

NOTIS:

The System and Its Features

James Meyer

NOTIS

NOTIS is an online library management system that integrates the public access catalog, cataloging, acquisitions, serials management, authority control, and circulation. All NOTIS modules access a single bibliographic record through automatically-generated full-heading indexes.

NOTIS (Northwestern Online Total Integrated System) is a comprehensive library materials management system that integrates acquisitions, serials control, cataloging, authority control and database management, circulation, and the online public catalog. NOTIS is a software package that uses state-of-the-art technology to provide an easy-to-use system for library staff members and patrons.

History

In 1967, Northwestern University administration approved the construction of a major new research library on the Evanston, Illinois campus. The library management understood that creating and managing that facility would be impossible without an automated library system, and thus hired staff to create NOTIS. In use at Northwestern University Library since 1970, NOTIS has evolved to meet the need for a cost effective, efficient, automated system—a need faced by all types of libraries.

Today NOTIS is a fourth-generation system. It has performed reliably and efficiently for over 15 years. Currently, 30 libraries have made the transition to NOTIS's online environment. Development of the system continues.

The Information Systems Development Office (ISDO), a department of Northwestern University Library, is responsible for the long-range planning and development of NOTIS. With a staff of six people, including those originally responsible for the creation of NOTIS, ISDO continues to enhance NOTIS according to the principles of integrated design, economic operation, and commitment to national standards and trends.

Northwestern University Library has also created

Meyer is Marketing Librarian, NOTIS Office, Northwestern University, Evanston, IL. This article is a revision of prior work by staff of Northwestern University Library.

SYSTEM PROFILE

Name: NOTIS

Type: Integrated Library System

Functions: Integrated library system supporting acquisitions, serials control, cataloging, authority control, database management, circulation, and online catalog.

Operational Characteristics: Written in basic assembler language and PL/1, NOTIS consists of a set of integrated program modules with specialized data definition and manipulation functions, including: 1) A central system component that controls all processing activities and interacts with system files via index files, 2) An online data entry, editing and verification module, 3) An index module, and so on.

Hardware: IBM 370, 3000, 4300; Amdahl; Control Data (Omega series only); Formation (Model 4000 only); Magnuson; Motorola Four-Phase (Models 311 and 312 only; see Two PI); National Advanced Systems (see IteI); Nixdorf see (Model 8890 only)

Operating Systems: SSX/VSE, VSE SIPOLE, USE DLIB; OS/VS1, MVS/370 (aka OS/VS2/MVS), MVS/XA; CICS/VS; VM with a DOS or OS guest

Minimum Memory: 2 MB of core memory

Pricing: Permanent license	VSE \$85,000*
	MVS \$95,000*
Lease	VSE \$35,000 per year
	MVS \$40,000 per year
Maintenance	VSE \$ 9,000 per year
	MVS \$10,000 per year

* includes first year maintenance

First Installed: 1970

Current Release No. and Date: 4.0; 1985

Current Users: 31

Source: NOTIS Office
Northwestern University Library
1935 Sheridan Rd.
Evanston, IL 60201
(312) 491-7004

Date: 25 May 1985

the NOTIS Office to assist other libraries interested in the system. The NOTIS Office is responsible for communicating with prospective users of NOTIS, and for installing, implementing, and supporting NOTIS at customer sites. Earlier this year the office added six programmers to its staff. They are responsible for customer programming requirements and work on immediate enhancements to NOTIS.

Design

From its inception, NOTIS has been designed as a fully integrated system that utilizes a single bibliographic file for all library functions. All library ac-

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tivities can be performed at one terminal. Library staff members and patrons have immediate access to all the information related to a bibliographic title: locations, number of copies, call numbers, order status, circulation status, and so on.

The foundation of NOTIS is a file of bibliographic records. The system links this file to secondary copy holdings, acquisitions, volume holdings, authority records, and circulation item and patron files. Records are accessed through various automatically generated full-heading and number indexes.

A bibliographic record may contain very brief data, or it may carry full MARC cataloging. Bibliographic records can be created by direct keying, by direct transfer from resource files online or on tape, or by terminal-to-terminal transfer from a bibliographic utility. NOTIS also includes programs to convert existing machine-readable files into a NOTIS file.

Linked automatically (by the system) to each bibliographic record is a copy-holdings record. Each copy owned or on order is listed here with location, call number, and one or more linkages to order records. Local data common to all copies are carried in this record, such as date, type of cataloging, and cataloger's initials. For each copy, there is a copy subrecord that carries data specific to that copy, such as classification scheme, location, call number, transfer and withdrawal notations, and retention policy notes. Special messages needed for display to the public can be carried here, such as "Latest volume in Reference," or "Current issues in Periodicals Room."

If a book or serial is to be purchased, the system provides for online creation of an order record that is linked automatically to a copy holdings record. If a copy consists of more than one volume, a volume

holdings record is linked to a copy subrecord. This volume holdings record can carry a summary or a detailed description of the volumes held, including indexes and supplements. Any special notes connected with an individual volume (for example, "unbound" or "incomplete") are carried in this record.

Each physical piece is represented by an item record. An item record can be linked to a copy

"Each physical piece is represented by an item record."

statement in the copy holdings record. This ability to integrate circulation records with bibliographic records improves search access to circulation information.

Functions

The NOTIS acquisitions subsystem can be used for all types of material, under a wide variety of procurement plans: firm orders, approval plans, gifts and exchange, periodical subscriptions, memberships, or standing orders. Serials control has always been an integral part of the acquisitions subsystem.

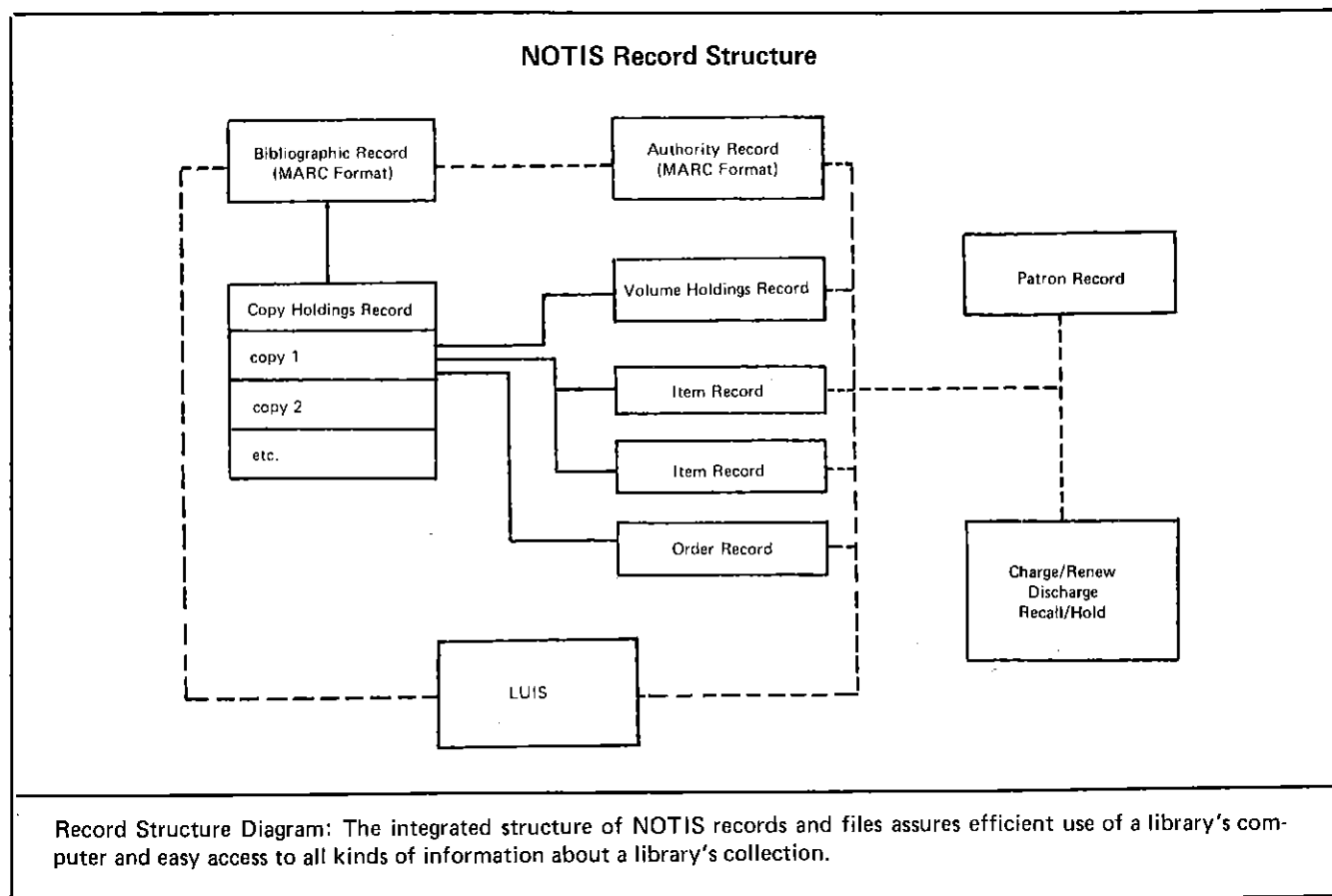
Functions included in the acquisitions and serials modules include pre-order searching; online creation

and update of order records; online check-in of received books; online check-in of periodical issues; open order control; online payment posting; and the generation of printed products, including purchase orders, lists of overdue orders, claim letters (for both books and issues of serials), letters to vendors (cancellations, requests for invoices, return of defective items), and commitment and expenditure reports.

NOTIS provides more access points than would be possible in a manual on-order file. It provides the standard bibliographic access points, but also supports purchase order number and ISBN/ISSN numbers. (The last is especially useful in serials check-in.)

Inactive order data may be purged (at regular intervals) to an offline history file, and recorded on microfiche. Pointers are left in the online records to inform the user of the existence of such offline data. Data in the history files serve both as an audit trail and as a source of management information.

NOTIS provides customized correspondence-generation as part of its acquisitions module. This facility composes letters for all common conditions necessitating correspondence with a vendor: claims, cancellations, and returns of defective items or credit requests. Over 80 messages, each referenced by a mnemonic code, can be used singly or in combination to tailor a letter to specific conditions. Ad-



ditional messages and variable data may be added. Vendor memos may also be printed in languages other than English. An offline memo printing program explodes the memo codes into full text paragraphs and prints the letter. The memos are produced ready for insertion in a window envelope.

Personalized claim letters are sent promptly to ensure that a book or journal issue is still in the vendor's stock. Because a record of the content of a claim is retained as part of the online record, no paper correspondence files are necessary. Follow-up on claims is automatically generated as a result of an action date set in the memo statement.

A vendor address file, which is maintained online, can contain commonly used vendors; it interfaces with the order and vendor memo printing programs. A mnemonic code is assigned to each vendor in the file. When this code is entered on the order screen, the vendor's complete address is printed on all correspondence generated from that order record. All vendor codes entered in order records are validated online, thus eliminating incorrectly addressed orders and letters. It is possible to link as many as four addresses to each vendor code. This enables libraries to further customize correspondence when the vendor uses different addresses for orders, claims, payments, and returns.

The system produces, on demand or on a scheduled basis, a report of current commitments and expenditures by fund and type of material. Because order data are codified and cumulated with data from previous years, a wide variety of management infor-

"All the information required for statistical reports is kept in NOTIS order records."

mation reports can be prepared as needed. These include, for example, lists of orders sorted by vendor; lists of materials acquired with gift, endowment, or grant funds; and vendor performance analyses.

All the information required for statistical reports is kept in NOTIS order records. Through the use of a generalized report writer package, the information can be gathered, totaled, and printed as desired.

Automatic fund accounting is in the test stage (of development) at a NOTIS user site. The NOTIS Office plans to acquire the programs for inclusion in the general NOTIS package in April 1985. The scheduled release date is December 1985.

In addition to automatic fund accounting *online*, other acquisitions enhancements that will be part of

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MEMORANDUM

02/04/85

FROM:
NORTHWESTERN UNIVERSITY LIBRARY
ACQUISITIONS DEPT.
1935 SHERIDAN RD
EVANSTON, IL USA 60201

REFERENCE: Our order 3/25/47*n dated 06/13/80 for the following title:

Cabeen, David Clark, 1886- ed.
A critical bibliography of French literature. [Syracuse, N.Y.]
Syracuse University Press, 1947-80.

Our records indicate we have a standing order for the above title. We have not yet received. v.3A. Please send or advise.

We have two orders.

Thank you.

FW FAXON CO INC
15 SOUTHWEST PARK
WESTWOOD MA 02090

Correspondence Generation: NOTIS produces personalized claim letters, as well as other types of correspondence about orders. When action dates are set in an order record, follow-up on orders automatically results. Because a record of the content of a claim is retained in the online order record, no paper correspondence files are necessary.

the 1985 release include vendor accounting, invoice processing (including production of vouchers for payment), and currency control.

As part of online fund accounting enhancements to NOTIS, two additional acquisitions-related files have been created. The first is an invoice file with one record for each received invoice. Each invoice record will be linked with the appropriate pay statements in the acquisitions records. When payments and the amount billed balance, the invoice can be cleared for payment.

The second is a fund file with one record for each fund. Data elements in a fund record will include the original appropriation and any adjustments thereto, such as commitments (automatically derived from open orders) and expenditures (derived from the invoice file at the point the invoice record is cleared for payment).

Electronic transmission of orders is planned for implementation once the BISAC and SISAC standards are finalized.

Cataloging, Authority Control, Database Management

Because cataloging and acquisitions are integrated in NOTIS, the bibliographic record created at point of acquisition eventually becomes the catalog record after the item is received and the record edited by a cataloger. The NOTIS bibliographic record contains only bibliographic data common to all copies.

All MARC bibliographic formats are supported: books, serials, films, maps, music, and manuscripts. Using the linking entry concept approved by the Library of Congress and the major bibliographic networks, the system can accommodate periodical article indexing as well as other types of analytics.

When there are multiple libraries, each with independent processing and cataloging operations, each library can have its own files protected from unauthorized update. These files can still be visible to patrons in a union catalog display.

Functions of the NOTIS cataloging module include online creation and update of bibliographic and holdings records; offline loading of records from LC/MARC files, OCLC, or RLIN archival tapes; online transfer of copy from OCLC terminals; support of all national cataloging standards and practices; support of union catalogs and/or local catalogs; and printed products, such as catalog cards, pocket and spine labels, in-process slips, worksheets, and bibliographies.

NOTIS authority control offers many features that allow easy and efficient management of an integrated database. The features include linked authority control, online authority record creation and maintenance, the MARC authority format, automatic generation of authorized headings files, global changes, lists of headings new to the database, lists of

headings deleted from the database, automatic creation of cross-references in the online catalog (under development), and support for various subject heading lists.

As a record enters the bibliographic file, NOTIS generates an index entry for each author and subject heading. The index entries are organized auto-

"All MARC bibliographic formats are supported . . ."

matically to form headings files. There is a headings file for author headings (including uniform titles) and one for subject headings. The author and subject headings files contain one entry for each unique heading in the database, as well as the record numbers of bibliographic records containing that heading.

The system utilizes headings files in several ways. As a byproduct of storing new headings in a headings file, the system provides lists of headings new to the database. Index generation in NOTIS also produces lists of headings deleted from the database. The lists of deleted headings provide for control of blind references. The new headings lists alert library staff members to headings that might need typographical correction. More importantly, the lists alert staff members to headings that may need full authority records in the MARC format (because, for example, cross-references are needed).

If an entry in a headings file needs an authority record, NOTIS provides for its creation and management in an online, interactive fashion. Authority records are in the MARC format. The system allows for additions and modifications to a file of authority records via keyboard, tape, or online interface to OCLC.

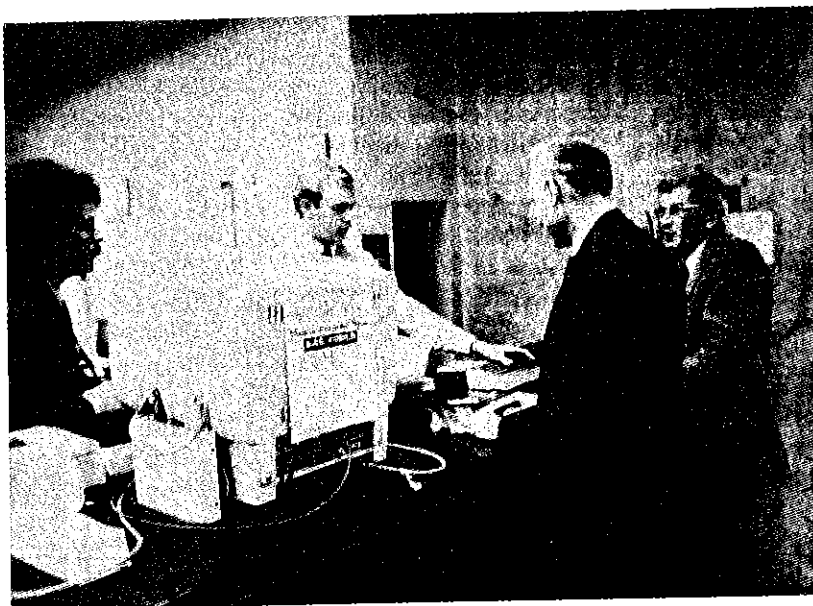
All of the required headings are accommodated in a NOTIS authority file: personal names, corporate names, meeting/conference names, uniform titles, series (traced and untraced), geographic subject headings, and topical subject headings. Because NOTIS uses the MARC format for authority records, such data as series treatment notes, scope notes, and epitome notes are accommodated. Also, adherence to the national standard for authority records promotes networking and the exchange of records.

Libraries sharing one NOTIS installation may create separate authority files. Conversely, libraries can share one authority file while maintaining separate bibliographic files. Libraries can create authority files for different subject heading lists.

If a MARC authority record is created, entries for 1xx, 4xx, and 5xx fields will be incorporated into a NOTIS headings file.

Index consistency and heading validity are assured through the system-generated headings files.

One of the most important ways NOTIS utilizes



Northwestern University Library began circulating its collection on the enhanced NOTIS circulation module on March 25, 1985.

a headings file is to provide global change capabilities. NOTIS has supported global changes for several years. In fact, the systems provides more than one type of global change.

The first type operates off headings in MARC authority records, in conjunction with a headings file, to change appropriate headings in the bibliographic file. The 1xx field of an authority record contains the new form of the established heading. The existing old form of the heading is recorded in a 4xx field. A terminal operator explicitly requests the global change with a simple command. Online requests for heading replacements are collected in a journal file and processed when a library specifies. The system provides a print report of the results of the global change. About 600 bibliographic records are changed in under five minutes running time.

A second global change is used when there is no need for a MARC authority record. This procedure changes any specified string of characters to the different character string desired by a library. This type of global change is particularly effective in changing heading subdivisions or terms imbedded in headings. A library staff member supplies this global change program with the existing form of data and the new form of data that is to replace it. All records in the bibliographic file are read sequentially and each record is examined for the character string to be changed. The context of the character string can be specified. If a match is located, the new form replaces the old. The system reports the results of the change in a printed report.

In NOTIS, as previously indicated, headings remain in bibliographic records. NOTIS does not strip data from bibliographic records to create a headings file. Instead of leaving only "pointers" in bibliographic records, the system stores the head-

ing (once) in a headings file and also in the bibliographic records.

NOTIS avoids slow search response times because the system stores the full catalog record. A search simply calls it up for display rather than recreating it for display.

By relying on "soft" links rather than "hard" pointer links, NOTIS protects the accuracy of connections between authorities and bibliographic files should the system go down during, for example, a global change routine.

NOTIS is currently programming the automatic generation of cross-references for the online catalog. The new programs will automatically take data from the authority records, especially the 4xx and 5xx fields, and create cross-references in the online catalog indexes. The capability to search the integrated bibliographic and authority files is scheduled for general release in 1985.

Circulation

NOTIS now includes a state-of-the-art circulation services module. Online circulation had been in successful operation in the Northwestern University Libraries for more than 15 years. NOTIS had one of the first online circulation systems, and it was the first to offer self-service charging and self-service inquiry to determine circulation status.

In order to ensure that it remained state-of-the-art, the NOTIS circulation module was redesigned. The new module provides very complete integration of circulation information with acquisitions and cataloging data.

Features of the upgraded NOTIS circulation module include item charge and discharge; recalls and holds; items record creation and update (online

and batch); patron record creation and update (online and batch); item status displays; access by call number, by up to 23 other standard numbers, and by other item identifiers; number index browsing; fine and bill payment control; reserve; inter-library loan; and the production of printed products that include date due slips, overdue and fine

"Users are now able to examine a library's holdings and determine availability in a one-step operation."

notices, recall and book available notices, lists of items to be searched, and a daily operations report of circulation transactions.

Perhaps the most significant feature of the enhanced circulation module is the integration of circulation status in online catalog displays. Users are now able to examine a library's holdings and determine availability in a one-step operation.

To permit maximum flexibility, the NOTIS circulation module accepts the following as input: punched cards, bar codes, optical character recognition (OCR) or direct key entry of item and patron identifiers in a wide choice of formats.

The standard method for charging (or renewing) an item to a patron involves reading the patron ID and the item ID. When multiple items are to be charged to a single patron, the patron ID needs to be read only once.

Charge periods are determined by the patron status, the item's location, and the item's format (for example, book or bound periodical). Where a printer is associated with a terminal, self-service charging will be possible.

The discharge function allows an item to be quickly discharged with a single read of the item ID and a single transmission to the computer. If an item being discharged is overdue, a fine notice is generated. The system calculates fines by a combination of patron status, item location, and item format.

If an item in circulation is needed by another user, the item can be either recalled (in which case the person who has the item receives a system-generated notice to return it) or held. If an item is to be held, no recall notice is generated. In either case, when an item is returned, the system produces online and offline notices that the item is available.

A single online record maintained for each patron can contain multiple patron ID's and addresses. Patron records can be created and updated online or on a batch basis. Access to patron records is by name (full or partial), Social Security number or its equivalent, patron ID, and institution ID (if different from patron ID). NOTIS includes programs for converting tapes of pre-existing personnel records into library patron records.

Each physical piece is represented by an item record. As with patron records, item records from other online circulation systems can be converted into NOTIS item records. It is not necessary to re-barcode items when implementing NOTIS circulation.

The new NOTIS circulation module includes the automatic calculation of fines and the automatic generation of fine notices. During 1985 the ability to enter and carry online a record of fines and bills will be added to the module.

The online public catalog presently indicates items that are on reserve. The new circulation module, the first phase of which is now operational, allows for charges from reserve. Loan periods can be calculated in minutes and hours as well as days. Items on reserve can be identified by author, title, and call number.

The second phase of the new circulation module, scheduled for completion in December 1985, will index records by course title, course number, instructor's name, and loan period, as well as by the standard catalog access points.

Among printed products already produced are overdue notices, item available notices, item recall notices, and bill and fine notices. A number of batch reports include lists of items reported lost or missing, and lists of items charged to individual patrons or groups of patrons. A Daily Operations Report enables supervisors to monitor various types of transactions, particularly exceptions to standard operations.

Because of the wealth of management information available in the circulation files, libraries are encouraged to use a generalized report writer to tailor reports to specific needs.

Online Public Access Catalog

NOTIS includes an online public access catalog known as *LUIS (Library User Information Service)*. Since the introduction of LUIS at Northwestern in 1980, the public's response has been enthusiastic.

As an economical by-product of an integrated library materials management system, LUIS consolidates and displays bibliographic, holdings, processing, and circulation information.

A patron can search LUIS by author, title, and subject. Access by call number is in the final stages of development. The online catalog provides a simple-to-use command language; prompting messages on the bottom of each screen; help screens to support each type of display; union catalog capability; alphabetically ordered, full heading indexes; browsing; multilevel displays (guide terms, brief index entries, full bibliographic data); search term truncation; bibliographic displays in easy-to-read format; detailed copy and volume holdings information; current serial issue holdings information;

inals can be supported by an IBM 4321, 4331, or 4361. The CPUs that would likely be used in a shared environment include the IBM 370 series, 4341, 4381, and the 30xx processors. Extrapolation indicates that the 4381 can support 700 to 1,000 NOTIS terminals and the 3083 from 1,800 to 2,800 terminals. However, the actual performance of these large systems will probably be limited by channel capacity rather than CPU cycle time or memory.

NOTIS is designed around the IBM 3270 series of display terminals. These can attach "locally" at 2.3Mbps, or "remotely" at up to 9600 bps. Remote terminals use either "binary synchronous" or "synchronous data link control" protocol. Bisync is more efficient for smaller systems. Remote terminals can share a line without multiplexors. Experience suggests that good response times can be obtained with a maximum of 32 terminals per 9600 bps line or 20 per 4800 bps line. (Dozens of hardware vendors provide countless combinations of cluster controllers and terminals.)

NOTIS programs use IBM's Basic Assembler Language and PL/1. Assembler is used for the online programs and PL/1 for the batch programs.

There are two versions of NOTIS, one for DOS/VSE and one for MVS. IBM's operating systems come in two families, DOS and OS. Since the application program interfaces are different, programs must be designed to run on one of the two families. NOTIS is designed to run on both, with conditional assembly used to select the family with which the object module will be used.

The DOS systems are designed for the smaller CPUs, and are the better choice for 43xx CPUs, which run up to 500 NOTIS terminals.

The OS family currently consists of OS/VS1, MVS/370 (aka OS/VS2/MVS), and MVS/XA. NOTIS will operate under these MVS versions. These operating systems are suitable for only the largest dedicated systems. They are often used in shared environments.

Another major operating system component NOTIS requires is CICS/VS. This component works as an application program under either DOS or OS, and controls (subtasks) the execution of online programs. It is installed as a part of the SSX and SIPO/E systems, but must be installed separately with VSE DLIB and the OS systems.

NOTIS at Central State University by Ron Curtis

Central State University purchased NOTIS in February 1983 as a replacement for an older library system. The older system was pre-MARC; it used punch cards and batch update procedures to support acquisitions ordering/accounting and the production of serial lists. It contained records for most of the library's cataloged materials.

NOTIS was chosen after a lengthy selection process. Each library department was asked to list features it would like in a revised, automated system. Representatives from the campus computer center and the library administration met with each library department to review and amplify the list. From these lists, a rating form was devised to compare various automated library systems. NOTIS had the highest rating, based on the features the department heads most wanted in a replacement automated system.

The initial database consisted of OCLC records and the library's nonstandard batch files. The OCLC database contained new and retroconversion titles the library had produced during the past four years. The university's computer center developed programs to convert the library's older records into a pseudo-MARC format. The converted records were then electronically matched against the OCLC tapes; duplicate pseudo-MARC records were dropped. The resultant file was then loaded into NOTIS.

Curtis is Assistant Director for Technical Services and Automation at Central State University Library, Edmond, OK.

While conversion programming was underway, classes were held on OCLC to train those staff members who were previously unfamiliar with the MARC format. Some physical rearrangements were made in each department in Technical Services, and each department examined its procedures. The library's Assistant Director for Technical Services met with the staff in small groups to explain how NOTIS and online activities would affect their routines. From these meetings, the required NOTIS tables were developed to reflect such items as mailing addresses, password levels, library locations, and so on. Each department decided how it would "convert" its files to NOTIS and when it would phase out manual files. (Two years later, a few manual files still exist. Most of these files are targeted for discontinuation at specified points in the future.)

Terminals were installed in Technical Services about two months before NOTIS came up. This allowed the staff time to experiment with a "test file," which the NOTIS office supplied, and to become familiar with new workstation arrangements. By the time the old system files were converted, the library staff was ready to make effective use of the system. The staff's preparedness at this point contributed greatly to the ease of further training once NOTIS became "live."

The NOTIS software was installed without problems. Library staff members quickly learned to utilize NOTIS in everyday activities. In less than two weeks, staff members considered NOTIS an old friend.

Acquisitions and cataloging were brought up first. About a month later serials check-in and claiming

were added. Approximately three months later, the online public access catalog, LUIS, was introduced. The circulation module of NOTIS is scheduled for installation upon release of its new version.

Central State University is currently using most of the NOTIS/LUIS features described in the accompanying article.

NOTIS includes many features that this author finds particularly desirable, including:

Software Integrity. Software updates are thoroughly debugged before they are released to NOTIS users. When NOTIS is installed, institutions can generally be assured there will be no downtime due to program bugs. If any questions arise, help is a phone call away. Most calls our staff place to the NOTIS staff are to request assistance with procedures or to suggest enhancements, rather than to seek help for problems in the system. Documentation includes two volumes for systems and, at this writing, two volumes (soon to be enlarged) of user documentation.

System Security. Each staff member can be assigned a unique password to match his/her job description. File access can be controlled; functions can be restricted to persons trained for those functions. LUIS users are blocked from accessing any technical services or circulation screens and from making changes in the database.

Action Dates Fields. NOTIS provides many action date fields in the copy holdings, acquisitions, and circulation screens. These fields facilitate system processing. When a date placed in an action date field expires, the NOTIS record containing that action date is included in an expired action request printout. The report can be presented in several ways, depending upon how the system is profiled. Included on the report are the NOTIS number, a three character password code of the person entering the action request, a designation of the terminal used to enter the password, and a record indicating where the expired action date is located in the NOTIS record. Action date fields can be used to renew a serial subscription, to initiate claims, to flag materials received without invoices for follow-up review, and so on.

Ease of Transferring Records From OCLC into NOTIS. The routine for transferring records from OCLC into NOTIS was developed at Central State University and shared (through the NOTIS network) with other NOTIS users. One NOTIS system table, the Tag Table, can be adjusted to accept OCLC-unique fields and, if desired, to configure the NOTIS terminal screen to simulate the OCLC screen. A table in the transfer program determines which OCLC fields, if any, are not to be included in the NOTIS bibliographic record.

Spine/Book Label Generation. The routine for the generation of book labels was contributed by the Tulsa

Public Library and shared (through the NOTIS network) with other NOTIS users. This allows users to create spine/book labels from a NOTIS terminal rather than from an OCLC terminal.

Online Vendor File. The online vendor file allows the addition of organizational names, addresses, telephone numbers, personal names, account numbers, and other useful information for up to four addresses per vendor. This file can function as a telephone number and address book that also directly links to the NOTIS order screen. The vendor code on the NOTIS order screen is an abbreviated character representation of the full vendor address that is activated for printing purchase orders.

Shortcuts. Codes may be input on the copy holdings screen to print messages on LUIS. These messages may include temporary locations of copies, notification of

"Enhancements now being developed will enrich an already fine system."

subscription suspension, withdrawal or mending information, or other data.

The best shortcut of all, the customized correspondence subsystem, allows claims, cancellations, letters of inquiry, messages, and other correspondence to be created by inputting a few characters, which will explode into a full-text letter for mailing in a window envelope.

NOTIS Users Group. NOTIS has a very active users group. Local enhancements to NOTIS are normally shared, through the NOTIS Users Group, with all NOTIS users. This arrangement provides added "utility" programs for NOTIS sites. The NOTIS Users Group normally meets once a year, in July, for several information-packed sessions. NOTIS users freely call each other to seek answers to questions or to share ideas. The NOTIS office prints a newsletter and directory of NOTIS users. Software enhancements, including documentation, are distributed to NOTIS users that subscribe to the updating service. These releases may include system enhancements and/or user-developed utilities.

NOTIS has provided the Central State University Library with an integrated system that is easy to learn and operate, that incorporates all international standards and that can be profiled to fit any type of library operation. Enhancements now being developed will enrich an already fine system. Ideas being considered by NOTIS, for future additions to the system, will insure continuous upgrading of NOTIS.