

System Configuration Utility User Guide

Document Number: D41928-002

Disclaimer

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. Intel products are not intended for use in medical, life saving, life sustaining, critical control or safety systems, or in nuclear facility applications.

Intel may make changes to specifications and product descriptions at any time, without notice.

Intel, Pentium, and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others.

Copyright © 2004–2006 Intel Corporation. All Rights Reserved

Preface

About this Manual

This document provides the complete command reference for the ROM-DOS* version of the System Configuration Utility. This manual is written for operators or support technicians who are responsible for configuring the BIOS and management firmware on Intel® S5000PAL, S5000PSL, and S5000PSA server boards. 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 the Intelligent Platform Management Interface Specification (2.0) 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

IPMI--Intelligent Platform Management Interface Specification, Second Generation, v2.0

Product Guides for BIOS Setup options.

Syntax Conventions Used in the Manual

The following syntax conventions are used in this document:

- {a | b}** Required element. Choose a or b.
- [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.

Contents

1 Quick Start Instructions.....	6
Save a Configuration.....	6
Restore a Configuration	6
Syscfg Help	6
Display Current BIOS and Firmware Versions.....	6
2 Using the System Configuration Utility.....	7
3 Command Reference	8
Display (/d)	9
BIOS Administrator Password (/bap)	10
BIOS User Password (/bup).....	11
BIOS Hyper-Threading (/bht)	12
BIOS Console Redirection (/bcr).....	13
BIOS Quiet Boot (/bqb)	14
BIOS Boot Order (/bbo).....	15
Channels (/c).....	16
Help (/h)	17
Information (/i).....	18
LAN Alert Configuration (/lac)	19
LAN Alert Enable (/lae)	20
LAN Configuration (/lc).....	21
LAN Enable (/le).....	23
Modem Configure (/mc)	24
PEF Configure (/pefc)	25
PEF Filter (/peff).....	26
PEF Policy (/pefp)	27
Power Restore Policy (/prp)	28
Restore (/r)	29
Save (/s).....	30
Serial Dial String (/sds)	31
Serial Enable (/se).....	32
Serial Page Configuration (/spc)	33
Serial Page Enable (/spe)	34
Serial Over LAN Enable (/sole)	35
Terminal Enable (/te).....	36
Users (/u)	37
User Enable (/ue).....	38
User Privilege (/up)	39

A. Quick Reference	41
B. IPMI Channel Assignments.....	43
C. List of Saved Settings	44
Index	47

1 Quick Start Instructions

Save a Configuration

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

1. Boot to ROM-DOS* 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. 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 be restored to ROM-DOS.
2. Change to the directory containing the syscfg executable. (The saved configuration file should also be located in this directory.)
3. Type: `syscfg /r filename.scf`

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 utility is designed to run from ROM-DOS. (This utility will not run from the Windows command prompt.)

3 Command Reference

/d	Display	/pefc	PEF Configure
/bap	BIOS Administrator Password	/peff	PEF Filter
/bup	BIOS User Password	/pefp	PEF Policy
/bht	BIOS Hyper-Threading	/prp	Power Restore Policy
/bcr	BIOS Console Redirection	/r	Restore
/bqb	BIOS Quiet Boot	/s	Save
/bbo	BIOS Boot Order	/sds	Serial Dial String
/c	Channels	/se	Serial Enable
/h or /?	Help	/spc	Serial Page Configuration
/i	Information	/spe	Serial Page Enable
/lac	LAN Alert Configuration	/sole	Serial Over LAN Enable
/lae	LAN Alert Enable	/te	Terminal Enable
/lc	LAN Configuration	/u	Users
/le	LAN Enable	/ue	User Enable
/mc	Modem Configure	/up	User Privilege

Display (/d)

```
syscfg /d {CHANNEL Channel_ID | BIOS | 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] }
```

CHANNEL	Displays the BMC Channel configuration.
BIOS	Displays the current values of the BIOS settings that can be reset with this utility (except the Administrator and User passwords.)
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.
SOL	Displays the Serial Over LAN settings.
USER	Displays the BMC user settings.
<i>Channel_ID</i>	IPMI Channel ID.
<i>LAN_Alert_Destination_Index</i>	Enter the LAN Alert Destination Index.
<i>Dial_String_Index</i>	Enter the Serial Modem Dial String Index.
<i>Page_Destination_Selector</i>	Enter the Page Destination Selector.
<i>Dial_String_Selector</i>	Enter the Dial String Selector.
<i>Filter_Table_Index</i>	Enter the Filter Table Index.
<i>Policy_Table_Index</i>	Enter the PEF Policy Table Index.
<i>User_ID</i>	Enter an integer between 1 and 16 for the BMC User ID. User ID 1 is the anonymous user (no password).

Displays the specified BMC and BIOS settings.

Examples:

```
syscfg /d channel 1
syscfg /d lan 1 2
syscfg /d serial 1 2 3 4
syscfg /d pef 2 1
```

BIOS Administrator Password (/bap)

```
syscfg /bap {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 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 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.

BIOS Hyper-Threading (/bht)

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

enable, disable

Enables or disables Hyper-Threading Technology in the BIOS.

Enable Hyper-Threading Technology (HT Technology) in the BIOS. The BIOS default is to enable HT Technology.

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

Examples:

```
syscfg /bht enable
```

```
syscfg /bht disable
```

BIOS Console Redirection (/bcr)

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

disable | COM1 | COM2

COM port number.

9600 | 19200 | 38400 | 11520

Baud rate options in BIOS Setup.

none | CTS

Flow control options in BIOS Setup. (CTS is RTS/CTS)

PCANSI | VT100 | VTUTF8

Terminal type in BIOS Setup. (PCANSI is PC-ANSI; VT100 is VT100; and VTUTF8 is VT-UTF8)

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.

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 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.

Display or set the BIOS boot order.

Examples:

```
syscfg /bbo  
syscfg /bbo 2 1 3 4
```

Channels (/c)

```
syscfg {/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} } ]
```

<i>Channel_ID</i>	BMC channel ID number.
1	Selects the authentication types for callback privilege level.
2	Selects the authentication types for user privilege level.
3	Selects the authentication types for operator privilege level.
4	Selects the authentication types for Admin privilege level.
5	Selects the Per message authentication.
6	Selects User Level Authentication enable.
7	Selects the Access Mode. Values of <code>preboot</code> and <code>shared</code> are only valid for serial channels.
8	Selects the Privilege level limit for the channel.
9	Selects Enable PEF on the specified channel.
none straight MD5	Authentication method for callback, user, operator, and admin privilege levels.
disabled preboot always shared	Access Mode. Values of <code>preboot</code> and <code>shared</code> 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:

```
syscfg /c
syscfg /c 1 7 always
syscfg /c 1 7 always /c 1 8 admin
```


Help (/h)

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

lan | user | serial | pef | sol | power Displays help in the specified area.
| channel | system | bios

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 {enable | disable } {enable | disable} {1..7} {1..255}
```

<i>Channel_Id</i>	IPMI Channel number.
<i>Alert_Destination_Index</i>	Index into the Alert Destination table.
<i>Alert_Destination_IP_Address</i>	IP address of the alert destination in the dot separated decimal value format: <i>n.n.n.n</i> , where <i>n</i> is a number between 0 and 255.
<i>Alert_ID_MAC_Address</i>	MAC address of the alert destination in the hexadecimal format separated by hyphens: <i>hh-hh-hh-hh-hh-hh</i> , where <i>h</i> is a hexadecimal value from 0 to F.
enable disable	Backup Gateway state.
enable disable	Alert Acknowledge state.
1..7	Retry count.
1..255	Retry interval in seconds.

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
```

LAN Alert Enable (/lae)

```
syscfg {/lae | /lanalertenable} Channel_ID Gateway_IP_Address Gateway_MAC_Address  
SNMP_Community_String [Backup_Gateway_IP_Address Backup_Gateway_MAC_Address]
```

<i>Channel_ID</i>	IPMI Channel ID
<i>Gateway_IP_Address</i>	Gateway IP Address for the specified LAN channel
<i>Gateway_MAC_Address</i>	Gateway MAC Address for the specified LAN channel or “resolve”
<i>SNMP_Community_String</i>	Enter the SNMP community string, or the null string (“”)
<i>Backup_Gateway_IP_Address</i>	Gateway IP Address for the specified LAN channel
<i>Backup_Gateway_MAC_Address</i>	Gateway MAC Address for the specified LAN channel or “resolve”

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} | 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	Selects Enable Gratuitous ARP. (LAN channels 1 and 2 only.)
11	Selects Gratuitous ARP interval. (LAN channels 1 and 2 only.)
12	Selects Gateway IP Address. (This is not a valid option when the source is set to DHCP.)
13	Selects Gateway MAC Address
14	Selects Backup Gateway IP Address
15	Selects Backup Gateway MAC Address
16	Selects Community String

IP_Address

IP Address

MAC_Address

MAC Address

SNMP_Community_String

SNMP Community String. Enclose in double quotes if the string contains spaces.

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}}
```

<i>Channel_ID</i>	BMC LAN Channel ID
static dhcp	IP Address source
<i>IP_Address</i>	IP Address
<i>Subnet_Mask</i>	Subnet mask

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
```

Modem Configure (/mc)

```
syscfg {/mc | /modemconf} Channel_ID Modem_init_string Escape_command Hangup_command  
Dial_command Ring_dead_time Ring_duration System_phone_number
```

<i>Channel_ID</i>	BMC Serial Channel ID. This must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards.
<i>Modem_init_string</i>	ASCII string used to initialize the modem.
<i>Escape_command</i>	ASCII string for the Modem Escape command.
<i>Hangup_command</i>	ASCII string for the Modem Hangup command.
<i>Dial_command</i>	ASCII string for the Modem Dial command.
<i>Ring_dead_time</i>	Decimal integer between 500 and 8000 representing the ring dead time in msec. This value will be rounded down to the nearest 500 msec.
<i>Ring_duration</i>	Decimal integer between 0 and 31000 representing the ring duration time in msec. This value will be rounded down to the nearest 500 msec.
<i>System_phone_number</i>	32 characters consisting of numbers, parenthesis, hyphen, or space character. Enclose in quotes if the string has embedded white space.

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

Example:

```
syscfg /mc 4 ATE1Q0V1X4&D2&C1S0=0 +++ ATH ATD 3000 7000 (515)522-4807
```


PEF Configure (/pefc)

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

enable | disable

Global PEF enable.

**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,” 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:

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

PEF Filter (/peff)

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

<i>Filter_table_index</i>	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:

```
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
```

Policy_table_index

Policy Table Index

enable | disable

Enable policy

1..15

Policy number

ALWAYS | NEXT_E | STOP | NEXT_C | NEXT_T

Alert Policy:

ALWAYS = always send an alert to the destination indicated in the policy table entry specified by argument 1.

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.

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.

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.

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.

Channel_ID

IPMI Channel ID for a BMC channel

Destination_table_index

Destination Table Index

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)

```
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)

```
syscfg /r [filename.SCF] {/f | /b | /f /b}
```

<i>filename</i>	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 .SCF.
<i>/f</i>	Restore the firmware settings. (See Appendix A for a list of the settings that are restored.)
<i>/b</i>	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 mysyscfg.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.

Save (/s)

```
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 Dial String (/sds)

```
syscfg {/sds | /serialdialstring} Channel_ID Dial_String_Index Dial_string
```

<i>Channel_ID</i>	IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)
<i>Dial_String_Index</i>	Dial String Index
<i>Dial_String</i>	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 | 57600 | 115200}
```

Channel_ID IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, S5000PSA server boards)

callback | user | operator | admin Serial channel privilege level

modem | direct Modem or direct connection

9600 | 19200 | 38400 | 57600 | 115200 Baud rate

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 | 57600 | 115200}
```

<i>Channel_ID</i>	IPMI Serial Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)
<i>Page_Destination_Selector</i>	Page Destination Selector
<i>Dial_String_Selector</i>	Page String Selector
1 2	Number of parity bits
7 8	Number of data bits
none odd even	Parity
9600 19200 38400 57600 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
```

<i>Channel_ID</i>	IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)
0..255	Page Blackout in minutes
<i>SNMP_Community_String</i>	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 | 57600 | 115200} {0..7} {0..2550}
```

<code>Channel_ID</code>	IPMI Channel ID
<code>enable disable</code>	SOL enable
<code>user operator admin</code>	Privilege Level Limit
<code>9600 19200 38400 57600 115200</code>	Baud Rate
<code>0..7</code>	Retry count
<code>0..2550</code>	Retry interval in milliseconds

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} {CRLF | NULL | CR | LFCR | LF} {CR | NULL}
```

<code>Channel_ID</code>	IPMI Channel ID (this must be 4 for S5000PAL, S5000PSL, and S5000PSA server boards)
<code>enable disable</code>	Line Edit enable
<code>BSB DEL</code>	Delete control
<code>enable disable</code>	Echo control
<code>enable disable</code>	Handshake control
<code>CRLF NULL CR LFCR LF</code>	Output newline sequence
<code>CR NULL</code>	Input newline sequence

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 lfcr cr
```

Users (/u)

```
syscfg {/u | /user} User_ID User_name Password
```

User_ID

User ID. Use a decimal integer in the range [1..15]. User ID 1 is usually the anonymous user.

User_name

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.

Password

User BMC Password. ASCII string of up to 20 characters.

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

Examples:

```
syscfg /u 3 BobT gofps
```

```
syscfg /u 2 " " "
```

User Enable (/ue)

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

User_ID BMC User ID in the range [1..15]

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.

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]
```

<i>User_ID</i>	BMC user ID.
<i>Channel_ID</i>	BMC channel number.
callback user operator admin none	IPMI privilege level.
SOL KVM SOL+KVM	Specifies the type of payload: Serial Over LAN, KVM, or both.

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

Examples:

```
syscfg /up 1 1 admin
syscfg /up 1 1 admin sol
```


A. Quick Reference

/d	Display <code>syscfg /d {CHANNEL Channel_ID BIOS 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]}</code>
/bap	BIOS Administrator Password <code>syscfg /bap {old_password ""} [new_password ""]</code>
/bup	BIOS User Password <code>syscfg /bup {old_password ""} [new_password ""]</code>
/bht	Hyper-Threading Technology <code>syscfg /bht {enable disable}</code>
/bcr	Console Redirection <code>syscfg /bcr {disable COM1 COM2} {9600 19200 38400 11520} {none CTS XON CTSCD} {PCANSI VT100 VTUTF8}</code>
/bqb	Quiet Boot <code>syscfg /bqb {enable disable}</code>
/bbo	BIOS Boot Order <code>syscfg /bbo [device_number [device_number [...]]]</code>
/c	Channel <code>syscfg {/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}}]</code>
/h	Help <code>syscfg {/h /?} {lan user serial pef sol power channel system bios}</code>
/i	Information <code>syscfg /i [filename.SCF]</code>
/lac	LAN Alert Configuration <code>syscfg {/lac /lanalertconf} Channel_ID Alert_Destination_Index Alert_Destination_IP_Address Alert_ID_MAC_Address {enable disable} {enable disable} {1..7} {1..255}</code>
/lae	LAN Alert Enable <code>syscfg {/lae /lanalertenable} Channel_ID Gateway_IP_Address {Gateway_MAC_Address "resolve"} SNMP_Community_String [Backup_Gateway_IP_Address {Backup_Gateway_MAC_Address "resolve"}]</code>
/lc	LAN Configuration <code>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} 11 {0..127500} 12 IP_Address 13 MAC_Address 14 IP_Address 15 MAC_Address 16 SNMP_Community_String}</code>
/le	LAN Enable <code>syscfg {/le /lanenable} Channel_ID {dhcp {static IP_Address Subnet_Mask}}</code>
/mc	Modem Configure <code>syscfg {/mc /modemconf} Channel_ID Modem_init_string Escape_command Hangup_command Dial_command Ring_dead_time Ring_duration System_phone_number</code>

/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 {off | on | restore}

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

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

/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} {modem | direct} {9600 | 19200 | 38400 | 57600 | 115200}

/spc **Serial Page Configuration**
syscfg {/spc | /serialpageconf} *Channel_ID Page_Destination_Selector Dial_String_Selector* {1 | 2} {7 | 8} {none | odd | even} {9600 | 19200 | 38400 | 57600 | 115200}

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

/sole **SOL Enable**
syscfg {/sole | /soleenable} *Channel_ID* {enable | disable} {user | operator | admin} {9600 | 19200 | 38400 | 57600 | 115200} {0..7} {0..2550}

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

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

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

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

B. IPMI Channel Assignments

The Intel® S5000PAL, S5000PSL, and S5000PSA Server Boards have 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.

Table 1. Saved Firmware Settings

Component	Setting
Power Configuration Settings	Power Restore Policy
LAN Channel Settings	Alert Enable
	Per Message Authentication
	User Level Authentication Enable
	Access Mode
	Privilege Level Limit
	Community String
	ARP enable
	ARP interval
	Authentication Types
	DHCP enabled
	Host IP
	Subnet Mask
	Gateway IP
	Gateway MAC
	Backup Gateway IP
	Backup Gateway MAC
LAN Alert Settings	Alert Acknowledge Enabled
	Alert IP
	Alert MAC
	Gateway Selector
	Retry Count
	Retry Interval
User Settings	User Name
	User Password
	Privilege Level Limit
	Callback Status
	Link Authentication Enable
	IPMI messaging enabled
Platform Event Filter Settings	PEF Enable
	Event Message for PEF Action
	Startup Delay
	Alert Startup Delay
	Global Control Actions
	Event Filters

Component	Setting
	Alert Policies
Serial/Modem Settings	Paging Enable
	Per Message Authentication
	User Level Authentication
	Access Mode
	Privilege Level Limit
	Community String
	Authentication Types
	Connection Mode
	Flow Control
	Baud Rate
	DTR Hang-up Enable
	Inactivity Timeout Enabled
	Inactivity Timeout Interval
	Connection Mode Sharing
	Baseboard to BMC Switch
	BMC to Baseboard Switch
	Ping Before MUX Switch
	Ping Enabled
	Close on DCD Loss
	MUX Switch on DCD Loss
	Modem Init String
	Modem Ring Duration
	Modem Call Retry Interval
	Modem Ring Dead Time
	Ping During Callback
	Modem Enabled Callback
	Blackout Interval
	Modem Dial Command
	Modem Hang-up Command
	Modem Escape Command
	System Phone Number
	Terminal Mode Enable
	Terminal Line Edit Enable
	Terminal Delete Control
	Terminal Echo Enable
	Terminal Handshake Enable
	Terminal Newline Output Sequence
	Terminal Newline Input Sequence
	Dial String Length
	Destination Dial Strings

Component	Setting
Serial Paging Alert Settings	Alert Acknowledge Enable
	Retry Count
	Retry Delay
	Paging Flow Control
	Paging Baud Rate
	Paging Stop Bits
	Paging Data Bits
	Paging Parity
	Dial String Selector
	Serial Over LAN Settings
SOL Privilege Level	
SOL Retry Count	
SOL Retry Interval	
SOL Baud Rate	
SOL Authentication Enable	

Index

BIOS Administrator Password (/bap), 10
BIOS Boot Order (/bbo), 15
BIOS Console Redirection (/bcr), 13
BIOS Hyper-Threading (/bht), 12
BIOS Quiet Boot (/bqb), 14
BIOS User Password (/bup), 11
Channels (/c), 16
Display (/d), 9
Help (/h), 17
Information (/i), 18
LAN Alert Configuration (/lac), 19
LAN Alert Enable (/lae), 20
LAN Configuration (/lc), 21
LAN Enable (/le), 23
Modem Configure (/mc), 24
PEF Configure (/pefc), 25
PEF Filter (/peff), 26
PEF Policy (/pefp), 27
Power Restore Policy (/prp), 28
Restore (/r), 29
Save (/s), 30
Serial Dial String (/sds), 31
Serial Enable (/se), 32
Serial Over LAN Enable (/sole), 35
Serial Page Enable (/spe), 34
Terminal Enable (/te), 36
Users (/u), 37