INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume VI - Network Transaction Manager Subsystem
Part 7 - Network Transaction Manager (NTM) Services Product
Specification

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This technical report has been reviewed and is approved for publication.

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WRDC/MTI
Wright-Patterson AFB, OH 45433-6533

DATE
25 July 91

FOR THE COMMANDER:

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WRDC/MTI
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DATE
25 July 91

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Copies of this report should not be returned unless return is required by security considerations, contractual obligations, or notice on a specific document.
This specification establishes the 'as built' design of the Network Transaction Manager subsystem.

Block 11 (Cont) - INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Vol VI - Network Transaction Manager Subsystem
Part 7 - Network Transaction Manager (NTM) Services Product Specification

The document contains information about the Network Transaction Manager subsystem, its design, and related specifications. It is a report from Structural Dynamics Research Corporation, Barker, S., et al., detailing the as-built design for the Network Transaction Manager subsystem. The report is for use by the Integrated Information Support System (IISS) and covers aspects related to network transaction manager services.
FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

<table>
<thead>
<tr>
<th>SUBCONTRACTOR</th>
<th>ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Data Corporation</td>
<td>Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.</td>
</tr>
<tr>
<td>D. Appleton Company</td>
<td>Responsible for providing software information services for the Common Data Model and IDEFIX integration methodology.</td>
</tr>
<tr>
<td>ONTEK</td>
<td>Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.</td>
</tr>
<tr>
<td>Simpact Corporation</td>
<td>Responsible for Communication development.</td>
</tr>
<tr>
<td>Institution</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Structural Dynamics Research Corporation</td>
<td>Responsible for User Interfaces, Virtual Terminal Interface, and Network Transaction Manager design, development, implementation, and support.</td>
</tr>
<tr>
<td>Arizona State University</td>
<td>Responsible for test bed operations and support.</td>
</tr>
</tbody>
</table>
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SECTION 1
SCOPE

1.1 Identification

This specification establishes the 'as built' design of the Software Services component of the Network Transaction Manager Subsystem.

1.2 Functional Summary

The Network Transaction Manager (NTM) Subsystem provides the control and support services to application processes that are grouped together logically in clusters called Application Process Cluster (APCs). These application processes communicate with one another by sending messages via the NTM. The NTM delivers these messages to the destination application processes while also providing other services for the APs such as message pairing, AP initiation, and message queuing.
2.1 Reference Documents

The following pertinent reference materials are available at the ICAM Program Office.

1. Interim Reports

2. Life Cycle Documents
   (a) ITR620150002U Project Scope
   (b) PMP620150000 Master Plan and Schedule
   (c) SAD620150000 State-of-the-Art Review
   (d) SRD620140000 System Requirements Document
   (e) SDS620140000 System Design Specifications
   (f) DS6201420000 Development Specification - Network Transaction Manager Subsystem

The following reference materials are available from Digital Equipment Corporation.

   (a) VAX/VMS I/O User's Guide (Volume 1), Order No.AA-M540B-TE
   (b) VAX/VMS I/O User's Guide (Volume 2), Order No.AA-M541B-TE
   (c) VAX COBOL Language Reference Manual, Order No.AA-H631C-TE
   (d) VAX-11 FORTRAN Language Reference Manual, Order No. AA-D034C-TE

Other reference materials are as follows.

   (a) International Organization for Standardization, Open Systems Interconnection, Information Processing Systems - Basic Reference Model, TC 97/16 N 719

   (b) International Organization for Standardization, Open Systems Interconnection, Draft, Connection-Oriented Transport Service Definition TC 97/16 N 860

2.2 Terms And Abbreviations

1. Interhost Communication Primitives (IHC's) - A set of routines used by the NTM to interface to the operating system or to other operating systems which have an NTM running. They are always system dependent.

2. Interprocess Communication Primitives (IPC's) - A set of routines used to communicate between two processes on the same computer. They are always system dependent.
SECTION 3

REQUIREMENTS

3.1 Structural Descriptions

The NTM Services Modules are the routines that are bound with new IISS APs to provide the management of the AP's communication with the IISS.

3.2 Functional Flow Description

The NTM Services can be grouped according to their basic function in the following way:

The NTM Communication Initiation Routines:
- INICOM (used by the COMM APs for initiation)
- INITAL (used for initiation by all IISS APs except COMM and the UI)
- INITEX (used by the UI AP for initiation)
- LOGON (used by the UI to send user logon information to the NTM)

The NTM Communication Routines:
- CHGROL (used by the UI to tell the NTM about a user's role change)
- CHKMSG (used as a check to determine whether a message has arrived for the AP)
- GDACK (used to acknowledge guaranteed delivery messages)
- GDSEN (used to send guaranteed delivery messages)
- ISEND (used to send a message that will specifically cause the initiation of a new instance of an IISS AP)
- NSEND (used to send message to other IISS APs)
- QSEND (used by Queue-Server APs to send messages back to the AP whose message was just received)
- RCV (used to receive any messages that may have been sent by other IISS APs)
- IGERR (used to send an error message to both the user of this AP and the NTM Monitor)
- TSTMOD (used by the UI to signal message filtering needs)

NTM Status Services
- GETUSR (used to get user information, original source, and original logical channel)
- WTHST (used to determine host name where requested AP resides)
NTM Termination Services

- LOGOFF (used by the UI to inform the NTM of a user logoff)
- TRMNAT (used by all IISS APs to terminate their communication connection to the NTM)
- TRMNAX (used by the COMM APs to terminate their communication connection to the NTM)

3.3 Interfaces

The Network Transaction Manager maintains communications with any other process through mailboxes. The mailboxes are managed by the Interprocess Communication Primitives (IPC's).

Communications with the remote computer is accomplished through the Communication sub-system process which will be running when there are other hosts to communicate with.

3.4 Program Interrupts

Many NTM Services are interrupt driven with interrupts coming either from the IPC's on behalf of an NTM MPU. Waiting for these interrupts is performed by one of the IPC wait primitives. If a response must be received within a particular time interval, the IPC's associated with timing are used along with one of the wait's.

3.5 Timing and Sequence Description

The NTM does not depend on any particular timing sequences.

3.6 Special Control Features

The Network Transaction Manager Subsystem does not include any special control features as defined in the ICAM Documentation Standards manual.

3.7 Storage Allocation

3.7.1 Data Base Definition

3.7.1.1 File Description

All file handling is done by the Message Processing Units and not by the NTM Services themselves.

3.7.1.2 Table Description

There are no tables which are used by all of the NTM Services. Information regarding the individual APs is stored and handled by the Message Processing Units and not by the NTM Services themselves.

3.7.1.3 Item and Constant Description

Described in the DS.
3.7.2 CPC Relationship

3.8 Object Code Creation

The generic portion of NTM is written in COBOL and 'C'. This has been successfully compiled on a VAX 11/780 under VMS, an IBM 3084 under MVS, and a Honeywell Level 6 under Mod 400.

The minimum computer hardware and software required to create and run NTM in the IISS environment is documented in the Installation Guide for IISS on the VAX and in the Installation Guide for IISS on the IBM.

3.9 Adaption Data

The command procedures to the create IISS AP executables such that they contain the NTM Services are specific to each computer and can be found under Software Configuration Management.
3.10 Detail Design Description

The upcoming program details were derived from all modules that were selected when the following Documentation Group(s) was chosen:

NTMSERV

3.10.1 Main Program List

The following is a list of all "Main Programs" which are modules that are not called by any other module being documented here. These modules are either program entry points or, if they are hooked into another set of programs via subroutine calls, they are the points the external programs can call and therefore enter through. To differentiate between the two types of entry points, look at the individual Module Documentation (section 3.10.8) and look at Module Type for each of the Main Program modules listed. Note whether the routine is a Program, Subroutine, or Function. If it is a Program, it is truly a main program entry point. If not, then it is merely called by other programs not being documented here.
<table>
<thead>
<tr>
<th>Module Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCTIM</td>
<td>CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.</td>
</tr>
<tr>
<td>CHGROL2</td>
<td>CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.</td>
</tr>
<tr>
<td>CHKMSG2</td>
<td>TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS.</td>
</tr>
<tr>
<td>ERRAPI</td>
<td>PURPOSE NOT KNOWN - ACTIVE CODE.</td>
</tr>
<tr>
<td>FILGEN</td>
<td></td>
</tr>
<tr>
<td>GDACK2</td>
<td>SENDS GD ACK MESSAGE TO LOCAL MPU.</td>
</tr>
<tr>
<td>GDSEND2</td>
<td>SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.</td>
</tr>
<tr>
<td>GETTIM</td>
<td>GET THE SYSTEM TIME AS A BINARY STRING.</td>
</tr>
<tr>
<td>GETUSR2</td>
<td>RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.</td>
</tr>
<tr>
<td>INICOM2</td>
<td>INITIALIZE AP'S CONNECTION TO THE IISS.</td>
</tr>
<tr>
<td>INITIAL2</td>
<td>INITIALIZE AP'S CONNECTION TO THE T1V MPU.</td>
</tr>
<tr>
<td>INITEX2</td>
<td>INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.</td>
</tr>
<tr>
<td>INITIAL2</td>
<td>INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.</td>
</tr>
<tr>
<td>INSTNC2</td>
<td>GET THE SYSGEN INSTANCE NUMBER.</td>
</tr>
<tr>
<td>ISEND2</td>
<td>SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.</td>
</tr>
<tr>
<td>LOGOFF2</td>
<td>SENDS LOGOFF MESSAGE TO THE MONITOR AP.</td>
</tr>
<tr>
<td>LOGON2</td>
<td>SENDS LOGON MESSAGE TO THE MONITOR AP.</td>
</tr>
<tr>
<td>Module Name</td>
<td>Purpose</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>MBXLG2</td>
<td>PURPOSE NOT KNOWN - ACTIVE CODE.</td>
</tr>
<tr>
<td>MBXLOG</td>
<td>PURPOSE NOT KNOWN - ACTIVE CODE.</td>
</tr>
<tr>
<td>QSEND2</td>
<td>SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.</td>
</tr>
<tr>
<td>RCLE</td>
<td>REMOTE COMPILE AND LINK EXPERT DRIVER</td>
</tr>
<tr>
<td>SIGABT2</td>
<td>SIGNAL THE MPU TO ABORT A CHILD AP</td>
</tr>
<tr>
<td>SIGERR</td>
<td>CALL SIGERR2</td>
</tr>
<tr>
<td>SNDRCLE</td>
<td>REMOTE COMPILE AND LINK EXPERT CALLING SERVICE</td>
</tr>
<tr>
<td>TRMNAX</td>
<td>CALL TRMNAX2</td>
</tr>
<tr>
<td>TSTMOD</td>
<td>CALL COBOL ROUTINE TSTMOD2</td>
</tr>
<tr>
<td>WHTHST</td>
<td>CALL WHTHST2</td>
</tr>
</tbody>
</table>
3.10.2 **Module List**

The following is a list of all the modules being documented here along with their purpose. Each module has a unique name, no matter what language it was written in.
### NTM/SERV Module List

<table>
<thead>
<tr>
<th>Module Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCTIM</td>
<td>CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.</td>
</tr>
<tr>
<td>CHGROL2</td>
<td>CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.</td>
</tr>
<tr>
<td>CHKMSG2</td>
<td>TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS.</td>
</tr>
<tr>
<td>ERRAPI</td>
<td>PURPOSE NOT KNOWN - ACTIVE CODE.</td>
</tr>
<tr>
<td>FILGEN</td>
<td></td>
</tr>
<tr>
<td>GDACK2</td>
<td>SENDS GD ACK MESSAGE TO LOCAL MPU.</td>
</tr>
<tr>
<td>GDSEND2</td>
<td>SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.</td>
</tr>
<tr>
<td>GETTIM</td>
<td>GET THE SYSTEM TIME AS A BINARY STRING.</td>
</tr>
<tr>
<td>GETUSR2</td>
<td>RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.</td>
</tr>
<tr>
<td>INICOM2</td>
<td>INITIALIZE AP'S CONNECTION TO THE IISS.</td>
</tr>
<tr>
<td>INITAL2</td>
<td>INITIALIZE AP'S CONNECTION TO THE T1V MPU.</td>
</tr>
<tr>
<td>INITEX2</td>
<td>INITIALIZE UI LIKE AP'S CONNECTION TO THE U1V MPU.</td>
</tr>
<tr>
<td>INITIL2</td>
<td>INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.</td>
</tr>
<tr>
<td>INSTNC2</td>
<td>GET THE SYSGEN INSTANCE NUMBER.</td>
</tr>
<tr>
<td>ISEND2</td>
<td>SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.</td>
</tr>
<tr>
<td>LOGOFF2</td>
<td>SENDS LOGOFF MESSAGE TO THE MONITOR AP.</td>
</tr>
<tr>
<td>LOGON2</td>
<td>SENDS LOGON MESSAGE TO THE MONITOR AP.</td>
</tr>
</tbody>
</table>
NTM/SERV Module List

<table>
<thead>
<tr>
<th>Module Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBXLG2</td>
<td>PURPOSE NOT KNOWN - ACTIVE CODE.</td>
</tr>
<tr>
<td>MBXLOG</td>
<td>PURPOSE NOT KNOWN - ACTIVE CODE.</td>
</tr>
<tr>
<td>NSEND2</td>
<td>SEND MESSAGE TO AN AP IN THE IISS.</td>
</tr>
<tr>
<td>POSTCOM</td>
<td>SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.</td>
</tr>
<tr>
<td>PRECOM</td>
<td>REMOTE COMPIL AND LINK EXPERT DRIVER</td>
</tr>
<tr>
<td>QSEND2</td>
<td>RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.</td>
</tr>
<tr>
<td>RCLE</td>
<td>SIGNAL THE MPU TO ABORT A CHILD AP</td>
</tr>
<tr>
<td>RCLFILE</td>
<td>CALL SIGERR2</td>
</tr>
<tr>
<td>RCV2</td>
<td>SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.</td>
</tr>
<tr>
<td>SIGABT2</td>
<td>REMOTE COMPIL AND LINK EXPERT CALLING SERVICE</td>
</tr>
<tr>
<td>SIGERR2</td>
<td>CALL TRMNAT2</td>
</tr>
<tr>
<td>SIGERR2</td>
<td>TERMINATE AN AP'S CONNECTION TO THE IISS.</td>
</tr>
<tr>
<td>SNDRCLE</td>
<td>CALL TRMNAX2</td>
</tr>
<tr>
<td>TRMNAT</td>
<td>TERMINATE COMM'S CONNECTION TO THE IISS.</td>
</tr>
<tr>
<td>TRMNAT2</td>
<td>CALL COBOL ROUTINE TSTMOD2</td>
</tr>
<tr>
<td>TRMNAX</td>
<td>SET/RESET THE TEST-MODE-FLAG.</td>
</tr>
<tr>
<td>TRMNAX2</td>
<td></td>
</tr>
<tr>
<td>Module Name</td>
<td>Purpose</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td>WHTHST</td>
<td>CALL WHTHST2</td>
</tr>
<tr>
<td>WHTHST2</td>
<td>RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.</td>
</tr>
</tbody>
</table>
3.10.3 External Routines List

The following is a list of all routines or functions not documented here that are called by modules that are documented here. The first caller, in alphabetical order, is listed as well. The specification in which any module is documented may be found in the Module Documentation Index (Document Number CM 620100001). See section 3.10.6 for a list of the modules that call each of these external routines.
NTM/SERV External Routines List

<table>
<thead>
<tr>
<th>Module Name</th>
<th>First User</th>
</tr>
</thead>
<tbody>
<tr>
<td>APACCT</td>
<td>WHTHST</td>
</tr>
<tr>
<td>CNLTIM</td>
<td>ISEND2</td>
</tr>
<tr>
<td>CRTMBX</td>
<td>INICOM2</td>
</tr>
<tr>
<td>DELMBX</td>
<td>TRMNAT2</td>
</tr>
<tr>
<td>ENDRUN</td>
<td>TRMNAX2</td>
</tr>
<tr>
<td>ERRPRO</td>
<td>SIGERR2</td>
</tr>
<tr>
<td>GETMSG</td>
<td>RCV2</td>
</tr>
<tr>
<td>GETNAM</td>
<td>INITEX2</td>
</tr>
<tr>
<td>INITIAL</td>
<td>RCLE</td>
</tr>
<tr>
<td>ISEND</td>
<td>SNDRCLE</td>
</tr>
<tr>
<td>LOCKEF</td>
<td>INITIL2</td>
</tr>
<tr>
<td>NSEND</td>
<td>FILGEN</td>
</tr>
<tr>
<td>RCV</td>
<td>RCLE</td>
</tr>
<tr>
<td>RCVMSG</td>
<td>RCV2</td>
</tr>
<tr>
<td>RELEVB</td>
<td>INITIL2</td>
</tr>
<tr>
<td>SETTIM</td>
<td>INITEX2</td>
</tr>
<tr>
<td>SNDMSG</td>
<td>TRMNAT2</td>
</tr>
<tr>
<td>SYS$ASCTIM</td>
<td>ASCTIM</td>
</tr>
<tr>
<td>SYS$CREPRC</td>
<td>RCLE</td>
</tr>
<tr>
<td>SYS$GETJPI</td>
<td>RCLE</td>
</tr>
<tr>
<td>SYS$GETTIM</td>
<td>GETTIM</td>
</tr>
<tr>
<td>WAIT01</td>
<td>INITIL2</td>
</tr>
<tr>
<td>WAIT02</td>
<td>QSEND2</td>
</tr>
</tbody>
</table>
3.10.4 Include File List

The following is a list of all include files called in by modules being documented here. Each include file has a unique name regardless of the language being used. The purpose of each include file is listed as well. A more complete description of each include file is given in section 3.10.9. The purpose listed is the one that is in the source code of the include file.

A purpose of "**** PURPOSE NOT FOUND BY STRIPPER ****" indicates that a purpose statement was not written into the include file itself. The most common reason for this is that the include file comes from system libraries that were not developed by the project, such as 'C' libraries that are provided with the 'C' compiler.

See section 3.10.6 for a set of lists which show all the modules which call in each of these include files.
# NTM/SERV Include File List

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMSGH</td>
<td>THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.</td>
</tr>
<tr>
<td>ALMSGH</td>
<td>SPACES OR 0.</td>
</tr>
<tr>
<td>APCNM1</td>
<td>APIS GLOBAL NAME DATA.</td>
</tr>
<tr>
<td>APCNM2</td>
<td>SERVICE CODES FOR THE NTM SERVICE ROUTINES.</td>
</tr>
<tr>
<td>APIEVB</td>
<td>**** PURPOSE NOT FOUND BY STRIPPER ****</td>
</tr>
<tr>
<td>APIINI</td>
<td>FOR INITIATION PURPOSES</td>
</tr>
<tr>
<td>APIILCL</td>
<td>THE APIS COMMON LOCAL DATA.</td>
</tr>
<tr>
<td>APINME</td>
<td>**** PURPOSE NOT FOUND BY STRIPPER ****</td>
</tr>
<tr>
<td>BUFAPI</td>
<td>**** PURPOSE NOT FOUND BY STRIPPER ****</td>
</tr>
<tr>
<td>COMAPC</td>
<td>PROCESS ERROR INCLUDE FILE</td>
</tr>
<tr>
<td>ERRPRO</td>
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<td>SERVICE CODES FOR THE NTM SERVICE ROUTINES.</td>
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<td>SRVRET</td>
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3-14
3.10.5 Where Include File Used List

The following lists each include file from 3.10.4 and all the modules documented in this specification which include them. The purpose of each module is listed as well.
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<tr>
<th>Include File</th>
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<td>SIGNAL THE MPU TO ABORT A CHILD AP</td>
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<td>CALL SIGERR2</td>
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**APIINI**

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COMAPC

TRMNAX2 TERMINATE COMM'S CONNECTION TO THE IISS.

ERRPRO

CHGROL2 CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.

CHKMSG2 TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS.

FILGEN GDACK2 SENDS GD ACK MESSAGE TO LOCAL MPU.

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<td>INITAL2</td>
<td>INITIALIZE AP'S CONNECTION TO THE TIV MPU.</td>
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<td>INITEX2</td>
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<td>INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.</td>
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NTM/SERV Where - include - file - used List

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<tr>
<th>Include File</th>
<th>Module Name</th>
<th>Module Purpose</th>
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SRVRET

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<td>CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.</td>
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<td>FILGEN</td>
<td>SENDS GD ACK MESSAGE TO LOCAL MPU.</td>
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**NIM/SERV Where-include-file-used List**

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3.10.6 Where External Routine Used List

The following lists each external function or routine listed in 3.10.3 and all the documented modules which call it. The purpose of each module is listed as well.
### NTM/SERV Where-external-routine-used List

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### NTM/SERV Where-external-routine-used List

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### INITIAL

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<td>SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.</td>
</tr>
<tr>
<td></td>
<td>TRMNAT2</td>
<td>TERMINATE AN AP'S CONNECTION TO THE IISS.</td>
</tr>
<tr>
<td></td>
<td>TRMNAX2</td>
<td>TERMINATE COMM'S CONNECTION TO THE IISS.</td>
</tr>
<tr>
<td></td>
<td>SYS$ASCTIM</td>
<td>ASCTIM CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.</td>
</tr>
<tr>
<td></td>
<td>SYS$CREPRC</td>
<td>RCLE REMOTE COMPILE AND LINK EXPERT DRIVER</td>
</tr>
<tr>
<td></td>
<td>SYS$GETJPI</td>
<td>RCLE REMOTE COMPILE AND LINK EXPERT DRIVER</td>
</tr>
<tr>
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<td>SYS$GETTIM</td>
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### NTM/SERV Where-external-routine-used List

<table>
<thead>
<tr>
<th>System Module</th>
<th>Module Name</th>
<th>Module Purpose</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>ASCTIM</td>
<td>CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.</td>
</tr>
<tr>
<td></td>
<td>GETTIM</td>
<td>GET THE SYSTEM TIME AS A BINARY STRING.</td>
</tr>
</tbody>
</table>

**WAIT01**

- GDSEND2: SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
- INICOM2: INITIALIZE AP'S CONNECTION TO THE IISS.
- INITIAL2: INITIALIZE AP'S CONNECTION TO THE TIV MPU.
- INITEX2: INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
- INITIL2: INITIALIZE AN AP's CONNECTION TO AN AP SELECTED MPU.
- ISEND2: SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
- NSEND2: SEND MESSAGE TO AN AP IN THE IISS.
- QSEND2: SEND MESSAGES TO OTHER AP'S IN THE IISS FROM QSERVER AP'S.
- RCLE: REMOTE COMPILE AND LINK EXPERT DRIVER
- RCV2: RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.
- TRMNAT2: TERMINATE AN AP's CONNECTION TO THE IISS.
- TRMNAX2: TERMINATE COMM'S CONNECTION TO THE IISS.

**WAIT02**

- GDSEND2: SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
- INICOM2: INITIALIZE AP'S CONNECTION TO THE IISS.
- INITIAL2: INITIALIZE AP'S CONNECTION TO THE TIV MPU.
- INITEX2: INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
- INITIL2: INITIALIZE AN AP's CONNECTION TO AN AP SELECTED MPU.
- ISEND2: SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
- NSEND2: SEND MESSAGE TO AN AP IN THE IISS.
### NTM/SERV Where-external-routine-used List

<table>
<thead>
<tr>
<th>System Module</th>
<th>Module Name</th>
<th>Module Purpose</th>
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<tbody>
<tr>
<td>PS 620342300</td>
<td>QSEND2</td>
<td>SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.</td>
</tr>
<tr>
<td>PS 301628957</td>
<td>RCV2</td>
<td>RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.</td>
</tr>
</tbody>
</table>
3.10.7 Main Program Parts List

The following lists each Main Program listed in 3.10.1 and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more than once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external "routine". The Purpose of the Main Program module is listed as well.
**NTM/SERV Main Program Parts List**

<table>
<thead>
<tr>
<th>Main Pgm</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCTIM</td>
<td>ASCTIM</td>
<td>Purpose--&gt;CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.</td>
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<td>SYS$ASCTIM</td>
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</tr>
<tr>
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<td>External routine</td>
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3-36
NTM/SERV Main Program Parts List

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<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHGROL2</td>
<td>Purpose</td>
<td>CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.</td>
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<td></td>
<td>CNLTIM</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>ERRPRO</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>GETMSG</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>NSEND2</td>
<td>Well-defined module</td>
</tr>
<tr>
<td></td>
<td>RCVMSG</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>RELEVB</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SETTIM</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SNDMSG</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>WAIT01</td>
<td>External routine</td>
</tr>
<tr>
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<td>WAIT02</td>
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<td>Module Name</td>
<td>Module Type</td>
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<td>-------------</td>
<td>------------------------</td>
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<tr>
<td>CHKMSG2</td>
<td></td>
<td>Purpose---&gt;TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS.</td>
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</tr>
<tr>
<td>GETMSG</td>
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<td></td>
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<tr>
<td>RCVMSG</td>
<td>External routine</td>
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<td>Main Pgm Name</td>
<td>Module Name</td>
<td>Module Type</td>
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<td>ERRPRO</td>
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<tr>
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<td>RCV</td>
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### NTM/SERV Main Program Parts List

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<th>Module Name</th>
<th>Module Type</th>
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<tr>
<td>GDACK2</td>
<td>Purpose----&gt;Sends GD ACK message to local MPU.</td>
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<td>CNLTIM</td>
<td>External routine</td>
</tr>
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<td></td>
<td>GETMSG</td>
<td>External routine</td>
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<td></td>
<td>NSEND2</td>
<td>Well-defined module</td>
</tr>
<tr>
<td></td>
<td>RCVMSG</td>
<td>External routine</td>
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<td></td>
<td>RELEVB</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SETTIMG</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SNDMSG</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>WAIT01</td>
<td>External routine</td>
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<td>WAIT02</td>
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### NTM/SERV Main Program Parts List

<table>
<thead>
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<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
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<td>Purpose</td>
<td>SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.</td>
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<td>CNLTIM</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>ERRPRO</td>
<td>External routine</td>
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<tr>
<td>GETMSG</td>
<td>External routine</td>
<td></td>
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<tr>
<td>RCVMSG</td>
<td>External routine</td>
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<tr>
<td>RELEVB</td>
<td>External routine</td>
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<td>SETTIM</td>
<td>External routine</td>
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<tr>
<td>SNDMSG</td>
<td>External routine</td>
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<tr>
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<td>WAIT02</td>
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<table>
<thead>
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<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>GETTIM</td>
<td>Purpose--&gt;GET THE SYSTEM TIME AS A BINARY STRING.</td>
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<td>SYS$GETTIM</td>
<td>External routine</td>
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```
**NTM/SERV Main Program Parts List**

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<th>Module Name</th>
<th>Module Type</th>
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<td>Purpose: RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.</td>
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<tr>
<td>ERRPRO</td>
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<tr>
<td>GETMSG</td>
<td>External routine</td>
<td></td>
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<td>NSEND2</td>
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<td>RCV2</td>
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<tr>
<td>RCVMSG</td>
<td>External routine</td>
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<tr>
<td>RELEVB</td>
<td>External routine</td>
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<td>SETTIM</td>
<td>External routine</td>
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<tr>
<td>SNDMSG</td>
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<td></td>
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<tr>
<td>WAIT01</td>
<td>External routine</td>
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<tr>
<td>WAIT02</td>
<td>External routine</td>
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<td>Main Pgm Module Name</td>
<td>Module Name</td>
<td>Type</td>
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<tr>
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<tr>
<td>INICOM2</td>
<td>Purpose--&gt;INITIALIZE AP'S CONNECTION TO THE IISS.</td>
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<tr>
<td>CRTMBX</td>
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<td></td>
</tr>
<tr>
<td>ERRPRO</td>
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</tr>
<tr>
<td>GETMSG</td>
<td>External routine</td>
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<tr>
<td>GETNAM</td>
<td>External routine</td>
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</tr>
<tr>
<td>RCVMSG</td>
<td>Internal routine</td>
<td></td>
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<tr>
<td>SETTIM</td>
<td>External routine</td>
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</tr>
<tr>
<td>SNDMSG</td>
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<tr>
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<tr>
<td>WAIT02</td>
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### NTM/SERV Main Program Parts List

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
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<td>ERRPRO</td>
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<td>GETMSG</td>
<td>External routine</td>
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<tr>
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<td>LOCKEF</td>
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<td>SNDMSG</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
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<td>External routine</td>
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<tr>
<td></td>
<td>WAIT02</td>
<td>External routine</td>
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</table>

Purpose: INITIALIZE AP'S CONNECTION TO THE T1V MPU.
**NTM/SERV Main Program Parts List**

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Type</th>
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<tbody>
<tr>
<td>INITEX2</td>
<td>Purpose</td>
<td>INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.</td>
</tr>
<tr>
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<td>DELMBX</td>
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<td>ERRPRO</td>
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<tr>
<td>GETMSG</td>
<td>External routine</td>
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<td>GETNAM</td>
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</tr>
<tr>
<td>RCVMSG</td>
<td>External routine</td>
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<tr>
<td>SETTIM</td>
<td>External routine</td>
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</tr>
<tr>
<td>SNDMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT01</td>
<td>External routine</td>
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<tr>
<td>WAIT02</td>
<td>External routine</td>
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### NTM/SERV Main Program Parts List

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
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<tbody>
<tr>
<td>INITIL2</td>
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<td>GETMSG</td>
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</tr>
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<td>SETTIM</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>WAIT02</td>
<td>External routine</td>
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Purpose --> INITIALIZE AN AP's CONNECTION TO AN AP SELECTED MPU.
<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
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<tbody>
<tr>
<td>ISEND2</td>
<td>Purpose</td>
<td>SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.</td>
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<td>External routine</td>
<td></td>
</tr>
<tr>
<td>ERRPRO</td>
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<td>GETMSG</td>
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<td>RCVMSG</td>
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<td>RELEVB</td>
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<tr>
<td>SNDMSG</td>
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<tr>
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<td>External routine</td>
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<td>WAIT02</td>
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NTM/SERV Main Program Parts List

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<th>Module Name</th>
<th>Module Type</th>
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<tr>
<td>LOGOFF2</td>
<td>Purpose--&gt;SENDS LOGOFF MESSAGE TO THE MONITOR AP.</td>
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<td>ERRPRO</td>
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<td>GETMSG</td>
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<td>Well-defined module</td>
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<tr>
<td>RCVMSG</td>
<td>External routine</td>
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<td>RELEVB</td>
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<td>SETTIM</td>
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<td>External routine</td>
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### NTM/SERV Main Program Parts List

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<td>RCV2</td>
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<tr>
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<td>RELEVB</td>
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<td>SETTIM</td>
<td>External routine</td>
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</tr>
<tr>
<td>SNDMSG</td>
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</tr>
<tr>
<td>WAIT01</td>
<td>External routine</td>
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<td>WAIT02</td>
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<td>MBXLOG</td>
<td>Purpose - PURPOSE NOT KNOWN - ACTIVE CODE.</td>
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### NTM/SERV Main Program Parts List

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<thead>
<tr>
<th>Main Pgm Name</th>
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</tr>
</thead>
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<td></td>
<td></td>
<td>SEND MESSAGES TO OTHER APS IN: THE IISS FROM QSERVER AP'S.</td>
</tr>
<tr>
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<td>External routine</td>
<td></td>
</tr>
<tr>
<td>ERRPRO</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>GETMSG</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>RCVMSG</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>RELEVB</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SETTIM</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SNDMSG</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT01</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT02</td>
<td></td>
<td>External routine</td>
<td></td>
</tr>
</tbody>
</table>
NTM/SERV Main Program Parts List

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCLE</td>
<td>Purpose--&gt;REMOTE COMPILE AND LINK EXPERT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DRIVER</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APACCT</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>DELMBX</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>ENDRUN</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>FRRPRO</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>INITIAL</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>NSEND</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>POSTCOM</td>
<td>Well-defined module</td>
</tr>
<tr>
<td></td>
<td>PRECOM</td>
<td>Well-defined module</td>
</tr>
<tr>
<td></td>
<td>RCLFILE</td>
<td>Well-defined module</td>
</tr>
<tr>
<td></td>
<td>RCV</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>RELEVB</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SETTIM</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SNDMSG</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SYS$CR7PRC</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>SYS$GETJPI</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>TRMNAT</td>
<td>Well-defined module</td>
</tr>
<tr>
<td></td>
<td>TRMNAT2</td>
<td>Well-defined module</td>
</tr>
<tr>
<td></td>
<td>WAIT01</td>
<td>External routine</td>
</tr>
</tbody>
</table>
**NTM/SERV Main Program Parts List**

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGABT2</td>
<td>Purpose --&gt; SIGNAL THE MPU TO ABORT A CHILD</td>
<td></td>
</tr>
<tr>
<td>CNLTIM</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>ERRPRO</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>GETMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>NSEND2</td>
<td>Well-defined module</td>
<td></td>
</tr>
<tr>
<td>RCVMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>RELEVB</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SETTIM</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SNDMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT01</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT02</td>
<td>External routine</td>
<td></td>
</tr>
</tbody>
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## NTM/SERV Main Program Parts List

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGERR</td>
<td>Purpose--&gt;CALL SIGERR2</td>
<td></td>
</tr>
<tr>
<td>APACCT</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>CNLTIM</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>ERRPRO</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>GETMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>NSEND2</td>
<td>Well-defined module</td>
<td></td>
</tr>
<tr>
<td>RCVMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>RELEVB</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SETTIM</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SIGERR2</td>
<td>Well-defined module</td>
<td></td>
</tr>
<tr>
<td>SNDMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT01</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT02</td>
<td>External routine</td>
<td></td>
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### NTM/SERV Main Program Parts List

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNDRCLE</td>
<td>Purpose---&gt;REMOTE COMPILE AND LINK EXPERT CALLING SERVICE</td>
<td>ISEND External routine</td>
</tr>
</tbody>
</table>

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## NTM/SERV Main Program Parts List

<table>
<thead>
<tr>
<th>Main Pgm</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
</table>
| TRMNAX   | Purpose-->
<pre><code>        | CALL TRMNAX2     |                      |
</code></pre>
<p>| APACCT   | External routine |
| ENDRUN   | External routine |
| ERRPRO   | External routine |
| GETNAM   | External routine |
| RELEVB   | External routine |
| SETTIM   | External routine |
| SNDMSG   | External routine |
| TRMNAX2  | Well-defined module |
| WAIT01   | External routine |</p>
<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTMOD</td>
<td>Purpose--&gt;CALL COBOL ROUTINE TSTMOD2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APACCT</td>
<td>External routine</td>
</tr>
<tr>
<td></td>
<td>TSTMOD2</td>
<td>Well-defined module</td>
</tr>
</tbody>
</table>
### NTM/SERV Main Program Parts List

<table>
<thead>
<tr>
<th>Main Pgm Name</th>
<th>Module Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHTHST</td>
<td>Purpose--&gt;CALL WHTHST2</td>
<td></td>
</tr>
<tr>
<td>APACCT</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>CNLTM</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>ERRPRO</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>GETMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>NSEND2</td>
<td>Well-defined module</td>
<td></td>
</tr>
<tr>
<td>RCV2</td>
<td>Well-defined module</td>
<td></td>
</tr>
<tr>
<td>RCVMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>RELLEB</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SETTIM</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>SNDMSG</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT01</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WAIT02</td>
<td>External routine</td>
<td></td>
</tr>
<tr>
<td>WHTHST2</td>
<td>Well-defined module</td>
<td></td>
</tr>
</tbody>
</table>
3.10.8 Module Documentation

The following documentation describes information which is specific to each individual module being documented in this specification as listed in section 3.10.2. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME: Name of program Module.

PURPOSE: Purpose of Module as detailed in the source code.

LANGUAGE: Programming language source code is written in.
The choices are:

- VAX-11 FORTRAN
- C (I/S-1 Workbench 'C')
- VAX-11 COBOL

MODULE TYPE: Whether a Program, Subroutine, or Function.

SOURCE FILE: Name of Source File from file specification.

SOURCE FILE TYPE: Source File Extension from file specification.

HOST: Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.

SUBSYSTEM: IISS sub-system this file resides in.

SUBDIRECTORY: Sub-directory of that subsystem in which this file resides.

DOCUMENTATION GROUP: Name of documentation group of which this source file is a member.

DESCRIPTION: A description of the module as obtained from the source code.

ARGUMENTS: The arguments with which this routine is called if it is a Subroutine or a Function.

INCLUDE FILES: A list of all the files that are included into this module as well as their purposes.
ROUTINES CALLED: Subroutines or Functions, either documented or external, called by this module, if any.

CALLED DIRECTLY BY: The documented routines which call this module, if any.

USED IN MAIN PROGRAM(S): The documented Main Programs which contain this module in their parts list according to the list in section 3.10.7.

The Module Documentation is arranged alphabetically according to Module Name.
NTM/SERV Module Documentation

NAME: ASCTIM
PURPOSE: Called by MPU's to get the system time as an ASCII string.

LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ASCTIM
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

- Calls VMS Services: SYS$GETTIM

SYS$ASCTIM

ARGUMENTS:

TIME-STRING = DSPLY [X(23)]
NTM-RETURN = DSPLY [X(5)]
SS-STATUS = DSPLY [S9(9)]

ROUTINES CALLED:

SYS$GETTIM
SYS$ASCTIM
NTM/SERV Module Documentation

NAME: CHGROL2
PURPOSE: CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CHGROL2
SOURCE FILE TYPE: .COB
HOST: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  

ARGUMENTS:  

TERMINAL-ID = DSPLY [X(3)]
USER-NAME = DSPLY [X(8)]
ROLE-NAME = DSPLY [X(10)]
RTN-CODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FILES:  

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
PETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
SRVCD2 - THAT CALL NSEND AND RCV
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:  

NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.
ERRPRO
NTM/SERV Module Documentation

NAME: CHKMSG2
PURPOSE: TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CHKMSG2
SOURCE FILE TYPE: .COB
HOST: NTM
SUBSYSTEM: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

LOGICAL-CHANNEL = DSPLY [X(3)]
MSG-SOURCE = DSPLY [X(10)]
ACCEPT-STATUS = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:

MSGSTR - PURPOSE
APILCL - THE APIS COMMON LOCAL DATA.
Srvcds - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
Retstr - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
TSTMDE - SPACES OR 0.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

RCVMSG
GETMSG
ERRPRO

3-64
NAME: ERRAPI
PURPOSE: PURPOSE NOT KNOWN - ACTIVE CODE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ERRAPI
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

CALL-NAME = DSPLY [X(6)]
ROUTINE-NAME = DSPLY [X(8)]
RET-CODE = DSPLY [X(5)]
SS-STATUS = DSPLY [S9(9)]
NAME: FILGEN
PURPOSE: VAX-11 COBOL
LANGUAGE: SUBROUTINE
MODULE TYPE: SOURCE FILE: FILGEN
SOURCE FILE TYPE: .COB
HOST: NTM
SUBSYSTEM: SERVICES
SUBDIRECTORY: NTMSERV
DOCUMENTATION GROUP: DESCRIPTION:

THE PURPOSE OF THIS ROUTINE IS TO ACT AS A GENERALIZED INTERFACE TO THE FILE NAME QUEUE SERVER.

For release 2.0 to return a ret-status
WILL ASK FOR AND RECEIVE A BLOCK OF 20 NAMES
AND HAND THEM OUT TO A CALLER 1 AT A TIME.
IF INUT-HOST NAME IS BLANK, THEN USE THE CURRENT HOST AND PASS IT BACK TO THE CALLER.
COPY OF GENFIL RENAMED AS FILGEN FOR USE IN NTM.

ARGUMENTS:

FILE-HOST = DSPLY [XXX]

INCLUDE FILES:

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

NSEND
RCV
ERRPRO
NTM/SERV Module Documentation

NAME: GDACK2
PURPOSE: SENDS GD ACK MESSAGE TO LOCAL MPU.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GDACK2
SOURCE FILE TYPE: .COB
HOST: SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

SENDS GD ACK MESSAGE TO LOCAL MPU. THIS INFORMS THE MPU THAT THE AP HAS ACCEPTED THE GD MESSAGE.

ARGUMENTS:

MESSAGE-SERIAL-NUMBER = DSPLY [X(7)]
RETCODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FILES:

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
SRVCD2 - THAT CALL NSEND AND RCV
RESTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APILCL - THE APIS COMMON LOCAL DATA.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

NSEND2 - SEND MESSAGE TO AN AP IN THE NTM.
ERRPRO
NAME: GDSEND2
PURPOSE: SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GDSEND2
SOURCE FILE TYPE: .COB
HOST: SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

DESTINATION = DSPLY [X(10)]
LOGICAL-CHANNEL = DSPLY [X(3)]
TIMEOUT-VALUE = DSPLY [X(15)]
DATA-TYPE = DSPLY [X]
MESSAGE-TYPE = DSPLY [X(2)]
SEND-SIZE = DSPLY [9(5)]
USER-DATA = RECRD
ACCEPT-STATUS = DSPLY [X(5)]
MESSAGE-Serial-NUMBER = DSPLY [X(7)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FILES:

 MSGSTR - PURPOSE
 APILCL - THE APIS COMMON LOCAL DATA.
 SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
 RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
 APIINME - **** PURPOSE NOT FOUND BY STRIPPER ****
 BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
 APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
 ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

SNDMSG
PS 620342300
30 September 1990

SETTIM
WAIT01
RCVMSG
WAIT02
GETMSG
CNLTIM
RELEVB
ERRPRO
NAME: GETTIM
PURPOSE: GET THE SYSTEM TIME AS A BINARY STRING.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GETTIM
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
- CALLS VMS SERVICES: SYS$GETTIM
THE GET TIME SYSTEM SERVICE FURNISHES THE CURRENT SYSTEM
TIME IN 64-BIT FORMAT. THE SYSTEM TIME IS UPDATED EVERY
10 MILLISECONDS, AND THE TIME IS RETURNED IN
100-NANOSECOND UNITS FROM THE SYSTEM BASE TIME.

ARGUMENTS:
--------------
TIME-VALUE = DSPLY [9(18)]
NTM-RETURN = DSPLY [X(5)]
SS-STATUS = DSPLY [S9(9)]

ROUTINES CALLED:
-----------------
SYS$GETTIM
NTM/SERV Module Documentation

NAME: GETUSR2
PURPOSE: RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.

LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GETUSR2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME TO THE CALLING AP. NOTE: USER NAME IS RETURNED ONLY IF THE ORIGINAL SOURCE AP IS THE USER INTERFACE.

ARGUMENTS:

R-AP-NAME = DSPLY [X(10)]
LOGICAL-CHANNEL = DSPLY [X(3)]
USER-NAME = DSPLY [X(8)]
ROLE-NAME = DSPLY [X(10)]
TERM-ID = DSPLY [X(2)]
GETUSR-RET = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
SRVCD2 - THAT CALL NSEND AND RCV
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURN.
APIIMME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
TSUMDE - SPACES OR 0.
FRRPRO - PROCESS ERROR INCLUDE FILE

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ROUTINES CALLED:

NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.
RCV2  - RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.
ERRPRO
NTM/SERV Module Documentation

NAME: INICOM2
PURPOSE: INITIALIZE AP'S CONNECTION TO THE IISS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INICOM2
SOURCE FILE TYPE: .COB
HOST: NTAI
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION: 

ARGUMENTS:

COMM-RCV-EVENT-BLOCK = DSPLY [X(2032)]
INPUT-MBX-NAME = DSPLY [X(14)]
APC-HOT-MBX-NAME = DSPLY [X(14)]
APC-COLD-MBX-NAME = DSPLY [X(14)]
RET-STATUS = DSPLY [X(5)]
MPU-INSTANCE = DSPLY [XX]

INCLUDE FILES:

ALMSGH - SPACES OR 0.
INICMD - PROCESS ERROR INCLUDE FILE
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

GETINAM
CRITMBX
SNDMSG
SETTIM
WAIT01
RCVMSG
WAIT02
GETMSG
ERRPRO
NTM/SERV Module Documentation

NAME: INITAL2
PURPOSE: INITIALIZE AP'S CONNECTION TO THE TIV MNU.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INITAL2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

BUFFER = DSPLY [X(4096)]
BUFFER-SIZE = DSPLY [9(5)]
SYS-STATE = DSPLY [X]
USER-RET-CODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:

APIINI - FOR INITIATION PURPOSES
ALMSGH - SPACES OR 0.
APILCL - THE APIS COMMON LOCAL DATA.
APCNM2 - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
TSTMDE - SPACES OR 0.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

LOCKEF
GETNAM
CRTMBX
RCVMSG
SETTIM
WAIT02
GETMSG
SNDDMSG
WAIT01
DELMBX
RELEVB
ERRFRO
NAME: INITEX2
PURPOSE: INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INITEX2
SOURCE FILE TYPE: .COB
HOST: 
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

BUFFER = DSPLY [X(9999)]
BUFFER-SIZE = DSPLY [9(5)]
USEF-RET-CODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:

APIINI - FOR INITIATION PURPOSES
ALMSGH - SPACES OR 0.
APILCL - THE APIS COMMON LOCAL DATA.
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
REFTSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APCNMI - APIS GLOBAL NAME DATA.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAP1 - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
TSTMD - SPACES OR 0.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

GETNAM
CRTMBX
SNDMSG
SETTIM
WAIT01
RCVMSG
WAIT02
GETMSG
DELMBX
ERRPRO
NTM/SERV Module Documentation

NAME: INITIL2
PURPOSE: INITIALIZE AN AP's CONNECTION TO AN AP SELECTED MPU.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INITIL2
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

BUFFER = DSPLY [X(4096)]
BUFFER-SIZE = DSPLY [9(5)]
MPU-NAME = DSPLY [X(3)]
SYS-STATE = DSPLY [X]
USER-RET-CODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MPX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:

APIINI - FOR INITIATION PURPOSES
ALMSGH - SPACES OR 0.
APILCL - THE APIS COMMON LOCAL DATA.
APCNM2 - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
SRVCD5 - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
RESTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
TSTMDE - SPACES OR 0.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

GETNAM
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NTM/SERV Module Documentation

NAME: INSTNC2
PURPOSE: GET THE SYSGEN INSTANCE NUMBER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INSTNC2
SOURCE FILE TYPE: .COB
HOST: NTM
SUBSYSTEM: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
-

ARGUMENTS:
-

INSTANCE-NUMBER = DSPLY [XX]
RET-STATUS = DSPLY [X(5)]
MPU-INSTANCE = DSPLY [XX]
NTM/SERV Module Documentation

NAME:      ISEND2
PURPOSE:   SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN
LANGUAGE:  VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ISEND2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
---------------

ARGUMENTS:
-------------

DSTINATION = DSPLY [X(10)]
LOGICAL-CHANNEL = DSPLY [X(3)]
TIMEOUT-VALUE = DSPLY [X(15)]
DATA-TYPE = DSPLY [X]

INCLUDE FILES:
---------------

MSGSTK - PURPOSE
APILCL - THE APIS COMMON LOCAL DATA.
SERVICES - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
RESTRK - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APINEF - **** PURPOSE NOT FOUND BY STRIPPER ****
BPAPB - **** PURPOSE NOT FOUND BY STRIPPER ****
APISFB - **** PURPOSE NOT FOUND BY STRIPPER ****
ERROR - PROCESS ERROR INCLUDE FILE

FUNCTIONS CALLED:
-----------------

CALLSTK
SETIM
WAIT01
POCTIM
WAIT02
CHKEST
CHKEIM
CHEST
CHEIM
CHEF
CHIF
CHF
CHF

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NTM/SERV Module Documentation

NAME: LOGOFF2
PURPOSE: SENDS LOGOFF MESSAGE TO THE MONITOR AP.
LANGUAGE: VAX-l1 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: LOGOFF2
SOURCE FILE TYPE: .COB
HOST: NTM
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
---------------------
ACCEPTS LOGOFF DATA FROM THE UI AND FORWARDS A MESSAGE TO THE MONITOR AP FOR UPDATING THE IISS LOGON TABLE.

ARGUMENTS:
-------------
TERMINAL-ID = DSPLY [X(2)]
USER-NAME = DSPLY [X(8)]
ROLE-NAME = DSPLY [X(10)]
LOG-RET-CODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FTFS:
-------------
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
SRVCD2 - THAT CALL NSEND AND RCV
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURS.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:
---------------------
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.
ERRPRO
NTM/SERV Module Documentation

NAME: LOGON2
PURPOSE: SENDS LOGON MESSAGE TO THE MONITOR AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: LOGON2
SOURCE FILE TYPE: .COB
HOST: SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
---------------
ACCEPTS LOGON DATA FROM THE UI AND FORWARDS A MESSAGE TO THE MONITOR AP FOR UPDATING THE ISS LOGON TABLE. WAITS ON THE RESPONSE FROM MONITOR BEFORE RETURNING CONTROL TO THE UI.

ARGUMENTS:  ------------
TERMINAL-ID = DSPLY [X(2)]
USER-NAME = DSPLY [X(8)]
ROLE-NAME = DSPLY [X(10)]
SESSION-START-TIME = DSPLY [X(23)]
CHAN-RANGE-START = DSPLY [X(3)]
CHAN-RANGE-END = DSPLY [X(3)]
LOG-RET-CODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:  ------------
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
PETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-REPORT.
SKYCD2 - THAT CALL RSEND AND RCV
APINAME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIENVB - **** PURPOSE NOT FOUND BY STRIPPER ****
LSTMODE - SPACES OR 0.
PRMPO - PROCESS ERROR INCLUDE FILE
ROUTINES CALLED:

NSEND2  - SEND MESSAGE TO AN AP IN THE IISS.
RCV2    - RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.
ERRPRO  - 
| NAME:       | MBXLG2          |
| PURPOSE:    | PURPOSE NOT KNOWN - ACTIVE CODE. |
| LANGUAGE:   | VAX-11 COBOL   |
| MODULE TYPE:| SUBROUTINE      |
| SOURCE FILE:| MBXLG2          |
| SOURCE FILE TYPE: | .COB |
| HOST:       |                  |
| SUBSYSTEM:  | NTM             |
| SUBDIRECTORY:| SERVICES        |
| DOCUMENTATION GROUP: | NTMSERV |

DESCRIPTION:
--------------

ARGUMENTS:
----------

CALL-NAME = DSPLY [X(72)]
NTM/SERV Module Documentation

NAME: MBXLOG
PURPOSE: PURPOSE NOT KNOWN - ACTIVE CODE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: MBXLOG
SOURCE FILE TYPE: .COB
HOST: SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
-------------

ARGUMENTS:
-------------

MSG-BUFFER = DPSLY [X(72)]

ROUTINES CALLED:
-------------

GETNAM
NTM/SERV Module Documentation

NAME: NSSEND2
PURPOSE: SEND MESSAGE TO AN AP IN THE IISS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: NSEND2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
------------------

ARGUMENTS:
-------------

DESTINATION = DSPLY (X(10))
LOGICAL-CHANNEL = DSPLY (X(3))
TIMEOUT-VALUE = DSPLY (X(15))
DATA-TYPE = DSPLY (X)

INCLUDE FILES:
-----------------

MSGSTR - PURPOSE
APIIICL - THE APIS COMMON LOCAL DATA.
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
RESTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APIME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAP1 - **** PURPOSE NOT FOUND BY STRIPPER ****
APYLEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:
-----------------

SHDESCH
SETTIM
WAIIT01
ECVMSC
WAIIT02
GETIMSG
CHLTIM
PELEVB
ERRPRO

CALLED DIRECTLY BY:
-------------------

CHGPOL2 - CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
GDACK2 - SENDS GD ACK MESSAGE TO LOCAL MPU.
GETUSR2 - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
LOGOFF2 - SENDS LOGOFF MESSAGE TO THE MONITOR AP.
LOGON2 - SENDS LOGON MESSAGE TO THE MONITOR AP.
SIGABT2 - SIGNAL THE MPU TO ABORT A CHILD AP.
SIGERR2 - SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
WHTHST2 - RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

USED IN MAIN PROGRAM(S):

-----------------------------
CHGROL2 - CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
GDACK2 - SENDS GD ACK MESSAGE TO LOCAL MPU.
GETUSR2 - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
LOGOFF2 - SENDS LOGOFF MESSAGE TO THE MONITOR AP.
LOGON2 - SENDS LOGON MESSAGE TO THE MONITOR AP.
SIGABT2 - SIGNAL THE MPU TO ABORT A CHILD AP.
SIGERR - CALL SIGERR2.
WHTHST - CALL WHTHST2.
NTM/SERV Module Documentation

NAME: POSTCOM
PURPOSE: VAX-11 COBOL
LANGUAGE: SUBROUTINE
MODULE TYPE: .COB
SOURCE FILE: POSTCOM
SOURCE FILE TYPE: SUBROUTINE
HOST: NTM
SUBSYSTEM: SERVICES
SUBDIRECTORY: NTMSERV
DOCUMENTATION GROUP:

DESCRIPTION:

ARGUMENTS:

FILENAME = DSPLY [X(30)]

ROUTINES CALLED:
RCLFILE

CALLED DIRECTLY BY:
RCLE - REMOTE COMPIL AND LINK EXPERT DRIVER

USED IN MAIN PROGRAM(S):
RCLE - REMOTE COMPIL AND LINK EXPERT DRIVER
NTM/SERV Module Documentation

NAME: PRECOM
PURPOSE: VAX-11 COBOL
LANGUAGE: VAX-11 COBOL
MODULE TYPE: PROGRAM
SOURCE FILE: PRECOM
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ROUTINES CALLED:
-----------------
 RCLFILE

CALLED DIRECTLY BY:
-----------------
 RCLE - REMOTE COMPILIE AND LINK EXPERT DRIVER

USED IN MAIN PROGRAM(S):
-----------------
 RCLE - REMOTE COMPILIE AND LINK EXPERT DRIVER
NTM/SERV Module Documentation

NAME: QSEND2
PURPOSE: SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.

LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: QSEND2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

THIS ROUTINE IS A PRELIMINARY VERSION OF THE SEND* SERVICE FOR THE QSERVER. CURRENTLY, IT ONLY SUPPORTS QSERVERS THAT SERVICE ONE REQUEST AT A TIME.

ARGUMENTS:

DESTINATION = DSPLY [X(10)]
LOGICAL-CHANNEL = DSPLY [X(3)]
TIMEOUT-VALUE = DSPLY [X(15)]
DATA-TYPE = DSPLY [X]
MESSAGE-TYPE = DSPLY [X(2)]
SEND-SIZE = DSPLY [9(5)]
USER-DATA = RECRD
ACCEPT-STATUS = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FILES:

MSGSTR - PURPOSE
APILCL - THE APIS COMMON LOCAL DATA.
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APINMME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
ERRPRO - PROCESS ERROR INCLUDE FILE
ROUTINES CALLED:
-----------------
SNDMSG
SETTIM
WAIT01
RCVMSG
WAIT02
GETMSG
CNLTIM
RELEV8
ERRPRO
NTM/SERV Module Documentation

NAME: RCLE
PURPOSE: REMOTE COMPILe AND LINK EXPERT DRIVER
LANGUAGE: VAX-I COBOL
MODULE TYPE: PROGRAM
SOURCE FILE: RCLE
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

RCLE IS INITIATED BY "SNDRCLE" NTM SERVICE. IT BUILDS A COMMAND FILE WHICH INCLUDES THE SYSTEM CONTROL CARDS FOUND IN THE INITIATING MESSAGE. THIS COMMAND FILE IS THEN RUN AS A DETACHED PROCESS. WHEN IT COMPLETES, RCLE WILL RETURN A MESSAGE CONTAINING THE NAME OF THE LOG FILE.
MODIFIED: 7/19/85 TO NOT CALL GETUSER. IT NOW REPLIES TO RCV.

INCLUDE FILES:

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
APICL - THE APIS COMMON LOCAL DATA.
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

INITIAL
RCV
RCLFILE -
PRECOM -
POSTCOM -
SYS$GETJPI
SYS$CREPRC
SETTIM
WAIT01
NSEND
TRMNAT - CALL TRMNAT2
ERRPRO
NAME: RCLFILE
PURPOSE: 
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: RCLFILE
SOURCE FILE TYPE: .COB
HOST: 
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION: 
-------------
ARGUMENTS: 
----------
C-CARD = DSPLY [X(72)]
REQUEST = DSPLY [X(5)]

CALLED DIRECTLY BY: 
-------------------
POSTCOM 
PRECOM 
RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

USED IN MAIN PROGRAM(S): 
------------------------
RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER
NAME: RCV2
PURPOSE: RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: RCV2
SOURCE FILE TYPE: .COB
HOST: NTM
SUBSYSTEM: SERVICES
DOCUMENTATION GROUP: NTMSERV
DESCRIPTION:

ARGUMENTS:

LOGICAL-CHANNEL = DSPLY [X(3)]
WAIT-FLAG = DSPLY [X]
MSG-SOURCE = DSPLY [X(10)]
MESSAGE-TYPE = DSPLY [X(2)]
DATA-LENGTH = DSPLY [9(5)]
USER-DATA = RECRD
ACCEPT-STATUS = DSPLY [X(5)]
MSG-SERIAL-NUMBER = DSPLY [X(7)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:

MSGSTR - PURPOSE
APILCL - THE APIS COMMON LOCAL DATA.
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APINME - ***** PURPOSE NOT FOUND BY STRIPPER *****
BUFFAPI - ***** PURPOSE NOT FOUND BY STRIPPER *****
APIEVB - ***** PURPOSE NOT FOUND BY STRIPPER *****
TSTDME - SPACES OR 0.
ERRPRO - PROCESS ERROR INCLUDE FILE
ROUTINES CALLED:
-----------------
RCVMSG
WAIT02
WAIT01
GETMSG
ERRPRO

CALLED DIRECTLY BY:
-------------------
GETUSR2 - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
LOGON2  - SENDS LOGON MESSAGE TO THE MONITOR AP.
WHTHST2 - RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

USED IN MAIN PROGRAM(S):
-------------------------
GETUSR2 - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
LOGON2  - SENDS LOGON MESSAGE TO THE MONITOR AP.
WHTHST  - CALL WHTHST2
NTM/SERV Module Documentation

NAME: SIGABT2
PURPOSE: SIGNAL THE MPU TO ABORT A CHILD AP
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SIGABT2
SOURCE FILE TYPE: .COB
HOST: SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
----------------------
NTM SERVICE TO SIGNAL ABORT CHILD TO THE MPU.
AFTER THIS PROCESS, THE MPU PROCESS "ABORT" TAKES OVER.

TELL THE LOCAL MPU TO ABORT A CHILD. THE CHILD MAY BE ON
THE SAME OR DIFFERENT CLUSTER/HOST.

ARGUMENTS:
------------
AP-NAME = DSPLY [X(10)]

INCLUDE FILES:
----------------------
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
RETSTR - THE API'S COMMON LOCAL DATA FOR ERROR-RETURNS.
SRVCD2 - THAT CALL NSEND AND RCV
APILCL - THE API'S COMMON LOCAL DATA.
APINME - ***** PURPOSE NOT FOUND BY STRIPPER *****
BUFAPI - ***** PURPOSE NOT FOUND BY STRIPPER *****
APEVVB - ***** PURPOSE NOT FOUND BY STRIPPER *****
TSTMDE - SPACES OR 0.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:
----------------------
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.
ERRPRO
NTM/SERV Module Documentation

NAME: SIGERR
PURPOSE: CALL SIGERR2
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: SIGERR
SOURCE FILE TYPE:.C
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

SYNOPSIS
CALL SIGERR USING ERROR-CODE,
SEVERITY-LEVEL,
ERROR-DESCRIPTION,
RETURN-CODE.

INPUTS/OUTPUTS:

INPUTS:
ERROR-CODE PIC X(5).
SEVERITY-LEVEL PIC X.
ERROR-DESCRIPTION PIC X(72).

OUTPUTS:
RETURN-CODE PIC X(5).

DESCRIPTION
SIGERR IMPLEMENTS A TWO-STEP CALL TO SIGERR2,
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL
DATA AREAS).

ARGUMENTS:

A = CHAR *
B = CHAR *
C = CHAR *
D = CHAR *

INCLUDE FILES:

APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
ROUTINES CALLED:

- APACCT
- SIGERR2 - SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
NAME: SIGERR2
PURPOSE: SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.

LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SIGERR2
SOURCE FILE TYPE: .COB
HOST: SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
---------------
ACCEPTS ERROR DATA FROM AN AP AND FORWARDS
A MESSAGE TO THE MONITOR AP FOR ITS ERROR REPORTING AND ONE TO THE ORIGINAL SOURCE OF THE AP.

ARGUMENTS:
-------------
ERROR-CODE = DSPLY [X(5)]
SEVERITY-LEVEL = DSPLY [X]
ERROR-DESCRIPTION = DSPLY [X(/2)]
RTN-CODE = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FILES:
---------------
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
SRVCD2 - THAT CALL NSEND AND RCV
APILCL - THE APIS COMMON LOCAL DATA.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAP1 - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEV1B - **** PURPOSE NOT FOUND BY STRIPPER ****
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:
---------------
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.
ERRPRO
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CALLED DIRECTLY BY:
-------------------
SIGERR - CALL SIGERR2

USED IN MAIN PROGRAM(S):
------------------------
SIGERR - CALL SIGERR2
NTM/SERV Module Documentation

NAME: SNDRCLE
PURPOSE: REMOTE COMPILIE AND LINK EXPERT CALLING SERVICE
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SNDRCLE
SOURCE FILE TYPE: .COB
HOST: SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

NODE = DSPLY [X(3)]
CHANNEL = DSPLY [X(3)]
CTL-CARD = DSPLY [X(1096)]
RET-STATUS = DSPLY [X(5)]

INCLUDE FILES:

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR

ROUTINES CALLED:

ISEND
NTM/SERV Module Documentation

NAME: TRMNAT
PURPOSE: CALL TRMNAT2
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: TRMNAT
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

SYNOPSIS
CALL TRMNAT USING USER-TERMINATE-STATUS.

INPUTS/OUTPUTS:

INPUTS:
USER-TERMINATE-STATUS PIC X.

OUTPUTS:

DESCRIPTION
TRMNAT IMPLIMENTS A TWO-STEP CALL TO TRMNAT2, ADDING THE ADDRESSES OF GLOBAL AREAS TO THE PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL DATA AREAS).

ARGUMENTS:

A = CHAR *

INCLUDE FILES:

APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****

ROUTINES CALLED:

APACCT
TRMNAT2 - TERMINATE AN AP'S CONNECTION TO THE IISS.

CALLED DIRECTLY BY:

RCLE - REMOTE COMPILVE AND LINK EXPERT DRIVER
USED IN MAIN PROGRAM(S):

RCLE        - REMOTE COMPILE AND LINK EXPERT DRIVER
NTM/SERV Module Documentation

NAME: TRMNAT2
PURPOSE: TERMINATE AN AP'S CONNECTION TO THE IISS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: TRMNAT2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION: 

ARGUMENTS:

ARGUMENT NAME = DESCRIPTION
----------------------
USER-TERMINATE-STATUS = DSPLY [X]
API-GLOBAL-NAME-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FILES:

FILE NAME = DESCRIPTION
-------------
ADMSGH - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APILCL - THE APIS COMMON LOCAL DATA.
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
RESTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

ROUTINE NAME
-------------
DELMBX
ENDRUN
SNOMSG
SETTIM
WAIT01
 RELEV
ERRPRO

CALLED DIRECTLY BY:

ROUTINE NAME = DESCRIPTION
---------------------
TRMNAT - CALL TRMNAT2
USED IN MAIN PROGRAM(S):
------------------------
RCLE                - REMOTE COMPILIE AND LINK EXPERT DRIVER
NAME: TRMNAX
PURPOSE: CALL TRMNAX2
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT()
SOURCE FILE: TRMNAX
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

SYNOPSIS
CALL TRMNAX USING USER-TERMINATE-STATUS.

INPUTS/OUTPUTS:

INPUTS:
USER-TERMINATE-STATUS PIC X.

OUTPUTS:

DESCRIPTION
TRMNAX IMPLEMENTS A TWO-STEP CALL TO TRMNAX2,
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL
DATA AREAS).

ARGUMENTS:

A = CHAR *

ROUTINES CALLED:

APACCT
TRMNAX2 - TERMINATE COMM'S CONNECTION TO THE IISS.
NAME: TRMNAX2
PURPOSE: TERMINATE COMM'S CONNECTION TO THE IISS.
LANGUAGE: VAX-li COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: TRMNAX2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
--

SINCE COMM DELETES ITS INPUT MAILBOX, TRMNAX HAS ONLY TWO FUNCTIONS. THEY ARE: SEND THE "AP DYING" MESSAGE TO THE COMM APC AND THEN CALL "ENDRUN" TO TERMINATE THE AP.

ARGUMENTS:
----

USER-TERMINATE-STATUS = DSPLY [X]
MPU-INSTANCE = DSPLY [XX]

INCLUDE FILES:
---------

ADMSGH - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
RETRSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
APILCL - THE APIS COMMON LOCAL DATA.
SRVCDSS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.
COI APC - PROCESS ERROR INCLUDE FILE
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:
----------------

GETNAM
ENDRUN
SNDMSG
SETTIM
WAIT01
RELEV8
ERRPRO

CALLED DIRECTLY BY:
------------------

TRMNAX - CALL TRMNAX2
USED IN MAIN PROGRAM(S):

TRMNAX    - CALL TRMNAX2
NTM/SERV Module Documentation

NAME: TSTMOD
PURPOSE: CALL COBOL ROUTINE TSTMOD2
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: TSTMOD
SOURCE FILE TYPE: .C
HOST: NTM
SUBSYSTEM: SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

SYNOPSIS
CALL TSTMOD USING TEST-STATUS,
RETURN-CODE.

INPUTS/OUTPUTS:

INPUTS:
TEST-STATUS PIC X.

OUTPUTS:
RETURN-CODE PIC X(5).

DESCRIPTION
TSTMOD IMPLEMENTS A TWO-STEP CALL TO TSTMOD2,
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL
DATA AREAS).

ARGUMENTS:

A = CHAR *
B = CHAR *

INCLUDE FILES:

APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****

ROUTINES CALLED:

APACCT
TSTMOD2 - SET/RESET THE TEST-MODE-FLAG.
NAME: TSTMOD2
PURPOSE: SET/RESET THE TEST-MODE-FLAG.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: TSTMOD2
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

TSTMOD2 IS TO BE CALLED BY
THE UI TO SET/RESET THE TEST-MODE-FLAG. WHEN SET
THE UI WILL RECEIVE ASYNCHRONOUS ERROR MESSAGES FOR
THE USER IT IS SERVICING. WHEN THE TEST-MODE-FLAG
IS OFF, THE ASYNCH ERROR MESSAGES WILL BE DISCARDED

ARGUMENTS:

TEST-STATUS = DSPLY [X]

INCLUDE FILES:

SRVCD2 - THAT CALL NSEND AND RCV
TSTMDE - SPACES OR 0.

CALLED DIRECTLY BY:

TSTMOD - CALL COBOL ROUTINE TSTMOD2

USED IN MAIN PROGRAM(S):

TSTMOD - CALL COBOL ROUTINE TSTMOD2
NAME: WHTHST
PURPOSE: CALL WHTHST2
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT()
SOURCE FILE: WHTHST
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
-------------

SYNOPSIS
CALL WHTHST USING REQ-AP-NAME,
    AP-HOST-NAME,
    RETURN-STATUS.

INPUTS/OUTPUTS:

INPUTS:
    REQ-AP-NAME PIC X(10).

OUTPUTS:
    AP-HOST-NAME PIC X(3).
    RETURN-STATUS PIC X(5).

DESCRIPTION
WHTHST IMPLEMENTS A TWO-STEP CALL TO WHTHST2,
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL
DATA AREAS).

ARGUMENTS:
----------
A = CHAR *
B = CHAR *
C = CHAR *

INCLUDE FILES:
---------------
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAPI - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****

ROUTINES CALLED:
-----------------
APACCT
WHTHST2 - RETURNS THE NAME OF THE HOST ON WHICH AN AP
RESIDES.
NTM/SERV Module Documentation

NAME: WHTHST2
PURPOSE: RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: WHTHST2
SOURCE FILE TYPE: .COB
HOST: NTM
SUBSYSTEM: SERVICES
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:
--------------------------
ACCEPTS AN AP NAME FROM A REQUESTING AP AND RETURNS THE NAME OF THE HOST ON WHICH THE SPECIFIED AP RESIDES.
IF THE INFO IS NOT FOUND, AN UNSUCCESSFUL STATUS CODE IS RETURNED TO THE CALLING AP.

ARGUMENTS:
-------------
REQ-AP-NAME = DSPLY [X(10)]
AP-HOST-NAME = DSPLY [X(3)]
RETURN-STATUS = DSPLY [X(5)]
API-GLOBAL-NAME-SEC = RECRD
API-GLOBAL-BUFFER-SEC = RECRD
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]
SEND-EVENT-BLK = DSPLY [X(2032)]
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]
TIMER-EVENT-BLK = DSPLY [X(80)]
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:
---------------
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR
SRVCD2 - THAT CALL NSEND AND RCV
APINME - **** PURPOSE NOT FOUND BY STRIPPER ****
BUFAP1 - **** PURPOSE NOT FOUND BY STRIPPER ****
APIEVB - **** PURPOSE NOT FOUND BY STRIPPER ****
TSTMDE - SPACES OR 0.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:
----------------
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.
RCV2 - RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.
ERRPRO
CALLED DIRECTLY BY:

------------------

WHTHST      - CALL WHTHST2

USED IN MAIN PROGRAM(S):

-----------------------

WHTHST      - CALL WHTHST2
3.10.9 Include File Descriptions

The following list contains a purpose and description of each include file listed in 3.10.4 as specified in the source code. The language it is written in is also given.
NTM/SERV Include File Description

FILE NAME: ADMSCH
PURPOSE: THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/20/84 INITIALIZE ALL LOCAL VARIABLES TO SPACES OR 0
MODIFIED 5/24/85 CLEAN-UP.
NTM/SERV Include File Description

FILE NAME: ALMSGH
PURPOSE: SPACES OR 0.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

------------------
NTM/SERV Include File Description

FILE NAME: APCNM1
PURPOSE: APIS GLOBAL NAME DATA.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

- MODIFIED 8/24/84 MSG-RCV-BUFFER TO OCCUR 20 TIMES.
- MODIFIED 10/25/83 TO MOVE AP'S NUMBER OF MAILBOXES VALUE TO THE SYSTEM STATE BLOCK.
- RESTORED 11/22/83
- MODIFIED 12/21/83 FOR ACK MAILBOX VALUES.
- MODIFIED 1/30/84 FOR EXPANDED AP NAME.
- MODIFIED 2/01/84 PARTITIONED FROM OLD APISEC.INC TO REDUCE STORAGE IN SERVICES.
- MODIFIED 7/05/84 REMOVED EXTERNAL FLAG.
- MODIFIED 5/24/85 CLEAN-UP....6/3/85 CLEANUP CLEANED UP.
- MODIFIED 6/14/85 PRONME CONTAINS ONLY APNAME AND INSTANCE
NTM/SERV Include File Description

FILE NAME: APCNM2
PURPOSE: SERVICE CODES FOR THE NTM SERVICE ROUTINES.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 10/06/83 TO INCLUDE INITEX-RES-NOT-AVAIL.
MODIFIED 11/02/83 TO INCLUDE WHTHST- CODES.
MODIFIED 1/09/84 TO CHANGE ERROR CODES TO PIC X(5) AND I
ELIMINATE ALPHA CHARACTERS.
MODIFIED 1/26/84 TO ADD SERVICE-SUCCESS (GENERIC) AND
NTM/SERV Include File Description

FILE NAME: APIEVB
PURPOSE: **** PURPOSE NOT FOUND BY STRIPPER ****
LANGUAGE: C

DESCRIPTION:
----------
NTM/SERV Include File Description

FILE NAME: APIINI
PURPOSE: FOR INITIATION PURPOSES
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
-------------
28 jan 84 : changes for longer ap name
NTM/SERV Include File Description

FILE NAME: APILCL
PURPOSE: THE APIS COMMON LOCAL DATA.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/24/83 TO UP THE SIZE OF MAX-IN-RCV-BUFFER FROM 10 TO 20.
MODIFIED TO ADD VALUES FOR SYSTEM COMMAND CATEGORIES.
NTM/SERV Include File Description

FILE NAME: APINME
PURPOSE:  **** PURPOSE NOT FOUND BY STRIPPER ****
LANGUAGE:  C

DESCRIPTION:
-------------
NTM/SERV Include File Description

FILE NAME: BUFAPI
PURPOSE: **** PURPOSE NOT FOUND BY STRIPPER ****
LANGUAGE: C

DESCRIPTION:
----------
NTM/SERV Include File Description

FILE NAME: COMAPC
PURPOSE: PROCESS ERROR INCLUDE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
----------
NTM/SERV Include File Description

FILE NAME: ERRPRO
PURPOSE: PROCESS ERROR INCLUDE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
-------------
NTM/SERV Include File Description

FILE NAME: FILES:
PURPOSE: AS THE RETURN GIVEN A TABLE-FULL ERROR
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

----------
MODIFIED 11/2/83 TO INCLUDE RET-CODE-5
MODIFIED 1/9/84 TO INCREASE ALL ERROR CODES TO PIC X(5)
    AND TO ELIMINATE ALPHA'S
MODIFIED 1/26/84 TO ADD RET-CODE FOR GETUSR-NOT-SUCC
SRV-SUCCESSFUL ADDED FOR GENERIC RETURN
MODIFIED 2/7/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND
MODIFIED 2/8/84 TO ADD WHSTST-NOT-SUCCESSFUL
MODIFIED 2/20/84 TO ADD TSTMOD NEW CODES.
NTM/SERV Include File Description

FILE NAME: INICMD
PURPOSE: PROCESS ERROR INCLUDE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
----------
NTM/SERV Include File Description

FILE NAME: MSGSTR
PURPOSE: PURPOSE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 9/23/83 TO IDENTIFY ERROR CODES AS RETURNED VIA SNSAP. NOTE - NO NACK IS SEND - ALSO CHANGED RESOURCE-FULL VALUE TO 33.

MODIFIED 10/06/83 TO ADD VALUE FOR SYSTEM STATE MESSAGE.
MODIFIED 11/22/83 RESTORED FROM HARD COPY.
MODIFIED 1/12/84 TO HANDLE FIVE CHAR ERROR CODE.
MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 2/08/84 TO RECOGNIZE "J" AS A PAIRED MESSAGE.
MODIFIED 8/20/84 INITIALIZE ALL LOCAL VARIABLES TO SPACES OR 0
MODIFIED 9/20/84 ADDED IBM NAMES TO NTMNAME. BCS APH
MODIFIED 5/24/85 CLEAN-UP.
NTM/SERV Include File Description

FILE NAME: OF
PURPOSE: AS THE RETURN GIVEN A TABLE-FULL ERROR
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 11/2/83 TO INCLUDE RET-CODE-5
MODIFIED 1/9/84 TO INCREASE ALL ERROR CODES TO PIC X(5)
AND TO ELIMINATE ALPHA'S
MODIFIED 1/26/84 TO ADD RET-CODE FOR GETUSR-NOT-SUCC
SRV-SUCCESSFUL ADDED FOR GENERIC RETURN
MODIFIED 2/7/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND
MODIFIED 2/8/84 TO ADD WHTHST-NOT-SUCCESSFUL
MODIFIED 2/20/84 TO ADD TSTMOD NEW CODES.
NTM/SERV Include File Description

FILE NAME: RETSTR
PURPOSE: THE API'S COMMON LOCAL DATA FOR ERROR-RETURNS.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/20/84 INITIALIZATION ALL LOCAL VARIABLES TO SPACES OR 0
MODIFIED 5/24/85 CLEAN-UP.
NTM/SERV Include File Description

FILE NAME: SRVCD2
PURPOSE: THAT CALL NSEND AND RCV
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-------------
NTM/SERV Include File Description

FILE NAME: SRVCDS
PURPOSE: SERVICE CODES FOR THE NTM SERVICE ROUTINES.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 10/06/83 TO INCLUDE INITEX-RES-NOT-AVAIL.
MODIFIED 11/02/83 TO INCLUDE WTHST- CODES.
MODIFIED 1/09/84 TO CHANGE ERROR CODES TO 11C X(5) ADD TO
ELIMINATE ALPHA CHARACTERS.
MODIFIED 1/26/84 TO ADD SERVICE-SUCCESS (GENERIC) AND
GETUSR-NOT-SUCCESSFUL.
MODIFIED 2/07/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND.
MODIFIED 5/24/85 CLEAN-UP.
NTM/SERV Include File Description

FILE NAME: SRVRET
PURPOSE: AS THE RETURN GIVEN A TABLE-FULL ERROR
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 11/2/83 TO INCLUDE RET-CODE-5
MODIFIED 1/9/84 TO INCREASE ALL ERROR CODES TO PIC X(5)
AND TO ELIMINATE ALPHA'S
MODIFIED 1/26/84 TO ADD RET-CODE FOR GETUSR-NOT-SUCC
SRV-SUCCESSFUL ADDED FOR GENERIC RETURN
MODIFIED 2/7/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND
MODIFIED 2/8/84 TO ADD WTHST-NOT-SUCCESSFUL
MODIFIED 2/20/84 TO ADD TSTMOD NEW CODES.
NTM/SERV Include File Description

FILE NAME: TSTMDE
PURPOSE: SPACES OR 0.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

3.10.10 Hierarchy Chart

The following hierarchy charts show the relationships between all of the modules mentioned in the above documentation. A module may call a subroutine several times within its code, but the call will only be shown once as a single relationship on this hierarchy chart. All modules shown at the top of the first page are considered Main Programs as described in section 3.10.1 above.

There is an internal paging scheme as marked by the numbers in the upper right corner of each page. An index after the last page of the chart shows where a routine and its calls are first defined. If a routine has no page reference, it either makes no calls or is an external routine. A continuation box on the end of a tree limb shows where the tree continues on the page number mentioned. A number in a box with a routine name points to the page where the routine is further defined within the hierarchy tree. If there is no number in a box, the routine either makes no calls or is an external routine.
INITIAL2

(CONT)  WAIT02  GETMSG  SNDMSG  WAIT01  (CONT)

11  19
<table>
<thead>
<tr>
<th>Command</th>
<th>Start Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSS$GETTIM</td>
<td>30</td>
<td>36</td>
</tr>
<tr>
<td>TRMNAT</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>TRMNAT2</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>TRMNAX</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>TSTMOD2</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>WHTHST</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>WHTHST2</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>CHGROL2</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>TRMNAT2</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>TRMNAX2</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
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<td>30</td>
</tr>
<tr>
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<td>33</td>
</tr>
<tr>
<td>WHTHST4</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>
3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.
4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs".