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creating remote mirrors with emc navisphere manager
revision 0.1

synopsis

The following is a simple document with screenshots providing step-by-step instructions for creating remote mirrors on the EMC CLARiiON with Navisphere Management Server. It is intended to be read in conjunction with the appropriate revision of the EMC Navisphere Manager Help.

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Creating remote mirrors on the EMC CLARiiON with Navisphere is a relatively simple process. The aim of this guide is to simply provide the screenshots that should accompany the words in the Administrators Guide. This document assumes that the MirrorView relationship has already been established between at least two CLARiiON arrays, and that they are in the same security domain. The screenshots used were taken on 2 CX4-120 arrays running Release 28 FLARE. The MirrorView product in this example is MirrorView/Asynchronous.

The first step is to create a Secondary Image LUN for the LUN to be mirrored. This can either be done on the secondary array, or, by right-clicking on the primary LUN and selecting “Create Secondary Image LUN”. A dialogue box is then presented similar to the figure below.

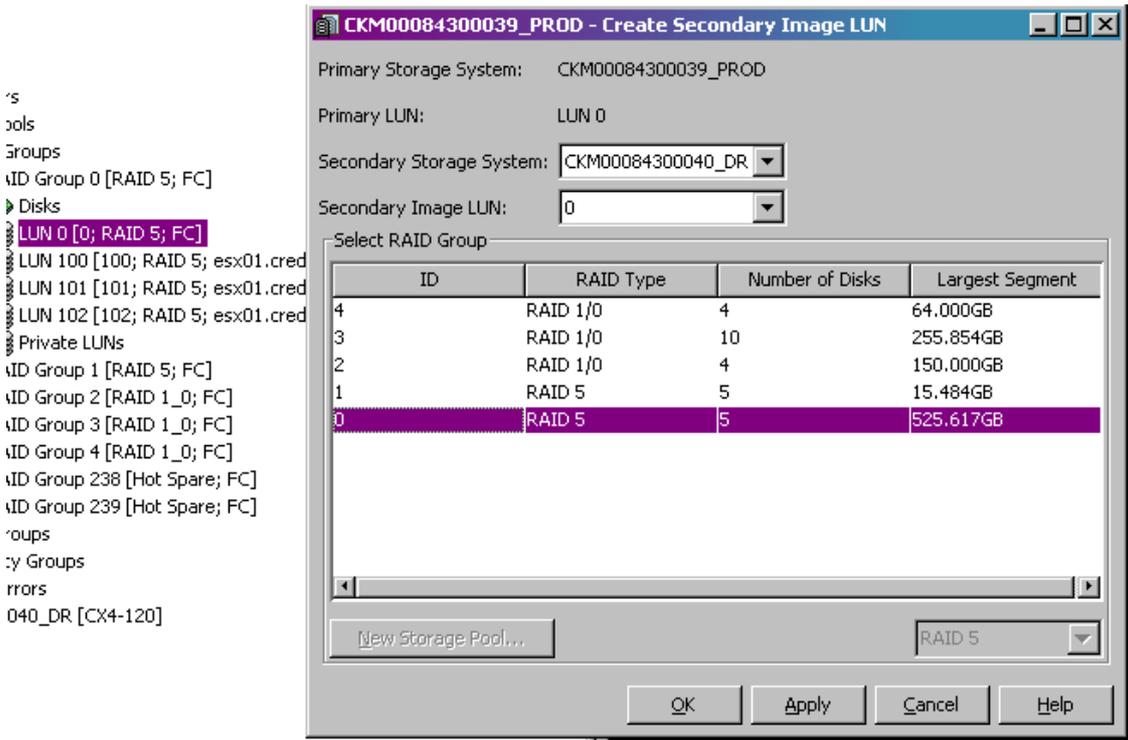


Figure 1 - Create Secondary Image LUN

The secondary storage system can then be selected (useful if the CLARiiON has more than one MirrorView relationship), a Secondary Image LUN ID can be chosen (common sense would dictate that this ID be the same as the primary), and the RAID Group designated to contain the secondary image can also be selected. It is important to keep in mind that, while there are people around town using RAID Groups with dissimilar performance characteristics, this isn't recommended. If, for some reason, the workload is moved to the secondary site, the secondary images will obviously become primary images, and running ESX guests or Exchange databases on 1TB SATA-II spindles won't be anywhere near as fast as you'll want it to be.

Of course, like most things in Navisphere, you'll find yourself getting prompted time and again to confirm your actions. I don't think this is a bad thing.

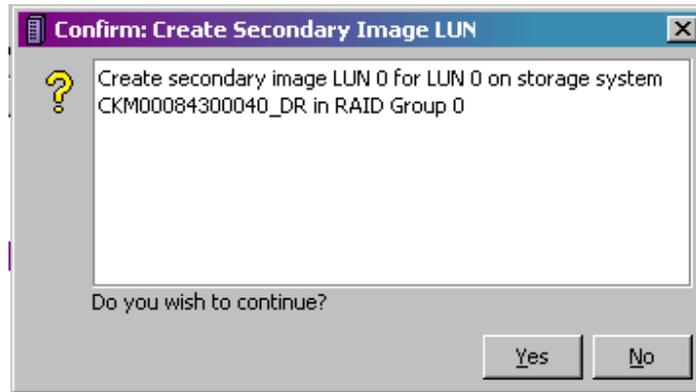


Figure 2 - Create Secondary Image LUN Confirmation

Once the secondary image LUN has been established on the secondary array, the Remote Mirror can then be created. To do this, start by right-clicking on the LUN to be mirrored. Select "MirrorView" – "Create Remote Mirror...".

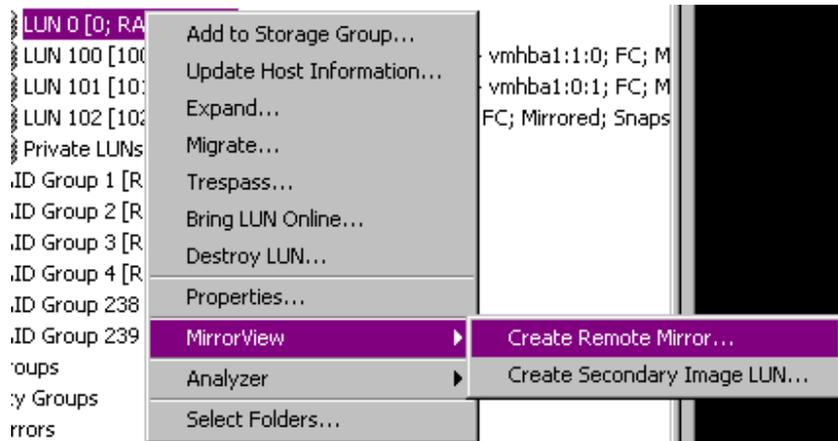


Figure 3 – Right-click, Create Remote Mirror

The dialogue box will offer a number of choices, depending on the enablers that have been loaded on the array. In this example, the MirrorView relationship will be Asynchronous. The name provided should be something simple that reflects the function of the remote mirror. This should apply for all of your naming standards. This is why my children are called Nest Egg 1 and Nest Egg 2. But I digress.

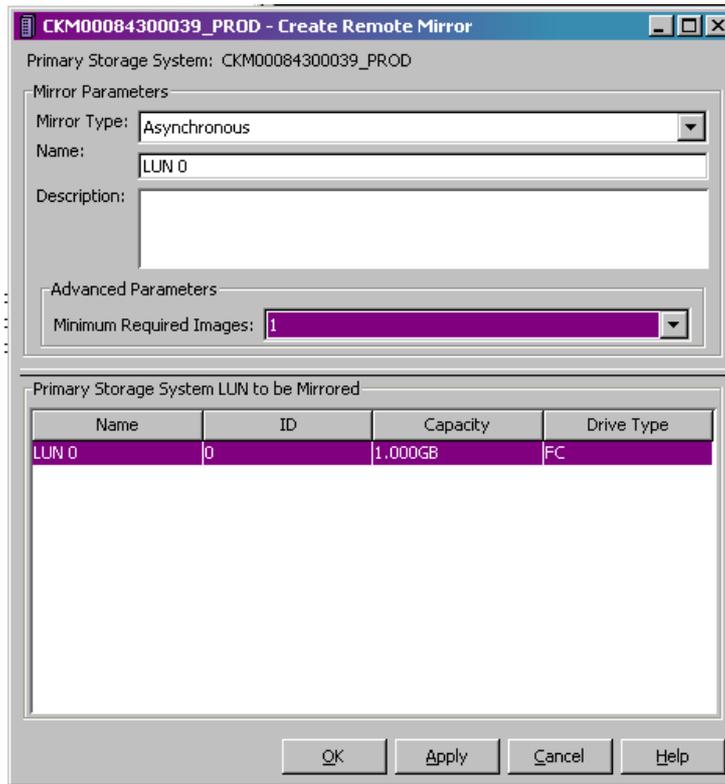


Figure 4 - Create Remote Mirror Dialogue

You'll then have the opportunity to confirm your actions. Note that the mirror isn't a mirror until the secondary mirror image is added. We'll get to that shortly.



Figure 5 - Create Remote Mirror Confirmation

Once the mirror has been created, the primary CLARiiON will come up with an F as in faulted. It is really important that you don't panic at this point because, unless you've also had the misfortune of some bizarre hardware fault occurring at the same time, it just means that the mirror needs, well, mirroring.

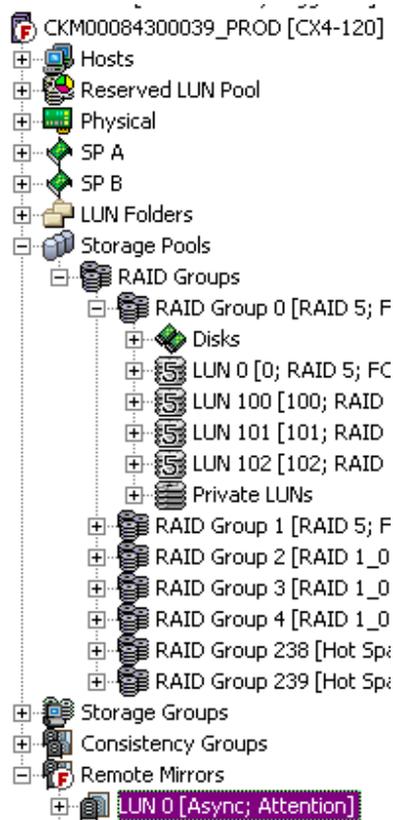


Figure 6 - Remote Mirror Fault Indicator

Right click on the Remote Mirror and select “Add Secondary Image”. This will provide you with the opportunity to establish a relationship between the primary LUN and the Secondary Image LUN that was created back at the start of the process.

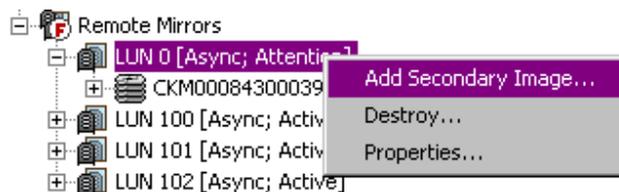


Figure 7 - Right-click, Add Secondary Image

A Dialog box will be presented with a number of parameters that can be set. Of note is the “Recovery Policy”, which can be set to Automatic or Manual. This dictates whether the array will attempt to recover a MirrorView session if, for some reason, there is a break in communication. The Synchronization rates can be selected (the more mirrors you establish, particularly over Asynchronous iSCSI, the less likely you’ll be to want to run things at a High priority). The Update Type, and thus the frequency of updates, can also be set from this dialogue. The update can be Manual, set from Start or Last Update, or End of Last Update. Most people will want to select End of Last Update as the option here, and a figure in number of minutes can be entered here. The figure you enter here will obviously be dependant on your RPO / RTO, and the strength of the link. Obviously, there is no need to think about this with MirrorView/Synchronous as the mirror is “always on”.

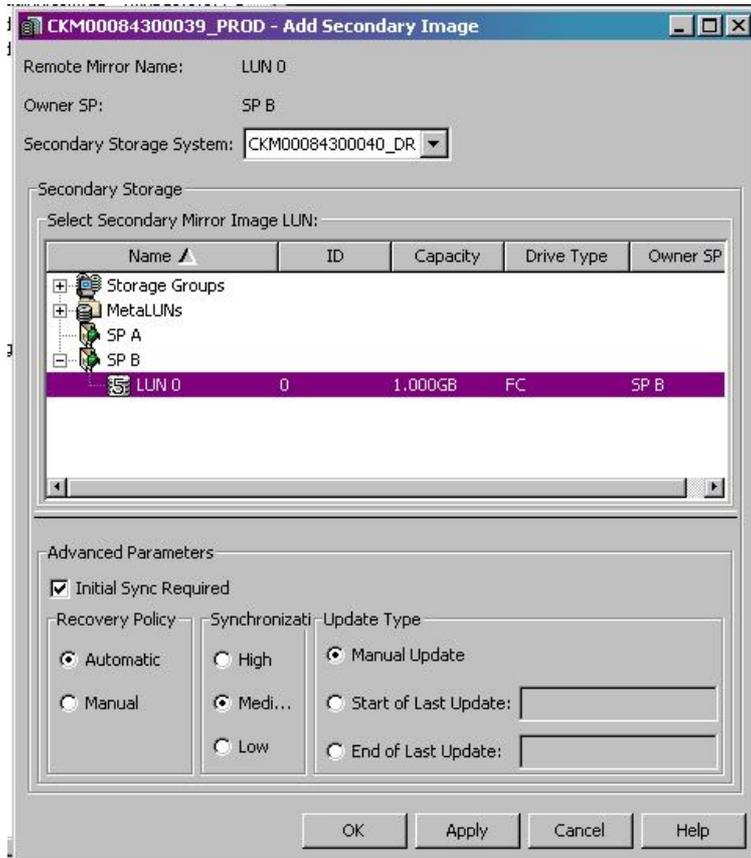


Figure 8 - Add Secondary Image Dialogue

Just in case you forgot you were working in Navisphere, here's another confirmation box that will pop up once you've clicked okay.

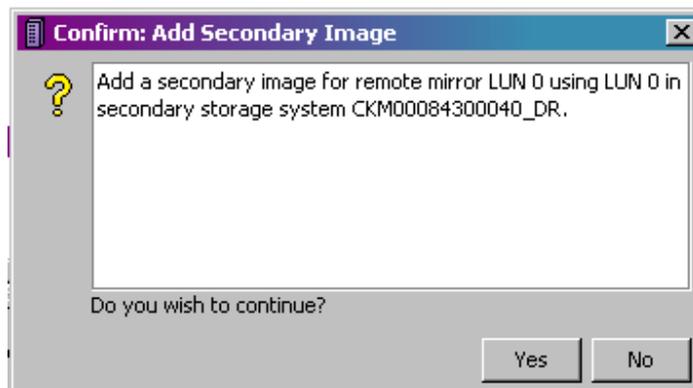


Figure 9 - Add Secondary Image Confirmation

Notice that the scary little red F has now turned into a friendly blue T that means that the state of the mirror's health is "transitioning" (from bad to good, generally).

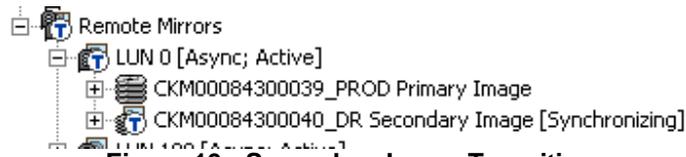


Figure 10 - Secondary Image Transition

To view information about the Mirror, right-click on the Remote Mirror and select “Properties...”

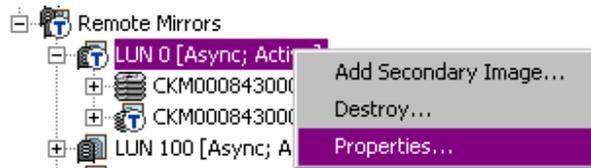


Figure 11 - Remote Mirror Properties

At this point you can see general information about the Remote Mirror image, including the mirror type, the storage system it lives on, its name, and the Unique ID. You could also take this opportunity to provide a more verbose description of the remote mirror, or perhaps you could adjust the number of minimum required images.

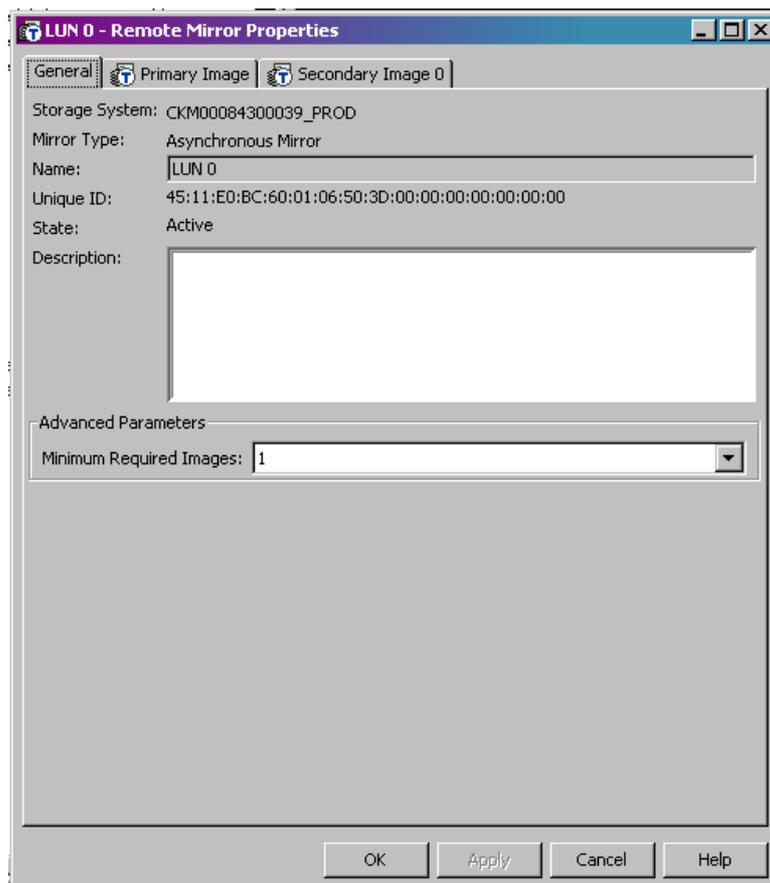


Figure 12 - Remote Mirror Properties - General

The Primary Image tab provides information about, well, the primary image in the MirrorView relationship.

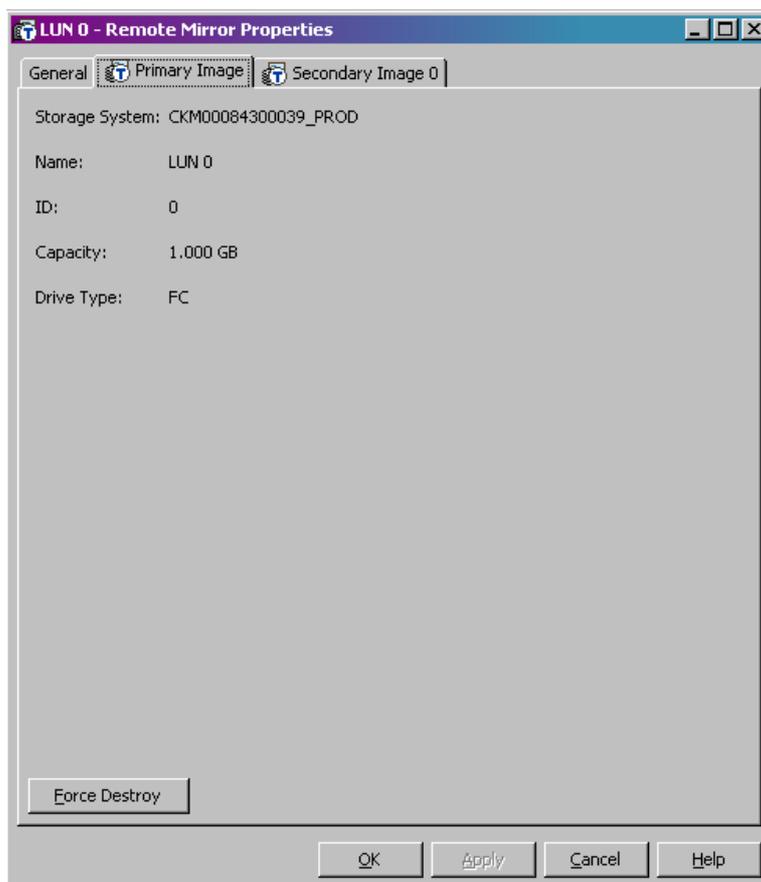


Figure 13 - Remote Mirror Properties - Primary

That's right, the Secondary Image tab provides information about the secondary image, including its location, the condition of the image, the state and its name. This tab can also be used to modify the parameters that were initially set with the image. The Update Information is useful in determining the approximate progress of a synchronization operation.

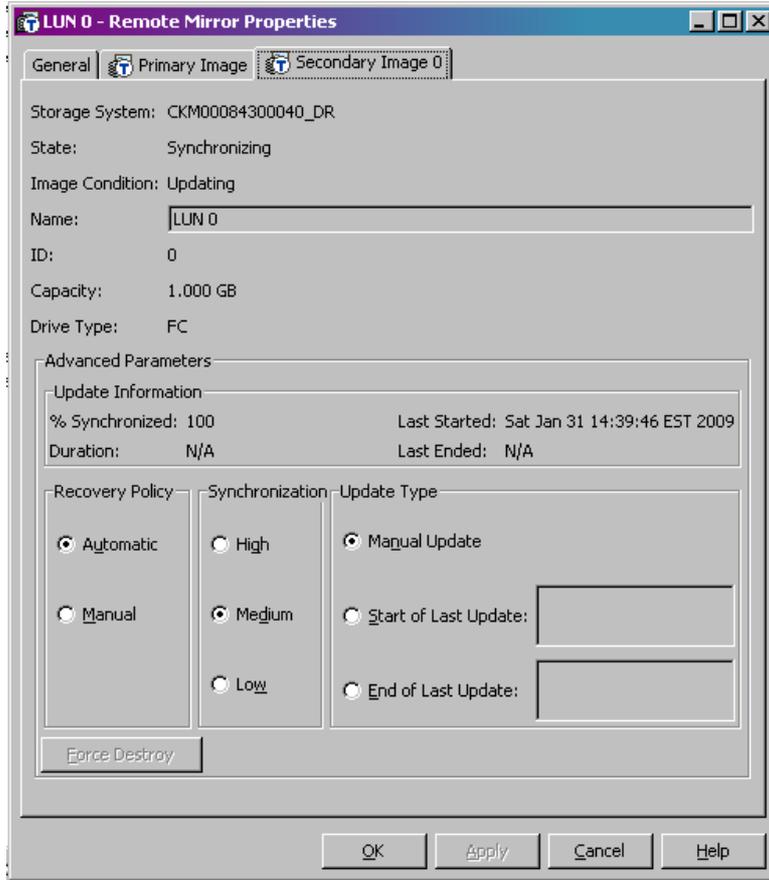


Figure 14 - Remote Mirror Properties - Secondary

Note in the following screenshot the Image Condition has changed from updating to Normal. I know - it's very exciting isn't it?

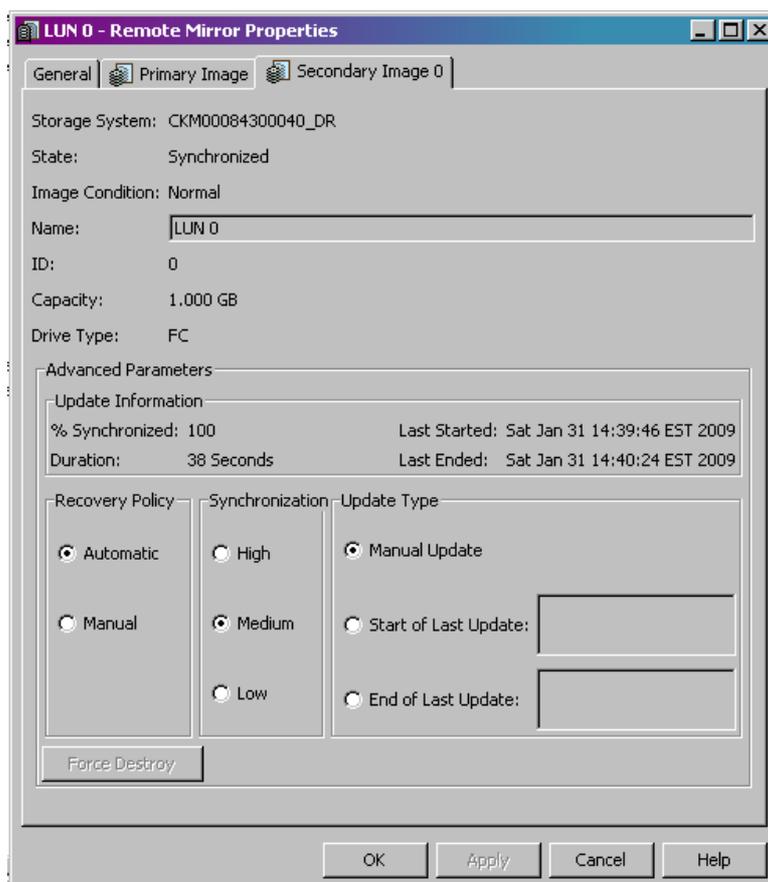


Figure 15 - Secondary Image Condition

EMC MirrorView doesn't have to be difficult. So don't let people tell you it is. Sure, wrapping your brain around how the updates are actually done under the hood can be a little confusing at first, but from a simple operational perspective, this document should demonstrate that it just isn't that hard. I hope this has been useful.