



White Paper: Replication Using CDC

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Replication using Change Data Capture

The purpose of this guide is to help migrate existing setups of Pro2 to use CDC (Change Data Capture) instead of using ABL triggers.

Introduction

With the release of OpenEdge 11.7, Progress provides support for a feature called Change Data Capture(CDC). OpenEdge Change Data Capture is an OpenEdge RDBMS feature that identifies and captures data that has changed in tables of a source database, as a result of create, update, and delete (CUD) operations. Change Data Capture is an industry term that describes the process of duplicating subsets of OLTP data in an external data source with a relatively up to date version of relational data. The OpenEdge implementation of CDC provides a flexible and scalable capture process to facilitate the data extraction, transformation, and eventually the loading of the data to an external data source. Pro2 leverages this feature and gives users the capability to use CDC in the place of ABL triggers.

Pro2 with CDC enabled also supports a feature called thread#0. When this feature is used, the CDC Admin thread will convert all CDC_change_tracking records irrespective of which thread the table is mapped to. This provides the convenience of having a single CDC thread that converts all CDC records to Replqueue records.

Audience

This whitepaper is a consultant's guide to migrating existing setups of Pro2 to start using Change Data Capture instead of ABL Triggers. The following sections detail how this works and the steps to be taken to migrate to using CDC.

CDC Replication Process

The CDC replication process is almost two times faster than using ABL triggers and can be managed online. This results in relatively low database downtime. The client application connection remains unchanged and there is no need to connect to the Repl database.

Migration to using CDC

This section details the pre-requisites and the steps to follow for migrating existing setups of Pro2 to start using CDC instead of ABL triggers.

Pre-requisites

Before migrating to the use of CDC instead of ABL triggers, adhere to the following pre-requisites:

- The source database should be shut down
- All the existing Pro2 triggers should be deleted using the ReplTrigDel.p file
- Enable the CDC feature on the source database
- Remove all PF/Connection modifications that connect users to the Repl.db

Migrating from ABL triggers to CDC

This section details the steps that need to be followed to migrate from using ABL triggers to using CDC.

To migrate from using ABL triggers to using CDC:

1. Start the source database.
2. If the setup is a WAN setup, restart the Pro2 AppServer.
Ignore this step if you are migrating a LAN setup.
3. From the `<setup directory>\PRO2<setup type>`, open the **predefs.i** file and set the `ENABLE_OE_CDC` parameter to YES.
4. Restart the Pro2 Admin tool.
You will now see that mapping view has CDC options enabled.
5. From the Mapping tab, use the **Add/Remove Policies** button to add policies for the tables that you want to setup replication for.
6. Use the **[IN]Activate Policy** button to activate policies.
7. Change the status of the CDC Admin thread from CDC>CDC Turned ON/OFF/Status.
Note: Use the CDC menu items (CDC > CDC Turned ON/OFF/STATUS) to perform activities like turning on or off the required CDC Admin thread.
8. From `<Pro2SetupDirectory>/bprepl/scripts` folder, run the **CDCBatch.bat** to start the CDC Admin thread#0 and set up the parameters as required.
9. Start the Replications threads.
Now you are setup to replicate using CDC instead of ABL triggers.

Notes

- In case of a WAN setup, the CDC admin thread can either be started using the `<Pro2SetupDirectory>/bprepl/scripts/CDCBatch.bat` file or the `Pro2_WAN/bprepl/scripts/CDCBatch.bat|sh` file.
- You can use the CDC Status menu item to query the status of the CDC Admin thread.