

NEMS/400

HARDWARE MONITORING AND REPORTING FOR IBM iSERIES & AS/400

SYSTEM OVERVIEW

NEMS/400 (NYCO ENGINEERING MANAGEMENT SYSTEM for the IBM iSeries and AS/400) is designed to monitor an iSeries or AS/400 system and to automatically report any problem log faults, which require engineering support. The product has two main components, the Problem Management Centre and the Client System. The product's main aim is to transmit hardware faults to a Hardware Maintenance company to allow their engineers to diagnose and take the appropriate action to resolve the problem. The Problem Management Centre is installed at the Maintenance Company operations centre where messages are received from clients' AS/400s that have the Client System software loaded. The Client System installed on each client iSeries or AS/400 uses two jobs, which will be auto-started to monitor and transmit messages within a dedicated subsystem. The NEMS Client takes entries from the problem log, filters out unwanted messages and places them into a message log file. A communication program selects the messages for transmission to the host system, to enable all selected messages to be actioned centrally. Communications to the Problem Management Centre is via an IP connection using FTP or via an asynchronous modem attached to a V24 port on the Client machine.

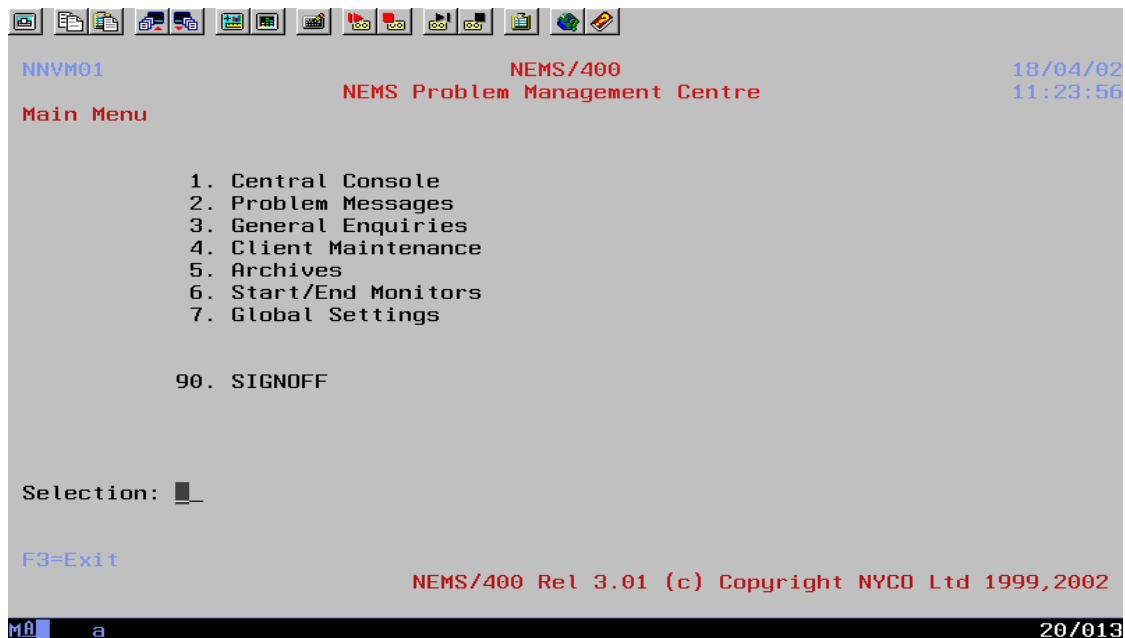
PROBLEM MANAGEMENT CENTRE (PMC)

The main purpose of the Problem Management Centre is to receive system generated problem log messages filtered by the Client and “heartbeats”, from associated iSeries and AS/400s, and to have those printed and e-mailed/paged/texted to the hardware engineer to assess the nature and cause of that particular problem. Client details are logged on this system along with machine information. Detailed below is some of the system information that can be received:

1. A system generated problem number.
2. The message ID.
3. The current rack configuration.
4. The problem function.
5. System Reference Code.
6. Machine Serial Number.
7. Date and Time of the problem.
8. First level text.
9. Problem log details.
10. Pertinent hardware and software details.

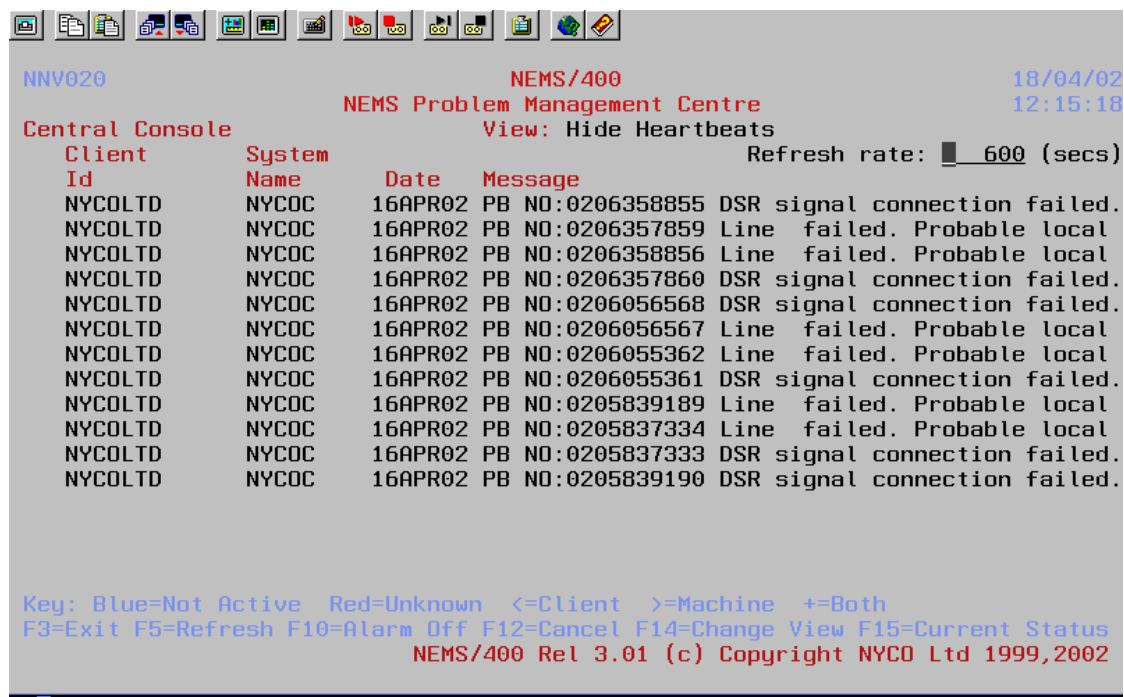
“Heartbeats” have been incorporated into the product to ensure that the company monitoring the iSeries or AS/400 is constantly updated as to the status of its monitored units. Should the Problem Management Centre not receive a “heartbeat” within a desired period of time, then it will produce its own warning message to alert an engineer, of a possible “system down” scenario. The first screen that we see is the Main Menu.

Main Menu



The Main Menu Screen shows the options available. The use of these options will be expanded upon below. Our first option is Central Console.

Central Console



Central Console

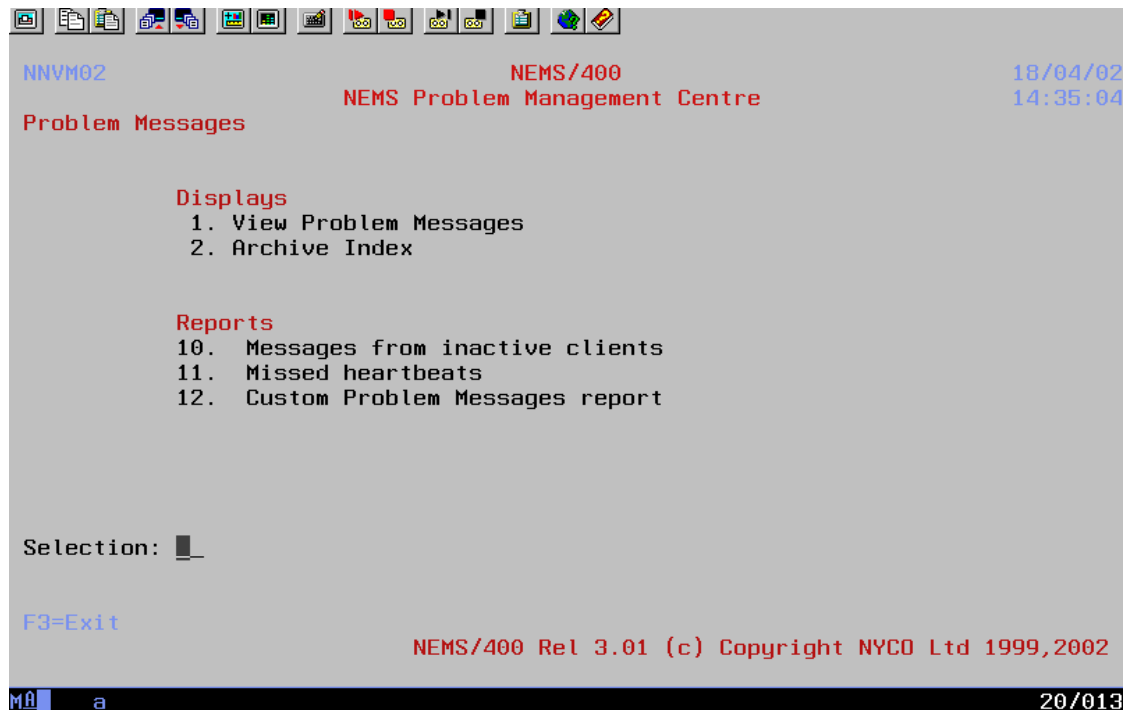
Client System Date Message

Client Id	System Name	Date	Message
NYCOLTD	NYCOC	16APR02	PB NO:0206358855 DSR signal connection failed.
NYCOLTD	NYCOC	16APR02	PB NO:0206357859 Line failed. Probable local
NYCOLTD	NYCOC	16APR02	PB NO:0206358856 Line failed. Probable local
NYCOLTD	NYCOC	16APR02	PB NO:0206357860 DSR signal connection failed.
NYCOLTD	NYCOC	16APR02	PB NO:0206056568 DSR signal connection failed.
NYCOLTD	NYCOC	16APR02	PB NO:0206056567 Line failed. Probable local
NYCOLTD	NYCOC	16APR02	PB NO:0206055362 Line failed. Probable local
NYCOLTD	NYCOC	16APR02	PB NO:0206055361 DSR signal connection failed.
NYCOLTD	NYCOC	16APR02	PB NO:0205839189 Line failed. Probable local
NYCOLTD	NYCOC	16APR02	PB NO:0205837334 Line failed. Probable local
NYCOLTD	NYCOC	16APR02	PB NO:0205837333 DSR signal connection failed.
NYCOLTD	NYCOC	16APR02	PB NO:0205839190 DSR signal connection failed.

Key: Blue=Not Active Red=Unknown <=Client >=Machine +=Both
F3=Exit F5=Refresh F10=Alarm Off F12=Cancel F14=Change View F15=Current Status
NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

The Central Console is our first and main point of viewing incoming messages. All new problem messages as well as heartbeats are shown here. The messages that appear will indicate whether or not the client/machine is “active” or not. We can also employ view changes to hide “heartbeats, see “all” or just “problem” messages.

Problem Messages



Problem Messages

Displays

1. View Problem Messages
2. Archive Index

Reports

10. Messages from inactive clients
11. Missed heartbeats
12. Custom Problem Messages report

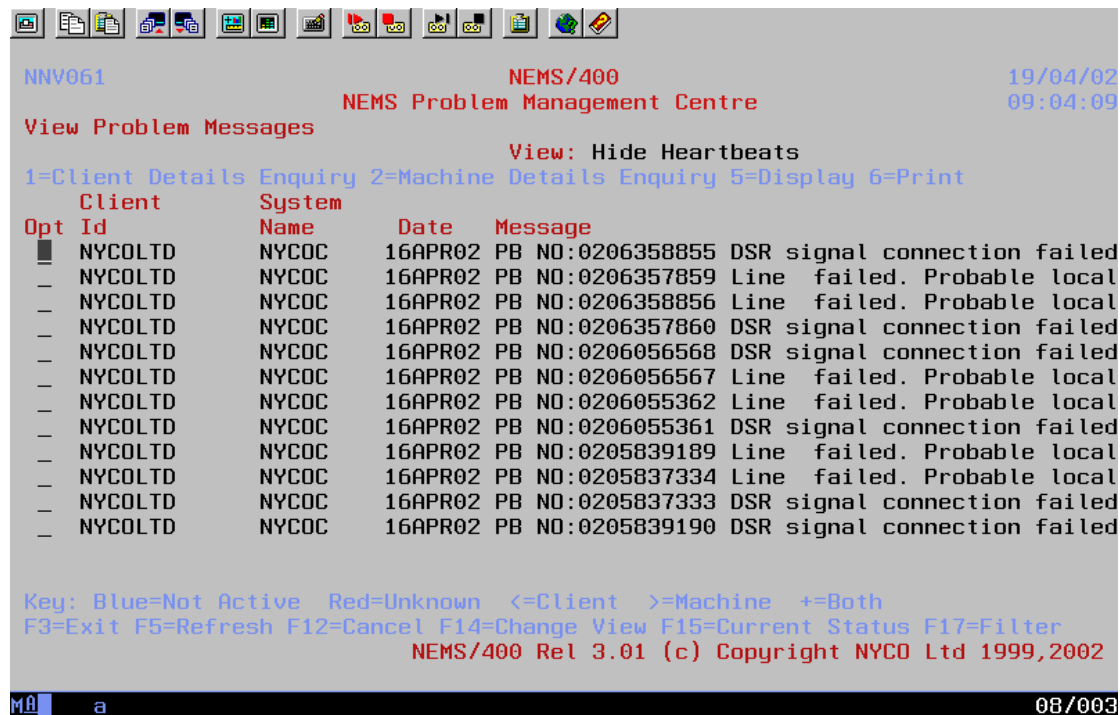
Selection:

F3=Exit

NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

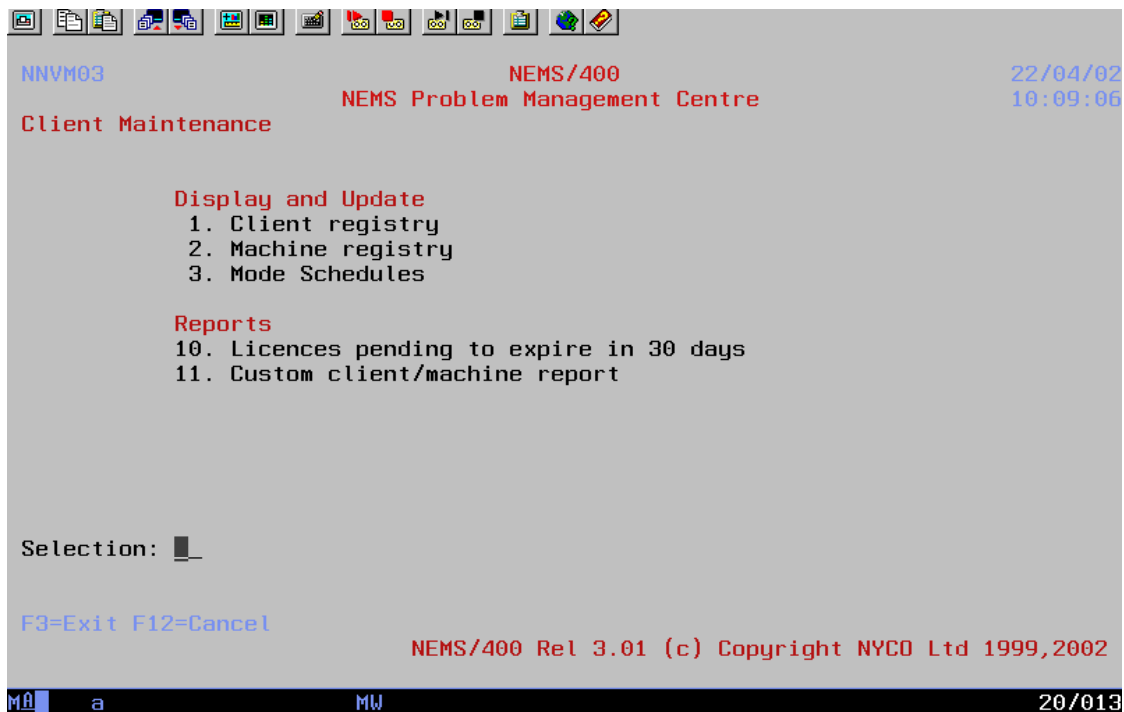
This menu allows you to view the problem messages and review the archived messages that have been stored. Also available from here are the special reports which include search facilities.

View Problem Messages



When viewing the Problem Message file, altering the view can change the quantity of information shown. Three views are available, Hide Heartbeats, All Messages or Problems Only. By default we show the “Hide Heartbeat” view, because it is felt that the heartbeat message is of less significance as it is telling you that the associated machine is active.

Client Maintenance



It is from this screen that we begin the process of entering the details of our new customers and machines. By selecting option 1 we can go to the Client Registry which allows us to enter or view the existing details on file.

Client Registry

NNV002 NEMS/400 22/04/02
NEMS Problem Management Centre 10:56:50

Client Registry

2=Work with Client Details 5=Machine Registry

Opt	Client Id	Client Name	Status	Machines	
				Act	Not
-	NYCOLTD	NYCO company like this	N Not Active	1	0
-	PLEASE	DELETE ME	N Not Active	0	0
-	TEST	Test name	A Active	0	0

F3=Exit F6=Add New Client F12=Cancel F13=Machine Registry
NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

Here we add a new client to the system. We select option F6 and load a client id along with the client name. From here we can also select the status of that client, we have a couple of options either Active or Not. The reason for the status is that whilst the Problem Management Centre receives details coming in from a number of iSeries and AS/400s, at any given time a client may be “out of contract”. Until the product on their iSeries or AS/400 is switched off, messages will continue to be sent. Therefore if a client is marked as “Not Active” any problems relating to that iSeries or AS/400 can still be highlighted, but may not be sent out.

Work with Client Details

NNV0021 NEMS/400 3/05/02
NEMS Problem Management Centre 13:35:58

Work with Client Details

Client Id..... NYCOLTD
Client Name.... NYCO Ltd
Client status... A Active

Street..... Equitable House, Lyon Road
Town..... Harrow
City, County... Middlesex
Postcode..... HA1 2EW
Fax Number..... 020 8861 0929
E-Mail..... support@nyco.co.uk
Contact 1 + Tel: Sheila Scott 020 8861 4969
Contact 2 + Tel: _____

Comments..... Office hours 9 - 5 .

F3=Exit F10=Update F12=Cancel
NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

This screen will appear when a new client is to be added to the system. Here you can put your client details along with any special notes which could range from contact names, specific location of machines, building entry points or known times when staff are unavailable.

Work with Machines

NNV003 NEMS/400 3/05/02
 NEMS Problem Management Centre 13:37:38
 Machine Registry NYCOLTD NYCO Ltd

2=Work with Machine Details 5=Display Rack 6=Print Rack

Opt	Serial Number	System Name	Status
—	4441264	NYCOC	A Active
—	6558878	NYCOD	N Not Active

F3=Exit F6=Add New Machine F12=Cancel
 NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

The Work with Machines screen is where a machine is added to the client record. Enter the serial number and system name of the iSeries or AS/400 that will be monitored.

Work with Machine Details

NNV0031 NEMS/400 3/05/02
 NEMS Problem Management Centre 13:21:14

Work with Machine Details

Client Id.....: NYCOLTD
 Serial number.....: 6558878
 System name.....: NYCOD
 Machine licence date.....: 3/12/31 Machine status: N Not Active
 Description.....: Development Box 5.1
 Location.....: Equitable House, 2nd Floor
 Comments.....: RISC 5.1 Plugged in to UPS No 3

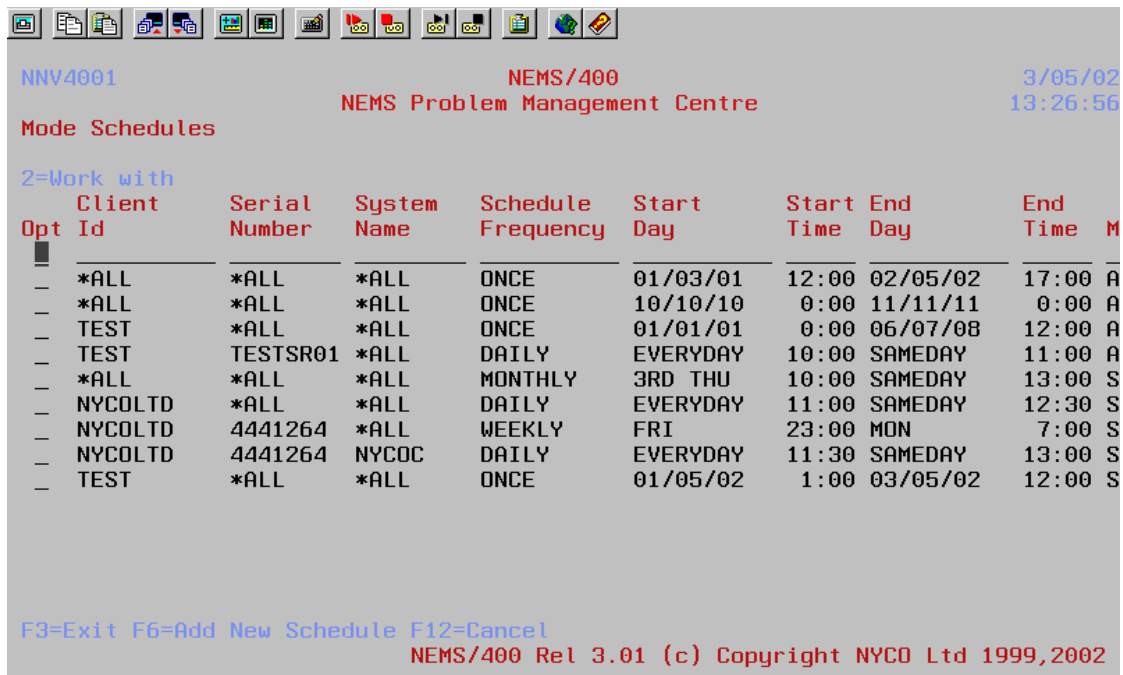
Last contact.....: 2/04/23 at 12:30 Poll interval (mins): 30

OS/400 Product Code.....: 5722SS1 Processor Model Number...: 270
 OS/400 Version-Release Mod: 050100 Processor Feature.....: 2248
 Cumulative PTF Level.....: TC02071 Interactive Card Feature.: 1517
 Cumulative PTF Status.....: Temporarily applied Cage Number.....: 9406

F3=Exit F7=Update Licence F10=Update F12=Cancel F15=Display Rack F16=Prt Rack
 NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

Upon adding a new machine to be polled, the detail screen as shown will appear. From this screen you determine the intervals at which you are expecting a “poll” or “heartbeat”. In this instance we are looking to receive contact from the iSeries or AS/400 every 30 minutes. If no contact is registered within that time period a warning message will be generated to inform the operator that there is a potential problem. Upon receipt of the first “contact”, the fields which are currently blank will be updated automatically, i.e. Processor Model Number, Cage Number etc. with information from the client system.

Mode Schedules



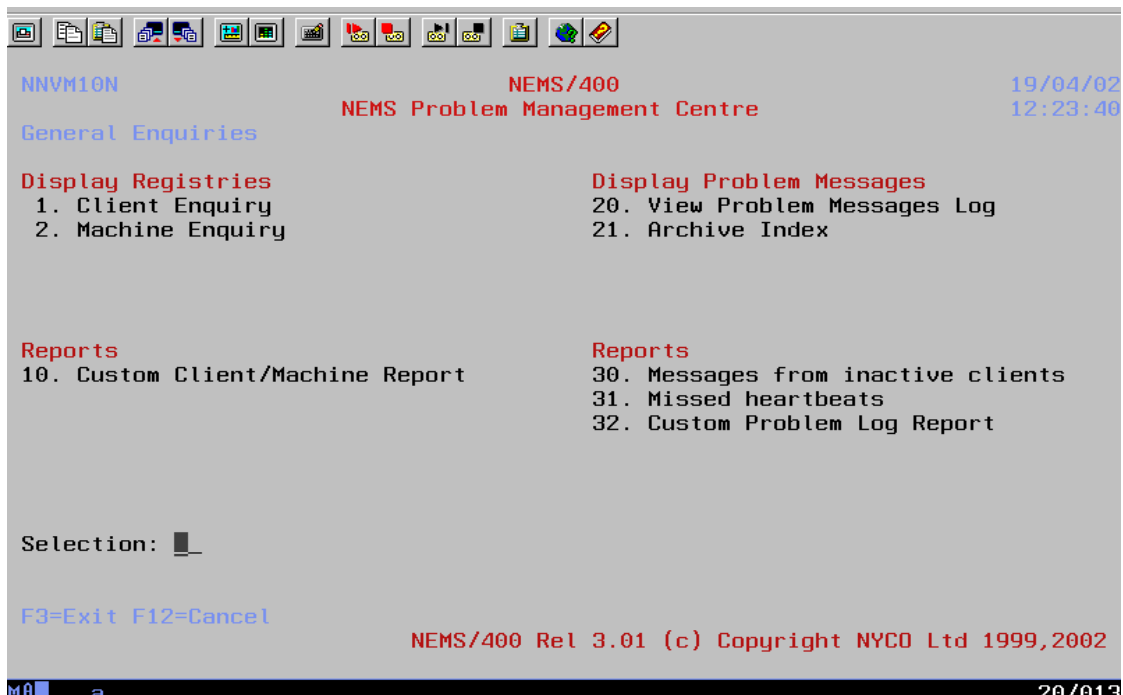
Opt Id	Client	Serial Number	System Name	Schedule Frequency	Start Day	Start Time	End Day	End Time	M
—	*ALL	*ALL	*ALL	ONCE	01/03/01	12:00	02/05/02	17:00	A
—	*ALL	*ALL	*ALL	ONCE	10/10/10	0:00	11/11/11	0:00	A
—	TEST	*ALL	*ALL	ONCE	01/01/01	0:00	06/07/08	12:00	A
—	TEST	TESTSR01	*ALL	DAILY	EVERYDAY	10:00	SAMEDAY	11:00	A
—	*ALL	*ALL	*ALL	MONTHLY	3RD THU	10:00	SAMEDAY	13:00	S
—	NYCOLTD	*ALL	*ALL	DAILY	EVERYDAY	11:00	SAMEDAY	12:30	S
—	NYCOLTD	4441264	*ALL	WEEKLY	FRI	23:00	MON	7:00	S
—	NYCOLTD	4441264	NYCOC	DAILY	EVERYDAY	11:30	SAMEDAY	13:00	S
—	TEST	*ALL	*ALL	ONCE	01/05/02	1:00	03/05/02	12:00	S

F3=Exit F6=Add New Schedule F12=Cancel
NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

The Client Maintenance main screen has an interesting option: 3 - Mode Schedules. In this function we are able to designate the clients' machines to scheduling patterns. This will allow whatever machine is set up to be constantly "active" or not due to machine closures or planned backups. You can allocate machines' specific periods for "inactivity" which means that the PMC will not check for missing heartbeats. If a machine is deemed to be in a sleep mode for a given period of time any "problem" message it sends will still be received and acted on as normal.

Now that we have our client and their machines set up, we can look at the General Enquiries Menu, which will provide much of the information received.

General Enquiries



Display Registries	Display Problem Messages
1. Client Enquiry	20. View Problem Messages Log
2. Machine Enquiry	21. Archive Index
Reports	Reports
10. Custom Client/Machine Report	30. Messages from inactive clients
	31. Missed heartbeats
	32. Custom Problem Log Report

Selection:

F3=Exit F12=Cancel
NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

The General Enquiries Menu is used to access much of the received problem and heartbeat messages. From here we can see archived logs relating to all the problems that have been received, those relating to specific clients' machines, inactive clients/machines, as well as all the machines that have failed to send us a "heartbeat". Shown below is an example of the information received on the "Archive Index" screen.

Archive Index

Archive Index

1=Client Details 2=Machine Details 5=Display Problem 6=Print Problem

Opt	Client Id	Serial Number	System Name	Problem Date	Problem Time	Message Id	Problem Id
-	NYCOLTD	4441264	NYCOC	4/03/02	17:09:06	CPI8FC1	0206358855
5	NYCOLTD	4441264	NYCOC	4/03/02	17:08:56	CPA5817	0206358856
-	NYCOLTD	4441264	NYCOC	4/03/02	16:52:53	CPA5817	0226357372
-	NYCOLTD	4441264	NYCOC	4/03/02	16:52:34	CPI8FC1	0256357555
-	NYCOLTD	4441264	NYCOC	1/03/02	16:29:03	CPI8FC1	0206055658
-	NYCOLTD	4441264	NYCOC	1/03/02	16:28:54	CPA5817	0206055657
-	NYCOLTD	4441264	NYCOC	1/03/02	16:08:10	CPI8FC1	0206055361
-	NYCOLTD	4441264	NYCOC	1/03/02	16:07:57	CPA5817	0206055362
-	NYCOLTD	4441264	NYCOC	27/02/02	11:25:23	CPA5817	0295835486
-	NYCOLTD	4441264	NYCOC	27/02/02	11:25:17	CPI8FC1	0205834561
-	NYCOLTD	4441264	NYCOC	27/02/02	10:53:17	CPA5817	0205836432
-	NYCOLTD	4441264	NYCOC	27/02/02	10:53:02	CPI8FC1	0205834664

Key: Blue=Not Active Red=Unknown <=Client >=System +=Both
F3=Exit F5=Refresh F12=Cancel F15=Historical Status F17=Filter
NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

The Archive Index is the record of all the problems from all the machines that have been received. On this screen you can see a lot of information that is collected about a given problem message. The Client Id shows us who sent the problem, the Serial Number/System Name gives the specific machine, the Problem Date and Time shows when the message arrived, along with the specific Message Id and the unique system generated Problem Id. From this screen you can determine a great deal about the problems. You will notice that I have selected (with a 5) problem Id 0206358856. I am able to display full details about this problem which will include information such as the last 5 problems associated with this machine, full system details, first and second level text relating to CPA5817, rack configuration, cage number along with other details. From this very detailed view of the message, the engineer should now be in a position where he/she can make the right decision to ensure the problem is correctly rectified. To ensure that the problem is escalated to the correct department within the Maintenance Company, we automatically print the full problem details and also send it via e-mail, text or SMS to the relevant people.

In the following three screens, I have shown a selection of the detailed information that we are able to capture and display, to ensure the engineers are given the greatest possible chance of being able to identify the problem. Screen 1 shows us the customer name and machine serial number along with the processor type and cage number. We can also see the OS/400 release level. Screen 2 is able to display a history of the last 5 problems that the machine has generated. This type of information could be very valuable to the engineer in trying to understand why a particular fault occurs. Screen 3 allows us to look at a very detailed description of the iSeries or AS/400's rack configuration, again important information for the engineer to know. All of the information we are giving to the engineer is helping him/her be better "armed and prepared" for any site visit required.

Screen 1

Position to line █

Line1.....2.....3.....4.....5.....6.....7.....8.....9.....10.....11.....12.....

Display Report

Report width : 132
Shift to column

000001 NNR0030 The ITM Group Ltd (2.11) Date: 18
000002 Time: 13

000003 Customer Details	Machine Details	
000004 -----	-----	
000005 Number.: NYCO	System Name.....: NYCO	Serial: 444126
000006 Name.....: NYCO Limited 2.11	Cage Number.....: 9401	
000007 Comments:	Processor Model Number....: 150	
000008	Processor Feature.....:	
000009	Interactive Card Feature..:	
000010	OS/400 Product Code.....: 5716SS1	
000011	OS/400 Version-release-mod: 030700	
000012	Cummulative PTF Level.....: TC97056	
000013 Address.: Equitable House	Cummulative PTF Status....: Temporarily applied	
000014 : Lyon Road		
000015 : Harrow	Contact 1: Sheila Scott	
000016 : HA1 2EW	Telephone: 020 8861 4969	
000017 Fax.....: 020 8861 0929	Contact 2:	
000018 E-Mail..:	Telephone:	
000019		

F3=Exit F12=Cancel F19=Left F20=Right F21=Split F22=Width 80 More...

03/032

Screen 2

Position to line █

Line1.....2.....3.....4.....5.....6.....7.....8.....9.....10.....11.....12.....

Display Report

Report width : 132
Shift to column

000058 NNR0000006 Reporting Device Type: 27

000059 CPF ID.: CPI8FC1 First Level: PB NO:0206357860 DSR signal connection failed.

000060 -----

000061 Date: 4/03/02	Problem number.....: 0206357859	Hardware device:
000062 Time: 16:52:53	Problem Function.....: 1	Model.....: 001
000063	System Reference Code: 5A58B003	Frame ID.....: 1
000064	Sequence Number.....: 01	Card Position..:
000065	Reporting Device Type: 27	
000066 CPF ID.: CPA5817	First Level: PB NO:0206357859 Line failed. Probable local hardware problem. (C G R)	
000067	-----	
000068 Date: 1/03/02	Problem number.....: 0206056560	Hardware device:
000069 Time: 16:29:03	Problem Function.....: 1	Model.....: 001
000070	System Reference Code: 5A58B003	Frame ID.....: 1
000071	Sequence Number.....: 01	Card Position..: 1B
000072	Reporting Device Type: 27	
000073 CPF ID.: CPI8FC1	First Level: PB NO:0206056568 DSR signal connection failed.	
000074	-----	
000075 Date: 1/03/02	Problem number.....: 0206056567	Hardware device:
000076 Time: 16:28:54	Problem Function.....: 1	Model.....: 001

F3=Exit F12=Cancel F19=Left F20=Right F21=Split F22=Width 80 More...

03/032

Screen 3

Display Report

Position to line █

Report width 132
Shift to column

Line 1 2 3 4 5 6 7 8 9 10 11 12

000096 MP01 2269-000 53-7978010 0000045H2391 1 1 System Processor Card
000097 SP01 6756-001 53-7978010 1 1 Service Processor Card
000098 BCC01 00-0000000 1 Bus Extender
000099 MS01 00-000000 1V Next Level Main Storage Card

000100 Display Hardware Resources

000101 5716SS1 V3R7M0 961108

000102 Communications Resources List

000103 -----Location-----

Resource	Type	Serial Number	Part Number	Frame ID	EIA	Card Pos	Text
000105 CMB01	6756	53-7978010	0000045H2391	1		1	Combined function IOP
000106 LIN03	605A	00-6284104		1		1A	Virtual Controller
000107 LIN05	605A	00-6343527		1		1C	Virtual Controller
000108 LIN01	2724	10-6284104	0000044H7572	1		1A	LAN Adapter
000109 CHN01	2724	10-6284104	0000044H7572	1		1A	Token-Ring Port
000110 LIN02	2721	53-7975125	0000021H8100	1		1B	Comm Adapter
000111 CHN02	2721	53-7975125	0000021H8100	1		1B	V.24 Port Enhanced
000112 CHN03	2721	53-7975125	0000021H8100	1		1B	Comm Port
000113 LIN04	2723	53-8343527	0000023L4193	1		1C	LAN Adapter

F3=Exit F12=Cancel F19=Left F20=Right F21=Split F22=Width 80

More...

03/032

Global Settings

NNVM50 NEMS/400 22/04/02
NEMS Problem Management Centre 14:32:21

Global Settings

System Values Problem Filter Maintenance

1. Work with NEMS data areas 20. Configure Problem Filter

2. Configure Purge Settings

Housekeeping Tools

10. Purge old message log entries 30. Comms. status

11. Purge clients and machines 31. Monitor status

Selection: █

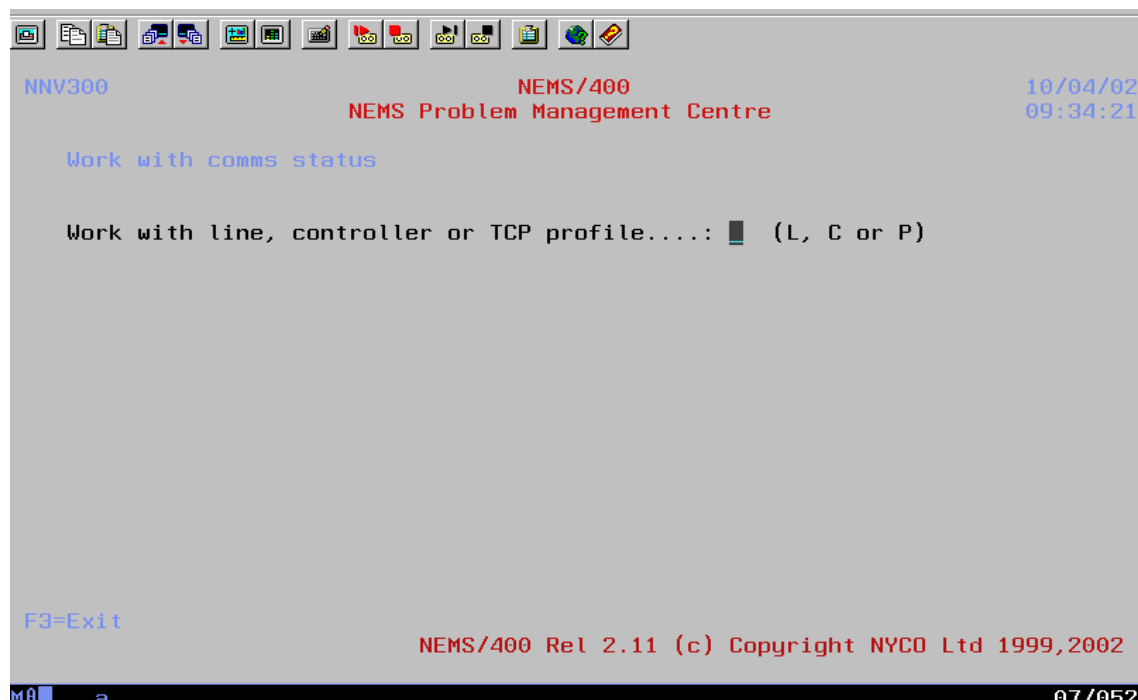
F3=Exit F12=Cancel

NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

20/013

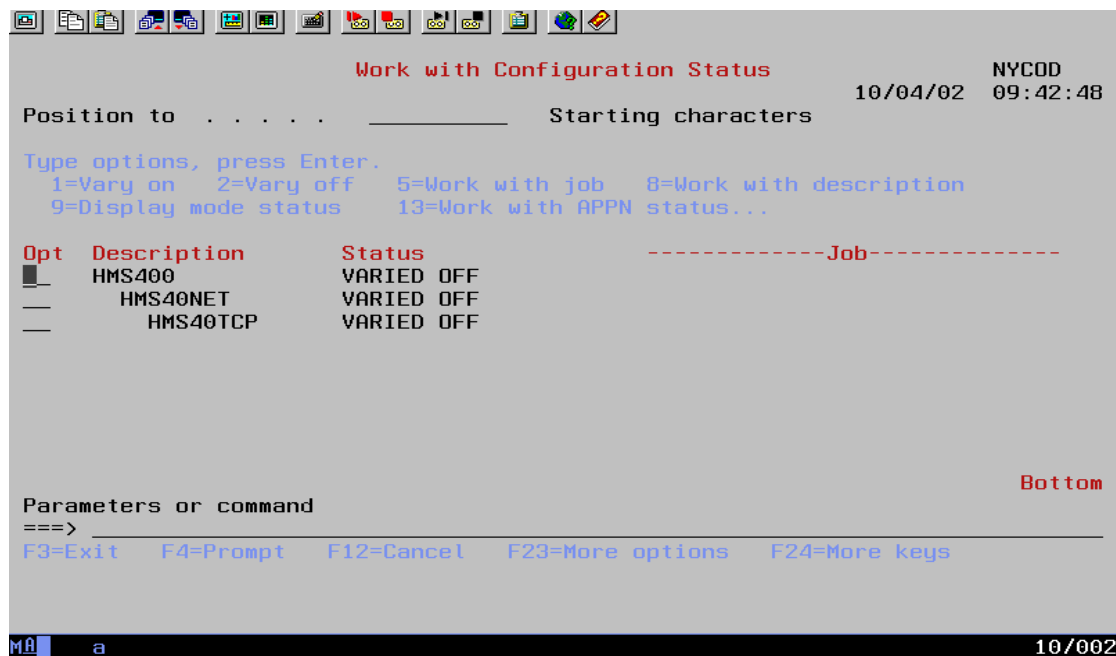
The Global Settings allows us to “clear” existing records and perform associated housekeeping tasks. Problem filter configuration is also performed from this option.

Work with Comms Status



The Work with Comms Status screen allows you to view the Line, Controller or TCP/IP profile that are associated with NEMS/400. It is a menu driven way of being able to find your system information without having to resort to command line instructions.

Work with Comms Status (Line Option)



We can see from here the details associated with the line configuration.

Custom Client/Machine Report

NNV081 NEMS/400 3/05/02
 NEMS Problem Management Centre 14:34:49

Record Selection

Report Title..... NEMS: Custom Client/Machine Report
 Client Id..... *ALL Name, *generic*
 Client Status..... * A=Active, N=Not Active, *=All
 Serial Number..... *ALL Name, *generic*
 System Name..... *ALL Name, *generic*
 Machine Status.... * A=Active, N=Not Active, *=All

Compare licence in 30 days time OR Compare Date: 0/00/00 (ddmmyy)
 Option: 4 1=Valid only, 2=Pending to expire, 3=Expired, 4=Ignore date

F3=Exit F12=Cancel F13=Submit to batch F14=Run F15=Add to Job Schedule
 NEMS/400 Rel 3.01 (c) Copyright NYCO Ltd 1999,2002

MA a 05/021

As a final example of the powerful features that NEMS/400 provides, you can see here a reporting option (11 from the Client Maintenance Menu), which allows you to run interactive or batch reports for all clients and their machines, whose license code is due to expire 30 days from the report run date. This is a facility for tracking the “accounts” that are coming up to contract renewal. The report can be added to your job scheduler to be included, for example, to run weekly.

Custom Client/Machine Report (Pending Licence Expiry)

File NNR071 Display Spooled File
 Control Page/Line 1/1
 Find Columns 1 - 130

*.....1.....2.....3.....4.....5.....6.....7.....8.....9.....0.....1.....2.....3
 NNR071 Date: 10/04/02
 NEMS/400 Time: 12:24:38
 NEMS Problem Management Centre Page: 0001

Report Title: NEMS: Custom Client/Machine Report
 Record Selections:
 Client Id..... *ALL
 Client Status..... *
 Serial Number..... *ALL
 System Name..... *ALL
 System Status..... *
 Compare Licence Date: 0/00/00
 Notes: Ignore licence expiry date

Client Id	Client Status	Serial Number	System Name	System Status	Licence Expiry
BERT1	N	123SM321	BERTA	N	26/05/02
BERT1	N	234TR567	THE	A	26/05/02
BLOGGS	A	123AB45	BLOGGS1	A	21/05/02
BLOGGS	A	123CD45	BLOGGS2	A	25/05/02
EASTER	N	0000000	BUNNY1	A	2/05/02
EASTER	N	0000001	BUNNY2	N	12/05/02

F3=Exit F12=Cancel F19=Left F20=Right F24=More keys More...

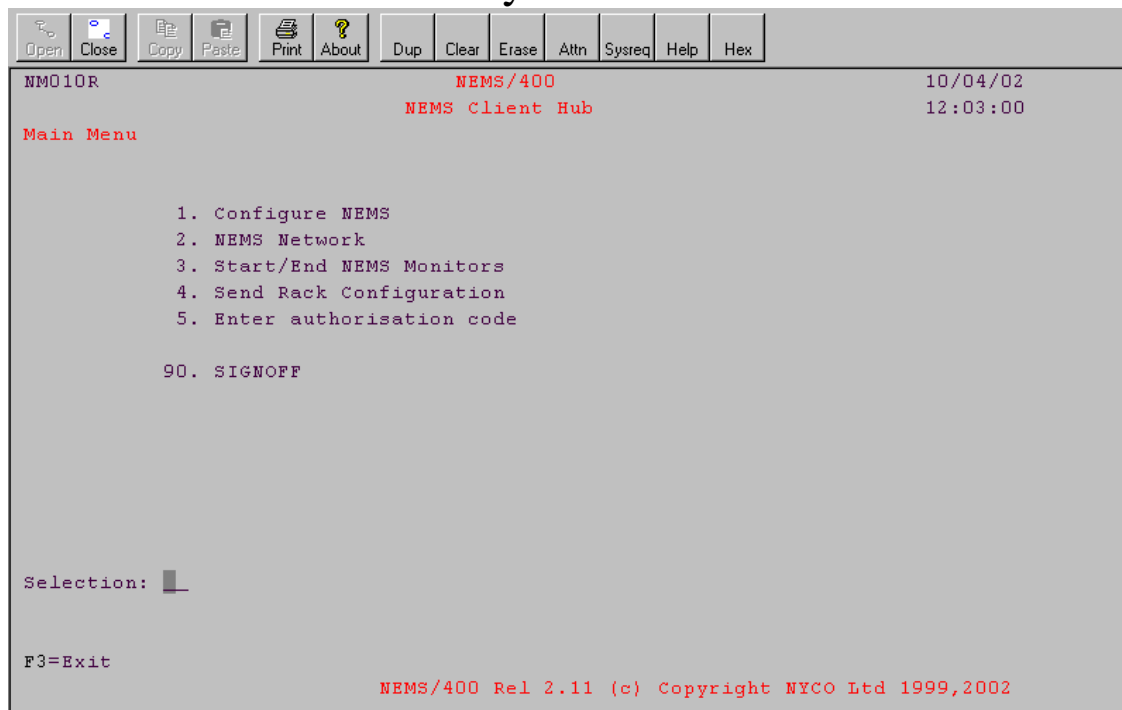
MA a 03/022

This screen is the result of our search for all machine licences which are going to expire within the next 30 days. You can see that we show the clients id, with the current status of the client, whether they are an active customer or not, the serial number of the clients’ machines, the system name and its status, and finally the licence expiry date.

CLIENT SYSTEM

Having seen the type of information sent over to the Problem Management Centre, we will now look at how that information is gathered and transmitted. The Client System resides on the customer's iSeries or AS/400 and is a data collection and transmission agent. We have 2 versions of the Client System, firstly the Client Hub and secondly the Client Network. The difference is that the Client Hub has a transmission facility built in to it, where by it can send out information via an IP connection using FTP or a modem to the Problem Management Centre located at the Maintenance Companies Operations Centre. The Client Network will only send its information to a "networked" iSeries or AS/400 from where it is redirected using the Client Hub to the Maintenance Company. For any site with multiple iSeries and AS/400s the use of a Hub and Network version of the product can be a great benefit. The Client Hub and Network versions are both installed by the local engineer whose task is to set up a number of parameters to ensure that transmission routines are running correctly, and that information about the system configuration can be sent out correctly and accurately. To install the product the engineer will need to have QSECOFR rights.

Client System - Main Screen



The Client System monitors the problem log and using a problem filter selects the messages that would be transmitted to the Problem Management Centre system. The Client System uses its own line, controller and device descriptions with the contact number of the Problem Management Centre hard coded into the line and controller descriptions. Communications with the Problem Management Centre are via IP using FTP or an asynchronous modem attached to a V24 line on the AS/400. The Client System software is protected by an authorisation code that is serial number specific.

Client System Configuration Screen

Open	Close	Copy	Paste	Print	About	Dup	Clear	Erase	Attn	Sysreq	Help	Hex
------	-------	------	-------	-------	-------	-----	-------	-------	------	--------	------	-----

NNV500	NEMS/400	10/04/02
	NEMS Client Hub	12:00:56

Configure NEMS

Client Id.....: NYCO	Client Name...: <u>NYCO Ltd</u>
Serial Number....: 4441264	Install Date..: 3/01/02
System Name.....: NYCOC	Subsystem....: NEMSITM
System Type (H/N): <u>H</u> Client Hub	Data Queue....: NEMS1

Monitor Values

Data Queue Monitoring Frequency.....: <u>10</u> (mins)
NEMS Log Monitoring Frequency.....: <u>10</u> (mins)

Heartbeat Values

Heartbeat Frequency.....: <u>000:12</u> (hhhh:mm)
Heartbeat Start Date.....: <u>6/03/02</u> (dd/mm/yy)
Heartbeat Start Time.....: <u>12:10:00</u> (hh:mm:ss)

Next Heartbeat

Next Heartbeat Date.....: 10/04/02 (dd/mm/yy)
Next Heartbeat Time.....: 12:04:00 (hh:mm:ss)

F3=Exit F5=Refresh F10=Update F12=Cancel

Update of NEMS configuration is not possible when monitors are active

The screen shot seen here is used by the engineer to configure the system to provide the maximum performance coupled to the minimum overhead. The product has two monitors that run, the Data Queue Monitor and the Nems Log Monitor. The Data Queue Monitor looks for new problem messages that have been generated, whilst the Nems Log Monitor sends that information out. In the example that we have here, every 2 minutes the data queue is being monitored for new messages, whilst every 10 minutes the Send Monitor will look to see if there is anything new to send out. You can also see that the “heartbeat” is set from here. The frequency of the heartbeat can be set to any time that is required, ranging from minutes to hours. Once a heartbeat has been sent, at the bottom of the screen you will see there is an indicator telling you when the next one is due. The other fields that have been entered are mainly there for information purposes only, i.e. the system name and client name. As you have probably noticed, the product does not monitor a message queue, (the standard route of most iSeries and AS/400 monitoring) instead we are looking at a data queue. The whole of the Client System product is not a “general display” item. So unless a level of authority is given, the screens will not be generally available.

Client Network System

The Client Network is only available for a machine that has been set up as part of the network. For multi-machine sites it is a preferable way to go, as the costs involved with the supply of additional modems and phone lines can be avoided. It is worth noting that Client Network Systems may only be set up on machines that are part of an APPN network. At the point of install, values specific to the client's network configuration will be set up.

Client Network System

Option	Remote Location	Serial No.	Remote Net ID	Network MSG Route
█	NYCOB	44E9228	APPN	N
—	NYCOC	4441264	APPN	N
—	NYCOD	6558B7B	APPN	1

Note the Network MSG Route column. It is here that the “host” route for the messages to be sent is configured. We can determine which machine is to be the “primary” client host, which one is the secondary and so on. When “N” is used as a marker in the column, this indicates that the machine is not designated to receive messages. This could be because the machine has a Client Network System currently loaded on it. If you have a network of many iSeries and AS/400s, to cater for the occasional system shut down or restricted state routines, you designate a second Client Host machine to send out your messages should your primary “host” be unavailable. The switching between machines is completed by the Client System product and does not require any operator intervention.

Problem Management Centre - Menu Structure

NEMS/400 - PMC

Main Menu

|

1	2	3	4	5	6	7
Central Console	Problem Messages	General Enquiries	Client Maintenance	Archives	Start/End Monitors	Global Settings
	:	:	:	:	:	:
	Displays	Display Registries	Display and Update	Archive Index Derived	Problem Message Monitor	System Values
	1. View Problem Messages	1. Client Enquiry	1. Client registry	1. Archive Index	1. Start Problem	1. Work with NEMS
	2. Archive Index	2. Machine Enquiry	2. Machine registry	:	Log Monitor	data areas
	:	:	3. Mode Schedules	:	2. End Problem	2. Configure Purge
	:	:	:	:	Log Monitor	Settings
	:	:	:	:	:	:
	Reports	Reports	Reports	Generated Listings Derived	Last Contact Monitor	Housekeeping
	10. Messages from inactive clients	10. Custom Client /Machine Report	10. Licences pending to expire in 30 days	10. Archived clients	3. Start Last Contact Monitor	10. Purge old message log entries
	11. Missed heartbeats	:	11. Custom client /machine report	11. Archived machines	4. End Last Contact Monitor	11. Purge clients and machines
	12. Custom Problem Messages report	:		12. Archived problem messages		:
		:				Problem Filter Maintenance
		Display Problem Messages				
		20. View Problem Message Log				20. Configure Problem Filter
		21. Archive Index				:
		:				Tools
		Reports				
		30. Messages from inactive clients				30. Comms. status
		31. Missed heartbeats				31. Monitor status
		32. Custom Problem Log Report				