

This presentation will discuss IPCS support for VTAM display commands

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IPCS support for VTAM display commands

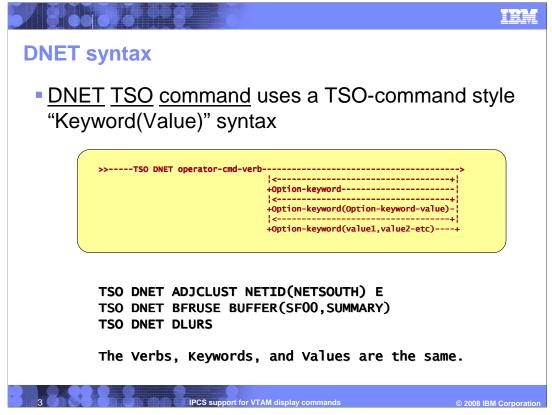
- New TSO command for IPCS dump analysis
 - DNET simulates the running of the VTAM operator command code from the IPCS dump.
 - It runs against the VTAM control block structures contained within the IPCS dump.
 - No interference with VTAM address Space
 - No requirement to run on "Production" LPAR

2 IPCS support for VTAM display commands

DNET is a new feature in V1R10. This is a new TSO command that allows you to run VTAM display commands against a dump, as if they were running against a real, active system.

DNET contains a Local Virtual Machine. DNET simulates the way the VTAM operator command responds when issued at the z/OS system console at the time that the dump was obtained. DNET works by retrieving the VTAM command code from a dump. It then runs that code against the dumped memory on a virtual machine. DNET is release independent since it runs whatever display code is in the dump.

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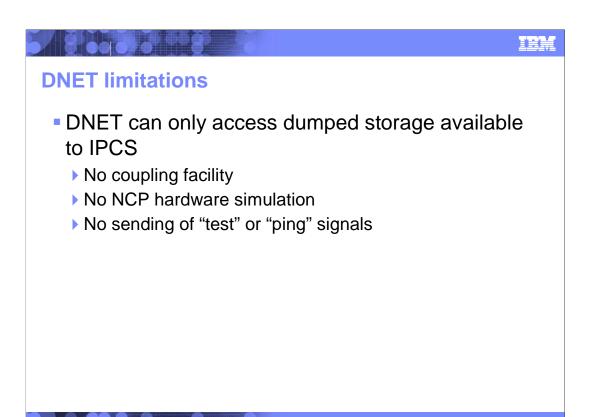


In General, "TSO Command" syntax specifies that keywords are separated from one other by spaces. Values for keywords are defined within a parenthesized list – <u>without</u> an equals sign, and parentheses are required to specify keyword Values.

Because DNET is a TSO command, its parameters must conform to TSO conventions, rather than operator console conventions. This generally means that the keywords are the same as the equivalent operator commands, but the separators are different. For example, NETID=NETSOUTH becomes NETID(NETSOUTH) and commas are replaced by spaces.

This slide shows a railroad track diagram of the TSO operator command syntax. Keywords are separated by spaces, and keyword values are enclosed in parentheses.

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DNET has some limitations because it is running on a dump and not on a live system.

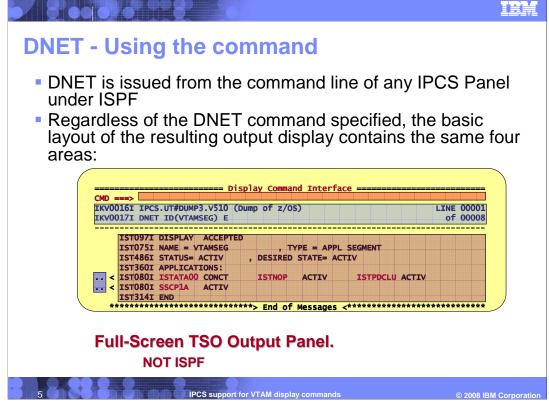
IPCS support for VTAM display commands

DNET behaves as if VTAM is not aware of the coupling facility. This implies that no VTAM generic resources appear to be defined, and the multi-node persistent sessions (MNPS) facility does not appear to be in use. This means these commands are not supported: DNET GRAFFIN and DNET STATS TYPE(CFS)

DNET can not simulate the examination of an NCP's memory, nor examine the NCP's hard drive, which eliminates the possibility for DNET DISK and DNET NCPSTOR commands.

DNET can not search networks for information it needs to satisfy a user's request. It cannot test the availability of virtual routes (DNET ROUTE) or high performance routing (DNET HPR) pipes. It cannot test the availability of Enterprise Extender connections, and it cannot establish "Transaction Program" sessions. This means that many potential DNET commands are not supported: No DNET APING, DNET APINGDTP, DNET APINGTP, DNET DIRECTRY SCOPE(NSEARCH), DNET EEDIAG TEST(YES), DNET ROUTE DESTSUB(subarea), or DNET RTPS TEST(YES)

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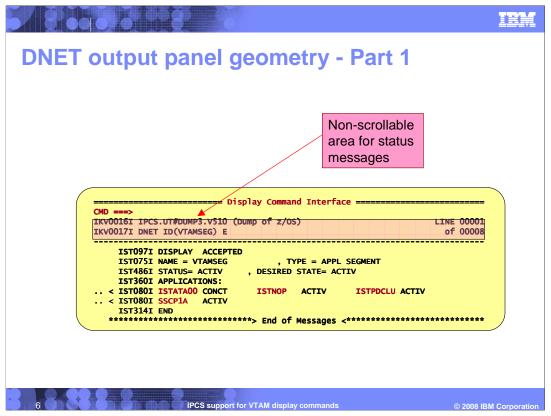


DNETis invoked as a TSO command from any panel where TSO commands are permitted. This includes the IPCS Primary Option Panel, The IPCS Subcommand Entry Panel, and the IPCS Entry Panel.

The TSO Command "Prefix" is <u>always required.</u> An omission will cause ISPF to treat DNET as an ISPF command. This will cause an ISPF "Invalid command" error message – or will cause IPCS to treat DNET as an IPCS command – which will fail.

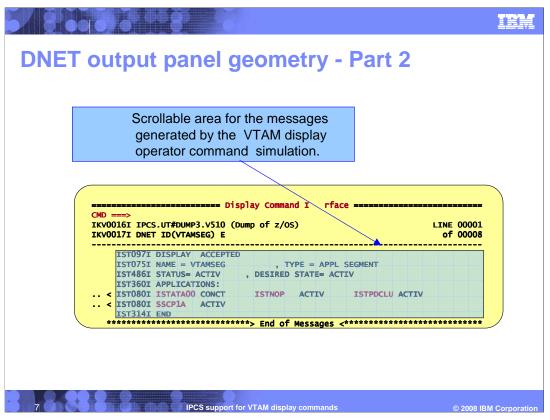
For various design considerations, the V1R10 version of DNET employs a full-screen TSO output panel, rather than a more popular ISPF interface. However, the basic geometry of the output panel should have a familiar feel. The panel contains two types of input areas and two types of output-only areas in the classic style of ISPF. This slide shows the full layout of the DNET panel. The detailed description of the sections of this panel will be discussed in more detail on the next few slides.

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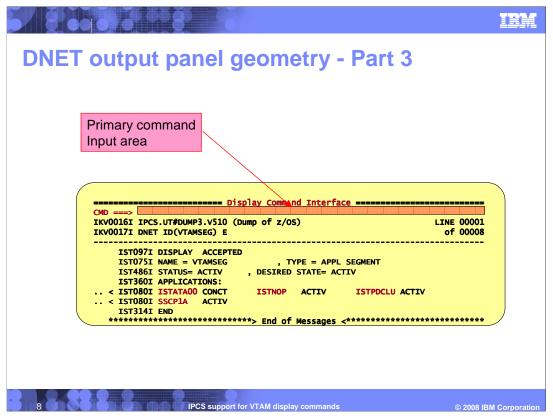
At the top of the DNET display result is a non-scrollable area for status messages from DNET. Typical Messages displayed in this area of the Output Display Panel include documentation of the z/OS Dataset name of the IPCS DUMP against which DNET was run. Also typically included are documentation of the specific DNET TSO command used and documentation of the position and extent of the messages contained within the Scrollable area of the Output Display Panel

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The largest area of the display is the scrollable area which contains the results of the DNET simulation of the VTAM Display Operator Command. This is the output of the display command and is the main part of the output.

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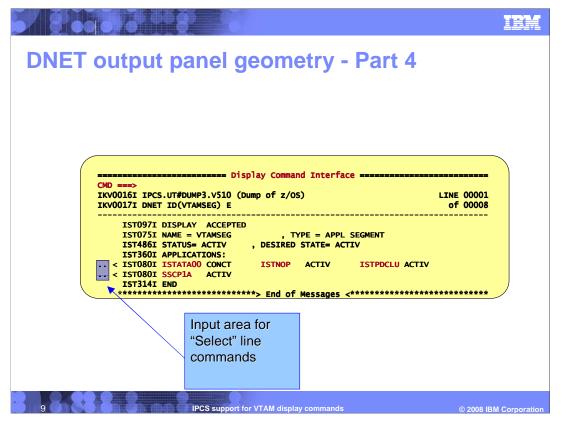


The primary command input area is at the top. Refer to "z/OS V1R10 Communications Server SNA Diagnosis Volume 2: FFST Dumps and the VIT" for a detailed description of the commands recognized by the Primary Command Input area. In general, the bulk of the commands (UP, DOWN, FIND, END, TSO) function in a manner consistent with IBM's ISPF program product running in "Cursor Scrolling" mode.

VMPRINT sends a copy of the entire content of the scrollable area to the reader of a selected VM ID on a selected VM node.

ISPF invokes ISPF services to redisplay the primary ISPF option menu. Use of this command allows you to return to a multiple logical screen ISPF environment without terminating the DNET output display.

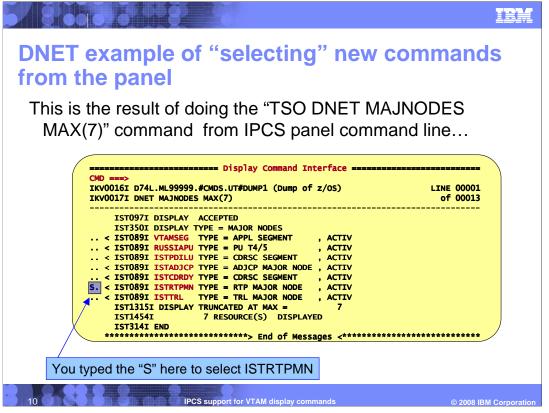
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A powerful and easy to use feature of DNET is the input area for "select" line commands. This is the prefix area to the left of the command output area. When there is an entry field there, indicated by periods, this indicates that there is more information that can be displayed about the values which are highlighted in the display. You can cause DNET to automatically retrieve that additional information by typing Sn in that area, where n is the position of the parameter you are selecting. This is shown by example on the next few slides.

In the vast majority of cases, the command issued by "selecting" the field is "DNET ID(fieldvalue) E". Refer to "z/OS V1R10 Communications Server SNA Diagnosis Volume 2: FFST Dumps and the VIT" for the specific command issued for each selectable field of the various VTAM messages.

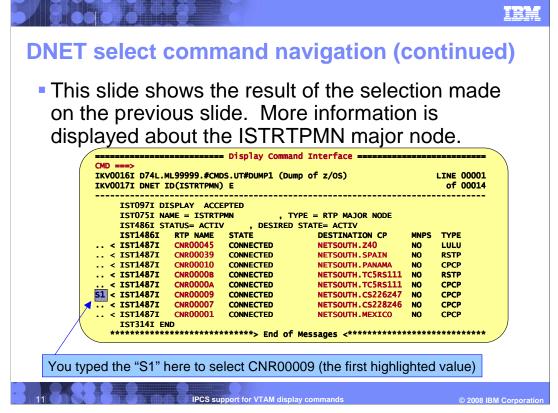
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In this example, you have started by requesting a display of some of the VTAM major nodes from an IPCS dump. The output of this display is in the display output area, with several prefix areas indicated that more information is available. In this example, further examination of the RTP major node is requested through use of the "select" line command. By placing the S on the prefix area for the line with ISTRRTPMN and keying ENTER, you are requesting a more detailed display of that element.

The results of the selection follow on the next slide.

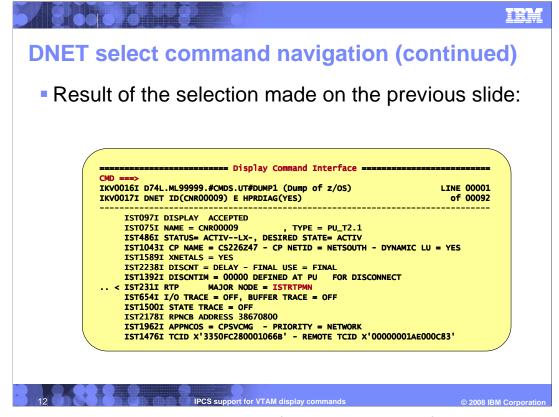
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You are presented with a detailed display of the minor nodes within the selected RTP major node. The DNET output panels are "nested" – meaning that when you "end-out" of this display, you are returned to the previous DNET display. Further examination of a specific RTP pipe is requested through use of the "select" line command in the prefix area. Note that since there are multiple choices to select from, you use "S1" to indicate that you want more information about the RTP pipe CNR00009. To get more information about the CP name NETSOUTH.CS226Z47, you type "S2".

The results of the selection follow on the next slide.

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You are presented with a detailed display of the characteristics of the selected RTP pipe PU. Since DNET recognized that the request involved an RTP pipe – the "selected" command included the HPRDIAG(YES) option – greatly expanding the resulting content.

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