# intel®

NDS-II/Series-IV/OpenNET™ Toolbox

- Multiple NRM Communication
- Remote Series-IV from VAX* Terminal
- Series-IV Menu Compiler
- MS-DOS*/Series-IV Disk Read Utility

- XENIX Services for Any Workstation that can Access an OpenNET™ NRM
- Access to NDS II DJC for OpenNET™ Workstations
- Allow 8080 Based Intel Tools on 8086 Family Systems

The NDS-II/Series-IV/OpenNET Toolbox is a software only product that contains valuable collection of tools developed for the NDS-II, Series-IV and OpenNET user. These tools have been designed to make hybrid development system environments work together and to more fully automate the software developer's task. Many tools are provided with source to allow the engineer to customize these products to their own environment.

Note: However, this is not a supported product.
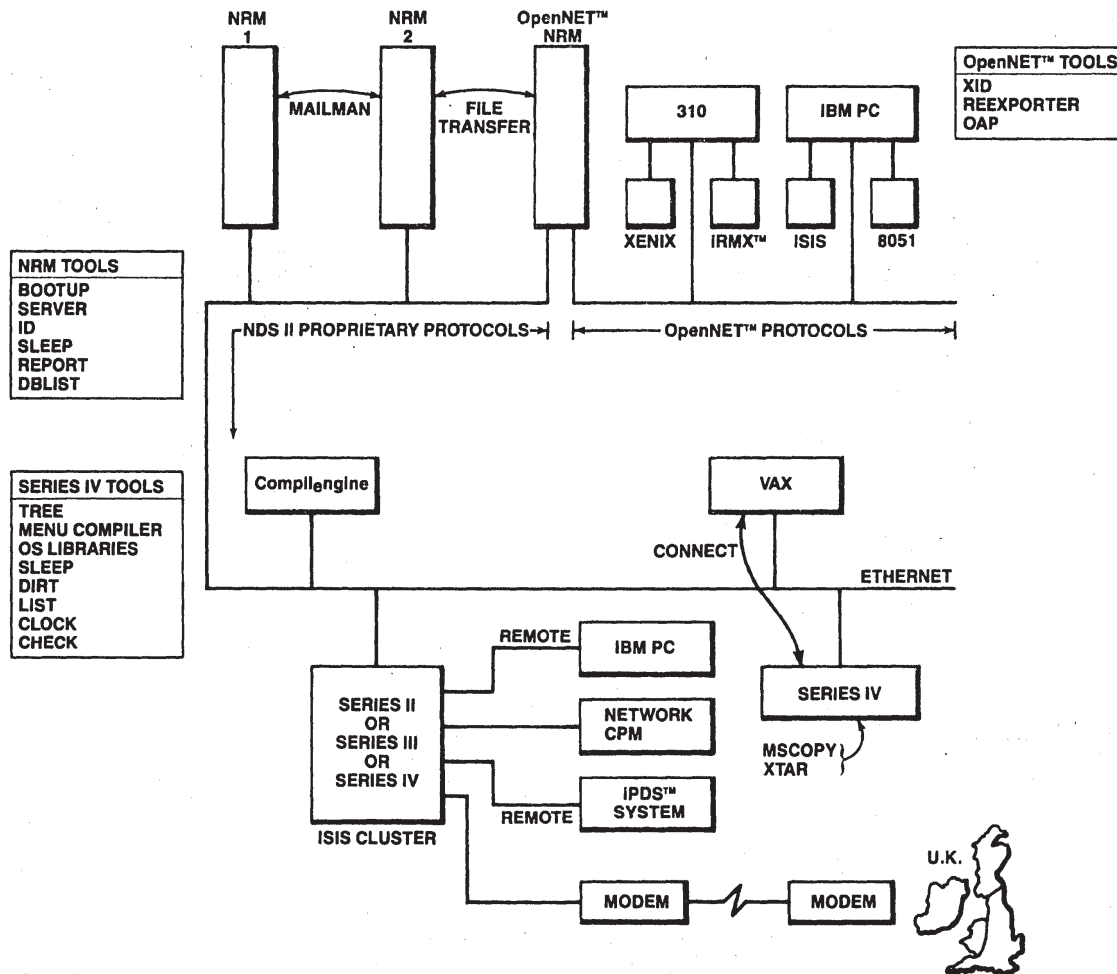
Example of the Many Possible Connections Available with NDS-II/Series-IV/OpenNET™ Toolbox

*MS-DOS is a trademark of Microsoft Corporation
*VAX is a trademark of Digital Equipment Corp.
CP/M® is a registered trademark of Digital Research Inc.

CONNECT

CONNECT allows software developers to use their VAX terminal as a virtual terminal for their Series-II or Series-IV work station. Software developers can now run PSCOPE, ICE™ and I²ICE™ emulators from their VAX terminal, eliminating the need to switch terminals when debugging a program. This serial communications based program runs at 9600 baud for the Series-II and 2400 baud for the Series-IV. Complete support of the Series-IV menu line is available on the VAX terminal. CONNECT does not provide file transfer capability, this is provided for in either the VAX Link or ACL products. A separate serial cable, not supplied with Toolbox, is required for connecting the development system to the VAX. Source and generation are provided.

NRM to NRM Communications

The NRM to NRM communications package provides file transfer and printer spooling from one NDS-II network to another via ethernet. Two new commands are provided, NNCOPY and NNDIR, for Series-IVs running iNDX version 2.5 or greater. These commands do not function on the MDS-800 development system, ISIS Cluster, Series II, or Series III; although an ISIS work station may use export to run NNCOPY or NNDIR remotely. Full file protection is provided by this application. This product also requires that the NRM terminal run the slave program, NNL. The system administrator can prevent access to the NRM from remote systems by not executing NNL.

TREE

TREE is a program for the SIV or NRM that provides: ARCHIVE over the network, listing of a directory tree, searching a directory tree for a specified file, deletion of an entire directory tree, wildcard deletion of files from a directory tree, or displaying the total disk space used by a particular user or directory tree. Commands provide for OWNedby, MODIFIED-BEFORE or SINCE controls.

MENU COMPILER

Allows users of the Series IV or NRM to modify the command level menu to include their own commands or to remove commands not often used. Source for the current Series-IV menu line is provided as well as the additional information needed to add Toolbox commands. Menu compiler input is provided in the form of an LL1 parse tree which will require some knowledge of compiler technology to modify.

MSCOPY

MSCOPY is an iNDX utility that allows manipulation of an MS-DOS disk on a Series IV or NRM. Using this program, the Series-IV or NRM can read and write MS-DOS files. Source and generation are provided.

NETWORK CP/M-80

Network CP/M is a package that allows a Series-II or ISIS cluster to run CP/M®-80 and use the NDS-II as a remote file server. A separate license is required for CP/M on each work station. This package is only an interface that allows to use the NDS-II as a file server, the CP/M operating system is not provided. CP/M is available separately as Intel part number SD01CPM80-B-SU. Source is provided for utilities only.

NETWORK CP/M UTILITIES

CP/M	— loads Network CP/M onto the Series II or ISIS cluster.
MAKDSK	— creates a blank Network CP/M disk image.
CDIR	— gives directory of a Network CP/M disk image or CP/M-80 diskette in drive 1 of a Series II.
ADDSYS	— adds CP/M OS to disk image A: created using MAKDSK.
CCOPY	— allows an ISIS user access to CP/M files.
CPMOMF	— converts a program developed under ISIS to a CP/M executable program.
SUCPM	— SUPERUSER facility for CP/M.

BOOTUP

BOOTUP allows an iMDX-580/581 ISIS cluster board to be used in any SBC chassis instead of only a microcomputer development system. BOOTUP is a special monitor PROM which is installed on a standard ISIS cluster board. This board is then installed into any SBC system chassis to provide a diskless work station. The cluster board accesses the NDS-II file system via an iSBC®550 communication controller also installed in the system chassis. Additional ISIS cluster boards may be installed in the same chassis to provide for more users instead of using a Series-II, III, or IV. Up to eight clusters can be used in a single system chassis.

NOTE:
Only object files are provided, the customer must provide his own 2732A PROM. Object files are provided for all formats of Intel PROM programmers.

SERVER

SERVER allows an ISIS Cluster to automatically log-on to the NDS-II network by supplying a username and password from PROM. ISIS will then execute the corresponding initialization file (:f9: ISIS.INI). A useful application of SERVER is to provide additional spooled printer capability to the network by executing PRINCE, another Toolbox application, in an infinite loop from the ISIS initialization file. Some source and generation are provided. All object files are supplied.

PRINCE

PRINCE is an ISIS based spooling program for use with a Series-II, III, IV, or ISIS cluster board in either the stand-alone or networked environments. PRINCE provides support for both parallel and serial printers, including complete XON/XOFF or DTR/DSR printer ready protocols. PRINCE is most effective when used with an ISIS Cluster board and the SERVER PROM. The program features extensive logging capabilities. Source and generation are provided.

PRMSLO

PRMSLO is a PROM image for an ISIS Cluster that sets the default baud rate to 300 or 1200 baud. This enables the cluster board to be used with a modem. Object files only supplied.

UDXCOM.LIB

System library for iNDX specific UDI extensions. This library provides support for MULTIBUS® hardware and software interrupt calls, enable/disable interrupts, read directory expanded, and more. Object code and documentation are provided for this library.

OSXCOM.LIB

System library for internal iNDX operating system extensions. This extensive internal system library provides many system level calls, such as create directory, enable/disable break, change access, change owner, change password, MIP communication calls, and many more. Object code and documentation are provided for this library.

BVOSX.LIB

This library provides operating system support for C language programs in the SMALL model. Normally the programmer would use OSXCOM.LIB and the COMPACT model of compilation. The functions in BVOSX.LIB are the same for the corresponding calls in OSXCOM.LIB, although not all functions are provided. Source and generation are provided.

BVCLIB

BVCLIB is a useful set of C language functions contained in the libraries BVCSLB.LIB and BVCLLB.LIB. BVCSLB.LIB is SMALL model, and BVCLLB.LIB is large model. Functions included are: parse, wmatch, strtok, valid, creat, open, read, write, seek, close, conn__num, str__to__uppercase, str__to__lowercase, plm__to__c__str, c__to__plm__str, err__chk, mark__end. All references to strings are assumed to be C format strings. Source and generation are provided.

SLEEP

This program puts a Series-IV or NRM to SLEEP for the time specified in the (time) parameter. SLEEP can be used in a submit file to execute a program at a certain time. For example, automatically archiving at midnight and then returning to sleep until the next day at midnight and repeating the archive. Source and generation are provided.

ID

ID is an iNDX utility that lists the name of the current user to the current console. It is useful if you forget who you are or need to know who is executing a particular submit file (MAILMAN is a good example of this). Source and generation are provided.

MDS-800 FPORT

INIT800.86 and FPRT are iNDX and ISIS utilities that allow file transfer between an MDS-800 development system and Series-IV over a serial line. Requires S4FPRT.86 (supplied standard with the Series-IV). Source and generation are provided.

DBLIST

DBLIST is an ISIS utility that enhances the operation of the SVCS programming tool set. It can list the entire SVCS database to an output device and may be used to remove deleted variants from a data base directory. Source and generation are provided.

REMOTE Communication with iPDS, Series-II, III, IV

This program gives the remote iPDS, Series-II, III, or IV user complete access to an NDS-II system through an ISIS Cluster board; including file upload and download capability. The program is menu driv-

en and includes: serial channel select, 8253 clock select, break-key select, baud rate select, modem present/not present select, dial/touchtone select, add-to-out call list option. Source and generation are provided.

REMOTE Communication with IBM PC running MS/DOS

This program enables an IBM Personal Computer running MS/DOS to act as a dumb terminal for an ISIS Cluster board connected to an NDS-II network. The ability to upload and download files from the PC to the network is supplied. Source and generation are provided.

REPORT

REPORT is an ISIS utility that reports back on the status of a job that has been EXPORTED to the NDS-II network for execution on a remote job station. The user can add messages to the command file at appropriate positions in the job sequence, and these messages are returned to the ISIS user when encountered. Source and generation are provided.

DIRT

DIRT is an iNDX utility which provides a directory listing with time and date of file creation and modification. Source and generation are provided.

VIEWPASS

VIEWPASS is an iNDX utility provided exclusively for the SUPERUSER. It lists all the usernames on the system, their associated passwords, and their id number. Source and generation are provided.

FDUMP

FDUMP is an iNDX utility that is used to print the contents of a file on the console in one of four possible formats: HEX, BINARY, OCTAL, or DECIMAL. The default is HEX if no option is specified; all formats include a display of the file in ASCII (reverse video on the Series-IV). Source and generation are provided.

CLOCK

CLOCK is a desk clock for use when you have nothing else to worry about. CLOCK displays the current system time on the console of a Series-II, III, IV (iNDX) or ISIS Cluster. Eight and sixteen bit versions are supplied for ISIS and iNDX systems. Source and generation are provided.

IFILES

IFILES is an ISIS-III (N) utility used to identify date/time stamped files in a directory. All of the files that conform to the defined specification will be listed in a savefile. This file can further be used in command files for manipulating the identified files. Source and generation are provided.

LIST

LIST is a utility that copies files to the system printer (:SP: or :LP:). LIST has the following features as enhancements over a normal copy to :SP:.

1) No form feed at the very beginning of a file.
2) Assumes '.LST' for an extension if none is given.
3) Supports multiple copies.
4) Supports multiple files.
5) Supports page breaks.
6) Supports printing of the filename at the beginning of the listing.
7) Converts tabs to spaces if necessary.

Source and generation are provided for ISIS and iNDX versions.

TA

TA is an ISIS based type-ahead utility for the Series-II/III. TA provides a 255 character type-ahead buffer on the Series-II/III. TA requires the iMDX-511 enhanced IOC upgrade, available on most systems manufactured after 1983. Source and generation are provided.

MAILMAN

MAILMAN is an extensive command file that supports multiple network electronic mail when used with more than one NRM and NRM to NRM communications. Source is provided.

CHECKEXIST and CHECKTIME

CHECKEXIST and CHECKTIME are iNDX utilities used to assist the automation of iNDX command files. CHECKEXIST provides a true or false system variable (%status) depending upon the existance of a specified file. A following check of %status within the command file will control the flow of the command file based upon the existance of the specified file. CHECKTIME provides a greater or less than %status by comparing an input time with the system clock for conditional execution of commands in the command file at specified times. Source and generation are provided.

XID

XID, (pronounced "zid") the (X)enix (I)mport (D)ae-mon, provides XENIX services for any workstation that can access an OpenNET NRM. Thinking of it in another way, XID provides yet another resource for NRM users; a resource much like a spooled line printer or mass storage. In this case, the resource provided is "any job or service that a XENIX box can do; you, as an NDS-II user can gain access to". Source and generation are provided.

REEXPORTER

Reexporter is an iNDX utility that allows OpenNET users (PC's, Xenix, iRMX Systems) to execute batch jobs on NDS-II systems (i.e., VAX/VMS, Model 8001 Series II, III, IV). The utility will execute on a Series-IV, Compilengine or the NRM itself. In brief, it scans special user directories on the NRM looking for command files. If a command file is found, it re"EX-PORT"s the command file to a DJC job queue. A log file is generated to allow the OpenNET user to check the success/failure of the job. Source and generation are provided.

XTAR

XTAR is a program that will let you manipulate a XENIX tar diskette at a Series IV. XTAR works only with disks formatted by the /dev/dvf0 device driver on a 286/310 box, or with the /dev/fd048ds96 device driver on a PC/AT. This version will not handle files physically bigger than a single flippy (367104 bytes). Source and generation are provided.

ISIS

The ISIS environment is designed to allow 8080 based Intel tools (such as ASM, PLM LINKER/LO-CATOR) to run on an 8086 family system, either iRMX or PCDOS based system. The ISIS environment does not support all ISIS calls, but is sufficient to run 8051 translators and utilities. Hosting ISIS on Xenix-286 systems is possible and installation instructions are included. All object files are supplied.

OAP

OAP is a utility that for security reasons masks the username and password in the PC-Link net use command for increased security. The utility also displays all available servers, by looking at the NE-TADDR file. Source and generation are provided.

SPECIFICATIONS

Operating Environment

ISIS, iNDX, RMX, XENIX, or PC-DOS operating system. Check description of each tool for specific requirements.

Documentation

"NDS-II/Series-IV/OpenNET Toolbox"
(122336)

ORDERING INFORMATION

NDS2 TLB　　　NDS-II/Series-IV/OpenNET Toolbox