Enclosure 2 to DTIC-R FOIA 2009-74

Defense Technical Information Center
Bibliography of AUTOVON-Related Documents Approved for Public Release

July 21, 2009

The documents listed in this enclosure 2 to DTIC-R FOIA 2009-74 have been approved for public release and can be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. NTIS sells such documents to the general public and, if you wish, you can order the documents by telephone at (703) 605-6000. Be sure to include the AD numbers when requesting the documents, NOTE: Some of the documents listed on the bibliography on enclosure 2 can be viewed and/or downloaded in full text through the DTIC Online Public Technical Reports website at http://www.dtic.milldtic/searchltr/index.html. Once at the site, in the "Search for" box, type the full document number as its written (ex: ADA432533), then click the "Search" button; in the Accession Number field, click on the link "View Full Text (pdf)".

DEFENSE TECHNICAL INFORMATION CENTER
8725 JOHN J. KINGMAN RD. STE 0944
FT. BELVOIR, VA 22060-6218

IN REPLY REFER TO DTIC-R (FOIA 2009-74)

JUL 21 2009

Dear _____:

This is in response to your email dated June 19, 2009 requesting information under the Freedom of Information Act (FOIA) (enclosure 1). Under Department of Defense rules implementing the FOIA, published at 32 CFR 286, your request was categorized as "other."

Enclosed is a computer-generated bibliography prepared by matching the subject term in your request against our database (i.e., *AUTOVON; Autovon; autovon*). The bibliography may contain some documents that do not apply to the specific subject area in which you are interested; however, to eliminate any of the key search terms could also eliminate documents that do apply to your subject area(s) of interest.

The documents listed on enclosure 2 have been approved for public release and can be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. NTIS sells such documents to the general public and, if you wish, you can order the documents by telephone at (703) 605-6000. Be sure to include the AD numbers when requesting the documents. NOTE: Some of the documents listed on the bibliography on enclosure 2 can be viewed and/or downloaded in full text through the DTIC Online Public Technical Reports website at http://www.dtic.mil/dtic/search/tr/index.html. Once at the site, in the "Search for" box, type the full document number as its written (ex: ADA432533), then click the "Search" button; In the Accession Number field, click on the link "View Full Text (pdf)".

Enclosure 3 consists of a bibliography that contains unclassified descriptions of classified and/or unclassified/limited distribution documents related to your request. These documents are NOT approved for public release. These documents may only be released by the appropriate controlling activities. Requests for these documents should be forwarded to the controlling activities, usually identified in the Distribution Statement field of the citation. NOTE: Although some of the citations listed on the bibliography at enclosure 3 may indicate that the document can be viewed and/or downloaded in full text,

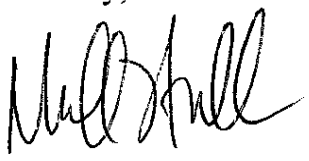
JUL 21 2009

be advised that these citations/documents are not available to the general public through the DTIC Online Public Technical Reports.

Regarding your request for a Research Summaries (previously known as Work Unit Information System (WUIS) and Technical Efforts and Management Systems (TEAMS)) bibliography, please be advised that we do not currently have a format to produce a bibliography for Research Summaries, however we are in the process of creating a format. Once this format has been developed and finalized, we will forward the Research Summaries bibliographies to you under separate cover. We apologize for any inconvenience that may occur due to this process.

To date, there are no assessable fees for services from the Defense Technical Information Center (DTIC) at this time. Please understand that other members of the public may submit a FOIA request for copies of FOIA requests received by this office or the names of those who have submitted requests. Should such occur, your name and, if asked for, a copy of your request will be released; however, your home address and home telephone number will not be released. Other private citizens who have obtained your name by using such a request may contact you. However, correspondence from the DoD about your request will be on official letterhead. Please call me at (703) 767-9204 if you have any questions. Thank you for your interest in obtaining information from DTIC.

Sincerely,



3 Enclosures

MICHAEL HAMILTON
Acting FOIA Program Manager

Akers, Kelly CIV DTIC R

Sent: Friday, June 19, 2009 11:00 AM
To: FOIA
Subject: FOIA request for computer-generated bibliography -- "autovon"

June 19, 2009

Defense Technical Information Center
Attn: DTIC-RSM [Michael Hamilton, Acting FOIA Manager]
8725 John J. Kingman Road, Suite 0944
Fort Belvoir, VA 22060-6128

Via email: foia@dtic.mil

Dear Mr. Hamilton:

This is a request under the Freedom of Information Act. I request a copy of a computer-generated technical report bibliography of reports on the subjects/keywords of:

"AUTOVON" (or **"Autovon"** or **"autovon",** if your search system is case sensitive)

Please send me this bibliography for all years between 1945 and today in your computerized index.

You do not need to search your manual card index.

Please also conduct a search of the TEAMS (Technical Effort & Management Systems) database, which was formerly called WUIS (Work Unit Information System).

This is a request for DTIC records, please do not forward my request to NTIS. Please include the bibliography for unclassified/limited and for classified records in your search. If any of the records are limited or classified, please review them for release, or else the release of nonsensitive portions.

I am an individual, noncommercial requester and this request is not being made for commercial purposes. I also agree to pay up to $25 if necessary for reasonable fees associated with this request.

Please contact me if you have questions or need additional information. My contact information:

Thanks very much for processing this request.

Sincerely,

FOI

Encl 5

(Page 2 was blank in the paper documents sent by DTIC.)

Handle / proxy Url: http://handle.dtic.mil/100.2/ADA432533

Corporate Author:
INSPECTOR GENERAL DEPT OF DEFENSE ARLINGTON VA

Unclassified Title:
(U) Financial Management: Contracts Classified as Unreconcilable by the Defense Finance and Accounting Service Columbus (Contract No. F30602-81-C-0153)

Personal Author(s):
Granetto, Paul J
Kornides, James L
Issel, John K
Knight, Clarence E , III
Bennett, Karen M

Report Date:
14 Mar 2005

Media Count:
22 Page(s)

Report Number(s):
IG/DOD-D-2005-040
XD-IG/DOD

Monitor Series:
IG/DOD

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
26 - NOT AVAILABLE IN MICROFICHE

Distribution Statement:
Approved for public release; distribution is unlimited., Availability: This document is not available from DTIC in microfiche.

Abstract:
(U) Air Force contract F30602-81-C-0153 was awarded to the Harris Corporation on April 22, 1981, to design and provide Vinson Autovon Secure Voice Terminals (secure communication devices) for use throughout DoD. Rome Air Development Center at Griffis Air Force Base, New York, awarded the contract and initially obligated 89,675,382. According to records in the Mechanization of Contract Administration Services (MOCAS) system, the total contract value and the amount obligated over the life of the contract was 840,766,838. The Defense Contract Management Agency (DCMA) office in Orlando, Florida, administered the contract until October 7, 1985, when the responsibility for contract administration was transferred to the DCMA office in Palm Bay, Florida. At the time of the audit, the contract had a negative unliquidated obligation (NULO) balance of 8606,898 in the MOCAS system. Because a NULO existed in MOCAS, the contract could not be closed until a full reconciliation was performed.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA378322

Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/a378322.pdf
Size: 1 MB

Handle / proxy Url: http://handle.dtic.mil/100.2/ADA378322
rporate Author:
INSPECTOR GENERAL DEPT OF DEFENSE ARLINGTON VA
classified Title:
(U) Billings for Centrex Autovon Terminations
scriptive Note:
Advisory rept.
rsonal Author(s):
Thomas, William F
Gannon, John A
Bonsiero, Francis C
Gilliam, Deborah A
port Date:
25 Feb 1992
edia Count:
41 Page(s)
port Number(s):
IG/DOD-92-054
XD-IG/DOD
onitor Series:
IG/DOD
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
istribution Statement:
Approved for Public Release; Distribution Unlimited.
bstract:
(U) In January 1984, the divestiture of the American Telephone & Telegraph Company (AT&T) and its 22 Bell Operating Company subsidiaries occurred. Under the court-ordered Plan of Reorganization the Bell Operating Companies became the provider of local service, while AT&T became the long-distance carrier and vendor for customer-premise service equipment.
bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA379270
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/a379270.pdf
Size: 1 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADA379270
Corporate Author:
INSPECTOR GENERAL DEPT OF DEFENSE ARLINGTON VA
Unclassified Title:
(U) Final Quick-Reaction Report on the Reconfiguration of Automatic Voice Network Access Circuits - Kansas City Area.
Report Date:
03 Jul 1991

Media Count:
27 Page(s)
Report Number(s):
IG/DOD-91-110
XD-IG/DOD
Monitor Series:
IG/DOD
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) This final quick-reaction report is on a segment of our Audit of Telecommunications Circuit Allocation Programs - Kansas City Area. The objectives of this segment of the audit were to determine if existing leased telecommunications services were discontinued when no longer required and if the most cost-effective circuit configurations were used. Less costly reconfiguration opportunities existed, but were not effectively identified or implemented for 109 Command Communications Service Designators (CCSD's) issued for leased Automatic Voice Network (AUTOVON) access circuits at seven DoD activities in the Kansas City area. The CCSD's are issued by the Defense Communications Agency (DCA) to identify single and multichannel special-purpose circuits of the Defense Communications System. The 109 CCSD's cost the DoD $314,880 annually. We found that 41 (37.6 percent) of the 109 AUTOVON access circuits reviewed were potentially not cost-effective in their current configurations. In the Kansas City area, the DCA neither identified reconfiguration opportunities nor coordinated implementation of reconfiguration solutions when two or more DOD Components were involved. We estimated that the 41 reconfiguration candidate circuits needlessly cost DOD about $656,000 over the last 6 years. The DCA needs to reconfigure these circuits to avoid paying further unnecessary monthly recurring charges. If a prompt reconfiguration solution is implemented, the DoD could realize savings of $658,000 during execution of the FY 1992 through FY 1997 Future Years Defense Program.
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA380101
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/a380101.pdf
Size: 2 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADA380101
Corporate Author:
INSPECTOR GENERAL DEPT OF DEFENSE ARLINGTON VA
Unclassified Title:
(U) Billings for Centrex Autovon Terminations in the Department of the Navy
Descriptive Note:
Audit rept.
Report Date:
06 Feb 1991
Media Count:
60 Page(s)
Report Number(s):
IG/DOD-91-043

[C Bibliography

XD-IG/DOD

nitor Series:
IG/DOD

port Classification:
Unclassified

tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

stract:
(U) This is our final report on the Audit of Billings for CENTREX AUTOVON Terminations in the Department of the Navy. The audit was performed from January through December 1989. The objective of the audit was to determine whether the Bell Operating Companies have properly billed DoD telecommunications users for Central Office Exchange Service (CENTREX) Automatic Voice Network (AUTOVON) termination service and for special assembly charges in accordance with existing tariffs and agreements. We also evaluated the adequacy of internal controls. This report addresses only Navy users of CENTREX. Separate final reports on CENTREX users in the Air Force, the Army, the Defense Logistics Agency, and the Defense Telecommunications Service- Washington either have been issued or will be issued. We commend Navy management for attempting to correct many of the conditions noted in this report. The Navy continuously stressed the need for accurate inventories, proper certification of bills, and improvements for the management of telecommunications. However, for reasons cited in this report, those procedures were not implemented.

)stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA380693

Full Text (pdf) Availability:
View Full Text (pdf)

File: /U2/a380693.pdf

Size: 2 MB

Handle / proxy Url: http://handle.dtic.mil/100.2/ADA380693

orporate Author:
INSPECTOR GENERAL DEPT OF DEFENSE ARLINGTON VA

nclassified Title:
(U) Billings for Centrex Autovon Terminations in the Department of the Air Force

)escriptive Note:
Final rept.,

Report Date:
28 Dec 1990

Media Count:
50 Page(s)

Report Number(s):
IG/DOD-91-023
XD-IG/DOD

Monitor Series:
IG/DOD

Report Classification:
Unclassified

)istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:

(U) The objective of the audit was to determine whether the Bell Operating Companies have properly billed DoD telecommunications users for CENTREX AUTOVON termination service and for special assembly charges in accordance with existing tariffs and agreements. We also evaluated the adequacy of applicable internal controls. This report addresses only Air Force users of CENTREX. Separate reports on users in the Army, Navy, Defense Logistics Agency, and Defense Telecommunications Service - Washington either have been issued or will be issued at a future date. The audit concentrated on AT&T and Bell Operating Company charges for AUTOVON and DCTN termination service and special assembly items at Air Force CENTREX installations for the period January 1, 1984, through May 31, 1989.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA380661
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/a380661.pdf
Size: 2 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADA380661
Corporate Author:
INSPECTOR GENERAL DEPT OF DEFENSE ARLINGTON VA
Unclassified Title:
(U) Billings for Centrex Autovon Terminations in the Department of the Army
Descriptive Note:
Final rept.,
Report Date:
09 Nov 1990
Media Count:
44 Page(s)
Report Number(s):
IG/DOD-91-011
XD-IG/DOD
Monitor Series:
IG/DOD
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) The objective of the audit was to determine whether the Bell Operating Companies have properly billed DoD telecommunications users for CENTREX AUTOVON termination service and for special assemblies in accordance with existing tariffs and agreements. We also evaluated the adequacy of applicable internal controls. This report addresses only Army users of CENTREX. Separate final reports on Navy, Air Force, the Defense Logistics Agency, and the Defense Telecommunications Service-Washington CENTREX users will be issued at a later date. The audit concentrated on AT&T and Bell Operating Company charges for AUTOVON termination service and special assembly items at Army CENTREX installations for the period January 1, 1984, through May 31, 1989.
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
ADA223950
rporate Author:
SYRACUSE UNIV NY
classified Title:
(U) Channel Models for the Error Injector Unit.
scriptive Note:
Final rept. Jan 89-Feb 90,
rsonal Author(s):
Varshney, Pramod K
port Date:
May 1990
edia Count:
27 Page(s)
port Number(s):
RADC-TR-90-89
ntract Number:
F30602-88-D-0027
onitor Series:
TR-90-89
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) This report discusses channel modeling for the generation of error patterns to conduct experimentation in RADC's Network Design Laboratory. The interference process and impairments in most real communication channels are such that errors tend to occur in clusters. Channel models based on Markov chains are able to generate error sequences which are typical of the error patterns produced by real channels. Four-state Markov channel models for HF, troposcatter and AUTOVON channels described in the report are considered suitable for demonstration and experimentation. Further research is needed in the area of channel modeling especially in the presence of jamming. Keywords: Communications networks; Test evaluation; Simulation.
bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA161547
orporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA
Inclassified Title:
(U) Two Methods of Controlling Point-to-Point Loss Probabilities in a Circuit Switched Network.
escriptive Note:
Technical note. 1984-1985,
ersonal Author(s):
Gajjala,Murti

Report Date:
Sep 1985
Media Count:
26 Page(s)
Report Number(s):
DCEC-TN-1-85
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) The existing program for the design of OS/AUTOVON networks determines the link sizes for the given network connectivity, traffic loads, routing plan and link blocking probabilities. If the resulting point-to-point loss probabilities are unacceptably high or too low (resulting in large link sizes), the link blocking probabilities need manual adjustment. The desired adjustment is not known and can only be assessed by experimenting with a large number of sets of link blocking probabilities and examining the resultant link sizes and point-to-point loss probabilities. Our search for methods to automatically resize the links using the feedback principle and thereby improve the design of a network led to identification of two methods: (1) Link GOS Adjustment method and (2) Link Size Adjustment method. Test results showed that the first method can effectively bring the point-to-point loss probability of traffic to within the specified GOS with fewer interswitch trunks. The second method maximized the number of source-destination pairs whose point-to-point loss probabilities are between the specified lower and upper bounds, although it involved more hops for completed calls and more interswitch trunks.
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA270926
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/a270926.pdf
Size: 110 KB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADA270926
Corporate Author:
ASSISTANT SECRETARY OF DEFENSE (COMMAND CONTROL COMMUNICATIONS AND INTELLIGENCE) WASHINGTON DC
Unclassified Title:
(U) Automatic Voice Network Access
Report Date:
08 Feb 1985
Media Count:
2 Page(s)
Report Number(s):
DODD-4640.9
XD-WHS/DD
Monitor Series:
WHS/DD
Report Classification:
Unclassified

tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
tribution Statement:
Approved for public release; distribution is unlimited.
stract:
(U) This Directive provides DoD policy governing access to the Autouiatic Voice Network (AUTOVON) by non-DoD entities.
stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

:cession Number:
ADA138103
ırporate Author:
ARMY WAR COLL CARLISLE BARRACKS PA
ıclassified Title:
(U) Falkland Islands War, A Selected Bibliography.
:port Date:
Feb 1984
edia Count:
23 Page(s)
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) This selected and annotated bibliography represents a beginning for the student of contingency planning and its application in the Falklands Campaign. The listings in this bibliography will be available during the period of Course 8 (Application of Power: Contingency Planning) in the Library Reserve Room. This bibliography is not intended to be comprehensive but rather represents a summary of the more useful holdings found in the U.S. Army war College Library. The serious scholar will surely wish to go well beyond this bibliography in further research. Additional information and assistance may be obtained from the Library Services Branch, U.S. Army War College, AUTOVON 242-3660 or (717) 245-3660.
.bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ıccession Number:
ADA123739
:orporate Author:
AIR FORCE OCCUPATIONAL MEASUREMENT CENTER RANDOLPH AFB TX
Jnclassified Title:
(U) Training Extract, AFSC 113X0B, Flight Engineer, Helicopter Qualified.
Report Date:
Dec 1982
Media Count:

141 Page(s)

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) Use of STS FACPRT printouts: STS items are listed between the dotted lines, with matched tasks listed below and survey data printed to the right to each task. These data can be used to validate STS content and code levels at utilization and training workshops. Job inventory tasks to be emphasized within each STS area can also be identified using this printout. In addition, tasks which were not matched with STS items are listed in the 'tasks not referenced' section in descending order of first-term training emphasis ratings. These tasks can be used to identify new areas which may warrant inclusion in future STS's. For a more detailed explanation of training emphasis and task difficulty ratings, see the narrative occupational survey report, or for assistance phone USAFOMC/OMYO at autovon 487-5811. (Author)

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA106155

Corporate Author:
MASSACHUSETTS INST OF TECH LEXINGTON LINCOLN LAB

Unclassified Title:
(U) Routing in circuit and Packet Switched Networks: An Annotated Bibliography.

Descriptive Note:
Technical rept.,

Personal Author(s):
Lippmann,Richard P

Report Date:
14 Sep 1981

Media Count:
36 Page(s)

Report Number(s):
TR-585
ESD-TR-81-280

Contract Number:
F19628-80-C-0002

Monitor Series:
TR-81-280

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) This report contains an annotated bibliography of papers which describe routing and design procedures used in circuit and packet switched networks and a topical index to these papers. Papers were selected either because they were judged to provide insight into routing algorithms potentially applicable to the future Defense Switched Network or because they provide background information on routing and network design. These papers contain studied of routing, congestion control, and network design performed using analytic models and event-by-event simulations. They also contain reviews of military networks, and descriptions of routing and

design procedures for the current military telephone network (AUTOVON), the Bell System long distance DDD telephone network, and various packet switched networks including ARPANET and TYMNET. (Author)

ıstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

:cession Number:
ADA110659

ɔrporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA

ıclassified Title:
(U) An Investigation of Access Area Engineering Methods for AUTOVON.

escriptive Note:
Technical note,

ersonal Author(s):
Fischer,M J

eport Date:
Aug 1981

[edia Count:
54 Page(s)

eport Number(s):
DCEC-TN-22-81

eport Classification:
Unclassified

istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) In this technical note we compare both qualitatively and quantitatively the two methods (AT&T and DCA's) being used to perform access line engineering on the current AUTOVON network. The DCA method was found to be superior but had one deficiency. We then present a method which overcomes this deficiency and performs better than the other two. (Author)

.bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ıccession Number:
ADA095340

:orporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA

Jnclassified Title:
(U) Operational Evaluation of a Voice Concentrator over AUTOVON Interswitch Trunks.

)escriptive Note:
Technical rept.,

'ersonal Author(s):
Smith,David R

ɛeport Date:

Dec 1980
Media Count:
78 Page(s)
Report Number(s):
DCEC-TR-5-80
SBI-AD-E100 402
Monitor Series:
AD-E100 402
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) Results of a test and evaluation of a commercial voice concentrator are reported.The device tested concentrated 17 voice channels into 9 Autovon interswitch trunks operating between Ft. Dietrick, Md. and Feldberg, Germany. Traffic data analysis showed minimal speech loss and blocking occurred during busy hours.
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA099483
Corporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA
Unclassified Title:
(U) On the Placement and Sizing of Conference Directors in the CONUS AUTOVON.
Descriptive Note:
Technical note,
Personal Author(s):
Fischer, M J
Swinsky, G W
Report Date:
Nov 1980
Media Count:
71 Page(s)
Report Number(s):
DCEC-TN-15-80
SBI-TN-15-80
Monitor Series:
TN-15-80
AD-E100 417
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) In this technical note we report on the study that was conducted in answering the following questions: How many Conference Directors should there be in CONUS AUTOVON and where should they be located? What is the required port sizing to meet the conference traffic requirements? What is the impact of accommodating the

conferencing traffic requirements on CONUS AUTOVON? The analytic and computer methods used to answer these questions, as well as the study results, are discussed in the Technical Note. (Author)

stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
ADB055136
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/b055136.pdf
Size: 3 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADB055136
rporate Author:
HARRIS CORP MELBOURNE FL GOVERNMENT ELECTRONIC SYSTEMS DIV
nclassified Title:
(U) VINSON/AUTOVON Interface Applique for the Modem, Digital Data, AN/GSC-38
escriptive Note:
Final technical rept. 15 May 1979-30 May 1980
rsonal Author(s):
Perkins, Frank
Nasci, Salvatore J
eport Date:
Nov 1980
edia Count:
140 Page(s)
eport Number(s):
RADC-TR-80-341
XC-TR-80-341
ontract Number:
F30602-78-C-0273
lonitor Series:
TR-80-341
RADC
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) The primary objective of this program was to provide a high quality, inexpensive secure voice terminal over commonly available transmission sources such as AUTOVON. A significant breakthrough achieved by RADC under the 16 KB modem Program offers the potential of providing significantly improved secure voice service in the near term (1980-81). The breakthrough was achieved by interfacing the VINSON (an existing 16 KB Voice Digitizer/Crypto Device) with the RADC 16 KB Modem to permit operation over dialed-up unconditioned AUTOVON telephone circuits. Six VINSON/16 KB Modem Terminals were fabricated, tested, and successfully demonstrated to the DoD Secure Voice Community. Demonstrations were presented to numerous General Officers and other high-level DoD officials at the Pentagon, Defense Communications Agency, Tactical Air Command, US readiness Command, Strategic Air Command, North American Defense Command, Aerospace Defense Command, USAFE, USEUCOM, USNAVEUR, USNAVCAMSMED, AFSC/CC at 'Horizon South-80' and at the tactical exercise 'Gallant Eagle-80'. All participants in the

demonstrations were very impressed with the flexibility and excellent voice quality provided by the VINSON/16 KB Modem Secure Voice Terminal and they all support its use in improving the DoD Secure Voice System (AUTOSEVOCOM) and in satisfying their unique secure voice communications needs.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA099157
Corporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA
Unclassified Title:
(U) Impact of the Common User Network Rate Structure.
Descriptive Note:
Technical note,
Personal Author(s):
Hartung,W G
Report Date:
Aug 1980
Media Count:
20 Page(s)
Report Number(s):
DCEC-TN-8-80
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) Common user networks such as AUTOVON and AUTODIN are derived within the CONUS from commercial common carrier offerings. The subscribers to these networks pay a fixed charge as determined from the Communications Services Industrial Fund (CSIF) rate schedule. This charge, in many cases, is substantially different from available tariffed services. In addition, for some users, the CSIF charge does not reflect the government's cost to furnish the service. As a result, it is in many instances less costly to the subscriber to use a commercial service. Such local optimizations tend to increase the total cost to the government for such communications. This study examines these trade-offs from the user's point of view and shows that for certain classes of users, the CSIF rate structure forces them to the commercial offerings. These include low data rate subscribers to AUTODIN and in general subscribers either within a limited geographic area or having a small community of interest. It is suggested that the CSIF rate schedules be reflective of commercial tariff alternatives and consistent in rate form. This would preclude the optimization of the subscriber's cost at the expense of increasing the government's total communications cost. (Author)
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADB053656

Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/b053656.pdf
Size: 13 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADB053656

rporate Author:
HARRIS CORP MELBOURNE FL GOVERNMENT COMMUNICATION SYSTEMS DIV

iclassified Title:
(U) 16 KB/S Modem (AN/GSC-38) CONUS Test

scriptive Note:
Final technical rept. 13 Mar-28 Apr 1978

rsonal Author(s):
McRae, Daniel D

eport Date:
Aug 1980

edia Count:
366 Page(s)

eport Number(s):
RADC-TR-80-89
XC-TR-80-89

ontract Number:
F30602-76-C-0460

onitor Series:
TR-80-89
RADC

eport Classification:
Unclassified

istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) A performance test was conducted on the Harris 16 kb/s Modem operating over the CONUS Autovon network. Measurements were made with the modems operating in a full-duplex configuration over four-wire Autovon connections and in a simplex configuration over two-wire Autovon connections. In addition to the 16 kb/s measurements, tests were conducted at 8 kb/s using the 8 kb/s mode of the 16 kb/s modem and at 9.6 kb/s using a commercial modem. In all, 1425 calls were placed in which bit-error-rate (BER) performance was measured. Nine different CONUS subscriber locations were involved. In addition to normal calls between modems located at different subscriber locations, loop-around calls were placed to most of the network switches. The general results indicate that if the access line from the subscriber location is a 'good' one, the 16 kb/s model is capable of providing BER values less than 1% on over 90% of the randomly dialed lines even when an emergency network condition is simulated. The 'good' access lines appear to be those which do not involve N carrier or the early version of T carrier systems (those involving D1A or D1B channel banks). Sixteen kilobit performance over N1 carrier system and T1/D1A or T1/D1B is quite poor and performance over N2 carrier systems is marginal. Performance from two-wire locations appears to be about the same as that from four-wire locations when care is taken to match the modem impedance to reduce reflections.

bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADB053186

Corporate Author:
ROCKWELL INTERNATIONAL RICHARDSON TX COLLINS COMMUNICATIONS SYSTEMS DIV
Unclassified Title:
(U) HF Radio Communications System Design Assessment. Task 3.3e Current Practices in Data Transmission.
Descriptive Note:
Technical rept. no. 5, 1 Jan-18 Jul 80,
Personal Author(s):
Dougherty, Steven
Ambrose, John E
Report Date:
18 Jul 1980
Media Count:
229 Page(s)
Report Number(s):
CORADCOM-80-0824-4.5
Contract Number:
DAAK80-79-C-0824
Monitor Series:
80-0824-4.5
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE
Abstract:
(U) Contents: Overview-- Army Requirements for Data Transmission, Terminal Equipments, Operational Scenarios, System Synthesis, HF CHannel Characteristics, Ionosphere, Vertical Ionograms, Oblique Incidence Propagation, Multipath Propagation Times, Frequency Spread, Performance Degradation, Channel Model for Simulation; Technical Discussion-- Frequency Multiplexing Modems, Kineplex modems, Kathryn Modem, Andeft Modem, ANDVT Modem, BR Communications Modems, Time Diversity Modems, Rockwell-Collins 4800 BPS Modem, Harris Vinson Autovon Terminal, Modem Implementation, Summary, Conclusions and Recommendations.
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA087652
Corporate Author:
NAVY ENVIRONMENTAL SUPPORT OFFICE PORT HUENEME CA
Unclassified Title:
(U) Directory of Federal Contacts on Environmental Protection,
Personal Author(s):
Sherman,Pat
Report Date:
Nov 1979
Media Count:
134 Page(s)
Report Number(s):
NESO-20.2-001C

port Classification:
Unclassified
tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
stract:
(U) This directory contains a listing of Federal agencies engaged in various aspects of environmental protection. The directory is published by the Naval Environmental Protection Support Service (NEPSS) as a part of its continuing effort to improve environmental coordination. Users of the directory are requested to periodically review the directory contents and submit recommended corrections to the Navy Environmental Support Office, Port Hueneme, CA 93043, AUTOVON 360-5210 or FTS 799-5210. (Author)
stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
ADB043556
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/b043556.pdf
Size: 2 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADB043556
rporate Author:
HARRIS CORP MELBOURNE FL GOVERNMENT ELECTRONIC SYSTEMS DIV
nclassified Title:
(U) 16 KB/S Data Modem Partitioning
escriptive Note:
Final technical rept. 26 Aug 1977-20 Jan 1978
rsonal Author(s):
Killmeyer, Fred C
McRae, Daniel D
eport Date:
Nov 1979
[edia Count:
57 Page(s)
eport Number(s):
RADC-TR-79-278
XC-TR-79-278
ontract Number:
F30602-77-C-0190
Ionitor Series:
TR-79-278
RADC
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) The primary objective of this program was to study techniques to reduce the size and cost of the 16 kb/s modem. These techniques involved custom LSI and/or standard microprocessor implementation of the various functions involved in the 16 kb/s modem. On previous contracts a modem for 16 kb/s operation over the

AUTOVON network was developed and was extensively tested over the OCONUS network. Results of both these efforts were very encouraging. Results of this investigation have shown that a cost/size/parts reduction of 33 to 50 percent would be possible with the application of commercially available bit slice microprocessor chips and some custom LSI devices. Also the use of a processor for signal processing results in a flexible solution that can adapt to changing requirements and track the latest state of the art techniques with minimum hardware changes. Thus implementation with a microprocessor appears to result in both a more cost-effective approach as well as a higher performance solution of the 16 kb/s modem design. It appears prudent to undertake an additional effort to construct a feasibility model to confirm the findings of this report.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA080768
Corporate Author:
HONEYWELL SYSTEMS AND RESEARCH CENTER MINNEAPOLIS MN
Unclassified Title:
(U) System Control for the Transitional DCS.
Descriptive Note:
Final technical rept. Jan 78-Sep 79,
Personal Author(s):
Annand,F C
Doty,D E
Krzyzanowski,R V
Report Date:
Jul 1979
Media Count:
236 Page(s)
Report Number(s):
SBI-AD-E100 329
Contract Number:
DCA100-78-C-0017
Monitor Series:
AD-E100 329
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) This report, the fourth in a series of technical reports, summarizes the entire effort which was undertaken in two tasks. The report focuses on the anticipated DCS of the mid 1980's. It discusses information sources, information collection, data base organization and displays and provides recommendations. The report also addresses control actions and algorithms for their implementation. The algorithms include data base searches for providing altroutes and recovering to normal routes and techniques for controlling routing in the overseas AUTOVON system. Assessments of the software and hardware requirements, associated costs and benefits are included. (Author)
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
ADA071043
rporate Author:
ARMY COMMUNICATIONS COMMAND FORT HUACHUCA AZ
iclassified Title:
(U) Standard Engineering Installation Package. Secure Facsimile (AUTOVON) 2-Wire and 4-Wire.
scriptive Note:
Final rept.
port Date:
30 Jun 1979
edia Count:
94 Page(s)
eport Number(s):
ACC-SEIP-034
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) The Secure Facsimile (AUTOVON), 2-wire and 4-wire, consists of Secure Facsimile Models 412-F or 412G, TSEC/KG-34, Modem FXM-40A series, Data Access Arrangement (2-wire), AUTOVON Control Unit-10 (4-wire), Telephone Set, 502 A/B, WECO 270-B Disconnect Device and transmit control box (4-wire). This Standard Engineering Installation Package (SEIP) assists project officers, logisticians, engineers, and technicians to program, procure, engineer, and install Secure Facsimile (AUTOVON). Document provides a system description with prerequisites that are essential for effective implementation of Secure Facsimile (AUTOVON). Document also provides necessary drawings and detail wiring instructions for a typical layout. SEIP includes bill of materials and operational test procedure. (Author)
bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA080767
orporate Author:
HONEYWELL SYSTEMS AND RESEARCH CENTER MINNEAPOLIS MN
nclassified Title:
(U) System Control for the Transitional DCS.
escriptive Note:
Interim rept. Jan 78-Sep 79,
ersonal Author(s):
Annand,F C
Doty,D E
Krzyzanowski,R V
Schlicht,R A
eport Date:
May 1979

Media Count:
335 Page(s)
Report Number(s):
TR-3
SBI-AD-E100 328
Contract Number:
DCA100-78-C-0017
Monitor Series:
AD-E100 328
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) This report, the third of four reports required under two tasks, discusses system level control actions and algorithms for their implementation. The report is directed at the projected DCS of the mid 1980's. It presents algorithms for automatic searches through the connectivity data bases developed in report 2 for determining potential circuit and trunk restoration routes. Other algorithms presented are aimed at adjusting the routing in the AUTOVON Network.
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA083544
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/a083544.pdf
Size: 7 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADA083544
Corporate Author:
INSTITUTE FOR DEFENSE ANALYSES ALEXANDRIA VA PROGRAM ANALYSIS DIV
Unclassified Title:
(U) Pricing and Cost Allocation for AUTOVON
Descriptive Note:
Final rept
Personal Author(s):
Beazer, William F
Report Date:
Mar 1979
Media Count:
95 Page(s)
Report Number(s):
IDA-S-506
IDA/HQ-78-20709
XD-78-20709
Contract Number:
DAHC15-73-C-0200
Monitor Series:
78-20709

DCA

port Classification:
Unclassified

tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

tribution Statement:
Approved for public release; distribution is unlimited.

stract:
(U) The study analyzes the current rate structure of AUTOVON and the way in which costs are allocated among users as defined in broad categories. It makes recommendations about ways in which cost allocation might be improved, examines the problem of congestion under the current rate structure, and the effects on cost allocation and subscriber behavior of adopting a price scheme based on usage. A methodology is developed for calculating appropriate usage charges relative to distance and holding time.

stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA066454

orporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA

nclassified Title:
(U) An Algorithm for Predicting the Performance of a Voice Network with Preemption.

escriptive Note:
Technical note,

ersonal Author(s):
Calabrese,D
Fischer,M
Hoiem,B
Kaiser,E

eport Date:
Jan 1979

Iedia Count:
41 Page(s)

eport Number(s):
DCEC-TN-6-79
SBI-AD-E100 191

Ionitor Series:
AD-E100 191

eport Classification:
Unclassified

istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) In order to evaluate the potential impact of facsimile-imagery service upon the current and future Automatic Voice Network (AUTOVON) and to reduce the time required to perform worldwide AUTOVON Flash Non-Blocking (FNB) Studies, the capability of the DCEC Voice Network Model has been extended from a single class traffic model to a two class traffic model. As in the AUTOVON system, one class of traffic can preempt the other class of traffic. Both ruthless and friendly preemption disciplines have been incorporated in the model for either originating office or spill control. The DCEC Voice Network model has been used to perform

engineering studies of AUTOVON, a worldwide circuit switched telephone system.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA080765

Corporate Author:
HONEYWELL SYSTEMS AND RESEARCH CENTER MINNEAPOLIS MN

Unclassified Title:
(U) System Control for the Transitional DCS.

Descriptive Note:
Interim rept. Jan 78-Sep 79,

Personal Author(s):
Annand,F C
Burke,M F
Crowe,R K
Doty,D E
McClain,S S

Report Date:
Dec 1978

Media Count:
321 Page(s)

Report Number(s):
TR-2
SBI-AD-E100 326

Contract Number:
DCA100-78-C-0017

Monitor Series:
AD-E100 326

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) The work summarized in this report, the second of four required under two tasks, is concerned with data acquisitions, processing, data management and presentation to detect and isolate network and traffic stresses and to effect control and management at a system level. The report assesses the software and hardware requirements to implement specific recommendations and provides associate cost estimates. The effort which was directed to the anticipated DCS of the mid-1980's addresses the AUTOSEVOCOM 2 system which is no longer valid. Subsequent reports address the current DCS overseas AUTOVON network.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:

ADA070703

rporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA

classified Title:
(U) Design Concepts for the Next Generation CONUS AUTOVON.

scriptive Note:
Technical rept.,

rsonal Author(s):
Deardorff,R F
Dotson,W P
Harris,T C
Hartung,W G

port Date:
Dec 1978

edia Count:
342 Page(s)

port Number(s):
DCEC-TR-18-78
SBIE-AD-E100 231

onitor Series:
AD-E100 231

port Classification:
Unclassified

stribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) This report reviews technological developments in commercial telecommunications in switching, terrestrial transmission and satellite communications. Based on this assessment, six alternatives were postulated and analyzed to gain a better understanding of the fundamental structure, relationships and sensitivities of cost, survivability and performance considerations. The study indicates that there is a potential for large savings by exploiting the technological improvements in commercial communications. Although the uncertainties are very large for the more radical alternatives, the major risks are not technical. No single alternative is the preferred alternative. A composite of the best attributes of each is recommended and an implementation strategy is postulated.

bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA058379

orporate Author:
ARMY COMMUNICATIONS COMMAND FORT HUACHUCA ARIZ

nclassified Title:
(U) Standard Engineering Installation Package. AUTOVON Precedence Network In-Dial (PNID) Modification.

escriptive Note:
Final rept.

eport Date:
01 Jul 1978

ledia Count:
51 Page(s)

Report Number(s):
ACC-SEIP-032
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) This Standard Engineering Installation Package (SEIP) assists project officers, logisticians, engineers, and technicians to program, procure, engineer, and install PNID facilities at AUTOVON gateways. Document provides a system description with prerequisites that are essential for effective implementation of PNID. Document also provides necessary drawings and detail wiring instructions for a typical AUTOVON circuit plate modification. SEIP includes bill of materials and operational test procedure. (Author)
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADB029131
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/b029131.pdf
Size: 14 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADB029131
Corporate Author:
HARRIS CORP MELBOURNE FL GOVERNMENT ELECTRONIC SYSTEMS DIV
Unclassified Title:
(U) 16 Kilobit Modem Evaluation
Descriptive Note:
Final technical rept. 4 Nov 1976-28 Jan 1977
Personal Author(s):
Perkins, Frank A
McRae, Daniel D
Report Date:
Jun 1978
Media Count:
380 Page(s)
Report Number(s):
RADC-TR-78-127
XC-TR-78-127
Contract Number:
F30602-76-C-0460
Monitor Series:
TR-78-127
RADC
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) The primary objective of this program was to perform extensive testing of the 16 kb/s modem on the

AUTOVON network to establish the adequacy of the modem design. The goal was to provide good voice quality over the network when used with 16 kb/s CVSD's. The modem was tested in Europe, the Pacific, on Trans-Atlantic and Tran-Pacific Networks and on some CONUS lines. Test results were very encouraging and provide a high level of confidence that the modem design is sufficient to provide good voice quality over the existing AUTOVON Network as well as over planned network improvements.

stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
ADA053946

rporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA

nclassified Title:
(U) An Architectural Model for the Access Area/Backbone Allocation Problem.

scriptive Note:
Technical note,

rsonal Author(s):
Dotson,W P

eport Date:
Dec 1977

edia Count:
50 Page(s)

eport Number(s):
DCEC-TN-26-77
SBI-AD-E100 036

onitor Series:
AD-E100 036

eport Classification:
Unclassified

istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) This report develops an architectural model for performing a macroscopic design/analysis of terrestrial voice communication networks. The analysis is based on the relationships between average properties of networks: geographical area to be serviced, number of switches and the average area served by a switch, number of backbone links and the average number links homed on a typical switch, the average capacity andl length of backbone links, the number of user installations, the average length and capacity and length of backbone links, the number of user installations, the average length and capcity of access links, and the average offered load to each access link. Other important parameters are a total budget constraint and allocation criteria for expending the budget in access area design, backbone switches, and backbone links. These last parameters have a significant impact on the end to end performance of the network under routine conditions as well as the survivability of the network. The tools developed herein are not intended for detailed network design problems - rather they are used for analysis of the average properties of large scale networks. With this understanding the examples chosen for analysis in this report approximate the CONUS AUTOVON system. The important features of this system (number of switches, backbone trunks, access area/backbone design budgets, performance and survivability) are analyzed to a gratifying degree of accuracy with our tools considering their averaging nature. (Author)

bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA071564
Corporate Author:
COMPUTER SCIENCES CORP FALLS CHURCH VA
Unclassified Title:
(U) Unified Network/Traffic Transmission Media Control.
Descriptive Note:
Final rept.
Report Date:
Aug 1977
Media Count:
503 Page(s)
Report Number(s):
SBI-AD-E100 234
Contract Number:
DCA100-76-C-0082
Monitor Series:
AD-E100 234
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) This task encompasses an analysis of the present overseas Defense Communications System (DCS) transmission media, network and traffic control methods and procedures and development of recommended unified system control mechanism for the near-term overseas DCS. The analysis addresses the existing transmission systems, AUTOVON, AUTODIN (I), AUTOSEVOCOM (I), and special circuits which restricts this study to the current complement of DCS equipment in the field. Planned systems, such as AUTODIN (II), AUTOSEVOCOM (II), and planned control improvements, such as RTAC for DSCS, are subjects for future study. The effort encompasses developing a unified system control configuration responsive to the needs/requirements of the various control levels of the DCS, identification of the functions to be performed at each level, and the hardware/software capability required in support of these functions. (Author)
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA044955
Corporate Author:
ARMY COMMUNICATIONS COMMAND FORT HUACHUCA ARIZ
Unclassified Title:
(U) Standard Engineering Installation Package. AUTOSEVOCOM HY-11/HY-2 Alternate AUTOVON Access Configuration.
Descriptive Note:

Final rept.

:port Date:
25 Jul 1977

edia Count:
105 Page(s)

:port Number(s):
ACC-SEIP-028

:port Classification:
Unclassified

stribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) This Standard Engineering Installation Package (SEIP) assists engineers, technicians, logistics personnel and project officers to engineer, install and standardize AUTOSEVOCOM FACILITIES FOR ALTERNATE ACCESS (local wideband/narrowband subscribers) into the AUTOVON SYSTEM. Document provides a system description along with information on the functions of the main components in this equipment configuration. Document also provides necessary drawings and list of applicable documents, to include necessary installation/modification instructions and bill of materials with which to accomplish system modification. The SEIP describes quality assurance inspections and gives sample forms to ascertain areas of responsibility, checklists, and certification. One section provides detailed test plan and checkout procedure and suggests the form for a technical acceptance record. The SEIP also contains a completion certificate that verifies the project has met all test criteria. (Author)

bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA038307

orporate Author:
ROME AIR DEVELOPMENT CENTER GRIFFISS AFB N Y

nclassified Title:
(U) Use of Modem Regeneration of the AUTOVON.

escriptive Note:
Rept. for Sep 75-May 76,

ersonal Author(s):
Evanowsky,John B

eport Date:
Feb 1977

Iedia Count:
21 Page(s)

eport Number(s):
RADC-TR-77-3

eport Classification:
Unclassified

istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) This report describes an effort performed by the Rome Air Development Center's Digital Communications Experimental Facility (DICEF) to determine if baseband regeneration provides a performance improvement for 4.8 and 9.6 KB/S data transmission over the switched AUTOVON. A statistical analysis on some 80 hours of

test data indicates that there is essentially no improvement at 4.8 KB/S but the technique may have merit at 9.6 KB/S. In addition, some insight is obtained on the relationship between errors on each of the constituent links of a channel using regeneration. (Author)

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA031187
Corporate Author:
ELECTRONICS ENGINEERING GROUP (1842ND) RICHARDS-GEBAUR AFB MO
Unclassified Title:
(U) Called Party Hold Device.
Descriptive Note:
Technical rept.,
Personal Author(s):
Arafiles,V P
Report Date:
Aug 1976
Media Count:
20 Page(s)
Report Number(s):
1842
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) A Called Party Hold (CPH) device enables a telephone subscriber to hold an incoming call for tracing purposes. This paper describes the affects on AUTOVON of a commercially available CPH device that was in use at Scott AFB. It proposes a solution that will minimize AUTOVON interface problems using a simple dual tone, multi-frequency encoder-decoder scheme. (Author)
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA036002
Corporate Author:
ADJUTANT GENERAL CENTER WASHINGTON D C
Unclassified Title:
(U) Study of US Army Libraries. Volume II. Directory.
Descriptive Note:
Final rept. Sep 75-Jul 76,
Personal Author(s):
Palmour,Vernon E

Bellassai,Marcia C
Nyce,Louise

port Date:
Jul 1976

dia Count:
139 Page(s)

port Number(s):
LS76-1-Vol-2

port Classification:
Unclassified

tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

stract:
(U) This directory is composed of the address list compiled for the Army Library Study, September 1975 - July 1976. The address list was assembled from lists provided by the staff librarians of the various major commands, and by the chief librarians for headquarters agencies. It was then checked against the listing for the Federal Library Survey, 1972, and against Army accountability listings. Several addresses were listed later from information uncovered during the study. Service outlets indicated refer to the total number of libraries within the system, and includes the main library. The names of library director/operating official who responded to the questionnaire (which was part of the Army Library Study) are listed, and current insofar as possible. Further listing of all GS-1410 series librarians is presented as of July 1976. Operating directors of libraries who are in other than the GS-1410 series are noted and identified with an asterisk (*). Their series or classification is listed where known. Arrangement of this directory is by type of library, then by Command/Agency. Telephone numbers are AUTOVON unless otherwise indicated. Numbers shown in the left column are the Army Library Study's identifying number.

bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA028873

orporate Author:
MITRE CORP BEDFORD MASS

nclassified Title:
(U) Block Error Patterns and Throughput Rate on the Digital High-Speed AUTOVON Channel,

ersonal Author(s):
Brayer,K

eport Date:
Jul 1976

ledia Count:
59 Page(s)

eport Number(s):
MTR-3139
ESD-TR-76-163

ontract Number:
F19628-76-C-0001

lonitor Series:
TR-76-163

eport Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) Voice telephone systems, such as AUTOVON, have been used for the transmission of high-speed digital data. In this paper, the performance of AUTOVON circuits in passing 4800 b/s and 9600 b/s digital data using the state-of-the-art Codex 9600 modem is presented. It is demonstrated that the channel provides stable values of block error rate over long periods of time. Additionally, it is demonstrated that the maximum value of link throughput rate occurs at a block length of 9000 bits and that throughput rate is also reasonably constant as a function of time. Finally, a block error channel model is included for use in simulations where block retransmissions must be considered.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA022489

Corporate Author:
MITRE CORP BEDFORD MASS

Unclassified Title:
(U) Error Patterns and Block Coding for the Digital High-Speed AUTOVON Channel,

Personal Author(s):
Brayer,Kenneth

Report Date:
Feb 1976

Media Count:
29 Page(s)

Report Number(s):
MTP-160
ESD-TR-75-369

Contract Number:
F19628-75-C-0001

Monitor Series:
TR-75-369

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) Voice telephone systems, such as AUTOVON, are currently being used for the transmission of high-speed digital data. AUTOVON's performance in passing 4800 b/s and 9600 b/s digital data via the state-of-the-art Codex 9600 modem is adequate to support channel bit error rates in the order of 0.0001 to 0.00001. Additionally, it is demonstrated that the errors occur in bursts of lengths and densities such that block coding for error correction would require the use of a large number of parity bits per block (approximately 90% parity for full error correction). Improvement factors of two orders of magnitude in block error rate, at 50% parity, can be achieved.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA018477
orporate Author:
HARRY DIAMOND LABS ADELPHI MD
nclassified Title:
(U) AUTOVON Network Model.
escriptive Note:
Technical rept.,
ersonal Author(s):
Marx,Egon
eport Date:
Nov 1975
edia Count:
28 Page(s)
eport Number(s):
HDL-TR-1718
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) A faithful GPSS model of the CONUS AUTOVON network is compared to the actual processing of long-distance calls by the network. It includes all 70 switches, about 60 multiple-homed PBX's, the actual routing instructions, 5 levels of priority, and preemption. By a series of runs, a method is tested for (a) the improvement of the routing instructions within the home grid of a multiple-homed PBX, (b) the study of how a heavy background load of routine traffic affects a surge of priority calls, and (c) the study of how the elimination of a block of 12 switches in the center of the network affects coast-to-coast traffic.
bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA015635
orporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA
nclassified Title:
(U) Modified Forward Routing for CONUS/CSN AUTOVON.
escriptive Note:
Technical rept.,
ersonal Author(s):
Shearer,C N
eport Date:
Sep 1975
[edia Count:
28 Page(s)
eport Number(s):
TR-26-75
eport Classification:

Unclassified

Distribution Limitation(s):

01 - APPROVED FOR PUBLIC RELEASE

Abstract:

(U) The report describes a routing concept for switched-circuit, nonhierarchical, spill-forward communications networks. An algorithm based on this concept has been developed which creates routing tables for all switches in a switched network. These tables appear to be compatible with the current CONUS/CSN AUTOVON switching machines. The subject routing concept has several advantages over current polygrid routing. First, it can be implemented with an algorithm which runs considerably faster than corresponding polygrid routing algorithms. Second, the networks which use this routing concept are near minimum cost. Third, the algorithm may be used to adjust the level of tandem traffic through any of the switches, and to produce at least a specified minimum number of alternate routes from each switch to every destination.

Abstract Classification:

Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:

ADA016402

Corporate Author:

MITRE CORP BEDFORD MASS

Unclassified Title:

(U) Characterization of the Digital High-Speed AUTOVON Channel.

Descriptive Note:

Final rept.,

Personal Author(s):

Brayer,Kenneth

Report Date:

Aug 1975

Media Count:

132 Page(s)

Report Number(s):

MTR-2968
ESD-TR-75-80

Contract Number:

F19628-75-C-0001

Monitor Series:

TR-75-80

Report Classification:

Unclassified

Distribution Limitation(s):

01 - APPROVED FOR PUBLIC RELEASE

Abstract:

(U) AUTOVON, a voice telephone communication system available to U. S. Government agencies, can be used for the transmission of high-speed digital data. The performance of AUTOVON in passing 4800 b/s and 9600 b/s digital data is evaluated in terms of the residual channel error distributions associated with the use of the state-of-the-art Codex 9600 modem. It is demonstrated that the channel is a burst error channel and will support data transmission with bit error rates in the order of 0.0001 to 0.00001. In addition, channel models are presented that can be used to predict the performance and design of error-detecting/correcting codes.

Abstract Classification:

Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA014825
rporate Author:
MITRE CORP BEDFORD MASS
nclassified Title:
(U) Evaluation of 32 Degree Polynomials in Error Detection on the SATIN IV AUTOVON Error Patterns.
escriptive Note:
Technical rept.,
rsonal Author(s):
Brayer,Kenneth
eport Date:
Aug 1975
edia Count:
74 Page(s)
eport Number(s):
MTR-2956
ESD-TR-75-71
ontract Number:
F19628-75-C-0001
lonitor Series:
TR-75-71
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) An examination of the capabilities of certain 32 degree polynomials to detect errors on the SATIN IV real channel measured AUTOVON error patterns has been made. It is demonstrated that while some polynomials considered will detect all error bursts in the data, others will leave significant number of undetected errors. Thus, while a 32 degree polynomial is sufficient (on the data sample) for 100% error detection, it must be chosen carefully. (Author)
bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
ADA015862
orporate Author:
MITRE CORP BEDFORD MASS
nclassified Title:
(U) Characterization and Modeling of the Digital High-Speed Autovon Channel.
escriptive Note:
Interim rept.,
ersonal Author(s):

Brayer,Kenneth

Report Date:
Aug 1975

Media Count:
59 Page(s)

Report Number(s):
MTR-2802
ESD-TR-75-79

Contract Number:
F19628-73-C-0001

Monitor Series:
TR-75-79

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) An interim analysis of error pattern data collected at 4800 b/s and 9600 b/s via digital data transmission on AUTOVON using the Codex 9600 modem has been performed. The data tends to show that errors occur in dense bursts, ranging in length to thousands of bits with significant numbers of bursts of a few hundred bits length. The bursts are generally separated by long error-free intervals. The differences between the 4800 b/s and 9600 b/s data appear to be minimal with fewer bursts at 9600 b/s. No conclusions should be drawn in terms of a 4800 vs 9600 b/s comparison since the data considered in this interim report was not balanced in terms of numbers of bits collected at the different data rates or the different selected switch connections. When equal amounts of data are available for the various switch configurations it should then be possible to compare 4800 and 9600 b/s data. It has been demonstrated that an analytical channel model can be fit to the data, namely a MARKOV channel model. This model can be used for coding analysis by those who do not have the raw channel data and data analysis programs. (Author)

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA016993

Corporate Author:
DEFENSE COMMUNICATIONS ENGINEERING CENTER RESTON VA

Unclassified Title:
(U) Overseas Autovon Provision of Interim Capability for Precedence Network in-Dialing (PNID) to PABX's.

Descriptive Note:
Technical note,

Personal Author(s):
Lindamood,T C

Report Date:
Jul 1975

Media Count:
23 Page(s)

Report Number(s):
TN-2-75

Report Classification:
Unclassified

tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

stract:
(U) A method is described whereby, at selected PABX's (Private Automatic Branch Exchanges) in the overseas AUTOVON, a form of PNID service can be implemented with minimal equipment changes at the AUTOVON switches and at the PABX's, pending establishment of the universal PNID service offering by the USAF. The changes required at the switch and, with one exception, at the PABX are necessary for the future universal PNID service offering.

stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
ADA013368
Full Text (pdf) Availability:
View Full Text (pdf)
File: /U2/a013368.pdf
Size: 20 MB
Handle / proxy Url: http://handle.dtic.mil/100.2/ADA013368

rporate Author:
ARMY RESEARCH OFFICE RESEARCH TRIANGLEPARK NC

nclassified Title:
(U) Proceedings of the Conference on the Design of Experiments in Army Research Development and Testing (20th). Held at Army Operational Test and Evaluation Agency and Army Engineer Center at Fort Belvoir, Va., on 23-25 October 1974. Part 1

eport Date:
Jun 1975

edia Count:
473 Page(s)

eport Number(s):
ARO-75-2-PT-1
XA-ARO

onitor Series:
ARO

eport Classification:
Unclassified

istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) Partial contents: The Information in Contingency Tables; Multi- Dimensional, Non-Gaussian, Random Processes with Specified Covariance and Probability Density Functions; Design of Experiments for Evaluation of Materiel Performance in Worldwide Environments; Short Pulse Testing of EEDs and the Bruceton Problem; Target Visibility and Decision Optimization; Optimizing a Production Line for Cost and Quantity; An Application of Weibull-Gnedenko Distribution Function for Generalizing Conditional Kill Probabilities of Single Fragment Impacts on Target Components; Decision Theory Approach to Grading Binomial Populations; Pseudo-Bayesian Intervals for Reliability of a Series System Given Weibull Component Data; Application of Bayesian Statistics to High Reliability Testing; Robustness Studies for Bayesian Developments in Reliability; A Bayesian Approach to Reliability Growth Analysis; Experimental Collection of Statistics by Computer Simulation--The Autovon network; Analysis of Buffers in a Production System; and Statistical Model for Controller Performance Measures for an Air Traffic Automated System.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
ADA012494
Corporate Author:
MARTIN MARIETTA AEROSPACE ORLANDO FLA
Unclassified Title:
(U) Hybrid Computer Simulation Study of Adaptive Routing Techniques for Switching Networks to Enhance Survivability for Optimum System Performance.
Descriptive Note:
Final rept.,
Personal Author(s):
Klukis,Murlin Keith
Bishop,Judson Kenneth , Jr
Sauer,Gregory J
Wilder,Bettye L
Report Date:
Jun 1975
Media Count:
187 Page(s)
Report Number(s):
OR-13710
Contract Number:
DCA100-74-C-0039
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) This report documents the results of a twelve month study of routing and control techniques to enhance the survivability and performance of circuit switched networks. Major emphasis has been placed on the investigation of European Autovon with respect to given scenarios and control actions. A primary and significant output of this study has been a fast, flexible hybrid computer simulation program. This call-by-call simulation incorporates five-level priority calling, four-level preemption, and scenario/control action mechanisms. The network chosen for this study was a 10 node network similar to the European Autovon with the Conus Gateway switches modeled as one additional node. Twenty-six links were simulated including the three Conus Gateway links. Original capacity of the model was 15 nodes (including the Conus Gateway node) and 48 links. Calls were generated on a call-by-call basis using actual traffic loading data from the European Autovon to drive nonlinear functions for call hold times and time between calls.
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:

ADA001705

rporate Author:
STANFORD RESEARCH INST MENLO PARK CALIF

classified Title:
(U) DCA HEMP Hardness-Certification Methodology--Status.

scriptive Note:
Final rept. Jul 72-Feb 74,

rsonal Author(s):
Whitson,Arthur L

port Date:
Feb 1974

dia Count:
19 Page(s)

ntract Number:
DCA100-72-C-0042

port Classification:
Unclassified

tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

stract:
(U) The Defense Communication Agency is developing a methodology to HEMP hardness assess the Defense Communication System. The methodology program has just completed the first phase of development with completion of threshold testing of an AECo AUTOVON switch at Roscommon, Michigan and TEMPS testing of an AUTOVON switch center at Polk City, Florida. This summary reviews the status of the methodology development by reviewing the assumptions and techniques used to date in the development.

stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
AD0776671

rporate Author:
STANFORD RESEARCH INST MENLO PARK CALIF

classified Title:
(U) AECo (Automatic Electric Company) AUTOVON (Automatic Voice Network) Switch HEMP (High Altitude Electromagnetic Pulse) Performance Study.

scriptive Note:
Final rept. (Volume 1) Jul 72-Feb 74,

rsonal Author(s):
Clark,E Neal
Frost,Jonathan A

port Date:
Feb 1974

edia Count:
185 Page(s)

ntract Number:
DCA100-72-C-0042

port Classification:
Unclassified

stribution Limitation(s):

01 - APPROVED FOR PUBLIC RELEASE

Abstract:

(U) The report comprises a description of the AECo AUTOVON switch, followed by a preliminary assessment of switch vulnerability to HEMP, in twenty critical circuits. The switch description covers the physical arrangement, the functional operations of the various subsystems in processing a call, the synchronization and timing of subsystem functions, and the automatic maintenance and diagnostic features of the switch. The vulnerability assessment takes into consideration the wiring, the interconnecting cable locations and lengths, and the component card circuits. The expected failure mode of each critical circuit is included. (Author)

Abstract Classification:

Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:

AD0917046

Corporate Author:

COMPUTER SCIENCES CORP FALLS CHURCH VA

Unclassified Title:

(U) Busy Hour Model User's Manual.

Report Date:

Jan 1974

Media Count:

175 Page(s)

Report Number(s):

CSC-R4195910-1-1

Contract Number:

DCA100-73-C-0033

Report Classification:

Unclassified

Distribution Limitation(s):

01 - APPROVED FOR PUBLIC RELEASE

Abstract:

(U) The Busy Hour Model is a series of computer programs developed to simulate voice communication networks. It is particularly applicable to the AUTOVON portion of the Defense Communication System (DCS). The model is a steady state simulator that distributes traffic through a network and calculates grade of service from probability equations. It is used by traffic engineers for design and performance studies of various network configurations. It is written in FORTRAN and ANSI COBOL for execution on an IBM 360 or 370 computer system having 700K or more bytes of memory. This manual contains the information necessary to use the model. It describes the input data, control cards, and program options. It contains diagrams of program execution and data flow and examples of the job control language cataloged procedures. (Author)

Abstract Classification:

Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:

AD0916117

Corporate Author:

MITRE CORP BEDFORD MA

classified Title:
(U) High Speed Digital Data Transmission on Autovon.

scriptive Note:
Technical rept.,

rsonal Author(s):
Culpon, R A
LeBlanc, R L
Spitzer, J F

port Date:
Nov 1973

dia Count:
114 Page(s)

port Number(s):
MTR-2606
ESD-TR-73-283

ntract Number:
F19628-73-C-0001

nitor Series:
TR-73-283

port Classification:
Unclassified

tribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

stract:
(U) In order to characterize the performance of the AUTOVON network in support of high-speed data transmission, a series of AUTOVON tests were conducted from 1 March 1972 to 12 December 1972 by a MITRE Corporation/Strategic Air Command Team, under the direction of the Electronic Systems Division, Air Force Systems Command, L.G. Hanscom Field, Bedford, Massachusetts. Data was transmitted at rates of 2.4 Kb/s, 4.8 Kb/s and 9.6 Kb/s over randomly routed AUTOVON lines between Offutt Air Force Base, Nebraska and various SAC Bases within the CONUS. The analog and digital transmission performance results from those tests are presented herein. (Author)

stract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
AD0771641

rporate Author:
ELECTRONIC SYSTEMS DIV L G HANSCOM FIELD MASS

iclassified Title:
(U) Feasibility Study of the AUTOVON Diagnostic Processor Subsystem (ADPS).

port Date:
Nov 1973

edia Count:
34 Page(s)

port Number(s):
ESD-TR-73-289

port Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) YSTEMS DIV L G HANSCOM FIELD MASSFeasibility Study of the AUTOVON Diagnostic Processor Subsystem (ADPS).ESD-TR-73-289AF-6280*Global communication systems, *Switching circuits, Minicomputers, Failure(Electronics), DetectionAUTOVON(AUTOmatic VOice Network), Automatic voice network, *Fault isolation, *Fault diagnosisThe report presents the results of a feasibility study of upgrading the fault diagnostics of the overseas autovon system with a mini-computer system. The study included on experimental model of the system that was tested in the field during the summer of 1973. The report discusses in detail the benefits and limitations of such a system and outlines the major requirements for further development and procurement. (Author)

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
AD0913995

Corporate Author:
COMPUTER SCIENCES CORP FALLS CHURCH VA

Unclassified Title:
(U) Development of New Techniques for Cost-Effective Network Designs.

Descriptive Note:
Final rept.,

Personal Author(s):
Brautigam, R

Report Date:
Jun 1973

Media Count:
34 Page(s)

Report Number(s):
CSC-R417602-1-1

Contract Number:
DCA100-72-C-0038

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) The work performed for the Defense Communications Agency on Development of New Techniques for Cost-Effective Network Designs is described. The work consisted of five investigations, including study and design of a European Telephone System, development of an AUTOVON routing design capability, development of automated techniques for costing the AUTOVON network, development of a methodology for AUTOVON access line engineering, and development of a Computer Network Analysis (CNA) Simulator. The effort on each of these tasks is summarized and the deliverables identified. A validation report for the CNA Simulator is included in Appendix B.

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
ADA014543
rporate Author:
DEFENSE COMMUNICATIONS AGENCY SYSTEM ENGINEERING FACILITY RESTON VA
iclassified Title:
(U) Descriptions of the Simulation Models of the Defense Communications System Performance Simulator.
scriptive Note:
Technical note.
port Date:
Mar 1973
edia Count:
37 Page(s)
port Number(s):
DCASEF-TN-6-73
port Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) The DCS Performance Simulator is a collection of models and associated programs that analyze the performance and assist in the design of switched communications networks. This report describes five of these models used in studying both circuit-switched and store-and-forward networks, including AUTOVON and AUTODIN. The models are in FORTRAN 4 and ANSI COBOL programming languages and are operational on the IBM 360 and 370 computers. (Author)
bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
AD0914030
orporate Author:
COMPUTER SCIENCES CORP FALLS CHURCH VA
nclassified Title:
(U) A Methodology for Autovon Access Line Engineering.
eport Date:
Mar 1973
[edia Count:
26 Page(s)
eport Number(s):
R417643-1-1
ontract Number:
DCA100-72-C-0038
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
bstract:
(U) Directional access lines and trunks may be used to enhance reliability, improve service in a preferred

direction, or reduce certain costs. The probability of loss (blocking) is the measure of performance most frequently used in circuit switched systems. Poisson and Erlang B tables have been conventionally used to evaluate this blocking. However, in some cases there are significant errors in these estimates because the peakedness of the traffic offered to the common group is neglected. In recent years equivalent random techniques developed by Wilkinson and Bretschneider have been used to provide better estimates of blocking, but these techniques have limited application. In this study, the error in blocking estimates associated with the Bretschneider technique has been evaluated for a specific type of directional configuration. Directional grades of service were computed using the Bretschneider technique and compared with the results of a series of event-by-event simulations. The Bretschneider technique provides good estimates of blocking if the degree of imbalance between incoming and outgoing components is not severe and if the proportion of directionalized circuits is nominal. A program was written to automate the Bretschneider technique in both a design and a performance mode. (Author)

Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
AD0754921

Corporate Author:
ROME AIR DEVELOPMENT CENTER GRIFFISS AFB N Y

Unclassified Title:
(U) Comparative Performance Evaluation of Common and Special Grade CONUS AUTOVON Trunks, Phase II.

Descriptive Note:
Technical rept. Sep 70-Apr 71,

Personal Author(s):
Lemon,J Russell

Report Date:
Dec 1972

Media Count:
135 Page(s)

Report Number(s):
RADC-TR-72-317

Report Classification:
Unclassified

Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

Abstract:
(U) N SYSTEMS, DIGITAL SYSTEMS), VOICE COMMUNICATIONS, MODULATORS, DEMODULATORS, RELIABILITY(ELECTRONICS), AUTOMATIC, PHASE MODULATION, AMPLITUDE MODULATION, PERFORMANCE(ENGINEERING)MODEMS, AUTOVON(AUTOMATIC VOICE NETWORK), PULSE COMMUNICATIONPhase II of the AUTOVON Evaluation was a quantitative evaluation of Special Grade and Common Grade AUTOVON Trunks conducted at the RADC Digital Communications Experimental Facility (DICEF) during the period of September 1970 to April 1971. The results provide facual data on the digital and analog performance of these circuits. Phase II of the AUTOVON Evaluation compared the performance of Special Grade Trunks, Common Grade Trunks, and Common Grade Trunks with a fixed corrective equalization. These trunks were evaluated using phase modulated and amplitude modulated type MODEM's. The MODEM's were operated at data rates of 2400, 4800, and 9600 bits per second. (Author)

Abstract Classification:

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
AD0736128
rporate Author:
AIR FORCE SYSTEMS COMMAND WASHINGTON D C
nclassified Title:
(U) Proceedings of the Air Force Systems Command 1971 Science and Engineering Symposium Held at the Sheraton-Dayton Hotel and Wright-Patterson Air Force Base, Dayton, Ohio, 5-7 October 1971. Volume II.
scriptive Note:
Final rept.,
rsonal Author(s):
Wimer,Arthur G , Jr
port Date:
Dec 1971
edia Count:
718 Page(s)
eport Number(s):
AFSC-TR-002-Vol-2
eport Classification:
Unclassified
istribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
23 - AVAILABILITY: DOCUMENT PARTIALLY ILLEGIBLE
bstract:
(U) The report is a compilation of papers presented at the Air Force Systems Command 1971 Science and Engineering Symposium held October 1971. The papers discuss topics including: GERT simulation, video data reduction, mechanical impedance technique, high current pulse testing of microcircuits, holographic interferometry, crack propagation tests in the F-111, gyroscope centrifuge test, biodynamic model on spinal injuries from ejection seats, metal vapor lasers, discharge in gas lasers, thermostructural response of reentry nose tips, noise levels in aircraft, nematic liquid crystals, airborne fuze function indicators, short range attack missile (SRAM) navigation system, nonflammable fibrous materials, organophosphorus insecticide decontaminant, ladar cloud/target polarization discrimination, shear-induced atmospheric turbulence, X-T Plotter for igloo white, military communications satellites, infrared image converters, the CONUS autovon, infrared imagery in environmental change, and effective maintenance data.
bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

ccession Number:
AD0736416
orporate Author:
ROME AIR DEVELOPMENT CENTER GRIFFISS AFB N Y
nclassified Title:
(U) The Meaning and Measurement of Throughput.

Descriptive Note:
Final rept.,
Personal Author(s):
Lemon,John R
Evanowsky,John B
Report Date:
Nov 1971
Media Count:
29 Page(s)
Report Number(s):
RADC-TR-71-279
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) Rome Air Development Center's Digital Communications Experimental Facility (DICEF) has conducted a test and evaluation of the AUTOVON which has revealed the analog and digital characteristics of the system. The Digital tests incorporated various different modems and established that most of the errors occur in bursts because of the transient perturbations of the AUTOVON, and because of modem modulation and scrambling techniques. The Bit Error Rate (BER) of the digital transmission is affected by these bursts more than Throughput. Since Throughput is a measure of the actual message transfer rate of a digital system, both BER and Throughput should be measured when testing a digital system. The report discusses the importance of Throughput and its relationship to BER, how Throughput is measured, and construction of a device to aid Throughput measurements. (Author)
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
AD0712367
Corporate Author:
ROME AIR DEVELOPMENT CENTER GRIFFISS AFB N Y
Unclassified Title:
(U) COMPARATIVE PERFORMANCE EVALUATION OF COMMON AND SPECIAL GRADE AUTOVON TRUNKS, PHASE 1.
Descriptive Note:
Final technical rept.,
Personal Author(s):
Lemon,J Russell
Report Date:
Sep 1970
Media Count:
105 Page(s)
Report Number(s):
RADC-TR-70-199
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

ostract:
(U) A quantitative evaluation of Special Grade and Common Grade AUTOVON Trunks was conducted using the RADC Digital Communications Experimental Facility (DICEF). The results provide factual data on the performance of these circuits and conclude that Common Grade AUTOVON Trunks with fixed compromise equalization are comparable in performance to the Special Grade Trunks. Digital Tests were performed at a data rate of 2400 bits per second. Analog Tests of amplitude and relative delay vs frequency, signal to noise ratio, frequency translation and phase jitter were also performed. (Author)

ostract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

cession Number:
AD0669091

rporate Author:
MITRE CORP BEDFORD MASS

nclassified Title:
(U) SAMPLING THEORY AND THE TESTING OF COMMON-USER COMMUNICATIONS SYSTEMS,

rsonal Author(s):
Harwood,Edward H

port Date:
May 1968

edia Count:
26 Page(s)

port Number(s):
MTR-575
ESD-TR-68-121

ntract Number:
AF 19(628)-5165

onitor Series:
TR-68-121

port Classification:
Unclassified

stribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE

bstract:
(U) The techniques of sampling theory are applied to measure the performance of the plant of a common-user communication system. Based on a range of expected values of p (probability of call failure), appropriate values are derived for n (the sample size), and the rationale behind the selection of a confidence level is explained. Where sampling results indicate an identifiable cause of ineffective calls, remedial engineering work can be undertaken. By this process system performance can be improved until no readily identifiable cause of failure can be found. The work in this report was done in order to provide input to Annex H of the Overseas AUTOVON Master Test Plan. (Author)

bstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
AD0830400
Corporate Author:
SYSTEM DEVELOPMENT CORP SANTA MONICA CA*
Unclassified Title:
(U) DECISION INFORMATION DISTRIBUTION SYSTEM: COST-BENEFITS ANALYSIS.
Descriptive Note:
Technical memo.,
Personal Author(s):
Wellisch, Jean B
Maloy, J K
Report Date:
27 Dec 1967
Media Count:
158 Page(s)
Report Number(s):
SDC-TM-L-2550/016/01
Report Classification:
Unclassified
Distribution Limitation(s):
01 - APPROVED FOR PUBLIC RELEASE
Abstract:
(U) A cost-benefits analysis of six alternative DIDS configurations: AUTOVON, Leased Line, Two 60-kHz, Leap Frog, AUTOVON/60-kHz, and Leased Line/60-kHz. The configurations are first described, then compared for performance, and finally evaluated with regard to cost vs. benefits. (Author)
Abstract Classification:
Unclassified

Technical Reports Collection

Citation Format: FOIA(U2)

Accession Number:
AD0621934
Corporate Author:
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Abstract:

(U) The report summarizes the development of the AUTOVON Simulator and provides all information necessary for its use. Programmed for the Philco 2000 computer, this simulation tool is now in daily use at DCA for communication systems management and design evaluation. The AUTOVON (Automatic Voice Network) Simulator is a highly detailed computer model designed to provide quantitative measures of system performance resulting from proposed changes in traffic, routing, or configuration.

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(U) THE QUALITATIVE DEVELOPMENT REQUIREMENTS INFORMATION (QDRI) REGISTERED ORGANIZATION DATA BANK (RODATA)
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stract:
(U) The QDRI Program is the Army's research and development information- to-industry program, which has been assigned to the U. S. Army Materiel Command for management. QDRI is defined as information (written or verbal) regarding current and future Army requirements for development of materiel exclusive of advanced procurement information. It has become apparent to most of the managers of the QDRI program that there are enough items of data being collected about qualified organizations and from the information interfaces between the Army and Industry to require the development of an automated data system to acquire, store and process commonly needed information in a uniform manner, and in addition certain specialized information for individual Army installations, which data might be useful to other installations under varying circumstances. There is enough evidence to indicate that a QDRI oriented data bank can be designed and be put into partial operation by the end of FY 1965, using existing technology and equipment available to the AMC installations involved in the QDRI program. In the development of the QDRI Managers Guide, the concept of a data bank for QDRI continuously crystallized into the description now presented. This data bank will be an information

science oriented operation, using primarily existing operational IBM equipment and the existing AUTODIN/AUTOVON network for rapid transmission of data from each RDTE and procurement qualification activity/installation, and vice-versa.

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