## H3C UniServer R4700 G3 服务器使用UN-RAID-LSI-9361-8i(2G)-1阵列卡Le gacy BIOS下配置阵列

夏茜 2018-03-23 发表

本文介绍LSI-9361阵列卡在Legacy BIOS启动模式下配置阵列的方法。

一、进入配置界面

在Legacy BIOS启动模式下,开机自检识别到LSI 9361阵列卡后,点击Ctrl+R进入配置界面。

LSI Me Versio Copyri	SI MegaBAID SAS-MFI BIOS ersion 6.22.03.1 (Build February 02, 2015) opyright(c) 2015 LSI Corporation						
HA -0 Batter PCI SI	A -0 (Bus 24 Dev 0) AVAGO MegaRAID SAS 9361-8i 2GB Wattery Status: Fully charged °CI Slot Number: 1						
ID LUN	VENDOR	PRODUCT	REVISION	CAPACITY			
	LSI	AVAGO MegaRAID SAS 9361-8i	4.270.00-4297	2048MB			
27 0	SEAGATE	ST900MM0018	E004	858483MB			
28 0	SEAGATE	ST900MM0018	E004	858483MB			
29 0	SEAGATE	ST900MM0018	E004	858483MB			
30 0	SEAGATE	ST900MM0018	E004	858483MB			
31 0	ATA	INTEL SSDSC2BB48	0112	457862MB			
32 0	ATA	INTEL SSDSC2BB48	0112	457862MB			
0	LSI	Virtual Drive	RAID5	1715904MB			
1 Virt	ual Drive(s	s) found on the host adapter					
1 Virt	1 Virtual Drive(s) handled by BIOS						
Press	<ctrl><r> 1</r></ctrl>	to Run MegaRAID Configuratio	n Utility				

进入界面后,默认是在逻辑卷管理界面 (VD Mgmt)下,可以看到未配置阵列的磁盘,如果有配置好的阵列也能看到。

AVAGO MegaRAID SAS 9361-8i 2GB BIOS Configuration	Utility 5.08-0006
VD Mgmt PD Mgmt Ctrl Mgmt Properties	
Virtual Drive Management —	
[-] AVAGO MegaRAID SAS 9361-8i(Bus 0x18, Dev 0x00)	
- No Configuration Present !	Drive:
L-[-] Unconfigured Drives	State: Ready
	Vendor: SEAGATE
— P0:01:01: Ready: 837.84 GB	Encl. Position: 1
— P0:01:02: Ready: 837.84 GB	Slot : 0
— P0:01:03: Ready: 837.84 GB	
— P0:01:04: Ready: 446.62 GB	
└── P0:01:05: Ready: 446.62 GB	
F1-Helm F2-Operations F5-Refresh Ctrl-N-Next Page Ctrl	-P-Preu Page F12-Ctlr

二、切换磁盘模式

使用Ctrl+N组合键切换到磁盘管理界面(PD Mgmt)。

AVAGO	AVAGO MegaRAID SAS 9361-8i 2GB BIOS Configuration Utility 5.08-0006						
VD Mgmt P	D Mgmt	Ctrl Mgmt	Properti	es			
F			— Drive M	anager	nent ———	I construction of the second sec	
						PAGE-1	
SXP 24x12	G	H3C-Exp Por	t0-3			Secured:	
Slot	Туре	Capacity	State	DG	Vendor	No	
P0:01:00	SAS	837.84 GB	UG	-	SEAGATE	Encryption Capable:	
P0:01:01	SAS	837.84 GB	UG	-	SEAGATE	No	
P0:01:03	SAS	837.84 GB	UG		SEAGATE	EKM Support:	
P0:01:02	SAS	837.84 GB	UG		SEAGATE	Disabled	
P0:01:05	SSD-SATA	446.62 GB	UG		ATA	Connector:	
P0:01:04	SSD-SATA	446.62 GB	UG		ATA	Port 0 - 3	
						Enclosure Model:	
11						SXP 24x12G	
11						Slot Number:	
11						0	
11						Logical Sector Size:	
11						512 B	
11						Physical Sector Size:	
11						4 KB	
11						Product ID: 5 + 1 +	
11						ST900MM0018	
11							
						<gotopage:2></gotopage:2>	
F1-Help F2	-Operati	ons F5-Refr	esh Ctrl-	N-Next	t Page Ctrl	-P-Prev Page F12-Ctlr	

在需要切换模式的磁盘上点击F2,如果是unconfigured bad的磁盘,可能里面有残留的阵列信息,可以选择Make unconfigured good重新标记为未配置的良好磁盘,切换模式后可以用于配置阵列。由于此磁盘已经是unconfigured good模式,所以不能做选择。

	AVAGO MegaRA	ID SAS 9361-8i	i ZGB BIOS Configuration	Utility 5.08-0006
	VD Mgmt PD Mgmt	Ctrl Mgmt P	Properties	
Γ			Drive Management	PAGE-1
	SXP 24x12G Slot Type	H3C-Exp Port Capacity	Rebuild	red:
	P0:01:03 SAS P0:01:05 SSD-SAT	837.84 GB A 446.62 GB	Copyback	Jution Capable:
	P0:01:04 SSD-SAT P0:01:00 SAS	A 446.62 GB 837.84 GB	Locate	bled
	P0:01:01 SAS	837.84 GB	Place drive Online Place drive Offline	0 - 3 usure Model:
			Make Global HS	24x12G
			Make JBOD	
			Make unconfigured good	ical Sector Size:
			Prepare for removal	angt ID: 9MM0018
				<gotopage:2></gotopage:2>

三、配置阵列

1、在逻辑卷管理界面(VD Mgmt),使用方向键移动到No Configuration Present!上面,点击F2,选择Create Virtual Drive来创建逻辑卷。



2、进入界面后,可以看到设置选项,在阵列级别上点击回车,选择想要配置阵列的级别。

AVAGO MegaRAID SAS 9361-8	i 2GB BIOS Configuration Utility 5.08-00	06
D Mgmt PD Mgmt Ctrl Mgmt	Properties	
• • I ·	- Create New III)	
RAID Level: RAID-0	PD ner Snan : NZA	
RAID-1	- Drives	
RAID-5	ID Type Size #	
Data Protection: RAID-6	[ ]P0:01:00 512e 837.84 GB	
RAID-10	[ ]P0:01:01 512e 837.84 GB	
RAID-50	[ ]P0:01:02 512e 837.84 GB	
RAID-60	[ ]P0:01:03 512e 837.84 GB	
	[ ]P0:01:04 512e 446.62 GB	
	[ ]P0:01:05 512e 446.62 GB	
- Basic Settings		
Size:	Advanced DK CANCEL	
Name:	the second se	

3、使用方向键切换到磁盘选择选项上,在想要选择的磁盘上点击回车进行选择,左下方的Basic Settin gs还可以调整逻辑卷容量和名称。

AID Level: RAID-5	PD per Span : N/A	
	ID Type Size	#
ata Protection: Disable	[X]P0:01:00 512e 837.84 GB	00
	[X]P0:01:01 512e 837.84 GB	01
	[X]P0:01:02 512e 837.84 GB	02
	[ ]P0:01:03 512e 837.84 GB	
	[ ]P0:01:04 512e 446.62 GB	
	[ ]P0:01:05 512e 446.62 GB	
- Paoio Sottingo		
Size: 1.635 TB	Advanced OK	CANCEL
Name:		

4、如果想要创建多个逻辑卷,在容量位置做一下修改,然后在Drive Group上面点击F2,然后选择Add New VD进行创建新的逻辑卷。



这个界面也可以修改容量大小,但是不能修改阵列级别。

AID Level: RAID-5	UD in Drive Group 0
ata Protection: No	Drives   ID Type Size #   P0:01:00 512e 837.84 GB 00   P0:01:01 512e 837.84 GB 01   P0:01:02 512e 837.84 GB 02
- Basic Settings Size: 651.687 GB Name:	Advanced OK CANCEL

6、选择Advanced,可以做一些其他设置,没有特殊需求默认即可。

AVAGO M VD Mgmt PD	egaRAID SAS 93 Mgmt Ctrl Mgm	6 <mark>1-8i 2GB BIO</mark> t Propertie Virtual Driv	S Configuration Utility 5.08-0006 s e Management
		Create	New VD
RAID Leve	Strip Size:	Create Uirtu 256KB	al Drive-Advanced
Data Prot	Read Policy:	Ahead	[ ] Configure HotSpare [ ] Disable BG1
	Write Policy:	Write Back w	ith
	I∕O Policy:	Direct	ОК
Basic Size: Name:	Disk cache Policy	Unchanged	CANCEL
	Emulation	Default	

7、使用方向键切换到OK上,点击回车,提示是否要跳过初始化,如果不需要初始化逻辑卷,选择OK,配置完成。

AVAGO MegaRAID SAS 9361-8	i 2GB BIOS Configuration Utility 5	.08-0006
U nymt ru nymt ttri nymt i	ropercies	
10 m	- Create New VD	
n		
RAID Level: RAID-5	PD per Span : NZA	
	Drives	
	ID Type Size	#
Data Protection: Disable	LXJP0:01:00 512e 837.84 GB	00
	IXJF0.01.01 JIZE 0J7.04 0D IXJP0.01.02 512e 837 84 CB	01 02
	[ 1PA:A1:03 512e 837.84 GB	
	[ ]P0:01:04 512e 446.62 GB	
	[ ]P0:01:05 512e 446.62 GB	
		)
Desta Pattinga		
Size: 1 625	Advanced 0V	CONCEL
512C. 1.055 1D	Начансеа Ол	CHUCEL
Name:		

8、在逻辑卷管理界面(VD Mgmt)可以看到配置好的阵列。

AVAGO MegaRAID SAS 9361-8i 2GB BIOS Configuration	Utility 5.08-0006
VD Mgmt PD Mgmt Ctrl Mgmt Properties	
Virtual Drive Management	
[-] AVAGO MegaRAID SAS 9361-8i(Bus 0x18, Dev 0x00)	
└─[-] Drive Group: 0, RAID 5	Drive Group 0:
-[-] Virtual Drives	Virtual Drives: 1
└── ID: 0, 1.63 TB	Drives: 3
-[-] Drives	Free Cap.: 0.00 KB
- P0:01:00: Online: 837.84 GB	Free Areas: 0
└── P0:01:02: Online: 837.84 GB	
—[-] Available size: 0.00 KB	
└── ID: 0, 1.63 TB	
- Hot spare drives	
L-1 Unconfigured Drives	
├── P0:01:03: Ready: 837.84 GB	
— P0:01:04: Ready: 446.62 GB	
└── P0:01:05: Ready: 446.62 GB	
F1-Help F2-Operations F5-Refresh Ctrl-N-Next Page Ctrl-	-P-Frev Page F12-Ctlr

9、在阵列上面点击回车。



10、可以看到其他的配置信息。

AVAGO MegaRAID SAS 9361-8i	2GB BIOS Configurati	on Utility 5.08-0006
VD Mgmt PD Mgmt Ctrl Mgmt P	coperties	
Uirtua	I Drive A - Propertie	
General RAID Level: RAID-5		
Name:		
Size: 1.635 TB		
Strip Size: 256 KB		
VD State : Optimal		
Operations		
operation . No operation		
Progress : N/A		
Time Left : N∕A	Advanced	OK CANCEL

11、选择Advanced,可以看到更多配置信息。

	AVAGO I	legaRAID SAS 9361-8i 2GB BIOS Co	nfiguration Utility 5.08-0006	
Ų	D Mgmt PD	Mgmt Ctrl Mgmt Properties		
		Uirtual Drive Na		
	General	Advanced Prope	rties	
	RAID Leve Name:	Read Policy: Ahead Em	ulation: Default	
	Size:	Default Write: Write Back w	[ ] Disable BGI	
	Strip Siz	Current Write: Write Back		
	VD State	I/O Policy: Direct		
	- Operati Operation	Disk cache Policy : Unchanged	ОК	
	Progress	Access Policy: RW	CANCEL	
F	Time Left	C+1n		

- 四、添加热备盘
- 1、全局热备盘

切换到磁盘管理界面 (PD Mgmt)。

	AVAG	0 MegaRAI	D SAS 936	1-8i 2GB BI	OS Cor	nfiguration	n Utility 5.08-0006
	VD Mgmt	PD Mgmt	Ctrl Mgmt	Properti	es		
Ī				— Drive M	anager	ment —	
I							PAGE-1
I	SXP 24x1	.2G	НЗС-Ехр Р	ort 0 - 3			Secured:
I	Slot	Type	Capacity	State	DG	Vendor	No
I	P0:01:03	SAS	837.84 G	B UG	-	SEAGATE	Encryption Capable:
I	P0:01:05	SSD-SATA	446.62 G	B UG		ATA	No
I	P0:01:04	SSD-SATA	446.62 G	B UG		ATA	EKM Support:
I	P0:01:00	SAS	837.84 G	B Online	00	SEAGATE	Disabled
I	P0:01:01	SAS	837.84 G	B Online	00	SEAGATE	Connector:
I	P0:01:02	SAS	837.84 G	B Online	00	SEAGATE	Port 0 - 3
I							Enclosure Model:
I							SXP 24x12G
I							Slot Number:
I							3
I							Logical Sector Size:
I							512 B
I							Physical Sector Size:
I							4 KB
I							Product ID:
I							ST900MM0018
I							<gotopage:2></gotopage:2>
	F1-Help F	2-Operati	ons F5-Re	fresh Ctrl-	N-Next	t Page Ctr	I-P-Prev Page F12-Ctlr

在想要配置热备盘的磁盘上点击F2,选择Make Global HS。

AVAGO MegaRAID SAS 9361-8i	2GB BIOS Configuration l	Jtility 5.08-0006
VD Mgmt PD Mgmt Ctrl Mgmt P	roperties	
	Drive Management	PAGE-1
SXP 24x12G H3C-Exp Port Slot Type Capacity PD-D1-D3 SeS 832 84 CB	Rebuild	red:
P0:01:05 SSD-SATA 446.62 GB	Copyback	> Support :
P0:01:00 SAS 837.84 GB	Locate	bled
P0:01:02 SAS 837.84 GB	Place drive Online Place drive Offline	0 - 3 osure Model:
	Make Global HS Remove Hot Spare drive	number:
	Drive Erase	Ball Sector Size:
	Make JBOD Make unconfigured good	Gal Sector Size:
	Prepare for Removal	8MM0018
Et Hole E2 Operations EF Balance	b Ctul N Newt Base Ctul I	<gotopage:2></gotopage:2>

可以看到磁盘状态变为Hotspare。

	AVAGO MegaRAID SAS 9361-8i 2GB BIOS Configuration Utility 5.08-0006						
	VD Mgmt	PD Mgmt	Ctrl Mgmt	Propertie	s		
Г				- Drive Ma	nager	nent ——	
L					-		PAGE-1
I	SXP 24x	(12G	H3C-Exp Por	t0-3			Secured:
L	Slot	Type	Capacity	State	DG	Vendor	No
L	P0:01:0	3 SAS	837.84 GB	Hotspare	-	SEAGATE	Encryption Capable:
L	P0:01:0	15 SSD-SATA	446.62 GB	UG	-	ATA	No
L	P0:01:0	4 SSD-SATA	446.62 GB	UG		ATA	EKM Support:
L	P0:01:0	0 SAS	837.84 GB	Online	00	SEAGATE	Disabled
I	P0:01:0	11 SAS	837.84 GB	Online	00	SEAGATE	Connector:
L	P0:01:0	IZ SAS	837.84 GB	Online	00	SEAGATE	Port 0 - 3
L							Enclosure Model:
L							SXP 24x12G
L							Slot Number:
L							3
L							Logical Sector Size:
L							512 B
L							Physical Sector Size:
L							4 KB
L							Product ID:
L							ST900MM0018
L							
							<gotopage:2></gotopage:2>
	F1-Help	F2-Operati	ons F5-Refr	esh Ctrl-N	-Next	t Page Ctrl	-P-Prev Page F12-Ctlr

在逻辑卷管理界面(VD Mgmt),可以看到Hot spare drives 下面多出刚才配置的热备盘,状态是全局 热备。



2、专属热备盘

在配置阵列的时候,选择Advanced,在Configure HotSpare上做选择,选择OK。

AVAGO MegaRAID SAS 9361-8i 2GB BIOS Configuration Utility 5.08-0006								
VD Hgnt PD Mgnt Ctrl Mgnt Properties								
- Virtual Drive Management								
	Create New VI							
RAID Leve								
mild heve	Strip Size:	256KB	[ ] Initialize					
Data Prot		· · · · · · · · · · · · · · · · · · ·	[X] Configure HotSpare					
	Read Policy:	Ahead						
		·	[ ] Disable BGI					
	Write Policy:	Write Back w	ith					
	I∕O Policy:	Direct	ОК					
La Basic	D	1						
Size.		Unchangea	CANCEL					
Name:	rorrog							
	Emulation	Default	and the second					
E1-Halp E12	Ct 1x							

选择要作为热备盘的磁盘,选择OK。



在逻辑卷管理界面(VD Mgmt),可以看到Hot spare drives 下面多出刚才配置的热备盘,状态是专属 热备。



五、删除阵列

1、在要删除的阵列上点击F2,然后选择Delete VD。



2、提示数据会丢失,是否继续,选择YES进行删除。



六、初始化逻辑卷

1、在创建阵列的时候选择初始化

在创建阵列的时候选择Advanced,然后选择上Initialize,选择OK。



提示初始化会损坏数据是否继续,	选择OK讲行初始化。

AVAGO MegaRAID SAS 9361-8i 2GB BIOS Configuration Utility 5.08-0006								
Virtual Drive Management								
Create New VD								
DOID I	Create Virtual Drive-Advanced							
VHID LEVE	Strip Size:	256KB	[X] Initialize					
Data Prot	Read Pol	I Initialization will destroy data on						
	Write Po	Are you sure you want to continue?						
Produ	I∕O Poli							
Size:	Disk cac Policy							
	Emulation	Default						
F1-Help F12-	Ctlr							

初始化完成有提示。



2、创建好阵列后进行初始化

在要初始化的阵列上点击F2,选择Initialization——Start FGI,注意初始化完成后才能写数据。



提示初始化会损坏数据,是否继续,选择YES进行初始化。

AVAGO MegaRAID SAS 9361-8i 2GB BIOS Configuration L VD Hgmt PD Hgmt Ctrl Hgmt Properties Uirtual Drive Hanagement [-] AVAGO MegaRAID SAS 9361-8i(Bus 0x18, Dev 0x00) -[-] Drive Group: 0, RAID 5	Itility 5.08-0006 Virtual Drive 0:
Initialization will destroy data on the virt -[+] drive. -[+] Are you sure you want to continue? -[-] Un -[-] P	:ual : 1 1
	9 KB
YES NO	

在查看逻辑卷信息的界面可以看到初始化进度。

AVAGO MegaRAID SAS VD Mgmt PD Mgmt Ctrl	S 9361-8i 2GB BIOS Mamt Properties	Configuration	Utility 5.08-0006
	—— Virtual Drive	Management —	r
General RAID Level: RAID-5	—Virtual Drive 6		
Name:			
Size: 1.635 TB			
Strip Size: 256 KB			
VD State : Optimal			
- Operations			
Operation : Init.			
Progress : 53%			
Time Left : 00:00:45	Adva	nced OK	CANCEL
F1-Help F12-Ctlr			

完成初始化后, 会有提示初始化完成, 选择OK。



1、如果遇到硬盘无法配置阵列,注意查看是否需要切换为unconfigured good的状态。

- 2、如果安装系统过程中,创建分区提示有问题,或者之前有安装过不同种类的系统,可以尝试初始化
- 一下逻辑卷之后再进行安装。
- 3、配置工具里面还有擦除磁盘和擦除逻辑卷的操作,谨慎使用。