Intel® Direct Platform Control Console User's Guide

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What's Direct Platform Control Console?

Direct Platform Control (DPC) console is an application that allows remote server management. It runs on a client workstation that communicates with a server using one of the following:

- A Windows NT† or Windows† 2000 compatible modem.
- A direct RS-232 connection to the server COM2 port.
- LAN (using NIC1[1] on the supported servers).

DPC console operation is independent of the server operating system. Use DPC Console to:

- Apply power to a remote server.
- Remove power from a remote server.
- Reset a remote server to either EMP mode or Re-direct Mode.
- Retrieve and display:
  - System Event Log (SEL) entries for information about recent server activities, such as from processors or fans.
  - Sensor Data Records (SDR) entries for information about sensor characteristics.
  - Field Replaceable Unit (FRU) inventories of the hardware components on the server.
  - Current Remote Sensor Access (RSA) information.
- Maintain a Phonebook for remote server connection management.
- Transfer files to and from a server.
- Reboot to the service partition to run service partition based utilities on the server.

It also contains a security feature that requires a password entry before initiating a connection to a managed server.

[1] Network Interface Controller 1 (NIC1) must be used for DPC and CSSU connections on server systems capable of using two NIC ports. During initial server configuration using the local SSU at the server, the Platform Event Manager selections for IP address, Subnet Mask and Gateway all pertain to NIC1. You can use both NIC1 and NIC2 for normal operating system network connections.

Client Workstation Requirements

The following are minimum requirements for the client workstation to run DPC:

- Windows NT 4.0 with Service Pack 6A or later
  - 24 MB of RAM, 32 MB recommended
  - 20 MB disk space
  - Remote Access Service (RAS) must be installed
- Windows 2000 Service Pack 2 recommended
  - 24 MB of RAM, 32 MB recommended
  - 20 MB disk space

Server Requirements

The DPC console connects to servers with server management capabilities. Any operating system can be running on the server. If DPC connects to the server using a serial (modem or direct) connection, use the server's Emergency Management Port (EMP). If DPC connects to the server over the LAN, use the server's Total Cost of Ownership (TCO) port. Configure the connections using these utilities, depending on the connection type:

- BIOS Setup for a serial connection that allows BIOS redirection
- System Setup Utility (SSU) for a serial or LAN connection

Serial Connection

If the server connection is by external modem or null-modem RS-232 serial cable, the server COM2 port must be used. If the connection is by modem, the server must use a Hayes-compatible modem listed on the NT Hardware Compatibility list provided by Microsoft.

LAN Connection

Use the SSU Platform Event Manager (PEM) to configure LAN access to "Always Available." For security you can also configure a LAN password in the same dialog.

BIOS Setup

Use BIOS setup for communication redirection options. Enter BIOS setup by pressing the F2 key when the server is booting.

Console Redirection Submenu

The Console Redirection submenu of the BIOS System Management menu sets serial communication redirection options. Set them as follows:

Com Port Address: Select COM2 2F8 IRQ3. This is the COM2 port that the Emergency Management Port (EMP) must use.

Baud Rate: Select 19.2K.

Flow Control: Select CTS/RTS + CD.

SSU Setup

SSU setup configures all EMP settings for serial connections and all BMC (baseboard management controller) LAN settings for LAN connections. For security reasons, when setting up LAN access, configure a password with SSU, because the DPC user interface will not allow you to access the password.

Starting the DPC Console

Click the DPC Console icon in the manager's tool pane to start the DPC Console application on the client workstation.

You can also launch DPC Console using the command line.

DPCConsole /modem=[phonenumber], where **[phonenumber]** is the phone number of the server.

DPCConsole /direct= [comX], where **[comX]** is the COM port of the client workstation direct connection.

DPCConsole /lan=[IPaddress orDNSname], where **[IPaddress or DNSname]** is the IP Address or the DNS Name of the server.

Accessing DPC Console Features

Use the DPC Console menus or click a toolbar button to access DPC Console features. The menu items and toolbar will change according to the available server features.

DPC Console help contains detailed information about user interface features. See it for more information.

SEL Manager

The System Event Log (SEL) manager allows you to:

- View SEL events.
- View the properties of the non-volatile storage area for SEL.
- Save SEL events to a file.
- Print the SEL events to a local printer.
- Clear SEL records from the non-volatile storage area on the server.

SEL events display as a sequential record of managed server events, one event per row. Those records contain the following information:

- Number of Event
- Timestamp
- Sensor Type and Number
- Event description
- Generator ID

Each of the columns can be sorted by clicking on the column heading. Clicking the column heading again sorts the column in descending order. Column heading width can be adjusted.

When the SEL manager is active the SEL menu is added to the DPC Console menu bar between the Action and Window menus.

SDR Manager

The Sensor Data Records (SDR) manager allows you to:

- View Sensor Data Records.
- View the properties of the non-volatile storage area for SDR.
- View SDR information in a previously stored file.
- Save SDR information to a file.

The SDR Manager displays with a navigation (tree view) pane, a presentation (grid) pane and a description pane. Selecting an SDR from the tree view displays the corresponding SDR information in the grid. Both the tree view and grid can be resized using a splitter bar. The individual data columns in the grid can be resized.

When the SDR manager is active the SDR menu is added to the DPC Console menu bar between the Action and Window menus.

FRU Manager

The Field Replaceable Unit (FRU) manager allows you to:

- View some FRU inventory.
- View the properties for a FRU.
- Save FRU inventory information to a file.

The FRU manager displays a hierarchical tree of FRU areas (chassis, product, and board), and detailed inventory information about a selected area. Select an area in the tree to see its associated inventory information in the grid on the right. The width of each column in the grid can be adjusted. A description of each field selected in the grid displays in the right bottom pane.

RSA Manager

The Remote Sensor Access (RSA) manager allows you to view server baseboard FRU and SDR information.

It consists of a tree view on the left and a property view on the right. The tree view displays all detected sensors. The property view displays sensor status or sensor information for the sensor selected in the tree view. Select the appropriate tab to display either sensor status and sensor information. The displayed information depends on the selected sensor.

If the connected server is powered down, some sensors cannot be read and their current status displays as Unknown.

Phonebook

The DPC Console provides a phonebook that stores the server name, server phone number, IP address for the network card, and the server LAN address. It also allows you to add, modify, or delete phonebook entries.

Rebooting to the Service Partition

The service partition (SP) is a portion of the hard disk that contains the operating system partition. It is established when initially setting up the server system and contains utilities, diagnostics, and other software required for remote management. The service partition is not marked as an active partition and the server will only boot from it by a special request. It is not normally visible to the server user because it has a special non-standard partition type that does not appear as an accessible file system to the end user operating system. However, low level disk utilities can see the partition entry as an unknown type, and recognize its space.

After the server reboots to the service partition, you can run programs installed on the service partition.

Before you can boot to the service partition

- The connected server must contain BIOS support for booting to the service partition.
- A service partition must be installed on the local hard drive.
- You must have administrative rights for this connection on the server.

Displaying Configuration Status

The Configuration dialog box displays the server's configuration status. You can view this status information whenever the DPC Console is successfully connected to a managed server through the Emergency Management Port (EMP) or through a LAN connection.

Information appears in several areas:

Supported Viewers: Status on the FRU, SEL, SDR, and RSA viewers.

Security: Displays the Authentication Level, Activation Mode and Chassis Intrusion setting.

- Authentication level: Indicates User or Administrator level. User level exists if you have an EMP (serial) connection and EMP mode is set to restricted. User level also exists for LAN connections over the Total Cost of Ownership (TCO) port where a secure session is not available (*e.g.* someone else is already connected), or if there is a restricted LAN access mode. Administrator level exists if you are logged in with administrative rights.
- Activation Mode: Indicates whether the server is always active or just during pre-boot.
- Chassis Intrusion: Indicates whether intrusion protection is set or not set.

Firmware: Displays the Intelligent Platform Management Interface (IPMI) and Baseboard Management Controller (BMC) revisions on the server.

Aside from these designated areas, the Configuration dialog box also indicates the server's power state, the operating system (if detected), and the presence of a service partition.

NOTE

In order for DPC Console to detect a connected server's operating system, the server must have Platform Instrumentation (PI) installed.