

# Introducing the IBM Mobile Database solution for IBM DB2 for i

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This article introduces the enterprise IBM® Mobile Database (DB) solution that can synchronize data from an IBM DB2® for i back-end database server to the embedded DB in the mobile device. This solution would be very useful to clients who do not have a continuous connection to their server.

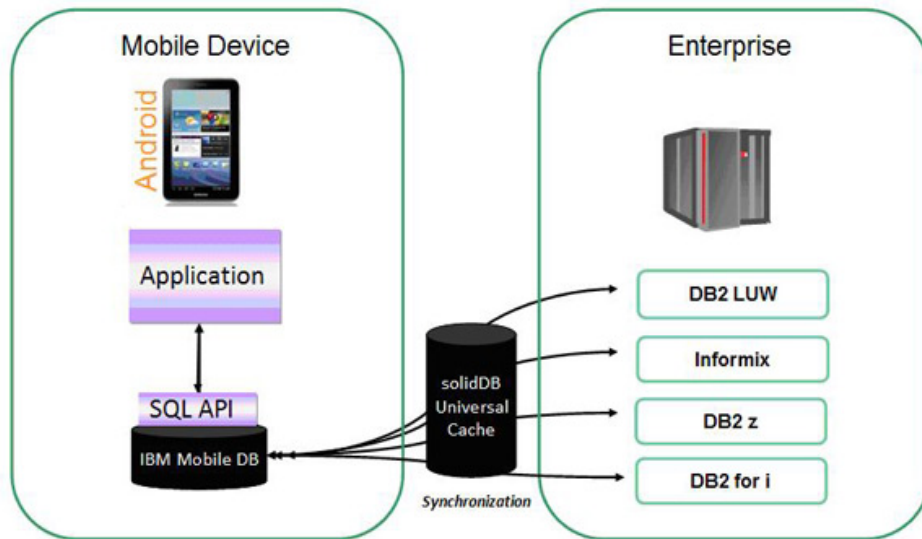
## Introducing the mobile DB solution for DB2 for i

This section mainly focuses on an enterprise mobile DB solution that can synchronize data from the DB2 for i back-end database server to the embedded DB in the mobile device. This solution would be very useful to clients who do not have a continuous connection to their server. For example, the agriculture industry can use this technology to deploy client applications.

### Overview

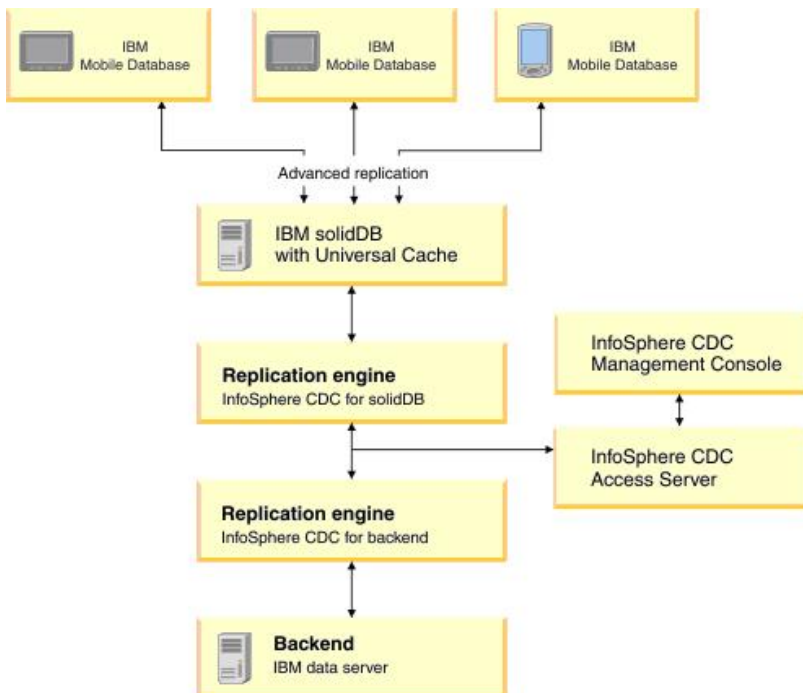
Mobile computing is so popular that it has been raising a great demand for mobile database in enterprise applications. IBM Mobile Database (see Figure 1) is a full-featured, small footprint database for mobile devices. It provides enterprise-level security, 24x7 business consistency, high performance, persistent and reliable data storage, and so on. Refer to [IBM Mobile Database product overview](#) for more details about IBM Mobile Database

**Figure 1. IBM Mobile Database replica solution overview**



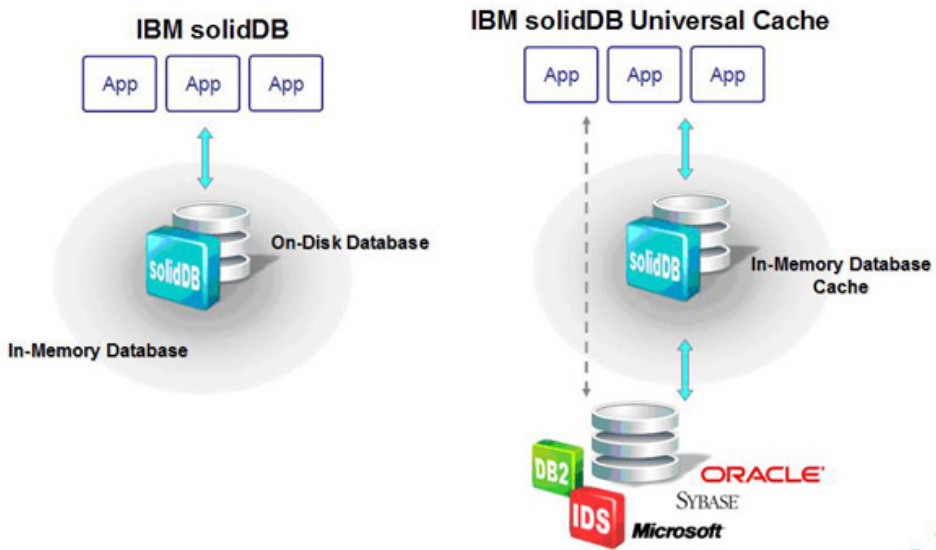
From a technical perspective, IBM Mobile Database is an IBM solidDB® data server that is optimized for mobile use. IBM Mobile Database can serve as an embedded relational database that the user accesses through an application. Together with IBM solidDB and its advanced replication and universal cache capabilities, you can synchronize data between mobile devices and IBM databases, as shown in Figure 2.

**Figure 2. IBM Mobile Database replica solution topology**



IBM solidDB is a memory-rational database that can work alone or together with the back-end database, as show in Figure 3. Refer to [IBM solidDB product overview](#) for more details about IBM solidDB.

Figure 3. IBM solidDB overview

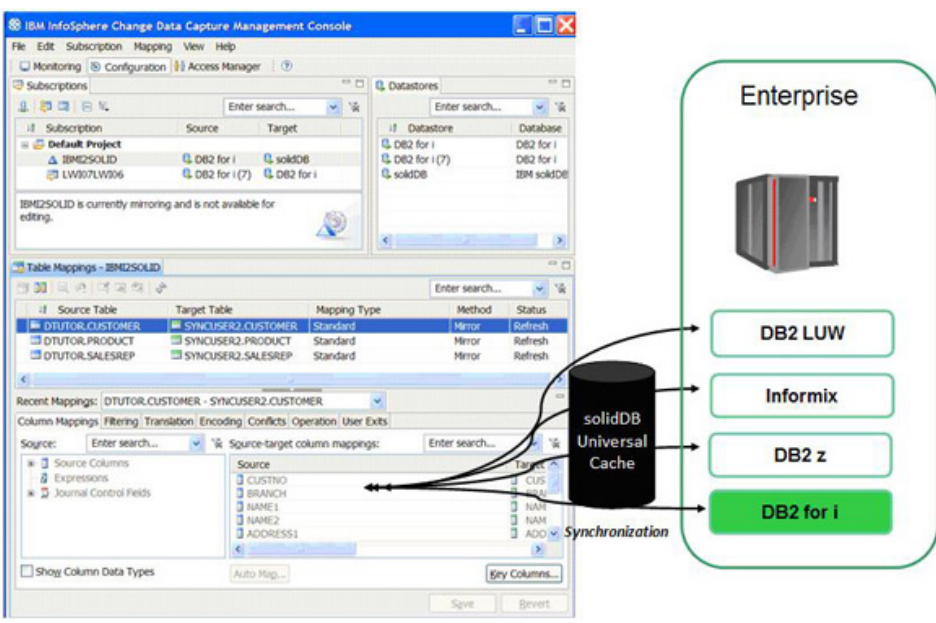


### Synchronizing data between the solidDB server and the back-end database

Data between the solidDB server and the back-end database is synchronized using the solidDB Universal Cache capability, which leverages IBM InfoSphere® Change Data Capture (InfoSphere CDC) to synchronize data from the back-end database, as shown in Figure 4.

To know more about how to use InfoSphere CDC for DB2 for i, check another article, [Introducing InfoSphere CDC replication for DB2 for i solution](#).

Figure 4. Synchronizing data between the solidDB server and the back-end database



After replication is enabled, you can verify the source and target table values, as shown in Figure 5.

**Figure 5. Verify data synchronization between the solidDB server and DB2 for i**

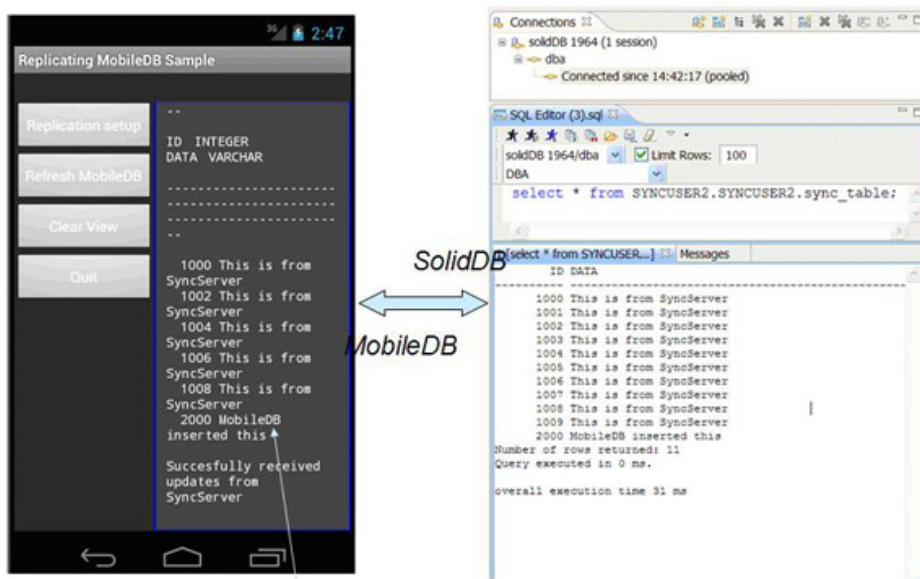


### Synchronizing data between the solidDB server and mobile devices

Data between the solidDB server and the mobile devices is synchronized using the solidDB advanced replication feature.

After replication is enabled, you can verify the source and target table values, as shown in Figure 6.

**Figure 6. Verify data synchronization between the solidDB server and mobile devices**



Even ID retrieved

To download IBM Mobile Database, check [Download: IBM Mobile Database](#). You can check a free sample application from the [IBM Mobile Database](#) website.

### Security

The IBM Mobile Database security methods help you keep your data secure by preventing unauthorized viewing and altering of data on the mobile device. You can also enforce security

for data synchronization by controlling access rights and privileges for each user. For a secure replication environment, consider using virtual private network (VPN) tunnels to encrypt all network traffic.

From the database perspective, the IBM Mobile Database uses Advanced Encryption Standard (AES) Electronic Codebook (ECB) 256-bit algorithms for encryption of the database and log files. The encryption library (libsolcrypto.so) is included in the IBM Mobile Database Development Kit.

For example, you can encrypt the database by including the `-E` and `-S` `<encryption_password>` options as parameters of the `startServer` method in your programming application. You can encrypt an existing database or create a new encrypted database.

## Listing 1. Encrypt database

```
// Parameters to be passed to the startServer method
// -c <working directory>
//     If solid.ini is used it must be in the
//     directory pointed by this argument.
// -U <username>
// -P <password>
// -C <catalog name>
// -E
// -S <encryption_password>
//     -E and -S encrypts the database
String av[] = {
"-c/data/data/tmp/",
"-Udba",
"-Pdba",
"-Cdba"
"-E"
"-S admin123"
};
```

For more information about IBM Mobile Database performance analysis and tuning, check [Performance monitoring and tuning](#).

## Conclusion

With the growth of smart phone market, IBM Mobile Database can leverage the powerful synchronization capability of InfoSphere CDC, thus to replica data from the DB2 for i back-end database server. In addition, IBM Mobile Database allows migrating IBM DB2 Everyplace®, and for more details, check [Migrating DB2 Everyplace](#).

## Reference

- Refer [IBM Mobile Database](#) to know more details about IBM Mobile DB.
- Refer [IBM developerWorks: IBM DB2 for i](#) to know more details about DB2 for i product, technology, and so on.
- Refer [IBM InfoSphere CDC Information Center](#) to see more details about IBM InfoSphere Change Data Capture.
- Refer [InfoSphere CDC for DB2 for i InfoCenter](#) to see more details about InfoSphere CDC for DB2 for i.

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