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DELL OPENMANAGE(TM) BASEBOARD MANAGEMENT CONTROLLER MANAGEMENT UTILITY VERSION 1.2 README

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NOTE: This readme provides information about the Dell OpenManage Baseboard Management Controller (BMC) Management Utility version 1.2.

NOTE: See the Dell OpenManage Server Administrator readme ("readme.txt") on the "Installation and Server Management" CD for the latest information and issues specifically related to Server Administrator.

NOTE: See the Dell OpenManage 4.5 installation readme ("readme_ins.txt") on the "Installation and Server Management" or "Systems Management Consoles" CD for the latest installation information and issues specifically related to Server Administrator.

This file contains the following sections:

- * Criticality
- * Release Highlights
- * User Notes
- * Known Issues

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CRITICALITY

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3 - Optional

Optional = Dell recommends that you review the specifics about the update to see if it applies to your system. The update contains changes that impact only certain configurations, or provides new features that may or may not apply to your environment.

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RELEASE HIGHLIGHTS

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- * Corrected the text for the Microsoft(R) Windows(R) software event log entries for the SOLProxy service. (140549)
- * Fixed an issue that created phantom solproxyd processes. (146097)
- * Fixed an authentication issue in Red Hat Enterprise Linux 4. (146425)

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USER NOTES

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This section provides information that will help enhance your experience with your systems management software, in particular implementations and environments.

NOTES FOR THE BMC MANAGEMENT UTILITY

- * Web browsers allow connecting to alternate ports, including the Serial Over LAN (SOL) Proxy on IP port 623. If you connect using a Web browser, the data received from SOL Proxy will be jumbled and unusable, as the IP port implements the telnet protocol rather than the HTTP or FTP. For correct results, close the Web session and connect to SOLProxy through a telnet program.
- * Only one telnet session at a time can be connected to the SOL Proxy service.
- * Make sure you have assigned a valid BMC username and password before you connect to your system's BMC using the BMC Management Utility.

Even though your system's BMC firmware does not allow null usernames or null passwords to be set, the BMC Management Utility does not limit this functionality. If you do not explicitly provide a valid BMC username and password when using the BMC Management Utility to log into your system's BMC, the BMC firmware will use a null username and null password as defaults, resulting in a "Login Not Authorized" error. The default username and password values for the BMC are username = root and password = calvin.

- * You must connect to the SOL Proxy Server (the system on which the BMC Management Utility is installed), before you can use the SOL Proxy to connect to a managed system's BMC.
- * During normal use of the SOL Proxy utility, the SOL session can unexpectedly disconnect when it receives an out-of-sequence packet. The following error is displayed:

Out of sequence SOL data received.

SOL session closed due to data loss.

Deactivating

Deactivated successfully

The system is most likely to receive out-of-sequence packets immediately after the system is rebooted.

- * For optimal SOL Proxy performance, use the default "Character Accumulate Interval" and "Character Send Threshold" values. The default settings for these two parameters are 30 ms and 220 characters, respectively.

The "Character Send Threshold" value specifies the number of characters per SOL data packet. As soon as the number of characters accepted by the BMC is determined to be equal or greater than the "Character Send Threshold" value, the BMC starts transmitting SOL data packets. Each SOL data packet contains number of characters equal to or less than the "Character Send Threshold" value. If a packet contains fewer characters than this value, it is defined to be a partial SOL data packet.

The "Character Accumulate Interval" value is the amount of time the BMC waits before sending a partial SOL data packet. This parameter is specified in milliseconds.

You can set these two parameters in Server Administrator by clicking "Advanced Settings" on the "Serial-Over-LAN" page for the BMC object.

If you change these values to lower values, the console redirection feature of SOL Proxy may experience reduced performance. For example, if the "Character Send Threshold" value is reduced to 10 characters, only 10 characters are being redirected each time a packet is sent. Also, SOL Proxy has to wait to receive an acknowledgement for each packet before sending the next packet. As a result, the performance is significantly reduced.

* The intended usage model for the SOL Proxy is the following:

Telnet Client <---> WAN Connection <---> SOL Proxy <---> BMC Server

When the SOL Proxy communicates with the telnet client on a management station, it uses the TCP/IP protocol. However, SOL Proxy communicates with the managed system's BMC over the RMCP/IPMI/SOL protocol, which is a UDP-based protocol. Therefore, if you communicate with your managed system's BMC from SOL Proxy over a WAN connection, you may experience network performance issues such as connection timeouts.

It was noted in a test environment that while performing console redirection over a WAN simulator, where the WAN connection was between the SOL Proxy and BMC, a 10 percent packet loss rate led to several network errors, such as connection time-outs and authentication errors. However, when the packet loss rate was reduced to 5 percent, the SOL Proxy did not experience any network issues.

However, the recommended usage model is to have the SOL Proxy and the BMC Server on the same LAN. The management station with the telnet client can then connect to the SOL Proxy over a WAN connection. SOL Proxy will function as desired in this usage model.

* When you initiate a console redirection session using SOL Proxy, while loading the Microsoft Windows operating system, you may not be able to send data to the serial port. As Windows can block data writing to the serial port, you might receive the following message when you attempt to send data using keyboard input:

"SOL not able to write to the system serial port."

The SOL session closes after displaying this message. You are then directed to the main SOL menu to reconnect (or reconfigure settings).

- * You can manage a system by accessing multiple Intelligent Platform Management Interface (IPMI) instances at the same time, as long as your system's BMC supports multiple concurrent connections. However, multiple sessions can lead to session failures under high network traffic.
- * When attempting to gracefully power off a system running Red Hat Linux through SOL Proxy, you may receive a message stating that the system is unable to power off the system because the "power_off_timeout" was reached. The "power_off_timeout" value specifies the time in seconds that SOL Proxy polls for the managed system's power status, and is set to a default value of 60 seconds. If your managed system is running a supported Red Hat Linux operating system, it may take more than 60 seconds for the operating system to complete the graceful shutdown. You can avoid this situation by changing the "power_off_timeout" parameter in the "solproxy.cfg" file to a larger value, such as 90 seconds.
- * To configure the BIOS settings for SOL Proxy for the Dell(TM) PowerEdge(TM) 1855 system, there is no option to set the "Serial Port 1" field under "Integrated Devices." Instead, navigate to the "Console Redirection" field and set it to "BMC SOL." You can then configure the "Failsafe Baud Rate" and "Remote Terminal Type" settings, if applicable.
- * Using a direct connect cable with a 3COM 3C905-TX-based NIC adapters (including the 3C920), you may experience problems keeping the SOL connection active when performing a "reboot and activate" operation. Some drivers for the 3C9xx series of adapters include an intentional cable detect delay that can exceed 10 seconds by default. You can correct this situation by editing the advanced properties of the NIC adapter and reducing the values for "Cable Hold Off Timer" and "Cable To Detect Timer." (134385)
- * If your network switch has the spanning tree feature enabled and if you experience out of sequence packets or connection timeout errors, it is often due to the long delays experienced when the "spanning tree" feature is analyzing the network. The best option is to turn off "spanning tree" to avoid long reconnection times. Alternately, you can edit "solproxy.cfg" and increase the retry_interval to 10. The exact value depends on the specific network and the time that the "spanning tree" requires to complete its job. Restart the SOL Proxy service for the changes to take effect. (134644, 145024, 145026)
- * When a command is sent using "ipmish.exe" to a server that is booting, there can be small gaps of time when the NIC on the server is resetting and is unable to accept data. The command will fail with a connection timeout error. Resend the command to recover. (148482)

* The SOL proxy is unable to start a console redirection session from the Windows command prompt (you can access the Windows command prompt by clicking the "Start" button and selecting "Run," then typing "cmd.exe" in the "Run" dialog box). The following message is displayed on the management station:
"SOL not able to write to the system serial port."

Cause: Console redirection is not enabled in the BIOS setup.
(132727)

KNOWN ISSUES
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This section provides information regarding open issues with systems management software.

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ISSUES FOR DELL POWEREDGE 1855 SYSTEMS
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The following items apply only to Dell PowerEdge 1855 systems.

* Any host application that communicates with ports 623 and 644 cannot be executed from LOM_1 (the first one) of a server module. If you attempt this, the network packets will be sent to the BMC instead of the host. Use LOM_2 instead and ensure that the IP address, IP subnet mask, and the gateway settings for the LOM_1 and the BMC match, to prevent possible network disruptions.

* The following subsection explains how to identify and resolve a possible IP address conflict.

Problem: An "IP address conflict" message is displayed after assigning identical IP addresses to Local Area Connection and the BMC as instructed.

Cause: When the operating system first detects hardware devices such as the onboard network adapters, the order in which the devices are enumerated is not guaranteed. Therefore, LOM_1 (the first one) may be assigned Local Area Connection #2 and LOM_2 may be assigned Local Area Connection #1. Due to this switch, when you assigned identical addresses to the BMC and Local Area Connection, in reality, identical addresses are being assigned to the BMC and LOM_2. This creates the IP address conflict.

NOTE: The lower-number MAC address will be LOM_1.

Workaround: Go to "Start -> Network Connections." Click "View" and select "Details." This will display the full information for the Local Area Connections. Right-click "Local Area Connection" and rename it as "Local Area Connection #2." Rename the already existing "Local Area Connection #2" to "Local Area Connection." This ensures that the Local Area Connection names are matched to the correct onboard NICs. Now assign identical IP addresses to Local Area Connection and the BMC.

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ISSUES FOR THE BMC MANAGEMENT UTILITY

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* After IPMI Shell is installed, if you open a command prompt and type "ipmish" without being in the "C:\Program Files\Dell\SysMgt\bmc" directory, you will receive an error stating that the command could not be found. This is because by default, the IPMISH directory is not added to the system path. You must either manually add the system path to the command line, or go to the specified directory before running the IPMISH application.

* Microsoft SAC does not implement hardware control flow. Therefore, when console redirection is enabled with EMS SAC, you will see corrupted data. As SAC does not implement hardware flow control, you will not be able to effectively use SOL Proxy to activate console redirection to EMS SAC.

* While performing console redirection through SOL Proxy, you may see a few garbled characters. This can occur while the SOL Proxy refreshes the screen.

You can verify your redirected output by using the same telnet client over the serial port to ensure that your telnet client supports console redirection features. If you see the same garbled text through the serial port, you can use another telnet client for better performance.

* If you issue the graceful shutdown command using SOL Proxy option 4 "Reboot and Activate Console Redirection" on a system running Microsoft Windows 2000 with an ACPI-compliant BIOS, Windows performs an emergency shutdown instead of a graceful shutdown. Windows does not send WM_QUERYENDSESSION and WM_ENDSESSION messages to the running programs; therefore, the programs cannot notify the user to save data and quit gracefully. This could result in data corruption or data loss. See the following link for more information:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;297150>

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Server Administrator uses the OverLIB JavaScript library. This

library can be obtained from "<http://www.bosrup.com/web/overlib/>."

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