BMC Configuration

Oct 2019

The BMC allows for remote management of the G8 server from a Web based UI. The advantages over using SSH are that you get access to things like the BIOS, the Console and can even start the server if it has done a power down.

BMC Configuration

Turn on the server from cold, and wait for the Boot Options page:



From this page select [F2] for the BIOS (you have to be quick, you only get about a second).

After a short time, you will see the initial BIOS page.

†↓=Move Highlight	F10=Save Changes and Exit <enter>=Select Entry</enter>	F9=Reset to Defaults
IFWI Version:SE5C620.86B.0R.6 SE5C620.86B.02.01.0008.031920 Copyright (c) 2006-2019, Inte Main Advanced Security Server Management Error Manager Boot Manager Boot Maintenance Manager Save & Exit Tls Auth Configuration	4.2019.12.2.12.1559.selfboot 191559 1 Corporation	196608 MB RAM Press <enter> to select the Server Management System Setup options.</enter>
S2600WF Tutol(P) Yean (P) Cold 6150 (P)	IL 9. 2. 70CH-	02 70 CHz

From this page, move down to and select Server Management.

When the Server Management page is displayed, you must scroll to the bottom of this page.

Server Management						
Reset on ERR2 Enforced Password Support	< Enabled> <disabled></disabled>	t View/Configure BMC LAN and user settings.				
Resume on AC Power Loss Power Restore Delay Power Restore Delay Value	<last state=""> <disabled> [60]</disabled></last>					
Clear System Event Log						
FRB-2 Enable	<enabled></enabled>					
OS Boot Watchdog Timer OS Boot Watchdog Timer Policy OS Boot Watchdog Timer Timeout	<disabled></disabled> <power off=""> <10 minutes></power>					
Plug & Play BMC Detection	<disabled></disabled>					
 Console Redirection System Information BMC LAN Configuration 						
†↓=Move Highlight Copyr	F10=Save Changes and Exit <enter>=Select Entry ight (c) 2006-2019, Intel Corp</enter>	F9=Reset to Defaults Esc=Exit poration				

From the bottom of the Server Management BIOS page, select BMC LAN Configuration.

The BMC LAN Configuration page shows two sets of IP Settings. Baseboard LAN Configuration and Dedicated Management LAN Configuration.

BMC LAN Configuration				
▶ User Configuration		Select Dedicated Management		
De la Litation de		LAN IP source. If [Static],		
Baseboard LAN configuration		IP parameters may be edited		
IP Source	<static></static>	If LUynamic, these fields		
1P Address	0.0.0	are display-only and IP		
Subnet Mask	0.0.0	address is acquired		
Gateway IP	0.0.0	automatically (DHCP).		
Baseboard LAN IPu6 configur	ation			
IPu6	<disabled></disabled>			
Dedicated Management LAN Co	nfiguration			
Remote Management Module	<present></present>			
IP Source	<static></static>			
IP Address	10.43.30.21			
Subnet Mask	255.255.255.0			
Gateway IP	10.43.30.254			
Dedicated Management LAN TP	v6 Configuration			
Dedicated IPu6	<disabled></disabled>			
		1		
	F1A=Saue Changes and Frit	F9-Reset to Defaulte		
11=Moue Highlight	< <u>Enter>=Select Entru</u>	Fsc=Exit		
	puright (c) 2006-2019. Intel Cor	noration		
		Configuration changed		

It is the Dedicated Management LAN Configuration we need to set. If no BMC address has ever been configured, then it will be 0.0.0.0 for everything, you need to configure this for your network, in this example we have used the following:

IP Source - <Static> (you could use DHCP, but would still have to work out the assigned address)
IP Address - 10.43.30.21 - use your own IP settings
Subnet Mask - 255.255.255.0
Gateway IP - 10.43.30.254

Once the IP settings have been configured, you need to scroll to the top of the page, and select User Configuration.

	BMC LAN Configuration	
• User Configuration		View/Configure User information and settings of
Baseboard LAN configuration		the BMC.
IP Source	<static></static>	
IP Address	0.0.0	
Subnet Mask	0.0.0	
Gateway IP	0.0.0	
Baseboard LAN IPv6 configur	ation	
IPv6	<disabled></disabled>	
Dedicated Management LAN Co	nfiguration	
Remote Management Module	<present></present>	
IP Source	<static></static>	
IP Address	10.43.30.21	
Subnet Mask	255.255.255.0	
Gateway IP	10.43.30.254	
Dedicated Management LAN IP	v6 Configuration	
Dedicated IPu6	<disabled></disabled>	
		1
↑↓=Move Highlight Co	F10=Save Changes and Exit <enter>=Select Entry muright (c) 2006-2019, Intel Cor</enter>	F9=Reset to Defaults Esc=Exit
		Configuration changed

Once the User Configuration page opens, you will see the following:

User Configuration				
User ID Privilege User Status User Password User ID Privilege User Status User Name	anonymous <no access=""> <disabled> User2 <administrator> <enabled> root</enabled></administrator></disabled></no>	View/Select user privilege. All users must be set to a privilege other than No Access and enabled for IPMI messaging before they can be used on any channel.		
User Password User ID Privilege User Status User Name User Password	User3 <no access=""> <disabled> -</disabled></no>			
User ID Privilege User Status User Name	User4 <no access=""> <disabled> -</disabled></no>	1		
†↓=Move Highlight	F10=Save Changes and Exit <enter>=Select Entry Copyright (c) 2006-2019, Intel Corp</enter>	F9=Reset to Defaults Esc=Exit poration Configuration changed		

There are some pre-defined users - Anonymous, User2, User3 etc. I would avoid using Anonymous and configure User2. This will mean that people will be less likely to guess your account details. In this example I have configured User2 with the following settings.

User2 Privilege <Administrator> (assuming we need full access) User Status <Enabled> Username - root

```
User Password - envivio
```

To finish the setup, press F10 (F10=Save Changes and Exit)

	User Configuration	
User ID	anonymous	View/Select user privilege.
User Status User Password	<no access=""> <disabled></disabled></no>	HII users must be set to a privilege other than No Access and enabled for IPMI
User ID Privilege	User2 <administrator></administrator>	messaging before they can be used on any channel.
User Status User Name User Basevend	Saus configuration shares and suit?	
User ID	Press 'Y' to confirm, 'N'/'ESC' to igno	re.
Privilege User Status	<disabled></disabled>	
User Name	_	
User Password		
User ID	User4	
Privilege	<no access=""></no>	
User Status	<disabled></disabled>	
User Name	_	l
†↓=Move Highlight	F10=Save Changes and Exit F9 <enter>=Select Entry Es Comuright (c) 2006-2019, Intel Corporati</enter>	=Reset to Defaults c=Exit
		nfiguration changed

Press Y and the server will reboot.

BMC Useage

Using a Java enabled web browser, navigate to the BMC address you have configured.

(intel) Integrated BMC Web Console		
	Please Login Username Password Language English ~	

You will see a login page (you will have to go through a browser challenge to get here)

Enter the username/password you selected when configuring the BMC (root/envivio in this example)

(intel) Inte	egrated BMC Web Console	
System Server Health	Configuration Remote Control Virtual Media Server Diagnostics Miscellaneous BIOS Configurations	GLogout Grerresh Greip T About
System Information	Summary	
System Information FRU Information CPU Information DIMM Information NVMe Information Current Users	Summary Host Power Status: Host is currently ON Remote Management Module key: Installed Device (GMC) Available : Yes BMC Firmware Build Time: Fir Feb 10.3.41.33.2019 BMC Firmware Build Time: Fir Feb 10.3.41.33.2019 BMC FV Rev: 1.4.3.91706405 BMC FV Rev: 1.4.3.91706405 SOR Package Version : 1.43 Mgmt Engine (ME) FVK Rev: 1.0.401.04.251 Baseboard Serial Number: FCV/FV400250 Overall System Health: Or	
You can now na	wighte around the BMC options using just a web browser. For n	a one of the most useful features is on the Remote Control

You can now navigate around the BMC options using just a web browser. For me one of the most useful features is on the Remote Control tab.

Click the Remote Control tab to bring up the following page.

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	M/Console	KVM/Console Redirection		
A Float at Front Panel over HTML5 Key Sequence Button Name #1 #2 #3 #4 #6 #7 #8 #9 #10 Strete	ver Power Control	Launch Console		
It Front Panel You can view and modify keyboard macros on this page. Button Name is optional. Use Help to see the supported key names. over HTML5 Key Sequence Button Name #1	nch SOL	Keyboard Macros		
OVER HTML5 Key Sequence Button Name #1	ual Front Panel	You can view and modify keyboard macros on this p	age. Button Name is optional. Use Help to see the supported key names.	
#1	M over HTML5	Key Sequence	Button Name	
#2		#1		
#3		#2		
#4		#3		
#5		#4		
#6		#5		
#0		#6		
#7 #8 #9 #10		#7		
#8 #9 #10		#1		
#9 #10 Save		#8		
#10 Save		#9		
Save		#10		
		Save		

Depending on your browser, you might get a window asking for login details, use the BMC login, not the OS login. If you don't get this window, you just have to login from the command prompt.



You can now use the console in the same way you use SSH, so this is really useful if the only available port to the G8 server is port 80 (ssh requires port 22 for example)

Diagnostic Example

When using the Web Console, there are many things you can do, one of these is to look at the server logs. Click on the second tab Server Health.

Now click the Event Log entry on the left hand side.

ntel Integ		C Web Console	iagnostics Miscellaneous I	BIOS Configurations			G Lagost @ Refresh @ Help @
	Event Log						LOADIN
r Readings	0.1						
Log	All Events	ig category:					
	Severity category	Warning Critical					
	This page has	50 event entries					Total Event Log: 1400 event e
			Number	of entries per page 50	✓ << < 1/28	> >>	Event Log is 359
	Event ID =	Timestamp	Sensor Name	Controller SMI Handlor	Severity	Sensor Type	Description CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	63109	Thu Oct 2 11:22:42 2019	Mmry ECC Sensor	SMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53105	Thu Oct 3 11:23:43 2019	Mmry ECC Sensor	CMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53196	Thu Oct 3 11:23:43 2019	Mmry ECC Sensor	SMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53100	Thu Oct 2 11:22:42 2010	Mmry ECC Sonsor	SMI Handler	Critical	Momony	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53105	Thu Oct 3 11:23:43 2019	Mmry ECC Sensor	CMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53104	Thu Oct 3 11:23:43 2019	Minity ECC Sensor	SMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53163	Thu Oct 3 11:23:43 2019	Minity ECC Sensor	ONI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53162	Thu Oct 3 11:23:43 2019	Mmry ECC Sensor	SMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53101	Thu Oct 3 11:23:43 2019	Minity ECC Sensor	SMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	53180	Thu Oct 3 11:23:43 2019	Mmry ECC Sensor	SMI Handler	Critical	Memory	error - Asserted CPU: 2, DIMM: E1 DIMM Rank: 0 Uncorrectable ECC / other uncorrectable memory
	Clear Event I	on Save Event Lon Refresh	Event Lon	SMI Handler	Chucai	memory	error - Asserted
	Great Lyent L	og suve Lvent Log Reneau	Lion Log				

I had a server that would not install any OS, and kept rebooting. The install errors made little sense, so the Even Log was checked by a colleague, and here we can see that is is full of CPU DIMM: E1 errors, indicating that this DIMM has developed a fault.

So if you have a server that is being troublesome, it is worth using the BMC to check for any errors.

From: http://cameraangle.co.uk/ - WalkerWiki - wiki.alanwalker.uk

Permanent link: http://cameraangle.co.uk/doku.php?id=bmc_configuration

Last update: 2023/03/09 22:35

