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configuring fast cache on the clariion
revision 0.1

synopsis

The following is a simple document with screenshots providing step-by-step instructions for
the configuration of the FAST Cache product on EMC CLARiiON CX4 arrays.

FAST and FAST Cache are separately licensed products available from EMC. For more
information refer to http://australia.emc.com/products/detail/software/clariion-fast.htm.

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introduction

The FAST and FAST Cache enablers allow the use of automated storage tiering on a CLARiiON as well as the use of Flash drives as cache.

There are a few things to note when installing the FAST Suite on a CX4. Firstly, you're going to lose some SP memory to FAST. But this pops up as a message in the USM when you install the enabler. Of course, if you don't install the enabler yourself, you might be in for a rude shock when you roll in the next day and Read Cache is disabled.
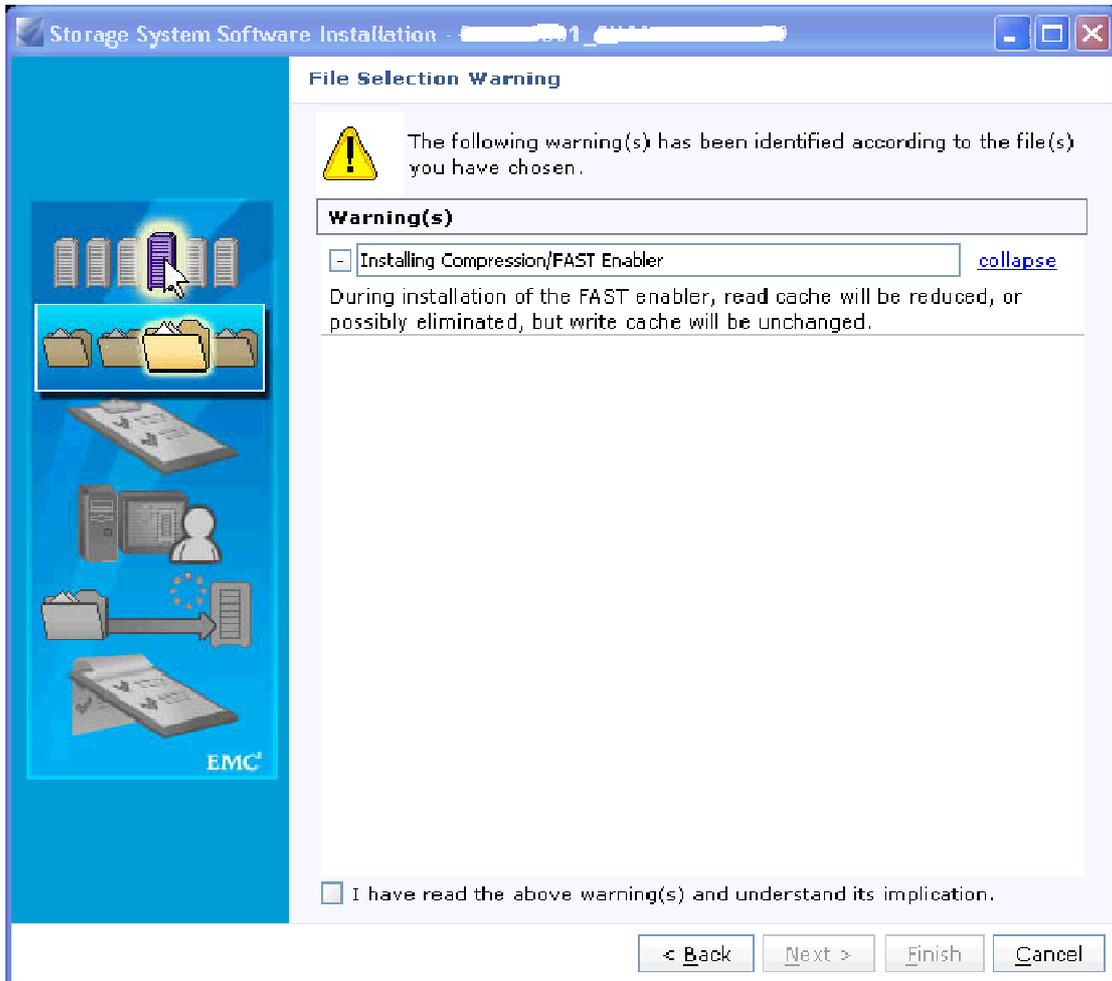

Figure 1 – FAST Cache Reduction Warning

On our systems we have SP Cache set to 1000MB Read / 9760MB Write, per the EMC Performance whitepaper for FLARE 30.

Figure 2 - Standard CX4-960 Cache Settings

Once the FAST Suite is installed, you'll need to re-adjust your expectations accordingly.

Cache

Memory	State	Size
FAST Cache	N/A	0 GB
SP A Free Memory		0 MB
SP A Read Cache	Enabled	1000 MB
SP B Free Memory		0 MB
SP B Read Cache	Enabled	1000 MB
Write Cache	Enabled	8760 MB

Properties

Figure 3 - Post-FAST Installation Cache Allocation

You also need to have the correct number of EFDs available for your system type, but this is something that will generally be identified during the pre-sales process.

Model	FAST Cache capacity (GB)	Flash drive capacity (GB)	Number of drives
CX4-120/NS-120	100	100	2
	73	73	2
CX4-240	200	100	4
	146	73	4
	100	100	2
CX4-480/NS-480	800	200	8
	400*	200	4
	200	100	4
	146	73	4
CX4-960/NS-960	2,000	200	20
	1,000	200	10
	400	100	8
	292	73	8

* This configuration requires FLARE version 04.30.000.5.507 or later.

Figure 4 - FAST Cache Configuration Options - CX4[1]

process

Once you have the correct enablers and hardware in place, the first step is to go to the System Properties, select the FAST Cache tab, and click on Create.

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[1] **EMC CLARiiON, Celerra Unified, and VNX FAST Cache - A Detailed Review**, March 2011, h8046-clariion-celerra-unified-fast-cache-wp.pdf, p. 20
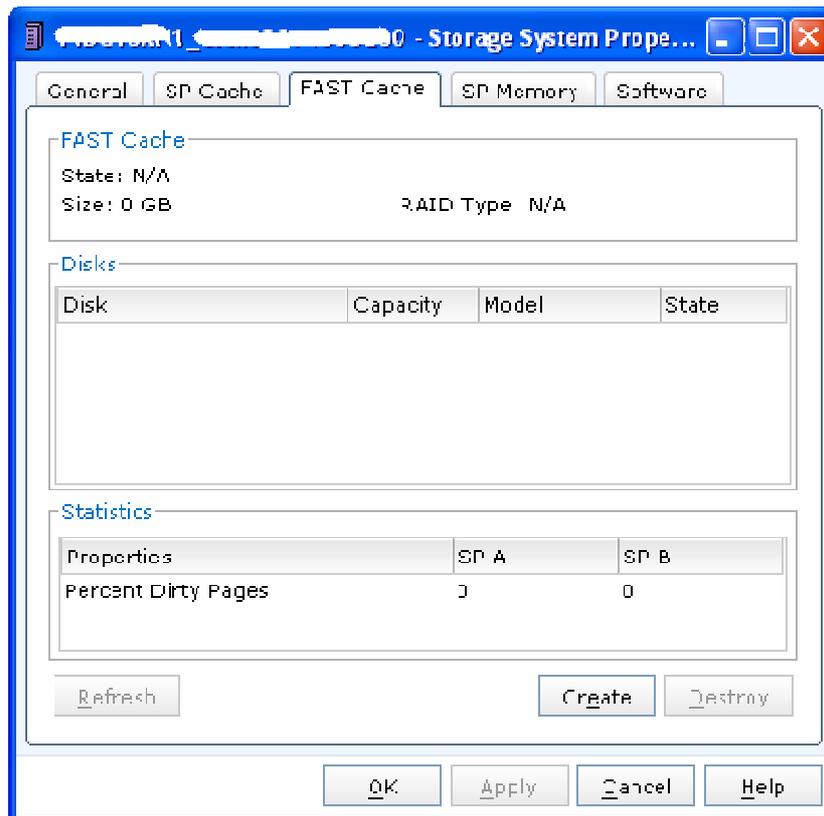
Figure 5 - FAST Cache Creation - Step 1

It's worthwhile paying attention to the following warning, because if you're system is getting flogged, it may be worthwhile waiting for some "quiet time".
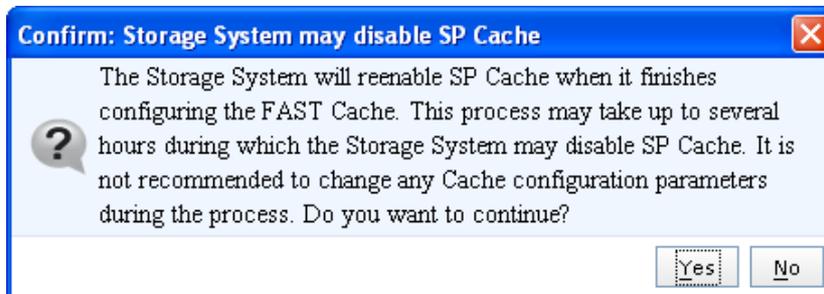

Figure 6 - FAST Cache Configuration Warning

You'll then be presented with the Create FAST Cache dialogue box, which covers the RAID Type, Number of Disks, and Disk Selection.
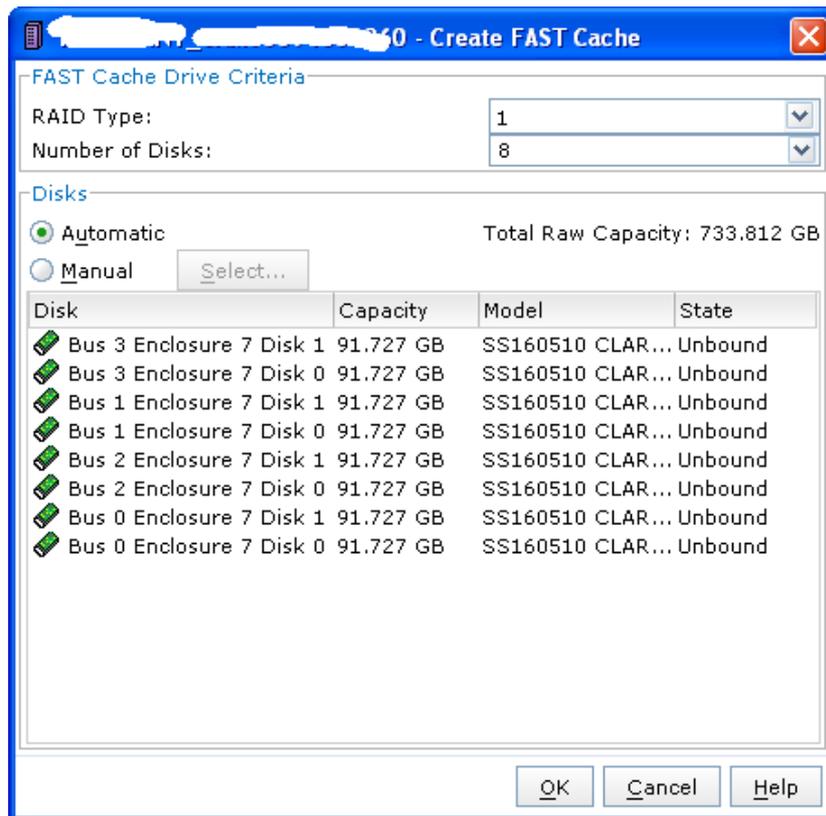
Figure 7 - FAST Cache Creation - Step 2

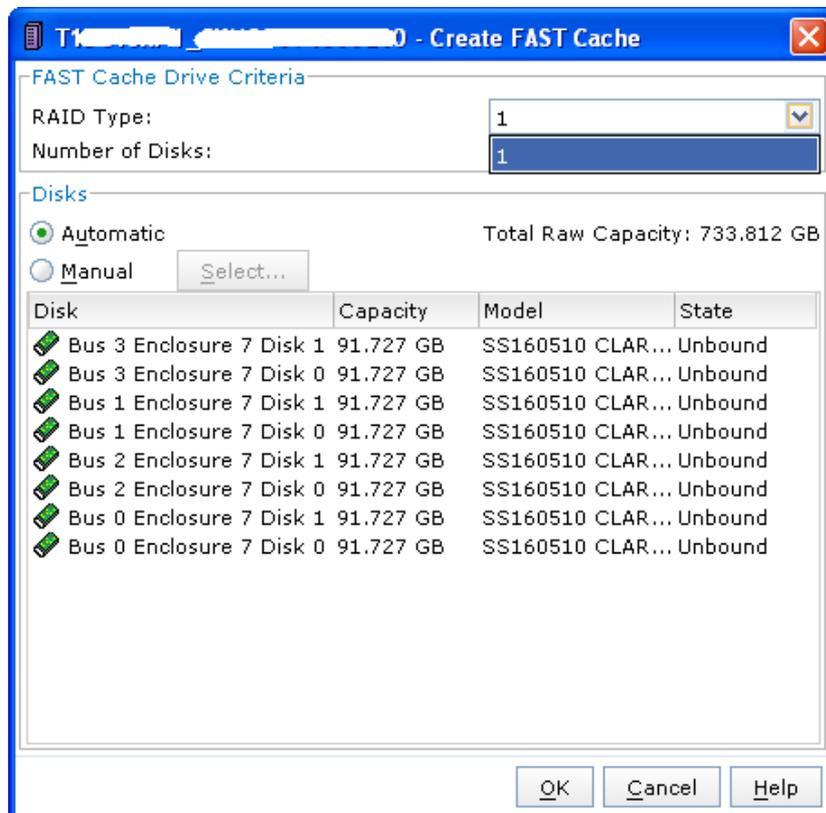You'll notice that the only RAID Type available is RAID 1. So no, you can't change it.

Figure 8 - FAST Cache Creation - RAID Type

You can also modify the number of disks included in the selection, but you'll find you're limited to the constraints of the hardware model you're working on.
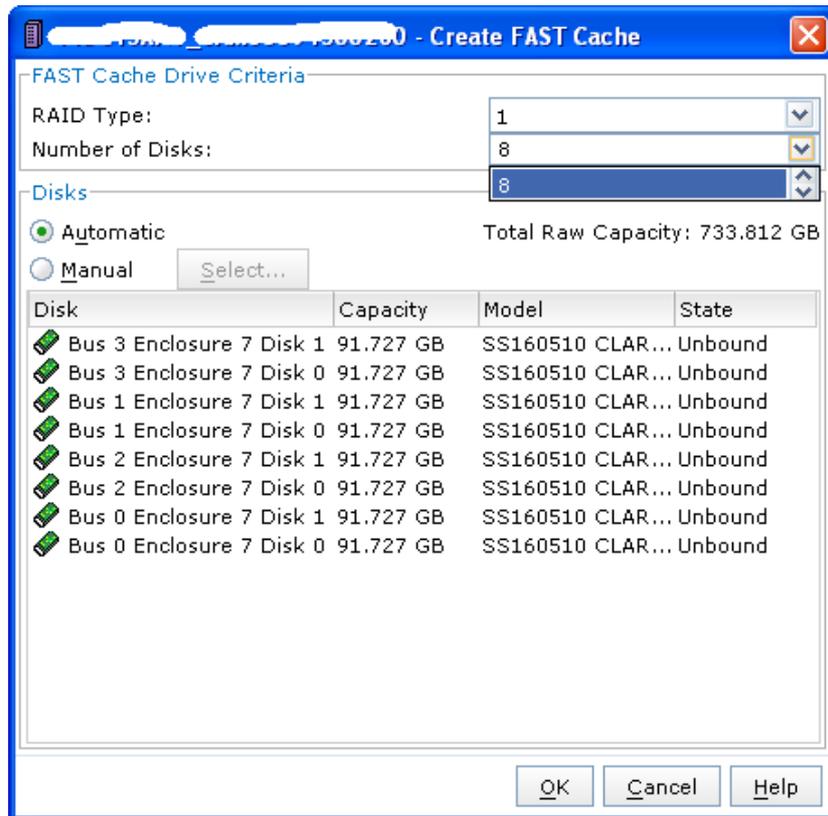

Figure 9 - FAST Cache Creation - Number Of Disks

Don't believe me? Go on then, try and change it. You can't? There you go then.
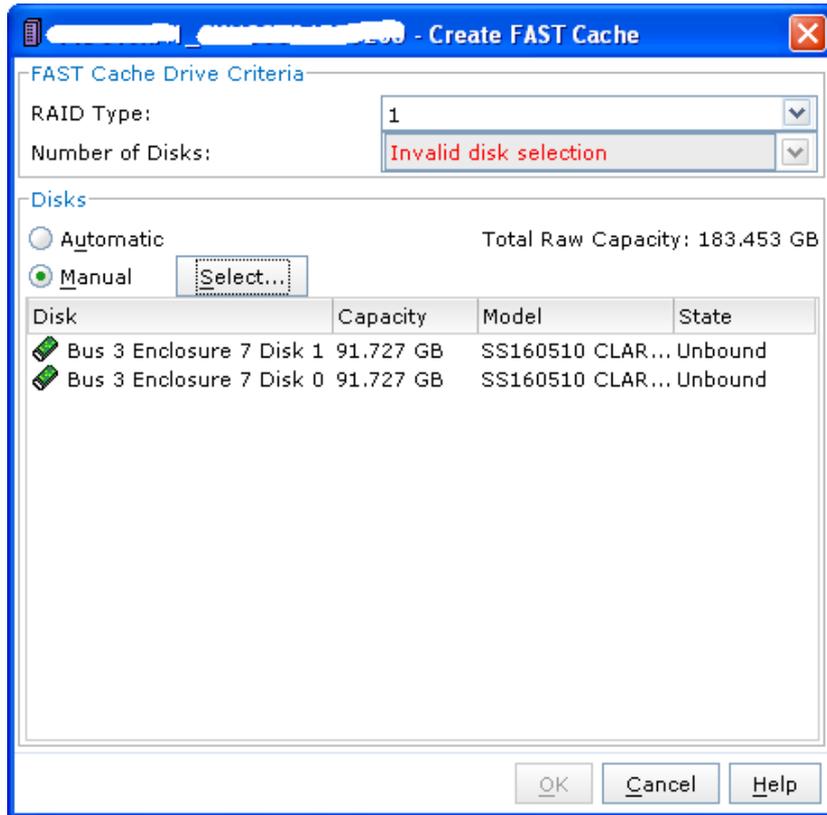
Figure 10 - FAST Cache Creation - Invalid Disk Selection

Once you're satisfied with the disk selection, click OK to complete the disk selection process.
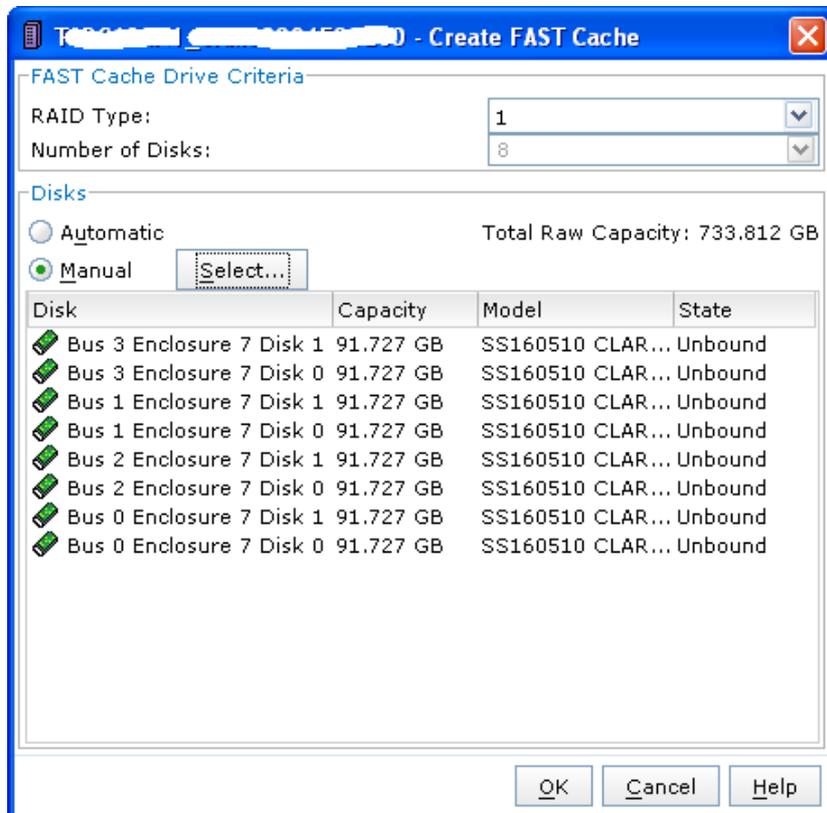

Figure 11 - FAST Cache Creation - Step 3

Once the disks have been selected, the Cache will start initializing. I've included a few extra

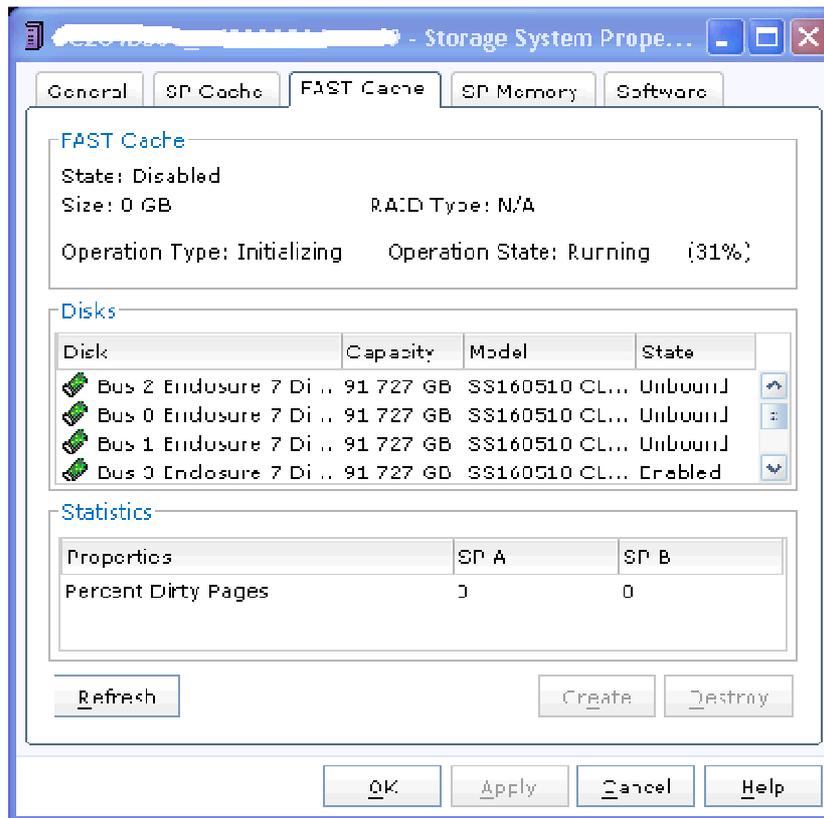screenshots here to keep the excitement levels elevated.
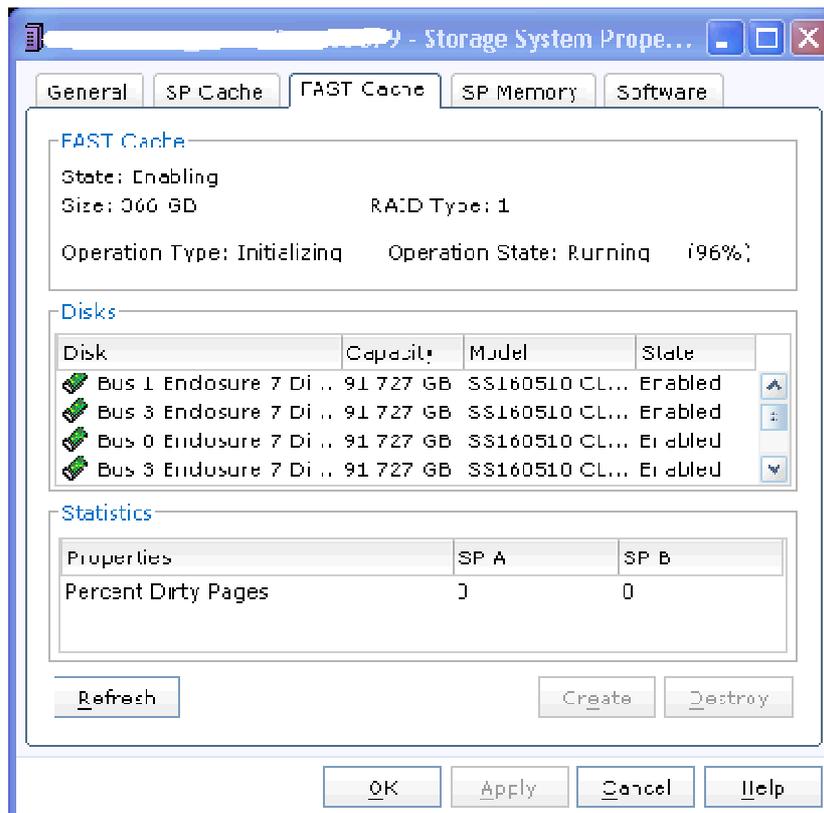

Figure 12 - FAST Cache Initialization

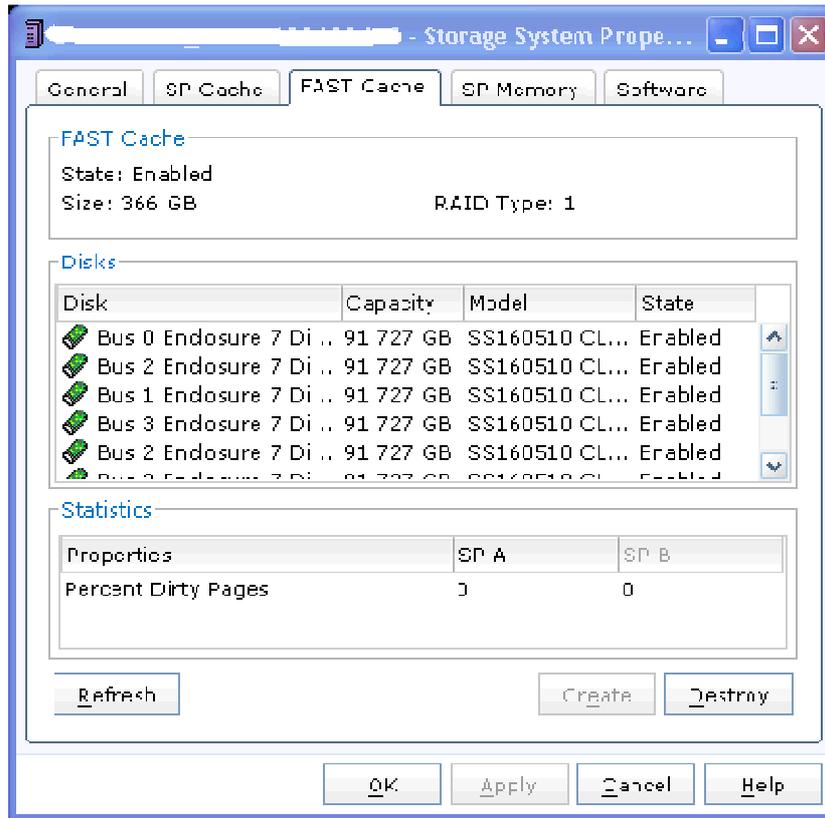**Figure 13 - FAST Cache Initialization**

And now it's done! Woot!

Figure 14 - FAST Cache Initialization Complete

Oh hey what did you guys do to my Cache now?

Figure 15 - Post FAST Cache Configuration Cache Settings

Even though the SP Cache is re-enabled, you might want to disable it again and set some of the values. On our array I set Read to a marketing GB, and Write uses the rest.

You'll also notice that things look slightly different in Unisphere as well.

Figure 16 – Pre FAST Cache Installation

Here you can see that we've got FAST Cache turned off on our Storage Pools at the moment.

But that's a story for another time.

Name	State	RAID Type	Drive Type	User Capacit...	Free Capacity...	Allocated (GB)	%Consumed	Subscrib...	%Subscr...	FAST Cache
SP_....._5	Ready	RAID5	Mixed	37902.313	7679.469	30222.845				Off
SP_....._10	Ready	RAID1/0	FC	1600.098	1288.079	312.019				Off
SP_...._5	Ready	RAID5	FC	9660.590	2276.139	7384.451				Off
SP___5_EXCH_DATA_1	Ready	RAID5	FC	33812.064	15330.936	18481.128				Off
SP__10_EXCH_LOGS_1	Ready	RAID1/0	FC	12800.781	6620.404	6180.377				Off

Figure 17 - Post FAST Cache Installation