Multiple Components in One Database (MCOD)

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SAP AG
Agenda

Introducing Multiple Components in One Database (MCOD)

Simplifying the SAP System Landscape using MCOD

Example for a Technical Realization

Availability
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Example for a Technical Realization

Availability
Multiple Components in One Database (MCOD) is a feature in the installation process for SAP NetWeaver based SAP components. It provides the possibility to install several components independently in one single database.
The SAP WebApplication Server which is part of SAP NetWeaver provides a database abstraction layer which shields the application from the database.

Databases support schema. Tables with the same name can exist independent in different schema with different content.

The SAP WebAS ensures that a system connects only to the database schema related to the according system.
With SAP WebAS 6.30 a database abstraction layer for the Java stack was introduced – **OpenSQL for Java**

Tables of the Java stack are stored in the same database instance like the tables of the ABAP stack in two different schema (except Informix)

The concept of MCOD installations is fully supported by the combined stack of ABAP and Java
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Availability
Highly Flexible IT Landscape

Situation: N Systems, N Databases

Benefits

- Flexibility through components
- Separate upgrades possible
- Different operating systems and databases
- Highest scalability achievable

Administrative challenges

- Maintaining different operating systems, databases
- Complicated high availability solutions
- Synchronized backup & restore
Simplification Of The System Landscape With MCOD

Situation: N Systems, 1 Database

Administrative opportunity

- Multiple independent and different software solutions are located in one database
- One logical and physical database instance
- Point in time recovery of semantically related systems e.g. R/3 and CRM possible
- Migration of existing systems is possible
- All systems use the same OS/DB release

Installable on one physical server
Independence Of Single Systems

(De)Installation of individual components

Upgrade of individual components

Data exchange on application level

- Integrity of business data
- No special coding for MCOD installations
- No locking conflicts on database tables
Performance considerations

- Former versions of database systems required an individual parameterization for OLTP and OLAP systems to achieve an optimal performance.

- Latest versions of most databases used for SAP systems allow a combined installation of OLTP and OLAP systems using MCOD*.

* For details see the MCOD homepage.
Various Deployment Options

Full range of scalability & flexibility

- Decide how many different systems will reside in one physical database
- Additive sizing approach
Reduced Maintenance & Operating Costs

Benefits detail: Estimated savings

- **Disk**: 10% of disk space
  - For example, tapes, tape drives, disk systems
  - 30% of hardware backup costs
  - Backup administration or high-availability concepts
  - 40% of operating costs

Only need to administer one database

- Similar effort compared to maintain one component on one database
Sizing & Administration

Sizing & Administration of an MCOD installation

- The total sizing of an MCOD installation can be achieved by an additive sizing approach of the appropriate values of the single systems

Example: Combined installation of System1 and System2 using MCOD

<table>
<thead>
<tr>
<th></th>
<th>System 1</th>
<th>System 2</th>
<th>MCOD Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users</td>
<td>300</td>
<td>500</td>
<td>800</td>
</tr>
<tr>
<td>SAPS</td>
<td>1500</td>
<td>2000</td>
<td>3500</td>
</tr>
<tr>
<td>DB Size [GByte]</td>
<td>400</td>
<td>500</td>
<td>900</td>
</tr>
</tbody>
</table>

- Decide which systems to combine to achieve a maximum of savings in administration and system handling while keeping the flexibility of the complete installation
System Recommendations

Combination of systems with semantically related data like R/3 and CRM.

Combination of systems of the same type e.g. combination of development systems or combination of production systems.

The combination of production and non production systems is not supported.
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Availability
Technical Implementation:

- One database instance will contain the data of all systems

- Each SAP system will create its own database schema / database user sap<sapsystemname> all other resources within the database are shared (catalog, devspaces,caches,...)
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Availability
What will be supported

- MCOD is available on all OS/DB platforms supported by SAP
- General Availability since 1st of July, 2002
- For the future all upcoming components of the MySap Business Suite are planned to be enabled for an MCOD installation
- Information about the current available components is updated regularly and can be found at the service marketplace under the quicklink MCOD

More information

- http://service.sap.com/mcod
# Available Components

## OLTP like components

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP WebAS</td>
<td>6.10 and higher</td>
</tr>
<tr>
<td>SAP R/3</td>
<td>4.6C SR2</td>
</tr>
<tr>
<td>SAP R/3 Enterprise</td>
<td></td>
</tr>
<tr>
<td>SAP Workplace</td>
<td>2.11 SR1</td>
</tr>
<tr>
<td>SAP CRM</td>
<td>2.0C SR1 and higher</td>
</tr>
<tr>
<td>SAP EBP</td>
<td>2.0C SR1 and higher</td>
</tr>
<tr>
<td>SAP SRM</td>
<td>2.0 and higher</td>
</tr>
<tr>
<td>SAP SCM</td>
<td>4.0* and higher</td>
</tr>
<tr>
<td>SAP Knowledge Warehouse</td>
<td>5.0 and higher</td>
</tr>
<tr>
<td>SAP NetWeaver</td>
<td>04*</td>
</tr>
</tbody>
</table>

## OLAP like components

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP BW</td>
<td>3.0A and higher</td>
</tr>
<tr>
<td>SAP SEM</td>
<td>3.1A and higher</td>
</tr>
<tr>
<td>SAP SCM</td>
<td>4.0* and higher</td>
</tr>
<tr>
<td>SAP NetWeaver</td>
<td>04*</td>
</tr>
</tbody>
</table>

* Database setup depending on the main operational area
Main advantages are:

- Full flexibility and independence of the installed components
- Simplified administration, backup and recovery
- Additive sizing approach
- System spanning data consistency
- Reduced maintenance and operating costs

With “Multiple Components in One Database” SAP offers a powerful option to install several mySAP components in one physical database.
More Information

Visit the MCOD homepage:  
http://service.sap.com/mcod

Visit the SAP NetWeaver homepage:  
http://service.sap.com/netweaver
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