Migration strategies

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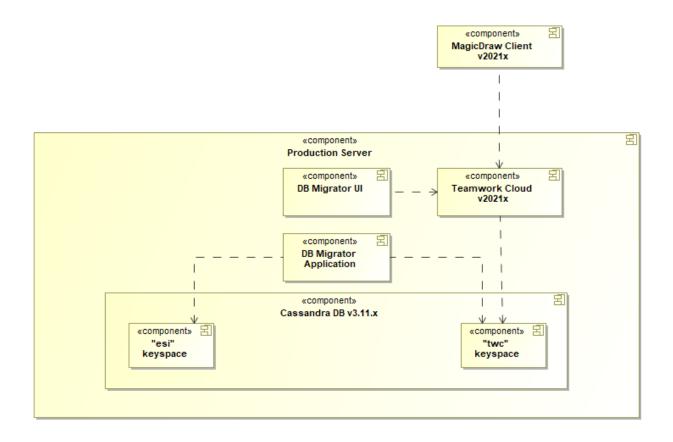
- · All in one go
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Incremental migration prerequisites require having both version 19.0 (SP3 or SP4) and 2021x servers running.

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All in one go

You can migrate all the database in one go. However, there will be downtime in production while data is being migrated from the source database ("esi" keyspace) to the target database ("twc" keyspace). This strategy may not be applicable if the source database is of significant size. During migration, the source database size increases by ~30-40% (the amount used by the new "twc" keyspace). However, after full migration, the old "esi" keyspace in the source database can be effectively dropped using the data manager command which leaves the database only with the "twc" keyspace.



The strategy of migrating the database all in one go.

To migrate the database all in one go

- 1. Uninstall Magic Collaboration Studio 19.0 (SP3 or SP4).
- 2. Install Magic Collaboration Studio 2021x.
- 3. Launch the migration tools and perform full database migration.

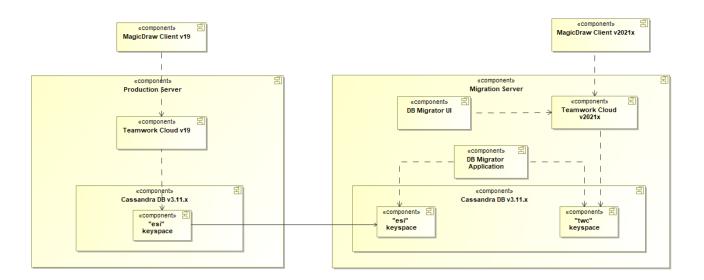
Obpping a keyspace" from Cassandra PERMANENTLY deletes that keyspace. So only do this if you are completely done with the esi-



4. Drop the "esi" keyspace in the source database using the Data Manager.

Incremental migration using separate servers

You can migrate the database incrementally by using separate database servers. This way users can continue working on the production server while the migration is in progress with only a minor downtime for the final migration step.



The strategy of an incremental database migration by using separate database servers.

To migrate the database when a single-node Cassandra cluster is used

- 1. Install Cassandra 3.11.x on an external (migration) server.
- 2. Remove data and commit logs on the migration server by executing the following commands:

```
nodetool drain
Systemctl stop cassandra
rm -fr /data/data/*
rm -fr /logs/commitlog/*
```

3. Perform the initial move of data from the production (source) database to the migration server without stopping work on the production server. To do this, execute the following command on the production server:

```
rsync -av /data/data/ user@target:/data/data/
```

Note command above, user is the OS user of the migration server and target is the migration server address.

4. Carry out the final data move from the production database to the migration server while temporarily stopping work on the production server. After you finish, the migration server will have the entire data of the production database (the "esi" keyspace). To do this, execute the following comman ds on the production server:

```
nodetool drain
Systemctl stop cassandra
Rsync -av /data/data/ user@target:/data/data/ --delete
```

Note commands above, user is the OS user of the migration server and target is the migration server address



- 5. Install Magic Collaboration Studio 2021x on the migration server. The "twc" keyspace will be created.
- 6. Launch the migration tools on the migration server and perform initial database migration. Users can continue working on the production server as usual.

when performing initial database migration, make sure that the Remove resources after successful migration check-box is cleared in the

resource migration wizard. For more information, see step 6 in Migrating database.

- 7. Carry out the final production database migration while stopping work on the production server:
 - a. Stop Magic Collaboration Studio services on both the production and migration servers.
 - b. Stop Cassandra services on both the production and migration servers by executing the following commands:

nodetool drain Systemctl stop cassandra

c. Move the newly created data from the production database to the migration server. To do this, execute the following command:

rsync -av /data/data/esi/ user@target:/data/data/esi/ --delete

In the command above, user is the OS user of the migration server and target is the migration server address.

- d. Restart Cassandra and Magic Collaboration Studio 2021x on the migration server.
- e. Perform the final migration of the newly created production data in the migration server.
- f. Make a backup of the "esi" keyspace on the production server.
- g. Drop the "esi" keyspace and remove the "esi" directory with commit logs by executing the following commands in the production server:

nodetool drain sudo systemctl stop cassandra rm -fr /data/data/esi/* rm -fr /logs/commitlog/*

h. When migration on the migration server is finished, drop the "esi" keyspace in the migration server database by executing the following c ommand

nodetool flush cqlsh drop keyspace esi; exit. nodetool clearsnapshot --esi

i. Move migrated data from the migration server to the production server by executing the following command on the migration server:

rsync -av /data/data/ user@source:/data/data/

In the command above, user is the OS user of the production server and source is the production server address.

- 8. Uninstall Magic Collaboration Studio 19.0 (SP3 or SP4) on the production server.
- 9. Install Magic Collaboration Studio 2021x on the production server.

Prerequisites following strategy is only applicable when the Cassandra node count in the cluster equals the Replication Factor (RF), for example, 3 Cassandra nodes with RF=3

To migrate the database when the production server is a multi-node Cassandra cluster and the migration server is a single-node Cassandra cluster

- 1. Install Cassandra 3.11.x and Magic Collaboration Studio 19.0 (SP4 or SP3) on an external (migration) server to create the v19 database schema.
- 2. Uninstall Magic Collaboration Studio 19.0 (SP4 or SP3) on the migration server.

- 3. Stop Cassandra service on the migration server.
- 4. Perform the initial data move from the production (source) database to the migration server without stopping work on the production server. To do this, execute the following command in any cluster node on the production server:

rsync -av /data/data/esi user@target:/data/data/esi-new

production data location on the migration server.

he command above, user is the OS user of the migration server, target is the migration server address, and esi-new is a temporary

5. Carry out the final data move of the production database while stopping work on the production server:

Ensure that the user has the write permission in the esi-new directory.

a. Stop Magic Collaboration Studio services on both the production and migration servers.

b. Execute the following commands on any of the production database Cassandra cluster nodes:

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nodetool repair nodetool flush nodetool drain

- c. Stop Cassandra services on all cluster nodes of the production server.
- d. Copy the remaining newly created data from the production server to the migration server. To do this, execute the following command on any of the production cluster nodes:

rsync -av /data/data/esi/ user@target:/data/data/esi-new/ --delete

Note Note commands above, user is the OS user of the migration server, target is the migration server address, and esi-new is a temporary production data location on the migration server.

- 6. Restart Magic Collaboration Studio and Cassandra on the production server so that users could continue their work.
- 7. Slip-stream the data from the "esi-new" keyspace to the "esi" keyspace on the migration server by running the convert_esi.sh script. Now the migration server has the current data of the production database (the "esi" keyspace).
- 8. Install Magic Collaboration Studio 2021x on the migration server. The "twc" keyspace will be created.
- 9. Launch the migration tools and perform initial database migration. Users can continue working on the production server as usual.

when performing initial database migration, make sure that the Remove resources after successful migration check-box is cleared in the

resource migration wizard. For more information, see step 6 in Migrating database.

- 10. Carry out the final move of the data that was newly created since the previous migration iteration from the production server:
 - a. Stop Magic Collaboration Studio services on both the production and migration servers.
 - b. Execute the following commands on any of the production database Cassandra cluster nodes:

nodetool repair nodetool flush nodetool drain

- c. Stop Cassandra services on all cluster nodes of the production and migration servers.
- d. Copy the newly created data from the production server to the migration server while stopping work on the production server. To do this, execute the following command on the production server:

rsync -av /data/data/esi/ user@target:/data/data/esi-new/ --delete

Note in the commands above, user is the OS user of the migration server, target is the migration server address, and esi-new is a

temporary production data location on the migration server.

- e. Re-run the convert_esi.sh script on the migration server to slip-stream data.f. Restart Cassandra and Magic Collaboration Studio 2021x on the migration server.
- g. Perform the final migration of the newly created data moved from the production server.

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resource migration wizard. For more information, see step 6 in Migrating database.

11. On the production server, start Cassandra nodes and make a backup of the "esi" keyspace.



12. Drop the "esi" keyspace and remove the "esi" directory with commit logs by executing the following commands:

```
nodetool flush
cqlsh
drop keyspace esi;
exit
nodetool clearsnapshot -- esi
```

With the Cassandra service stopped, the "esi" directory and commit logs need to be removed on each of the production nodes by executing the following commands:

- 13. Uninstall Magic Collaboration Studio 19.0 (SP3 or SP4) on all the nodes of the production server.
- 14. Install Magic Gallaboration Studio 2021x on the production server to create the "twc" keyspace and initial database schema on all cluster nodes.
- 15. With Magic Collaboration Studio, Authentication server, and Web Application Platform being shut down, execute the commands below, then stop Cassandra.

```
/logs/commitlog/*
```

nodetool flush nodetool drain

16. Move the migrated data from the migration server "twc" keyspace to every node of the production cluster by executing the following command on the migration server:

```
rsync -av /data/data/twc/ user@target:/data/data/twc-new/
```

Note command above, user is the OS user of the production server, target is the production server address, and twc-new is a temporary production data location on the production server.

17. Start Cassandra and run the create_migration_table.cql script by executing the commands below. If needed, enter the required credentials to enzure successful colsh sonnection. This will sreate an empty table on the production server.

```
calsh
SOURCE '/opt/create_migration_table.cql'
exit
```

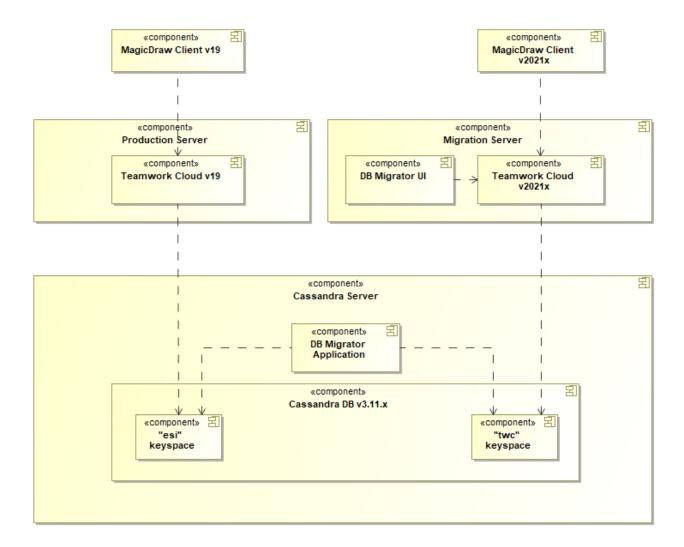
18. Stop Cassandra on all nodes of the production server including Teamwork Cloud by executing the following commands:

```
nodetool flush
nodetool drain
systemctl stop Cassandra
```

- 19. Slip-stream data from the "twc-new" keyspace to the "twc" keyspace in every node of the production cluster by running the convert_twc.sh script.
- 20. Power up Cassandra and Magic Collaboration Studio 2021x services in the production cluster.

Incremental migration using separate servers and one Cassandra instance

You can migrate the database incrementally with Magic Collaboration Studio 19.0 (SP3 or SP4) and Magic Collaboration Studio 2021x running on different server machines, but pointing to the same Cassandra instance. This strategy requires no downtime, but you may experience reduced Magic Collaboration Studio 19.0 (SP3 or SP4) performance during migration due to additional Cassandra load.



The strategy of an incremental database migration when Magic Collaboration Studio 19.0 series and Magic Collaboration Studio 2021x are on separate servers but point to the same Cassandra instance.

To migrate the database incrementally using separate servers and one Cassandra instance

- 1. Install Magic Collaboration Studio 2021x on a separate migration server.
- 2. Point Magic Collaboration Studio 2021x to the Cassandra database server holding Magic Collaboration Studio 19.0 (SP3 or SP4) data by specifying an appropriate Cassandra seed node address in the Magic Collaboration Studio application.conf file.
- 3. Deploy the migrator application on the migration server and point it to the Cassandra database server holding Magic Collaboration Studio 19.0 (SP3 or SP4) data by specifying an appropriate Cassandra seed node address the database migrator application application.conffile.
- 4. Launch the migration tools and perform initial database migration.

Important performing initial database migration, make sure that the Remove resources after successful migration check-box is cleared in the resource migration wizard. For more information, see step 6 in Migrating database.

5. At a chosen point in time, stop the Teamwork Cloud 19.0 (SP3 or SP4) service to prohibit the creation of new data and execute the final migration iteration.

Important performing the final migration iteration, make sure that the Remove resources after successful migration check-box is selected in the resource migration wizard. For more information, see step 6 in Migrating database.

- 6. Once the migration is finished, drop the "esi" keyspace by using the Data Manager.
- Uninstall Magic Collaboration Studio 19.0 (SP3 or SP4) on the production server and install Magic Collaboration Studio 2021x. At this point, the
 migration server is no longer needed.