FABRIC UPGRADE PROCEDURE TO V6.5.8

This document describes:

- How to upgrade Fabric to the present version: from the latest **V6.4.7** to **V6.5.8.**
- How to re-implement the modified product features.

Notes:

- This document does not cover the Fabric server topology changes, such as addition of nodes, DCs, change of replication factor or consistency level.
- It is a must to perform the Fabric upgrade procedure in the testing environments prior to applying it on your production deployment.
- Sanity test must be performed upon the completion of the upgrade procedure, such as performing a few GET commands and doing other checks per the sanity procedure defined in your project.

SOFTWARE UPGRADE PROCEDURE

Preliminary Step

Download the latest release of Fabric V6.5 package and copy it to the server(s).

Stop Fabric

Do these steps in the specified order:

1. If your project has iidFinder:
   - Stop iidFinder on all nodes.
   - Wait until Kafka lags are zero in the relevant Kafka topics:
     a. Delta_cluster_<LU_name> topics
     b. DeltaPriority_cluster_<LU_name> topics
   - Run the following command to check the lag on those topics is zero:

     /opt/apps/k2view/apps/kafka/bin/kafka-consumer-groups --bootstrap-server <internal Kafka server IP> --group <Kafka interface group ID> --describe | awk '{if ($6>0) print $0}'
   - Investigate the remaining messages in the Delta tables and clean them, by doing the following steps per each LU:
     a. Run MIGRATE command on all distinct IIDs.
     b. Check the results to decide how to proceed with the failed entities messages.
     c. Clean the Delta table.
2. Stop Fabric on all nodes.

Open the Package

Do the following steps:

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1. Rename the Fabric directory as shown, type the specific Fabric version in the location indicated:

```
cp -r config config_$(k2fabric -version |awk '{print $2}'|head -n1)
mv fabric $(k2fabric -version |awk '{print $2}'|head -n1)
```

2. Extract (un-TAR) the Fabric directories from the upgrade package (extract only the directories) as shown. The specific file name will depend on the specific Fabric version:

```
tar -zxvf k2fabric-server-fabric-<package_name>.tar.gz fabric
```

Run Upgrade Scripts (if relevant)

When upgrading to a version which is not immediately after the version you are using, run all the upgrade scripts of all versions in between. For example, when upgrading from the latest V6.2 to V6.5, run all the upgrade scripts in the following order: 6.3 -> 6.4 -> 6.5.

The upgrade scripts should run from one Fabric node only. After running the scripts, verify that all the changes were applied.

Upgrade scripts are included in the package only when the version has schema related changes. If there are no such changes, the upgrade script will not exist.

This step is not relevant for the upgrade from the latest V6.4.3 to V6.5.

Verify Upgrade Success

Use the following command to verify that the upgrade was successful:

```
k2fabric -version
```

The result will display the Fabric package number, for example:

```
Tag fabric-6.5.0_64 at revision = 3fc12ed1c6839614a9fd27e2894828bcd160988f
```

If there are local files on the server (such as local JARs), their names will be displayed here.

Re-Start Fabric

Do these steps in the specified order:

1. Backup your project configuration files: config.ini and iifConfig.ini.
2. Re-start Fabric on all nodes.
3. Deploy the project.
4. If your project has iidFinder, re-start iidFinder on all nodes.
5. Compare the new configuration files with your project to verify if there are changes which should be applied to the project configuration.

Note that the above steps may vary per your project's runbook. For example, you might first re-start iidFinder on one node only, verify the success and then proceed to re-start it on all other nodes.

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IMPLEMENTATION CHANGES

To Version 6.5.8

- iidFinder
  - The flag IID_TOKEN_BINDER will be set to the old default ('_') in iifConfig.ini by the upgrade script, unless one of the following occurs:
    a. The IID_TOKEN_BINDER is explicitly set in the iifConfig.ini, in which case it will remain unchanged.
    b. The IID_TOKEN_BINDER definition is present in the iifConfig.ini more than once, in which case it will not be set, and a warning will be reported in the log file.
- Declarative Field Level Authorization:
  - A new **security_profiles** column has been added to the **roles** table in **k2auth** keyspace.
  - The upgrade script that modifies the table expects to get 4 mandatory parameters and 1 optional parameter, as per the order stated below. These parameters define the Fabric user's credentials in Cassandra and the Fabric connection details:
    a. Username
    b. Password
    c. Host
    d. Port
    e. (optional) Cluster ID

To Version 6.5.7

- None

To Version 6.5.6

- None

To Version 6.5.5

- None

To Version 6.5.4

- BI installation
  - The OS for the BI server was updated to Ubuntu server 20.04 (instead of Centos).
  - BI docker image is available. When BI runs on a docker, use the host IP. Do not use localhost or 127.0.0.1 as BI host.
  - The BI installation package now includes Devart driver for PostgreSQL Storage Management DB (instead of Npgsql).
  - Thus, when Storage Management DB is PostgreSQL, set DB provider in config.ini as follows: STORAGE_MGMT_DB_PROVIDER=Devart.Data.PostgreSql
- LUI Encryption

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- A new LUI encryption mode has been introduced. It is possible to encrypt the LUI when saving it to Cassandra. The encryption is done after the compression. The advantage of using this encryption mode is twofold compared to the non-encrypted mode: The data is stored encrypted in Cassandra, and at the same time the data has minimal performance and storage impact. It is important to mention that data in the cache is not encrypted, therefore it is the user's responsibility to ensure that the data in the cache is secured on the operating system level.
- A new parameter has been introduced in the config.ini, called ENTITY_ENCRYPTION_MODE. It can have one of two values:
  - ON_SAVE – encrypt the LUI when saving (after the compression) – default.
  - MDB – encrypt the LUI on MicroDB (sqlite) level.
- To keep an LU not encrypted, make sure the Enable Data Encryption property on LU schema level is defined as False (default).

➢ Kafka interface was enhanced: The SSL and SASL section were divided so that there are now different sections. New flavors of SASL authentication were added in addition to SASL plaintext that was supported on previous releases. The following SASL flavors are supported:

- SASL_PLAIN
- SASL_SCRAM
- SASL_LDAP
- SASL_GSSAPI

Any project used Kafka SASL_PLAINTEXT authentication before the upgrade should enhance the Kafka interface as needed and deploy the project again.

➢ An incorrect Kafka topic was created when dealing with iidFinder over common tables related to a schema name different than common.

A workaround for this above problem is as follows:
When upgrading to a project that already uses a schema name in the table property that is different than "common", and this schema name is already in use by iidFinder, add the schema manually to the "targetTableName" attribute of the table on iidFinder.xml and re-deploy the LU.

➢ Broadway - In the previous release, the DBLoad Actor failed when using the Date format when loading data to Cassandra. Also, when the Date format is selected in the Cassandra JDBC driver, Fabric returned cassandra.Date Instead of java.Date format. This has now been fixed.

➢ Big LUIs

- Major performance improvement was introduced when dealing with big LUIs, stored by many chunks. To activate this feature, set the following in the config.ini file:
  - ENABLE_PARTITIONED_MDB=true
  - ASYNC_LOAD_MAX_THREADS bigger than zero

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- There is no upgrade path for existing projects of Big LUIs. You need to clean all data in Fabric and bring it back.
- It is recommended to turn this feature on only in case of dealing with really big LUIs that are split into many chunks.

To Version 6.5.3

- A new BI application was added, please refer to knowledge base for further details.
- The previous XmlParser actor was renamed to XmlParserLegacy. XmlParser actor logic was changed, refer to knowledge base for further details.
- A new parameter was added to config.ini called ENABLE_DB_INTERFACE_PROXY, it is set by default to FALSE.
  You must set this parameter.
- A new property called **elevated permission** was added to the Web-Services property. This property Indicates if user permissions should be elevated to the Web-Service or not. Default is set to False. When set to False, this means (for example) if according to the user's role permission he cannot get instance 1 on a given LU, he will not be able to do so also when using the Web-Service. This is so even if the user can execute the Web-Service itself.

To Version 6.5.2

- A new parameter was added to config.ini called ENABLE_DB_INTERFACE_PROXY, it is set by default to FALSE.
  You must set this parameter to TRUE to enable* set db_proxy *command.

To Version 6.5.1

None

To Version 6.5.0

- **Proactive Indicator** (which defines whether Proactive Sync should be enabled) was removed from the DB Interface definition and will now be supported on LU Population only.
  Important! Verify which LU Populations use this property and make sure to turn this indicator on the population itself.

- **iidFinder <cacheTableLuAlias>** property is removed from the IID Finder XML.
  If you were using <cacheTableLuAlias> property, manually remove it from the IID Finder XML.

- **iidFinder staging.xml** was removed and is not supported anymore. Currently only IID Finder XML from Fabric Studio is supported.
  If you were using starting.xml, copy the parts of staging.xml into the IID Finder XML per each Logical Unit.

- **Removed Jedis Functions** - the following deprecated Jedis functions were removed:
  - getJedisConnection
  - closeJedisConnection

  If you were using these functions, replace them by using Redis Interface type.

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If you are using the Fabric's Masking Library (the Java functions and not the Broadway Actors), then the Masking Library must be upgraded to its v6.5 version.

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