Erasing storage systems part 1: Storage System/Array/SAN Erasure

This article is the first part of "Erasing storage systems" article series.

In the "Erasing servers with Blancco Drive Eraser" article we provided instructions for erasing server environments. On a basic level the same instructions also apply to more advanced storage system erasures, but in many cases some alternative steps need to be taken.

The basic principle for storage systems in general is to have a host server available with a compatible Host Bus Adapter(s) (HBA). The correct HBA model depends on the disk array's fiber interface and the link speed. The HBA must have direct access to the physical drives. In order to do all that, the active disk processor enclosures or controller units and switches between the server and hard drives should be bypassed.

Here are some tips and suggestions to ensure that your next array erasure using Blancco completes successfully:

- Make sure that the erasure personnel have read the erasure software user manual for the Blancco product that they are going to be using and that all software minimum requirements are met.
    - Review your hardware and ensure you have any and all necessary cabling and HBA's for your specific situation.
- Fiber HBA's with removable SPF modules work best and offer the greatest flexibility in ensuring connectivity that can be achieved between the HBA and the array.
- As a general guideline Blancco recommends initially erasing just one or two drives to ensure the process completes successfully. Should any errors occur, erasing a small number of drives will not consume large quantities of licenses and cause delays for the erasure project.
- Additionally, as a general guideline Blancco recommends starting an erasure process and waiting until all the drives start progressing to at least 1% before walking away from the erasure. This reduces the chance of any possible "hangs" which, upon returning could require restarting the erasure thus taking more of your time.
- If possible Blancco recommends erasing similar and same size drives at the same time.
- Identifying Bad Drives: Sometimes, in large arrays, identifying one particular drive that is causing problems (perhaps due to the drive failing physically) is difficult. For example, Blancco may indicate that drive 47 has an issue. However, physically checking 200 drives for one particular serial number is an onerous task.
    - With Blancco Drive Eraser and newer, it is possible to "blink" a particular drive's LED. Read more about this feature from Blancco Drive Eraser user manual's "Locating HDD's" chapter.
    - With Blancco 4 there is no such option available, but there are a few "workarounds" available:
        - It is possible that the numbering of the arrays on the Blancco screen may correspond to the reverse order of the attached enclosures. Take for example, 9 enclosures with 12 drives each totaling 108 drives. The last enclosure in the chain (i.e. furthest from the enclosure with the connection to the HBA) may contain disks 1 through 12, the next enclosure disks 13 – 24 and so on up the chain with the final enclosure (with the connection to the HBA) containing the 108th disk. In this way your search can easily be narrowed, but not all setups will function in this way.
        - Another option is to make the drives appear in order on the Blancco screen. The user can plug the drives in at the HDD detection screen one by one, for example starting with drive 1 in the 1st enclosure. That way the drives will be detected so that for example the 5th detected drive is really the 5th drive in the batch, and makes it easier to identify the possible "bad drives".
            - Note that with 100+ drives in an array, this process may not be efficient, as the system may want to go through a hardware "re-discovery" after a new drive is inserted.
- Simultaneous SAS/SATA HDD erasure requires more RAM from the host system. For erasure clients 4, 5 and 6, it is recommended to have at least 30 MB of RAM available per SATA/SAS HDD. For example, if the disk array contains 45 drives, reserve at least 2GB of free memory for the erasure. ((45 x 30MB) + 512MB (Blancco application) = 1862MB)
- When erasing large quantities of HDDs, make sure to have sufficient disk controller / HBA (Host Bus Adapter) bandwidth in order to maximize the erasure speed. For Fiber Channel drives, the correct HBA model depends on the disk enclosure's fiber interface and the link speed.

For more information, read the following articles:

1. Erasing storage systems part 2: Disk controller
2. Erasing storage systems part 3: Troubleshooting
3. Erasing servers with Blancco Drive Eraser