

# File Restore Speed

## Question

How fast is the Files Restore in CDP 3.0? Is it faster than in CDP 2.x?

## Answer

Using CDP 3 Enterprise Edition (with compression) will take 10 hours to restore 10 Million 1 KB files with a Linux destination for the Restore. Average throughput performance is 3 MB/s in this case.

On the same servers, restoring one 10 GB file transfers at 30-35 MB/s.

Summary

Alerts

Log Msgs

Files Restored

Restore Files

State	0	Scheduled	Start Time	End Time	10h 29m 10s	Agent	Disk Safe	Id
	3/11/10 9:18 AM	3/11/10 9:18 AM	3/11/10 7:47 PM			10.61.15.2	perfsafe	2

Status: Task Finished

Restore Status

Estimated Restore Size	124.1 GB
Estimated Object Count	10,002,002
Bytes Restored	123.9 GB
Objects Restored	10,002,002
Objects Failed	0

Performance

Avg. Throughput	3.4 MB/s
Peak Throughput	9.9 MB/s
Min Throughput	29.0 KB/s
Size Estimate	7m 36s
Transfer	10h 21m 34s

### Reading Files

The CDP 3 Disk Safe can actually read the files much faster than CDP 2.x. See also: [Files Restore Speed](#), [Files Restore Is Very Slow](#).

CDP 3 crawls all the files you want to restore to total the file sizes before it restores, giving you an accurate progress bar. Opening 10 million files (Inodes) to get their file size takes 7 minutes.

When CDP system reads files in the Disk Safe, the operating system is not involved. CDP just fetches 32 KB Disk Safe pages from a file on Disk.

### Creating Files

When we have to write the files, we need to involve the operating system. Restoring those 10 million files takes as much as 10 hours for only 124 GB of data. It is because we call `Open()` or `CreateFile()` and the file system has to journal each operation as a transaction. It is an OS and file system limitation.

Compare: When we restore one 10 GB file on the same servers, we call `Open(O_CREATE)` once and then write 10 GB of data. In this case, the "penalty" for creating a large file is negligible.



#### Note

The performance measurements were completed on two high performance servers with simple direct attached SCSI disks on a Gigabit Ethernet Switch.

#### Related Articles

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Page: [Restoring File Permissions](#) (Knowledge Base) Labels: [file\\_restore\\_3](#), [bare-metal\\_restore\\_3](#), [permission\\_3](#)

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Page: [File Restore Speed](#) (Knowledge Base) Labels: [file\\_restore\\_3](#)

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Page: [Error - InnoDB Restore Fails to Prepare MySQL Instance](#) (Knowledge Base) Labels: [mysql\\_3](#), [innodb\\_3](#), [apparmor\\_3](#), [teardown\\_3](#), [file\\_restore\\_3](#), [troubleshoot\\_3](#)

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Page: [Error - Restore with Overwrite Files on Drops the Network](#) (Knowledge Base) Labels: [file\\_restore\\_3](#), [troubleshoot\\_3](#)

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