CDC Identify and kill orphaned capture job session

Last updated by | Vitor Tomaz | Jun 8, 2022 at 5:36 AM PDT

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Issue

The customer is suspecting that something is wrong with their Change Data Capture (CDC) and that the capture job for one of their databases is no longer working. They are checking the open sessions and are unable to identify the connection that the CDC capture job should have opened.

The ask is to assist with identifying the CDC capture session ID without interrupting an ongoing capture process.

The steps below might also help you with identifying orphaned connections if the SQL Agent capture job is not running but the capture procedure itself is still executing.

Investigation / Analysis

Check sysprocesses or dm_exec_sessions

Neither `sysprocesses` or `dm_exec_sessions` will bring you a clear, direct answer yet:

```
-- narrowing down on the database ID of the CDC-enabled database helps a lot on a busy server
select spid, dbid, db_name(dbid), hostname, program_name from sysprocesses where dbid = 9
select session_id, database_id, db_name(database_id), host_name, program_name from sys.dm_exec_sessions where

-- sample resultset:
spid dbid dbname         hostname program_name
---- ---- -------------- -------- ------------------------------------------------------------------
7    9    CDC_Publisher
62   9    CDC_Publisher
73   9    CDC_Publisher  DB4C0    SQLAgent - TSQL JobStep (Job 0x76E0D72F17B4DA499884391E4F4B0304 : Step 2)
```

The `program_name` pointing to a SQL Agent job is a good indicator - but it still might come from a different, non-CDC job. Or the `program_name` for the CDC capture might be something different if the CDC capture job was

started through an application.

You can then compare the job id from the `program_name` ("Job 0x76E0D72F17B4DA499884391E4F4B0304") with the job id returned by `sp_cdc_help_jobs`. It doesn't appear to be a match at first sight:

```
exec sys.sp_cdc_help_jobs

-- sample resultset for capture job:
job_id                                 job_type job_name                    maxtrans ...
-------------------------------------- -------- -------------------------- --------
2FD7E076-B417-49DA-9884-391E4F4B0304 capture  cdc.CDC_Publisher_capture 500       ...
```

But the relation becomes more obvious if you put the job id GUID from `program_name` into groups and see that the left 3 parts of the GUID is actually reversed inside its groups:

```
2FD7E076-B417-49DA-9884-391E4F4B0304
76E0D72F-17B4-DA49-9884-391E4F4B0304
```

Check dm_exec_requests and the SQL text

This brings a lot more clarity - the same session id from above is executing the CDC procedure `sp_cdc_scan` here:

```
-- currently executing queries
SELECT t.text,
       req.session_id, req.request_id, req.database_id, req.start_time, req.status, req.command,
       req.blocking_session_id, req.wait_type, req.wait_time, req.last_wait_type, req.cpu_time, req.total_ela
FROM sys.dm_exec_requests AS req
CROSS APPLY sys.dm_exec_sql_text(req.sql_handle) AS t
where req.database_id = 9

-- sample resultset:
text                                                                  session_id request_id database_id start_time
--------------------------------------------------------------------- ---------- ---------- ----------- ----------
create procedure [sys].[sp_cdc_scan] (   @maxtrans int = 500 ... 73          0          9           2022-04-27
```

Provoke an error message by starting another capture job

The CDC capure job has a startup check built-in so that only one instance can execute per database. By starting the capture job, it will detect any other capture job instance and return a message with further details.

So if you either start the SQL Agent capture job or execute the `sys.sp_MScdc_capture_job` stored procedure, if another capture job instance is already running, you will get an error message similar to the following on the SQL Server Agent job history or as query result:

```
Msg 22903, Level 16, State 1, Procedure sp_repldone, Line 1 [Batch Start Line 47]
Another connection with session ID 73 is already running 'sp_replcmds' for Change Data Capture in the current
Msg 22864, Level 16, State 1, Procedure sp_MScdc_capture_job, Line 102 [Batch Start Line 47]
The call to sp_MScdc_capture_job by the Capture Job for database 'CDC_Publisher' failed. Look at previous erro
```

Note that it is telling you the session ID of the currently executing capture job. If you need to stop an orphaned job execution, you can simply kill the session ID ("kill 73").

Mitigation

If the identified session ID is apparently orphaned and the CDC capture is not progressing, you may kill the session ID ("kill 73"). Then start a new instance of the CDC capture job: either start the SQL Agent capture job or execute the `sys.sp_MScdc_capture_job` stored procedure. Monitor for any errors on startup and handle them accordingly.

How good have you found this content?