intermediaries now use microcomputers. Hard disk drives with storage capacities of ten to 50 megabytes are widely available at a relatively low cost. Downloading is simple when you combine inexpensive storage devices with the widely available software packages that offer downloading as a standard function.

Downloading has already had an impact on connect-time pricing. Since the early to mid-1980s most of the databases on the major connect-time systems have added charges for each record viewed online. As I mentioned in an earlier column, "Pricing Policies" (*LJ*, July 1984, p. 1300-01), one of the reasons these online viewing charges started was because no one can tell when a user is downloading or when they are just printing or viewing records online. Database producers wanted to make sure they would be compensated (at least in part) for records that were downloaded, stored, and reused locally for no additional connect-time charge. Partial records that are used just for search strategy development (such as titles and descriptors) usually may be viewed online for no record charge. Per record charges compensate data providers for the information retrieved rather than for how slow a searcher types or the speed of their modem.

Uploading

Widespread use of front-end software allows searchers to formulate and store a search strategy before logging on. After the user formulates and enters the search offline, the software automatically logs the user on to the host system and quickly uploads the search strategy to the host computer. The only typing time online is to make modifications to the initial search strategy.

Connect-time prices have steadily and regularly gone up, partly to compensate for our more efficient techniques and technologies. An experienced searcher with the proper tools (hardware, software, modem) can minimize the online charges for even complex searches. From the searcher's point of view, this is simply good strategy. From the database producer's or online vendor's point of view, this may be revenue lost.

The National Library of Medicine (MEDLARS) and Mead Data Central (LEXIS and NEXIS) are two major online producers that drastically revised their pricing policies several years ago. Each uses connect time as only a small component of their pricing scheme. In late 1983, NLM lowered its connect-hour price while adding a charge for the "amount of work" required by its computer for a given search, and charging for characters transmitted. According to NLM spokesmen, this was done not to increase its fees, but "to charge users more equitably" by charging more for more complex searches and for information retrieved.

Mead Data Central changed in 1984 from a pricing scheme based on amount of computer work, which was criticized as being too complex, to a scheme based mainly on the files accessed. For most of its customers, MDC charges for each publication accessed as a new search, for online or offline printing, plus a small connect-time charge. Federal government agencies are billed on straight connect-time pricing, however. Early in 1988 they simplified the new scheme to eliminate a controversial \$3 charge for each modification to a search.



Carol Tenopir is Assistant Professor at the Graduate School of Library Studies, University of Hawaii, Manoa

Chemical Abstracts Service

Changes in pricing policies can be met with suspicion or even outrage. In the fall of 1987, the Chemical Abstracts Service announced its intention to move away from connect-time pricing. It met with criticism because this move affects not only its own online service (STN International), but the CAS database that are offered online on other vendor's systems. Since the Chemical Abstracts databases are relied on by so many searchers and there is no real substitute for the files, online systems such as BRS, DIALOG, ORBIT, QUESTEL, and the others offering CA files may have no choice but to set up different pricing policies requested.

The new CAS pricing scheme will be phased in gradually. In 1988 there are several components:

- 10¢ for each text-search term. Truncated terms or multiword terms will be charged as single terms;
- \$20 for each molecular structure or substructure in a search statement;
- a 1¢ extraction fee for each CAS record extracted from a file to be used as a search term (for example CA Registry Numbers that are extracted from dictionary files and transported to bibliographic files) or for subsequent analysis;
- a 5¢ use charge for partial records "displayed in such a way that they can be linked to specific answers in an answer set." Partial records such as titles and index terms traditionally have been displayable for free to allow search strategy development. CAS believes "some searchers use the free display to identify a subset of answers to be printed or displayed, circumventing print or display charges for the remainder of the answer set." [My translation: We aren't paying for all of our false drops.] CAS will allow such partial records for free if they are displayed by the online vendor in random order and are unnumbered so a searcher can't use the display to decide which records to print;
- the same connect-time fees as in 1987 (resulting in an overall price increase in 1988 of at least ten percent). The plan is to gradually reduce connect fees as other fees are increased.

Two other policies will directly impact search strategy building. CAS will enforce a policy of charging for information about the CAS files that is found in the inverted index only, search strategy files such as DIALOG's DIALINDEX or BRS's

CROS. CAS is also considering a "query import" fee, possibly to begin in 1989. The query import would charge users a fee each time they input a search strategy in a non-CAS file, save it, and then run it in a CAS file. In 1988, online vendors will be required to provide statistics to CAS on how often this practice occurs.

Some online vendors are unhappy about all of the new record keeping and programming required for just one database producer. They must report to CAS all search terms or structures entered. They must be able to keep track of queries imported from other files. They must be able to provide randomized, unnumbered output or charge for previously free record displays.

Vendors can choose whether to charge users directly under the new CAS requirements or to increase connect-time rates in the hopes of covering the new charges that they must pay to CAS. Either way vendors are required to report complete use statistics to CAS or lose the valuable CAS files. Some vendors are concerned about a database producer imposing such special requirements, some of which indirectly impact other files.

Online searchers are concerned about the higher overall costs. Equitable or not, searchers have built their strategy development around connect-based pricing and, if implemented by the vendors, the new CAS pricing policy will require changes in search strategies for the most cost-effective searching of CAS files. Multifile searching, using tools such as DIALINDEX or CROS, and saving searches will be especially affected.

Flat-fee pricing

A different pricing alternative that is attractive to frequent searchers or to libraries that offer end user services is flat-fee pricing. CD-ROM with its unlimited searching of a database for a single fee may be a catalyst of change in online pricing policies.

CD-ROM's flat-fee yearly subscription price is attractive for several reasons. Without the connect-time meter running, searchers of CD-ROM don't need to be experienced searchers, they can try out different strategies, be more relaxed about searching, and do more browsing through a database. Flat-fee pricing encourages learning and casual use of

a system. Librarians know what their yearly cost will be and often can more easily incorporate the charges into a budget request.

Flat-fee pricing as offered with CD-ROM is advantageous to a library if a limited number of databases are each used a lot. Libraries that need access to many different databases will find they still must rely on online searching. Flat-fee pricing at the online system level rather than at the single database level has appeal to many online searchers.

Telebase System's "Answer Machine" may be one response to flat-fee pricing. The Answer Machine, now in beta site testing, is a microcomputer workstation with modem that connects to the EasyNet gateway service. Through EasyNet, library patrons can search on over 900 databases from over a dozen different online systems. The Answer Machine will offer the full powers of EasyNet, including an online "reference interview" to help the system select an appropriate database and online vendor for the search; automatic logon and execution of the search that is entered by the patron; and online interactive SOS help service from EasyNet search experts (the human kind).

For a fixed yearly fee, libraries that subscribe to the Answer Machine service would be able to offer end users unlimited online searching. That fee has not yet been set, but Richard Kollin of Telebase Systems, Inc. anticipates it will be "somewhere around \$14,000-\$18,000 per year." For large public, academic, or maybe even school libraries, the fixed-fee pricing will encourage unlimited use of hundreds of databases by end users. Flat-fee pricing options from other online systems are being requested by libraries that wish to budget a lump sum for online searching.

The CAS pricing changes are a direct reaction by a huge database producer to searchers' use of new technologies and search techniques that take advantage of connect-time pricing. Can the database producer's need to get increased online revenues be reconciled with the searcher's need to get the most information for the money? CAS is not the first and is not likely to be the last to try to wean us away from connect-time pricing. Perhaps searchers can have more input into alternatives next time.