



ODBMotion



Whitepaper

Moving databases – easier than ever



Version 1.5

Product description

ODBMotion is the newest feature built on top of the Monitoring Module and Dbvisit standby. It is the result of the excellent partnership between Herrmann & Lenz and Dbvisit. ODBMotion enables moving entire Databases from one server to another. Both the administrative effort as well as the system downtime are reduced to a minimum. It takes care of all tasks, like copying the database components and then properly registering and activating the database on the destination system, without further human interaction. Both container databases (Multitenant / CDB) as well as legacy non-container databases are supported. ODBMotion will check both the source and destination system and verify that either moving or cloning the database will be possible. To enable this all the information currently gathered by the Monitoring Module is utilized. Any information which is necessary ad hoc will be deduced just-in-time.

A noteworthy highlight is the support of Oracle Database Appliances (ODA). Migrating in between ODA appliances or from a non-ODA system to an ODA appliance turns into a walk in the park. ODBMotion executes all ODA specific commands, resulting in the registration of the database in the Appliance Manager, thus making the database manageable from the web interface of the ODA appliance. All settings relevant to storage like ASM or ACFS as well as ODA specific initialization parameters are accounted for as well.

ODBMotion provides two options for the simple migration or a creation of a copy:

- **MOVE** - a source database will be provided in a fully functional way on the destination system. With this procedure there should be no loss of transactions. The final step of this process shuts down the source database and starts up the database on the new system.
- **CLONE** - the source database is cloned to the destination system. The source database is not shut down and will remain as leading system. The state of the database on the destination system is identical to the last ArchiveLog switch of the source database. Since a timely synchronization is forced, the difference compared to the source database is only a few minutes. This procedure is ideal for the provisioning of test and development databases. It also allows for a practical simulation of a planned MOVE process.

ODBMotion will never delete the source database, which ensures a fallback to the original setup in case of a major issue. ODBMotion gives you the liberty of deciding what happens to the source system. Data security and stability are always the top priority.



Typical Purposes / Use-Cases

ODBMotion can be used for a multitude of scenarios, around which the product has been developed and following have been successfully executed:

Load Distribution

By using Monitoring Module it is possible to identify high utilization of system resources on one system, or determining an imbalance in load over multiple systems. These circumstances can be resolved with ODBMotion by relocating databases to less strained systems. The synergy is: optimal utilization of resources with prevention of unnecessary overload. The result is: better performance with lower response times.

Change of Platforms

Is it necessary to migrate a database for example from a virtualized environment to a dedicated hardware system, i. e. ODA? ODBMotion is the perfect tool for the job. The only requirement is the utilization of the same operating system: Linux.

Database Software Patches/Upgrades

The risk of patching/upgrading the database software or clusterware can be minimized with the methods of ODBMotion. Creating a new environment with the new software versions can be done without time pressure, by utilizing the CLONE process, and running any necessary test on the new test system. Afterwards the MOVE process can complete the migration while reducing a potential downtime to a minimum. In conclusion, running datapatch then can update the source system to the new version.
Note: doing a major release upgrade, i. e. from 12.x to 19.x, is not possible through ODBMotion.

Operating System Patches/Upgrades

Major release upgrades of the underlying operating system (i. e. OEL 6.x to OEL 8.x) can be complex. A prolonged downtime of the database might be the result. In this case, building a new system parallel and using CLONE to run tests beforehand and then subsequently using MOVE to actually migrate the system is way to go about this kind of situation. By being able to test everything in advance, risks and downtimes are reduced.

Hardware Refresh

A hardware refresh, i. e. from ODA X6-2 to ODA X9-2 can be very time-consuming both in planning and implementation. The same procedure of using ODBMotion for a major release update of the operating system can be applied to this situation. The new system can be set up properly first. By running tests on the CLONE and finalizing the hardware refresh with a MOVE, unexpected problems can be prevented.

Providing a Test-/Dev-System

Providing a test or development system without interrupting production or having to write complex scripts has never been easier. The CLONE process runs in the background and requires no administration.

Possible Scenarios

ODA to ODA

- From filesystem (ACFS) to filesystem (ACFS)
- From filesystem to ASM
- From ASM to ASM
- From ASM to filesystem (ACFS)
- Registration of the destination databases is done ODA appropriate.

Non-ODA to ODA

- From filesystem (ACFS) to filesystem (ACFS)
- From filesystem to ASM
- From ASM to ASM
- From ASM to filesystem (ACFS)
- Registration of the destination databases is done ODA appropriate.

Non-ODA to Non-ODA

- From filesystem to filesystem
- From filesystem to ASM
- From ASM to ASM
- From ASM to filesystem
- Registration of the destination databases is done GI appropriate.

Additional Features

- The `db_unique_name` of the destination database can be edited to be different than the source database.
- Initialization parameters can be edited during the process.
- ODA-shape can be edited during the process.
- The data transfer is encrypted either through `ssh` or a special agent.
- Utilization of a NFS share, thus not needing `ssh` or an agent.

Prerequisites, Supported Versions, Limitations

ODBMotion is an exclusive feature of the Monitoring Module.

Operating System

- Oracle Enterprise Linux
- RedHat Enterprise Linux
- SUSE Enterprise Linux

Oracle Database Software

- DB Version $\geq 12.x$
- CDB and Non-CDB are both supported
- Standard or Enterprise Edition

Oracle Database Appliance (ODA)

- System Version $\geq 19.x$
- Support of the HA-solution per request