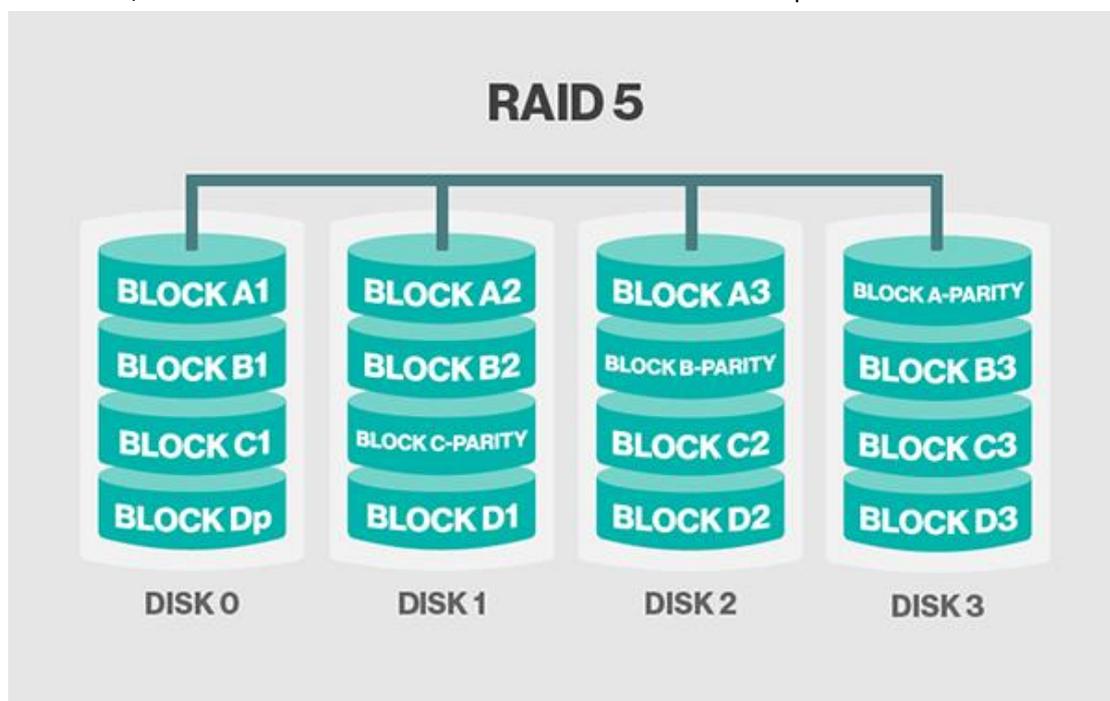


[Case Study] Computer Forensics: Struggling to reconstruct RAID 5? Try With Our Easy Solutions!

Editor's note:

In this article, our SalvationDATA forensic experts will demonstrate how to reconstruct RAID 5 in seconds. RAID 5 is based on block-level striping with parity. The parity information is striped across each drive, allowing the array to function even if one drive were to fail. The array's architecture allows read and write operations to span multiple drives. This results in performance that is usually better than that of a single drive, but not as high as that of a RAID 0 array. RAID 5 requires at least three disks, but it is often recommended to use at least five disks for performance reasons.



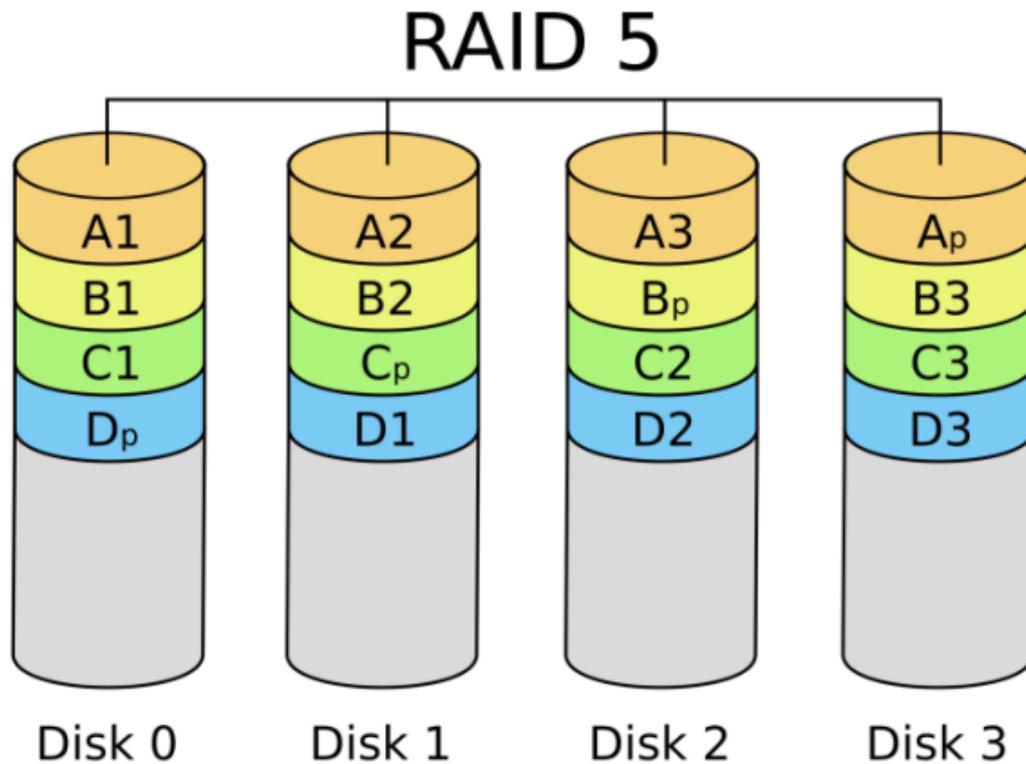
How RAID 5 works?

RAID 5, also known as “parity,” is an error-detection method used to detect and correct errors in data transmissions by performing specific checks of the data blocks within a stripe. In the event of a single drive failure, the information for the missing drive or media can be recreated by examining the remaining data and the parity information. This information enables the system to regenerate the missing data bits.

RAID 5 incorporates data striping. With a RAID 5 array using three or more drives, data and parity are striped across all the drives. Data is processed on two drives while the third drive holds the parity information. If one of the data drives is lost, the parity information ensures that the missing data can be recreated.

RAID 5 combines good performance, fault tolerance, high capacity, and storage efficiency. Because

of the need for the system to calculate parity information during write activity, RAID 5 is best suited to situations where read activity is much higher than write activity. (For situations where write activity is high, RAID 1 is probably a better choice).



While RAID 5 array is a generally stable and reliable way to manage and access data, like all mechanical devices, they can and do break down from time to time. When they do, the consequences can be significant, causing you to lose valuable files and information.

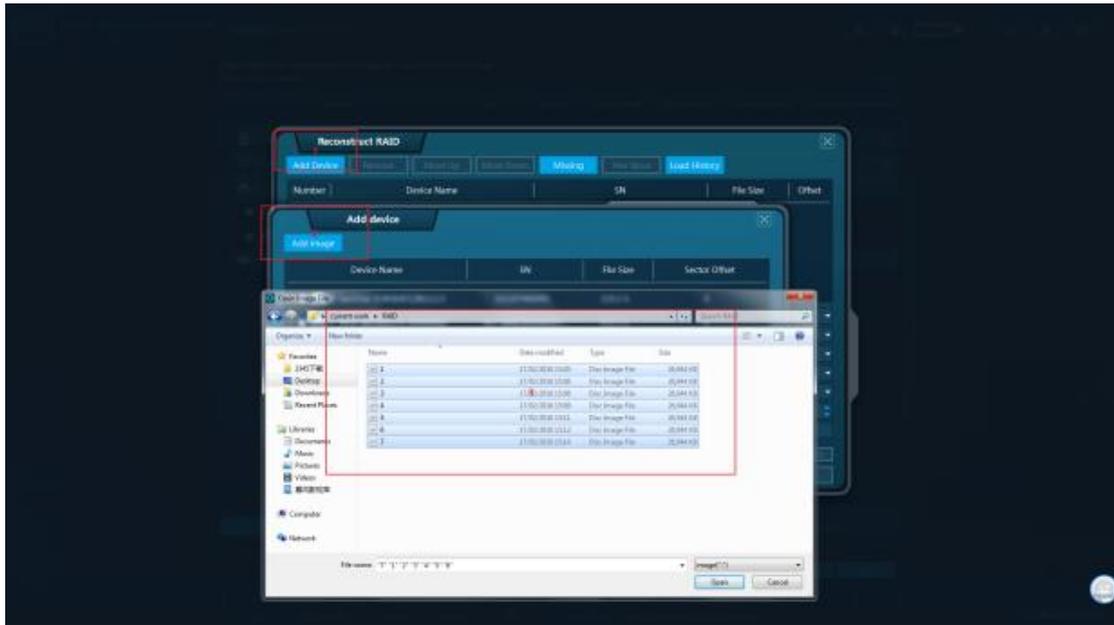
RAID 5 data recovery is one of our specialties. We've worked on a wide range of RAID arrays, but RAID 5 is by far the most common array we recover from.

[Now let's see how to utilize the feature "RAID Reconstruction" integrated into DRS Preview and DRS \(Data Recovery System\) to reconstruct RAID 5 automatically.](#)

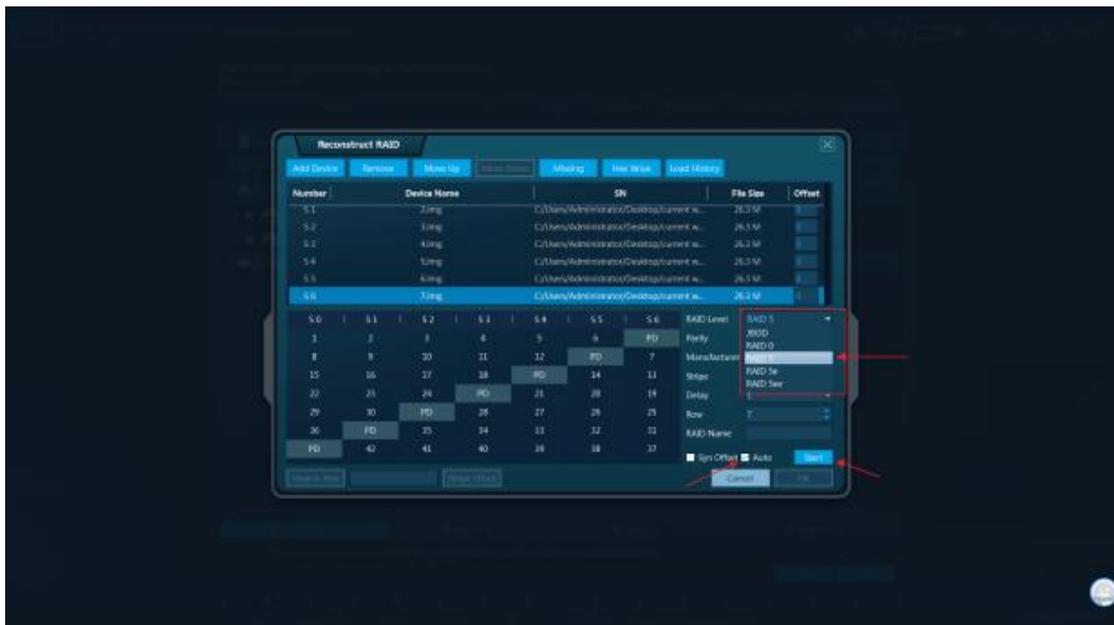
You can download DRS Preview (Data Recovery System) from our resources page of the website and have a free trial.

Example: (7 image files from RAID 5 array with 7 Hard Drives)

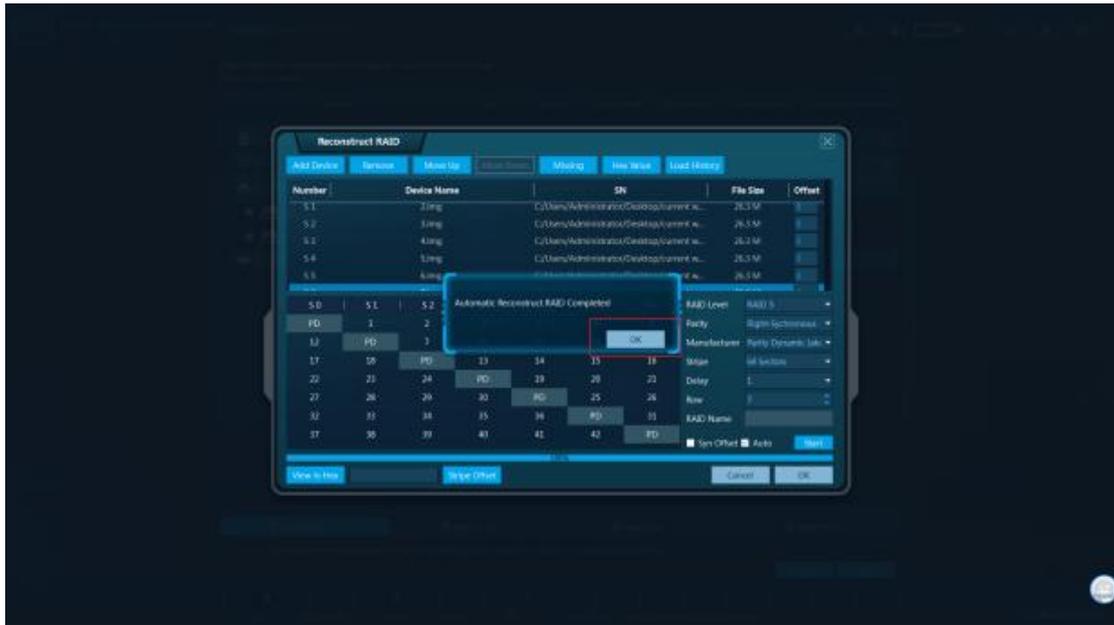
Step 1. Open DRS and select "File Recovery & File Carving".



Step 4. Select “RAID 5” from the Drop-down menu>>tick the box beside the “Auto”>>and click “Start”

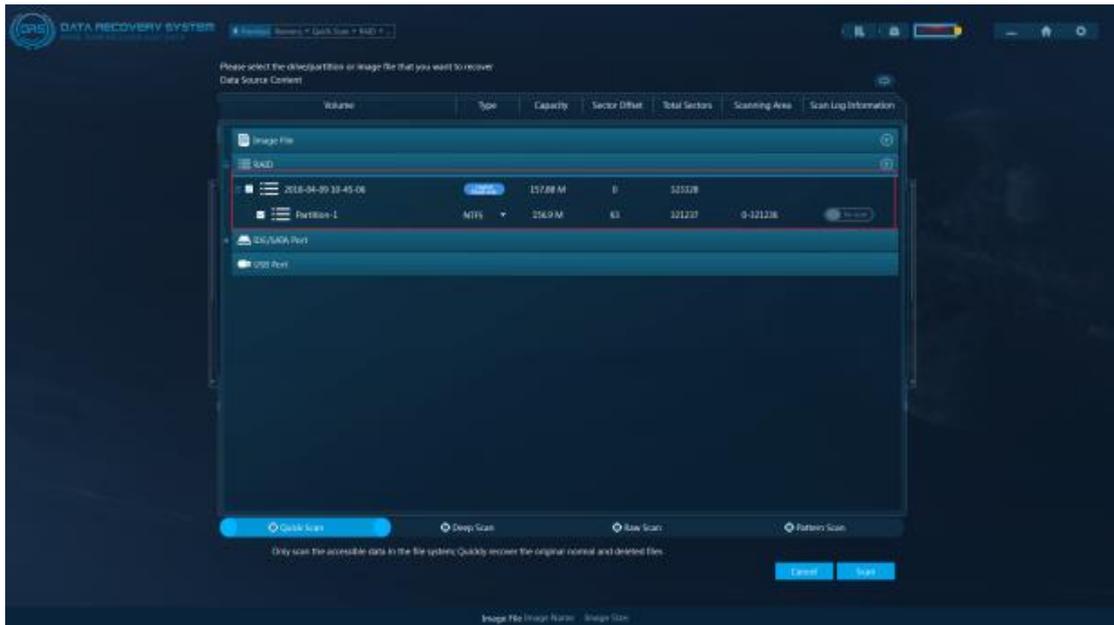


Step 5. Congratulations, The RAID 5 have been successfully reconstructed and click “OK”.

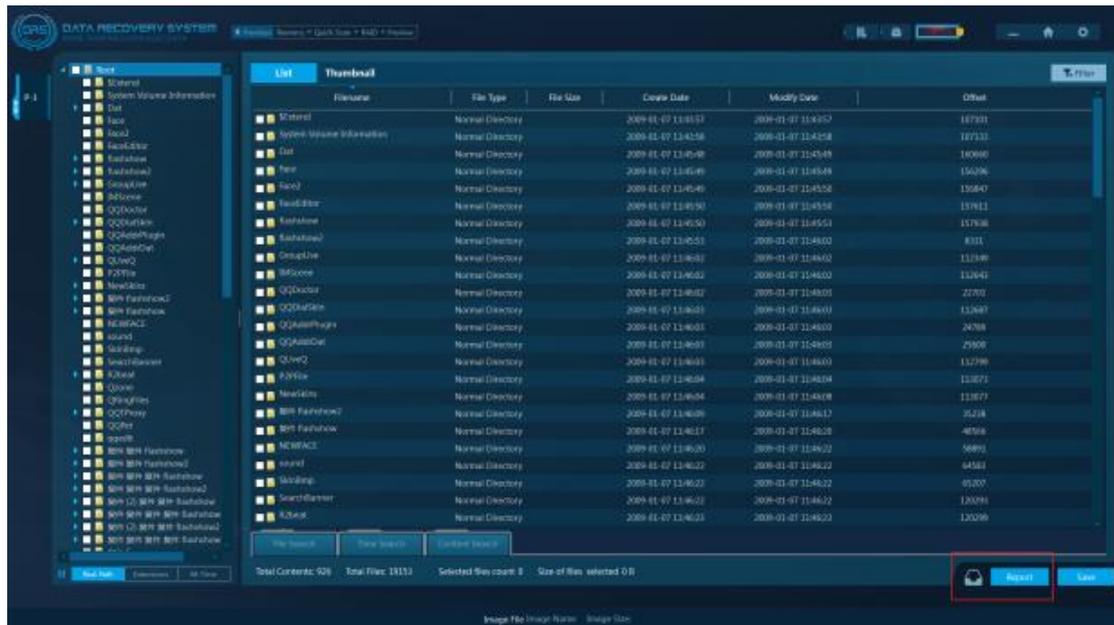


Now, we are all set to recover data from RAID 5.

Step 6. Select “partition-1” under the RAID bar and click “Scan”.



Step 7. You can start to analyze the data recovered from RAID 5.



Step 8. Generate a report and save to local destination.



Conclusion

Recover data from corrupted RAID arrays in a fully automatic mode. DRS is the best tool to automatically detect the type of the original RAID array while still allowing for fully manual operation.

DRS is no doubt a highly valuable tool for users of all types of RAID arrays, whether hardware or software. The move up-and-move down user interface allows specifying parts of the RAID array by simply move-up and move-down buttons representing the disks.

DRS can reconstruct the most types of arrays just as easily as a single hard disk. DRS recognizes all imaginable configurations of various types of arrays, including RAID 0, RAID 5, 5E 5EE, and JBOD, no matter whether they are connected to a RAID server or a dedicated RAID controller.