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Preface

About this Manual

This document provides is a command reference for version 3.0.x of the System Configuration Utility. This manual is written for Original Equipment Manufacturers who are responsible for configuring the BIOS and management firmware on Intel® S5000PAL, S5000PSL, S5000VSA, S5000VCL, SC5400RA, S5000PHB0, S3000PT, S3000AHLX, S3000AH, S3000AHV and S7000FC4UR Server Boards.

This version of the utility supports the following Operating System versions listed below. Refer to the documentation provided with your server board to determine which operating systems are supported on your server board.

- Extensible Firmware Interface (EFI) 1.1
- Microsoft Windows Preinstallation Environment 2005 (included with Microsoft Server 2003 SP1 and Windows XP SP2)
- Red Hat Enterprise Linux Advanced Server version 4 (IA-32 and Intel 64 architecture editions)
- Red Hat Enterprise Linux Advanced Server version 5 (IA-32 architecture edition)
- SuSE Linux Enterprise Server version 9 (IA-32 and Intel 64 architecture editions)
- SuSE Linux Enterprise Server version 10 (IA-32 and Intel 64 architecture editions)

This manual does not cover the ROM DOS version of the System Configuration Utility (v2.0.9). In addition, not all BIOS or management firmware settings can be set using this utility. Refer to the Product Guide for your server board for a complete list of BIOS settings. Refer to IPMI--Intelligent Platform Management Interface Specification, Second Generation, v2.0 for information on the standard management firmware settings.

Manual Organization

Chapter 1 provides information on how to quickly get started by saving your current settings on one platform and copying them to another (identical) platform.

Chapter 2 provides information on how to run the syscfg.exe utility.

Chapter 3 provides a complete command reference for the utility.

Appendix A is a quick reference that lists the syntax of each command.

Appendix B provides a list of IPMI Channel assignments.

Appendix C provides a list of the BIOS and firmware settings that are saved by the utility.

Related Documentation

Intel® Rapid Boot Toolkit users should refer to the documentation with that product for additional usage and installation information.
Syntax Conventions Used in the Manual

The following syntax conventions are used in this document:

{a | b} Required element. Choose either a or b.

{[a]  [b]} One or more optional elements must be selected.

[a | b] Optional element. You may optionally choose a or b.

XYZ Type what is shown.

XYZ Substitute the appropriate value for this element.

[…] The previous element may be repeated.

1..255 Choose a number in the range from 1 to 255 (decimal).
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1 Quick Start Instructions

For Windows PE users, refer to Intel® Server Configuration Utilities Deployment Procedure for Windows PE 2005 for setup instructions.

Save a Configuration

To save the BIOS and firmware configuration to a file, do the following:

1. Boot to one of the supported Operating Systems on the target system.
2. Change directories to the location of the syscfg executable. (This location must be writable to allow you to save the system configuration.)
3. In Windows Preinstallation Environment or EFI type: `syscfg /s filename`
   In Linux, type: `./syscfg /s filename`

The binary file `filename.scf` will contain the saved configuration. You can use this file to restore the configuration on this target server or other servers using the `/r` command.

Restore a Configuration

If you have already saved a configuration to a file, use the following procedure to restore the system to the saved configuration, or set the configuration on identical servers to the saved configuration. To restore a configuration, do the following:

1. Boot the system to one of the supported Operating Systems.
2. Change to the directory containing the syscfg executable. (The saved configuration file should also be located in this directory.)
3. In Windows Preinstallation Environment, or EFI, to restore the saved BIOS settings, type: `syscfg /r filename.scf /b`
   In Linux, type: `./syscfg /r filename.scf /b`

Syscfg Help

To display syscfg help, type: `syscfg /h`

Display Current BIOS and Firmware Versions

To display the current BIOS and firmware settings, type: `syscfg /i`
2 Using the System Configuration Utility

Syscfg is a command-line utility that can be used to save and restore BIOS and firmware settings to a file, or to set and display individual settings. Syscfg may be used in a script to automate the process of configuring multiple servers.

The general syntax is:

```
syscfg [{|}command [arguments]] [...next_command [arguments]]
```

Multiple commands may be specified on a single line unless otherwise noted in the Command Reference description. The maximum line length is 127 characters.

NOTE

This version of the utility can be run from EFI, Linux, and Windows Preinstallation Environment. This utility will not run from the Windows command prompt or Command window.
## 3 Command Reference

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<td>/eac</td>
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<td>/eae</td>
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<tr>
<td>/h or /?</td>
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</tr>
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<td>/lac</td>
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</tr>
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<td>/lac</td>
<td>LAN Alert Enable</td>
</tr>
<tr>
<td>/lca</td>
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</tr>
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<td>/le</td>
<td>LAN Enable</td>
</tr>
<tr>
<td>/le</td>
<td>LAN Enable</td>
</tr>
<tr>
<td>/pefc</td>
<td>PEF Configure</td>
</tr>
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<td>/peff</td>
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</tr>
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<td>/spc</td>
<td>Serial Page Configuration</td>
</tr>
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<td>/spe</td>
<td>Serial Page Enable</td>
</tr>
<tr>
<td>/sole</td>
<td>Serial Over LAN Enable</td>
</tr>
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<td>/te</td>
<td>Terminal Enable</td>
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<tr>
<td>/u</td>
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<tr>
<td>/ue</td>
<td>User Enable</td>
</tr>
<tr>
<td>/up</td>
<td>User Privilege</td>
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</tbody>
</table>
**BIOS Administrator Password (/bap)**

```
syscfg /bap {old_password | ""} [new_password | ""]
```

- `old_password`
- `new_password`

Sets or clears the BIOS Administrator password. You must enter the old password, if set, or the null string if the Administrator password is currently not set, before entering the new password. Enter a null string for the new password to clear the password. The Administrator password controls access to all BIOS Setup fields including the ability to clear the User password. If only one password (Administrator or User) is set, then this password is required to enter Setup. If you set or change the BIOS Administrator password, you cannot change any other BIOS option using `syscfg` except the BIOS User and Administrator passwords. You may combine the `/bap` and `/bup` commands to set both the BIOS Administrator and User passwords at the same time.

Refer to the *Product Guide* for your Intel Server Board for more information on BIOS Setup options.

Examples:

```
syscfg /bap "" kwm93a3
syscfg /bap kwm93a9 lqts284
syscfg /bap "" lqts284 /bup "" kwm93a3
```

**NOTE**

The Set BIOS User Password (/bup) option (described in the following section) can only be used if system has a valid Administrator password set. Clearing the BIOS Administrator password will also clear the User password.
BIOS Boot Order (/bbo)

```
syscfg /bbo [device_number[device_number [...]]]
```

`device_number` The current ordinal number of the BIOS boot device (1 is the first device, 2 is the second device, and so on.). To change the order, specify a order for the device numbers (for example, if you specify “2 1 4 3” then the second boot device will be the first boot device after the command is executed.

Refer to the *Product Guide* for your Intel Server Board for more information on BIOS Setup options.

**NOTE**

The BIOS will override the /bbo setting for the EFI Boot Manager unless the EFI Boot Manager is the first or last boot device.

Display or set the BIOS boot order.

Examples:

```
syscfg /bbo
  1: PS-SONY CD-ROM CDU5221
  2: 1st floppy drive
  3: PM-WDC WD400BB-23FRA0
  4: EFI Boot Manager
```

```
syscfg /bbo 2 1 3 4
```
## BIOS Console Redirection (/bcr)

```
syscfg /bcr {disable | COM1 | COM2} {9600 | 19200 | 38400 | 11520} {none | CTS} {PCANSI | VT100 | VTUTF8}
```

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
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</thead>
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<tr>
<td>disable</td>
<td>COM port number.</td>
</tr>
<tr>
<td>9600</td>
<td>Baud rate options in BIOS Setup.</td>
</tr>
<tr>
<td>19200</td>
<td></td>
</tr>
<tr>
<td>38400</td>
<td></td>
</tr>
<tr>
<td>11520</td>
<td></td>
</tr>
<tr>
<td>none</td>
<td>Flow control options in BIOS Setup. (CTS is RTS/CTS)</td>
</tr>
<tr>
<td>CTS</td>
<td></td>
</tr>
<tr>
<td>PCANSI</td>
<td>Terminal type in BIOS Setup. (PCANSI is PC-ANSI; VT100 is VT100; and VTUTF8 is VT-UTF8)</td>
</tr>
<tr>
<td>VT100</td>
<td></td>
</tr>
<tr>
<td>VTUTF8</td>
<td></td>
</tr>
</tbody>
</table>

Enables BIOS serial console redirection.

Refer to the *Product Guide* for your Intel Server Board for more information on BIOS Setup options.

**Examples:**
```
syscfg /bcr COM1 19200 none VT100
syscfg /bcr disable 19200 none VT100
```

**NOTE**

If the /bcr option is enabled, the quiet boot option cannot be enabled.
Configure BIOS Setting (/bcs)

```
syscfg /bcs [BIOS_Group_Name] BIOS_Setting_Name Value [BIOS_Setting_Name Value […]]
```

**BIOS_Setting_Name**

The name of the BIOS settings on the BIOS Setup screen. Refer to the Technical Product Specification for your server board for the BIOS Setup setting names.

**BIOS_Group_Name**

The name of the page in the BIOS Setup screen. Refer to the Technical Product Specification for your server board for the BIOS Setup screen names.

**Value**

The value for the BIOS Setting.

Set individual BIOS Settings.

Refer to the *Technical Product Specification* for your Intel Server Board for more information on BIOS Setup options.

Examples:

```
syscfg /bcs "Quiet Boot" 0
syscfg /bcs "Main" "Quiet Boot" 0 "POST Error Pause" 1
```

**NOTE**

Use the `syscfg /d BIOSSETTINGS` command to show the possible values for the BIOS Setting. For example:

```
syscfg /d BIOSSETTINGS group "Main" "Quiet Boot"
```
BIOS Load Default Factory Settings (/bldfs)

\texttt{syscfg /bldfs}

Refer to the \textit{Product Guide} for your Intel Server Board for more information on BIOS Setup default settings.

Loads the default factory BIOS settings.

\begin{itemize}
\item \textbf{NOTE}
\end{itemize}

If the /bldfs option requires a reboot to reset the default settings.

\begin{itemize}
\item Examples:
\end{itemize}

\texttt{syscfg /bldfs}
BIOS Post Error Pause (/bpep)

**syscfg /bpep**

Enable pause on POST error in BIOS option.

Examples:

**syscfg /bldfs**
**BIOS Quiet Boot (/bqb)**

```
syscfg /bqb {enable | disable}
```

| enable, disable | Enables or disables the BIOS Quiet Boot feature. |

Enable quiet boot option in the BIOS. The BIOS default is to enable the quiet boot option.

Refer to the *Product Guide* for your Intel Server Board for more information on BIOS Setup options.

Examples:

```
syscfg /bqb enable
syscfg /bqb disable
```

**NOTE**

If the /bcr option is enabled, the quiet boot option cannot be enabled.
BIOS User Password (/bup)

```
syscfg /bup {old_password | ""} [new_password | ""]
```

*old_password, new_password*

The maximum length of the password is seven characters. The password cannot have characters other than alphanumeric (a-z, A-Z, 0-9) and is case insensitive. Use two double quotes (""") to represent a null password.

Sets or clears the BIOS User password. You must enter the old password, if set, or the null string if the User password is currently not set, before entering the new password. Enter a null string for the new password to clear the password. The User password controls access to modify the following BIOS Setup fields: time, date, language, and User password. If only one password (Administrator or User) is set, then this password is required to enter Setup. If you set or change the BIOS User password, you cannot change any other BIOS option using syscfg except the BIOS User and Administrator passwords.

Refer to the *Product Guide* for your Intel Server Board for more information on BIOS Setup options.

Examples:

```
syscfg /bup "" kwm93a3
syscfg /bup kwm93a9 lqts284
syscfg /bup lqts284 ""
syscfg /bap "" lqts284 /bup "" kwm93a3
```

**NOTE**

The /bup option can only be used if system has a valid Administrator password set. Clearing the Administrator password will also clear the User password.
Channels (/c)

```
sy cfg (/c | /channel) [channel_ID {1 {none | straight | MD5} | 2 {none | straight | MD5} | 3 {none | straight | MD5} | 4 {none | straight | MD5} | 5 {enable | disable} | 6 {enable | disable} | 7 {disabled | preboot | always | shared} | 8 {callback | user | operator | admin} | 9 {enable | disable}}]
```

<table>
<thead>
<tr>
<th>Channel_ID</th>
<th>BMC channel ID number.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selects the authentication types for callback privilege level.</td>
</tr>
<tr>
<td>2</td>
<td>Selects the authentication types for user privilege level.</td>
</tr>
<tr>
<td>3</td>
<td>Selects the authentication types for operator privilege level.</td>
</tr>
<tr>
<td>4</td>
<td>Selects the authentication types for Admin privilege level.</td>
</tr>
<tr>
<td>5</td>
<td>Selects the Per message authentication.</td>
</tr>
<tr>
<td>6</td>
<td>Selects User Level Authentication enable.</td>
</tr>
<tr>
<td>7</td>
<td>Selects the Access Mode. Values of preboot and shared are only valid for serial channels.</td>
</tr>
<tr>
<td>8</td>
<td>Selects the Privilege level limit for the channel.</td>
</tr>
<tr>
<td>9</td>
<td>Selects Enable PEF on the specified channel.</td>
</tr>
</tbody>
</table>

- **none | straight | MD5**
  - Authentication method for callback, user, operator, and admin privilege levels. You can enable multiple authentication methods by separating the possible values with the plus sign.

- **disabled | preboot | always | shared**
  - Access Mode. Values of preboot and shared are only valid for serial channels.

- **callback | user | operator | admin**
  - Privilege Level.

- **enable | disable**
  - Enable or Disable Per Message Authentication, User Level Authentication, and PEF.

Configures the BMC channels. Use this command to change a single parameter (selected by the number 1..9).

Examples:

```
sy cfg /c
sy cfg /c 1 1 straight+MD5
sy cfg /c 1 7 always /c 1 8 admin
```
Clear SEL (/csei)

**syscfg (/csei | /clearSEL)**

Cleared the System Event Log (SEL).

Examples:

**syscfg /csei**

**syscfg /clearSEL**
## Display (/d)

```
syscfg /d {CHANNEL Channel_ID | BIOS | BIOSSETTINGS {[group BIOS_Group_Name BIOS_Setting_Name [BIOS_Setting_Name...]]|[individual] BIOS_Setting_Name [BIOS_Setting_Name...]} | LAN Channel_ID LAN_Alert_Destination_Index | SERIAL Channel_ID Dial_String_Index Page_Destination_Selector Dial_String_Selector | POWER | PEF Filter_Table_Index [Policy_Table_Index] | SOL Channel_ID | USER User_ID [Channel_ID] | FWADVCFG Channel_ID [User_ID [SMTP_Configuration_Index]]}
```

**CHANNEL**
Displays the BMC Channel configuration for the specified channel.

**Channel_ID**
IPMI Channel ID.

**BIOS**
Displays the current values of the BIOS settings that can be configured with this utility (except the Administrator and User passwords.)

**BIOSSETTINGS**
Displays values of a subset the BIOS settings. The arguments that follow this keyword are used to select the BIOS settings to display.

**group**
Selects the BIOS Settings based on the name of the group in BIOS Setup. If both group and individual keywords are omitted, the default is individual.

**individual**
Selects the individual BIOS Settings anywhere in BIOS Setup. If two or more settings have the same name, the first setting found in BIOS Setup is displayed.

**BIOS_Group_Name**
The name of the page in the BIOS Setup screen. Refer to the Technical Product Specification for your server board for the BIOS Setup screen names.

**BIOS_Setting_Name**
The name of the BIOS settings on the BIOS Setup screen. Refer to the Technical Product Specification for your server board for the BIOS Setup setting names.

**LAN**
Displays the BMC LAN channel configuration. The Operating System settings may be different.

**SERIAL**
Displays the Serial channel configuration for the BMC.

**POWER**
Displays the power restore policy.

**PEF**
Displays the Platform Event Filters.
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<th>Displays the Serial Over LAN settings.</th>
</tr>
</thead>
<tbody>
<tr>
<td>USER</td>
<td>Displays the BMC user settings.</td>
</tr>
<tr>
<td>Channel_ID</td>
<td>IPMI Channel ID.</td>
</tr>
<tr>
<td>LAN_ALERT_DESTINATION_INDEX</td>
<td>Enter the LAN Alert Destination Index.</td>
</tr>
<tr>
<td>Dial_String_Index</td>
<td>Enter the Serial Modem Dial String Index.</td>
</tr>
<tr>
<td>Page_Destination_Selector</td>
<td>Enter the Page Destination Selector.</td>
</tr>
<tr>
<td>Dial_String_Selector</td>
<td>Enter the Dial String Selector.</td>
</tr>
<tr>
<td>Filter_Table_Index</td>
<td>Enter the Filter Table Index.</td>
</tr>
<tr>
<td>Policy_Table_Index</td>
<td>Enter the PEF Policy Table Index.</td>
</tr>
<tr>
<td>User_ID</td>
<td>Enter an integer between 1 and $n$, where $n$ is the number of users supported by the platform for the BMC User ID. User ID 1 is the anonymous user (no password).</td>
</tr>
</tbody>
</table>

FWADVCFG

<table>
<thead>
<tr>
<th>Channel_ID</th>
<th>Displays the advanced firmware settings for the channel, users, and SMTP configuration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>User_ID</td>
<td>BMC User ID. When used with the FWADVCFG keyword, the configuration information is displayed for the user.</td>
</tr>
<tr>
<td>SMTP_CONFIGURATION_INDEX</td>
<td>Specifies the SMTP configuration in the firmware email alerting tables.</td>
</tr>
</tbody>
</table>

Displays the specified BMC and BIOS settings.

Examples:

```bash
syscfg /d channel 1
syscfg /d lan 1 2
syscfg /d serial 1 2 3 4
syscfg /d pef 2 1
syscfg /d BIOSSETTINGS individual "Quiet Boot" "Set Fan Profile"
syscfg /d BIOSSETTINGS group "Main" "Quiet Boot" "POST Error Pause"
syscfg /d FWADVCFG 3 2 1
```
**Date and Time (/dt)**

```
syscfg [/dt | /timeofday] hh:mm:ss mm/dd/yyyy
```

- **hh:mm:ss**
  - Hours (24 hour clock), minutes, and seconds.
- **mm/dd/yyyy**
  - Month, day, and year.

Sets the time of day stored in the Real Time Clock (RTC) by the BIOS.

**Examples:**

```
syscfg /dt 18:45:00 12/20/2007
```
email Alert Configure (/eac)

**syscfg** `/eac | /emailalertconf` _SMTP_Configuration_Index {1 | 2 | 3} ASCII_String_

**SMTP_Configuration_Index**

1 to n. An index into the SMTP configuration table in firmware. The maximum number n depends on the firmware on your server board (refer to your server documentation for details).

{1 | 2 | 3}

Configuration Parameter selector:

1=From Address
2=To Address
3=Subject Line

**ASCII_String**

1 to 64 characters. This is the value for the selected parameter. Use double quotes (”) to enclose strings that include space characters.

Configures the From, To, and Subject lines in the firmware email alerting SMTP configuration table.

Examples:

```bash
syscfg /eac 1 1 server2@companyyx.com
```
**email Alert Enable (/eae)**

```
syscfg [/eac | /emailalertconf]  Sender_Name
```

<table>
<thead>
<tr>
<th><strong>Sender_Name</strong></th>
<th>Sender machine name. This string identifies the managed server to the SMTP server.</th>
</tr>
</thead>
</table>

Sets the sender machine name for SMTP email alerts from the current server.

Examples:

```
syscfg /eac dupont01
```
email Alert Map (/eam)

\texttt{syscfg /eam | /emailalertmap} \texttt{Channel\_ID Alert\_Destination\_Index email\_Alert\_Index}

- \textit{Channel\_ID} IPMI channel ID number (LAN channel).
- \textit{Alert\_Destination\_Index} Alert Destination Index.
- \textit{email\_Alert\_Index} Email Alert Index.

Maps the Alert Destination Index to the Email Alert Index.

Examples:

\texttt{syscfg /eam 1 2 2}
**Help (/h)**

```
syscfg {/h | /?}{lan | user | serial | pef | sol | power | channel | system | advancedfwcfg | bios}
```

```
lan | user | serial | pef | sol | power | channel | system | advancedfwcfg | bios
```

Displays help in the specified area.

**NOTE**

In Linux, to use the `/?` option, you must enclose it in double quotes.

Displays help on the system configuration utility.

Examples:

```
syscfg /h lan
syscfg /? power
```
Information (/i)

```
syscfg /i [filename.SCf]
```

**Filename**

File name for a System Configuration File (.SCF) in the current working directory. If the filename is not specified, the command displays the BIOS and firmware versions of the current system.

Displays the BIOS and firmware versions of the system or the saved BIOS and firmware settings in a System Configuration File.

**Examples:**

```
syscfg /i
syscfg /i bd2.scf
```
## LAN Alert Configuration (/lac)

```
syscfg [/lac | /lanalertconf] Channel_ID Alert_Destination_Index Alert_Destination_IP_Address
{Alert_ID_MAC_Address | “resolve”} {enable | disable} {enable | disable}{1..7}{1..255}{SNMP | SMTP}
```

- **Channel_ID**: IPMI Channel number.
- **Alert_Destination_Index**: Index into the Alert Destination table.
- **Alert_Destination_IP_Address**: IP address of the alert destination in the dot separated decimal value format: n.n.n.n, where n is a number between 0 and 255.
- **Alert_ID_MAC_Address**: MAC address of the alert destination in the hexadecimal format separated by hyphens: hh-hh-hh-hh-hh-hh, where h is a hexadecimal value from 0 to F, or “resolve” to automatically resolve the MAC Address.
- **enable | disable**: Backup Gateway state.
- **enable | disable**: Alert Acknowledge state.
- **1..7**: Retry count.
- **1..255**: Retry interval in seconds.
- **SNMP | SMTP**: Alert destination type: SNMP (Simple Network Management Protocol) or SMTP (Simple Mail Transport Protocol). The default is SNMP.

Configures the LAN Alert destinations for a channel. See *IPMI 2.0 Specification* for more information.

### Example:

```
syscfg /lac 1 1 10.78.211.40 03-FE-02-41-F3 disable disable 0 1 SNMP
```
## LAN Alert Enable (/lae)

```
syscfg (/lae | /lanalertenable) Channel_ID Gateway_IP_Address {Gateway_MAC_Address | “resolve”} SNMP_Community_String [Backup_Gateway_IP_Address {Backup_Gateway_MAC_Address | “resolve”}]
```

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel_ID</td>
<td>IPMI Channel ID</td>
</tr>
<tr>
<td>Gateway_IP_Address</td>
<td>Gateway IP Address for the specified LAN channel</td>
</tr>
<tr>
<td>Gateway_MAC_Address</td>
<td>Gateway MAC Address for the specified LAN channel or “resolve” to automatically resolve the MAC Address</td>
</tr>
<tr>
<td>SNMP_Community_String</td>
<td>Enter the SNMP community string, or the null string (“”)</td>
</tr>
<tr>
<td>Backup_Gateway_IP_Address</td>
<td>Gateway IP Address for the specified LAN channel</td>
</tr>
<tr>
<td>Backup_Gateway_MAC_Address</td>
<td>Gateway MAC Address for the specified LAN channel or “resolve”</td>
</tr>
</tbody>
</table>

**NOTE**

The Gateway_MAC_Address and Backup_Gateway_MAC_Address may optionally be set to “resolve”. If set to “resolve”, syscfg will attempt to resolve the MAC address before writing any values to firmware. If the MAC Address resolution fails, syscfg quits, without writing, and prints an error message.

Enable LAN alerting on the specified channel. See *IPMI 2.0 Specification* for more information.

**Examples:**

```
syscfg /lae 2 10.110.40.3 03-FE-02-41-F3 public
syscfg /lae 2 10.110.40.3 03-fe-02-41-f3 "" 10.110.40.4 0f-7e-42-4a-33
```
LAN Configuration (/lc)

**syscfg** (/lc | /lanconf) `Channel_ID{2a {none | straight | MD5} | 2b {none | straight | MD5} | 2c {none | straight | MD5} | 2d {none | straight | MD5} | 3 IP_Address | 4 {static | DHCP} | 6 IP_Address | 10 {enable | disable} | 10b {enable | disable} | 11 {0..127500} | 12 IP_Address | 13 MAC_Address | 14 IP_Address | 15 MAC_Address | 16 SNMP_Community_String}

- **Channel_ID**
  - **IPMI Channel ID (LAN channel)**
  - **2a**
    - Selects authentication type for callback privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
  - **2b**
    - Selects authentication type for user privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
  - **2c**
    - Selects authentication type for operator privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
  - **2d**
    - Selects authentication type for administrator privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
  - **3**
    - Selects IP Address for the specified LAN channel. (This is not a valid option when the source is set to DHCP.)
  - **4**
    - Selects source for IP Address
  - **6**
    - Selects subnet mask. (This is not a valid option when the source is set to DHCP.)
  - **10**
    - Enables Gratuitous ARP. The BMC will generate ARP packets at regular intervals. (LAN channels 1 and 2 only.)
  - **10b**
    - Enables the BMC to generated ARP responses when an ARP request is received. (LAN channels 1 and 2 only.)
  - **11**
    - Selects Gratuitous ARP interval in milliseconds (rounded down to a value that is a multiple of 500 ms). (LAN channels 1 and 2 only.)
  - **12**
    - Selects Gateway IP Address. (This is not a valid option when the source is set to DHCP.)
Selects Gateway MAC Address

Selects Backup Gateway IP Address

Selects Backup Gateway MAC Address

Selects Community String

Configures the LAN settings on a specific channel. This option is similar to /lac, but it is used to only configure one parameter at a time. Select the parameter by choosing one of the parameter number listed above (2a, 2b, … 16) followed by a value. See *IPMI 2.0 Specification* for more information.

Examples:

```
syscfg /lc 1 2b none+straight+md5
```
## LAN Enable (/le)

```
syscfg [/le | /lanenable] Channel_ID {dhcp | (static IP_Address Subnet_Mask)}
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel_ID</td>
<td>BMC LAN Channel ID</td>
</tr>
<tr>
<td>static dhcp</td>
<td>IP Address source</td>
</tr>
<tr>
<td>IP_Address</td>
<td>IP Address</td>
</tr>
<tr>
<td>Subnet_Mask</td>
<td>Subnet mask</td>
</tr>
</tbody>
</table>

Configures the LAN channel used by the BMC on the specified channel. See IPMI 2.0 Specification for more information.

Example:
```
syscfg /le 1 dhcp
syscfg /le 1 static 10.30.240.21 255.255.255.0
```
PEF Configure (/pefc)

```
syscfg {/pefc | /pefconfig} {enable | disable}{none | alert | pdown | reset | pcycle | diagint}

enable | disable

none | alert | pdown | reset | pcycle | diagint

Global PEF enable.

PEF Action. Enable multiple actions by using a plus sign to concatenate the values. None may not be combined with other options. pdown means “power down,” pcycle means “power cycle,” and diagint means “diagnostic interrupt.”

Global enable of the Platform Event Filters used by the BMC. See IPMI 2.0 Specification, Chapter 17, for more information on Platform Event Filtering.

Example:
```

text

```
syscfg /pefc enable alert+pdown+reset+pcycle
```

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## PEF Filter (/peff)

```bash
syscfg {(/peff | /peffilter) Filter_table_index {enable | disable}{none | alert | pdown | reset | pcycle | diagint}{1..15}}
```

- **Filter_table_index**: Index into the PEF filter table for a particular filter.
- **enable | disable**: Enable specified filter.
- **none | alert | pdown | reset | pcycle | diagint**: PEF Action. Enable multiple actions by using a plus sign to concatenate the values. None may not be combined with other options. *pdown* means “power down.” *pcycle* means “power cycle.”
- **1..15**: Policy number. This number maps to the Alert Policy Table. (See also /pefp option.)

Configures the Platform Event Filters used by the BMC on the specified channel. See IPMI 2.0 Specification, Chapter 17, for more information on Platform Event Filtering.

Example:

```bash
syscfg /peff 3 enable pdown 1 /peff 4 enable pdown 1
```
PEF Policy (/pefp)

```
syscfg [/pefp | /pefpolicy] Policy_table_index {enable | disable} {1..15} {ALWAYS | NEXT_E | STOP | NEXT_C | NEXT_T} Channel_ID Destination_table_index
```

<table>
<thead>
<tr>
<th>Policy_table_index</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable</td>
<td>disable</td>
</tr>
<tr>
<td>1..15</td>
<td></td>
</tr>
<tr>
<td>ALWAYS</td>
<td>NEXT_E</td>
</tr>
<tr>
<td>ALWAYS = always send an alert to the destination indicated in the policy table entry specified by argument 1.</td>
<td></td>
</tr>
<tr>
<td>NEXT_E = if an alert was successfully sent to the previous destination attempted, then do not send an alert to the destination indicated in the policy table entry specified in argument 1, but go to the next policy table entry with the same policy number instead.</td>
<td></td>
</tr>
<tr>
<td>STOP = if an alert was successfully sent to the previous destination attempted, then do not send an alert to the destination indicated in the policy table entry specified in argument 1, and do not process any more policy table entries.</td>
<td></td>
</tr>
<tr>
<td>NEXT_C = if an alert was successfully sent to the previous destination attempted, do not send an alert to the destination indicated in the policy table entry specified in argument 1, but go to the next policy table entry with the same policy number but that will send an alert on a different channel.</td>
<td></td>
</tr>
<tr>
<td>NEXT_T = if an alert was successfully sent to the previous destination attempted, do not send an alert to the destination indicated in the policy table entry specified in argument 1, but go to the next policy table entry with the same policy number but a different destination type.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Channel_ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPMI Channel ID for a BMC channel</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Destination_table_index</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destination Table Index</td>
<td></td>
</tr>
</tbody>
</table>

Configures the Platform Event Filter policy table used by the BMC on the specified channel. See *IPMI 2.0 Specification*, Chapter 17, for more information on Platform Event Filtering.

Example:
```
syscfg /pefp 3 enable 1 always 2 3
```
### Power Restore Policy (/prp)

| Command: `syscfg /prp {off | on | restore}` |
|---------------------------------------------|
| **off | on | restore** | Power restore policy |

Sets the power restore policy. See *IPMI 2.0 Specification*, §28.8, for more information on the Set Power Restore Policy IPMI Command.

**Examples:**

```
syscfg /prp off
```
## Restore (/r)

```bash
```

### filename

Filename of the syscfg configuration file (.SCF) in the current working directory. If no filename is specified, the default filename `syscfg.scf` is used. The filename suffix must be .SC.

### /f

Restore the firmware settings. (See Appendix A for a list of the settings that are restored.)

### /b

Restore the BIOS settings. (See Appendix A for a list of the settings that are restored.)

Restores the BIOS and firmware settings from a SCF file.

### Examples:

```
syscfg /r /f /b
syscfg /r saved.scf /f
syscfg /r myscfg.scf /b /bap kwqt821
```

### NOTE

One or both of the /r and /f options are required.

If the BIOS Administrator password is set, you must use the /bap command to enter the password.
Reset BMC (/rbmc)

```
syecfg (/rbmc | resetBMC)
```

Resets the Baseboard Management Controller.

Examples:
```
syecfg /rbmc
```

**NOTE**

This command should be used by itself. Do not issue Syscfg commands for a few seconds after this command to allow the BMC to initialize.
Restore Firmware Settings (/rfs)

```
syscfg (/rfs | restorefirmwaresettings)
```

Restores the factory default Baseboard Management Controller settings.

Examples:

```
syscfg /rfs
```

NOTE

This command should be used by itself. Do not issue Syscfg commands for a few seconds after this command to allow the BMC to initialize. After a few seconds, follow this command with the Reset BMC or AC Power Cycle. Unpredictable operation may occur if you do not reset the BMC after this command.
Save (/s)

**syntax:**

```
syscfg /s [filename.SCF] [/f | /b | /f /b]
```

**filename**

File name to be used for the syscfg configuration file (.SCF) in the current working directory. If no filename is specified, the default file name `syscfg.scf` is used. The filename suffix must be .SCF, or, if omitted, `syscfg` will add the .SCF suffix. The filename should consist of only alphanumeric characters.

**/f**

Save the firmware settings. (See Appendix A for a list of the settings that are saved.)

**/b**

Save the BIOS settings. (See Appendix A for a list of the settings that are saved.)

Saves the BIOS and firmware settings to a SCF file.

**Examples:**

```
syscfg /s /f /b
syscfg /s saved.scf /f
```
Serial Configuration (/sc)

```
syscfg /sc | /serialconf} Channel_ID {
 [2a {None | Straight | MD5}]
 [2b {None | Straight | MD5}]
 [2c {None | Straight | MD5}]
 [2d {none | Straight | MD5}]
 [3a {enable | disable}]
 [3b direct]
 [4 {0..450}]
 [6a {enable | disable}]
 [6b {enable | disable}]
 [7a {9600 | 19200 | 38400 | 115200}]
 [7b {enable | disable}]
 [7c {none | RTSCTS | XONXOFF}]
 [8a {enable | disable}]
 [8b {enable | disable}]
 [8c {enable | disable}]
 [8d {enable | disable}]
 [8e {enable | disable}]
 [8f {enable | disable}]
 [8g {enable | disable}]
 [8h {enable | disable}]
 [14 {0..255}]
 [15 ASCII_String]
 [29a {enable | disable}]
 [29b {enable | disable}]
 [29c {BSB | DEL}]
 [29d {CR | NULL}]
 [29e {CRLF | NULL | CR | LFCR | LF}]
```

Channel_ID

- **2a**: Authentication type for Callback privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
- **2b**: Authentication type for User privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
- **2c**: Authentication type for Operator privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
- **2d**: Authentication type for Administrator privilege level. Multiple privilege levels may be specified by using the plus sign (see example below).
- **3a**: Selects Terminal mode.

IPMI Channel ID (this must be 4 for all supported server boards).
Selects Connection mode.

Set Inactivity Timeout (in 30 second increments).

Set Close on DCD loss.

Enable Inactivity timeout.

Set Baud rate in bits per second.

Enable DTR hang-up.

Set Flow control.

Enable MUX switch on DCD loss.

Set MUX baseboard to BMC switch.

Set MUX BMC to baseboard switch.

Enable Ping before MUX switch.

Enable Ping.

Enable Ping during callback.

Set Connection Mode settings.

Set Page blackout interval in minutes.

Set SNMP Community string. Linux users should enclose the string in double quotes.

Enable Terminal handshake.

Enable Terminal echo.

Set Terminal delete control.

Enable Terminal line edit.

Set Terminal output newline sequence.

Set Terminal input newline sequence.

Configures the serial port for server management.

Examples:

```
syscfg /sc 4 2d none+straight+MD5
```
## Serial Dial String (/sds)

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`syscfg /sds</td>
<td>serialdialstring` Channel_ID Dial_String_Index Dial_string</td>
</tr>
</tbody>
</table>

- **Channel_ID**: IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)
- **Dial_String_Index**: Dial String Index
- **Dial_String**: ASCII string with the modem dial command and phone number

Sets the serial modem dial string used by the BMC on the specified channel. See *IPMI 2.0 Specification*, Chapters 14 and 25, for more information on IPMI Serial/Modem interface and commands.

**Example:**

```
syscfg /sds 4 3 P@s=5154884627,@
```
Serial Enable (/se)

```
syscfg (/se | /serialenable) Channel_ID {callback | user | operator | admin}{modem | direct} {9600 | 19200 | 38400 | 115200}
```

<table>
<thead>
<tr>
<th>Channel_ID</th>
<th>IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, S5000PSA server boards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>callback</td>
<td>Serial channel privilege level</td>
</tr>
<tr>
<td>user</td>
<td></td>
</tr>
<tr>
<td>operator</td>
<td></td>
</tr>
<tr>
<td>admin</td>
<td></td>
</tr>
<tr>
<td>modem</td>
<td>Modem or direct connection</td>
</tr>
<tr>
<td>direct</td>
<td></td>
</tr>
<tr>
<td>9600</td>
<td>Baud rate</td>
</tr>
<tr>
<td>19200</td>
<td></td>
</tr>
<tr>
<td>38400</td>
<td></td>
</tr>
<tr>
<td>115200</td>
<td></td>
</tr>
</tbody>
</table>

Enables serial communications with the BMC on the specified channel. See *IPMI 2.0 Specification*, Chapters 14 and 25, for more information on IPMI Serial/Modem interface and commands.

Example:
```
syscfg /se 4 admin modem 19200
```
### Serial Page Configuration (/spc)

`syscfg [/spc | /serialpageconf] Channel_ID Page_Destination_Selector Dial_String_Selector {1 | 2} {7 | 8} {none | odd | even} {9600 | 19200 | 38400 | 115200}`

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel_ID</td>
<td>IPMI Serial Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)</td>
</tr>
<tr>
<td>Page_Destination_Selector</td>
<td>Page Destination Selector</td>
</tr>
<tr>
<td>Dial_String_Selector</td>
<td>Page String Selector</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>none</td>
<td>odd</td>
</tr>
</tbody>
</table>
| 9600 | 19200 | 38400 | 115200 | Baud Rate | Configures serial paging for platform alerting with the BMC on the specified channel. See *IPMI 2.0 Specification*, Chapters 14 and 25, for more information on IPMI Serial/Modem interface and commands.

**Example:**

```
syscfg /spc 4 2 4 1 8 none 19200
```
Serial Page Enable (/spe)

**syscfg [ /spe | /serialpageenable] Channel_ID {0..255} SNMP_Community_String**

- **Channel_ID**: IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)
- **0..255**: Page Blackout in minutes
- **SNMP_Community_String**: SNMP Community String

Enables serial paging for platform alerting by the BMC on the specified channel. See *IPMI 2.0 Specification*, Chapters 14 and 25, for more information on IPMI Serial/Modem interface and commands.

Example:

```
syscfg /spe 4 3 "modem public"
```
## Serial Over LAN Enable (/sole)

```
syscfg [/sole | /soleenable] Channel_ID (enable | disable)(user | operator | admin){9600 | 19200 | 38400 | 115200}{0..7}{0..2550}
```

<table>
<thead>
<tr>
<th>Channel_ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable</td>
<td>disable</td>
</tr>
<tr>
<td>user</td>
<td>operator</td>
</tr>
<tr>
<td>9600</td>
<td>19200</td>
</tr>
<tr>
<td>0..7</td>
<td>Retry count</td>
</tr>
<tr>
<td>0..2550</td>
<td>Retry interval in milliseconds, rounded to the nearest 10 ms</td>
</tr>
</tbody>
</table>

Enables Serial Over LAN (SOL) on the specified LAN channel. See *IPMI 2.0 Specification*, Chapter 26, for more information on IPMI SOL commands.

**Example:**

```
syscfg /sole 1 enable admin 19200 0 10
```
Terminal Enable (/te)

```
syscfg (/te | /termenable) Channel_ID {enable | disable} {BSB | DEL} {enable | disable} {enable | disable} {enable | disable} {CRLF | NULL | CR | LFCR | LF} {CR | NULL}
```

<table>
<thead>
<tr>
<th>Channel_ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)</td>
<td></td>
</tr>
<tr>
<td>enable</td>
<td>disable</td>
</tr>
<tr>
<td>BSB</td>
<td>DEL</td>
</tr>
<tr>
<td>enable</td>
<td>disable</td>
</tr>
<tr>
<td>enable</td>
<td>disable</td>
</tr>
<tr>
<td>CRLF</td>
<td>NULL</td>
</tr>
<tr>
<td>CR</td>
<td>NULL</td>
</tr>
</tbody>
</table>

Configures terminal mode communications on the specified BMC channel. See *IPMI 2.0 Specification*, Chapters 14 and 25, for more information on IPMI Serial/Modem interface and commands.

Examples:

```
syscfg /te 4 enable DEL enable enable lfc r cr
```
**Users (/u)**

**syscfg (/u | /user) User_ID User_name Password**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User_ID</strong></td>
<td>User ID. Use a decimal integer in the range [1..n] where n is the number of users supported by the platform BMC. User ID 1 is usually the anonymous user.</td>
</tr>
<tr>
<td><strong>User_name</strong></td>
<td>BMC User name consisting of up to 20 ASCII characters in the range 0x21 to 0x7e, except “[“ and “]”. Use “” to leave user name as anonymous.</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>User BMC Password. ASCII string of up to 20 characters.</td>
</tr>
</tbody>
</table>

Set the user name and password for the specified BMC user. See *IPMI 2.0 Specification* for more information on user passwords.

**Examples:**

```bash
syscfg /u 3 BobT gofps
syscfg /u 2 "" ""
```
User Enable (/ue)

```
syscfg (/ue | /userenable) User_ID {enable | disable} Channel_ID
```

- **User_ID**
  - User ID. Use a decimal integer in the range [1..n] where n is the number of users supported by the platform BMC. User ID 1 is usually the anonymous user.

- **enable | disable**
  - Enable or disable the specified user

- **Channel_ID**
  - IPMI Channel ID

Enables or disables the BMC user on the specified BMC channel. See *IPMI 2.0 Specification* for more information on user configuration settings.

**Examples:**

```
syscfg /ue 3 enable 1
```
## User Privilege (/up)

**syscfg (up | /userprivilege) User_ID Channel_ID {callback | user | operator | admin | none} [SOL | KVM | SOL+KVM]**

<table>
<thead>
<tr>
<th>User_ID</th>
<th>BMC user ID.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel_ID</td>
<td>BMC channel number.</td>
</tr>
<tr>
<td>callback</td>
<td>user</td>
</tr>
<tr>
<td>SOL</td>
<td>KVM</td>
</tr>
</tbody>
</table>

Enables or disables the BMC user on the specified BMC channel. See *IPMI 2.0 Specification* for more information on user privilege levels.

### Examples:

- `syscfg /up 1 1 admin`
- `syscfg /up 1 1 admin sol`
A. Quick Reference

/bap  BIOS Administrator Password
  syscfg /bap {old_password | ""} [new_password | ""]

/bup  BIOS User Password
  syscfg /bup {old_password | ""} [new_password | ""]

/bcr  Console Redirection
  syscfg /bcr {disable | COM1 | COM2} {9600 | 19200 | 38400 | 11520} {none | CTS | XON | CTSCD} {PCANSI | VT100 | VTUTF8}

/bcs  Configuration BIOS Settings
  syscfg /bcs [BIOS_Group_Name] BIOS_Setting_Name Value [BIOS_Setting_Name Value […]]

/bqb  Quiet Boot
  syscfg /bqb {enable | disable}

/bbo  BIOS Boot Order
  syscfg /bbo {device_number | device_number […]}

/bldfs  BIOS Load Default Factory Settings
  syscfg /bldfs

/bpep  BIOS POST Error Pause
  syscfg /bpep

/c  Channel
  syscfg /c [channel_ID] [channel_ID] {1 {none | straight | MD5} | 2 {none | straight | MD5} | 3 {none | straight | MD5} | 4 {none | straight | MD5} | 5 {enable | disable} | 6 {enable | disable} | 7 {disabled | preboot | always | shared} | 8 {callback | user | operator | admin} | 9 {enable | disable}}

/csel  Clear SEL
  syscfg /c [channel_ID] [clearSEL]

/d  Display
  syscfg /d {CHANNEL Channel_ID | BIOS | BIOSSETTINGS {{group BIOS_Group_Name BIOS_Setting_Name [BIOS_Setting_Name…]} | [individual] BIOS_Setting_Name [BIOS_Setting_Name…]} | [LAN Channel_ID LAN_Alert_Destination_Index] | SERIAL Channel_ID Dial_String_Index Page_Destination_Selector Dial_String_Selector | POWER | PEF Filter_Table_Index [Policy_Table_Index] | SOL Channel_ID | USER User_ID [Channel_ID] | FWADVCFG Channel_ID [User_ID SMTP_Configuration_Index]}]

/dt  Date and Time
  syscfg /dt [timeofday] hh:mm:ss mm/dd/yyyy

/eac  email Alert Configuration
  syscfg /eac [emailalertconf] SMTP_Configuration_Index {1 | 2 | 3} ASCII_String

/eae  email Alert Enable
  syscfg /eae [emailalertenable] Sender_Name

/eam  email Alert Map
  syscfg /eam [emailalertmap] Channel_ID Alert_Destination_Index email_alert_Index

/h  Help
  syscfg /h [/?] {lan | user | serial | pef | sol | power | channel | system | bios}

/i  Information
  syscfg /i [filename.SC]
/lac  LAN Alert Configuration
syscfg /lac | /lanalertconf| Channel_ID Alert_Destination_Index Alert_Destination_IP_Address
{Alert_ID_MAC_Address {enable | disable } | “resolve”} {enable | disable}{0..7}{1..255}{SNMP | SMTP}

/lae  LAN Alert Enable
syscfg /lae | /lanalertenable| Channel_ID Gateway_IP_Address {Gateway_MAC_Address | “resolve”} SNMP_Community_String {Backup_Gateway_IP_Address {Backup_Gateway_MAC_Address | “resolve”}}

/lc  LAN Configuration
syscfg /lc | /lanconf| Channel_ID {2a {none | straight | MD5]| 2b {none | straight | MD5}| 2c {none | straight | MD5]| 2d {none | straight | MD5}| 3 IP_Address | 4 {static | DHCP} | 6 IP_Address | 10 {enable | disable}| 10b {enable | disable}| 11 {0..127500} | 12 IP_Address | 13 MAC_Address | 14 IP_Address | 15 MAC_Address | 16 SNMP_Community_String }

/le  LAN Enable
syscfg /le | /lanenable| Channel_ID {dhcp | {static_IPAddress Subnet_Mask}}

/pefc  PEF Configure
syscfg /pefc | /pefconfig| {enable | disable}{none | alert | pdown | reset | pcycle | diagint}

/peff  PEF Filter
syscfg /peff | /peffilter| Filter_table_index {enable | disable}{none | alert | pdown | reset | pcycle | diagint}{1..15}

/pefp  PEF Policy
syscfg /pefp | /pefpolicy| Policy_table_index {enable | disable}{1..15}{ALWAYS | NEXT_E | STOP | NEXT_C | NEXT_T} Channel_ID Destination_table_index

/prp  Power Restore Policy
syscfg /prp| on | restore

/r  Restore
syscfg /r [filename] {/f | /b | /f /b}

/rbmc  Reset BMC
syscfg /rbmc | /resetBMC

/rfs  Restore Firmware Settings
syscfg /rfs | /restorefirmwaresettings

/s  Save
syscfg /s [filename] {/f | /b | /f /b}

/sc  Serial Configuration
syscfg /sc | /serialconf| Channel_ID {2a {none | Straight | MD5]| 2b {none | Straight | MD5]| 2c {none | Straight | MD5}| 2d {none | Straight | MD5]| 3a {enable | disable}| 3b direct| [4 {0..450}]} 6a {enable | disable}| 6b {enable | disable}| 7a {9600 | 19200 | 38400 | 115200}| 7b {enable | disable}| 7c {none | RTSCTS | XONXOFF}| 8a {enable | disable}| 8c {enable | disable}| 8d {enable | disable}| 9a {enable | disable}| 9b {enable | disable}| 10 {enable | disable}| 11 {0..255}| 15 ASCII_String| 29a {enable | disable}| 29b {enable | disable}| 29c {BSB | DEL}| 29f {CR | NULL}| 29g {CRLF | NULL | CR | LFCR | LF}}

/sds  Serial Dial String
syscfg /sds | /serialdialstring| Channel_ID Dial_String_Index Dial_string

/se  Serial Enable
syscfg /se | /serialenable| Channel_ID {callback | user | operator | admin} direct
{9600 | 19200 | 38400 | 115200}
### Serial Page Configuration
```
syscfg {/spc | /serialpageconf} Channel_ID Page_Destination_Selector Dial_String_Selector {1 | 2} {7 | 8} {none | odd | even} {9600 | 19200 | 38400 | 115200}
```

### Serial Page Enable
```
syscfg {/spe | /serialpageenable} Channel_ID {0..255} SNMP_Community_String
```

### SOL Enable
```
syscfg {/sole | /soleenable} Channel_ID {enable | disable} {user | operator | admin} {9600 | 19200 | 38400 | 115200} {0..7} {0..2559}
```

### Terminal Mode Enable
```
syscfg {/te | /termenable} Channel_ID {enable | disable} {BSB | DEL} {enable | disable} {enable | disable} {CRLF | NULL | CR | LFCR | LF} {CR | NULL}
```

### User Configuration
```
syscfg {/u | /user} User_ID User_name Password
```

### User Enable
```
syscfg {/ue | /userenable} User_ID {enable | disable} Channel_ID
```

### User Privilege
```
syscfg {/up | /userprivilege} User_ID Channel_ID {callback | user | operator | admin | none} [SOL | disable]
```
B. IPMI Channel Assignments

The Intel® S7000FC4UR Server Board has the following IPMI Channel assignments:

Channel 1  Baseboard LAN Channel A
Channel 2  Baseboard LAN Channel B
Channel 3  Optional Intel® Remote Management Module NIC
Channel 4  Serial Channel
C. List of Saved Settings

The following table lists the firmware settings that are saved and restored with syscfg.

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