

How the Seeding Workflow happens?

Last updated by | Subbu Kandhaswamy | Oct 28, 2021 at 12:47 PM PDT

Contents

- Internal explanation of how seeding process works from S...
 - Transaction Log on Primary
 - On the Secondary

Internal explanation of how seeding process works from Source To Target.

Transaction Log on Primary

----->-----A-----B-----C-----D----->-----

A – Seeding backup starts. Seeding starts copying data files. Primary is free to truncate log.

B – Data file copying has finished, now it has to copy all the pages that were dirtied between A and B. Seeding starts copying the diff pages. It also sets a truncation hold up at B, ie primary is not allowed to truncate log beyond B.

C – Seeding has finished copying pages that were dirtied between A and B. Seeding starts copying log generated between B and C

D – Seeding backup has finished. This is when seeding state enters “WaitingForRestoreToFinish” phase. After secondary finishes restore it is supposed to catchup with primary from C onwards

On the Secondary

A – Restore is receiving data files from primary between A and B and laying it out on disk

B – Restore has finished restoring data files. It is now receiving pages that were dirtied between A and B

C – Restore has finished updating data files with dirtied pages. It is now receiving and storing log between B and C

D – Restore continues. It has started redoing log that was received between B and C. This is the single threaded media redo phase.

Later at some point media redo finishes and secondary comes up.

Secondary connects to primary and starts catching up log from C onwards.

This is the catchup phase. Eventually it converges with primary’s log and establishes continuous copy.

Ideally **A** to **B** is the longest phase, **B** to **C** is shorter, and **C** to **D** is shortest.

Note : if the workflow is very update intensive, we may notice the **C** to **D** phase taking the longest time. So the timeline may look like this ----->-----A----- (2 TB of data files copied)-----B-----
----- (800GB of dirty pages, slow copy due to random IO, so lot of log generated during this phase)-----
-----C----- (very slow single threaded media redo)-----
-----D----->-----

A to B is the shortest, B to C is longer, C to D is longest.

Basically this has been beyond our design parameters.

Hope this gives an idea of how seeding happens and what cause the issues depending on where the delay is.

How good have you found this content?

