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Smart Network Management with CA NetMaster Network Management

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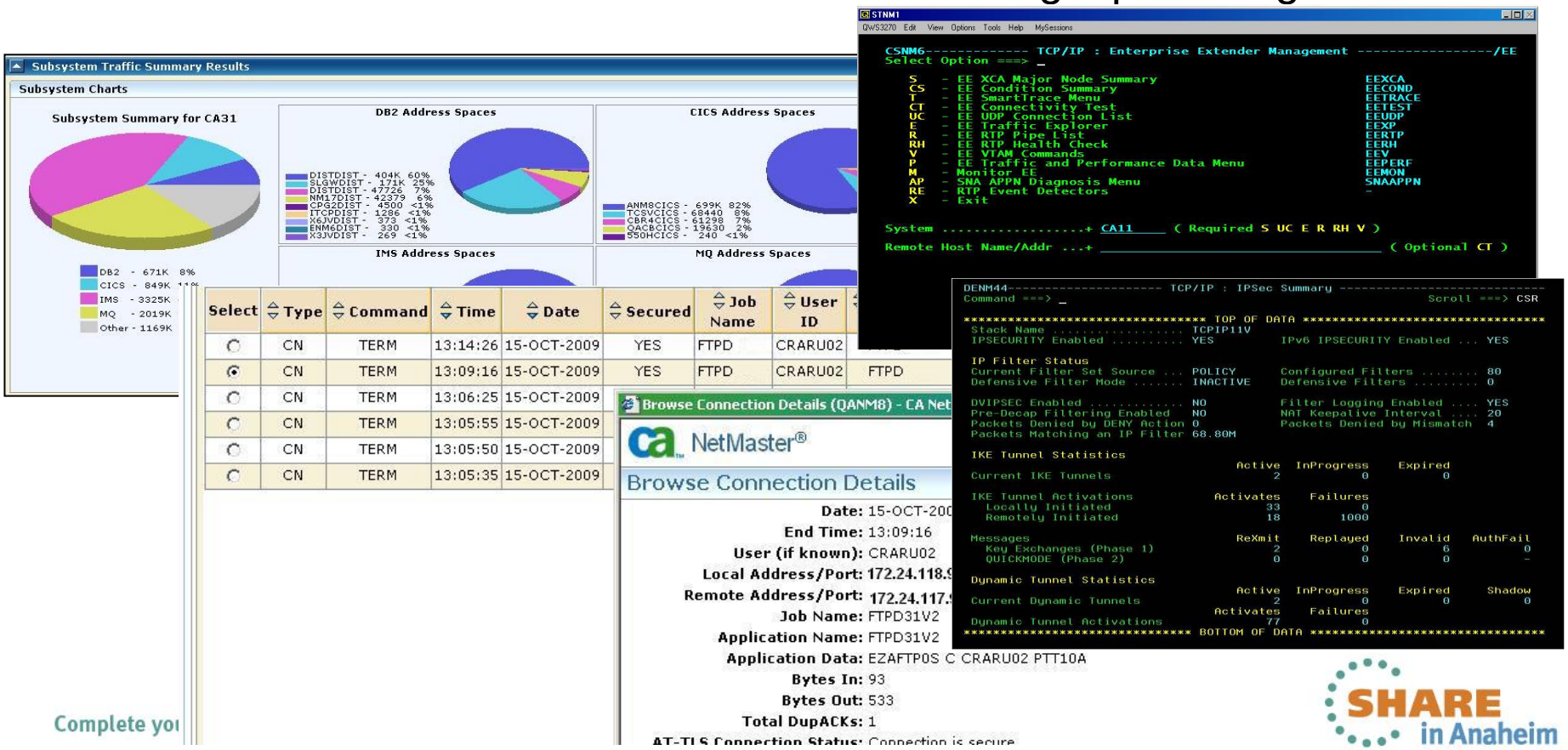
Agenda

- Overview of NetMaster
- General Housekeeping
- Hints and Tips
- Integration Points
- Questions

What is NetMaster?

Product Description

- CA NetMaster Network Management empowers new and experienced network administrators to easily identify and resolve network issues before they impact the end user and plan for future demands with a choice of interfaces on a single pane of glass.



CA Mainframe Network Management Product Family

CA NetMaster® Network Management for TCP/IP 12.0

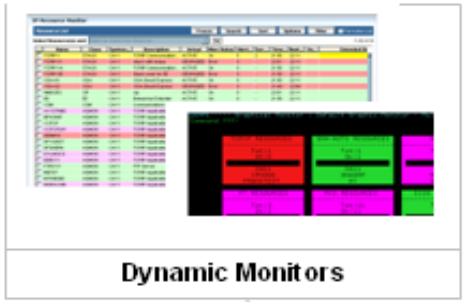
CA NetMaster® Network Management for SNA 12.0

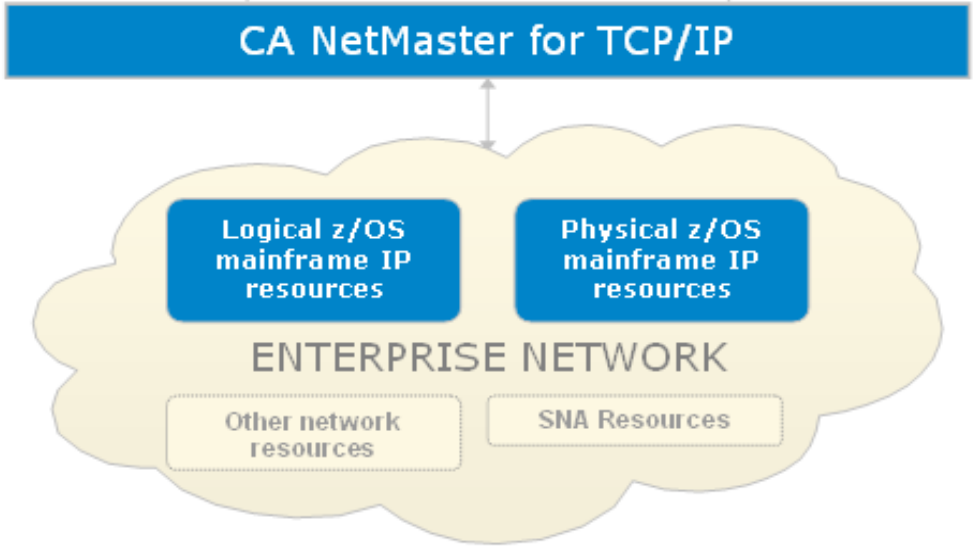
CA NetMaster® Network Automation 12.0

CA NetMaster® File Transfer Management 12.0

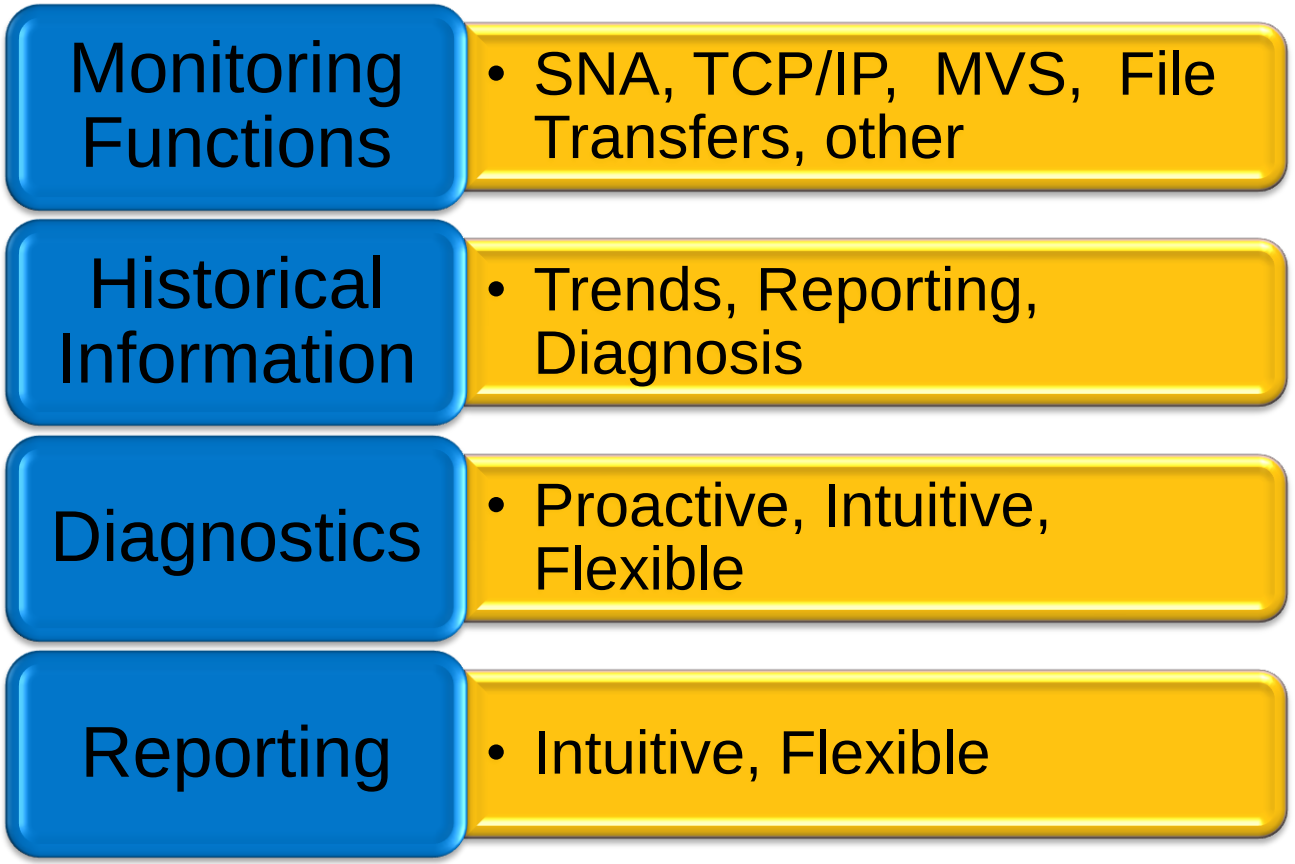
CA NetSpy™ Network Performance 12.0

Comprehensive Toolset





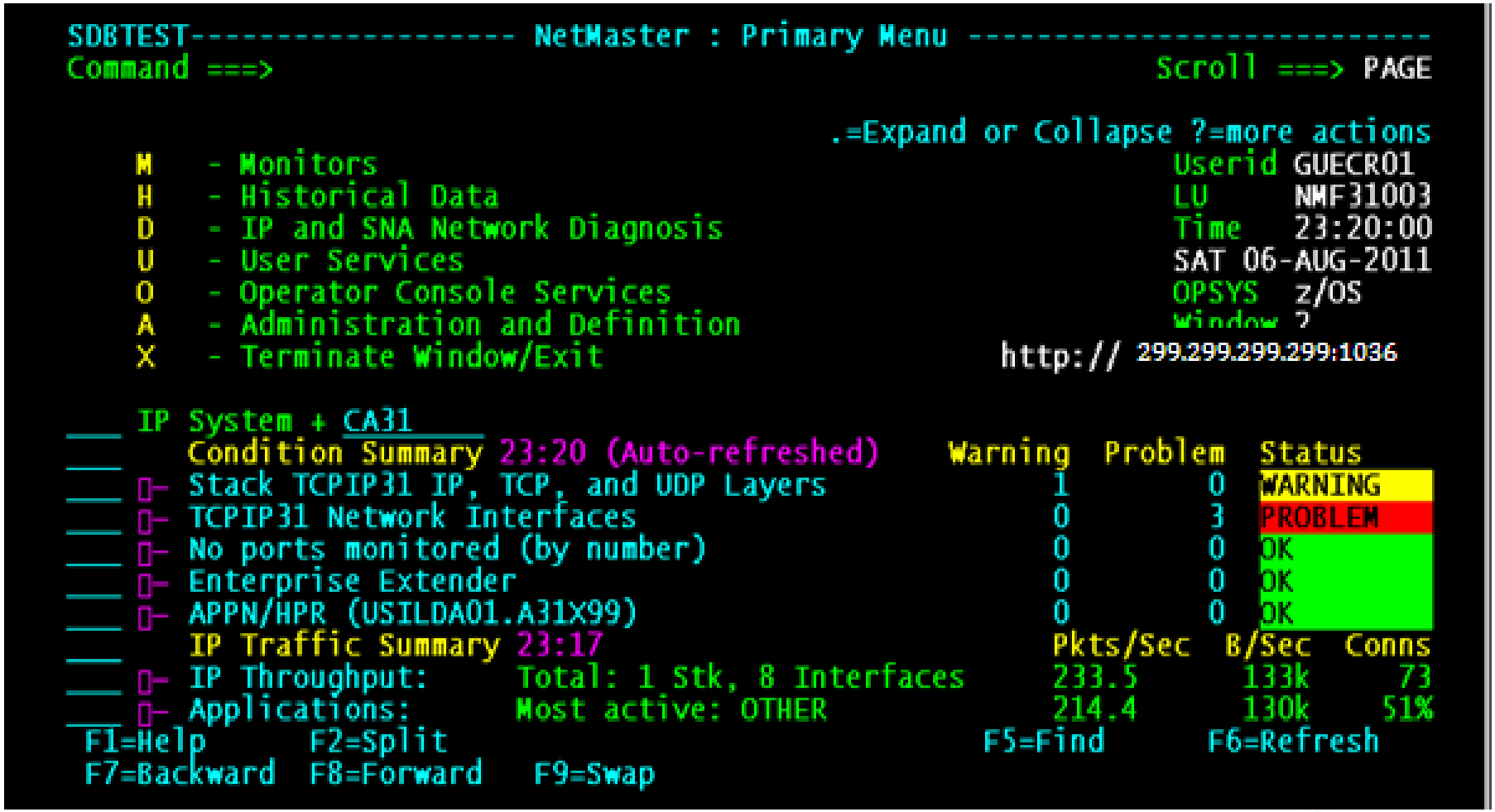
NetMaster Base Functionality

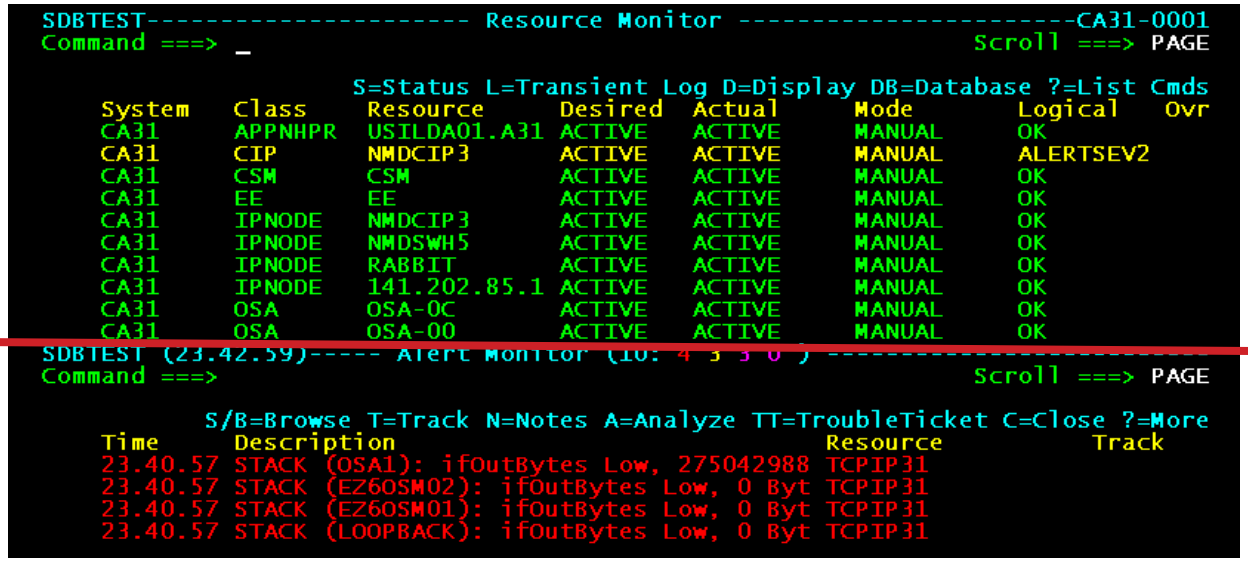


General Housekeeping

Primary menu – customizable

Profile ***command***
== (Primary menu from anywhere)

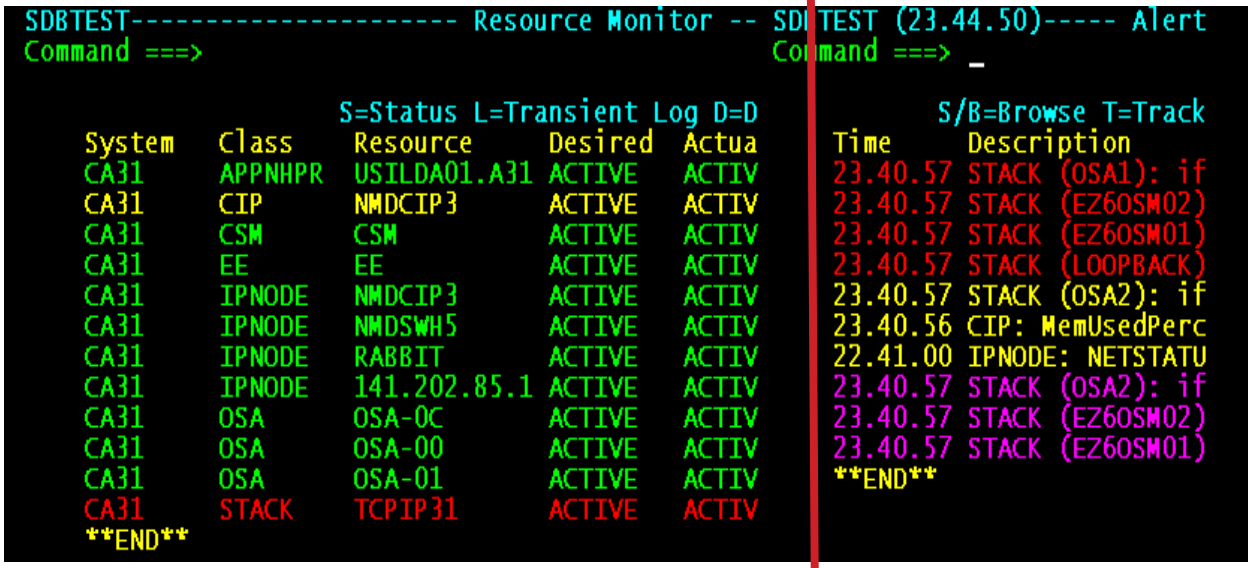




Split Screen Horizontal

PF2 (split), PF9 (swap)

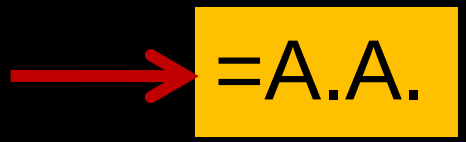
Split Screen Vertical



Shortcuts

Example /, /a, /ap starting point list, or direct with /ipcon (direct to the screen)

```
SDBTEST------------------ CAS : Menu Shortcuts List --------------------------
Command ===> _                                              Scroll ===> PAGE

                    Select the required shortcut by placing an 'S' beside it
    Shortcut   Description
___ /ADMIN     Administration : Primary Menu
___ /ALADMIN   Alert Monitor : Administration Menu
___ /ALERTS    Alert Monitor
___ /ALFILT    Define Filters
___ /ALHIST    Alert History
___ /ALLOC     List Allocated Files
___ /ALTEST    Alert Monitor Self Test
___ /ALTTI     Define Trouble Ticket Interface
___ /APING     APING a Control Point
___ /APPNCP    List CP-CP Sessions
___ /APPNDLU   List Dependent LU Requestors
___ /APPNHPR   APPN/HPR : RTP Management
___ /APPNRTP   List RTP Pipes
___ /APPNTOP   Display APPN Subnetwork Topology Information
___ /APPNTRL   List Transport Resource List Entries
___ /ASADMIN   Automation Services : Administration Menu
___ /ASINFO    Address Space Information
 F1=Help      F2=Split     F3=Exit      F4=Return    F5=Find      F6=Refresh
 F7=Backward  F8=Forward   F9=Swap
```



Command Entry

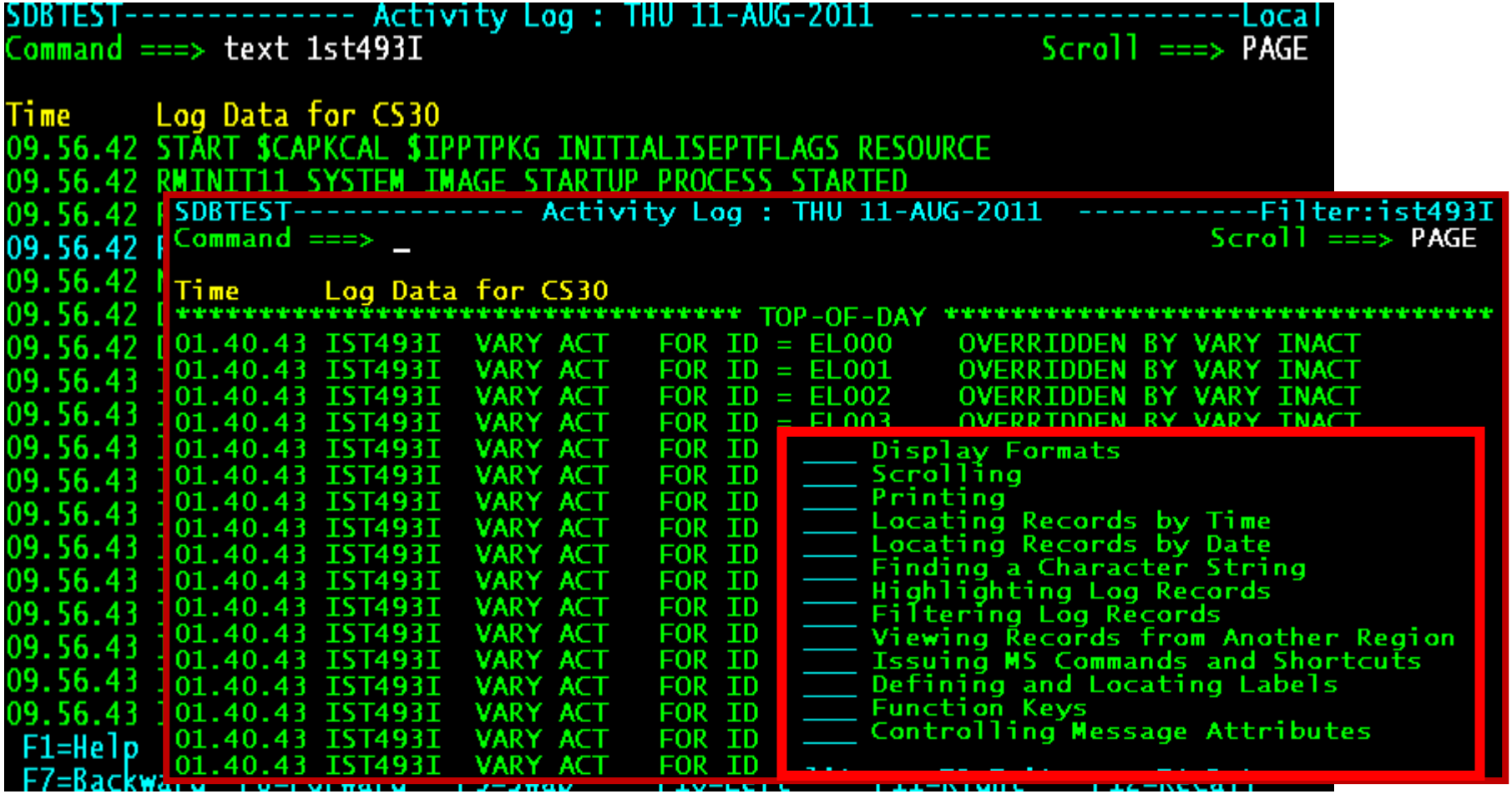
cmd – from any screen prompt

```
NMMSC---------------------- NetMaster : Primary Menu ---------------------------
Select Option ===> cmd_

   M    - Monitors                                          Userid GUECR01
   H    - Historical Data                                   LU     NMF31002
   D    - IP and SNA Network Diagnosis                      Time   21:43:02
```

```
   NMMSC (21.47.19)---------- NetMaster : Command Entry ------------Line 1 of 1001
   Command ===> netstat all_
           ===>

   System + NMMSC_______  Limit 1000   Wrap OFF  Edit ON    Scroll OFF  Async ON
   LINE 1---+----10---+----20---+----30---+----40---+----50---+----60---+----70---
   0001 netstat all
   0002 MVS TCP/IP NETSTAT CS V1R12       TCPIP Name: TCPIP06         21:47:17
   0003 Client Name: BPXOINIT                 Client Id: 0000002C
   0004 Local Socket: 0.0.0.0..10007          Foreign Socket: 0.0.0.0..0
   0005   Last Touched:       00:14:23          State:               Listen
```

```
   NMMSC (21.49.28)---------- NetMaster : Command Entry -------------Line 1 of 107
   Command ===> d majnodes
           ===>

   System + NMMSC_______  Limit 1000   Wrap OFF  Edit ON    Scroll OFF  Async ON
   LINE 1---+----10---+----20---+----30---+----40---+----50---+----60---+----70---
   0001 d majnodes
   0002 IST097I  DISPLAY  ACCEPTED
   0003 IST350I  DISPLAY TYPE = MAJOR NODES
   0004 IST089I  VTAMSEG  TYPE = APPL SEGMENT      , ACTIV
   0005 IST089I  VTAMSG2  TYPE = APPL SEGMENT      , ACTIV
```

LOGGING - /LOG


SDBTEST-------------- Activity Log : THU 11-AUG-2011 --------------------Local
Command ===> text 1st493I
Scroll ===> PAGE
Time Log Data for CS30
09.56.42 START $CAPKCAL $IPPTPKG INITIALISEPTFLAGS RESOURCE
09.56.42 RMINIT11 SYSTEM IMAGE STARTUP PROCESS STARTED
SDBTEST-------------- Activity Log : THU 11-AUG-2011 ----------Filter:ist493I
Command ===>
Scroll ===> PAGE
Time Log Data for CS30
TOP-OF-DAY
01.40.43 IST493I VARY ACT FOR ID = EL000 OVERRIDDEN BY VARY INACT
01.40.43 IST493I VARY ACT FOR ID = EL001 OVERRIDDEN BY VARY INACT
01.40.43 IST493I VARY ACT FOR ID = EL002 OVERRIDDEN BY VARY INACT
Display Formats
Scrolling
Printing
Locating Records by Time
Locating Records by Date
Finding a Character String
Highlighting Log Records
Filtering Log Records
Viewing Records from Another Region
Issuing MS Commands and Shortcuts
Defining and Locating Labels
Function Keys
Controlling Message Attributes
F1=Help

Initializing Web Services

http://192.168.100.100:8852

/PARM ….
.INTERFACES
…$NM WEBCENTER WebCenter Web Interface

```
CSNM2------------------ Customizer : Parameter Group -------------Page 1 of 1
Command ===> _                                                Function=Browse

 WEBCENTER - WebCenter Web Interface

 Web Interface Port ............... 8852       (NONE. 1 to 65535)
 Access URL ....................... http://192.168.100.100:8852
 Access URL Host Override ........
 User Timeout ..................... 01.00      (hh.mm)
 Enable Public IP Pages ........... YES        (YES or NO)
 Enable SYSVIEW Interface ........ YES        (YES or NO)

 Notes
 Specify the WebCenter web interface parameters on this page.

 F1=Help      F2=Split     F3=Exit      F4=Update    F5=ILog
```

```
CSNM2------------------- NetMaster : Primary Menu ------------------------
Command ===>                                                 Scroll ===> PAG

                                                .=Expand or Collapse ?=more action
   M   - Monitors                                              Userid GUECR01
   H   - Historical Data                                       LU     NMF3103
   D   - IP and SNA Network Diagnosis                          Time   10:54:1
   T   - File Transmission Services                            MON 30-JUL-201
   U   - User Services                                         OPSYS  z/OS
   O   - Operator Console Services                             Window 1
   A   - Administration and Definition          http://192.168.100.100:8852
   SP  - SNA Performance (Appl ID: CSNM2NS)
   X   - Terminate Window/Exit

 IP System + CA11
    Condition Summary 10:50 (Auto-refreshed)    Warning  Problem  Status
                                                      1        1  PROBLEM
                                                      0        0  OK
                                                      0        0  OK
                                                      0        0  OK
                                                      0        0  OK
                                                   Pkts/Sec  B/Sec  Conns
                                                F5=Find      F6=Refresh
```

NetMaster® - CSNM2

Home | Log Out | Full Window | Help

Welcome: craig Guess

WebCenter Menu

Expand All | Collapse All

- Diagnostics
  - IP Diagnostics
    - IP Summary
    - IP Nodes
    - SNA Nodes
    - Telnet Connections
    - IP Connections
    - IP Stacks
    - VIPAs
    - CSM
    - Cisco Channel Cards
    - OSA Cards
    - Enterprise Extender
    - Address Spaces
    - Line Printers (LPD)
    - SmartTrace
  - File Transfer Diagnos
- Monitoring
- Performance Center
- History
- SYSVIEW
- Utilities

IP Summary

System Name: CA11 Go

On Date: 30-JUL-2012
At Time: 10:53

System Summary for CA11

		Packets/ Second	Bytes/ Second	Connections
Stack	TCPIP11 (6 interfaces)	1711	1878k	330
Stack	TCPIP11V (20 interfaces)	4.06	516.9	7
Stack	TCPIP99 (3 interfaces)	0.273	22.87	0
Most Active Application	FTP	1265	1742k	0%
Most Active TCP Server Port	57107	613	845k	0%
Most Active Home Address	141.202.65.11	1663	1855k	66%
Most Active Remote Network	141.202.*	1377	1802k	66%

System Protocol Usage

TCP	UDP	ICMP	OSPF	Other
>99%	<1%	<1%	0%	0%

Subsystem Traffic

DB2	CICS	IMS	MQ	Other
0%	0%	0%	0%	100%

Alert Summary

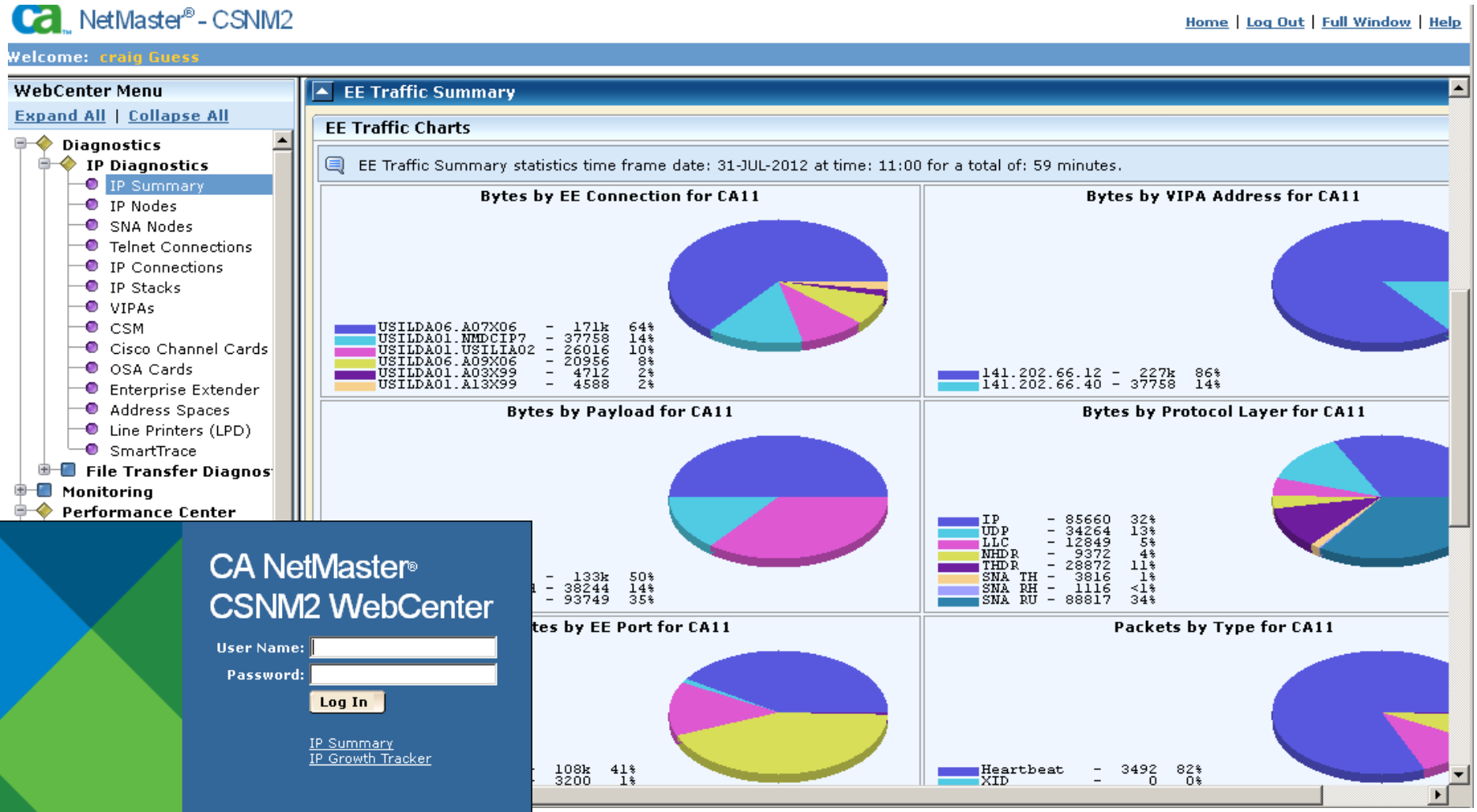
Alert Monitor | 16 Sev1 | 46 Sev2 | 26 Sev3 | 8 Sev4

- IP Throughput
- Application Summary
- TCP Server Port Summary
- Home Address Summary
- EE Traffic Summary
- Remote Network Summary
- Protocol Details

About

Done | Local intranet | 100%

Web Center – Real Time



The zIIP capabilities

- zIIP utilization: a growing factor in assessing the true value of mainframe software purchases.
- CA NetMaster delivers the best zIIP exploitation capabilities:
  - Code specifically designed to execute on a zIIP
  - Measures its own zIIP eligible and actual zIIP CPU consumption

Region = XM={ TASK | *ZIIP* | *BEST* }
SSI = PAEXMODE={ TASK | ZIIP | BEST }

```
SDBTEST (15.18.49)-------- NetMaster : Command Entry -------------Line 17 of 34
Command ===> status
        ===>
ED9029 CHARACTERS 'ziip' FOUND
System + SDBTEST      Limit 1000   Wrap OFF  Edit OFF   Scroll OFF  Async ON
1---+----10---+----20---+----30---+----40---+----50---+----60---+----70---+----
N11417 CPU ACCOUNTING IS ACTIVE (HIGH PERFORMANCE)
N11427 EXECUTION MODE (REQ ACTUAL): ZIIP ZIIP
N11416 SYSTEM BASE IS - R6.6 LEVEL 1003
N11426 SSL PROVIDER IS: No SSL Provider
N11429 PASSWORDS ARE NOT CASE SENSITIVE.
N11414 SYSTEM CONFIGURED WITH DEBUG FEATURE - R6.6
N11414 SYSTEM CONFIGURED WITH SNA (LMP=YX) - R12.0 LEVEL 1003
N11414 SYSTEM CONFIGURED WITH SNAAUTO (LMP=XY) - R12.0 LEVEL 1003
N11414 SYSTEM CONFIGURED WITH TCPIP (LMP=Y7) - R12.0 LEVEL 1003
N98601 SUBSYSTEM INTERFACE STATUS IS ACTIVE SSID=QANM.
```

Hints and Tips

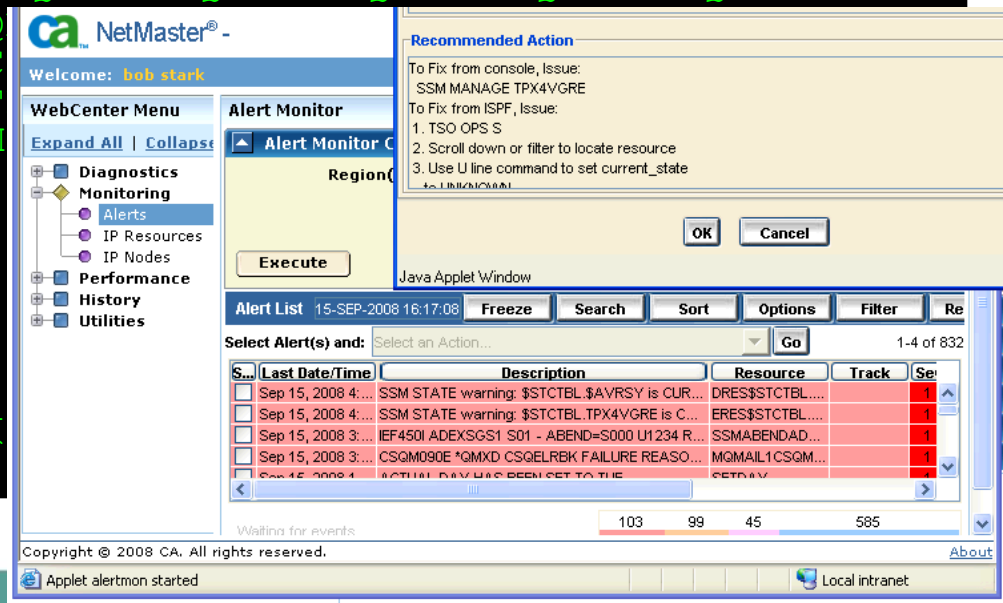
CA NetMaster Network Management Alert Monitor Overview

=/alerts, =m.a

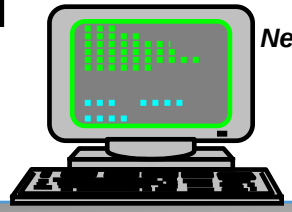
```
NETMD (06.33.24)---- Alert Monitor (97: 23 2 47 25 ) -------Filter: DCOPER
Command ===>                                                Scroll ===> CSR
AMDISP01 ACTIVITY HAS OCCURRED OFFSCREEN (BELOW) FOR A SEVERITY 2 ALERT
      S/B=Browse T=Track N=Notes A=Analyze TT=TroubleTicket C=Close  ?=More
    Time     Description                                                Sys
    06.30.07 DSN9022I  -DPSX DSNYASCP 'START DB2' NORMAL COMPLETION MVSE
    06.30.01 SSM STATE warning: 3 $GRPTBL tasks are current=DOWN,DE MVSE
    06.30.00 SSM STATE warning: 86 $STCTBL tasks are current=DOWN,D MVSD
    06.30.00 SSM STATE warning: $STCTBL.TPX4VGRE is CURRENT=ABEND   MVSE
    06.30.00 SSM STATE warning: MISCTBL.ADABLDTP is CURRENT=STARTIN MVSE
    06.30.00 CSQM090E *QMXD CSQELRBK FAILURE REASON CODE X:00D44002 MVSD
    06.29.24 DPSXMSTR IS DOWN ON MVSE-CONTACT DB2DBA ON CALL        MVSE
    06.07.18 DSNJ128I  -DPSA LOG OFFLOAD TASK FAILED FOR ACTIVE     MVSE
    06.04.20 IEF450I ADPREPHE S01 - ABEND=S000 U1234 REASON=0000000 MVSE
    06.02.40 IXC585E STRUCTURE ADT133_CACHE1 IN COUPLING FACILITY I MVSD
    06.00.35 IXC585E STRUCTURE ADT133_CACHE1 IN COUPLING FACILITY I MVSD
    05.58.55 COR026E CONFIGURATION FILE 00248/00245 READ ERROR (RSP MVSE
    05.50.27 IEF450I ADEXSGS1 S01 - ABEND=S000 U1234 REASON=0000000 MVSD
    01.53.53 CSQE102E *QMXD CSQERCFS UNABLE TO RECOVER STRUCTURE PE MVSD
    00.48.42 DSNJ139I  -DPSX LOG OFFLOAD TASK ENDED                 MVSE
    06.30.46 HZS0003E CHECK(IBMXCF,XCF_CDS_SEPARATION):             MVSE
    23.29.00 QMXD PSID: 2 FREE PAGE % < 20 - CONTACT MQOPS ON-CALL! MVSD
    20.35.00 TASK $AVRSZ DID NOT COME DOWN NOTIFY DCTECH !!!        MVSC
    20.30.00 $AVRSY WILL RESTART ITSELF AFTER ITS BACKUP ENDS       MVSD
 F1=Help      F2=Split     F3=Exit      F4=History   F5=Find      F6=Hold
 F7=Backward  F8=Forward   F9=Swap                   F11=Right
```

CA NetMaster Network Management Alert Monitor Overview

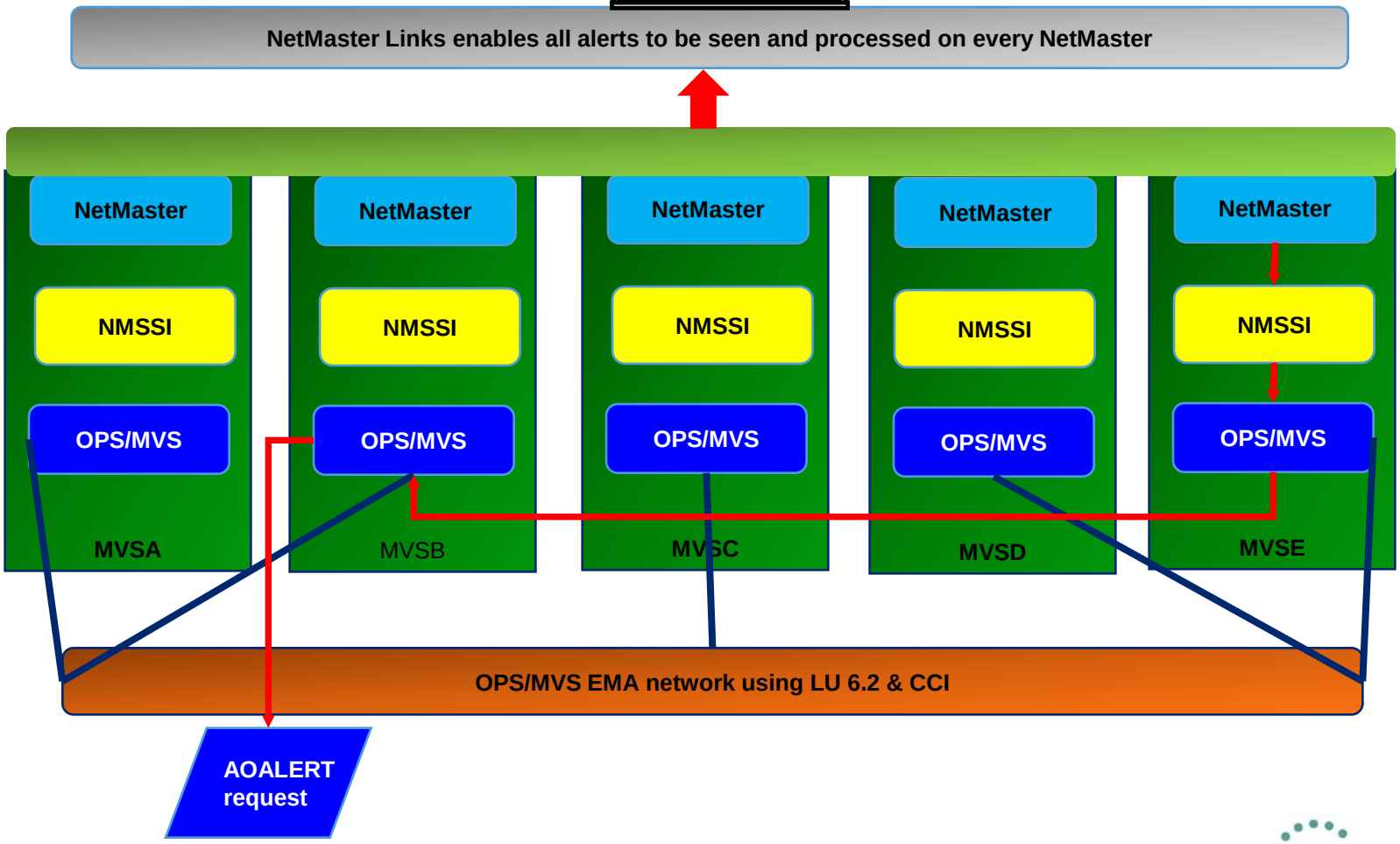
```
NETMD---------------- Alert Monitor : Alert Display ----Columns 00001
   00079
Command ===>                                                Scroll ===>
   CSR

 SSM STATE warning: 86 $STCTBL tasks are current=DOWN,DESIRED=UP

 Alert Text
  List of tasks w/ current=DOWN, DESIRED=UP:
  $AVRSD $AVRSY $D ADTCORD2 ADT131D ADT131X ADT132 ADT133D ADT133X
  ADT134 ADT135 ADT136 ADT144 ADT147 ADT153 ADT154D ADT154X ADT155
  ADT158 ADT161 ADT164D ADT164X ADT165 ADT167 ADT171 ADT175 ADT176
  ADT177 CICSMQ1 CICSMT1 CICSQA CICSQB CICSQC CICSQD CICSQE CICSQF
  CICSQG CICSQH CICSQI CICSQJ CICSQ
  CICSQ2 CICSSQ1 CICSST1 CICSTA CIC
  CICSTG CICSTH CICSTI CICSTJ CICST
  MVJOBCLS NAPLTW OCCICD OCCIMD SAM

 Recommended Action
  To Fix from console, Issue:
    SSM MANAGE resource
  To Fix from ISPF, Issue:
   1. TSO OPS S
   2. Scroll down or filter to loca
   3. Use U line command to set cur
      to UNKNOWN
F1=Help      F2=Split     F3=Exit
F7=Backward  F8=Forward   F9=Swap
```



Alert forwarding from OPS/MVS EMA



NetMaster Alert Monitor



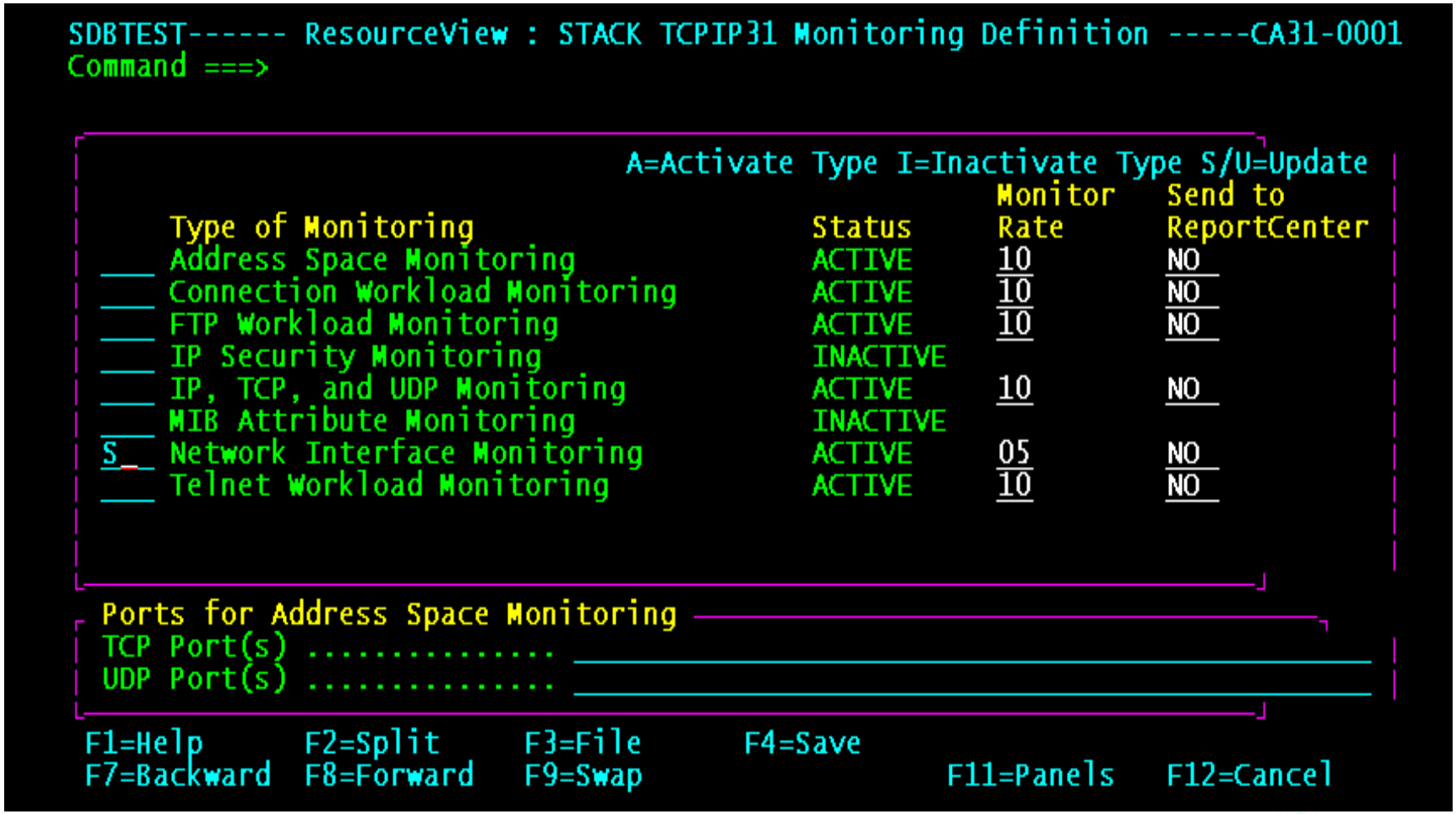
Filtering Alerts

- FILTER primary command changes the alert filter
- Has effect only for the life of your CA NetMaster Network Management session
  - Each user's profile can have a default filter
- Filter syntax:
  - FILTER Bring up filter menu (shown next)
  - FILTER *filterName* Change the current filter
  - FILTER OFF Show all alerts
  - FILTER RESET Return to filter stored in your profile

Resource Monitor
=/rmon or =m.r

```
SDBTEST---------------------- Resource Monitor -----------------------CA31-0001
Command ===>                                                Scroll ===> PAGE

                    S=Status L=Transient Log D=Display DB=Database ?=List Cmds
    System    Class     Resource      Desired  Actual     Mode       Logical   Ovr
    CA31      APPNHPR   USILDA01.A31  ACTIVE   ACTIVE     MANUAL     OK
    CA31      CIP       NMDCIP3       ACTIVE   ACTIVE     MANUAL     ALERTSEV2
    CA31      CSM       CSM           ACTIVE   ACTIVE     MANUAL     OK
    CA31      EE        EE            ACTIVE   ACTIVE     MANUAL     OK
    CA31      IPNODE    NMDCIP3       ACTIVE   ACTIVE     MANUAL     OK
    CA31      IPNODE    NMDSWH5       ACTIVE   ACTIVE     MANUAL     OK
    CA31      IPNODE    RABBIT        ACTIVE   ACTIVE     MANUAL     OK
    CA31      IPNODE    141.202.85.1  ACTIVE   ACTIVE     MANUAL     OK
    CA31      OSA       OSA-0C        ACTIVE   ACTIVE     MANUAL     OK
    CA31      OSA       OSA-00        ACTIVE   ACTIVE     MANUAL     OK
    CA31      OSA       OSA-01        ACTIVE   ACTIVE     MANUAL     OK
u   CA31      STACK     TCPIP31       ACTIVE   ACTIVE     MANUAL     ALERTSEV1
    **END**



 F1=Help      F2=Split     F3=Exit      F4=Add       F5=Find
 F7=Backward  F8=Forward   F9=Swap
```

Select specific monitoring

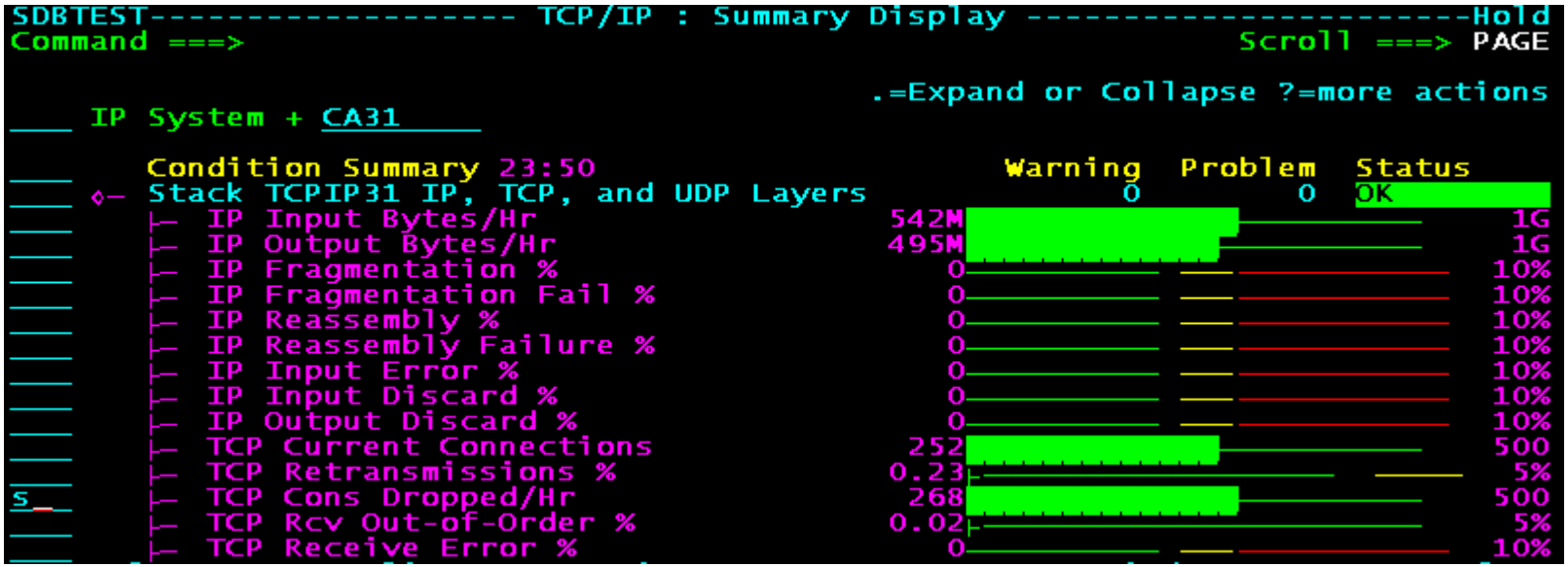


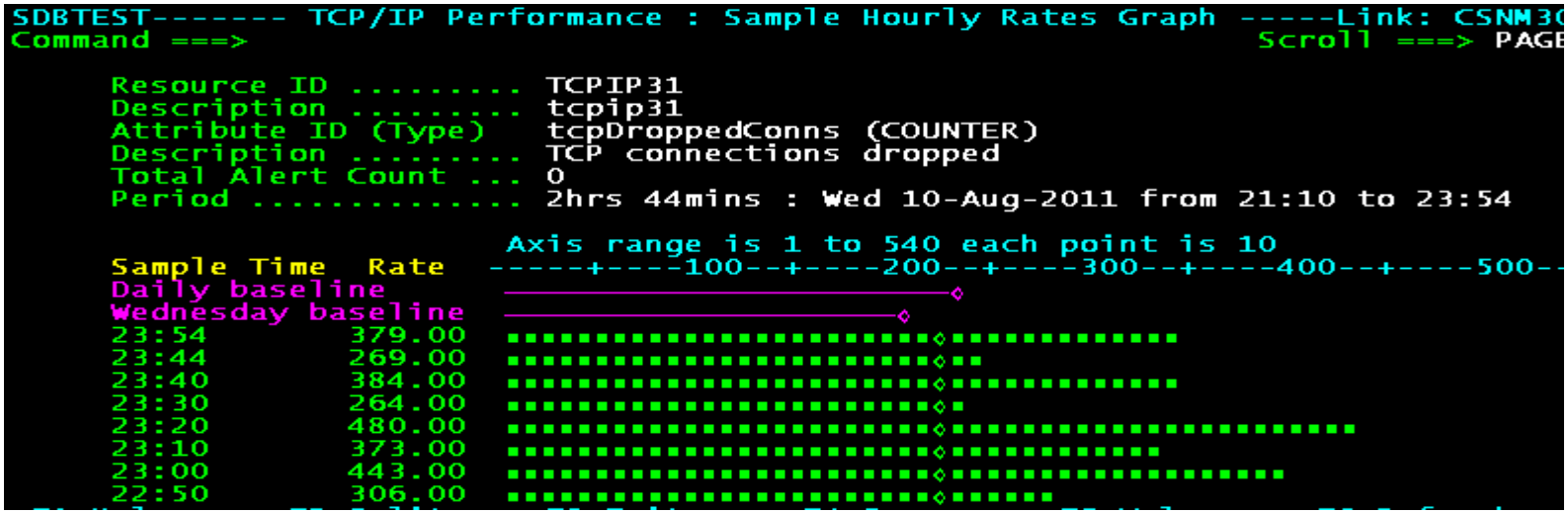
Attributes and Actions

```
SDBTEST------------- STACK TCPIP31 Monitoring Definition -------------CA31-0001
Command ===>                                                 Scroll ===> PAGE

                                                          S/U=Update R=Remove
     Attribute                 Alert Summary
___  ifInBandwidth%            Sev:3 >95 Reset: <90
___  ifInBytes
___  ifInPkts
u_   ifOutBandwidth%           Sev:3 >95 Reset: <90
___  ifOutBytes               Sev:1 <999999999
___  └─ OSA2                  Sev:1 <1 Reset: >1
___  ifOutPkts
___  ifStatusMatch            Sev:3 NO Reset: ¬NO
___  ifStatusOper             Sev:2 ,¬UP Reset: UP
___  ifTotalPktsDiscard%      Sev:3 >2 Reset: <1
___  ifTotalPktsError%        Sev:3 >2 Reset: <1
```

```
SDBTEST----- Monitor Attribute : Alert Control Details (COUNTER) -----CA31-0001
Command ===> _                                               Scroll ===> PAGE

Resource ......... TCPIP31 (STACK)
Attribute ........ ifOutBandwidth%
Description ...... Outbound byte rate as a % of bandwidth
Qualifier .......+ ____________________________________________________
Baseline Type ...+ ________ (Daily, DayOfWeek or HourOfDay)
Three Strike Alert NO      (YES or NO)
                           S/U=Update A=Actions C=Clear Actions R=Reset Alert
                                                Max
    Alert Type          Summary                 Sev  Act#  Alert Description
___ High Rate Alert     Sev:3 >95 Reset: <90     3     -
___ Low Rate Alert                               -     -
___ Above Baseline Rate                          -     -
___ Below Baseline Rate                          -     -
    **END**
```

Baselines


SDBTEST TCP/IP : Summary Display Hold
Command ===> Scroll ===> PAGE
.=Expand or Collapse ?=more actions
IP System + CA31
Condition Summary 23:50 Warning Problem Status
Stack TCPIP31 IP, TCP, and UDP Layers 0 0 OK
IP Input Bytes/Hr 542M 1G
IP Output Bytes/Hr 495M 1G
IP Fragmentation % 0 10%
IP Fragmentation Fail % 0 10%
IP Reassembly % 0 10%
IP Reassembly Failure % 0 10%
IP Input Error % 0 10%
IP Input Discard % 0 10%
IP Output Discard % 0 10%
TCP Current Connections 252 500
TCP Retransmissions % 0.23 5%
TCP Cons Dropped/Hr 268 500
TCP Rcv Out-of-Order % 0.02 5%
TCP Receive Error % 0 10%


SDBTEST TCP/IP Performance : Sample Hourly Rates Graph
Command ===> Scroll ===> PAGE
Resource ID TCPIP31
Description tcpip31
Attribute ID (Type) tcpDroppedConns (COUNTER)
Description ..... TCP connections dropped
Total Alert Count ... 0
Period ..... 2hrs 44mins : Wed 10-Aug-2011 from 21:10 to 23:54
Axis range is 1 to 540 each point is 10
Sample Time Rate
Daily baseline
Wednesday baseline
23:54 379.00
23:44 269.00
23:40 384.00
23:30 264.00
23:20 480.00
23:10 373.00
23:00 443.00
22:50 306.00

Diagnosis Tools for EE and APPN/HPR =/ee

- Enterprise Extender
  - ‘missing’ and inactive connection highlighting
  - Connectivity Test
  - Traffic Explorer
  - UDP Connection List
  - RTP Health Check
  - SmartTrace
- APPN/HPR
  - RTP List format extended and new sorting
  - RTP Health Check
  - VTAM Command prompt list

Enterprise Extender Management Menu

/ee or d.ee

```
DENM44------------ TCP/IP : Enterprise Extender Management -----------------/EE
Select Option ===>

   S    - EE XCA Major Node Summary                          EEXCA
   CS   - EE Condition Summary                               EECOND
   T    - EE SmartTrace Menu                                 EETRACE
   CT   - EE Connectivity Test                               EETEST
   UC   - EE UDP Connection List                             EEUDP
   E    - EE Traffic Explorer                                EEXP
   R    - EE RTP Pipe List                                   EERTP
   RH   - EE RTP Health Check                                EERH
   V    - EE VTAM Commands                                   EEV
   P    - EE Traffic and Performance Data Menu               EEPERF
   M    - Monitor EE                                         EEMON
   AP   - SNA APPN Diagnosis Menu                            SNAAPPN
   RE   - RTP Event Detectors                                -
   X    - Exit


System .................+ CA11     ( Required S UC E R RH V )

Remote Host Name/Addr ...+ ____________________________________ ( Optional CT )
```

SmartTrace

=/smart , =/eetrace, =d.tr

- Initiate trace and immediately view collected packets
- Run multiple concurrent traces with results presented independently of each other
- Multi-TCP connection trace
- Pre-define traces to capture difficult to reproduce network activity
- Parse and decode of packets
- Offload trace data to CTRACE or LIBPCAP formats
- Print single packet or complete packet list

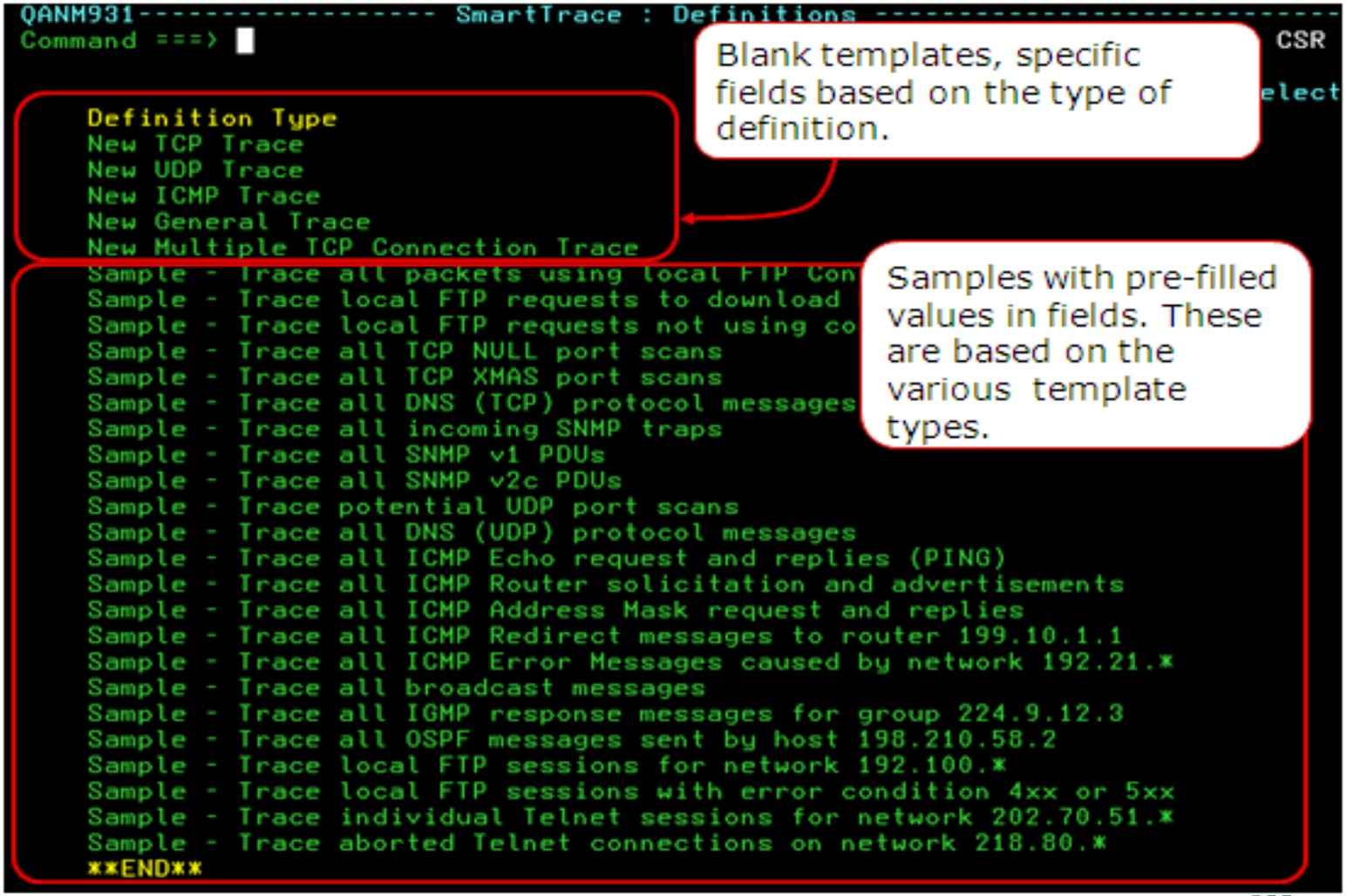
SmartTrace cont.

- Traces can be simply started or made as complex as you require.

- Start traces(using context) from multiple menus
  - TCP connection list (/IPCON)
  - Resource Monitors (PT command)
    - Stack Resource
    - EE Resource
    - ASMON Resource
    - IPNODE Monitor
  - Trace menu – Advanced (/IPPKT)

Advanced Tracing – templates

=/tradd, =d.tr.a



Advanced Tracing - continued

```
SDBTEST-------------- SmartTrace : General Trace Details ----------------------
Command ===> _                                                  Page 1 of 4

Name ................ DEMO1
Description ......... demo general trace
IP Version .......... 4 (4 or 6)

Trace Packets with:
  TCP/IP Stack .......+ ________
  Interface Name .....+ ________________
Either:
  Local Host .......... ________________________________________________
  Foreign Host ........ ________________________________________________
Or:
  Special Address ..... _________  (Loopback, Multicast or Broadcast)

IP Protocol ..........+ __________

 Note ------------------------------------------------------------------
   This is the first of four trace definition panels. Use F8=Forward for
   more selection criteria, stop criteria and trace options.
```

F1=Help F2=Split F8=Forward

```
SDBTEST-------------- SmartTrace : General Trace Details ----------------------
Command ===>                                                    Page 2 of 4

Trace Packets with:
  Fragmentation ................ ___   (Yes or No)
  IP Header Options Present ... ___   (Yes or No)
  TOS Bits Set ................. ___   (Yes or No)
  QOS Values ..................+ _______________ (0 to 7)
  Time To Live ................+ __  ___
  Packet Length ...............+ __  ____
  Packet Direction ............. ___   (In or Out)

 Packet Data (Following IP Header) ------------------------------------------
                                                        Start
   Oper  Data                                 Format     Pos.  Length
 1 LIKE  *demo*                               EBCDIC     1     32
 2 LIKE  *demo*                               EBCDIC     33    32
 3 _____ ___________________________________  ________   ____  __
 4 _____ ___________________________________  ________   ____  __
 5 _____ ___________________________________  ________   ____  __
 Expression ....+ 1 OR 2                                  e.g. 1 and (2 or 3)
```

F1=Help F2=Split F3=File F4=Save
F7=Backward F8=Forward F9=Swap F11=StopAct F12=Cancel

Exporting & Reports

```
CSNM2------------------------------------- SmartTrace : Export Packet Trace -------------------------------------
Command ===>                                                                                  Function=Export

 Trace Details ──────────────────────────────────────────────────────────────────────────────────────────────────
 Definition Name ..... TEST1023 - 1023test
 Stack ............... TCPIP11
 Description ......... CSNM2 packet trace to 1023
 Saved ............... 02-MAY-2012 at 18:39 by BEEST03
 Number of Packets ... 28

 Export Details ─────────────────────────────────────────────────────────────────────────────────────────────────
 Dataset or HFS File:
      ____________________________________________________
      ____________________________________________________
      ____________________________________________________
 Adjust Time By ......          (+/-hh:mm, mm must be 00 or 30)
 Output Format ....... LIBPCAP (LIBPCAP or CTRACE)
```

Export Trace

```
SDBTEST------------------ SmartTrace : Trace Reports --------------------------
Command ===>                                                Scroll ===> PAGE

                                        S/V=View P=Print SAV=Save ?=More Actions

       IPCS Reports
___ □- TCP Data Flow Report (1)
___ □- TCP Sessions Report (1)
___ ◊- Flag Report
___ ◊- Interface Report
___ ◊- IP Address Report
___ ◊- TCP Port Report
___ ◊- Protocol Summary Report
___ ◊- Session Summary Report
********************************** Bottom of data **********************************
```

GR - listing
Report - viewing

Smart Trace Reports (examples)

```
CSNM2---------------------------------------- SmartTrace : IPCS TCP Sessions Report ------
Command ===>


Host:                                  Local,          Remote
 Client or Server:                    SERVER,          CLIENT
 Port:                                  1023,            5030
 Application:                                ,
 Link speed (parm):                       10,              10 Megabits/s

Connection:
 First timestamp:                2012/05/02 18:38:40.873338
 Last timestamp:                 2012/05/02 18:39:14.365281
 Duration:                              00:00:33.491943
 Average Round-Trip-Time:                         0.068 sec
 Final Round-Trip-Time:                           0.531 sec
 Final state:                                 ESTABLISHED
 Out-of-order timestamps:                               0
```

Sessions Report

```
CSNM2---------------------------------------- SmartTrace : IPCS Interface Report ----------
Command ===> _                                                          Scroll ===> PAGE

Interface Report

  Total   Input       Data  Output       Data     First yyyy/mm/dd hh.mm.ss     Last yyyy/mm/dd hh.mm.ss Interface
     15       0          0      15       2255        2 2012/05/02 18:38:40       28 2012/05/02 18:39:14 OSA1
     13      13        354       0          0        1 2012/05/02 18:38:40       27 2012/05/02 18:39:14 OSA2
     28      13        354      15       2255  Total

    2 Interface(s) found

Interface Address Report

  Total   Input       Data  Output       Data     First yyyy/mm/dd hh.mm.ss     Last yyyy/mm/dd hh.mm.ss Interface
     13      13        354       0          0        1 2012/05/02 18:38:40       27 2012/05/02 18:39:14 OSA2
```

Interface Report

```
CSNM2---------------------------------------- SmartTrace : IPCS Protocol Summary Report ----------
Command ===>                                                                Scroll ===> PA

Protocol Report

  Total   Input       Data  Output       Data     First yyyy/mm/dd hh.mm.ss     Last yyyy/mm/dd hh.mm.ss Protocol
     28      13        354      15       2255        1 2012/05/02 18:38:40       28 2012/05/02 18:39:14 6(TCP)
     28      13        354      15       2255  Total

    1 Protocol(s) found

Protocol Summary Report
                  Input                  Output                   Total
Protocol  Packets         Bytes  Packets         Bytes  Packets         Bytes
Tcp              13           354       15          2255       28          2609
Udp               0             0        0             0        0             0
Icmp              0             0        0             0        0             0
SNA               0             0        0             0        0             0
Other             0             0        0             0        0             0
```

Protocol Summary

Interface-Application Traffic, by Interface

=/ipsum, =m.is

view traffic, condition, ee, or alert

```
CSNM2-------------------- TCP/IP : IP Traffic Summary ----------------------Hold
Command ===>                                                  Scroll ===> PAGE

                                                .=Expand or Collapse ?=more actions
___ IP System + CA11

___    IP Traffic Summary 22:35                                  Pkts/Sec  B/Sec  Conns
___ ◇— IP Throughput:      Total: 3 Stks, 29 Interfaces          102.2     45372    236
       |      Stack/                  Connections  ---Packets/Second----  ----Bytes/S
       |        Interface Name        Active          In          Out          In
       ├— CA11:                          236        49.17       53.05        16936
___    |   ├— TCPIP11                    228   97%  45.81  93%  50.07  94%   16456  97%
s__    |   |   ├ OSA1                      -         35.99  79%  21.14  42%   11176  68%
___    |   |   ├ OSA2                      -          0.01  <1%  19.06  38%    0.92  <1%
___    |   |   ├ LOOPBACK                  -          9.81  21%   9.81  20%    5279  32%
```

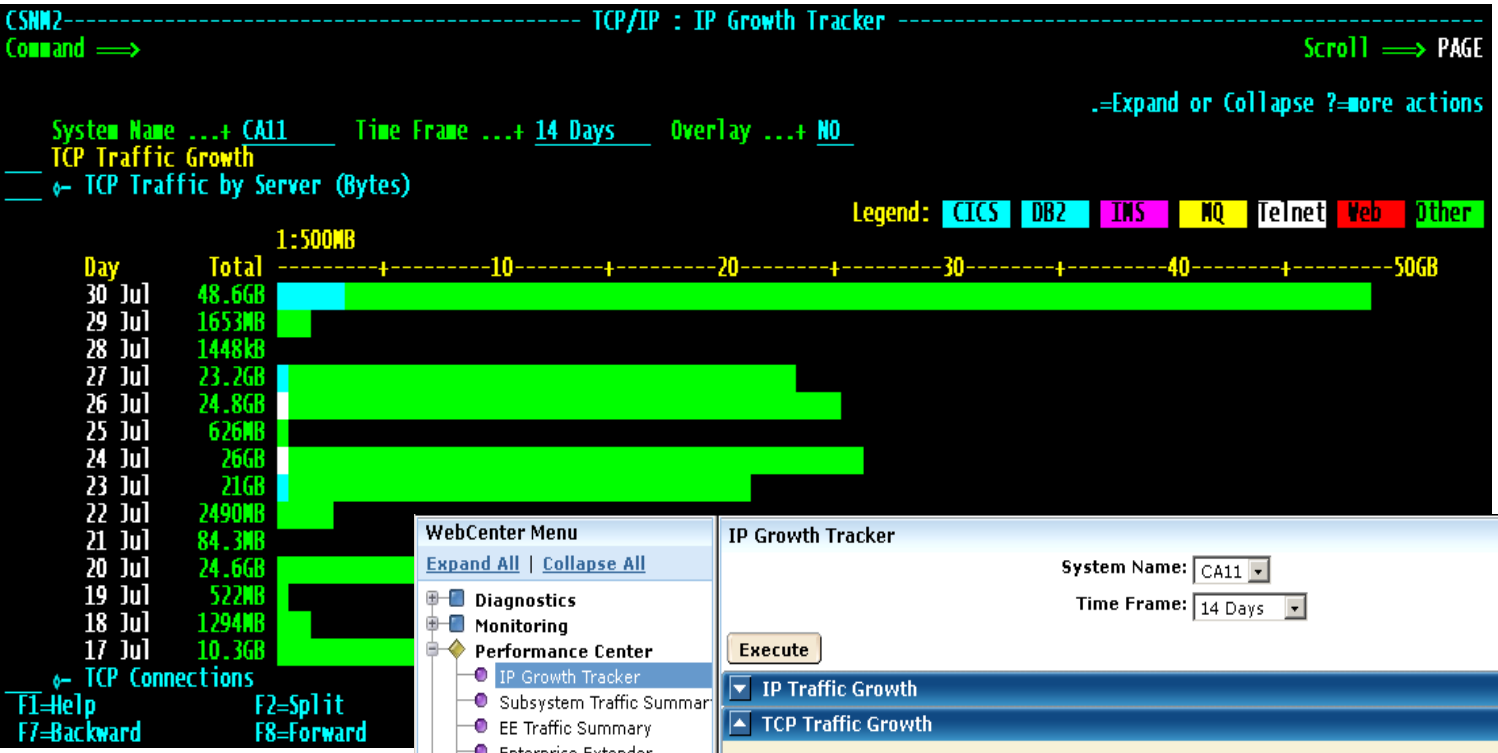
```
CSNM2--------------- TCP/IP : Interface Traffic Statistics --------------------
Command ===> _                                                Scroll ===> PAGE

     Stack Name ......... TCPIP11
     Interface Name ..... OSA1

___  Applications    Bytes     231M 100% ---10--20--30--40--50--60--70--80--90---
     DB2                       123M  53%
     default                  29.2M  13%
     FTP                      11.9M   5%
     WEBHTTP                  11.8M   5%
___  21 more...

          Packets In          Packets Out         Bytes In            Bytes Out
     Time  Stk%  Amount       Stk%  Amount        Stk%  Amount        Stk%  Amount
___  22.46  97%  9388 .....    61% 10493 .....     91%  973k .....    62%   14M .....
     22.45  93%  2970 ..       60%  2088 .        78%  761k ....     56% 1171k
```

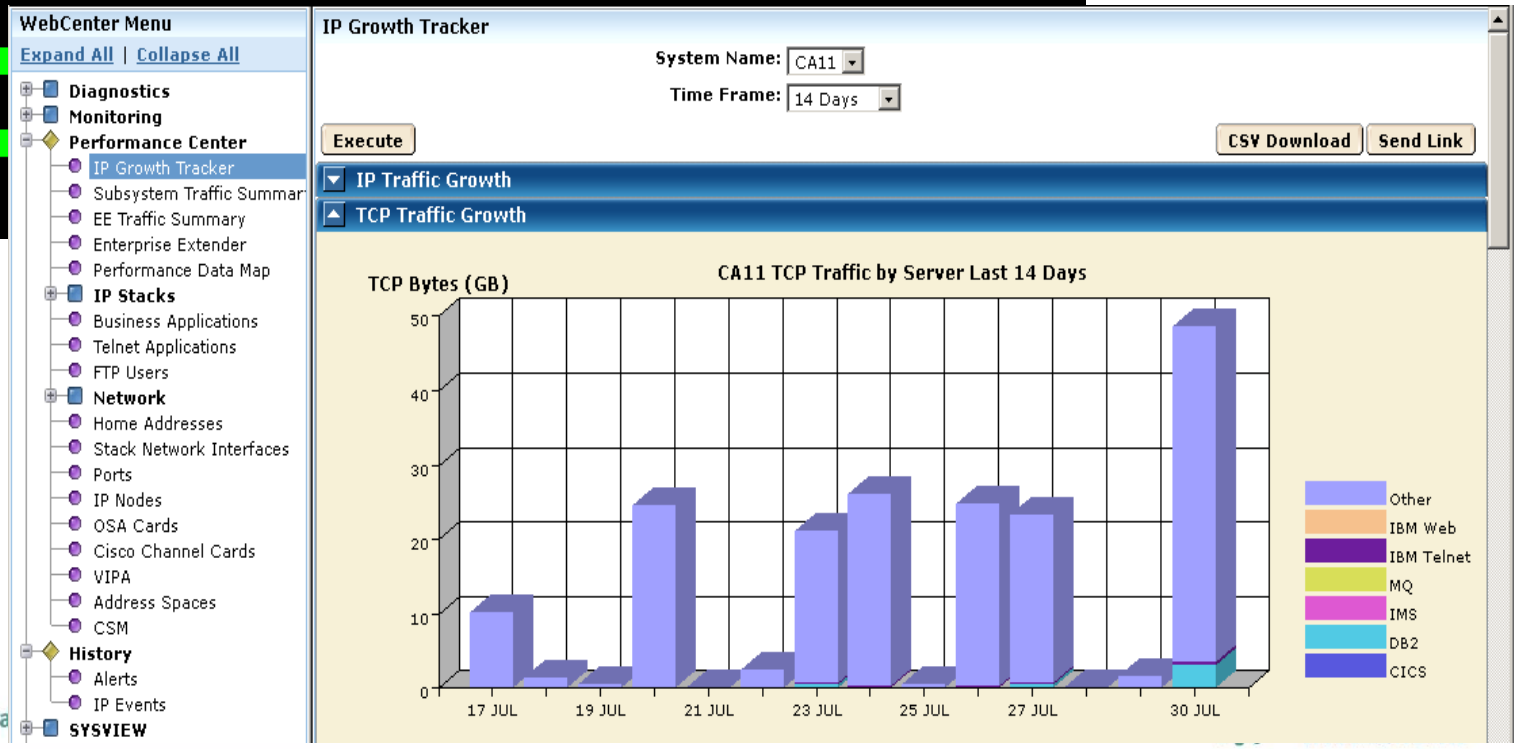
Interface-Application Traffic, by Application

```
DENM17--------------- TCP/IP : Application Usage Summary ---------------------
Command ===>                                                 Scroll ===> CSR

                                                .=Expand or Collapse ?=more actions
___ Applications:       Most active: OTHER                29.05     17010    74%
      System/       Connections   ---Packets/Second----   ----Bytes/Second-----
        Appl.       Active              In         Out          In          Out
____  CA31              96          24.25       28.25        7484        16756
____    OTHER           71   74%    12.22   50% 16.83   60%   4657   62% 12353   74%
____    Hermes-31        6    6%     1.86    8% 1.307    5%  391.6    5%  1714   10%
S___    DB2              3    3%    1.347    6% 1.237    4%   1287   17% 348.8    2%
____    QAM1R4           1    1%    1.077    4% 1.167    4%  320.7    4%  1258    8%
____    CCITCPGW         1    1%     0.77    3%  0.74    3%  432.3    6% 462.8    3%
____    QAM1             1    1%     1.76    7%  1.32    5%  110.9    1% 348.8    2%
____    STNM2            2    2%      0.3    1%   0.4    1%   21.6   <1%  26.8   <1%
____    MVSNFSC          3    3%    0.067   <1% 0.087   <1%   20.8   <1% 11.89   <1%
____    DENM17           1    1%     0.18   <1% 0.253   <1%  14.03   <1% 18.54   <1%
____    FTP              0    0%     0.16   <1% 0.167   <1%   8.12   <1% 13.44   <1%
```

```
DENM17------------ TCP/IP : Application Traffic Statistics --------------------
Command ===>                                                 Scroll ===> CSR

     Application Name ... DB2

___  Stack Interface  Bytes   9453k 100%  ---10--20--30--40--50--60--70--80--90---
     TCPIP31-LOOPBACK          9442k >99%  ||||||||||||||||||||||||||||||||||||||
     Indeterminate             11424  <1%

___  Application Traffic Statistics through stack: TCPIP31
          Packets In          Packets Out          Bytes In           Bytes Out
     Time  Stk%   Amount      Stk%   Amount      Stk%   Amount      Stk%   Amount
___  23.02   3%     37          2%     32          19% 37999          1%   9478
___  23.01  14%   1100 ■■■■■   14%   1092 ■■■■■   53% 1545k ■■■■■   12%   393k ■■■■■
___  23.00   6%     67          4%     61          27% 64356          2% 17333
___  22.59   6%     83          5%     76          26% 81777          3% 21882
___  22.58   6%     93          4%     85          25% 82191          2% 23271
```

IP Growth Tracker - /ipgt, =h.i.gt





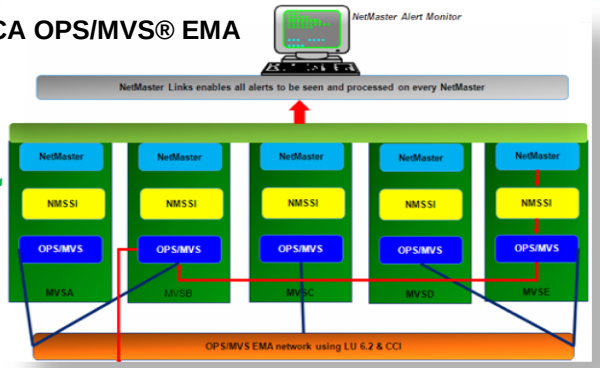
Complete your sessions eva

Integration Points

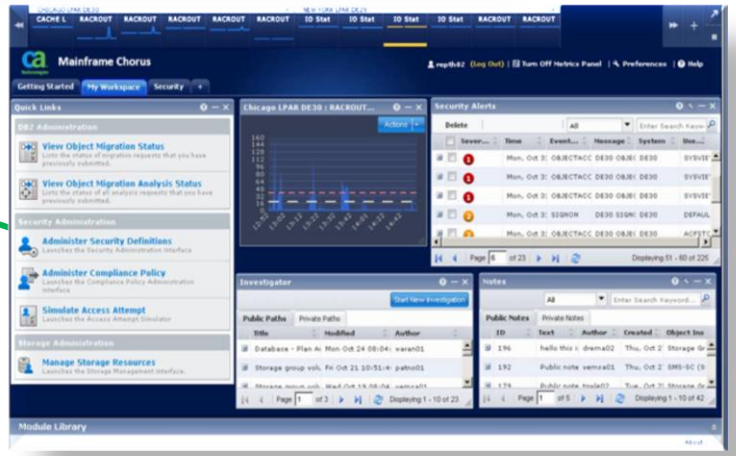
Integration

Powered by NetMaster

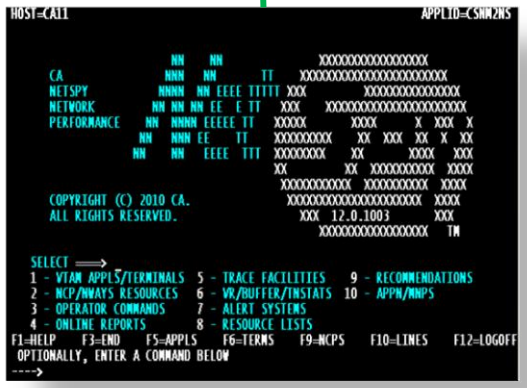
CA OPS/MVS® EMA



CA Mainframe Chorus™

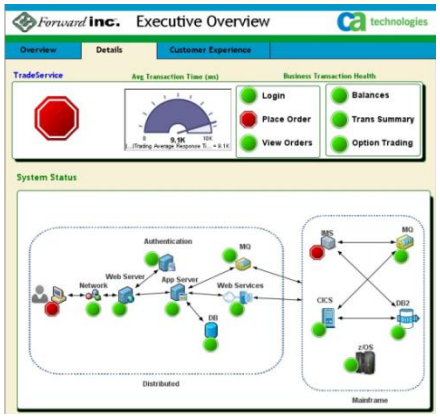


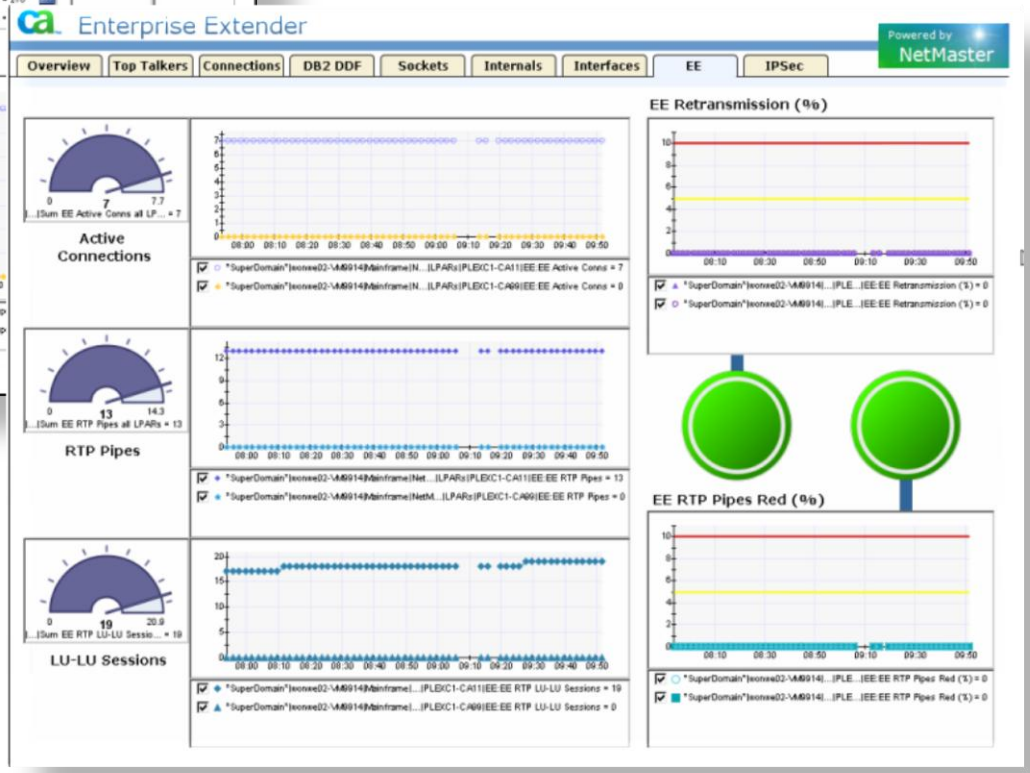
CA NetSpy



CA CE APM

CA Cross-Enterprise APM





NetMaster R12.1

Beta – September 2012, Interested?

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