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ABSTRACT

TIS (Technology Information System) is an intelligent gateway system capable of performing quantitative evaluation and analysis of bibliographic citations using a set of Process functions. Originally developed by Lawrence Livermore National Laboratory (LLNL) to analyze information retrieved from three major federal databases, DOE/RECON, NASA/RECON, and DOD/DROLS, the Process functions can now accommodate data from three major commercial services: DIALOG, ORBIT, and the Bibliographic Retrieval Service (BRS). Once results of a standard host-service search have been downloaded and translated into a common internal processing format, it is possible to use the Process programs to generate any of the following results: (1) cross-correlation between or within data elements; (2) statistical distribution of data elements; (3) frequency of occurrence of terms within a data element; (4) indexes or concordances to data elements; (5) bar charts of keyword, author, or volume distributions over time; and (6) trend analysis to present changes over time in elements such as vocabulary, authorship, or total volume, for entire files or subsets. Five examples using a sample set of 51 citations retrieved from 5 commercial and federal online search systems illustrate the post-processing capabilities of the Process program. Explanatory text preceding each example describes its origin, how it was produced, and how it might be used in analytical efforts. (KM)

UCID-20529

Bibliographic Post-Processing With the TIS Intelligent Gateway: Analytical and Communication Capabilities

Hilary D. Burton

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Lawrence Livermore National Laboratory

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Abstract

This report demonstrates the capabilities of the Process functions of the TIS Intelligent Gateway. These functions support bibliometric analysis of a wide range of commercial and federal databases. Examples are provided of search output from five online search systems. Each set of citations was translated to a common format and then analyzed and reformatted using Process.

Table of Examples

Bibliometric analysis, or the quantitative evaluation and analysis of bibliographic citations, can be accomplished using a set of processing functions available on the TIS Intelligent Gateway developed at Lawrence Livermore National Laboratory (LLNL). (1) Originally developed to analyze information retrieved from three major federal databases, DOE/RECON, NASA/RECON, and DOD/DROLS, the Process functions can now also accommodate data from three of the major commercial services: Lockheed DIALOG, System Development Corporation's ORBIT, and the Bibliographic Retrieval Service (BRS).

Search strategy is developed on the host-service in the normal fashion; but when the user is ready to display or print his retrieved records, he enters a simple command to the Gateway which causes the records to be copied, or downloaded, to a local disk file. After the set of citations has been downloaded, the user must execute the appropriate translation program to reformat the records to a common, internal processing format. The translation function requires the user to indicate whether his downloaded file was obtained from a federal database system or a commercial one. Differentiation among the three federal sources is automatic; however, the user must select the appropriate translator for the commercial services by indicating BRS, SDC, or DIALOG as the source of his search.

Once the material is translated, any of the Process programs can analyze the information. The Process functions include:

1) cross correlation between or within data elements, such as author-author or author-keyword correlations;
2) statistical distribution of data elements;
3) frequency of occurrence of terms within a data element;
4) indexes or concordances to data elements;
5) bar charts of keyword, author or volume distributions over time;
6) and trend analysis to present changes over time in vocabulary, authorship, total volume, etc. for entire files or subsets.

In addition to the bibliometric capabilities, formatting functions allow you to rearrange files into alphabetical order by user selected keys, to merge files, or to print them using one of several formats.

Two recent projects were carried out as part of on-going LLNL/TIS program activity. These serve to provide a review of the current technical capabilities and communications capacity supported by the TIS Intelligent Gateway.

The first project involved a comprehensive search of the metals literature. The best source for such a search is the Metals Index developed by the American Society for Metals. This computer-readable form of the database is known as METADEX and is available on several vendors' systems. We chose to search it on the SDC ORBIT system. Using a subject-specific, manually compiled bibliography as a control, the search strategy was developed over a period of several weeks. After the search was finalized and run, 4,921 machine-readable records were downloaded at 4800 baud. The records included the full citation and abstract and required more than seven hours connect time to download. This time could have been shortened considerably if it would have been possible to remove the "continue printing yes/no?" message which the SDC system generates after each transmission of a block of characters. Although it is feasible to program the Gateway's network access software to automatically respond "yes" to the question, it does increase access time since it occurs nearly every 20 records for abstracted citations. Several months ago, SDC indicated they were going to eliminate this feature, but to date they have not done so.

These metals citations were then translated and analyzed for distribution by language, by subject, and for changes in volume by subject over time. Co-authorship patterns were examined and changes in authors' subject orientation over time were plotted.

Royalty charges to Metals Information [a joint service of ASM and the Metals Society (England)] were paid in order to maintain the file in-house at LLNL in machine readable form. Such copyright clearance must be obtained for any print or machine readable files derived from copyrighted databases. Charges are paid both to the search service, in the form of print charges, and the database vendor.

The second project involved searching multiple databases and merging the results in order to create a single comprehensive compendium. Merging records from multiple sources creates a variety of problems - some due to format differences and some due to intellectual differences.

More than 6,000 records (citations and abstracts) were retrieved from four databases commercially available: Compendex (1,133), produced by Engineering Index, New York; Inspec (2,449), produced by the Institution of Electrical Engineers, Herts, England; ABI/Inform (2,113), produced by Data Courier, Inc., Louisville, Kentucky; and the NTIS database (976), produced by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia. The records were translated and some additional edit routines were run to correct inconsistencies or add missing information. For example, a discrete field giving year of publication was created by scanning the publication source information for four digit numbers beginning with 195x, 196x, 197x, or 198x. This field is necessary to create time dependent correlations.

After translation and editing, the four files were merged and sorted into alphabetical order by author. Because of variations in formatting, this sorting did not bring all the duplicate citations together for easy identification. Instead we have developed a redundancy analyzer which will review an entire file and produce a list of those pairs or triplets of records which appear to reference the same work. Then the user can either select the preferred citation or have the computer merge the unique portions of each (such as keywords) to create one master record. Work in this area will continue. The merged and sorted output was then printed using the UNIX TROFF, reduced 50%, and reproduced double-sided. This resulted in three volumes having four to six citations with abstracts per page. (2)

The following is a table indicating the database systems for which we currently have a translation capability. Although the Gateway can connect to and download from virtually any system, it is necessary that the downloaded data be translated into the Process internal format. As relevant database services are identified, it is relatively straightforward to develop a new translator.

	Max Baud Rate Supported	Min Baud Rate Supported	Translation Restrictions
Bibliographic Retrieval Service	1200	300	None
DOD/DROLS	1200	300	Technical Reports subset of database
DOE/RECON	2400	300	None
Lockheed/DIALOG	4800	300	Must download using format 4
NASA/RECON	1200	300	None
SDC ORBIT	4800	300	None

Concluding this report is a sample set of 51 citations retrieved from five commercial and federal centers. These records were downloaded to a local Gateway file, translated, merged, edited, sorted, and analyzed. Each example is preceded by explanatory text to describe its origin, how it was produced, and how it might be used in analytical efforts.

References

1. Hampel, Victor E., et. al., "TIS" - An Intelligent Gateway Computer for Information and Modeling Networks. Overview. UCRL-53439, August, 1983. 9p.

   Bollinger, William A., Hampel, Viktor E., Harrison, Isom, and Murphy, Thomas P., Post Processing of Bibliographic Citations from DOE/RECON, NASA/RECON, and DOD/DROLS. UCRL-89995, Rev. 1, August, 1984. 13p.

2. Banks, W.W. et al. An International Compendium of Computer Security Literature. July 1985. UCAR-10137. Lawrence Livermore National Laboratory. 3 vols.

1. Untranslated Files

A. Department of Defense, DROLS Citations

The following pages show a listing of the search session as downloaded to the TIS Gateway computer. Thirteen records were retrieved and downloaded.

The DOD/DROLS user commands and system responses are embedded within the transcript. The TIS translation program will remove these when, as shown, citations are converted to the common format for merging.

To download these records, the user hits three keys - ESCAPE CONTROL A - after he has connected to the desired system. The system will prompt him for a file name where it will store the session until he logs off or closes the file. Logging off can be done by entering ESCAPE CONTROL D or by manually logging off. The downloaded session can be started prior to entering the search strategy or at any point from which the user wants to save citations.

```
odsr01

1F

end



--ENTER ONE OF THE MODE SUBCOMMANDS Y, C, W OR T
y



--     1  OF    13
-- 1 -  AD NUMBER: P003092
-- 2 -  FIELDS AND GROUPS: 9/2, 17/2
-- 3 -  ENTRY CLASSIFICATION:  UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: CANADA INST FOR SCIENTIFIC AND TECHNICAL
--      INFORMATION OTTAWA (ONTARIO)
-- 6 -  UNCLASSIFIED TITLE:     THE INET GATEWAY TRIAL,
-- 8 -  TITLE CLASSIFICATION:  UNCLASSIFIED
--10 -  PERSONAL AUTHORS: WOLTERS,P. H. ;
--11 -  REPORT DATE:     JAN    , 1984
--12 -  PAGINATION:     11P
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED
--21 -  SUPPLEMENTARY NOTE:    THIS ARTICLE IS FROM 'CONFERENCE
--      PROCEEDINGS OF THE APPLICATION OF NEW TECHNOLOGIES TO IMPROVE THE
--      DELIVERY OF AEROSPACE AND DEFENCE INFORMATION' HELD AT OTTAWA,
--      CANADA ON 14-15 SEPTEMBER 1983,' AD-A140 161, P2-1-2-11.
--23 -  DESCRIPTORS:     *COMPUTER COMMUNICATIONS, COMMUNICATIONS NETWORKS,
--      INFORMATION TRANSFER, ACCESS, FIELD TESTS, USER NEEDS, BANKING,
--      BIBLIOGRAPHIES, TELEPHONE SYSTEMS, CANADA
--24 -  DESCRIPTOR CLASSIFICATION:  UNCLASSIFIED
--25 -  IDENTIFIERS:     INTELLIGENT NETWORKS, GATEWAYS, BIBLIOGRAPHIC
--      DATA, NATO FURNISHED, COMPONENT REPORTS
--         <<P FOR NEXT PAGE>> OR <<ENTER NEXT COMMAND>>
p



--26 -  IDENTIFIER CLASSIFICATION:    UNCLASSIFIED
--27 -  ABSTRACT:  THE INET GATEWAY IS AN INTELLIGENT NETWORK CONCEPT
--      DEVELOPED BY THE COMPUTER COMMUNICATIONS GROUP OF THE TRANSCANADA
--      TELEPHONE SYSTEM. INET HAS EVOLVED IN RECOGNITION OF THE
--      REQUIREMENT FOR MORE UNIVERSAL ACCESSIBILITY TO INFORMATION
--      PROVIDERS AND OTHER COMPUTER-BASED SERVICES. THE INET GATEWAY IS
--      DESIGNED TO SIMPLIFY THE PROCESS OF GATHERING, USING AND
--      COMMUNICATING INFORMATION BY OFFERING A SINGLE POINT OF ACCESS TO
--      SATISFY THE INFORMATION NEEDS OF A USER. IN ORDER TO TEST THE
--      CONCEPT OF INTELLIGENT NETWORKING A ONE YEAR FIELD TRIAL IS BEING
--      CONDUCTED FROM JULY 1982 TO JULY 1983. 400 TRIALISTS FROM THE
--      BANKING, COMMUNICATIONS, ENERGY, REAL ESTATE, LEGAL, TRAVEL AND
--      BIBLIOGRAPHIC SECTORS ARE PARTICIPATING. THE BIBLIOGRAPHIC COMMON
--      INTEREST GROUP IS UNDERTAKING A SERIES OF SPECIFIC PROJECTS TO
--      EVALUATE THE UTILITY OF GATEWAY TECHNOLOGY TO THE INFORMATION
--      TRANSFER PROCESS.
--28 -  ABSTRACT CLASSIFICATION:     UNCLASSIFIED
--29 -  INITIAL INVENTORY:    1
--33 -  LIMITATION CODES:  1
--35 -  SOURCE CODE:    414643
--36 -  DOCUMENT LOCATION:
--40 -  GEOPOLITICAL CODE:    CA
--         <<P FOR NEXT PAGE>> OR <<ENTER NEXT COMMAND>>
p



--41 -  TYPE CODE:  6

-- END              Y  FOR NEXT ACCESSION                END
c
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```
--     2   OF    13
-- 1 -  AD NUMBER: B086265L
-- 2 -  FIELDS AND GROUPS: 17/2
-- 3 -  ENTRY CLASSIFICATION:   UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: INTEGRATED MICROCOMPUTER SYSTEMS INC ROCKVILLE MD
-- 6 -  UNCLASSIFIED TITLE:    LOCAL AREA NETWORK: TECHNOLOGY, PRODUCTS,
--      AND TRENDS, VOLUME 3. ASSESSMENTS AND TRENDS,
-- 8 -  TITLE CLASSIFICATION:   UNCLASSIFIED
--10 -  PERSONAL AUTHORS: YEH,J. ;LEUNG,A. ;MEI,H. ;LEE,H. H. ;
--11 -  REPORT DATE:      JAN 11, 1984
--12 -  PAGINATION:    132P
--15 -  CONTRACT NUMBER:  N00167-82-D-0172
--18 -  MONITOR ACRONYM:  DTNSRDC/CMLD
--19 -  MONITOR SERIES:   CR-116-82-VOL-3
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED
--22 -  LIMITATIONS (ALPHA):   DISTRIBUTION LIMITED TO U.S. GOV'T.
--      AGENCIES ONLY; TEST AND EVALUATION; 11 JAN 84. OTHER REQUESTS MUST
--      BE REFERRED TO NALTOACS PROGRAM OFFICE, DAVID TAYLOR NAVAL SHIP R&D
--      CENTER, CODE 1811, BETHESDA, MD 20084.
--23 -  DESCRIPTORS:     *NETWORKS, RINGS, PATTERNS, PROFILES, VENDORS,
--      TREES, SURVEYS
--24 -  DESCRIPTOR CLASSIFICATION:    UNCLASSIFIED
--25 -  IDENTIFIERS:      PBX(PRIVATE BRANCH EXCHANGES), LAN(LOCAL AREA

--      NETWORKS), OA(OFFICE AUTOMATION), BUS NETWORKS, TOKEN RINGS,
--      PROTOCOLS, GATEWAYS, BASEBANDS
--26 -  IDENTIFIER CLASSIFICATION:    UNCLASSIFIED
--29 -  INITIAL INVENTORY:    2
--33 -  LIMITATION CODES:  3
--34 -  SOURCE SERIES:    3
--35 -  SOURCE CODE:      413837
--36 -  DOCUMENT LOCATION:       DTIC
--40 -  GEOPOLITICAL CODE:       2408
--41 -  TYPE CODE:  4
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--     3   OF    13
-- 1 -  AD NUMBER: B086264L
-- 2 -  FIELDS AND GROUPS: 17/2
-- 3 -  ENTRY CLASSIFICATION:   UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: INTEGRATED MICROCOMPUTER SYSTEMS INC ROCKVILLE MD
-- 6 -  UNCLASSIFIED TITLE:    LOCAL AREA NETWORK: TECHNOLOGY, PRODUCTS,
--      AND TRENDS, VOLUME 2. PRODUCT SURVEY,
-- 8 -  TITLE CLASSIFICATION:   UNCLASSIFIED
--10 -  PERSONAL AUTHORS: YEH,J. ;LEUNG,A. ;MEI,H. ;LEE,H. H. ;
--11 -  REPORT DATE:      JAN 11, 1984
--12 -  PAGINATION:    132P
--15 -  CONTRACT NUMBER:  N00167-82-D-0172

--18 -  MONITOR ACRONYM:  DTNSRDC/CMLD
--19 -  MONITOR SERIES:   CR-116-82-VOL-2
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED
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--      CENTER, CODE 1811, BETHESDA, MD 20084.
--23 -  DESCRIPTORS:     *NETWORKS, RINGS, PATTERNS, PROFILES, SURVEYS,
--      VENDORS, TREES
--24 -  DESCRIPTOR CLASSIFICATION:    UNCLASSIFIED
--25 -  IDENTIFIERS:      LAN(LOCAL AREA NETWORKS), PBX(PRIVATE BRANCH
--      EXCHANGES), TOKEN RINGS, GATEWAYS, OA(OFFICE AUTOMATION), PROTOCOLS,
--      BASEBANDS, BUS NETWORKS
--26 -  IDENTIFIER CLASSIFICATION:    UNCLASSIFIED
--29 -  INITIAL INVENTORY:    2
--33 -  LIMITATION CODES:  3
--34 -  SOURCE SERIES:    2
--35 -  SOURCE CODE:      413837
--36 -  DOCUMENT LOCATION:       DTIC
--40 -  GEOPOLITICAL CODE:       2408
--41 -  TYPE CODE:  4
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--     4   OF     13

-- 1 -  AD NUMBER: B081844L
-- 2 -  FIELDS AND GROUPS: 17/2.1, 9/5, 5/1
-- 3 -  ENTRY CLASSIFICATION:  UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: SRI INTERNATIONAL MENLO PARK CA
-- 6 -  UNCLASSIFIED TITLE:    MINUTES OF THE PACKET RADIO WORKING GROUP
--      MEETING HELD AT SOUTHERN PINES AND FORT BRAGG, NORTH CAROLINA,
--      SEPTEMBER 20-22, 1983.
-- 8 -  TITLE CLASSIFICATION:  UNCLASSIFIED
--10 -  PERSONAL AUTHORS: MARTIN,L. T. ;
--11 -  REPORT DATE:    SEP 22, 1983
--12 -  PAGINATION:    158P
--15 -  CONTRACT NUMBER: MDA903-80-C-0222, ARPA ORDER-2302
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED
--22 -  LIMITATIONS (ALPHA):   DISTRIBUTION LIMITED TO U.S. GOV'T.
--      AGENCIES ONLY; TEST AND EVALUATION; 6 APR 84. OTHER REQUESTS MUST
--      BE REFERRED TO DARPA/TIO, 1400 WILSON BLVD., ARLINGTON, VA 22209.
--23 -  DESCRIPTORS:    *PACKETS, *RADIO EQUIPMENT, *SYMPOSIA,
--      *COMMUNICATIONS NETWORKS, MOBILE, SCHEDULING, TEST BEDS, DIGITAL
--      COMPUTERS, SCENARIOS, COMPUTER PROGRAMS, HISTORY, ERRORS,
--      COUNTERMEASURES, PHOTOGRAPHY, NORTH CAROLINA
--24 -  DESCRIPTOR CLASSIFICATION:   UNCLASSIFIED
--25 -  IDENTIFIERS:    GLOBAL SHIELD PROJECT, GATEWAYS, FLOW CONTROL,
--      CAP-8 PROTOCOL, RADIOS(PACKET), PINE NEEDLES, VIEWGRAPHS, VIDEO

--      DATABASES, ARPANET, MEETING MINUTES, PRNET, PE62708E, LPN-SRI-1080
--26 -  IDENTIFIER CLASSIFICATION:   UNCLASSIFIED
--29 -  INITIAL INVENTORY:    1
--33 -  LIMITATION CODES:  3
--35 -  SOURCE CODE:    410281
--36 -  DOCUMENT LOCATION:    DTIC
--40 -  GEOPOLITICAL CODE:    0612
--41 -  TYPE CODE:  W
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--     5   OF     13
-- 1 -  AD NUMBER: B074032L
-- 2 -  FIELDS AND GROUPS: 17/2.1, 9/2
-- 3 -  ENTRY CLASSIFICATION:  UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: SRI INTERNATIONAL MENLO PARK CA
-- 6 -  UNCLASSIFIED TITLE:    PROGRESS REPORT ON PACKET RADIO
--      EXPERIMENTAL NETWORK.
-- 8 -  TITLE CLASSIFICATION:  UNCLASSIFIED
-- 9 -  DESCRIPTIVE NOTE: QUARTERLY TECHNICAL REPT. 1 MAY-31 JUL 76,
--10 -  PERSONAL AUTHORS: NIELSON,DONALD L. ;RETZ,DAVID L. ;
--11 -  REPORT DATE:    OCT  , 1977
--12 -  PAGINATION:    33P
--15 -  CONTRACT NUMBER:  DAHC15-73-C-0187, ARPA ORDER-2302
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED

--22 -  LIMITATIONS (ALPHA):   DISTRIBUTION LIMITED TO U.S. GOV'T.
--      AGENCIES ONLY; TEST AND EVALUATION; 15 JUN 83. OTHER REQUESTS FOR
--      THIS DOCUMENT MUST BE REFERRED TO DEFENSE ADVANCED RESEARCH
--      PROJECTS AGENCY; ATTN: TIO. 1400 WILSON BOULEVARD, ARLINGTON, VA
--      22209.
--23 -  DESCRIPTORS:    *RADIO EQUIPMENT, *COMMUNICATIONS NETWORKS,
--      *PACKETS, *RADIO TRANSMISSION, DIGITAL COMPUTERS, SWITCHING
--      CIRCUITS, COMMUNICATION EQUIPMENT, DEBUGGING(COMPUTERS), RADIO
--      REPEATERS, NODES, CHANNELS, DIGITAL COMPUTERS, GROUND LEVEL,
--      ROUTING, NETWORKS, REPORTS, FORWARD AREAS, CONTROL
--24 -  DESCRIPTOR CLASSIFICATION:   UNCLASSIFIED
--25 -  IDENTIFIERS:    PACKET RADIO NETWORKS, PDP-11/40 COMPUTERS, PRNET
--      PROTOCOLS, TIU(TERMINAL INTERFACE UNIT), ARPANET, GATEWAYS, LPN-SRI-
--      2325
--26 -  IDENTIFIER CLASSIFICATION:   UNCLASSIFIED
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--33 -  LIMITATION CODES:  3
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--     6   OF     13
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-- 1 -  AD NUMBER: B070579L
-- 2 -  FIELDS AND GROUPS: 17/2.1, 9/5
-- 3 -  ENTRY CLASSIFICATION:  UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: SRI INTERNATIONAL  MENLO PARK CA
-- 6 -  UNCLASSIFIED TITLE:  MINUTES OF THE PACKET RADIO WORKING GROUP
--      MEETING HELD AT CAMBRIDGE, MASSACHUSETTS ON 21-22 OCTOBER 1982.
-- 8 -  TITLE CLASSIFICATION:  UNCLASSIFIED
--10 -  PERSONAL AUTHORS: TORNOW,JANET ;
--11 -  REPORT DATE:  , 1982
--12 -  PAGINATION:  110P
--14 -  REPORT NUMBER:  SRI-1080
--15 -  CONTRACT NUMBER:  MDA903-80-C-0222, ARPA ORDER-2302
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED
--22 -  LIMITATIONS (ALPHA):  DISTRIBUTION LIMITED TO U.S. GOV'T.
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--      THIS DOCUMENT MUST BE REFERRED TO DARPA/TIO. ARLINGTON, VA 22209.
--23 -  DESCRIPTORS:  *PACKETS, *RADIO EQUIPMENT, SCHEDULING, SYMPOSIA,
--      MASSACHUSETTS
--24 -  DESCRIPTOR CLASSIFICATION:  UNCLASSIFIED
--25 -  IDENTIFIERS:  GLOBAL SHIELD PROJECT, GATEWAYS, CAP-8 PROTOCOL,
--      RADIOS(PACKET)
--26 -  IDENTIFIER CLASSIFICATION:  UNCLASSIFIED
--29 -  INITIAL INVENTORY:  2

--33 -  LIMITATION CODES:  3
--35 -  SOURCE CODE:  410281
--36 -  DOCUMENT LOCATION:  DTIC
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--41 -  TYPE CODE:  W
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-- 2 -  FIELDS AND GROUPS: 17/2.1, 9/2
-- 3 -  ENTRY CLASSIFICATION:  UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
-- 6 -  UNCLASSIFIED TITLE:  COMMAND AND CONTROL RELATED COMPUTER
--      TECHNOLOGY: PACKET RADIO.
-- 8 -  TITLE CLASSIFICATION:  UNCLASSIFIED
-- 9 -  DESCRIPTIVE NOTE: QUARTERLY PROGRESS REPT. NO. 3, 1 JUN-31 AUG 80,
--10 -  PERSONAL AUTHORS: BEELER,M. ;STRAZISAR,V. ;WESTCOTT,J. ;
--11 -  REPORT DATE:  FEB  , 1982
--12 -  PAGINATION:  25P
--14 -  REPORT NUMBER:  BBN-4867
--15 -  CONTRACT NUMBER:  MDA903-80-C-0206, ARPA ORDER-2935
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED
--22 -  LIMITATIONS (ALPHA):  DISTRIBUTION LIMITED TO U.S. GOV'T.
--      AGENCIES ONLY; TEST AND EVALUATION; 10 MAR 82. OTHER REQUESTS FOR

--      THIS DOCUMENT MUST BE REFERRED TO DARPA/TIO, 1400 WILSON BLVD.,
--      ARLINGTON, VA 22209-2308.
--23 -  DESCRIPTORS:  *PACKETS, *RADIO EQUIPMENT, *COMMAND AND CONTROL
--      SYSTEMS, *COMPUTER PROGRAMS, DIGITAL COMPUTERS, METAL OXIDE
--      SEMICONDUCTORS, MULTIPLE OPERATION, MACHINES, MONITORING, COMPUTERS,
--      CONTROL, SYMPOSIA, STATIONS, NETWORKS, TRANSMITTANCE
--24 -  DESCRIPTOR CLASSIFICATION:  UNCLASSIFIED
--25 -  IDENTIFIERS:  PACKET RADIOS, NETWORK INTERCONNECTIONS, PDP-11
--      COMPUTERS, COMPUTER COMMUNICATIONS, INTERNET PROTOCOLS, SLOW NETS,
--      GATEWAYS
--26 -  IDENTIFIER CLASSIFICATION:  UNCLASSIFIED
--29 -  INITIAL INVENTORY:  2
--33 -  LIMITATION CODES:  3
--34 -  SOURCE SERIES:  3
--35 -  SOURCE CODE:  060100
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--  8  OF  13
-- 1 -  AD NUMBER: A151312
-- 2 -  FIELDS AND GROUPS: 17/2
-- 3 -  ENTRY CLASSIFICATION:  UNCLASSIFIED

-- 5 -  CORPORATE AUTHOR: BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
-- 6 -  UNCLASSIFIED TITLE:  COMBINED QUARTERLY TECHNICAL REPORT NUMBER
--      35. PLURIBUS SATELLITE IMP (INTERFACE MESSAGE PROVISION)
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--        DEVELOPMENT MOBILE ACCESS TERMINAL NETWORK.
-- 8 -    TITLE CLASSIFICATION:   UNCLASSIFIED
-- 9 -    DESCRIPTIVE NOTE: QUARTERLY TECHNICAL REPT. 1 AUG-31 OCT 84.
--11 -    REPORT DATE:      NOV   , 1984
--12 -    PAGINATION:      37P
--14 -    REPORT NUMBER:    BBN-5883
--15 -    CONTRACT NUMBER:  MDA903-80-C-0353, N00039-81-C-0408
--20 -    REPORT CLASSIFICATION:  UNCLASSIFIED
--23 -    DESCRIPTORS:      *COMMUNICATIONS NETWORKS, *COMPUTER
--        COMMUNICATIONS, *SATELLITE COMMUNICATIONS, TERMINALS, COMPUTERS,
--        NETWORKS, ACCESS, MOBILE, INTERFACES, MESSAGE PROCESSING, SHIPBOARD
--24 -    DESCRIPTOR CLASSIFICATION:   UNCLASSIFIED
--25 -    IDENTIFIERS:      IMP(INTERFACE MESSAGE PROVISION), PLURIBUS
--        SATELLITE, PACKET COMMUNICATIONS, ARPANET, INTERNET, MOBILE ACCESS
--        TERMINAL NET, GATEWAYS, LPN-ARPA ORDER-3214
--26 -    IDENTIFIER CLASSIFICATION:   UNCLASSIFIED
--27 -    ABSTRACT:  THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE
--        DEVELOPMENT OF PLURIBUS SATELLITE IMPS, AND ON SHIPBOARD SATELLITE
--        COMMUNICATIONS. KEYWORDS INCLUDE: COMPUTER NETWORKS, PACKETS,
--        PACKET BROADCAST, SATELLITE COMMUNICATION, GATEWAYS, PLURIBUS

--        SATELLITE IMP, SHIPBOARD COMMUNICATIONS, ARPANET, INTERNET, AND
--        MOBILE ACCESS TERMINAL NET.
--28 -    ABSTRACT CLASSIFICATION:      UNCLASSIFIED
--29 -    INITIAL INVENTORY:    2
--33 -    LIMITATION CODES:  1
--34 -    SOURCE SERIES:    35
--35 -    SOURCE CODE:      060100
--36 -    DOCUMENT LOCATION:       NTIS
--40 -    GEOPOLITICAL CODE:      2508
--41 -    TYPE CODE:  4
--******
--    9   OF    13
-- 1 -    AD NUMBER: A147675
-- 2 -    FIELDS AND GROUPS: 17/2
-- 3 -    ENTRY CLASSIFICATION:   UNCLASSIFIED
-- 5 -    CORPORATE AUTHOR: BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
-- 6 -    UNCLASSIFIED TITLE:   PLURIBUS SATELITE IMP DEVELOPMENT MOBILE
--        ACCESS TERMINAL NETWORK.
-- 8 -    TITLE CLASSIFICATION:   UNCLASSIFIED
-- 9 -    DESCRIPTIVE NOTE: QUARTERLY TECHNICAL REPT. NO. 33, 1 FEB-30 APR 84.
--11 -    REPORT DATE:      MAY   , 1984
--12 -    PAGINATION:      30P
--14 -    REPORT NUMBER:    BBN-5774

--15 -    CONTRACT NUMBER:  MDA903-80-C-0353, N00039-81-C-0408
--20 -    REPORT CLASSIFICATION:  UNCLASSIFIED
--23 -    DESCRIPTORS:      *SATELLITE COMMUNICATIONS, *TERMINALS, NETWORKS,
--        SHIPBOARD, ACCESS, MOBILE, WORK
--24 -    DESCRIPTOR CLASSIFICATION:   UNCLASSIFIED
--25 -    IDENTIFIERS:      PLURIBUS SATELLITE, PACKET NETWORKS, ARPANET,
--        GATEWAYS
--26 -    IDENTIFIER CLASSIFICATION:   UNCLASSIFIED
--27 -    ABSTRACT:  THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE
--        DEVELOPMENT OF PLURIBUS SATELLITE IMPS: AND ON SHIPBOARD SATELLITE
--        COMMUNICATIONS. (AUTHOR)
--28 -    ABSTRACT CLASSIFICATION:      UNCLASSIFIED
--29 -    INITIAL INVENTORY:    12
--33 -    LIMITATION CODES:  1
--35 -    SOURCE CODE:      060100
--36 -    DOCUMENT LOCATION:       NTIS
--40 -    GEOPOLITICAL CODE:      2508
--41 -    TYPE CODE:  4
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--   10   OF    13
-- 1 -    AD NUMBER: A136256
-- 2 -    FIELDS AND GROUPS: 17/2, 22/2, 9/2
-- 3 -    ENTRY CLASSIFICATION:   UNCLASSIFIED

-- 5 -    CORPORATE AUTHOR: BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
-- 6 -    UNCLASSIFIED TITLE:  COMBINED QUARTERLY TECHNICAL REPORT NUMBER
--        31. PLURIBUS SATELLITE IMP (INTERFACE MESSAGE PROVISION)
--        DEVELOPMENT MOBILE ACCESS TERMINAL NETWORK.
-- 8 -    TITLE CLASSIFICATION:   UNCLASSIFIED
-- 9 -    DESCRIPTIVE NOTE: QUARTERLY TECHNICAL REPT. 1 SEP-30 NOV 83,
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--10 -  PERSONAL AUTHORS: BLUMENTHAL,S. ;
--11 -  REPORT DATE:      DEC    , 1983
--12 -  PAGINATION:     39P
--14 -  REPORT NUMBER:    BBN-5492
--15 -  CONTRACT NUMBER: MDA903-80-C-0353, N00039-81-C-0408
--20 -  REPORT CLASSIFICATION: UNCLASSIFIED
--23 -  DESCRIPTORS:      *SATELLITE COMMUNICATIONS, *COMMUNICATIONS
--      NETWORKS, *COMPUTER COMMUNICATIONS, MESSAGE PROCESSING, COMPUTER
--      PROGRAMS, ACCESS, NETWORKS, MOBILE, INTERFACES, BROADBAND,
--      SHIPBOARD, TERMINALS
--24 -  DESCRIPTOR CLASSIFICATION:    UNCLASSIFIED
--25 -  IDENTIFIERS:      PLURIBUS SATELLITE, UNIX OPERATING SYSTEM, PACKET
--      COMMUNICATIONS, MAT(MOBILE ACCESS TERMINAL), IMP(INTERFACE MESSAGE
--      PROVISION), PACKET BROADCASTING, COMPUTER NETWORKS, ARPANET,
--      OPERATING SYSTEMS, GATEWAYS, ONBOARD PROCESSING, LPN-ARPA-ORDER-3214
--26 -  IDENTIFIER CLASSIFICATION:    UNCLASSIFIED
--27 -  ABSTRACT:   THIS QUARTERLY TECHNICAL REPORT IS THE CURRENT EDITION

--      IN A SERIES OF REPORTS WHICH DESCRIBE THE WORK BEING PERFORMED AT
--      BBN IN FULFILLMENT OF SEVERAL ARPA WORK STATEMENTS. THIS QTR COVERS
--      WORK ON SEVERAL ARPA-SPONSORED PROJECTS INCLUDING (1) DEVELOPMENT
--      OF THE PLURIBUS SATELLITE IMP; AND (2) DEVELOPMENT OF THE MOBILE
--      ACCESS TERMINAL NETWORK.
--28 -  ABSTRACT CLASSIFICATION:      UNCLASSIFIED
--29 -  INITIAL INVENTORY:    12
--33 -  LIMITATION CODES:  1
--34 -  SOURCE SERIES:    31
--35 -  SOURCE CODE:      060100
--36 -  DOCUMENT LOCATION:       NTIS
--40 -  GEOPOLITICAL CODE:      2508
--41 -  TYPE CODE:  4
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--    11   OF    13
-- 1 -  AD NUMBER: A121350
-- 2 -  FIELDS AND GROUPS: 9/2, 17/2
-- 3 -  ENTRY CLASSIFICATION:   UNCLASSIFIED
-- 5 -  CORPORATE AUTHOR: BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
-- 6 -  UNCLASSIFIED TITLE:     ARPANET ROUTING ALGORITHM IMPROVEMENTS,
--      VOLUME 2.
-- 8 -  TITLE CLASSIFICATION:   UNCLASSIFIED
-- 9 -  DESCRIPTIVE NOTE: TECHNICAL REPT. 1 SEP 80-15 APR 82.

--10 -  PERSONAL AUTHORS: HAVERTY,J. F. ;HITSON,B. L. ;MAYERSOHN,J. ;SEVCIK,
--      P. J. ;WILLIAMS,G. J. ;
--11 -  REPORT DATE:      MAR    , 1982
--12 -  PAGINATION:    286P
--14 -  REPORT NUMBER:    BBN-4931
--15 -  CONTRACT NUMBER: MDA903-78-C-0129, ARPA ORDER-3491
--20 -  REPORT CLASSIFICATION:  UNCLASSIFIED
--21 -  SUPPLEMENTARY NOTE:     SEE ALSO VOLUME 1, AD-A092 065.
--23 -  DESCRIPTORS:      *COMPUTER COMMUNICATIONS, *COMMUNICATIONS
--      NETWORKS, *ROUTING, *ALGORITHMS, COMPUTERIZED SIMULATION, DATA
--      TRANSMISSION SYSTEMS, PREDICTIONS, INTERFACES, ADDRESSING, QUEUEING
--      THEORY, NODES, MULTIPATH TRANSMISSION
--24 -  DESCRIPTOR CLASSIFICATION:    UNCLASSIFIED
--25 -  IDENTIFIERS:      ARPA COMPUTER NETWORK, PROTOCOLS, GATEWAYS,
--      INTERNETTING
--26 -  IDENTIFIER CLASSIFICATION:    UNCLASSIFIED
--27 -  ABSTRACT:   THIS REPORT COVERS THE WORK PERFORMED DURING THE SECOND
--      YEAR OF THE EXTENSION TO THE ARPANET ROUTING ALGORITHM IMPROVEMENTS
--      CONTRACT. THE ARPANET SIMULATOR DEVELOPED DURING THE FIRST YEAR OF
--      THE EXTENSION IS USED TO INVESTIGATE THE PERFORMANCE AND BEHAVIOR
--      OF A NUMBER OF ROUTING ALGORITHMS, INCLUDING THE CURRENT ARPANET
--      SPF ALGORITHM. RESULTS FROM THE SIMULATOR ARE COMPARED TO
--      MEASUREMENTS OF SPF RUNNING ON A SMALL TEST NETWORK, MEASUREMENTS

--      OF THE LINE PROTOCOL ON THE OPERATIONAL ARPANET, AND THE
--      PREDICTIONS OF A STABILITY MODEL DEVELOPED DURING THE ORIGINAL
--      CONTRACT. THE SIMULATION WAS RUN ON A 14-NODE NETWORK USING FIXED
--      SINGLE-PATH, FIXED MULTI-PATH, AND SPF (ADAPTIVE) ROUTING. THE
--      PERFORMANCE OF EACH ROUTING METHOD AS A FUNCTION OF NETWORK LOAD IS
--      COMPARED TO THE PREDICTIONS OF A QUEUEING MODEL. AS PART OF THE
--      DESIGN OF AN INTERNET, THIS REPORT DISCUSSES DESIGN ISSUES IN THE
--      IMPLEMENTATION OF GATEWAYS, INCLUDING THE HOST INTERFACE TO THE
--      INTERNET, INTEROPERABILITY OF AUTONOMOUS GATEWAY SYSTEMS,
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--        CONGESTION CONTROL, AND LOGICAL ADDRESSING.
--28 -    ABSTRACT CLASSIFICATION:      UNCLASSIFIED
--29 -    INITIAL INVENTORY:     12
--33 -    LIMITATION CODES:  1
--34 -    SOURCE SERIES:     2
--35 -    SOURCE CODE:       060100
--36 -    DOCUMENT LOCATION:       NTIS
--40 -    GEOPOLITICAL CODE:       2508
--41 -    TYPE CODE:  4
--******
--   12   OF   13
-- 1 -    AD NUMBER: A100473
-- 2 -    FIELDS AND GROUPS: 17/2, 9/2
-- 3 -    ENTRY CLASSIFICATION:   UNCLASSIFIED

-- 5 -    CORPORATE AUTHOR: BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
-- 6 -    UNCLASSIFIED TITLE:     COMBINED QUARTERLY TECHNICAL REPORT NUMBER
--        21. SATNET DEVELOPMENT AND OPERATION. PLURIBUS SATELLITE IMP
--        DEVELOPMENT. REMOTE SITE MAINTENANCE. INTERNET DEVELOPMENT. MOBILE
--        ACCESS TERMINAL NETWORK. TCP FOR THE HP3000. TCP-TAC. TCP FOR VAX-
--        UNIX.
-- 8 -    TITLE CLASSIFICATION:   UNCLASSIFIED
-- 9 -    DESCRIPTIVE NOTE: REPT. FOR 1 FEB-30 APR 81,
--10 -    PERSONAL AUTHORS: BRESSLER,R. D. ;
--11 -    REPORT DATE:       MAY    , 1981
--12 -    PAGINATION:     70P
--14 -    REPORT NUMBER:     BBN-4679
--15 -    CONTRACT NUMBER:   MDA903-80-C-0353, N00039-78-C-0405
--20 -    REPORT CLASSIFICATION:  UNCLASSIFIED
--21 -    SUPPLEMENTARY NOTE:     SPONSORED IN PART BY CONTRACTS MDA903-80-C-
--        0214, N00039-79-C-0386, N00039-80-C-0664 AND N00039-80-C-0408.
--23 -    DESCRIPTORS:       *SATELLITE COMMUNICATIONS, *MESSAGE PROCESSING,
--        *COMMUNICATIONS NETWORKS, COMPUTER COMMUNICATIONS, PACKETS,
--        COMMUNICATIONS TRAFFIC, INTERFACES, DATA TRANSMISSION SYSTEMS,
--        MONITORING, ACCESS, MOBILE
--24 -    DESCRIPTOR CLASSIFICATION:   UNCLASSIFIED
--25 -    IDENTIFIERS:       PACKET COMMUNICATIONS, PLURIBUS SATELLITES,
--        IMP(INTERFACE MESSAGE PROCESSORS), COMPUTER NETWORKS, GATEWAYS, LPN-

--        ARPA ORDER-3214, LPN-ARPA ORDER-3175
--26 -    IDENTIFIER CLASSIFICATION:   UNCLASSIFIED
--27 -    ABSTRACT:  THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE
--        DEVELOPMENT OF AND EXPERIMENTATION WITH PACKET BROADCAST BY
--        SATELLITE; ON DEVELOPMENT OF PLURIBUS SATELLITE IMPS; ON A STUDY OF
--        THE TECHNOLOGY OF REMOTE SITE MAINTENANCE; ON THE DEVELOPMENT OF
--        INTER-NETWORK MONITORING; ON SHIPBOARD SATELLITE COMMUNICATIONS;
--        AND ON THE DEVELOPMENT OF TRANSMISSION CONTROL PROTOCOLS FOR THE
--        HP3000, TAC, AND VAX-UNIX. (AUTHOR)
--28 -    ABSTRACT CLASSIFICATION:      UNCLASSIFIED
--29 -    INITIAL INVENTORY:     12
--33 -    LIMITATION CODES:  1
--34 -    SOURCE SERIES:     21
--35 -    SOURCE CODE:       060100
--36 -    DOCUMENT LOCATION:       NTIS
--40 -    GEOPOLITICAL CODE:       2508
--41 -    TYPE CODE:  4
--******
--   13   OF   13
-- 1 -    AD NUMBER: A052021
-- 2 -    FIELDS AND GROUPS: 9/2, 17/2
-- 3 -    ENTRY CLASSIFICATION:   UNCLASSIFIED
-- 5 -    CORPORATE AUTHOR: UNIVERSITY OF SOUTHERN CALIFORNIA MARINA DEL REY

--        INFORMATION SCIENCES INST
-- 6 -    UNCLASSIFIED TITLE:     ARPANET TRANSITION OPPORTUNITIES AND
--        GATEWAY CONSIDERATIONS.
-- 8 -    TITLE CLASSIFICATION:   UNCLASSIFIED
-- 9 -    DESCRIPTIVE NOTE: FINAL REPT. 1 SEP 76-30 JUN 77,
--10 -    PERSONAL AUTHORS: POSTEL,JONATHAN B. ;CROCKER,STEPHEN D. ;
--11 -    REPORT DATE:       DEC 21, 1977
--12 -    PAGINATION:     44P
--15 -    CONTRACT NUMBER:  DAHC15-72-C-0308, ARPA ORDER-2223
--18 -    MONITOR ACRONYM:  SBI
--19 -    MONITOR SERIES:   AD-E100 033
--20 -    REPORT CLASSIFICATION:  UNCLASSIFIED
```

```
--23 -  DESCRIPTORS:        *COMPUTERS, *COMMUNICATIONS NETWORKS
--24 -  DESCRIPTOR CLASSIFICATION:    UNCLASSIFIED
--25 -  IDENTIFIERS:        *ARPANET, *AUTODIN 2, COMPUTER NETWORKS, GATEWAYS,
--      PEID30431-VR
--26 -  IDENTIFIER CLASSIFICATION:    UNCLASSIFIED
--27 -  ABSTRACT:  ISSUES IN THE TRANSITION OF THE ARPANET ARE DISCUSSED
--      AND A PLAN IS OUTLINED. THE USE OF GATEWAYS IS SUGGESTED, AND
--      ISSUES RELATED TO THEM ARE DISCUSSED. THE APPENDICES INCLUDE
--      COMPARISONS BETWEEN ALTERNATE DESIGNS FOR THREE FAMILIES OF HIGHER
--      LEVEL PROTOCOLS, HOST-TO-HOST, TERMINAL ACCESS, AND FILE TRANSFER.
--      (AUTHOR)

--28 -  ABSTRACT CLASSIFICATION:    UNCLASSIFIED
--29 -  INITIAL INVENTORY:    4
--33 -  LIMITATION CODES:  1
--34 -  SOURCE SERIES:    F
--35 -  SOURCE CODE:      407952
--36 -  DOCUMENT LOCATION:      NTIS
--40 -  GEOPOLITICAL CODE:      0628
--41 -  TYPE CODE:  1
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@term@


--THIS TERMINAL HAS BEEN TERMINATED

  CONNECT TIME= ON--161012 OFF--162201


MSG_D07 - PLEASE SIGN OFF TERMINAL
$$SOFF

*INACTIVE TERMINAL*
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B. NASA/Recon Untranslated Records

The following pages show a listing of the search session as downloaded to the TIS Gateway computer. Ten records were downloaded.

The lines which appear to continue truncated beyond the page width are actually stored in full on the disk, but must be reformatted by the TIS Process translator to conform to printer and CRT line limits. This is caused by NASA/Recon formatting.

To download these records, the user uses three keys: ESCAPE CONTROL A - after he has connected to the desired system. The system will prompt him for a file name where it will store the session until he logs off or closes the file. Logging off can be done by entering ESCAPE CONTROL D or by manually logging off. The downloaded session can be started prior to entering the search strategy or at any point from which the user wants to save citations.

DISPLAY 01/6/1
84A43834 ISSUE 21 PAGE 3148 CATEGORY 90 CNT#:
DE-AC02-80ER-10773-A003 84/00/00 12 PAGES UNCLASSIFIED DOCUMENT
UTTL: Big bang nucleosynthesis - Gateway to the very early universe
AUTH: A/TURNER, M. S. PAA: A/(Chicago, University, Chicago, IL)
(American Institute of Physics, NASA, NSF, U.S. Department of Energy, et al., Texas Symposium on Relativistic Astrophysics, 11th, Austin, TX, Dec. 12-17, 1982) New York Academy of Sciences, Annals (ISSN 0077-8923), vol. 422, 1984, p. 106-117.
MAJS: /*ABUNDANCE/*BIG BANG COSMOLOGY/*LIGHT ELEMENTS/*NUCLEAR FUSION
MINS: / ASTRONOMICAL MODELS/ DEUTERIUM/ ELEMENTARY PARTICLE INTERACTIONS/ HELIUM ISOTOPE
ABA: C.D.
ENTER:d 1/6/2-10

DISPLAY 01/6/2
84A19064 ISSUE 6 PAGE 818 CATEGORY 62 CNT#: MDA903-79-C-0201 DARPA ORDER A
UTTL: Performance of end-to-end and gateway-to-gateway flow control procedures in internet environments
AUTH: A/NASSEHI, M.; B/TOBAGI, F. PAA: B/(Stanford University, Stanford, CA)
IN: Conference on Decision and Control, 21st, Orlando, FL, December 8-10, 1982, Proceedings. Volume 1 (A84-19051 06-63). New York, Institute of Electrical and Electronics Engineers, 1982, p. 112-119.
MAJS: /*CHANNELS (DATA TRANSMISSION)/*COMMUNICATION NETWORKS/*COMPUTER NETWORKS /*NETWORK CONTROL/*TRAFFIC CONTROL/*TRANSMISSION EFFICIENCY
MINS: / CHANNEL CAPACITY/ COMPUTER SYSTEMS PERFORMANCE/ PACKET SWITCHING/ PERFORMANCE PREDICTION/ PROBABILITY THEORY/ TIME LAG
ABA: Author
ENTER:t 1/6/3-10

TYPE 1/6/3
82A21474 ISSUE 8 PAGE 1289 CATEGORY 84 81/12/00 12 PAGES
UNCLASSIFIED DOCUMENT
UTTL: Gateway diversity and competition in international air transportation
AUTH: A/TYE, W. B. PAA: A/(Putnam, Hayes and Bartlett, Inc., Cambridge, MA)
Transportation, vol. 10, Dec. 1981, p. 345-356.
MAJS: /*AIR TRANSPORTATION/*AIRPORTS/*CIVIL AVIATION/*COMPETITION/*TRANSOCEANIC FLIGHT
MINS: / ECONOMIC FACTORS/ GOVERNMENT/INDUSTRY RELATIONS/ ROUTES
ABA: (Author)

TYPE 1/6/4
81A47395 ISSUE 23 PAGE 3993 CATEGORY 20 RPT#: IAF PAPER 81-183
81/09/00 22 PAGES UNCLASSIFIED DOCUMENT
UTTL: Space nuclear reactors - Energy gateway into the next millennium
AUTH: A/ANGELO, J. A., JR.; B/BUDEN, D. PAA: A/(U.S. Defense Nuclear Agency, Los Alamos, NM); B/(California, University, Los Alamos, NM)
International Astronautical Federation, International Astronautical Congress, 32nd, Rome, Italy, Sept. 6-12, 1981, 22 p. Research sponsored by the U.S. Department of Energy.
MAJS: /*INTERPLANETARY FLIGHT/*NUCLEAR REACTORS/*SPACE EXPLORATION/*SPACE INDUSTRIALIZATION/*SPACE POWER REACTORS/*SPACECRAFT PROPULSION
MINS: / MISSION PLANNING/ SPACE COLONIES/ SPACE MISSIONS/ SPACE SHUTTLE ORBITERS / SPACE
ABA: O.C.

TYPE 1/6/5
81A18093 ISSUE 6 PAGE 807 CATEGORY 9 79/00/00 28 PAGES
UNCLASSIFIED DOCUMENT
UTTL: Saudi Arabia's new Gateway Airports
AUTH: A/HOYT, J.; B/CAMPBELL, R. PAA: B/(Ralph M. Parsons Co., Pasadena, Calif.)
In: International Air Transportation Conference, New Orleans, La., April 30-May 3, 1979, Proceedings. Volume 2. (A81-18051 06-01) New York, American Society of Civil Engineers, 1979, p. 768-795.
MAJS: /*AIRPORT PLANNING/*CIVIL AVIATION/*SAUDI ARABIA/*TERMINAL FACILITIES
MINS: / AIR TRAFFIC/ AIRLINE OPERATIONS/ DESIGN ANALYSIS/ RUNWAYS/ SITE SELECTION

TYPE 1/6/6
79A52299 ISSUE 23 PAGE 4284 CATEGORY 9 79/08/00 7 PAGES
UNCLASSIFIED DOCUMENT
UTTL: Lagos Murtala Muhammed Airport - Nigeria's gateway to the world
Airport Forum, vol. 9, Aug. 1979, p. 57, 58, 60-62, 67, 68. In English and German.
MAJS: /*AIRPORT PLANNING/*TERMINAL FACILITIES
MINS: / FORECASTING/ GROUND SUPPORT EQUIPMENT/ NIGERIA/ PASSENGERS/ SITES
ABA: C.F.W.

TYPE 1/6/7
77A20067 ISSUE 7 PAGE 983 CATEGORY 9 76/12/00 9 PAGES

UNCLASSIFIED DOCUMENT
UTTL: Stockholm's new gateway to the world
AUTH: A/JOHN, J. I. PAA: A/(BJR Arkitektkontor AB, Stockholm, Sweden)
Airport Forum, vol. 6, Dec. 1976, p. 23-26, 28, 30, 32-34. In English and German.
MAJS: /*AIRLINE OPERATIONS/*AIRPORT PLANNING/*CIVIL AVIATION/*TERMINAL FACILITIES
MINS: / ARCHITECTURE/ PASSENGERS/ ROADS/ STRUCTURAL DESIGN/ SWEDEN/ URBAN DEVELOPMENT
ABA: R.D.V.

TYPE 1/6/8
75A45403 ISSUE 23 PAGE 3367 CATEGORY 9 75/09/00 8 PAGES
UNCLASSIFIED DOCUMENT
UTTL: Amsterdam's gateway to Europe enlarged --- Schiphol airport
AUTH: A/SCHERPBIER, L. W PAA: A/(Netherlands Airport Consultants, The Hague, Netherlands)
Airport Forum, vol. 5, Sept. 1975, p. 57, 59, 63 (5 ff.). In English and German.
MAJS: /*AIRPORTS/*BUILDINGS/*NETHERLANDS/*TERMINAL FACILITIES
MINS: / AIRLINE OPERATIONS/ AIRPORT PLANNING/ ARCHITECTURE/ CIVIL AVIATION/ PASSENGERS
ABA: G.R.

TYPE 1/6/9
75A25341 ISSUE 10 PAGE 1415 CATEGORY 9 75/02/00 11 PAGES
UNCLASSIFIED DOCUMENT
UTTL: Singapore Airport - Gateway to the Orient
AUTH: A/[illegible]MA, H. P.
Airport Forum, vol. 5, Feb. 1975, p. 7-17. In English and German.
MAJS: /*AIRFIELD SURFACE MOVEMENTS/*AIRPORT PLANNING/*ECONOMIC FACTORS/*TERMINAL FACI
MINS: / AIR TRANSPORTATION/ CARGO/ ECONOMIC DEVELOPMENT/ PASSENGERS/ RUNWAYS/ SINGAPORE
ABA: G.R.

TYPE 1/6/10
70A27742* ISSUE 12 CATEGORY 31 69/00/00 10 PAGES UNCLASSIFIED DOCUMENT
UTTL: Manned space stations - Gateway to our future in space
UNOC: Manned space stations size, crew, orbit, lifetime, resupply requirements, etc
AUTH: A/GILRUTH, R. R. PAN: (AA/NASA, MANNED SPACECRAFT CENTER, HOUSTON, TEX./.)
DORDRECHT, D. REIDEL PUBLISHING CO., /ASTROPHYSICS AND SPACE SCIENCE LIBRARY. VOLUME 16/, IN- MANNED LABS. IN SPACE; INTERNATIONAL ACADEMY OF ASTR
ORBITAL LAB. SYMPOSIUM, 2ND, NEW YORK, N.Y., OCT. 18, 1968, PROCEEDINGS. P. 1-10. /A70- 27741 12-31/
MAJS: /*MANNED SPACECRAFT/*ORBITAL SPACE STATIONS/*SPACECRAFT DESIGN
MINS: / APOLLO APPLICATIONS PROGRAM/ EXPERIMENT DESIGN/ ORBIT CALCULATION/ ORBITAL WORKSHOPS/ SPACE SHUTTLES/ SPACECREWS

END SEQUENCE EXECUTION
ENTER:ENTER:signoff

SIGNOFF ACCEPTED, SESSION DURATION 5.64 MINS., USER DISCONNECTED.

C. Department of Energy, Recon Citations

The following pages show a listing of the search session as downloaded to the TIS Gateway computer. Format "O" was used to obtain the most complete version of the record. Other formats, e.g., Format 6, can also be processed by the translator. Ten records were downloaded.

To download these records, the user hits three keys - ESCAPE CONTROL A - after he has connected to the desired system. The system will prompt him for a file name where it will store the session until he logs off or closes the file. Logging off can be done by entering ESCAPE CONTROL D or by manually logging off. The downloaded session can be started prior to entering the search strategy or at any point from which the user wants to save citations.

s gateway

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1 54 GATEWAY
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>PROCESSING<
DISPLAY 1/0/1-10
DIS 1/0/000001-000010//1 PAGE
<ACCESSION NO.> 85R0091424
<REPORT NO,PAGE> ANL/TM--427 P. 18;DE85012290
<TITLE(MONO)> Argonne's gateway access plan for connecting DOE Energy Research computing sites to the NMFEnet
<EDITOR OR COMP> McMahon, E.J.; Messina, P.C.
<CORPORATE AUTH> Argonne National Lab., IL (USA)
<CORPORATE CODE> 0448000
<TYPE> R
<PAGE NO> 18
<AVAILABILITY> NTIS, PC A02/MF A01; 1.
<ORDER NUMBER> DE85012290
<CONTRACT NO> Contract W-31-109-ENG-38
<DATE> Apr 1985
<DROP NOTE> Portions of this document are illegible in microfiche products. Original copy available until stock is exhausted
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> EDB-85:091424
<DISTRIBUTION> MN-32
<DOCUMENT ORIGIN> P
<BIS> TIC
<CATEGORIES> EDB-990200
<PRIMARY CAT> EDB-990200(GENERAL AND MISCELLANEOUS; MATHEMATICS AND COMPUTERS)
<ABSTRACT> Argonne National Laboratory has designed a flexible plan for connecting large multiprogram institutions to the National Magnetic Fusion Energy Network (NMFEnet). The plan promises to benefit Argonne's Energy Research scientists and engineers by making the Cray X-MP supercomputers in Livermore, California, fully accessible to users. Additionally, it will serve as a model for other large supercomputer centers whose users are scattered over a large area and who wish access to the NMFE network. This approach is general and could be adapted to a wide variety of computing environments. The specific software and system architecture developed should be transportable and usable as is for sites with local networks based on TCP/IP, DECNET, and/or IBM NJE. Many sites have or will have such systems.
<DESCRIPTORS> *ANL--computer networks; *ANL--supercomputers; *LAWRENCE LIVERMORE LABORATORY--computer networks;CRAY COMPUTERS
<ISSUE> 8513
<UPPOSTED DESC> COMPUTERS;DIGITAL COMPUTERS;NATIONAL ORGANIZATIONS;US AEC;US DOE;US ERDA;US ORGANIZATIONS
<DOCUMENT NO> 85:091424

DIS 1/0/000001-000010//2 PAGE
<ACCESSION NO.> 85J0083021
<TITLE> Possibilities of Viditel for the gas industry
<AUTHORS> von Westen, M.A.J.M.
<PUB DESC> Gas (Apeldoorn, Netherlands) (Netherlands)--, v. 103, pp. 226-231
<TYPE> J
<JOURNAL CODEN> GAASA
<DATE> May 1983
<LANGUAGE> In Dutch
<ISSN/ISBN CODE> 0016-4828
<CO OF AUTH> NL
<CO OF PUBL> NL
<ANN J> EDB-85:083021
<BIS> JMT
<CATEGORIES> EDB-030600
<PRIMARY CAT> EDB-030600(NATURAL GAS; MARKETING AND ECONOMICS)
<ABSTRACT> To enhance communications among consumers, gas companies, and their central organizations, the Dutch gas industry decided a few years ago to join the new Viewdata communication system, which is called Viditel in the Netherlands. Since mid-1981, the VEGIN association has gained experience with this system as a supplier of advice and data on tariffs, gas equipment, topical questions, professional training, gas consumption, and general matters. VEGIN also acts as an umbrella organization, allowing smaller data suppliers (the gas companies) to store their own information in Viditel at low cost; interfacing between their information and VEGIN's file gives the utilities access to far more information than their own. A further advantage is a certain degree of standarization of the information input. Public-access

terminals allow the use of Viditel in information centers of gas companies, libraries, and town halls as well as at fairs and exhibitions. Future applications may include (1) setting up a closed information file (for data transmission between gas companies and their central organizations), (2) extending two-way communications, and (3) establishing the Gateway interface between the gas company computers and the Viditel system.
<DESCRIPTORS> *NATURAL GAS INDUSTRY--data base management; *NATURAL GAS INDUSTRY--information systems; *NETHERLANDS--natural gas industry;INFORMATION DISSEMINATION
<ISSUE> 8513
<UPPOSTED DESC> EUROPE;INDUSTRY;MANAGEMENT;WESTERN EUROPE
<DOCUMENT NO> 85:083021

DIS 1/0/000001-000010//3 PAGE
<ACCESSION NO.> 85C0066241
<TITLE> Coal transshipment and distribution in Europe the competitive powers of Rotterdam
<AUTHORS> Oerlemans, N.
<AUTHOR AFF> European Coal Stevedoring Co.
<PUB DESC> Coal Technology (Houston) (U.S.)--, v. 1, pp. 245-264
<TYPE> J
<JOURNAL CODEN> COATD
<SEC REPT NO> CONF-831112--
<CONF TITLE> Coal technology '83 - international coal utilization convention
<CONF PLACE> Houston, TX, USA
<CONF DATE> 15 Nov 1983
<DATE> Nov 1983
<ISSN/ISBN CODE> 0270-3661
<CO OF AUTH> NL
<CO OF PUBL> US
<ANN J> EDB-85:066241
<BIS> IFI
<CATEGORIES> EDB-013000
<PRIMARY CAT> EDB-013000(COAL AND COAL PRODUCTS; TRANSPORT AND HANDLING)
<ABSTRACT> Until today most export sales to Europe have been done on a FOB U.S.-East Coast and U.S.-Gulf basis, meaning that many U.S. coal exporters are not too familiar with European coal ports and the onward transportation possibilities. However, because of the potential growth of especially steam coal deliveries to the electricity generating industry in Europe, there seems to be an interest to get involved in some direct kind of way in the European coal market, even though today U.S. steam coal has a difficult time competing in the world market. A world market that is still characterized by a considerable surplus of supply over demand and a downward trend in prices expressed in dollars. European Coal Stevedoring with its majority shareholding in the largest dry bulk terminal in Europe - EMO Maasvlakte Terminal, Rotterdam - appreciates to have this opportunity to confront the U.S. exporters with coal transshipment and distribution in Europe and the competitive powers of the Gateway to Europe: Rotterdam, the No. 1 Port in the World.
<DESCRIPTORS> *COAL--market; *COAL--transport; *EUROPE--coal industry; *EUROPE--terminal facilities;COMPETITION;PRICES;SUPPLY AND DEMAND
<ISSUE> 8510
<UPPOSTED DESC> CARBONACEOUS MATERIALS;ENERGY SOURCES;FOSSIL FUELS;FUELS; INDUSTRY;MATERIALS
<DOCUMENT NO> 85:066241

DIS 1/0/000001-000010//4 PAGE
<ACCESSION NO.> 85J0060667
<TITLE> Increasing the size of gateways for mechanized faces
<PUB DESC> Coal Science and Technology (Peking) (China)--, no. 8, pp. 2-6
<TYPE> J
<JOURNAL CODEN> CSTPD
<DATE> Aug 1984
<LANGUAGE> In Chinese
<CO OF AUTH> CN
<CO OF PUBL> CN
<ANN J> ERA-10:021666;EDB-85:060667
<BIS> CLA
<CATEGORIES> EDB-012000
<PRIMARY CAT> EDB-012000(COAL AND COAL PRODUCTS; MINING)
<ABSTRACT> A correspondent of the Journal visited Mr. Bi Huazhao, the Deputy Engineer-in-Chief of Kailuan Mining Administration to find out answers to the following questions raised by the readers: Why should the cross-section of gateways for mechanized faces be increased. What is the proper size. Is it difficult to maintain the gateways at increased size. What type of support should be used to reduce maintenance. How can one improve the speed and

efficiency of drifting when cross section is increased. What is the suitable size for thin seam. A detailed analysis is given on the practical experience in Kailuan. Increase of gateway size created a better working environment; improved safety in production, and also made full use of the potential of face installation and labour effic ency.
<DESCRIPTORS> *LONGWALL MINING--mine roadways; *MINE ROADWAYS--size;COAL SEAMS; MAINTENANCE;MANPOWER;MINE HAULAGE;PRODUCTION;SAFETY;SUPPORTS;WORKING CONDITIONS;WORKING FACES
<ISSUE> 8509
<UPPOSTED DESC> COAL DEPOSITS;GEOLOGIC DEPOSITS;MATERIALS HANDLING;MECHANICAL STRUCTURES;MINERAL RESOURCES;MINING;RESOURCES;TUNNELS;UNDERGROUND FACILITIES; UNDERGROUND MINING
<DOCUMENT NO> 85:060667

DIS 1/0/000001-000010//5 PAGE
<ACCESSION NO.> 85J0018958
<TITLE> Discussion on gateway cross-section and support for mechanized faces
<PUB DESC> Coal Science and Technology (Peking) (China)--, no. 5, pp. 14-16
<TYPE> J
<JOURNAL CODEN> CSTPD
<DATE> May 1984
<LANGUAGE> In Chinese
<CO OF AUTH> CN
<CO OF PUBL> CN
<ANN J> EDB-85:018958
<BIS> CLA
<CATEGORIES> EDB-012000
<PRIMARY CAT> EDB-012000(COAL AND COAL PRODUCTS; MINING)
<ABSTRACT> None
<DESCRIPTORS> *UNDERGROUND MINING--mine roadways; *UNDERGROUND MINING--supports;EQUATIONS;HEIGHT;WIDTH;WORKING FACES
<ISSUE> 8503
<UPPOSTED DESC> DIMENSIONS;MECHANICAL STRUCTURES;MINING;TUNNELS;UNDERGROUND FACILITIES
<DOCUMENT NO> 85:018958

DIS 1/0/000001-000010//6 PAGE
<ACCESSION NO.> 84C0188555
<REPORT NO,PAGE> UCRL--89995-Rev.1 P. 17;DE85000617
<TITLE(MONO)> Post-processing of bibliographic citations from DOE/RECON, NASA/RECON, and DOD/DROLS. Revision 1
<EDITOR OR COMP> Bollinger, W.A.; Hampel, V.E.; Harrison, I.; Murphy, T.P.
<CORPORATE AUTH> Lawrence Livermore National Lab., CA (USA)
<CORPORATE CODE> 9513035
<TYPE> R
<SEC REPT NO> CONF-841243--1-Rev.1
<PAGE NO> 17
<AVAILABILITY> NTIS, PC A02/MF A01.
<ORDER NUMBER> DE85000617
<CONTRACT NO> Contract W-7405-ENG-48
<CONF TITLE> 8. international online information meeting
<CONF PLACE> London, UK
<CONF DATE> 4 Dec 1984
<DATE> Aug 1984
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> ERA-10:001706;EDB-84:188555
<DISTRIBUTION> MN-32
<DOCUMENT ORIGIN> P
<BIS> TIC
<CATEGORIES> EDB-990300
<PRIMARY CAT> EDB-990300(GENERAL AND MISCELLANEOUS; INFORMATION HANDLING)
<ABSTRACT> We have developed an interactive, self-guided program for the joint post-processing of bibliographic citations from the federal information centers of the Department of Energy (DOE), the Department of Defense (DOD), and the National Aeronautics and Space Administration (NASA). This program is currently installed on the Intelligent Gateway Processor of the Technology Information System (TIS/IGP) at the Lawrence Livermore National Laboratory and is under evaluation by the TIS user community from remote terminals by telephone dial-up, over TYMNET, and the ARPA computer network. Users are individually authorized for automated access to specific information centers, and use standard commands for the downloading, compilation, and online review of citations in a common format. Previously reported post-processing capabilities have been further expanded, permitting: (1) online citation review, categorization, and addition of new data elements; (2) disassembly and re-assembly of citations; (3) statistical analysis of data field contents;

(4) cross-correlation of data field contents; and (5) concordance generation. In addition, the new two-pass interpreter for the post-processing program permits: the transformation of abbreviated data field names into english names preferred by each agency, the statistical analysis of the density and completeness of data fields in selected sets of bibliographic citations, the elimination of redundant citations (using user-specified criteria), and trend analysis. The latter is a powerful tool for the exploration of time-dependent characteristics in a particular field of research, of an organization, or for an author. Graphical displays of publication rates as a function of time and the normalized statistics of terms used in the description of the work, can be used to signal new directions of ongoing research and the intensity of its support.
<DESCRIPTORS> *INFORMATION--computer networks;INFORMATION RETRIEVAL; SPECIFICATIONS
<ISSUE> 8423
<DOCUMENT NO> 84:188555

DIS 1/0/000001-000010//7 PAGE
<ACCESSION NO.> 84C0173691
<REPORT NO,PAGE> UCRL--91383 P. 10;DE85001741
<TITLE(MONO)> Integration of an automated library support system with an intelligent gateway
<EDITOR OR COMP> Burton, H.D.
<CORPORATE AUTH> Lawrence Livermore National Lab., CA (USA)
<CORPORATE CODE> 9513035
<TYPE> R
<SEC REPT NO> CONF-8409138--1
<PAGE NO> 10
<AVAILABILITY> NTIS, PC A02/MF A01.
<ORDER NUMBER> DE85001741
<CONTRACT NO> Contract W-7405-ENG-48
<CONF TITLE> Integrated online library systems conference
<CONF PLACE> Atlanta, GA, USA
<CONF DATE> 13 Sep 1984
<DATE> Aug 1984
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> EDB-84:173691
<DISTRIBUTION> MN-32
<DOCUMENT ORIGIN> P
<BIS> TIC
<CATEGORIES> EDB-990300
<PRIMARY CAT> EDB-990300(GENERAL AND MISCELLANEOUS; INFORMATION HANDLING)
<ABSTRACT> A new project of the Technology Information System (TIS) at the Lawrence Livermore National Laboratory (LLNL) calls for the evaluation of commercially available library support packages and the extension and integration of the most desirable system with the TIS gateway to provide a comprehensive prototype for libraries and information centers. This prototype system is planned to facilitate access to and management of in-house activities such as cataloging, serials control, and acquisitions, as well as to interface to external systems and services for data downloading and exchange, retrieval, and post-processing. Cooperative cataloging, distributed database processing, electronic inter-library loan, and customized bibliography production are some of the features planned for the prototype. Development of a user-friendly front-end processor will allow the user to negotiate his search query in a semi-automated manner using a single, English-like command language. The TIS at Lawrence Livermore National Laboratory (LLNL) has developed a computer-based intelligent gateway for automated access to such diverse, geographically distributed information systems as DOE/RECON, DOD/DROLS, NASA/RECON, CAS On-Line, DARC (France) and DECHEMA (West Germany), among many others. New information resources centers are being added as required and users can connect simultaneously to more than one host to compare their data. The TIS online master directory provides the user with a single, integrated view of available and relevant resources. The automated access procedures permit the user to concentrate on the information aspects of his work rather than be burdened with various log-on procedures, database formats and protocols. The merger of the library support with the TIS gateway should provide users with a capabilities to access and utilize the full spectrum of textual, numeric and graphics data resources.
<DESCRIPTORS> *INFORMATION SYSTEMS--computer networks;DATA BASE MANAGEMENT; LAWRENCE LIVERMORE LABORATORY
<ISSUE> 8421
<UPPOSTED DESC> MANAGEMENT;NATIONAL ORGANIZATIONS;US AEC;US DOE;US ERDA;US ORGANIZATIONS
<DOCUMENT NO> 84:173691

DIS 1/0/000001-000010//8 PAGE
<ACCESSION NO.> 84J0163468
<TITLE> Materials handling report/Coal transshipment terminals...a vital transportation link
<AUTHORS> Yu, A.T.
<AUTHOR AFF> Orba Corp.
<PUB DESC> Coal Age (U.S.)--, v. 84, no. 7, pp. 77-78, 80-82
<TYPE> J
<JOURNAL CODEN> COLAA
<DATE> Jul 1979
<ISSN/ISBN CODE> 0009-9910
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> EDB-84:163468
<BIS> API
<CATEGORIES> EDB-013000
<PRIMARY CAT> EDB-013000(COAL AND COAL PRODUCTS; TRANSPORT AND HANDLING)
<ABSTRACT> The Superior Midwest Energy Terminal, a transshipment terminal in the Decker Coal rail-to-water route from Montana to Detroit, was designed and constructed in two years on a 200 acre site by Orba Corp.; it can transfer 20 million tons/yr of coal from railroad cars to self-unloading barges. In winter, 7 million tons of coal can be stored on the ground and unit-trains can enter, unload, and leave without being broken into smaller units. According to A. T. Yu of Orba Corp., environmental protection features include a water runoff treatment plant and dust generation and escape minimization by enclosure of the major components and use of telescopic chutes. Another new transshipment service involves PLM Inc.'s complete unit-train/barge transportation service and the new Iowa Gateway Terminal in Keokuk. The transportation service will start in 1980 or 1981; have a 6 million ton/yr capability; and provide the option of Rent-a-Train to coal operators. The 10 million ton/yr Hall Street Coal Transfer Terminal in St. Louis transfers western coal from railroad cars to river barges and provides open storage of coal.
<DESCRIPTORS> *COAL--transport; *ENERGY TRANSPORT--terminal facilities; *TERMINAL FACILITIES--design; *TERMINAL FACILITIES--specifications;BARGES; COAL INDUSTRY;ENERGY STORAGE;MATERIALS HANDLING;POLLUTION CONTROL EQUIPMENT; RAIL TRANSPORT
<ISSUE> 8421
<UPPOSTED DESC> CARBONACEOUS MATERIALS;ENERGY SOURCES;EQUIPMENT;FOSSIL FUELS; FUELS;INDUSTRY;LAND TRANSPORT;MATERIALS;STORAGE;TRANSPORT
<DOCUMENT NO> 84:163468

DIS 1/0/000001-000010//9 PAGE
<ACCESSION NO.> 84C0157880
<REPORT NO,PAGE> UCRL--90276-Rev.1 P. 124;DE84016511
<TITLE(MONO)> Online directory of databases for material properties
<EDITOR OR COMP> Hampel, V.E.; Bollinger, W.A.; Gaynor, C.A.; Oldani, J.J.
<CORPORATE AUTH> Lawrence Livermore National Lab., CA (USA)
<CORPORATE CODE> 9513035
<TYPE> R
<SEC REPT NO> CONF-8406139--1-Rev.1
<PAGE NO> 124
<AVAILABILITY> NTIS, PC A06/MF A01; 1.
<ORDER NUMBER> DE84016511
<CONTRACT NO> Contract W-7405-ENG-48
<CONF TITLE> 9. international CODATA conference
<CONF PLACE> Jerusalem, Israel
<CONF DATE> 24 Jun 1984
<DATE> May 1984
<DROP NOTE> Portions are illegible in microfiche products
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> EDB-84:157880
<DISTRIBUTION> MN-25
<DOCUMENT ORIGIN> P
<BIS> TIC
<CATEGORIES> EDB-360000
<PRIMARY CAT> EDB-360000(MATERIALS)
<ABSTRACT> This directory is intended to provide interactive access to scientific and technical databases available to the public that contain information pertaining to nuclear, atomic, molecular, physical, chemical, and mechanical properties of substances. In addition to the 101 data files previously reported, we have updated the information and identified more than 38 new numeric databases and predictive systems in these fields. We have included, where applicable, entries contained in the directories published by Cuadra Associates, CODATA, and UNESCO. In addition to describing the contents of the databases, we have provided updated information on the availability of

the databases and their online access over public telephone and data networks. This directory is expected to become particularly important to the national and international magnetic- and laser-energy fusion projects, nuclear criticality safety, and computer aided engineering programs. Some of the numeric databases are directly accessible by authorized users via the TIS Intelligent Gateway Processor at LLNL (TIS/IGP), with self-guiding procedures for the downloading, merging, post-processing, and graphical/statistical analysis of data.
<DESCRIPTORS> *MATERIALS--information systems;DATA BASE MANAGEMENT
<ISSUE> 8420
<UPPOSTED DESC> MANAGEMENT
<DOCUMENT NO> 84:157880

DIS 1/0/000001-000010//10 PAGE
<ACCESSION NO.> 84J0122088
<TITLE> 540--900 nm photodissociation of 300 K NCNO: One- and two-photon processes
<AUTHORS> Nadler, I.; Pfab, J.; Reisler, H.; Wittig, C.
<AUTHOR AFF> Department of Chemistry, University of Southern California, Los Angeles, California 90089-0484
<PUB DESC> Journal of Chemical Physics (U.S.)--, v. 81, no. 2, pp. 653-660
<TYPE> J
<JOURNAL CODEN> JCPSA
<DATE> 15 Jul 1984
<ISSN/ISBN CODE> 0021-9606
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> EDB-84:122088
<BIS> AIP
<CATEGORIES> EDB-640300
<PRIMARY CAT> EDB-640300(PHYSICS RESEARCH; ATOMIC, MOLECULAR, AND CHEMICAL PHYSICS)
<SEC SECTION> A1200
<ABSTRACT> The laser photodissociation of 300 K NCNO throughout the region 540--900 nm is reported, and both 1- and 2-photon processes are discussed. By monitoring CN fragments produced via the 1-photon process, we show that with photolysis wavelengths >592 nm, dissociation occurs predominantly by exciting NCNO ''hot bands,'' At shorter photolysis wavelengths, dissociation from the ground vibrational state of NCNO is observed as well, but the contributions from hot bands are still manifest in high CN rotational levels which are energetically inaccessible from the ground state (D$sub 0$ = 48.8 kcal mol$sup -1$). Energy distributions in the CN fragments were determined for excess energies up to 1800 cm$sup -1$, and are in agreement with phase space theory calculations and a vibrational predissociation mechanism. In addition, throughout the region 620--900 nm, stepwise two-photon photodissociation proceeds using the A $sup 1$A'' state as a gateway, and results in rotationally and vibrationally ''hot'' CN fragments. The hot CN fragment yield vs photolysis wavelength shows peaks which correspond exactly to peaks in the NCNO absorption spectrum, allowing us to obtain high resolution spectra of the A $sup 1$A''reverse arrow X $sup 1$A' absorption system. The one- and two-photon processes are in competition, and the latter disappears at wavelengths where one-photon photodissociation of NCNO via its ground vibrational level sets in. The nature of the electronic states involved in the one- and two-photon processes is also discussed.
<DESCRIPTORS> *NITROSO COMPOUNDS--absorption spectra; *NITROSO COMPOUNDS--photolysis;DISSOCIATION;MEDIUM TEMPERATURE;MULTI-PHOTON PROCESSES
<ISSUE> 8416
<UPPOSTED DESC> CHEMICAL REACTIONS;DECOMPOSITION;ORGANIC COMPOUNDS;ORGANIC NITROGEN COMPOUNDS;PHOTOCHEMICAL REACTIONS;SPECTRA
<DOCUMENT NO> 84:122088

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>PROCESSING<

STOPPED AT 11:31:07 ON 08-23-85

D. Lockheed DIALOG, NTIS Citations

The following pages show a listing of the search session as downloaded to the TIS Gateway computer. Ten citations were downloaded. The DIALOG Format 4 must be used to produce a file with tagged data elements, e.g.: T1 for title, AU for author, etc.

The Format 4 option is not currently available for all DIALOG databases although they do plan to convert most of their databases to make the tagged format available. If the tagged or labeled format is not available for a given database, you may wish to search the database on the information systems from other vendors, if available elsewhere. For example, many of the DIALOG files are also available from System Development Corporation (SDC).

To download these records, the user hits three keys - ESCAPE CONTROL A - after he has connected to the desired system. The system will prompt him for a file name where it will store the session until he logs off or closes the file. Logging off can be done by entering ESCAPE CONTROL D or by manually logging off. The downloaded session can be started prior to entering the search strategy or at any point from which the user wants to save citations.

t 1/4/1-10

1/4/1
FN- DIALOG NTIS FILE 6|
AN- 1134156|
AN- <NTIS> AD-A155 058/1/XAB|
TI- Command and Control Related Computer Technology. Part I. Packet Radio. Part II. Speech Compression and Evaluation(Quarterly progress rept. no. 5, 1 Dec 75-29 Feb 76)|
AU- Burchfiel, J. D. ; Beeler, M. D. ; Nickerson, R. S. ; Makhoul, J. ; Huggins, A. W. F. |
CS- Bolt Beranek and Newman, Inc., Cambridge, MA.|
CS- <Code> 004246000; 060100|
RN- BBN-3263|
PY- Dec 75|
PG- 141p|
LA- English|
PC- PC A07/MF A01 |
JA- GRAI8518|
CP- United States|
CN- MDA903-75-C-0180; ARPA Order-2935|
AB- This document describes progress on (1) the development of a packet radio network, and (2) speech compression and evaluation. Activities reported under (1) include work on PDP-11 TCP development, station gateway and ELF development, and digital unit checkout; under (2) implementation of covariance lattice method; specification of ARPA-LPC System II; investigation of phoneme-specific intelligibility test; study of effects on intelligibility of lost packets. (Author)|
DE- *Command and control systems; Packets; *Radio equipment; *Speech compression; Computer communications; Computers; Digital systems; Extremely low frequency; Intelligibility; Networks; Quality; Speech; Test and evaluation; Vocoders; Checkout procedures; Linearity; Mathematical prediction|
ID- Pocket radios; NTISDODXA|
SH- 17B (Navigation, Communications Detection, and Countermeasures--Communications); 45C (Communication--Common Carrier and Satellite); 45F (Communication--Verbal)||

1/4/2
FN- DIALOG NTIS FILE 6|
AN- 1131113|
AN- <NTIS> AD-A154 349/5/XAB|
TI- Local Automation Model Software Benchmarking: Test Plan
AU- Hartt, R. W. ; O'Connor, D. J. |
CS- Logistics Management Inst., Bethesda, MD.|
CS- <Code> 082507000; 210475|
SP- Defense Technical Information Center, Alexandria, VA.|
RN- LMI-DL401; DTIC-TR-85/3|
PY- Mar 85|
PG- 109p|
LA- English|
PC- PC A06/MF A01 |
JA- GRAI8517|
CP- United States|
CN- MDA903-81-C-0166|
AB- Sponsored by the Defense Technical Information Center, the Local Automation Model project encompasses requirements determination, system design, prototype system implementation, and production system acquisition for a fully resident integrated library system. The system is designed and will be made available for installation at Federal technical libraries and information centers. With the system, libraries will be able to share cataloging of technical reports with DTIC, relying on machine-aided translation of citations and an intelligent gateway to facilitate data transfer. The intelligent gateway also permits simultaneous searching of multiple, heterogeneous data bases, both Government-operated and commercial. In addition, the system supports full local collection management -- retrieval, cataloging, and circulation management and control. The prototype and production systems will be implemented with commercially available library automation software. The Test Plan is the fifth in a series of life-cycle documentation for the system. It contains criteria -- both performance and functional -- for selecting from among several packages recommended for benchmarking. Using the Test Plan, test participants will exercise features in each of the six packages selected for benchmarking and score the package on how well each feature is performed.|
DE- *Libraries; *Technical information centers; Automation; Catalogs; Circulation; *Data bases; Data processing; Department of defense;

Determination; Heterogeneity; Integrated systems; Management; Models; Planning; Production; Prototypes; Reports; Requirements; Searching; Synchronism; Test and evaluation; United states government; Classification; *Machine translation; *Information transfer; Data acquisition|
ID- Defense Technical Information Center; *Computer software; Bench marks; NTISDODXA; NTISDODA|
SH- 5B (Behavioral and Social Sciences--Documentation and Information Technology); 9B (Electronics and Electrical Engineering--Computers); 88B (Library and Information Sciences--Information Systems); 62B (Computers, Control, and Information Theory--Computer Software)||

1/4/3
FN- DIALOG NTIS FILE 6|
AN- 1130798|
AN- <NTIS> AD-A154 033/5/XAB|
TI- LAN (Local Area Network) Interoperability Study of Protocols Needed for Distributed Command and Control(Final technical rept. Jun 83-Jul 84)|
AU- Elden, W. L. ; Miller, A. L. ; Morgan, S. L. ; Romanzo, B. A. |
CS- Harris Corp., Melbourne, FL. Government Information Systems Div.|
CS- <Code> 051762006; 411661|
SP- Rome Air Development Center, Griffiss AFB, NY.|
RN- RADC-TR-85-55|
PY- Mar 85|
PG- 306p|
LA- English|
PC- PC A14/MF A01 |
JA- GRAI8517|
CP- United States|
CN- F30602-83-C-0108; 5581; 21|
AB- The study examined distrubuted processing requirements for strategic and tactical C3I systems, reviewed the characteristics and architectural issues for distributed processing global operating systems, compared the DoD and ISO networking protocol architecture models, the protocols for LAN's developed by the IEEE and ANSI, reviewed and conducted performance evaluation of Ethernet, DoD's Internet Protocol and Transmission Control Protocol and reported characteristics of CSMA/CD, Token Bus and Token Ring LAN's, reviewed three alternatives to using TCP for an intra-LAN protocol and examined the methods for employing gateway elements to interconnect LAN-based system elements. A comprehensive discussion of the results is given followed by a set of concise conclusions. Ten recommendations are given, providing a roadmap to guide the Air Force in developing C3I systems and LAN-based protocols. Three major areas are identified where future work is needed. A set of protocols and design approaches for internetworking is contained in a set of appendices.|
DE- *Distributed data processing; *Communications networks; *Command and control systems; Air force; Architecture; Control; Distribution; Models ; Networks; Performance tests; Requirements; Transmittance; Strategic communications; Strategic intelligence; Tactical communications; Tactical intelligence|
ID- *Local area networks; Protocols; C3I(Command Control Communications and Intelligence); Internetting; *Computer networks; NTISDODXA; NTISDODAF|
SH- 17B (Navigation, Communications Detection, and Countermeasures--Communications); 9B (Electronics and Electrical Engineering--Computers); 15G (Military Sciences--Operations, Strategy, and Tactics); 45C (Communication--Common Carrier and Satellite); 62B (Computers, Control, and Information Theory--Computer Software); 74G (Military Sciences--Military Operations, Strategy, and Tactics)||

1/4/4
FN- DIALOG NTIS FILE 6|
AN- 1128938|
AN- <NTIS> AD-A153 873/5/XAB|
TI- Proceedings of the Annual DTIC (Defense Technical Information Center) Users Conference Held at Alexandria, Virginia on 24-26 October 1984(Annual rept.)|
AU- Hanna, M. K. |
CS- Defense Technical Information Center, Alexandria, VA.|
CS- <Code> 062640000; 394981|
PY- 26 Oct 84|
PG- 193p|
LA- English|
DT- Bibliography; Conference proceeding|
PC- PC A09/MF A01 |
JA- GRAI8516|
CP- United States|
AB- These proceedings consist of transcriptions of presentations made at

the annual DTIC Users Conference, 1984. The presentations included status reports from the DTIC Directors, the Defense RDT/E On-Line System (DROLS) User Council, and the DTIC Resource Sharing Advisory Group. Other sessions included: DROLS Communications; a New User Orientation; DROLS Workshops for Dedicated and Dial-Up Terminal Users; other Government Information Resources (GPO, DOE, NLM); DTIC Management Data Bases; panels on DTIC Cataloging and Indexing Policies; Shared Bibliographic Input Network/Local Automation Model for an Integrated Cataloging/Retrieval System; the DoD Gateway for Accessing Diverse Information Resources; the Steps to Acquire a DROLS Terminal; the Manpower and Training Research Information System; and the Small Business Innovation Research Program.|
DE- *Information processing; *Technical information centers; *Management information systems; *Symposia; Bibliographies; Automation; Networks|
ID- DROLS(Defense RDT/E On Line System); *On line systems; Department of Defense; User needs; Research programs; Manpower; Training; Innovation; Small businesses; NTISDODXA|
SH- 5B (Behavioral and Social Sciences--Documentation and Information Technology); 9B (Electronics and Electrical Engineering--Computers); 88B (Library and Information Sciences--Information Systems); 70C (Administration and Management--Management Information Systems)||

1/4/5
FN- DIALOG NTIS FILE 6|
AN- 1128690|
AN- <NTIS> AD-A153 624/2/XAB|
TI- Internet Protocol Implementation Guide
CS- SRI International, Menlo Park, CA. Network Information Center.|
CS- <Code> 055876015; 410638|
PY- Aug 82|
PG- 148p|
LA- English|
PC- PC A07/MF A01 |
JA- GRAI8516|
CP- United States|
CN- DCA200-83-C-0025|
AB- This document provides summary and tutorial information on research and development carried out by the DoD on the interconnection and use of packet communication networks. Topics covered include TCP-IP, fault isolation and gateway connections between dissimilar networks. Guidelines are provided for implementing the Internetwork protocols, along with background papers on the Internetwork protocols and protocols in general. (Author)|
DE- *Data transmission systems; *Communications networks; Computers; Electronic mail; Faults; Interactions; Isolation; Message processing; Networks; Digital communications; Standards; Computer communications|
ID- *Communications protocols; *Internet protocols; NTISDODXA|
SH- 17B (Navigation, Communications Detection, and Countermeasures--Communications); 9B (Electronics and Electrical Engineering--Computers); 45C (Communication--Common Carrier and Satellite)||

1/4/6
FN- DIALOG NTIS FILE 6|
AN- 1126158|
AN- <NTIS> AD-A153 000/5/XAB|
TI- Study of User-Defined Searching Requirements for the on-Line Version of the Directory of DoD-Sponsored R&D Data Bases on the Defense Gateway Computer System(Final rept.)|
AU- Chastain, G. C. |
CS- Defense Technical Information Center, Alexandria, VA.|
CS- <Code> 062640000; 394981|
RN- DTIC/TR-85/1|
PY- Mar 85|
PG- 141p
LA- English|
PC- PC A07/MF A01 |
JA- GRAI8515|
CP- United States|
AB- In anticipation of the implementation of the Directory of DoD-Sponsored R&D Data Bases in an on-line version on the Defense Gateway Computer System (hereafter the Gateway), a study was undertaken to identify the searching requirements of existing and potential users. The terms user-friendly interface, natural language front-end processor, and expert system are defined. The procedure followed in conducting the study is described. Results of the study are presented along with a recommendation for an interface to be incorporated into the Gateway for searching the on-line version of the directory. The plan for this study

was to contact a sample group of people who were familiar with the directory to ask them how they used the print directory, and try to determine their searching requirements for an on-line version of the directory. A questionnaire was used to gather this information. This instrument was chosen to define and standardize the information that would be gathered. This standardization served to increase reliability and facilitate analysis of the results.|
DE- *Data bases; *Directories; On line systems; *Man computer interface; Searching; Standardization; Department of defense; Artificial intelligence; Questionnaires; User needs; Computers; Front end processors; Reliability|
ID- Expert systems; NTISDODXA|
SH- 9B (Electronics and Electrical Engineering--Computers); 5H (Behavioral and Social Sciences--Man-machine Relations); 5B (Behavioral and Social Sciences--Documentation and Information Technology); 62B (Computers, Control, and Information Theory--Computer Software); 88B (Library and Information Sciences--Information Systems); 95D (Biomedical Technology and Human Factors Engineering--Human Factors Engineering); 95F (Biomedical Technology and Human Factors Engineering--Bionics and Artificial Intelligence)||

1/4/7
FN- DIALOG NTIS FILE 6|
AN- 1123171|
AN- <NTIS> PB85-170058/XAB|
TI- CSIN (Chemical Substances Information Network) Workbook: U.S. Geological Survey Training Course for Chemical Substances Information Network(Final rept)|
CS- Bolt Beranek and Newman, Inc., Arlington, VA.|
CS- <Code> 058127000|
SP- Council on Environmental Quality, Washington, DC.|
RN- BBN-5866|
PY- Nov 84|
PG- 229p|
LA- English|
PC- PC A11/MF A01 |
JA- GRAI8513|
CP- United States|
NT- Sponsored by Council on Environmental Quality, Washington, DC.|
AB- The Chemical Substances Information Network (CSIN) is a computer interface that provides a gateway to facilitate searching and retrieving bibliographic and factual data from a large selection of online databases maintained by Dialog, SDC, NLM, BRS, OHS, CAS, and CIS. The emphasis is on chemical and hydrologic information. A series of menus lead the user through setting up searches. Lists of keywords, which are tailored to specific databases, provide search terms on selected topics. This document is the complete workbook to accompany the CSIN Training Workshop developed to train end-users to use CSIN. It contains copies of all slides presented during the three day course. The topics covered include all system features, and system functions such as the editor. The examples presented are focused towards hydrological end-users.|
DE- *Information systems; *Education; *Manuals; Chemistry; Hydrology|
ID- *Chemical Substances Information Network; NTISEXOPAQ|
SH- 5B (Behavioral and Social Sciences--Documentation and Information Technology); 5I (Behavioral and Social Sciences--Personnel Selection, Training, and Evaluation); 88B (Library and Information Sciences--Information Systems); 99GE (Chemistry--General); 48G (Natural Resources and Earth Sciences--Hydrology and Limnology); 92B (Behavior and Society--Psychology)||

1/4/8
FN- DIALOG NTIS FILE 6|
AN- 1118049|
AN- <NTIS> PB85-170041/XAB|
TI- User's Guide for CSIN: Chemical Substances Information Network(Final rept)|
CS- Bolt Beranek and Newman, Inc., Arlington, VA.|
CS- <Code> 058127000|
SP- Council on Environmental Quality, Washington, DC.|
RN- BBN-5867|
PY- Nov 84|
PG- 319p|
LA- English|
DT- Bibliography|
PC- PC A14/MF A01 |
JA- GRAI8511|
CP- United States|

CN- EQ4C03|
AB- The Chemical Substances Information Network (CSIN) is a computer interface that provides a gateway to facilitate searching and retrieving bibliographic and factual data from a large selection of online databases maintained by Dialog, SDC, NLM, BRS, OHS, CAS and CIS. The emphasis is on chemical and hydrologic information. A series of menus lead the user through setting up searches. Lists of keywords, which are tailored to specific databases, provided search terms on selected topics. This document is the complete user's reference manual for the prototype CSIN implemented on a VAX 11/780 mini-computer. It includes descriptions and examples of all system features, tutorials on searching and use of the editor, and introduction to online searching. The appendix contains the contents of the 28 lists of keywords on topics related to the environmental and toxic health effects of chemicals, distribution of water in the ground and environment, and mathematical analysis and modeling.|
DE- *Chemical compounds; *Information systems; Bibliographies; Hydrology; Environmental surveys|
ID- *Chemical Substances Information Network; Toxic substances; NTISEXOPAQ|

SH- 5B (Behavioral and Social Sciences--Documentation and Information Technology); 99GE* (Chemistry--General); 88B* (Library and Information Sciences--Information Systems); 68GE (Environmental Pollution and Control--General); 88E (Library and Information Sciences--Reference Materials)||

1/4/9
FN- DIALOG NTIS FILE 6|
AN- 1106833|
AN- <NTIS> PB85-121341/XAB|
TI- Proceedings of the National Bridge Conference Held at Gateway Center Hilton, Pittsburgh, Pennsylvania on June 1-3, 1983
CS- Pennsylvania Dept. of Transportation, Harrisburg.|
CS- <Code> 046235000|
PY- Jun 83|
PG- 256p|
LA- English|
DT- Conference proceeding|
PC- PC A12/MF A01 |
JA- GRAI8504|
CP- United States|
AB- This Proceedings Document is a compilation of over 30 presentations given at the National Bridge Conference in Pittsburgh, Pennsylvania, June 1-3 1983. A wide variety of bridge-related topics were covered by the Conference.|
DE- *Meetings; *Bridges(Structures); Design; Construction; Bridge abutments ; Bridge foundations; Maintenance; Coatings; Consulting services; Research; Development|
ID- NTISPADOT|
SH- 13M (Mechanical, Industrial, Civil, and Marine Engineering--Structural Engineering); 50A (Civil Engineering--Highway Engineering)||

1/4/10
FN- DIALOG NTIS FILE 6|
AN- 1104984|
AN- <NTIS> AD-A148 056/5/XAB|
TI- EGP (Exterior Gateway Protocol) Gateway under Berkeley UNIx 4.2(Research rept.)|
AU- Kirton, P. |
CS- University of Southern California, Marina del Rey. Information Sciences Inst.|
CS- <Code> 045598002; 407952|
RN- ISI/RR-84-145|
PY- Oct 84|
PG- 42p|
LA- English|
PC- PC A03/MF A01 |
JA- GRAI8504|
CP- United States|
CN- MDA903-81-C-0335|
AB- This report describes an implementation of the Exterior Gateway Protocol that runs under the UNIX 4.2 BSD operating system. Some issues related to local network configurations are also discussed. The Exterior Gateway Protocol has been specified to allow autonomous development of different gateway systems while still maintaining global distribution of internet routing information. EGP provides a means for different autonomous gateway systems to exchange information about the networks that are reachable via them.|

```
DE- *Computer communications. *Information exchange; Networks; Message
    processing. Communications traffic; Interface; Routing; Loops; Topology
    |
ID- Protocols; UNIX operating system; NTISDODXA|
SH- 9B (Electronics and Electrical Engineering--Computers); 17B
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    Countermeasures--Communications); 45C (Communication--Common Carrier
    and Satellite); 62GE (Computers, Control, and Information
    Theory--General)||
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Logoff: level 5.7.16  16:04:02


DIALNET: call cleared
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E. System Development Corporation (SDC), Inspec Citations

The following pages show a listing of the search session as downloaded to the TIS Gateway computer. Eight citations were downloaded. The session was ended at the SDC system message: Continue Printing? (Yes/No).

For longer sessions, the SDC translator will remove these messages from the body of the citations. All of the SDC formats use labeled records so that any user-specified format can be translated.

To download these records, the user hits three keys - ESCAPE CONTROL A - after he has connected to the desired system. The system will prompt him for a file name where it will store the session until he logs off or closes the file. Logging off can be done by entering ESCAPE CONTROL D or by manually logging off. The downloaded session can be started prior to entering the search strategy or at any point from which the user wants to save citations.

print 10 full ss 1

PROG:

-1-
AN - B85047218; C85038297
TI - DDN: DoD upgrades its communications {IN Gov. Data Syst. (USA)}
AU - Heiden, H.B.; Bryan, R.P.
SO - Gov. Data Syst. (USA), vol.14, no.1, PP.11-12, 14, Jan. 1985, 0 REF.
JC - GVDSBD
DT - J (JOURNAL PAPER)
CC - *B6210L; *C7150; C5620W
IT - computer networks; large-scale systems; military computing; security of data
ST - USA; communications; Defense Data Network; dissimilar hosts; gateways; hackers
AB - The Defense Data Network may be the pacesetter for all computer networks. It is solving the problems of dissimilar hosts, gateways to other networks, threats from hackers and more.

-2-
AN - B85047194; C85037422
TI - Interconnection draws DEC, IBM networks closer {IN Data Commun. (USA)}
AU - Bradley, B.
OS - Digital Equipment Corp., Tewksbury, MA, USA
SO - Data Commun. (USA), vol.14, no.5, PP.241-8, May 1985, 0 REF.
JC - DACODM
CN - 0363-6399/85 $3.00+.50
DT - J (JOURNAL PAPER)
CC - *B6210L; *C5620; C6150J
TC - PR (PRACTICAL)
IT - computer communications software; computer networks; DEC computers; IBM computers; software packages
ST - IBM networks; DEC networks; DECNET/SNA gateway; SNA network; gateway; OSI reference model; distributed host command facility; DHCF; 3270 terminal users; DISOSS; Distributed Office Support System; document exchange facility; DDXF; DIA/DCA; document interchange architecture/document content architecture; protocols
AB - The familiar, seven-layer model known as the Open Systems Interconnection (OSI) has been primarily concerned with the development of individual network architectures. Communications between heterogeneous networks has evolved on a more ad hoc basis. Recently, however, by applying similarly layered techniques to high-level activity between networks, DEC has been able to connect its machines to those of IBM with levels of integration up to and including IBM's newest office protocols. A gateway between DEC's local and wide-area networking software, DECNET, and IBM's SNA was designed. DECNET/SNA gateway allowed users and applications in a DECNET network to access computing resources distributed throughout an SNA network. While this gateway product was a major step in interconnection, DEC felt that long-term efforts rested on an adherence to the OSI reference model. In late 1984, DEC introduced two gateway-based software packages. Whereas the initial gateway opened a door from DECNET into SNA, the distributed host command facility (DHCF) provided similar access in the other direction. With DHCF, 3270 terminal users in an SNA network could use computing resources throughout a DECNET network. Another product, the DISOSS (Distributed Office Support System) document exchange facility (DDXF), permitted a DEC user at a terminal connected to a VAX node to participate in an IBM office network based on the DIA/DCA (document interchange architecture/document content architecture) protocols.

-3-
AN - B85047161; C85038382
TI - Fourth generation videotex {IN ASLIB Proc. (GB)}
AU - Jacobs, C.H.
OS - Sperry, London, England
SO - ASLIB Proc. (GB), vol.37, no.6-7, PP.273-6, June-July 1985, 0 REF.
JC - ASLPAO
DT - J (JOURNAL PAPER)
CC - *B6210K; *C7210; C6115
TC - GR (GENERAL/REVIEW)

IT - programming environments; viewdata
ST - videotex; gateways; fourth generation; MAPPER; applications development facility
AB - Discusses the four generations of videotex. Prestel is seen as the first, then come private versions of it, next came the shift towards the use of videotex as a means of delivering application data with the advent of gateways. The fourth generation brings the application and videotex as its delivery mechanism in a single system, the same files, the same processors and the same machine environment. Sperry's MAPPER is then briefly described this being an applications development facility providing greater control over computer facilities. The next stage will see the integration of personal computer.

-4-
AN - B85047077; C85037451
TI - A flexible approach to X.25 networking {IN Telecommunications (USA)}
AU - Meyer, A.
SO - Telecommunications (USA), vol.19, no.4, PP.68-1, 75, 84, 89, 0 REF.
JC - TLCOAY
DT - J (JOURNAL PAPER)
CC - *B6210; *C5620
TC - PR (PRACTICAL)
IT - data communication equipment; packet switching; telecommunication networks
ST - X.25 networking; COMPAC data communication equipment; OSI; ISO; CCITT; TRT; private packet-switching networks; gateways; public networks; marketing; engineering
AB - In 1981, TRT turned its attention to the possible future requirements for private packet-switching networks (X.25) and for gateways to public networks that were being set up gradually in most industrialized countries. Important decisions had to be made at that time in terms of network design philosophy. TRT's marketing and engineering rationale in developing its COMPAC range of datacom network equipment are outlined.

-5-
AN - C85038082
TI - The use of the Oracle RDBMS at Elsevier-NDU {IN Proceedings of the SEAS Anniversary Meeting 1984. Distributed Intelligence. Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984}
AU - van der Linden, G.A.
OS - Elsevier-NDU, Amsterdam, Netherlands
SO - SEAS, Nijmegen, Netherlands, 2 vol. x+827 PP., PP.287-99 vol.1. 1984, 1 REF.
DT - PA (CONFERENCE PAPER)
CC - *C6160D
TC - AP (APPLICATIONS)
IT - relational databases
ST - Oracle relational database management system; performance; Elsevier-NDU; productivity; application development facility; IAF; APL; set processing; table size
AB - The Oracle DBMS has opened the gateway to new application areas and higher productivity in development. Oracle includes an application development facility (IAF), but this falls short in all but very simple types of applications. The facilities of Oracle and APL supplement each other very well. They both use a set processing approach rather than record processing. Performance is within acceptable limits and is stable with increasing table size.

-6-
AN - B85042388; C85037550
TI - Private branch exchange or local area networks? {IN Proceedings of the SEAS Anniversary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984}
AU - Elmenhorst, W.
OS - Central Inst. for Appl. Math., KFA Julich GmbH, Germany
SO - SEAS, Nijmegen, Netherlands, 2 vol. x+827 PP., PP.407-26 vol.1, 1984, 8 REF.
DT - PA (CONFERENCE PAPER)
CC - *B6230B; B6210L; B6230F; *C5620L
TC - PR (PRACTICAL)
IT - electronic switching systems; ISDN; local area networks; private telephone exchanges
ST - private branch exchange; data PBX; voice-capability; local data

communications; switch costs; line-drivers; LAN; process control; user gateways
AB - PBX and local area networks complement each other. A data PBX, without voice-capability may be a very good solution for local data communications because switch costs are low and inexpensive line-drivers can be used. Data PBX can also be used with existing wiring. Partly because these systems are aimed at low-cost application, they are simpler and tend to have less flexibility and fewer functions, than modern voice-and-data PBXs. A LAN is not a good choice, especially when you want to connect a thousand or more low and medium cost 'standard' asynchronous or synchronous terminals, workstations or ports. LANs, on the other side, can help in special situations such as backend networks, for high speed communication or in process control environments. Finally, in the near future, local area networks will be integrated without the necessity of user gateways in the PBX. Medium-term, for the next 3 to 5 years, a data PBX will probably be the right solution for the most standard data communication applications, even if ISDN-PBXs become available. The ISDN-PBX systems available at that time will be expensive and often support only digitized voice in the starting phase. Another problem at the beginning might be the missing experience and flexibility in data communication activities. Later, data, voice-and-data PBX and LANs will grow together.

-7-
AN - C85037488
TI - SNATCH (SNA and Transdata Coupling of Hosts) update {IN Proceedings of the SEAS Anniversary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984}
AU - Graml, F.
OS - DFVLR, Oberpfaffenhofen, Germany
SO - SEAS, Nijmegen, Netherlands, 2 vol. x+827 PP., PP.527-42 vol.2, 1984, 10 REF.
DT - PA (CONFERENCE PAPER)
CC - *C5620; C6150J
TC - GR (GENERAL/REVIEW); PR (PRACTICAL)
IT - computer networks; network operating systems; protocols
ST - ISO OSI; SNA and Transdata Coupling of Hosts; SNATCH; network architectures; BS2000 operating system; mapping system; gateway; coupling system; processing-oriented communications protocols; Open Systems Interconnection
AB - The SNATCH project was based on the manufacturer network architectures SNA from IBM and TRANSDATA from Siemens. The systems from the two manufacturers are each combined into a homogeneous, manufacture-specific network section, i.e. the systems with IBM structure into an SNA network, and the Siemens systems with the BS2000 operating system into a TRANSDATA network. The two network sections are combined with equal status via a mapping system to form an overall network. This mapping system, known as gateway, is a processor which combines different networks with one another. It has been demonstrated with the SNATCH coupling system that closed manufacturer networks can be opened up by means of the gateway technique. Even the higher-level, processing-oriented communications protocols can be converted into one another in a suitable way by means of a mapping computer. The aim of the BMFT-supported project, to contribute to the Open Systems Interconnection as defined by ISO, has therefore been reached.

-8-
AN - D85002143
TI - Videotex aids trave' industry; international scene is covered {IN Dir. Mark. (USA)}
AU - Book, A.
SO - Dir. Mark. (USA), vol.48, no.2, PP.144-5, June 1985. 0 REF.
JC - DIMADI
DT - J (JOURNAL PAPER)
CC - *D2090; D4090
TC - GR (GENERAL/REVIEW); PR (PRACTICAL)
IT - travel industry; viewdata
ST - international scene; videotex; ASAP; database; tour operators, packages; telex services; Telex Link International
AB - Major information provided in the videotex area includes information for the travel industry. A new service launched by ASAP (Availability Search and Place) is being designed to help. Holiday makers will also get a wide choice in terms of late availability. The database has been built up on a two million

pounds Sperry 1100 mainframe running Sperry Videotex 1100 software. Data about tour operators, packages is held on the mainframe which is accessible via the Prestel Gateway. A Videotex link service has been developed for use domestically within the UK. These telex services have now been extended to cover international telex services worldwide. As with the UK service, Telex Link International is available to all users.

CONTINUE PRINTING? (YES/NO)

USER:

2. Merged, Translated Files

On the following pages is a listing of the five sets of citations (DOD, NASA, DOE, Lockheed, SDC) which have been translated and were then concatenated to form a single file. Prior to the concatenation, a special edit routine was run against several of the subsets because they did not include the year of publication as a discrete field. Several of the Process programs are frequently used with "date" as one of the parameters for analysis. Therefore, when no date field occurs, the citations are either skipped or listed out of order at the end of the analysis. Since the date should always occur somewhere in the citation information, we developed a routine to scan for it and add it where necessary.

Further editing routines are being developed to resolve the inconsistencies which arise from combining records from different sources. Physical differences such as use of all upper case vs. upper/lower case vs. all lower case cause alphabetizing problems. But more difficult to resolve are the problems caused by varying indexing policies (asterisked and unasterisked descriptors, multiple levels of descriptors, varying structures/formatting/punctuation, etc.) and different cataloging approaches (variant author forms, abbreviations, etc.) Review of the list of data elements derived from the five sets — given on pages 68 and 69 — confirm the diversity.

The translated format is not intended as a display format. The translated records which follow include far more detailed information than the average user requires. Also, the labeled format is not easy to read nor suitable for inclusion in bibliographies, footnotes, etc. Therefore, Process includes several other options for displaying output. These are shown in later examples.

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<AUTHORS> WOLTERS,P. H. ;
<DATE> JAN , 1984
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<REPORT CLASSIFICATION> UNCLASSIFIED
<SUPPLEMENTARY NOTE> THIS ARTICLE IS FROM 'CONFERENCE PROCEEDINGS OF THE APPLICATION OF NEW TECHNOLOGIES TO IMPROVE THE DELIVERY OF AEROSPACE AND DEFENCE INFORMATION' HELD AT OTTAWA, CANADA ON 14-15 SEPTEMBER 1983,' AD-A140 161, P2-1-2-11.
<DESCRIPTORS> *COMPUTER COMMUNICATIONS; COMMUNICATIONS NETWORKS; INFORMATION TRANSFER; ACCESS; FIELD TESTS; USER NEEDS; BANKING; BIBLIOGRAPHIES; TELEPHONE SYSTEMS; CANADA
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<ABSTRACT> THE INET GATEWAY IS AN INTELLIGENT NETWORK CONCEPT DEVELOPED BY THE COMPUTER COMMUNICATIONS GROUP OF THE TRANSCANADA TELEPHONE SYSTEM. INET HAS EVOLVED IN RECOGNITION OF THE REQUIREMENT FOR MORE UNIVERSAL ACCESSIBILITY TO INFORMATION PROVIDERS AND OTHER COMPUTER-BASED SERVICES. THE INET GATEWAY IS DESIGNED TO SIMPLIFY THE PROCESS OF GATHERING, USING AND COMMUNICATING INFORMATION BY OFFERING A SINGLE POINT OF ACCESS TO SATISFY THE INFORMATION NEEDS OF A USER. IN ORDER TO TEST THE CONCEPT OF INTELLIGENT NETWORKING A ONE YEAR FIELD TRIAL IS BEING CONDUCTED FROM JULY 1982 TO JULY 1983. 400 TRIALISTS FROM THE BANKING, COMMUNICATIONS, ENERGY, REAL ESTATE, LEGAL, TRAVEL AND BIBLIOGRAPHIC SECTORS ARE PARTICIPATING. THE BIBLIOGRAPHIC COMMON INTEREST GROUP IS UNDERTAKING A SERIES OF SPECIFIC PROJECTS TO EVALUATE THE UTILITY OF GATEWAY TECHNOLOGY TO THE INFORMATION TRANSFER PROCESS.
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<AUTHORS> YEH, ;LEUNG,A. ;MEI,H. ;LEE,H. H. ;
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<DESCRIPTORS> *NETWORKS; RINGS; PATTERNS; PROFILES; VENDORS; TREES; SURVEYS
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<TITLE CLASSIFICATION> UNCLASSIFIED
<AUTHORS> YEH,J. ;LEUNG,A. ;MEI,H. ;LEE,H. H. ;
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<CORPORATE AUTH> SRI INTERNATIONAL MENLO PARK CA
<TITLE> MINUTES OF THE PACKET RADIO WORKING GROUP MEETING HELD AT SOUTHERN PINES AND FORT BRAGG, NORTH CAROLINA, SEPTEMBER 20-22, 1983.
<TITLE CLASSIFICATION> UNCLASSIFIED
<AUTHORS> MARTIN,L. T. ;
<DATE> SEP 22, 1983
<PAGINATION> 158P
<CONTRACT NUMBER> MDA903-80-C-0222, ARPA ORDER-2302
<REPORT CLASSIFICATION> UNCLASSIFIED
<LIMITATIONS (ALPHA)> DISTRIBUTION LIMITED TO U.S. GOV'T. AGENCIES ONLY; TEST AND EVALUATION; 6 APR 84. OTHER REQUESTS MUST BE REFERRED TO DARPA/TIO, 1400 WILSON BLVD., ARLINGTON, VA 22209.
<DESCRIPTORS> *PACKETS; *RADIO EQUIPMENT; *SYMPOSIA; *COMMUNICATIONS NETWORKS; MOBILE; SCHEDULING; TEST BEDS; DIGITAL COMPUTERS; SCENARIOS; COMPUTER PROGRAMS; HISTORY; ERRORS; COUNTERMEASURES; PHOTOGRAPHY; NORTH CAROLINA
<DESCRIPTOR CLASSIFICATION> UNCLASSIFIED
<IDENTIFIERS> GLOBAL SHIELD PROJECT, GATEWAYS, FLOW CONTROL, CAP-8 PROTOCOL, RADIOS(PACKET), PINE NEEDLES, VIEWGRAPHS, VIDEO DATABASES, ARPANET, MEETING MINUTES, PRNET, PE62708E, LPN-SRI-1080
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<TITLE> PROGRESS REPORT ON PACKET RADIO EXPERIMENTAL NETWORK.
<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> QUARTERLY TECHNICAL REPT. 1 MAY-31 JUL 76,
<AUTHORS> NIELSON,DONALD L. ;RETZ,DAVID L. ;
<DATE> OCT , 1977
<PAGINATION> 33P
<CONTRACT NUMBER> DAHC15-73-C-0187, ARPA ORDER-2302
<REPORT CLASSIFICATION> UNCLASSIFIED
<LIMITATIONS (ALPHA)> DISTRIBUTION LIMITED TO U.S. GOV'T. AGENCIES ONLY; TEST AND EVALUATION; 15 JUN 83. OTHER REQUESTS FOR THIS DOCUMENT MUST BE REFERRED TO DEFENSE ADVANCED RESEARCH PROJECTS AGENCY, ATTN: TIO, 1400 WILSON BOULEVARD, ARLINGTON, VA 22209.
<DESCRIPTORS> *RADIO EQUIPMENT; *COMMUNICATIONS NETWORKS; *PACKETS; *RADIO TRANSMISSION; DIGITAL COMPUTERS; SWITCHING CIRCUITS; COMMUNICATION EQUIPMENT; DEBUGGING(COMPUTERS); RADIO REPEATERS; NODES; CHANNELS; DIGITAL COMPUTERS; GROUND LEVEL; ROUTING; NETWORKS; REPORTS; FORWARD AREAS; CONTROL
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<TITLE CLASSIFICATION> UNCLASSIFIED
<AUTHORS> TORNOW,JANET ;
<DATE> , 1982
<PAGINATION> 110P
<REPORT NUMBER> SRI-1080
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<REPORT CLASSIFICATION> UNCLASSIFIED
<LIMITATIONS (ALPHA)> DISTRIBUTION LIMITED TO U.S. GOV'T. AGENCIES ONLY; TEST AND EVALUATION; 25 JAN 83. OTHER REQUESTS FOR THIS DOCUMENT MUST BE REFERRED TO DARPA/TIO, ARLINGTON, VA 22209.
<DESCRIPTORS> *PACKETS; *RADIO EQUIPMENT; SCHEDULING; SYMPOSIA; MASSACHUSETTS
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<TITLE> COMMAND AND CONTROL RELATED COMPUTER TECHNOLOGY: PACKET RADIO.
<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> QUARTERLY PROGRESS REPT. NO. 3, 1 JUN-31 AUG 80,
<AUTHORS> BEELER,M. ;STRAZISAR,V. ;WESTCOTT,J. ;
<DATE> FEB , 1982
<PAGINATION> 25P
<REPORT NUMBER> BBN-4867
<CONTRACT NUMBER> MDA903-80-C-0206, ARPA ORDER-2935
<REPORT CLASSIFICATION> UNCLASSIFIED

<LIMITATIONS (ALPHA)> DISTRIBUTION LIMITED TO U.S. GOV'T. AGENCIES ONLY; TEST AND EVALUATION; 10 MAR 82. OTHER REQUESTS FOR THIS DOCUMENT MUST BE REFERRED TO DARPA/TIO, 1400 WILSON BLVD., ARLINGTON, VA 22209-2308.
<DESCRIPTORS> *PACKETS; *RADIO EQUIPMENT; *COMMAND AND CONTROL SYSTEMS; *COMPUTER PROGRAMS; DIGITAL COMPUTERS; METAL OXIDE SEMICONDUCTORS; MULTIPLE OPERATION; MACHINES; MONITORING; COMPUTERS; CONTROL; SYMPOSIA; STATIONS; NETWORKS; TRANSMITTANCE
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<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> QUARTERLY TECHNICAL REPT. 1 AUG-31 OCT 84.
<DATE> NOV , 1984
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<REPORT NUMBER> BBN-5883
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<DESCRIPTOR CLASSIFICATION> UNCLASSIFIED
<IDENTIFIERS> IMP(INTERFACE MESSAGE PROVISION), PLURIBUS SATELLITE, PACKET COMMUNICATIONS, ARPANET, INTERNET, MOBILE ACCESS TERMINAL NET, GATEWAYS, LPN-ARPA ORDER-3214
<IDENTIFIER CLASSIFICATION> UNCLASSIFIED
<ABSTRACT> THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE DEVELOPMENT OF PLURIBUS SATELLITE IMPS, AND ON SHIPBOARD SATELLITE COMMUNICATIONS. KEYWORDS INCLUDE: COMPUTER NETWORKS, PACKETS, PACKET BROADCAST, SATELLITE COMMUNICATION, GATEWAYS, PLURIBUS SATELLITE IMP, SHIPBOARD COMMUNICATIONS, ARPANET, INTERNET, AND MOBILE ACCESS TERMINAL NET.
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<AUTHORS> BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
<TITLE> PLURIBUS SATELITE IMP DEVELOPMENT MOBILE ACCESS TERMINAL NETWORK.
<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> QUARTERLY TECHNICAL REPT. NO. 33, 1 FEB-30 APR 84.
<DATE> MAY , 1984
<PAGINATION> 30P
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<DESCRIPTOR CLASSIFICATION> UNCLASSIFIED
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<IDENTIFIER CLASSIFICATION> UNCLASSIFIED

<ABSTRACT> THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE DEVELOPMENT OF PLURIBUS SATELLITE IMPS: AND ON SHIPBOARD SATELLITE COMMUNICATIONS. (AUTHOR)
<ABSTRACT CLASSIFICATION> UNCLASSIFIED
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<CORPORATE AUTH> BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
<TITLE> COMBINED QUARTERLY TECHNICAL REPORT NUMBER 31. PLURIBUS SATELLITE IMP (INTERFACE MESSAGE PROVISION) DEVELOPMENT MOBILE ACCESS TERMINAL NETWORK.
<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> QUARTERLY TECHNICAL REPT. 1 SEP-30 NOV 83.
<AUTHORS> BLUMENTHAL,S. ;
<DATE> DEC , 1983
<PAGINATION> 39P
<REPORT NUMBER> BBN-5492
<CONTRACT NUMBER> MDA903-80-C-0353, N00039-81-C-0408
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<DESCRIPTORS> *SATELLITE COMMUNICATIONS; *COMMUNICATIONS NETWORKS; *COMPUTER COMMUNICATIONS; MESSAGE PROCESSING; COMPUTER PROGRAMS; ACCESS; NETWORKS; MOBILE; INTERFACES; BROADBAND; SHIPBOARD; TERMINALS
<DESCRIPTOR CLASSIFICATION> UNCLASSIFIED
<IDENTIFIERS> PLURIBUS SATELLITE, UNIX OPERATING SYSTEM, PACKET COMMUNICATIONS, MAT(MOBILE ACCESS TERMINAL), IMP(INTERFACE MESSAGE PROVISION), PACKET BROADCASTING, COMPUTER NETWORKS, ARPANET, OPERATING SYSTEMS, GATEWAYS, ONBOARD PROCESSING, LPN-ARPA-ORDER-3214
<IDENTIFIER CLASSIFICATION> UNCLASSIFIED
<ABSTRACT> THIS QUARTERLY TECHNICAL REPORT IS THE CURRENT EDITION IN A SERIES OF REPORTS WHICH DESCRIBE THE WORK BEING PERFORMED AT BBN IN FULFILLMENT OF SEVERAL ARPA WORK STATEMENTS. THIS QTR COVERS WORK ON SEVERAL ARPA-SPONSORED PROJECTS INCLUDING (1) DEVELOPMENT ACCESS TERMINAL NETWORK.
<ABSTRACT CLASSIFICATION> UNCLASSIFIED
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<TITLE> ARPANET ROUTING ALGORITHM IMPROVEMENTS, VOLUME 2.
<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> TECHNICAL REPT. 1 SEP 80-15 APR 82.
<AUTHORS> HAVERTY,J. F. ;HITSON,B. L. ;MAYERSOHN,J. ;SEVCIK, P. J. ;WILLIAMS,G. J. ;
<DATE> MAR , 1982
<PAGINATION> 286P
<REPORT NUMBER> BBN-4931
<CONTRACT NUMBER> MDA903-78-C-0129, ARPA ORDER-3491
<REPORT CLASSIFICATION> UNCLASSIFIED
<SUPPLEMENTARY NOTE> SEE ALSO VOLUME 1, AD-A092 065.
<DESCRIPTORS> *COMPUTER COMMUNICATIONS; *COMMUNICATIONS NETWORKS; *ROUTING; *ALGORITHMS; COMPUTERIZED SIMULATION; DATA TRANSMISSION SYSTEMS; PREDICTIONS; INTERFACES; ADDRESSING; QUEUEING THEORY; NODES; MULTIPATH TRANSMISSION
<DESCRIPTOR CLASSIFICATION> UNCLASSIFIED
<IDENTIFIERS> ARPA COMPUTER NETWORK, PROTOCOLS, GATEWAYS, INTERNETTING
<IDENTIFIER CLASSIFICATION> UNCLASSIFIED
<ABSTRACT> THIS REPORT COVERS THE WORK PERFORMED DURING THE SECOND YEAR OF

THE EXTENSION TO THE ARPANET ROUTING ALGORITHM IMPROVEMENTS CONTRACT. THE ARPANET SIMULATOR DEVELOPED DURING THE FIRST YEAR OF THE EXTENSION IS USED TO INVESTIGATE THE PERFORMANCE AND BEHAVIOR SPF ALGORITHM. RESULTS FROM THE SIMULATOR ARE COMPARED TO MEASUREMENTS OF SPF RUNNING ON A SMALL TEST NETWORK, MEASUREMENTS PREDICTIONS OF A STABILITY MODEL DEVELOPED DURING THE ORIGINAL CONTRACT. THE SIMULATION WAS RUN ON A 14-NODE NETWORK USING FIXED SINGLE-PATH, FIXED MULTI-PATH, AND SPF (ADAPTIVE) ROUTING. THE PERFORMANCE OF EACH ROUTING METHOD AS A FUNCTION OF NETWORK LOAD IS COMPARED TO THE PREDICTIONS OF A QUEUEING MODEL. AS PART OF THE DESIGN OF AN INTERNET, THIS REPORT DISCUSSES DESIGN ISSUES IN THE IMPLEMENTATION OF GATEWAYS, INCLUDING THE HOST INTERFACE TO THE INTERNET, INTEROPERABILITY OF AUTONOMOUS GATEWAY SYSTEMS, CONGESTION CONTROL, AND LOGICAL ADDRESSING.
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<ENTRY CLASSIFICATION> UNCLASSIFIED
<CORPORATE AUTH> BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
<TITLE> COMBINED QUARTERLY TECHNICAL REPORT NUMBER 21. SATNET DEVELOPMENT AND OPERATION. PLURIBUS SATELLITE IMP DEVELOPMENT. REMOTE SITE MAINTENANCE. INTERNET DEVELOPMENT. MOBILE ACCESS TERMINAL NETWORK. TCP FOR THE HP3000. TCP-TAC. TCP FOR VAX- UNIX.
<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> REPT. FOR 1 FEB-30 APR 81,
<AUTHORS> BRESSLER,R. D. ;
<DATE> MAY , 1981
<PAGINATION> 70P
<REPORT NUMBER> BBN-4679
<CONTRACT NUMBER> MDA903-80-C-0353, N00039-78-C-0405
<REPORT CLASSIFICATION> UNCLASSIFIED
<SUPPLEMENTARY NOTE> SPONSORED IN PART BY CONTRACTS MDA903-80-C- 0214, N00039-79-C-0386, N00039-80-C-0664 AND N00039-80-C-0408.
<DESCRIPTORS> *SATELLITE COMMUNICATIONS; *MESSAGE PROCESSING; *COMMUNICATIONS NETWORKS; COMPUTER COMMUNICATIONS; PACKETS; COMMUNICATIONS TRAFFIC; INTERFACES; DATA TRANSMISSION SYSTEMS; MONITORING; ACCESS; MOBILE
<DESCRIPTOR CLASSIFICATION> UNCLASSIFIED
<IDENTIFIERS> PACKET COMMUNICATIONS, PLURIBUS SATELLITES, IMP(INTERFACE MESSAGE PROCESSORS). COMPUTER NETWORKS, GATEWAYS, LPN- ARPA ORDER-3214, LPN-ARPA ORDER-3175
<IDENTIFIER CLASSIFICATION> UNCLASSIFIED
<ABSTRACT> THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE DEVELOPMENT OF AND EXPERIMENTATION WITH PACKET BROADCAST BY SATELLITE; ON DEVELOPMENT OF PLURIBUS SATELLITE IMPS; ON A STUDY OF THE TECHNOLOGY OF REMOTE SITE MAINTENANCE; ON THE DEVELOPMENT OF INTER-NETWORK MONITORING; ON SHIPBOARD SATELLITE COMMUNICATIONS; AND ON THE DEVELOPMENT OF TRANSMISSION CONTROL PROTOCOLS FOR THE HP3000, TAC, AND VAX-UNIX. (AUTHOR)
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<ENTRY CLASSIFICATION> UNCLASSIFIED
<CORPORATE AUTH> UNIVERSITY OF SOUTHERN CALIFORNIA MARINA DEL REY INFORMATION SCIENCES INST
<TITLE> ARPANET TRANSITION OPPORTUNITIES AND GATEWAY CONSIDERATIONS.
<TITLE CLASSIFICATION> UNCLASSIFIED
<PUB DESC> FINAL REPT. 1 SEP 76-30 JUN 77,

<AUTHORS> POSTEL,JONATHAN B. ;CROCKER,STEPHEN D. ;
<DATE> DEC 21, 1977
<PAGINATION> 44P
<CONTRACT NUMBER> DAHC15-72-C-0308, ARPA ORDER-2223
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<MONITOR SERIES> AD-E100 033
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<DESCRIPTORS> *COMPUTERS; *COMMUNICATIONS NETWORKS
<DESCRIPTOR CLASSIFICATION> UNCLASSIFIED
<IDENTIFIERS> *ARPANET, *AUTODIN 2, COMPUTER NETWORKS, GATEWAYS,
PEID30431-VR
<IDENTIFIER CLASSIFICATION> UNCLASSIFIED
<ABSTRACT> ISSUES IN THE TRANSITION OF THE ARPANET ARE DISCUSSED AND A PLAN
IS OUTLINED. THE USE OF GATEWAYS IS SUGGESTED, AND ISSUES RELATED TO THEM
ARE DISCUSSED. THE APPENDICES INCLUDE COMPARISONS BETWEEN ALTERNATE
DESIGNS FOR THREE FAMILIES OF HIGHER LEVEL PROTOCOLS, HOST-TO-HOST,
TERMINAL ACCESS, AND FILE TRANSFER. (AUTHOR)
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<DATE> 1984
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<DOC. CLASSIF.> UNCLASSIFIED
<TITLE> Big bang nucleosynthesis - Gateway to the very early universe
<AUTHORS> TURNER, M. S.
<PAA> A/(Chicago, University, Chicago, IL)
<PUB DESC> American Institute of Physics,
NASA, NSF, U.S. Department of Energy, et al., Texas Symposium on
Relativistic Astrophysics, 11th, Austin, TX, Dec. 12-17, 1982) New York
Academy of Sciences, Annals (ISSN 0077-8923), vol. 422, 1984, p. 106-117.
<DESCRIPTORS> ABUNDANCE;BIG BANG COSMOLOGY;LIGHT ELEMENTS;NUCLEAR FUSION
<MINS> / ASTRONOMICAL MODELS/ DEUTERIUM/ ELEMENTARY PARTICLE INTERACTIONS/
HELIUM ISOTOPES/ LITHIUM ISOTOPES
<ABA> C.D.
<ACCESSION NO.> 84A19064
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<DATE> 1982
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<DOC. CLASSIF.> UNCLASSIFIED
<TITLE> Performance of end-to-end and gateway-to-gateway flow control
procedures in internet environments
<AUTHORS> NASSEHI, M.; TOBAGI, F.
<PAA> B/(Stanford University, Stanford, CA)
<PUB DESC> Conference on Decision and Control, 21st, Orlando, FL, December
8-10, 1982, Proceedings, Volume 1 (A84-19051 06-63). New York, Institute
of Electrical and Electronics Engineers, 1982, p. 112-119.
<DESCRIPTORS> CHANNELS (DATA TRANSMISSION);COMMUNICATION NETWORKS;COMPUTER
NETWORKS ;NETWORK CONTROL;TRAFFIC CONTROL;TRANSMISSION EFFICIENCY
<MINS> / CHANNEL CAPACITY/ COMPUTER SYSTEMS PERFORMANCE/ PACKET SWITCHING/
PERFORMANCE PREDICTION/ PROBABILITY THEORY/ TIME LAG
<ABA> Author
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<DOC. CLASSIF.> UNCLASSIFIED
<TITLE> Gateway diversity and competition in international air transportation
<AUTHORS> TYE, W. B.
<PAA> A/(Putnam, Hayes and Bartlett, Inc., Cambridge, MA)
<PUB DESC> Transportation, vol. 10, Dec. 1981, p. 345-356.
<DESCRIPTORS> AIR TRANSPORTATION;AIRPORTS;CIVIL AVIATION;COMPETITION;TRANSOCEANIC FLIGHT
<MINS> / ECONOMIC FACTORS/ GOVERNMENT/INDUSTRY RELATIONS/ ROUTES
<ABA> (Author)
<ACCESSION NO.> 81A47395
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<RPT#> IAF PAPER 81-183
<DATE> 1981
<PAGES> 22
<DOC. CLASSIF.> UNCLASSIFIED
<TITLE> Space nuclear reactors - Energy gateway into the next millennium
<AUTHORS> ANGELO, J. A., JR.; BUDEN, D.
<PAA> A/(U.S. Defense Nuclear Agency, Los Alamos, NM); B/(California, University, Los Alamos, NM)
<PUB DESC> International Astronautical Federation, International Astronautical Congress, 32nd, Rome, Italy, Sept. 6-12, 1981, 22 p. Research sponsored by the U.S. Department of Energy.
<DESCRIPTORS> INTERPLANETARY FLIGHT;NUCLEAR REACTORS;SPACE EXPLORATION;SPACE INDUSTRIALIZATION;SPACE POWER REACTORS;SPACECRAFT PROPULSION
<MINS> / MISSION PLANNING/ SPACE COLONIES/ SPACE MISSIONS/ SPACE SHUTTLE ORBITERS / SPACE STATIONS/ SPACE TRANSPORTATION SYSTEM
<ABA> O.C.
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<DOC. CLASSIF.> UNCLASSIFIED
<TITLE> Saudi Arabia's new Gateway Airports
<AUTHORS> HOYT, J.; CAMPBELL, R.
<PAA> B/(Ralph M. Parsons Co., Pasadena, Calif.)
<PUB DESC> International Air Transportation Conference, New Orleans, La., April 30-May 3, 1979. Proceedings. Volume 2. (A81-18051 06-01) New York, American Society of Civil Engineers, 1979, p. 768-795.
<DESCRIPTORS> AIRPORT PLANNING;CIVIL AVIATION;SAUDI ARABIA;TERMINAL FACILITIES
<MINS> / AIR TRAFFIC/ AIRLINE OPERATIONS/ DESIGN ANALYSIS/ RUNWAYS/ SITE SELECTION
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<AUTHORS> ANON.
<ISSUE> 23
<PAGE> 4284
<CATEGORY> 9
<DATE> 1979
<PAGES> 7
<DOC. CLASSIF.> UNCLASSIFIED
<TITLE> Lagos Murtala Muhammed Airport - Nigeria's gateway to the world
<PUB DESC> Airport Forum, vol. 9, Aug. 1979, p.57, 58, 60-62, 67, 68. In English and German.
<DESCRIPTORS> AIRPORT PLANNING;TERMINAL FACILITIES
<MINS> / FORECASTING/ GROUND SUPPORT EQUIPMENT/ NIGERIA/ PASSENGERS/ SITES
<ABA> C.F.W.

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<DOC. CLASSIF.> UNCLASSIFIED
<TITLE> Stockholm's new gateway to the world
<AUTHORS> JOHN, J. I.
<PAA> A/(BJR Arkitektkontor AB, Stocknolm, Sweden)
<PUB DESC> Airport Forum, vol. 6, Dec. 1976, p. 23-26, 28, 30, 32-34. In English and German.
<DESCRIPTORS> AIRLINE OPERATIONS;AIRPORT PLANNING;CIVIL AVIATION;TERMINAL FACILITIES
<MINS> / ARCHITECTURE/ PASSENGERS/ ROADS/ STRUCTURAL DESIGN/ SWEDEN/ URBAN DEVELOPMENT
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<TITLE> Amsterdam's gateway to Europe enlarged --- Schiphol airport
<AUTHORS> SCHERPBIER, L. W.
<PAA> A/(Netherlands Airport Consultants, The Hague, Netherlands)
<PUB DESC> Airport Forum, vol. 5, Sept. 1975, p. 57, 59, 63 (5 ff.). In English and German.
<DESCRIPTORS> AIRPORTS;BUILDINGS;NETHERLANDS;TERMINAL FACILITIES
<MINS> / AIRLINE OPERATIONS/ AIRPORT PLANNING/ ARCHITECTURE/ CIVIL AVIATION/ PASSENGERS
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<DATE> 1975
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<TITLE> Singapore Airport - Gateway to the Orient
<AUTHORS> MAMA, H. P.
<PUB DESC> Airport Forum, vol. 5, 1975, p. 7-17. In English and German.
<DESCRIPTORS> AIRFIELD SURFACE MOVEMENTS;AIRPORT PLANNING;ECONOMIC FACTORS;TERMINAL FACILITIES
<MINS> / AIR TRANSPORTATION/ CARGO/ ECONOMIC DEVELOPMENT/ PASSENGERS/ RUNWAYS/ SINGAPORE
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<TITLE> Manned space stations - Gateway to our future in space
<UNOC> Manned space stations size, crew, orbit, lifetime, resupply requirements, etc
<AUTHORS> GILRUTH, R. R.
<PAA> (AA/NASA, MANNED SPACECRAFT CENTER, HOUSTON, TEX./.)
<PUB DESC> DORDRECHT, D.
REIDEL PUBLISHING CO., /ASTROPHYSICS AND SPACE SCIENCE LIBRARY. VOLUME 16/. IN- MANNED LABS. IN SPACE, INTERNATIONAL ACADEMY OF ASTRONAUTICS,

INTERNATIONAL ASTRONAUTICAL CONGRESS, 19TH, INTERNATIONAL ORBITAL LAB. SYMPOSIUM, 2ND, NEW YORK, N.Y., OCT. 18, 1968; PROCEEDINGS. P. 1-10. /A70-27741 12-31/
<DESCRIPTORS> MANNED SPACECRAFT;ORBITAL SPACE STATIONS;SPACECRAFT DESIGN
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<REPORT NO.PAGE> ANL/TM--427 P. 18;DE85012290
<TITLE> Argonne's gateway access plan for connecting DOE Energy Research computing sites to the NMFEnet
<EDITOR OR COMP> McMahon, R.J.; Messina, P.C.
<AUTHORS> Argonne National Lab., IL (USA)
<CORPORATE CODE> 0448000
<TYPE> R
<PAGE NO> 18
<AVAILABILITY> NTIS, PC A02/MF A01; 1.
<ORDER NUMBER> DE85012290
<CONTRACT NO> Contract W-31-109-ENG-38
<DATE> Apr 1985
<DROP NOTE> Portions of this document are illegible in microfiche products. Original copy available until stock is exhausted
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<CO OF PUBL> US
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<DISTRIBUTION> MN-32
<DOCUMENT ORIGIN> P
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<CATEGORIES> EDB-990200
<PRIMARY CAT> EDB-990200(GENERAL AND MISCELLANEOUS; MATHEMATICS AND COMPUTERS)
<ABSTRACT> Argonne National Laboratory has designed a flexible plan for nnecting large multiprogram institutions to the National Magnetic Fusion Energy Network (NMFEnet). The plan promises to benefit Argonne's Energy Research scientists and engineers by making the Cray X-MP supercomputers in Livermore, California, fully accessible to users. Additionally, it will serve as a model for other large supercomputer centers whose users are scattered over a large area and who wish access to the NMFE network. This approach is general and could be adapted to a wide variety of computing environments. The specific software and system architecture developed should be transportable and usable as is for sites with local networks based on TCP/IP, DECNET, and/or IBM NJE. Many sites have or will have such systems.
<DESCRIPTORS> *ANL--computer networks; *ANL--supercomputers; *LAWRENCE LIVERMORE LABORATORY--computer networks;CRAY COMPUTERS
<ISSUE> 8513
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<TRANSLATION DATE> Fri Aug 23 10:55:28 PDT 1985 (493667728)
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<TITLE> Possibilities of Viditel for the gas industry
<AUTHORS> van Westen, M.A.J.M.
<PUB DESC> Gas (Apeldoorn, Netherlands) (Netherlands)--, v. 103, pp. 226-231
<TYPE> J
<JOURNAL CODEN> GAASA
<DATE> May 1983
<LANGUAGE> In Dutch
<ISSN/ISBN CODE> 0016-4828
<CO OF AUTH> NL
<CO OF PUBL> NL
<ANN J> EDB-85:083021
<BIS> JMT
<CATEGORIES> EDB-030600
<PRIMARY CAT> EDB-030600(NATURAL GAS; MARKETING AND ECONOMICS)
<ABSTRACT> To enhance communications among consumers, gas companies, and their central organizations, the Dutch gas industry decided a few years ago to join the new Viewdata communication system, which is called Viditel in the Netherlands. Since mid-1981, the VEGIN association has gained experience with this system as a supplier of advice and data on tariffs, gas equipment, topical questions, professional training, gas consumption, and general matters. VEGIN also acts as an umbrella organization, allowing

smaller data suppliers (the gas companies) to store their own information in Viditel at low cost; interfacing between their information and VEGIN's file gives the utilities access to far more information than their own. A further advantage is a certain degree of standarization of the information input. Public-access terminals allow the use of Viditel in information centers of gas companies, libraries, and town halls as well as at fairs and exhibitions. Future applications may include (1) setting up a closed information file (for data transmission between gas companies and their central organizations), (2) extending two-way communications, and (3) establishing the Gateway interface between the gas company computers and the Viditel system.
<DESCRIPTORS> *NATURAL GAS INDUSTRY--data base management; *NATURAL GAS INDUSTRY--information systems; *NETHERLANDS--natural gas industry;INFORMATION DISSEMINATION
<ISSUE> 8513
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<DOCUMENT NO.> 85:083021
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<TITLE> Coal transshipment and distribution in Europe the competitive powers of Rotterdam
<AUTHORS> Oerlemans, N.
<AUTHOR AFF> European Coal Stevedoring Co.
<PUB DESC> Coal Technology (Houston) (U.S.)--, v. 1, pp. 245-264
<TYPE> J
<JOURNAL CODEN> COATD
<SEC REPT NO> CONF-831112--
<CONF TITLE> Coal technology '83 - international coal utilization convention
<CONF PLACE> Houston, TX, USA
<CONF DATE> 15 Nov 1983
<DATE> Nov 1983
<ISSN/ISBN CODE> 0270-3661
<CO OF AUTH> NL
<CO OF PUBL> US
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<CATEGORIES> EDB-013000
<PRIMARY CAT> EDB-013000(COAL AND COAL PRODUCTS; TRANSPORT AND HANDLING)
<ABSTRACT> Until today most export sales to Europe have been done on a FOB U.S.-East Coast and U.S.-Gulf basis, meaning that many U.S. coal exporters are not too familiar with European coal ports and the onward transportation possibilities. However, because of the potential growth of especially steam coal deliveries to the electricity generating industry in Europe, there seems to be an interest to get involved in some direct kind of way in the European coal market, even though today U.S. steam coal has a difficult time competing in the world market. A world market that is still characterized by a considerable surplus of supply over demand and a downward trend in prices expressed in dollars. European Coal Stevedoring with its majority shareholding in the largest dry bulk terminal in Europe - EMO Maasvlakte Terminal, Rotterdam - appreciates to have this opportunity to confront the U.S. exporters with coal transshipment and distribution in Europe and the competitive powers of the Gateway to Europe: Rotterdam, the Number One Port in the World.
<DESCRIPTORS> *COAL--market; *COAL--transport; *EUROPE--coal industry; *EUROPE--terminal facilities;COMPETITION;PRICES;SUPPLY AND DEMAND
<ISSUE> 8510
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<AUTHORS> ANON.
<TITLE> Increasing the size of gateways for mechanized faces
<PUB DESC> Coal Science and Technology (Peking) (China)--, no. 8, pp. 2-6
<TYPE> J
<JOURNAL CODEN> CSTPD
<DATE> Aug 1984
<LANGUAGE> In Chinese
<CO OF AUTH> CN
<CO OF PUBL> CN
<ANN J> ERA-10:021666;EDB-85:060667
<BIS> CLA

<CATEGORIES> EDB-012000
<PRIMARY CAT> EDB-012000(COAL AND COAL PRODUCTS; MINING)
<ABSTRACT> A correspondent of the Journal visited Mr. Bi Huazhao, the Deputy Engineer-in-Chief of Kailuan Mining Administration to find out answers to the following questions raised by the readers: Why should the cross-section of gateways for mechanized faces be increased. What is the proper size. Is it difficult to maintain the gateways at increased size. What type of support should be used to reduce maintenance. How can one improve the speed and efficiency of drifting when cross section is increased. What is the suitable size for thin seam. A detailed analysis is given on the practical experience in Kailuan. Increase of gateway size created a better working environment, improved safety in production, and also made full use of the potential of face installation and labour efficiency.
<DESCRIPTORS> *LONGWALL MINING--mine roadways; *MINE ROADWAYS--size;COAL SEAMS; MAINTENANCE;MANPOWER;MINE HAULAGE;PRODUCTION;SAFETY;SUPPORTS;WORKING CONDITIONS;WORKING FACES
<ISSUE> 8509
<UPPOSTED DESC> COAL DEPOSITS;GEOLOGIC DEPOSITS;MATERIALS HANDLING;MECHANICAL STRUCTURES;MINERAL RESOURCES;MINING;RESOURCES;TUNNELS;UNDERGROUND FACILITIES; UNDERGROUND MINING
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<AUTHORS> ANON.
<TITLE> Discussion on gateway cross-section and support for mechanized faces
<PUB DESC> Coal Science and Technology (Peking) (China)--, no. 5, pp. 14-16
<TYPE> J
<JOURNAL CODEN> CSTPD
<DATE> May 1984
<LANGUAGE> In Chinese
<CO OF AUTH> CN
<CO OF PUBL> CN
<ANN J> EDB-85:018958
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<PRIMARY CAT> EDB-012000(COAL AND COAL PRODUCTS; MINING)
<ABSTRACT> None
<DESCRIPTORS> *UNDERGROUND MINING--mine roadways; *UNDERGROUND MINING--supports;EQUATIONS;HEIGHT;WIDTH;WORKING FACES
<ISSUE> 8503
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<REPORT NO.PAGE> UCRL--89995-Rev.1 P. 17:DE85000617
<TITLE> Post-processing of bibliographic citations from DOE/RECON, NASA/RECON, and DOD/DROLS. Revision 1
<EDITOR OR COMP> Bollinger, W.A.; Hampel, V.E.; Harrison, I.; Murphy, T.P.
<AUTHORS> Lawrence Livermore National Lab., CA (USA)
<CORPORATE CODE> 9513035
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<AVAILABILITY> NTIS, PC A02/MF A01.
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<CONF TITLE> 8. international online information meeting
<CONF PLACE> London, UK
<CONF DATE> 4 Dec 1984
<DATE> Aug 1984
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> ERA-10:001706;EDB-84:188555
<DISTRIBUTION> MN-32
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<CATEGORIES> EDB-990300
<PRIMARY CAT> EDB-990300(GENERAL AND MISCELLANEOUS; INFORMATION HANDLING)
<ABSTRACT> We have developed an interactive, self-guided program for the joint post-processing of bibliographic citations from the federal

information centers of the Department of Energy (DOE), the Department of Defense (DOD), and the National Aeronautics and Space Administration (NASA). This program is currently installed on the Intelligent Gateway Processor of the Technology Information System (TIS/IGP) at the L. rence Livermore National Laboratory and is under evaluation by the TIS user community from remote terminals by telephone dial-up, over TYMNET, and the ARPA computer network. Users are individually authorized for automated access to specific information centers, and use standard commands for the downloading, compilation, and online review of citations in a common format. Previously reported post-processing capabilities have been further expanded, permitting: (1) online citation review, categorization, and addition of new data elements; (2) disassembly and re-assembly of citations; (3) statistical analysis of data field contents; (4) cross-correlation of data field contents; and (5) concordance generation. In addition, the new two-pass interpreter for the post-processing program permits: the transformation of abbreviated data field names into english names preferred by each agency, the statistical analysis of the density and completeness of data fields in selected sets of bibliographic citations, the elimination of redundant citations (using user-specified criteria), and trend analysis. The latter is a powerful tool for the exploration of time-dependent characteristics in a particular field of research, of an organization, or for an author. Graphical displays of publication rates as a function of time and the normalized statistics of terms used in the description of the work, can be used to signal new directions of ongoing research and the intensity of its support.
<DESCRIPTORS> *INFORMATION--computer networks;INFORMATION RETRIEVAL; SPECIFICATIONS
<ISSUE> 8423
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<TRANSLATION DATE> Fri Aug 23 10:55:28 PDT 1985 (493667728)
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<REPORT NO,PAGE> UCRL--91383 P. 10;DE85001741
<TITLE> Integration of an automated library support system with an intelligent gateway
<AUTHORS> Burton, H.D.
<CORPORATE AUTH> Lawrence Livermore National Lab., CA (USA)
<CORPORATE CODE> 9513035
<TYPE> R
<SEC REPT NO> CONF-8409138--1
<PAGE NO> 10
<AVAILABILITY> NTIS. PC A02/MF A01.
<ORDER NUMBER> DE85001741
<CONTRACT NO> Contract W-7405-ENG-48
<CONF TITLE> Integrated online library systems conference
<CONF PLACE> Atlanta, GA, USA
<CONF DATE> 13 Sep 1984
<DATE> Aug 1984
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> EDB-84:173691
<DISTRIBUTION> MN-32
<DOCUMENT ORIGIN> P
<BIS> TIC
<CATEGORIES> EDB-990300
<PRIMARY CAT> EDB-990300(GENERAL AND MISCELLANEOUS: INFORMATION HANDLING)
<ABSTRACT> A new project of the Technology Information System (TIS) at the Lawrence Livermore National Laboratory (LLNL) calls for the evaluation of commercially available library support packages and the extension and integration of the most desirable system with the TIS gateway to provide a comprehensive prototype for libraries and information centers. This prototype system is planned to facilitate access to and management of in-house activities such as cataloging, serials control, and acquisitions, as well as to interface to external systems and services for data downloading and exchange, retrieval, and post-processing. Cooperative cataloging, distributed database processing, electronic inter-library loan, and customized bibliography production are some of the features planned for the prototype. Development of a user-friendly front-end processor will allow the user to negotiate his search query in a semi-automated manner using a single, English-like command language. The TIS at Lawrence Livermore National Laboratory (LLNL) has developed a computer-based intelligent gateway for automated access to such diverse, geographically distributed information systems as DOE/RECON, DOD/DROLS, NASA/RECON, CAS On-Line, DARC (France) and DECHEMA (West Germany), among many others. New information resources centers are being added as required and users can connect simultaneously to more than one host to compare

their data. The TIS online master directory provides the user with a single, integrated view of available and relevant resources. The automated access procedures permit the user to concentrate on the information aspects of his work rather than be burdened with various log-on procedures, database formats and protocols. The merger of the library support with the TIS gateway should provide users with a capabilities to access and utilize the full spectrum of textual, numeric and graphics data resources.
<DESCRIPTORS> *INFORMATION SYSTEMS--computer networks;DATA BASE MANAGEMENT; LAWRENCE LIVERMORE LABORATORY
<ISSUE> 8421
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<DOCUMENT NO> 84:173691
<ACCESSION NO.> 84J0163468
<DATABASE SOURCE> DOE/recon
<TRANSLATION DATE> Fri Aug 23 10:55:28 PDT 1985 (493667728)
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<DOWNLOAD FILE NAME> doe1
<TITLE> Materials handling report/Coal transshipment terminals...a vital transportation link
<AUTHORS> Yu, A.T.
<AUTHOR AFF> Orba Corp.
<PUB DESC> Coal Age (U.S.)--, v. 84, no. 7, pp. 77-78, 80-82
<TYPE> J
<JOURNAL CODEN> COLAA
<DATE> Jul 1979
<ISSN/ISBN CODE> 0009-9910
<CO OF AUTH> US
<CO OF PUBL> US
<ANN J> EDB-84:163468
<BIS> API
<CATEGORIES> EDB-013000
<PRIMARY CAT> EDB-013000(COAL AND COAL PRODUCTS; TRANSPORT AND HANDLING)
<ABSTRACT> The Superior Midwest Energy Terminal, a transshipment terminal in the Decker Coal rail-to-water route from Montana to Detroit, was designed and constructed in two years on a 200 acre site by Orba Corp.; it can transfer 20 million tons/yr of coal from railroad cars to self-unloading barges. In winter, 7 million tons of coal can be stored on the ground and unit-trains can enter, unload, and leave without being broken into smaller units. According to A. T. Yu of Orba Corp., environmental protection features include a water runoff treatment plant and dust generation and escape minimization by enclosure of the major components and use of telescopic chutes. Another new transshipment service involves PLM Inc.'s complete unit-train/barge transportation service and the new Iowa Gateway Terminal in Keokuk. The transportation service will start in 1980 or 1981; have a 6 million ton/yr capability; and provide the option of Rent-a-Train to coal operators. The 10 million ton/yr Hall Street Coal Transfer Terminal in St. Louis transfers western coal from railroad cars to river barges and provides open storage of coal.
<DESCRIPTORS> *COAL--transport; *ENERGY TRANSPORT--terminal facilities; *TERMINAL FACILITIES--design; *TERMINAL FACILITIES--specifications;BARGES; COAL INDUSTRY;ENERGY STORAGE;MATERIALS HANDLING;POLLUTION CONTROL EQUIPMENT; RAIL TRANSPORT
<ISSUE> 8421
<UPPOSTED DESC> CARBONACEOUS MATERIALS;ENERGY SOURCES;EQUIPMENT;FOSSIL FUELS; FUELS;INDUSTRY;LAND TRANSPORT;MATERIALS;STORAGE;TRANSPORT
<DOCUMENT NO> 84:163468
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<DATABASE SOURCE> DOE/recon
<TRANSLATION DATE> Fri Aug 23 10:55:28 PDT 1985 (493667728)
<DOWNLOAD DATE> Fri Aug 23 10:54:33 PDT 1985 (493667673)
<DOWNLOAD FILE NAME> doe1
<REPORT NO,PAGE> UCRL--90276-Rev.1 P. 124;DE84016511
<TITLE> Online directory of databases for material properties
<AUTHORS> Hampel, V.E.; Bollinger, W.A.; Gaynor, C.A.; Oldani, J.J.
<CORPORATE AUTH> Lawrence Livermore National Lab., CA (USA)
<CORPORATE CODE> 9513035
<TYPE> R
<SEC REPT NO> CONF-8406139--1-Rev.1
<PAGE NO> 124
<AVAILABILITY> NTIS, PC A06/MF A01; 1.
<ORDER NUMBER> DE84016511
<CONTRACT NO> Contract W-7405-ENG-48
<CONF TITLE> 9. international CODATA conference
<CONF PLACE> Jerusalem, Israel
<CONF DATE> 24 Jun 1984
<DATE> May 1984

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<ANN J> EDB-84:157880
<DISTRIBUTION> MN-25
<DOCUMENT ORIGIN> P
<BIS> TIC
<CATEGORIES> EDB-360000
<PRIMARY CAT> EDB-360000(MATERIALS)
<ABSTRACT> This directory is intended to provide interactive access to scientific and technical databases available to the public that contain information pertaining to nuclear, atomic, molecular, physical, chemical, and mechanical properties of substances. In addition to the 101 data files previously reported, we have updated the information and identified more than 38 new numeric databases and predictive systems in these fields. We have included, where applicable, entries contained in the directories published by Cuadra Associates, CODATA, and UNESCO. In addition to describing the contents of the databases, we have provided updated information on the availability of the databases and their online access over public telephone and data networks. This directory is expected to become particularly important to the national and international magnetic- and laser-energy fusion projects, nuclear criticality safety, and computer aided engineering programs. Some of the numeric databases are directly accessible by authorized users via the TIS Intelligent Gateway Processor at LLNL (TIS/IGP), with self-guiding procedures for the downloading, merging, post-processing, and graphical/statistical analysis of data.
<DESCRIPTORS> *MATERIALS--information systems;DATA BASE MANAGEMENT
<ISSUE> 8420
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<TITLE> 540--900 nm photodissociation of 300 K NCNO: One- and two-photon processes
<AUTHORS> Nadler, I.; Pfab, J.; Reisler, H.; Wittig, C.
<AUTHOR AFF> Department of Chemistry, University of Southern California, Los Angeles, California 90089-0484
<PUB DESC> Journal of Chemical Physics (U.S.)--, v. 81, no. 2, pp. 653-660
<TYPE> J
<JOURNAL CODEN> JCPSA
<DATE> 15 Jul 1984
<ISSN/ISBN CODE> 0021-9606
<CO OF AUTH> US
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<ANN J> EDB-84:122088
<BIS> AIP
<CATEGORIES> EDB-640300
<PRIMARY CAT> EDB-640300(PHYSICS RESEARCH; ATOMIC, MOLECULAR, AND CHEMICAL PHYSICS)
<SEC SECTION> A1200
<ABSTRACT> The laser photodissociation of 300 K NCNO throughout the region 540--900 nm is reported, and both 1- and 2-photon processes are discussed. By monitoring CN fragments produced via the 1-photon process, we show that with photolysis wavelengths > 592 nm, dissociation occurs predominantly by exciting NCNO ''hot bands.'' At shorter photolysis wavelengths, dissociation from the ground vibrational state of NCNO is observed as well, but the contributions from hot bands are still manifest in high CN rotational levels which are energetically inaccessible from the ground state (D$sub 0$ = 48.8 kcal mol$sup -1$). Energy distributions in the CN fragments were determined for excess energies up to 1800 cm$sup -1$, and are in agreement with phase space theory calculations and a vibrational predissociation mechanism. In addition, througnout the region 620--900 nm, stepwise two-photon photodissociation proceeds using the A $sup 1$A'' state as a gateway, and results in rotationally and vibrationally ''hot'' CN fragments. The hot CN fragment yield vs photolysis wavelength shows peaks which correspond exactly to peaks in the NCNO absorption spectrum, allowing us to obtain high resolution spectra of the A $sup 1$A''reverse arrow X $sup 1$A' absorption system. The one- and two-photon processes are in competition, and the latter disappears at wavelengths where one-photon photodissociation of NCNO via its ground vibrational level sets in. The nature of the electronic states involved in the one- and two-photon processes is also discussed.
<DESCRIPTORS> *NITROSO COMPOUNDS--absorption spectra; *NITROSO COMPOUNDS--photolysis;DISSOCIATION;MEDIUM TEMPERATURE;MULTI-PHOTON PROCESSES

<ISSUE> 8416
<UPPOSTED DESC> CHEMICAL REACTIONS;DECOMPOSITION;ORGANIC COMPOUNDS;ORGANIC NITROGEN COMPOUNDS;PHOTOCHEMICAL REACTIONS;SPECTRA
<DOCUMENT NO> 84:122088
<ACCESSION NO.> 1134156;
<NTIS> AD-A155 058/1/XAB
<TITLE> Command and Control Related Computer Technology. Part I. Packet Radio. Part II. Speech Compression and Evaluation(Quarterly progress rept. no. 5, 1 Dec 75-29 Feb 76)
<AUTHORS> Burchfiel, J. D. ; Beeler, M. D. ; Nickerson, R. S. ; Makhoul, J. ; Huggins, A. W. F.
<PUB DESC> Bolt Beranek and Newman, Inc., Cambridge, MA.;
<Code> 004246000; 060100;
BBN-3263;
Dec 75;
141p;
English
<Publication Code> PC A07/MF A01
<Journal Announcement> GRAI8518
<CO OF PUBL> United States
<CN-> MDA903-75-C-0180; ARPA Order-2935
<ABSTRACT> This document describes progress on (1) the development of a packet radio network, and (2) speech compression and evaluation. Activities reported under (1) include work on PDP-11 TCP development, station gateway and ELF development, and digital unit checkout; under (2) implementation of covariance lattice method; specification of ARPA-LPC System II; investigation of phoneme-specific intelligibility test; study of effects on intelligibility of lost packets. (Author)
<DESCRIPTORS> *Command and control systems; Packets; *Radio equipment; *Speech compression; Computer communications; Computers; Digital systems; Extremely low frequency; Intelligibility; Networks; Quality; Speech; Test and evaluation; Vocoders; Checkout procedures; Linearity; Mathematical prediction
<Indexing terms> Packet radios; NTISDODXA
<Subject Heading> 17B (Navigation, Communications Detection, and Countermeasures--Communications); 45C (Communication--Common Carrier and Satellite); 45F (Communication--Verbal)
<DATE> 1975
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<ACCESSION NO.> 1131113;
<NTIS> AD-A154 349/5/XAB
<TITLE> Local Automation Model Software Benchmarking: Test Plan
<AUTHORS> Hartt, R. W. ; O'Connor, D. J.
<PUB DESC> Logistics Management Inst., Bethesda, MD.;
<Code> 082507000; 210475;
Defense Technical Information Center, Alexandria, VA.;
LMI-DL401; DTIC-TR-85/3;
Mar 85;
109p;
English
<Publication Code> PC A06/MF A01
<Journal Announcement> GRAI8517
<CO OF PUBL> United States
<CN-> MDA903-81-C-0166
<ABSTRACT> Sponsored by the Defense Technical Information Center, the Local Automation Model project encompasses requirements determination, system design, prototype system implementation, and production system acquisition for a fully resident integrated library system. The system is designed and will be made available for installation at Federal technical libraries and information centers. With the system, libraries will be able to share cataloging of technical reports with DTIC, relying on machine-aided translation of citations and an intelligent gateway to facilitate data transfer. The intelligent gateway also permits simultaneous searching of multiple, heterogeneous data bases, both Government-operated and commercial. In addition, the system supports full local collection management -- retrieval, cataloging, and circulation management and control. The prototype and poduction systems will be implemented with commercially available library automation software. The Test Plan is the fifth in a series of life-cycle documentation for the system. It contains criteria -- both performance and functional -- for selecting from among several packages recommended for benchmarking. Using the Test Plan, test participants will exercise features in each of the six packages selected for benchmarking and score the package on how well each feature is performed.
<DESCRIPTORS> *Libraries; *Technical information centers; Automation; Catalogs;

Circulation; *Data bases; Data processing; Department of defense; Determination; Heterogeneity; Integrated systems; Management; Models; Planning; Production; Prototypes; Reports; Requirements; Searching; Synchronism; Test and evaluation; United states government; Classification; *Machine translation; *Information transfer; Data acquisition
<Indexing terms> Defense Technical Information Center; *Computer software; Bench marks; NTISDODXA; NTISDODA
<Subject Heading> 5B (Behavioral and Social Sciences--Documentation and Information Technology); 9B (Electronics and Electrical Engineering--Computers); 88B (Library and Information Sciences--Information Systems); 62B (Computers, Control, and Information Theory--Computer Software)
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<ACCESSION NO.> 1130798;
<NTIS> AD-A154 033/5/XAB
<TITLE> LAN (Local Area Network) Interoperability Study of Protocols Needed for Distributed Command and Control(Final technical rept. Jun 83-Jul 84)
<AUTHORS> Elden, W. L. ; Miller, A. L. ; Morgan, S. L. ; Romanzo, B. A.
<PUB DESC> Harris Corp., Melbourne, FL. Government Information Systems Div.;
<Code> 051762006; 411661;
Rome Air Development Center, Griffiss AFB, NY.;
RADC-TR-85-55;
Mar 85;
306p;
English
<Publication Code> PC A14/MF A01
<Journal Announcement> GRAI8517
<CO OF PUBL> United States
<CN-> F30602-83-C-0108; 5581; 21
<ABSTRACT> The study examined distrubuted processing requirements for strategic and tactical C3I systems, reviewed the characteristics and architectural issues for distributed processing global operating systems, compared the DoD and ISO networking protocol architecture models, the protocols for LAN's developed by the IEEE and ANSI, reviewed and conducted performance evaluation of Ethernet, DoD's Internet Protocol and Transmission Control Protocol and reported characteristics of CSMA/CD, Token Bus and Token Ring LAN's, reviewed three alternatives to using TCP for an intra-LAN protocol and examined the methods for employing gateway elements to interconnect LAN-based system elements. A comprehensive discussion of the results is given followed by a set of concise conclusions. Ten recommendations are given, providing a roadmap to guide the Air Force in developing C3I systems and LAN-based protocols. Three major areas are identified where future work is needed. A set of protocols and design approaches for internetworking is contained in a set of appendices.
<DESCRIPTORS> *Distributed data processing; *Communications networks; *Command and control systems; Air force; Architecture; Control; Distribution; Models ; Networks; Performance tests; Requirements; Transmittance; Strategic communications; Strategic intelligence; Tactical communications; Tactical intelligence
<Indexing terms> *Local area networks; Protocols; C3I(Command Control Communications and Intelligence); Internetting; *Computer networks; NTISDODXA; NTISDODAF
<Subject Heading> 17B (Navigation, Communications Detection, and Countermeasures--Communications); 9B (Electronics and Electrical Engineering--Computers); 15G (Military Sciences--Operations, Strategy, and Tactics); 45C (Communication--Common Carrier and Satellite); 62B (Computers, Control, and Information Theory--Computer Software); 74G (Military Sciences--Military Operations, Strategy, and Tactics)
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<NTIS> AD-A153 873/5/XAB
<TITLE> Proceedings of the Annual DTIC (Defense Technical Information Center) Users Conference Held at Alexandria, Virginia on 24-26 October 1984(Annual rept.)
<AUTHORS> Hanno, M. K.
<PUB DESC> Defense Technical Information Center, Alexandria, VA.;
<Code> 062640000; 394981;
26 Oct 84;
193p;
English;

Bibliography; Conference proceeding
<Publication Code> PC A09/MF A01
<Journal Announcement> GRAI8516
<CO OF PUBL> United States
<ABSTRACT> These proceedings consist of transcriptions of presentations made at the annual DTIC Users Conference, 1984. The presentations included status reports from the DTIC Directors, the Defense RDT/E On-Line System (DROLS) User Council, and the DTIC Resource Sharing Advisory Group. Other sessions included: DROLS Communications; a New User Orientation; DROLS Workshops for Dedicated and Dial-Up Terminal Users; other Government Information Resources (GPO, DOE, NLM); DTIC Management Data Bases; panels on DTIC Cataloging and Indexing Policies; Shared Bibliographic Input Network/Local Automation Model for an Integrated Cataloging/Retrieval System; the DoD Gateway for Accessing Diverse Information Resources; the Steps to Acquire a DROLS Terminal; the Manpower and Training Research Information System; and the Small Business Innovation Research Program.
<DESCRIPTORS> *Information processing; *Technical information centers; *Management information systems; *Symposia; Bibliographies; Automation; Networks
<Indexing terms> DROLS(Defense RDT/E On Line System); *On line systems; Department of Defense; User needs; Research programs; Manpower; Training; Innovation; Small businesses; NTISDODXA
<Subject Heading> 5B (Behavioral and Social Sciences--Documentation and Information Technology); 9B (Electronics and Electrical Engineering--Computers); 88B (Library and Information Sciences--Information Systems); 70C (Administration and Management--Management Information Systems)
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<ACCESSION NO.> 1128690;
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<TITLE> Internet Protocol Implementation Guide
<AUTHORS> SRI International, Menlo Park, CA.
<PUB DESC> SRI International, Menlo Park, CA. Network Information Center.;
<Code> 055876015; 410638;
Aug 82;
148p;
English
<Publication Code> PC A07/MF A01
<Journal Announcement> GRAI8516
<CO OF PUBL> United States
<CN-> DCA200-83-C-0025
<ABSTRACT> This document provides summary and tutorial information on research and development carried out by the DoD on the interconnection and use of packet communication networks. Topics covered include TCP-IP, fault isolation and gateway connections between dissimilar networks. Guidelines are provided for implementing the Internetwork protocols, along with background papers on the Internetwork protocols and protocols in general. (Author)
<DESCRIPTORS> *Data transmission systems; *Communications networks; Computers; Electronic mail; Faults; Interactions; Isolation; Message processing; Networks; Digital communications; Standards; Computer communications
<Indexing terms> *Communications protocols; *Internet protocols; NTISDODXA
<Subject Heading> 17B (Navigation, Communications Detection, and Countermeasures--Communications); 9B (Electronics and Electrical Engineering--Computers); 45C (Communication--Common Carrier and Satellite)
<DATE> 1982
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<NTIS> AD-A153 000/5/XAB
<TITLE> Study of User-Defined Searching Requirements for the on-Line Version of the Directory of DoD-Sponsored R&D Data Bases on the Defense Gateway Computer System(Final rept.)
<AUTHORS> Chastain, G. C.
<PUB DESC> Defense Technical Information Center, Alexandria, VA.;
<Code> 062640000; 394981;
DTIC/TR-85/1;
Mar 85;
141p;
English
<Publication Code> PC A07/MF A01
<Journal Announcement> GRAI8515

<CO OF PUBL> United States
<ABSTRACT> In anticipation of the implementation of the Directory of DoD-Sponsored R&D Data Bases in an on-line version on the Defense Gateway Computer System (hereafter the Gateway), a study was undertaken to identify the searching requirements of existing and potential users. The terms user-friendly interface, natural language front-end processor, and expert system are defined. The procedure followed in conducting the study is described. Results of the study are presented along with a recommendation for an interface to be incorporated into the Gateway for searching the on-line version of the directory. The plan for this study was to contact a sample group of people who were familiar with the directory to ask them how they used the print directory, and try to determine their searching requirements for an on-line version of the directory. A questionnaire was used to gather this information. This instrument was chosen to define and standardize the information that would be gathered. This standardization served to increase reliability and facilitate analysis of the results.
<DESCRIPTORS> *Data bases; *Directories; On line systems; *Man computer interface; Searching; Standardization; Department of defense; Artificial intelligence; Questionnaires; User needs; Computers; Front end processors; Reliability
<Indexing terms> Expert systems; NTISDODXA
<Subject Heading> 9B (Electronics and Electrical Engineering--Computers); 5H (Behavioral and Social Sciences--Man-machine Relations); 5B (Behavioral and Social Sciences--Documentation and Information Technology); 62B (Computers, Control, and Information Theory--Computer Software); 88B (Library and Information Sciences--Information Systems); 95D (Biomedical Technology and Human Factors Engineering--Human Factors Engineering); 95F (Biomedical Technology and Human Factors Engineering--Bionics and Artificial Intelligence)
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<TITLE> CSIN (Chemical Substances Information Network) Workbook: U.S. Geological Survey Training Course for Chemical Substances Information Network(Final rept)
<AUTHORS> Bolt Beranek and Newman, Inc., Arlington, VA.
<PUB DESC> Bolt Beranek and Newman, Inc., Arlington, VA.;
<Code> 058127000;
Council on Environmental Quality, Washington, DC.;
BBN-5866;
Nov 84;
229p;
English
<Publication Code> PC A11/MF A01
<Journal Announcement> GRAI8513
<CO OF PUBL> United States
<Note> Sponsored by Council on Environmental Quality, Washington, DC.
<ABSTRACT> The Chemical Substances Information Network (CSIN) is a computer interface that provides a gateway to facilitate searching and retrieving bibliographic and factual data from a large selection of online databases maintained by Dialog, SDC, NLM, BRS, OHS, CAS, and CIS. The emphasis is on chemical and hydrologic information. A series of menus lead the user through setting up searches. Lists of keywords, which are tailored to specific databases, provide search terms on selected topics. This document is the complete workbook to accompany the CSIN Training Workshop developed to train end-users to use CSIN. It contains copies of all slides presented during the three day course. The topics covered include all system features, and system functions such as the editor. The examples presented are focused towards hydrological end-users.
<DESCRIPTORS> *Information systems; *Education; *Manuals; Chemistry; Hydrology
<Indexing terms> *Chemical Substances Information Network; NTISEXOPAQ
<Subject Heading> 5B (Behavioral and Social Sciences--Documentation and Information Technology); 5I (Behavioral and Social Sciences--Personnel Selection, Training, and Evaluation); 88B (Library and Information Sciences--Information Systems); 99GE (Chemistry--General); 48G (Natural Resources and Earth Sciences--Hydrology and Limnology); 92B (Behavior and Society--Psychology)
<DATE> 1984
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<ACCESSION NO.> 1118049;
<NTIS> PB85-170041/XAB
<TITLE> User's Guide for CSIN: Chemical Substances Information Network(Final rept)
<AUTHORS> Bolt, Beranek and Newman, Inc., Arlington, VA.
<PUB DESC> Bolt Beranek and Newman, Inc., Arlington, VA.;
<Code> 058127000;
Council on Environmental Quality, Washington, DC.;
BBN-5867;
Nov 84;
319p;
English;
Bibliography
<Publication Code> PC A14/MF A01
<Journal Announcemant> GRAI8511
<CO OF PUBL> United States
<CN-> EQ4C03
<ABSTRACT> The Chemical Substances Information Network (CSIN) is a computer interface that provides a gateway to facilitate searching and retrieving bibliographic and factual data from a large selection of online databases maintained by Dialog, SDC, NLM, BRS, OHS, CAS and CIS. The emphasis is on chemical and hydrologic information. A series of menus lead the user through setting up searches. Lists of keywords, which are tailored to specific databases, provided search terms on selected topics. This document is the complete user's reference manual for the prototype CSIN implemented on a VAX 11/780 mini-computer. It includes descriptions and examples of all system features, tutorials on searching and use of the editor, and introduction to online searching. The appendix contains the contents of the 28 lists of keywords on topics related to the environmental and toxic health effects of chemicals, distribution of water in the ground and environment, and mathematical analysis and modeling.
<DESCRIPTORS> *Chemical compounds; *Information systems; Bibliographies; Hydrology; Environmental surveys
<Indexing terms> *Chemical Substances Information Network; Toxic substances; NTISEXOPAQ
<Subject Heading> 5B (Behavioral and Social Sciences--Documentation and Information Technology); 99GE* (Chemistry--General); 88B* (Library and Information Sciences--Information Systems); 68GE (Environmental Pollution and Control--General); 88E (Library and Information Sciences--Reference Materials)
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<TITLE> Proceedings of the National Bridge Conference Held at Gateway Center Hilton, Pittsburgh, Pennsylvania on June 1-3, 1983
<AUTHORS> Pennsylvania Dept. of Transportation, Harrisburg, PA.
<PUB DESC> Pennsylvania Dept. of Transportation, Harrisburg.;
<Code> 046235000;
Jun 83;
256p;
English;
Conference proceeding
<Publication Code> PC A12/MF A01
<Journal Announcement> GRAI8504
<CO OF PUBL> United States
<ABSTRACT> This Proceeaings Document is a compilation of over 30 presentations given at the National Bridge Conference in Pittsburgh, Pennsylvania, June 1-3 1983. A wide variety of bridge-related topics were covered by the Conference.
<DESCRIPTORS> *Meetings; *Bridges(Structures); Design; Construction; Bridge abutments ; Bridge foundations; Maintenance; Coatings; Consulting services; Research; Development
<Indexing terms> NTISPADOT
<Subject Heading> 13M (Mechanical, Industrial, Civil, and Marine Engineering--Structural Engineering); 50A (Civil Engineering--Highway Engineering)
<DATE> 1983
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<ACCESSION NO.> 1104984;
<NTIS> AD-A148 056/5/XAB
<TITLE> EGP (Exterior Gateway Protocol) Gateway under Berkeley UNIX 4.2(Research rept.)

<AUTHORS> Kirton, P.
<PUB DESC> University of Southern California, Marina del Rey. Information Sciences Inst.;
<Code> 045598002; 407952;
ISI/RR-84-145;
Oct 84;
42p;
English
<Publication Code> PC A03/MF A01
<Journal Announcement> GRAI8504
<CO OF PUBL> United States
<CN-> MDA903-81-C-0335
<ABSTRACT> This report describes an implementation of the Exterior Gateway Protocol that runs under the UNIX 4.2 BSD operating system. Some issues related to local network configurations are also discussed. The Exterior Gateway Protocol has been specified to allow autonomous development of different gateway systems while still maintaining global distribution of internet routing information. EGP provides a means for different autonomous gateway systems to exchange information about the networks that are reachable via them.
<DESCRIPTORS> *Computer communications; *Information exchange; Networks; Message processing; Communications traffic; Interface; Routing; Loops; Topology
<Indexing terms> Protocols; UNIX operating system; NTISDODXA
<Subject Heading> 9B (Electronics and Electrical Engineering--Computers); 17B (Navigation, Communications Detection, and Countermeasures--Communications); 45C (Communication--Common Carrier and Satellite); 62GE (Computers, Control, and Information Theory--General)
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<ACCESSION NO.> B85047218; C85038297
<TITLE> DDN: DoD upgrades its communications {IN Gov. Data Syst. (USA)}
<AUTHORS> Heiden, H.B.; Bryan, R.P.
<PUB DESC> Gov. Data Syst. (USA), vol.14, no.1, PP.11-12, 14, Jan. 1985, 0 REF.
<DATE> 1985
<JC -> GVDSBD
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<Category Code> *B6210L; *C7150; C5620W
<DESCRIPTORS> computer networks; large-scale systems; military computing; security of data
<Supplementary terms> USA; communications; Defense Data Network; dissimilar hosts; gateways; hackers
<ABSTRACT> The Defense Data Network may be the pacesetter for all computer networks. It is solving the problems of dissimilar hosts, gateways to other networks, threats from hackers and more.
<DATABASE SOURCE> SDC Inspec Database
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<ACCESSION NO.> B85047194; C85037422
<TITLE> Interconnection draws DEC, IBM networks closer {IN Data Commun. (USA)}
<AUTHORS> Bradley, B.
<OS -> Digital Equipment Corp., Tewksbury, MA USA
<PUB DESC> Data Commun. (USA), vol.14, no.5, PP.241-8, May 1985, 0 REF.
<DATE> 1985
<JC -> DACODM
<CN -> 0363-6399/85 $3.00+.50
<DOCUMENT TYPE> J (JOURNAL PAPER)
<Category Code> *B6210L; *C5620; C6150J
<TC -> PR (PRACTICAL)
<DESCRIPTORS> computer communications software; computer networks; DEC computers; IBM computers; software packages
<Supplementary terms> IBM networks; DEC networks; DECNET/SNA gateway; SNA network; gateway; OSI reference model; distributed host command facility; DHCF; 3270 terminal users; DISOSS; Distributed Office Support System; document exchange facility; DDXF; DIA/DCA; document interchange architecture/document content architecture; protocols
<ABSTRACT> The familiar, seven-layer model known as the Open Systems Interconnection (OSI) has been primarily concerned with the development of individual network architectures. Communications between heterogeneous networks has evolved on a more ad hoc basis. Recently, however, by applying similarly layered techniques to high-level activity between networks, DEC has been able to connect its machines to those of IBM with

levels of integration up to and including IBM's newest office protocols. A gateway between DEC's local and wide-area networking software, DECNET, and IBM's SNA was designed. DECNET/SNA gateway allowed users and applications in a DECNET network to access computing resources distributed throughout an SNA network. While this gateway product was a major step in interconnection, DEC felt that long-term efforts rested on an adherence to the OSI reference model. In late 1984, DEC introduced two gateway-based software packages. Whereas the initial gateway opened a door from DECNET into SNA, the distributed host command facility (DHCF) provided similar access in the other direction. With DHCF, 3270 terminal users in an SNA network could use computing resources throughout a DECNET network. Another product, the DISOSS (Distributed Office Support System) document exchange facility (DDXF), permitted a DEC user at a terminal connected to a VAX node to participate in an IBM office network based on the DIA/DCA (document interchange architecture/document content architecture) protocols.
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<ACCESSION NO.> B85047161; C85038382
<TITLE> Fourth generation videotex {IN ASLIB Proc. (GB)}
<AUTHORS> Jacobs, C.H.
<OS -> Sperry, London, England
<PUB DESC> ASLIB Proc. (GB), vol.37, no.6-7, PP.273-6, June-July 1985, 0 REF.
<DATE> 1985
<JC -> ASLPAO
<DOCUMENT TYPE> J (JOURNAL PAPER)
<Category Code> *B6210K; *C7210; C6115
<TC -> GR (GENERAL/REVIEW)
<DESCRIPTORS> programming environments; viewdata
<Supplementary terms> videotex; gateways; fourth generation; MAPPER; applications development facility
<ABSTRACT> Discusses the four generations of videotex, Prestel is seen as the first, then come private versions of it, next come the shift towards the use of videotex as a means of delivering application data with the advent of gateways. The fourth generation brings the application and videotex as its delivery mechanism in a single system, the same files, the same processors and the same machine environment, Sperry's MAPPER is then briefly described this being an applications development facility providing greater control over computer facilities. The next stage will see the integration of personal computer.
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<ACCESSION NO.> B85047077; C85037451
<TITLE> A flexible approach to X.25 networking {IN Telecommunications (USA)}
<AUTHORS> Meyer, A.
<PUB DESC> Telecommunications (USA), vol.19, no.4, PP.68-1, 76, 84, 89, 0 REF.
<DATE> 1985
<JC -> TLCOAY
<DOCUMENT TYPE> J (JOURNAL PAPER)
<Category Code> *B6210; *C5620
<TC -> PR (PRACTICAL)
<DESCRIPTORS> data communication equipment; packet switching; telecommunication networks
<Supplementary terms> X.25 networking; COMPAC data communication equipment; OSI; ISO; CCITT; TRT; private packet-switching networks; gateways; public networks; marketing; engineering
<ABSTRACT> In 1981, TRT turned its attention to the possible future requirements for private packet-switching networks (X.25) and for gateways to public networks that were being set up gradually in most industrialized countries. Important decisions had to be made at that time in terms of network design philosophy. TRT's marketing and engineering rationale in developing its COMPAC range of datacom network equipment are outlined.
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<ACCESSION NO.> C85038082
<TITLE> The use of the Oracle RDBMS at Elsevier-NDU {IN Proceedings of the SEAS Annivesary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984}
<AUTHORS> van der Linden, G.A.

<OS -> Elsevier-NDU; Amsterdam, Netherlands
<PUB DESC> SEAS, Nijmegen; Netherlands, 2 vol. x+827 PP., PP.287-99 vol.1, 1984, 1 REF.
<DATE> 1984
<DOCUMENT TYPE> PA (CONFERENCE PAPER)
<Category Code> *C6160D
<TC -> AP (APPLICATIONS)
<DESCRIPTORS> relational databases
<Supplementary terms> Oracle relational database management system; performance; Elsevier-NDU; productivity; application development facility; IAF; APL; set processing; table size
<ABSTRACT> The Oracle DBMS has opened the gateway to new application areas and higher productivity in development. Oracle includes an application development facility (IAF), but this falls short in all but very simple types of applications. The facilities of Oracle and APL supplement each other very well. They both use a set processing approach rather than record processing. Performance is within acceptable limits and is stable with increasing table size.
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<TITLE> Private branch exchange or local area networks? {IN Proceedings of the SEAS Annivesary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984}
<AUTHORS> Elmenhorst, W.
<OS -> Central Inst. for Appl. Math., KFA Julich GmbH, Germany
<PUB DESC> SEAS, Nijmegen, Netherlands, 2 vol. x+827 PP., PP.407-26 vol.1, 1984, 8 REF.
<DATE> 1984
<DOCUMENT TYPE> PA (CONFERENCE PAPER)
<Category Code> *B6230B; B6210L; B6230F; *C5620L
<TC -> PR (PRACTICAL)
<DESCRIPTORS> electronic switching systems; ISDN; local area networks; private telephone exchanges
<Supplementary terms> private branch exchange; data PBX; voice-capability; local data communications; switch costs; line-drivers; LAN; process control; user gateways
<ABSTRACT> PBX and local area networks complement each other. A data PBX, without voice-capability may be a very good solution for local data communications because switch costs are low and inexpensive line-drivers can be used. Data PBX can also be used with existing wiring. Partly because these systems are aimed at low-cost application, they are simpler and tend to have less flexibility and fewer functions, than modern voice-and-data PBXs. A LAN is not a good choice, especially when you want to connect a thousand or more low and medium cost 'standard' asynchronous or synchronous terminals, workstations or ports. LANs, on the other side, can help in special situations such as backend networks, for high speed communication or in process control environments. Finally, in the near future, local area networks will be integrated without the necessity of user gateways in the PBX. Medium-term, for the next 3 to 5 years, a data PBX will probably be the right solution for the most standard data communication applications, even if ISDN-PBXs become available. The ISDN-PBX systems available at that time will be expensive and often support only digitized voice in the starting phase. Another problem at the beginning might be the missing experience and flexibility in data communication activities. Later, data, voice-and-data PBX and LANs will grow together.
<DATABASE SOURCE> SDC Inspec Database
<TRANSLATION DATE> Tue Aug 27 08:40:55 PDT 1985 (494005255)
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<ACCESSION NO.> C85037488
<TITLE> SNATCH (SNA and Transdata Coupling of Hosts) update {IN Proceedings of the SEAS Annivesary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984}
<AUTHORS> Graml, F.
<OS -> DFVLR, Oberpfaffenhofen, Germany
<PUB DESC> SEAS, Nijmegen; Netherlands, 2 vol. x+827 PP., PP.527-42 vol.2, 1984, 10 REF.
<DATE> 1984
<DOCUMENT TYPE> PA (CONFERENCE PAPER)
<Category Code> *C5620; C6150J
<TC -> GR (GENERAL/REVIEW); PR (PRACTICAL)
<DESCRIPTORS> computer networks; network operating systems; protocols
<Supplementary terms> ISO OSI; SNA and Transdata Coupling of Hosts; SNATCH; network architectures; BS2000 operating system; mapping system; gateway;

coupling system; processing-oriented communications protocols; Open Systems Interconnection
<ABSTRACT> The SNATCH project was based on the manufacturer network architectures SNA from IBM and TRANSDATA from Siemens. The systems from the two manufacturers are each combined into a homogeneous, manufacture-specific network section, i.e. the systems with IBM structure into an SNA network, and the Siemens systems with the BS2000 operating system into a TRANSDATA network. The two network sections are combined with equal status via a mapping system to form an overall network. This mapping system, known as gateway, is a processor which combines different networks with one another. It has been demonstrated with the SNATCH coupling system that closed manufacturer networks can be opened up by means of the gateway technique. Even the higher-level, processing-oriented communications protocols can be converted into one another in a suitable way by means of a mapping computer. The aim of the BMFT-supported project, to contribute to the Open Systems Interconnection as defined by ISO, has therefore been reached.
<DATABASE SOURCE> SDC Inspec Database
<TRANSLATION DATE> Tue Aug 27 08:40:55 PDT 1985 (494005255)
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<DOWNLOAD FILE NAME> inspec
<ACCESSION NO.> D85002143
<TITLE> Videotex aids travel industry; international scene is covered {IN Dir. Mark. (USA)}
<AUTHORS> Book, A.
<PUB DESC> Dir. Mark. (USA), vol.48, no.2, PP.144-5, June 1985. 0 REF.
<DATE> 1985
<JC -> DIMADI
<DOCUMENT TYPE> J (JOURNAL PAPER)
<Category Code> *D2090; D4090
<TC -> GR (GENERAL/REVIEW); PR (PRACTICAL)
<DESCRIPTORS> travel industry; viewdata
<Supplementary terms> international scene; videotex; ASAP; database; tour operators, packages; telex services; Telex Link International
<ABSTRACT> Major information provided in the videotex area includes information for the travel industry. A new service launched by ASAP (Availability Search and Place) is being designed to help. Holiday makers will also get a wide choice in terms of late availability. The database has been built up on a two million pounds Sperry 1100 mainframe running Sperry Videotex 1100 software. Data about tour operators, packages is held on the mainframe which is accessible via the Prestel Gateway. A Videotex link service has been developed for use domestically within the UK. These telex services have now been extended to cover international telex services worldwide. As with the UK service, Telex Link International is available to all users.
<DATABASE SOURCE> SDC Inspec Database
<TRANSLATION DATE> Tue Aug 27 08:40:55 PDT 1985 (494005255)
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3. Data Element Statistics for Merged File

The following two pages list the complete collection of data elements, or fields, which occur in the master file of the five retrieved sets of citations. The list is produced using the Stat option in Process. The data elements which occur most frequently are listed first. These include accession number, authors, downloading information, title, date, and descriptors. Some data elements are unique to a specific database or search system. Some, such as accession numbers, are generally present.

However, DESCRIPTORS, which occurs in all records, is characteristic of a problem which the user must understand. In addition to DESCRIPTORS, there are several other fields which also include descriptive, or keyword type information. These include IDENTIFIERS, Indexing Terms, MINS, UPPOSTED, DESC, and Supplementary Terms. Therefore, indexes or permutations based on a single field may be incomplete. Also, some databases use additional types of classification such as category codes or field and group names.

Review of the data elements should be made for any file before attempting bibliometric analysis.

STATISTICS FOR FILE: master on Thu Sep 5 11:18:07 1985

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4. Formatted Printout of Sorted Master File

The following pages display the complete master file in a format more suitable for general use. This master file was sorted into chronological and alphabetical order and then printed using the -Pretty parameter in the Analyze option of Process. This option reduces a citation to author, title, date, accession number, source information, and abstract. If any of these data elements is not present, a message [(field) unknown] will be printed in the appropriate location.

This format can be used to display any translated file, but when used with the sort program produces a file which can be used in publications such as literature reviews or bibliographies. Shorter formats, which do not include the abstract, can be produced using the Concord option in Process.

Manned space stations - Gateway to our future in space 70A27742*

1969 GILRUTH, R. R.

DORDRECHT, D. REIDEL PUBLISHING CO., /ASTROPHYSICS AND SPACE SCIENCE LIBRARY, VOLUME 16/, IN- MANNED LABS. IN SPACE, INTERNATIONAL ACADEMY OF ASTRONAUTICS, INTERNATIONAL ASTRONAUTICAL CONGRESS, 19TH, INTERNATIONAL ORBITAL LAB. SYMPOSIUM, 2ND, NEW YORK, N.Y., OCT. 18, 1968, PROCEEDINGS. P. 1-10. /A70- 27741 12-31/

(Abstract Unknown)

Command and Control Related Computer Technology. Part I. Packet Radio. Part II. Speech Compression and Evaluation(Quarterly progress rept. no. 5, 1 Dec 75-29 Feb 76) 1134156;

Burchfiel, J. D. ; Beeler, M. D. ; Nickerson, R. S. ; Makhoul, J. ; Huggins, A. W. F.

1975

Bolt Beranek and Newman, Inc., Cambridge, MA.; <Code> 004246000; 060100; BBN-3263; Dec 75; 141p; English

This document describes progress on (1) the development of a packet radio network, and (2) speech compression and evaluation. Activities reported under (1) include work on PDP-11 TCP development, station gateway and ELF development; and digital unit checkout; under (2) implementation of covariance lattice method; specification of ARPA-LPC System II; investigation of phoneme-specific intelligibility test; study of effects on intelligibility of lost packets. (Author)

Singapore Airport - Gateway to the Orient 75A25341

1975 MAMA, H. P.

Airport Forum, vol. 5, 1975, p. 7-17. In English and German.

(Abstract Unknown)

Amsterdam's gateway to Europe enlarged --- Schiphol airport 75A45403

1975 SCHERPBIER, L. W.

Airport Forum, vol. 5, Sept. 1975, p. 57, 59, 63 (5 ff.). In English and German.

(Abstract Unknown)

Stockholm's new gateway to the world 77A20067

1976 JOHN, J. I.

Airport Forum, vol. 6, Dec. 1976, p. 23-26, 28, 30, 32-34. In English and German.

(Abstract Unknown)

PROGRESS REPORT ON PACKET RADIO EXPERIMENTAL NETWORK. B074032L

1977 NIELSON,DONALD L. ;RETZ,DAVID L. ;

QUARTERLY TECHNICAL REPT. 1 MAY-31 JUL 76,

(Abstract Unknown)

ARPANET TRANSITION OPPORTUNITIES AND GATEWAY CONSIDERATIONS A052021

1977 POSTEL, JONATHAN B. ; CROCKER, STEPHEN D. ;

FINAL REPT. 1 SEP 76-30 JUN 77.

ISSUES IN THE TRANSITION OF THE ARPANET ARE DISCUSSED AND A PLAN IS OUTLINED. THE USE OF GATEWAYS IS SUGGESTED, AND ISSUES RELATED TO THEM ARE DISCUSSED. THE APPENDICES INCLUDE COMPARISONS BETWEEN ALTERNATE DESIGNS FOR THREE FAMILIES OF HIGHER LEVEL PROTOCOLS, HOST-TO-HOST, TERMINAL ACCESS, AND FILE TRANSFER. (AUTHOR)

Lagos Murtala Muhammed Airport - Nigeria's gateway to the world 79A52299

ANON.

1979 Airport Forum, vol. 9, Aug. 1979, p. 57, 58, 60-62, 67, 68. In English and German.

(Abstract Unknown)

Saudi Arabia's new Gateway Airports 81A18093

1979 HOYT, J.; CAMPBELL, R.

International Air Transportation Conference, New Orleans, La., April 30-May 3, 1979, Proceedings. Volume 2. (A81-18051 06-01) New York, American Society of Civil Engineers, 1979, p. 768-795.

(Abstract Unknown)

Materials handling report/Coal transshipment terminals...a vital transportation link 84J0163468

1979 Yu, A.T.

Coal Age (U.S.)--, v. 84, no. 7, pp. 77-78, 80-82

The Superior Midwest Energy Terminal, a transshipment terminal in the Decker Coal rail-to-water route from Montana to Detroit, was designed and constructed in two years on a 200 acre site by Orba Corp.; it can transfer 20 million tons/yr of coal from railroad cars to self-unloading barges. In winter, 7 million tons of coal can be stored on the ground and unit-trains can enter, unload, and leave without being broken into smaller units. According to A. T. Yu of Orba Corp., environmental protection features include a water runoff treatment plant and dust generation and escape minimization by enclosure of the major components and use of telescopic chutes. Another new transshipment service involves PLM Inc.'s complete unit-train/barge transportation service and the new Iowa Gateway Terminal in Keokuk. The transportation service will start in 1980 or 1981; have a 6 million ton/yr capability; and provide the option of Rent-a-Train to coal operators. The 10 million ton/yr Hall Street Coal Transfer Terminal in St. Louis transfers western coal from railroad cars to river barges and provides open storage of coal.

Space nuclear reactors - Energy gateway into the next millennium 81A47395

1981 ANGELO, J. A., JR.; BUDEN, D.

International Astronautical Federation, International Astronautical Congress, 32nd, Rome, Italy, Sept. 6-12, 1981, 22 p. Research

sponsored by the U.S. Department of Energy.

(Abstract Unknown)

COMBINED QUARTERLY TECHNICAL REPORT NUMBER 21. SATNET DEVELOPMENT AND OPERATION. PLURIBUS SATELLITE IMP DEVELOPMENT. REMOTE SITE MAINTENANCE. INTERNET DEVELOPMENT. MOBILE ACCESS TERMINAL NETWORK. TCP FOR THE HP3000. TCP-TAC. TCP FOR VAX- UNIX. A100473

1981 BRESSLER,R. D. ;

REPT. FOR 1 FEB-30 APR 81.

THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE DEVELOPMENT OF AND EXPERIMENTATION WITH PACKET BROADCAST BY SATELLITE; ON DEVELOPMENT OF PLURIBUS SATELLITE IMPS; ON A STUDY OF THE TECHNOLOGY OF REMOTE SITE MAINTENANCE; ON THE DEVELOPMENT OF INTER-NETWORK MONITORING; ON SHIPBOARD SATELLITE COMMUNICATIONS; AND ON THE DEVELOPMENT OF TRANSMISSION CONTROL PROTOCOLS FOR THE HP3000, TAC, AND VAX-UNIX. (AUTHOR)

Gateway diversity and competition in international air transportation 82A21474

1981 TYE, W. B.

Transportation, vol. 10, Dec. 1981, p. 345-356.

(Abstract Unknown)

COMMAND AND CONTROL RELATED COMPUTER TECHNOLOGY: PACKET RADIO. B062940L

1982 BEELER,M. ;STRAZISAR,V. ;WESTCOTT,J. ;

QUARTERLY PROGRESS REPT. NO. 3, 1 JUN-31 AUG 80.

(Abstract Unknown)

ARPANET ROUTING ALGORITHM IMPROVEMENTS, VOLUME 2. A121350

1982 HAVERTY,J. F. ;HITSON,B. L. ;MAYERSOHN,J. ;SEVCIK, P. J. ;WILLIAMS,G. J. ;

TECHNICAL REPT. 1 SEP 80-15 APR 82.

THIS REPORT COVERS THE WORK PERFORMED DURING THE SECOND YEAR OF THE EXTENSION TO THE ARPANET ROUTING ALGORITHM IMPROVEMENTS CONTRACT. THE ARPANET SIMULATOR DEVELOPED DURING THE FIRST YEAR OF THE EXTENSION IS USED TO INVESTIGATE THE PERFORMANCE AND BEHAVIOR SPF ALGORITHM. RESULTS FROM THE SIMULATOR ARE COMPARED TO MEASUREMENTS OF SPF RUNNING ON A SMALL TEST NETWORK, MEASUREMENTS PREDICTIONS OF A STABILITY MODEL DEVELOPED DURING THE ORIGINAL CONTRACT. THE SIMULATION WAS RUN ON A 14-NODE NETWORK USING FIXED SINGLE-PATH, FIXED MULTI-PATH, AND SPF (ADAPTIVE) ROUTING. THE PERFORMANCE OF EACH ROUTING METHOD AS A FUNCTION OF NETWORK LOAD IS COMPARED TO THE PREDICTIONS OF A QUEUEING MODEL. AS PART OF THE DESIGN OF AN INTERNET, THIS REPORT DISCUSSES DESIGN ISSUES IN THE IMPLEMENTATION OF GATEWAYS, INCLUDING THE HOST INTERFACE TO THE INTERNET, INTEROPERABILITY OF AUTONOMOUS GATEWAY SYSTEMS, CONGESTION CONTROL, AND LOGICAL ADDRESSING.

Performance of end-to-end and gateway-to-gateway flow control procedures in internet environments 84A19064

1982 NASSEHI, M.; TOBAGI, F.

Conference on Decision and Control, 21st, Orlando, FL, December 8-10, 1982, Proceedings.

Volume 1 (A84-19051 06-63). New York, Institute of Electrical and Electronics Engineers, 1982, p. 112-119.

(Abstract Unknown)

Internet Protocol Implementation Guide 1128690;

1982 SRI International, Menlo Park, CA.

SRI International, Menlo Park, CA. Network Information Center.; <Code> 055876015; 410638; Aug 82; 148p; English

This document provides summary and tutorial information on research and development carried out by the DoD on the interconnection and use of packet communication networks. Topics covered include TCP-IP, fault isolation and gateway connections between dissimilar networks. Guidelines are provided for implementing the Internetwork protocols, along with background papers on the Internetwork protocols and protocols in general. (Author

MINUTES OF THE PACKET RADIO WORKING GROUP MEETING HELD AT CAMBRIDGE, MASSACHUSETTS ON 21-22 OCTOBER 1982. B070579L

1982 TORNOW,JANET ;

SRI INTERNATIONAL MENLO PARK CA.

(Abstract Unknown)

COMBINED QUARTERLY TECHNICAL REPORT NUMBER 31. PLURIBUS SATELLITE IMP (INTERFACE MESSAGE PROVISION) DEVELOPMENT MOBILE ACCESS TERMINAL NETWORK. A136256

1983 BLUMENTHAL,S. ;

QUARTERLY TECHNICAL REPT. 1 SEP-30 NOV 83.

THIS QUARTERLY TECHNICAL REPORT IS THE CURRENT EDITION IN A SERIES OF REPORTS WHICH DESCRIBE THE WORK BEING PERFORMED AT BBN IN FULFILLMENT OF SEVERAL ARPA WORK STATEMENTS. THIS QTR COVERS WORK ON SEVERAL ARPA-SPONSORED PROJECTS INCLUDING (1) DEVELOPMENT ACCESS TERMINAL NETWORK.

MINUTES OF THE PACKET RADIO WORKING GROUP MEETING HELD AT SOUTHERN PINES AND FORT BRAGG, NORTH CAROLINA, SEPTEMBER 20-22, 1983. B081844L

1983 MARTIN,L. T. ;

SRI INTERNATIONAL MENLO PARK CA.

(Abstract Unknown)

Coal transshipment and distribution in Europe the competitive powers of Rotterdam 85C0066241

1983 Oeriemans, N.

Coal Technology (Houston) (U.S.)--, v. 1, pp. 245-264

Until today most export sales to Europe have been done on a FOB U.S.-East Coast and U.S.-Gulf basis, meaning that many U.S. coal exporters are not too familiar with European coal ports and the onward transportation possibilities. However, because of the potential growth of especially steam coal deliveries to the electricity generating industry in Europe, there seems to be an

interest to get involved in some direct kind of way in the European coal market, even though today U.S. steam coal has a difficult time competing in the world market. A world market that is still characterized by a considerable surplus of supply over demand and a downward trend in prices expressed in dollars. European Coal Stevedoring with its majority shareholding in the largest dry bulk terminal in Europe - EMO Maasvlakte Terminal, Rotterdam - appreciates to have this opportunity to confront the U.S. exporters with coal transshipment and distribution in Europe and the competitive powers of the Gateway to Europe: Rotterdam, the Number One Port in the World.

Proceedings of the National Bridge Conference Held at Gateway Center Hilton, Pittsburgh, Pennsylvania on June 1-3, 1983 — 1106833;

1983 Pennsylvania Dept. of Transportation, Harrisburg, PA.

Pennsylvania Dept. of Transportation, Harrisburg.; <Code> 046235000; Jun 83; 256p; English; Conference proceeding

This Proceedings Document is a compilation of over 30 presentations given at the National Bridge Conference in Pittsburgh, Pennsylvania, June 1-3 1983. A wide variety of bridge-related topics were covered by the Conference.

Possibilities of Viditel for the gas industry — 85J0083021

1983 van Westen, M.A.J.M.

Gas (Apeldoorn, Netherlands) (Netherlands)--, v. 103, pp. 226-231

To enhance communications among consumers, gas companies, and their central organizations, the Dutch gas industry decided a few years ago to join the new Viewdata communication system, which is called Viditel in the Netherlands. Since mid-1981, the VEGIN association has gained experience with this system as a supplier of advice and data on tariffs, gas equipment, topical questions, professional training, gas consumption, and general matters. VEGIN also acts as an umbrella organization, allowing smaller data suppliers (the gas companies) to store their own information in Viditel at low cost; interfacing between their information and VEGIN's file gives the utilities access to far more information than their own. A further advantage is a certain degree of standardization of the information input. Public-access terminals allow the use of Viditel in information centers of gas companies, libraries, and town halls as well as at fairs and exhibitions. Future applications may include (1) setting up a closed information file (for data transmission between gas companies and their central organizations), (2) extending two-way communications, and (3) establishing the Gateway interface between the gas company computers and the Viditel system.

Discussion on gateway cross-section and support for mechanized faces — 85J0018958

1984 ANON.

Coal Science and Technology (Peking) (China)--, no. 5, pp. 14-16

None

Increasing the size of gateways for mechanized faces — 85J0060667

1984 ANON.

Coal Science and Technology (Peking) (China)--, no. 8, pp. 2-6

A correspondent of the Journal visited Mr. Bi Huozhoo, the Deputy Engineer-in-Chief of Koiluon Mining Administrotion to find out onswers to the following questions roised by the reoders: Why should the cross-section of goteways for mechonized foces be increoseed. Whot is the proper size. Is it difficult to maintoin the goteways ot increoseed size. Whot type of support should be used to reduce mointenonce. How con one improve the speed ond efficiency of drifting when cross section is increoseed. Whot is the suitoble size for thin seom. A detoiled onolysis is given on the procticol experience in Koiluon. Increose of gotewoy size created a better working environment, improved sofety in production, ond olso mode full use of the potentiol of foce instollotion ond lobour efficiency.

COMBINED QUARTERLY TECHNICAL REPORT NUMBER 35. PLURIBUS SATELLITE IMP (INTERFACE MESSAGE PROVISION) DEVELOPMENT MOBILE ACCESS TERMINAL NETWORK. A151312

1984 BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA

QUARTERLY TECHNICAL REPT. 1 AUG-31 OCT 84.

THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE DEVELOPMENT OF PLURIBUS SATELLITE IMPS, AND ON SHIPBOARD SATELLITE COMMUNICATIONS. KEYWORDS INCLUDE: COMPUTER NETWORKS, PACKETS, PACKET BROADCAST, SATELLITE COMMUNICATION, GATEWAYS, PLURIBUS SATELLITE IMP, SHIPBOARD COMMUNICATIONS, ARPANET, INTERNET, AND MOBILE ACCESS TERMINAL NET.

PLURIBUS SATELITE IMP DEVELOPMENT MOBILE ACCESS TERMINAL NETWORK. A147675

BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA

1984

QUARTERLY TECHNICAL REPT. NO. 33, 1 FEB-30 APR 84.

THIS QUARTERLY TECHNICAL REPORT DESCRIBES WORK ON THE DEVELOPMENT OF PLURIBUS SATELLITE IMPS, AND ON SHIPBOARD SATELLITE COMMUNICATIONS. (AUTHOR)

CSIN (Chemicol Substonces Information Network) Workbook: U.S. Geological Survey Training Course for Chemical Substances Information Network(Final rept) 1123171;

1984 Bolt Beronek ond Newmon, Inc . Arlington, VA.

Bolt Beronek ond Newmon, Inc., Arlington, VA.; <Code> 058127000; Council on Environmental Quality, Woshington, DC.: BBN-5866; Nov 84; 229p; English

The Chemical Substonces Information Network (CSIN) is a computer interface that provides a gateway to facilitate searching ond retrieving bibliographic and factuil dotd from a lorge selection of online data.uses maintoined by Dialog, SDC, NLM, BRS, OHS, CAS, ond CIS. The emphosis is on chemical ond hydrologic informotion. A series of menus lead the user through setting up searches. Lists of keywords, which ore tailored to specific dotobases, provide search terms on selected topics. This document is the complete workbook to accompany the CSIN Training Workshop developed to train end-users to use CSIN. It contains copies of all slides presented during the three day course. The topics covered include all system features, ond system functions such os the editor. The examples presented are focused towards

hydrological end-users.

User's Guide for CSIN: Chemical Substances Information Network(Final rept) 1118049;

1984 Bolt, Beronek and Newman, Inc., Arlington, VA.

Bolt Beranek and Newman, Inc., Arlington, VA.; <Code> 058127000; Council on Environmental Quality, Washington, DC.; BBN-5867; Nov 84; 319p; English; Bibliography

The Chemical Substances Information Network (CSIN) is a computer interface that provides a gateway to facilitate searching and retrieving bibliographic and factual data from a large selection of online databases maintained by Dialog, SDC, NLM, BRS, OHS, CAS and CIS. The emphasis is on chemical and hydrologic information. A series of menus lead the user through setting up searches. Lists of keywords, which are tailored to specific databases, provided search terms on selected topics. This document is the complete user's reference manual for the prototype CSIN implemented on a VAX 11/780 mini-computer. It includes descriptions and examples of all system features, tutorials on searching and use of the editor, and introduction to online searching. The appendix contains the contents of the 28 lists of keywords on topics related to the environmental and toxic health effects of chemicals, distribution of water in the ground and environment, and mathematical analysis and modeling.

Integration of an automated library support system with an intelligent gateway 84C0173691

1984 Burton, H.D.

Integrated online library systems conference. Lawrence Livermore National Lab., CA (USA).

A new project of the Technology Information System (TIS) at the Lawrence Livermore National Laboratory (LLNL) calls for the evaluation of commercially available library support packages and the extension and integration of the most desirable system with the TIS gateway to provide a comprehensive prototype for libraries and information centers. This prototype system is planned to facilitate access to and management of in-house activities such as cataloging, serials control, and acquisitions, as well as to interface to external systems and services for data downloading and exchange, retrieval, and post-processing. Cooperative cataloging, distributed database processing, electronic inter-library loan, and customized bibliography production are some of the features planned for the prototype. Development of a user-friendly front-end processor will allow the user to negotiate his search query in a semi-automated manner using a single, English-like command language. The TIS at Lawrence Livermore National Laboratory (LLNL) has developed a computer-based intelligent gateway for automated access to such diverse, geographically distributed information systems as DOE/RECON, DOD/DROLS, NASA/RECON, CAS On-Line, DARC (France) and DECHEMA (West Germany), among many others. New information resources centers are being added as required and users can connect simultaneously to more than one host to compare their data. The TIS online master directory provides the user with a single, integrated view of available and relevant resources. The automated access procedures permit the user to concentrate on the information aspects of his work rather than be burdened with various log-on procedures, database formats and protocols. The merger of the library support with the TIS gateway should provide

users with a capabilities to access and utilize the full spectrum of textual, numeric and graphics data resources.

Private branch exchange or local area networks? {IN Proceedings of the SEAS Anniversary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984} B85042388;

1984 Elmenhorst, W.

SEAS, Nijmegen, Netherlands, 2 vol. x+827 PP., PP.407-26 vol.1, 1984, 8 REF.

PBX and local area networks complement each other. A data PBX, without voice-capability may be a very good solution for local data communications because switch costs are low and inexpensive line-drivers can be used. Data PBX can also be used with existing wiring. Partly because these systems are aimed at low-cost application, they are simpler and tend to have less flexibility and fewer functions, than modern voice-and-data PBXs. A LAN is not a good choice, especially when you want to connect a thousand or more low and medium cost 'standard' asynchronous or synchronous terminals, workstations or ports. LANs, on the other side, can help in special situations such as backend networks, for high speed communication or in process control environments. Finally, in the near future, local area networks will be integrated without the necessity of user gateways in the PBX. Medium-term, for the next 3 to 5 years, a data PBX will probably be the right solution for the most standard data communication applications, even if ISDN-PBXs become available. The ISDN-PBX systems available at that time will be expensive and often support only digitized voice in the starting phase. Another problem at the beginning might be the missing experience and flexibility in data communication activities. Later, data, voice-and-data PBX and LANs will grow together.

SNATCH (SNA and Transdata Coupling of Hosts) update {IN Proceedings of the SEAS Anniversary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984} C85037488

1984 Graml, F.

SEAS, Nijmegen, Netherlands, 2 vol. x+827 PP., PP.527-42 vol.2, 1984, 10 REF.

The SNATCH project was based on the manufacturer network architectures SNA from IBM and TRANSDATA from Siemens. The systems from the two manufacturers are each combined into a homogeneous, manufacture-specific network section, i.e. the systems with IBM structure into an SNA network, and the Siemens systems with the BS2000 operating system into a TRANSDATA network. The two network sections are combined with equal status via a mapping system to form an overall network. This mapping system, known as gateway, is a processor which combines different networks with one another. It has been demonstrated with the SNATCH coupling system that closed manufacturer networks can be opened up by means of the gateway technique. Even the higher-level, processing-oriented communications protocols can be converted into one another in a suitable way by means of a mapping computer. The aim of the BMFT-supported project, to contribute to the Open Systems Interconnection as defined by ISO, has therefore been reached.

Proceedings of the Annual DTIC (Defense Technical Information Center) Users Conference Held at Alexandria, Virginia on 24-26 October 1984(Annual rept.) 1128938;

1984 Hanna, M. K.

Defense Technical Information Center, Alexandria, VA.; <Code> 062540000; 394981; 26 Oct 84; 193p; English; Bibliography; Conference proceeding

These proceedings consist of transcriptions of presentations made at the annual DTIC Users Conference, 1984. The presentations included status reports from the DTIC Directors, the Defense RDT/E On-Line System (DROLS) User Council, and the DTIC Resource Sharing Advisory Group. Other sessions included: DROLS Communications; a New User Orientation; DROLS Workshops for Dedicated and Dial-Up Terminal Users; other Government Information Resources (GPO, DOE, NLM); DTIC Management Data Bases; panels on DTIC Cataloging and Indexing Policies; Shared Bibliographic Input Network/Local Automation Model for an Integrated Cataloging/Retrieval System; the DoD Gateway for Accessing Diverse Information Resources; the Steps to Acquire a DROLS Terminal; the Manpower and Training Research Information System; and the Small Business Innovation Research Program.

EGP (Exterior Gateway Protocol) Gateway under Berkeley UNIX 4.2(Research rept.) 1104984;

1984 Kirton, P.

University of Southern California, Marina del Rey, Information Sciences Inst.; <Code> 045598002; 407952; ISI/RR-84-145; Oct 84; 42p; English

This report describes an implementation of the Exterior Gateway Protocol that runs under the UNIX 4.2 BSD operating system. Some issues related to local network configurations are also discussed. The Exterior Gateway Protocol has been specified to allow autonomous development of different gateway systems while still maintaining global distribution of internet routing information. EGP provides a means for different autonomous gateway systems to exchange information about the networks that are reachable via them.

540--900 nm photodissociation of 300 K NCNO: One- and two-photon processes 84J0122088

1984 Nadler, I.; Pfob, J.; Reisler, H.; Wittig, C.

Journal of Chemical Physics (U.S.)--, v. 81, no. 2, pp. 653-660

The laser photodissociation of 300 K NCNO throughout the region 540--900 nm is reported, and both 1- and 2-photon processes are discussed. By monitoring CN fragments produced via the 1-photon process, we show that with photolysis wavelengths > 592 nm, dissociation occurs predominantly by exciting NCNO ''hot bands.'' At shorter photolysis wavelengths, dissociation from the ground vibrational state of NCNO is observed as well, but the contributions from hot bands are still manifest in high CN rotational levels which are energetically inaccessible from the ground state (D$sub 0$ = 48.8 kcal mol$sup -1$). Energy distributions in the CN fragments were determined for excess energies up to 1800 cm$sup -1$, and are in agreement with phase space theory calculations and a vibrational predissociation mechanism. In addition, throughout the region 620--900 nm, stepwise two-photon photodissociation proceeds using the A $sup 1$A'' state as a gateway, and results in rotationally and vibrationally ''hot'' CN fragments. The hot CN fragment yield vs photolysis wavelength shows peaks which correspond exactly to peaks in the

NCNO absorption spectrum, allowing us to obtain high resolution spectra of the A $sup 1$A''reverse arrow X $sup 1$A' absorption system. The one- and two-photon processes are in competition, and the latter disappears at wavelengths where one-photon photodissociation of NCNO via its ground vibrational level sets in. The nature of the electronic states involved in the one- and two-photon processes is also discussed.

Big bang nucleosynthesis - Gateway to the very early universe 84A43834

TURNER, M. S.

1984

American Institute of Physics, NASA, NSF, U.S. Department of Energy, et al., Texas Symposium on Relativistic Astrophysics, 11th, Austin, TX, Dec. 12-17, 1982) New York Academy of Sciences, Annals (ISSN 0077-8923), vol. 422, 1984, p. 106-117.

(Abstract Unknown)

The use of the Oracle RDBMS at Elsevier-NDU {IN Proceedings of the SEAS Anniversary Meeting 1984. Distributed Intelligence, Garmisch-Partenkirchen, Germany, 24-28 Sept. 1984} C85038082

1984 von der Linden, G.A.

SEAS, Nijmegen, Netherlands, 2 vol. x+827 PP., PP.287-99 vol.1, 1984, 1 REF.

The Oracle DBMS has opened the gateway to new application areas and higher productivity in development. Oracle includes an application development facility (IAF), but this falls short in all but very simple types of applications. The facilities of Oracle and APL supplement each other very well. They both use a set processing approach rather than record processing. Performance is within acceptable limits and is stable with increasing table size.

THE INET GATEWAY TRIAL. P003092

1984 WOLTERS,P. H. ;

CANADA INST FOR SCIENTIFIC AND TECHNICAL INFORMATION OTTAWA (ONTARIO).

THE INET GATEWAY IS AN INTELLIGENT NETWORK CONCEPT DEVELOPED BY THE COMPUTER COMMUNICATIONS GROUP OF THE TRANSCANADA TELEPHONE SYSTEM. INET HAS EVOLVED IN RECOGNITION OF THE REQUIREMENT FOR MORE UNIVERSAL ACCESSIBILITY TO INFORMATION PROVIDERS AND OTHER COMPUTER-BASED SERVICES. THE INET GATEWAY IS DESIGNED TO SIMPLIFY THE PROCESS OF GATHERING, USING AND COMMUNICATING INFORMATION BY OFFERING A SINGLE POINT OF ACCESS TO SATISFY THE INFORMATION NEEDS OF A USER. IN ORDER TO TEST THE CONCEPT OF INTELLIGENT NETWORKING A ONE YEAR FIELD TRIAL IS BEING CONDUCTED FROM JULY 1982 TO JULY 1983. 400 TRIALISTS FROM THE BANKING, COMMUNICATIONS, ENERGY, REAL ESTATE, LEGAL, TRAVEL AND BIBLIOGRAPHIC SECTORS ARE PARTICIPATING. THE BIBLIOGRAPHIC COMMON INTEREST GROUP IS UNDERTAKING A SERIES OF SPECIFIC PROJECTS TO EVALUATE THE UTILITY OF GATEWAY TECHNOLOGY TO THE INFORMATION TRANSFER PROCESS.

LOCAL AREA NETWORK: TECHNOLOGY, PRODUCTS, AND TRENDS. VOLUME 2. PRODUCT SURVEY. B086264L

1984 YEH,J. ;LEUNG,A. ;MEI,H. ;LEE,H. H. ;

INTEGRATED MICROCOMPUTER SYSTEMS INC ROCKVILLE MD.

(Abstract Unknown)

LOCAL AREA NETWORK: TECHNOLOGY, PRODUCTS, AND TRENDS. VOLUME 3: ASSESSMENTS AND TRENDS. B086265L

1984 YEH,J. ;LEUNG,A. ;MEI,H. ;LEE,H. H. ;

INTEGRATED MICROCOMPUTER SYSTEMS INC ROCKVILLE MD.

(Abstract Unknown)

Videotex aids travel industry; international scene is covered {IN Dir. Mark. (USA)} D85002143

1985 Book, A.

Dir. Mark. (USA), vol.48, no.2, PP.144-5, June 1985, 0 REF.

Major information provided in the videotex area includes information for the travel industry. A new service launched by ASAP (Availability Search and Place) is being designed to help. Holiday makers will also get a wide choice in terms of late availability. The database has been built up on a two million pounds Sperry 1100 mainframe running Sperry Videotex 1100 software. Data about tour operators, packages is held on the mainframe which is accessible via the Prestel Gateway. A Videotex link service has been developed for use domestically within the UK. These telex services have now been extended to cover international telex services worldwide. As with the UK service, Telex Link International is available to all users.

Study of User-Defined Searching Requirements for the on-Line Version of the Directory of DoD-Sponsored R&D Data Bases on the Defense Gateway Computer System(Final rept.) 1126158;

Chastain, G. C.

1985 Defense Technical Information Center, Alexandria, VA.; <Code> 062640000; 394981; DTIC/TR-85/1; Mar 85; 141p: English

In anticipation of the implementation of the Directory of DoD-Sponsored R&D Data Bases in an on-line version on the Defense Gateway Computer System (hereafter the Gateway), a study was undertaken to identify the searching requirements of existing and potential use s. The terms user-friendly interface, natural language front-end processor, and expert system are defined. The procedure followed in conducting the study is described. Results of the study are presented along with a recommendation for an interface to be incorporated into the Gateway for searching the on-line version of the directory. The plan for this study was to contact a sample group of people who were familiar with the directory to ask them how they used the print directory, and try to determine their searching requirements for an on-line version of the directory. A questionnaire was used to gather this information. This instrument was chosen to define and standardize the information that would be gathered. This standardization served to increase reliability and facilitate analysis of the results.

LAN (Local Area Network) Interoperability Study of Protocols Needed for Distributed Command and Control(Final technical rept. Jun 83-Jul 84) 1130798;

1985 Elden, W. L. ; Miller, A. L. ; Morgan, S. L. ; Romanzo, B. A.

Harris Corp., Melbourne, FL. Government Information Systems Div <Code> 051762006; 411661; Rome Air Development Center, Griffiss AFB, NY; RADC-TR-85-53 Mar 85; 306p; English

The study examined distributed processing requirements for strategic and tactical C3I systems, reviewed the characteristics and architectural issues for distributed processing global operating systems, compared the DoD and ISO networking protocol architecture models, the protocols for LAN's developed by the IEEE and ANSI, reviewed and conducted performance evaluation of Ethernet, DoD's Internet Protocol and Transmission Control Protocol and reported characteristics of CSMA/CD, Token Bus and Token Ring LAN's, reviewed three alternatives to using TCP for an intra-LAN protocol and examined the methods for employing gateway elements to interconnect LAN-based system elements. A comprehensive discussion of the results is given followed by a set of concise conclusions. Ten recommendations are given, providing a roadmap to guide the Air Force in developing C3I systems and LAN-based protocols. Three major areas are identified where future work is needed. A set of protocols and design approaches for internetworking is contained in a set of appendices.

Local Automation Model Software Benchmarking: Test Plan 1131113;

1985 Hartt, R. W. ; O'Connor, D. J.

Logistics Management Inst., Bethesda, MD.; <Code> 082507000; 210475; Defense Technical Information Center, Alexandria, VA.; LMI-DL401; DTIC-TR-85/3; Mar 85; 109p; English

Sponsored by the Defense Technical Information Center, the Local Automation Model project encompasses requirements determination, system design, prototype system implementation, and production system acquisition for a fully resident integrated library system. The system is designed and will be made available for installation at Federal technical libraries and information centers. With the system, libraries will be able to share cataloging of technical reports with DTIC, relying on machine-aided translation of citations and an intelligent gateway to facilitate data transfer. The intelligent gateway also permits simultaneous searching of multiple, heterogeneous data bases, both Government-operated and commercial. In addition, the system supports full local collection management -- retrieval, cataloging, and circulation management and control. The prototype and production systems will be implemented with commercially available library automation software. The Test Plan is the fifth in a series of life-cycle documentation for the system. It contains criteria -- both performance and functional -- for selecting from among several packages recommended for benchmarking. Using the Test Plan, test participants will exercise features in each of the six packages selected for benchmarking and score the package on how well each feature is performed.

DDN: DoD upgrades its communications {IN Gov. Data Syst. (USA)} BS5047218;

Heiden, H.B.; Bryan, R.P.

1985 Gov. Data Syst. (USA), vol.14, no.1, PP.11-12, 14, Jan. 1985, 0 REF.

The Defense Data Network may be the pacesetter for all computer networks. It is solving the problems of dissimilar hosts, gateways to other networks, threats

from hackers and more.

Fourth generation videotex {IN ASLIB Proc. (GB)} B85047161;

1985 Jacobs, C.H.

ASLIB Proc. (GB), vol.37, no.6-7, PP.273-6, June-July 1985, 0 REF.

Discusses the four generations of videotex, Prestel is seen as the first, then came private versions of it, next came the shift towards the use of videotex as a means of delivering application data with the advent of gateways. The fourth generation brings the application and videotex as its delivery mechanism in a single system, the same files, the same processors and the same machine environment. Sperry's MAPPER is then briefly described this being an applications development facility providing greater control over computer facilities. The next stage will see the integration of personal computer.

A flexible approach to X.25 networking {IN Telecommunications (USA)} B85047077;

1985 Meyer, A.

Telecommunications (USA), vol.19, no.4, PP.68-1, 76, 84, 89, 0 REF.

In 1981, TRT turned its attention to the possible future requirements for private packet-switching networks (X.25) and for gateways to public networks that were being set up gradually in most industrialized countries. Important decisions had to be made at that time in terms of network design philosophy. TRT's marketing and engineering rationale in developing its COMPAC range of datacom network equipment are outlined.

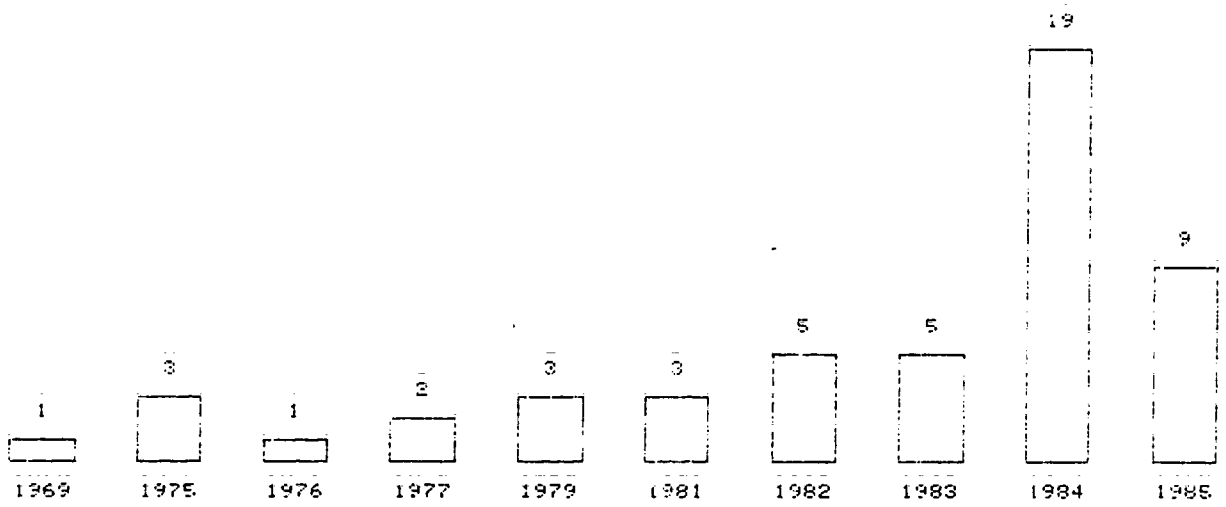
5. Bar Graphs of Co-Authorships, Total Production

The two bar graphs illustrate some of the statistics. The first gives the number of different contributing authors to the publications in the merged file. This graph when considered with the total volume by year, provides insight into co-authorship patterns.

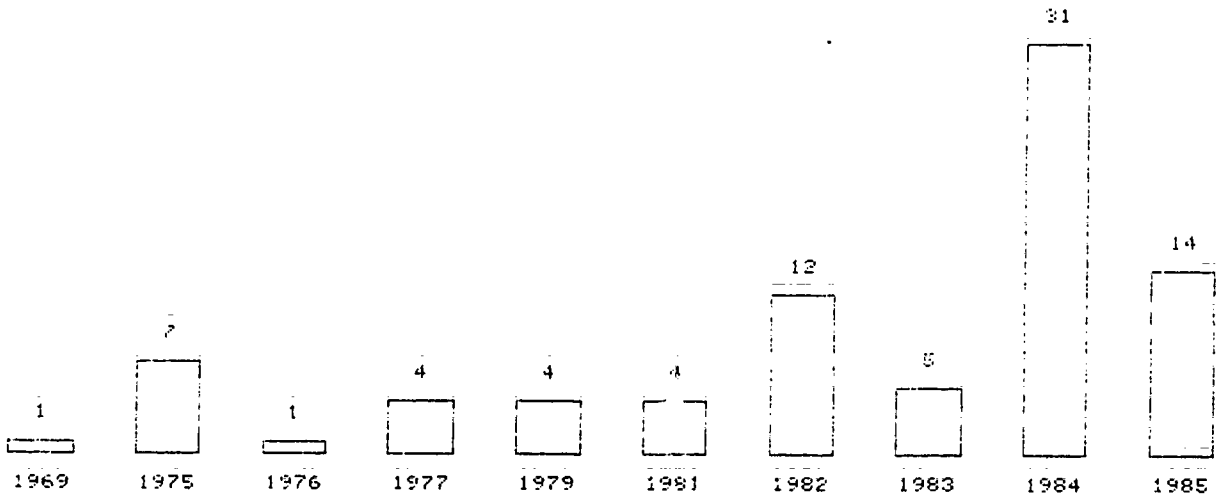
The second chart provides total publication by year.

Other graphical capabilities of the TIS post-processor produce charts of the distributions of keywords, title, or authors, among other parameters, interactively, on demand. A graphics terminal is required for display. Currently supported models include the Hewlett Packard, Graph-On, Tektronix, Televideo, and HDS Concept gvt terminals.

Citation Volume for a MultiSystem Search
Number of Publications per Year



Author Distribution for a MultiSystem Search
Number of Authors per Year



6. Correlation of Authors, Descriptors, Publication Dates

Two different correlations are given on the following pages.

The first presents authors by year of publication and is useful for the tracing of co-authorship patterns, changes in productivity, or individual publication patterns.

The second example provides descriptors (keywords) by year of occurrence. This shows patterns of subject coverage over time. It can be used in trend analysis to determine the momentum, or evolution of new technology, or the obsolescence of dated innovations.

Correlations can be produced between any two data elements, such as year vs. descriptors, or between separated components of a data element e.g., the author(s).

UCR/nasa

1969	1	GILRUTH, R. R.
	1	TOTAL
1975	1	Beeler, M. D.
	1	Burchfiel, J. D.
	1	Huggins, A. W. F.
	1	MAMA, H. P.
	1	Makhoul, J.
	1	Nickerson, R. S.
	1	SCHERPBIER, L. W.
	7	TOTAL
1976	1	JOHN, J. I.
	1	TOTAL
1977	1	CROCKER,STEPHEN D.
	1	NIELSON,DONALD L.
	1	POSTEL,JONATHAN B.
	1	RETZ,DAVID L.
	4	TOTAL
1979	1	ANON.
	1	CAMPBELL, [illegible]
	1	HOYT, J.
	1	Yu, A.T.
	4	TOTAL
1981	1	ANGELO, J. A., JR
	1	BRESSLER,R. D.
	1	BUDEN, D.
	1	TYE, W. B.
	4	TOTAL
1982	1	BEELER,M.
	1	HAVERTY,J. F.
	1	HITSON,B. L.
	1	MAYERSOHN, [illegible]
	1	NASSEHI, M.
	1	SEVCIK, P. J.
	1	SRI International, Menlo Park, CA.
	1	STRAZISAR,V.
	1	TOBAGI, F.
	1	TORNOW,JANET
	1	WESTCOTT,J.
	1	WILLIAMS,G. J.
	12	TOTAL
1983	1	BLUMENTHAL,S.
	1	MARTIN,L. T.
	1	Oerlemans, N.
	1	Pennsylvania Dept. of Transportation, Harrisburg, PA.
	1	van Westen, M.A.J.M.
	5	TOTAL
1984	2	ANON.
	2	BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
	1	Bollinger, W.A.
	1	Bolt Beranek and Newman, Inc., Arlington, VA.
	1	Bolt, Beranek and Newman, Inc., Arlington, VA.
	1	Burton, H.D.
	1	Elmenhorst, W.
	1	Gaynor, C.A.
	1	Graml, F.

	1	Hampel, V.E.
	1	Hanna, M. K.
	1	Kirtan, P.
	2	LEE,H. H.
	2	LEUNG,A.
	1	Lawrence Livermore National Lab., CA (USA)
	2	MEI,H.
	1	Nadler, I.
	1	Oldani, J.J.
	1	Pfab, J.
	1	Reisler, H.
	1	TURNER, M. S.
	1	WOLTERS,P. H.
	1	Wittig, C.
	2	YEH,J.
	1	van der Linde
	31	TOTAL
1985	1	Argonne National Lab., IL (USA)
	1	Book, A.
	1	Bradley, B.
	1	Bryan, R.P.
	1	Chastain, G. C.
	1	Elden, W. L.
	1	Hartt, R. W.
	1	Heiden, H.B.
	1	Jacobs, C.H.
	1	Meyer, A.
	1	Miller, A. L.
	1	Morgan, S. L.
	1	O'Connor, D. J.
	1	Romanza, B. A.
	14	TOTAL

1969	1	MANNED SPACECRAFT
	1	ORBITAL SPACE STATIONS
	1	SPACECRAFT DESIGN

	3	TOTAL
1975	1	*Command and control systems
	1	*Radio equipment
	1	*Speech compression
	1	AIRFIELD SURFACE MOVEMENTS
	1	AIRPORT PLANNING
	1	AIRPORTS
	1	BUILDINGS
	1	Checkout procedures
	1	Computer communications
	1	Computers
	1	Digital systems
	1	ECONOMIC FACTORS
	1	Extremely low frequency
	1	Intelligibility
	1	Linearity
	1	Mathematical prediction
	1	NETHERLANDS
	1	Networks
	1	Packets
	1	Quality
	1	Speech
	2	TERMINAL FACILITIES
	1	Test and evaluation
	1	Vocoders

	25	TOTAL
1976	1	AIRLINE OPERATIONS
	1	AIRPORT PLANNING
	1	CIVIL AVIATION
	1	TERMINAL FACILITIES

	4	TOTAL
1977	2	*COMMUNICATIONS NETWORKS
	1	*COMPUTERS
	1	*PACKETS
	1	*RADIO EQUIPMENT
	1	*RADIO TRANSMISSION
	1	CHANNELS
	1	COMMUNICATION EQUIPMENT
	1	CONTROL
	1	DEBUGGING(COMPUTERS)
	2	DIGITAL COMPUTERS
	1	FORWARD AREAS
	1	GROUND LEVEL
	1	NETWORKS
	1	NODES
	1	RADIO REPEATERS
	1	REPORTS
	1	ROUTING
	1	SWITCHING CIRCUITS

	20	TOTAL
1979	1	*COAL--transport
	1	*ENERGY TRANSPORT--terminal facilities
	1	*TERMINAL FACILITIES--design
	1	*TERMINAL FACILITIES--specifications
	2	AIRPORT PLANNING
	1	BARGES
	1	CIVIL AVIATION
	1	COAL INDUSTRY
	1	ENERGY STORAGE
	1	MATERIALS HANDLING

	1	POLLUTION CONTROL EQUIPMENT
	1	RAIL TRANSPORT
	1	SAUDI ARABIA
	2	TERMINAL FACILITIES
	16	TOTAL
1981	1	*COMMUNICATIONS NETWORKS
	1	*MESSAGE PROCESSING
	1	*SATELLITE COMMUNICATIONS
	1	ACCESS
	1	AIR TRANSPORTATION
	1	AIRPORTS
	1	CIVIL AVIATION
	1	COMMUNICATIONS TRAFFIC
	1	COMPETITION
	1	COMPUTER COMMUNICATIONS
	1	DATA TRANSMISSION SYSTEMS
	1	INTERFACES
	1	INTERPLANETARY FLIGHT
	1	MOBILE
	1	MONITORING
	1	NUCLEAR REACTORS
	1	PACKETS
	1	SPACE EXPLORATION
	1	SPACE INDUSTRIALIZATION
	1	SPACE POWER REACTORS
	1	SPACECRAFT PROPULSION
	1	TRANSOCEANIC FLIGHT
	22	TOTAL
1982	1	*ALGORITHMS
	1	*COMMAND AND CONTROL SYSTEMS
	1	*COMMUNICATIONS NETWORKS
	1	*COMPUTER COMMUNICATIONS
	1	*COMPUTER PROGRAMS
	1	*Communications networks
	1	*Data transmission systems
	2	*PACKETS
	2	*RADIO EQUIPMENT
	1	*ROUTING
	1	ADDRESSING
	1	CHANNELS (DATA TRANSMISSION)
	1	COMMUNICATION NETWORKS
	1	COMPUTER NETWORKS
	1	COMPUTERIZED SIMULATION
	1	COMPUTERS
	1	CONTROL
	1	Computer communications
	1	Computers
	1	DATA TRANSMISSION SYSTEMS
	1	DIGITAL COMPUTERS
	1	Digital communications
	1	Electronic mail
	1	Faults
	1	INTERFACES
	1	Interactions
	1	Isolation
	1	MACHINES
	1	MASSACHUSETTS
	1	METAL OXIDE SEMICONDUCTORS
	1	MONITORING
	1	MULTIPATH TRANSMISSION
	1	MULTIPLE OPERATION
	1	Message processing
	1	NETWORK CONTROL
	1	NETWORKS
	1	NODES
	1	Networks
	1	PREDICTIONS
	1	QUEUEING THEORY
	1	SCHEDULING

	1	STATIONS
	2	SYMPOSIA
	1	Standards
	1	TRAFFIC CONTROL
	1	TRANSMISSION EFFICIENCY
	1	TRANSMITTANCE
	50	TOTAL
1983	1	•Bridges(Structures)
	1	•COAL--market
	1	•COAL--transport
	2	•COMMUNICATIONS NETWORKS
	1	•COMPUTER COMMUNICATIONS
	1	•EUROPE--coal industry
	1	•EUROPE--terminal facilities
	1	•Meetings
	1	•NATURAL GAS INDUSTRY--data base management
	1	•NATURAL GAS INDUSTRY--information systems
	1	•NETHERLANDS--natural gas industry
	1	•PACKETS
	1	•RADIO EQUIPMENT
	1	•SATELLITE COMMUNICATIONS
	1	•SYMPOSIA
	1	ACCESS
	1	BROADBAND
	1	Bridge abutments
	1	Bridge foundations
	1	COMPETITION
	2	COMPUTER PROGRAMS
	1	COUNTERMEASURES
	1	Coatings
	1	Construction
	1	Consulting services
	1	DIGITAL COMPUTERS
	1	Design
	1	Development
	1	ERRORS
	1	HISTORY
	1	INFORMATION DISSEMINATION
	1	INTERFACES
	1	MESSAGE PROCESSING
	2	MOBILE
	1	Maintenance
	1	NETWORKS
	1	NORTH CAROLINA
	1	PHOTOGRAPHY
	1	PRICES
	1	Research
	1	SCENARIOS
	1	SCHEDULING
	1	SHIPBOARD
	1	SUPPLY AND DEMAND
	1	TERMINALS
	1	TEST BEDS
	49	TOTAL
1984	1	•COMMUNICATIONS NETWORKS
	2	•COMPUTER COMMUNICATIONS
	1	•Chemical compounds
	1	•Computer communications
	1	•Education
	1	•INFORMATION SYSTEMS--computer networks
	1	•INFORMATION--computer networks
	1	•Information exchange
	1	•Information processing
	2	•Information systems
	1	•LONGWALL MINING--mine

roadways
1 *MATERIALS--information
systems
1 *MINE ROADWAYS--size
1 *Management information
systems
1 *Manuals
2 *NETWORKS
1 *NITROSO
COMPOUNDS--absorption
spectra
1 *NITROSO
COMPOUNDS--photolysis
2 *SATELLITE COMMUNICATIONS
1 *Symposia
1 *TERMINALS
1 *Technical information
centers
1 *UNDERGROUND
MINING--mine roadways
1 *UNDERGROUND
MINING--supports
1 ABUNDANCE
3 ACCESS
1 Automation
1 BANKING
1 BIBLIOGRAPHIES
1 BIG BANG COSMOLOGY
2 Bibliographies
1 CANADA
1 COAL SEAMS
1 COMMUNICATIONS NETWORKS
1 COMPUTERS
1 Chemistry
1 Communications traffic
2 DATA BASE MANAGEMENT
1 DISSOCIATION
1 EQUATIONS
1 Environmental surveys
1 FIELD TESTS
1 HEIGHT
2 Hydrology
1 INFORMATION RETRIEVAL
1 INFORMATION TRANSFER
1 INTERFACE
1 ISDN
1 Interface
1 LAWRENCE LIVERMORE
LABORATORY
1 LIGHT ELEMENTS
1 Loops
1 MAINTENANCE
1 MANPOWER
1 MEDIUM TEMPERATURE
1 MESSAGE PROCESSING
1 MINE HAULAGE
2 MOBILE
1 MULTI-PHOTON PROCESSES
1 Message processing
2 NETWORKS
1 NUCLEAR FUSION
2 Networks
2 PATTERNS
1 PRODUCTION
2 PROFILES
2 RINGS
1 Routing
1 SAFETY
2 SHIPBOARD
1 SPECIFICATIONS
1 SUPPORTS
2 SURVEYS
1 TELEPHONE SYSTEMS
1 TERMINALS
2 TREES
1 Topology
1 USER NEEDS
2 VENDORS

	1	WIDTH
	1	WORK
	1	WORKING CONDITIONS
	2	WORKING FACES
	1	computer networks
	1	electronic switching systems
	1	local area networks
	1	network operating systems
	1	private telephone exchanges
	1	protocols
	1	relational databases
	110	TOTAL
1985	1	*ANL--computer networks
	1	*ANL--supercomputers
	1	*Command and control systems
	1	*Communications networks
	2	*Data bases
	1	*Directories
	1	*Distributed data processing
	1	*Information transfer
	1	*LAWRENCE LIVERMORE LABORATORY--computer networks
	1	*Libraries
	1	*Machine translation
	1	*Man computer interface
	1	*Technical information centers
	1	Air force
	1	Architecture
	1	Artificial intelligence
	1	Automation
	1	CRAY COMPUTERS
	1	Catalogs
	1	Circulation
	1	Classification
	1	Computers
	1	Control
	1	DEC computers
	1	Data acquisition
	1	Data processing
	2	Department of defense
	1	Determination
	1	Distribution
	1	Front end processors
	1	Heterogeneity
	1	IBM computers
	1	Integrated systems
	1	Management
	2	Models
	1	Networks
	1	On line systems
	1	Performance tests
	1	Planning
	1	Production
	1	Prototypes
	1	Questionnaires
	1	Reliability
	1	Reports
	2	Requirements
	2	Searching
	1	Standardization
	1	Strategic communications
	1	Strategic intelligence
	1	Synchronism
	1	Tactical communications
	1	Tactical intelligence
	1	Test and evaluation
	1	Transmittance
	1	United states government
	1	User needs
	1	Computer communications

	software
2	computer networks
1	data communication equipment
1	large-scale systems
1	military computing
1	packet switching
1	programming environments
1	security of data
1	software packages
1	telecommunication networks
1	travel industry
2	viewdata
75	TOTAL