

Re: Booting Supermicro 6015V-M3 on SAS drive with LSI 1068E

Source: <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/stable/2007-06/msg00070.html>

- *From:* Jeremy Chadwick <koitsu@xxxxxxxxxxx>
 - *Date:* Wed, 6 Jun 2007 07:41:16 -0700
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On Wed, Jun 06, 2007 at 09:20:55AM -0400, T. Middleton wrote:

It seems the only way to get drives bootable from the BIOS that are plugged into the LSI is to put them into a raid. Once a logical disk is configured in the RAID bios one can see in the system bios "PCI SCSI: Software Raid". However, even if i did want to use this RAID device, FreeBSD doesn't see/support it (or, it doesn't support FreeBSD).

As an experiment I configured the LSI raid to contain one drive (RAID0) (stripe being the size of the drive). I then installed FreeBSD on this drive, and, wonderfully enough, it worked. The BIOS was set to use the "PCI SCSI: Software raid", and the MBR was picked up from the single drive, and FreeBSD took over from there. I don't know how safe this is, but it seemed to still work after multiple reboots, and installing a bunch of software.

I see this same behaviour with one of my Promise SATA RAID 0/1 controllers. If I put a disk on the controller and **do not** define an array (e.g. drives are in JBOD), FreeBSD can see the drive (as ad4) and install onto it, but the Promise BIOS will not boot the disk. The system BIOS boot order is Floppy, CD-ROM, IDE, then SCSI (which is what these controllers claim to be from a BIOS perspective). The "Boot Other" option is also set to Yes.

The Promise controller also states something about "not installing interrupt handler", which I'm pretty sure is needed for the controller to be used to boot the disk. I forget which interrupt it is, but the method is fairly normal (seen it on Adaptec controllers too).

Not until I go into the Promise BIOS and define a RAID array (I picked RAID 0 with only 1 disk associated with it) will the controller boot the disk. FreeBSD then comes up and sees two available disks: ad4 (the standalone disk in JBOD) and ar0 (the RAID 0 array). I'm positive this part is normal behaviour (for FreeBSD), but the fact I have to define an array to get the disk bootable is just silly.

Then again, I suppose most people buying RAID controllers are doing so to use the actual benefits of RAID, so I'll likely be branded as someone

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who's crying over spilled milk. If I had two disks in the system and was using RAID 1, safe to say the instant I defined the RAID 1 array, the system would boot and FreeBSD would see both disks and ar0.

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