



MS DYNAMICS AX / DYNAMICS 365-OPTIMIZATION
**TECHNICAL AUDITS AND
TROUBLESHOOTING**

Your Dynamics environment is undoubtedly an important part of your ICT landscape – but what if you cannot seem to achieve the performance you want or were promised from it? It is both in your financial interest and of strategic interest that your ICT environment should function as well as possible and be aligned to your business goals. How can you get the problems and risks in your MS Dynamics AX / Dynamics 365 platform under control, e.g. in terms of performance? A technical audit by our experts can reveal the problems and risks. Once this is done, we can propose potential solutions and improvements to resolve all issues and mitigate the risks.

WHY REALDOLMEN?

Over the years, Realdolmen has built up extensive expertise in MS Dynamics AX and Dynamics 365 both at the functional level and relating to technical setup and parameterization for ERP aspects and the underlying SQL database. The Microsoft best-of-breed practices and our own experience mean we are specialists when it comes to optimizing your Dynamics environment.

OUR APPROACH

- You can choose the level of audit or consultancy you want. If there is a structural performance problem, however, we recommend tackling it from the bottom up: starting from the configuration layer before moving on to the hardware, the database layer and finally the application layer. In this case, we also recommend tier 1 to tier 4 performance audits.
- If you would prefer not to take this bottom-up approach from tier 1, we will plan a two-hour intake meeting to jointly determine which item is best suited to resolve the existing problem.
- If you already know where the problem lies, we can perform a more focused analysis.
- We will perform the agreed analyses and provide a clear interpretation of the measurements along with suitable recommendations in an action plan.

PERFORMANCE TIER 3: query audit

This is a low-level analysis of the queries that are running the most slowly and/or that are using the most resources. This analysis can be done in one of two ways. We can use data from the production environment. The most effective way is to do this on the days/nights when the largest numbers of users are working on the system. Alternatively, you reproduce a number of scenarios in an environment that is different to the production one, thereby enabling us to analyze the queries that are run.

Performance TIER 4: code audit

First of all, the code is uploaded to Lifecycle Services, which provides a service that can automatically make a number of recommendations, e.g. poor use of caching features or code that could be rewritten to perform better. These are the best practices that Microsoft prescribes, but which have not been followed. In addition, this audit also looks very closely at source code that runs slowly. This analysis can be done in one of two ways. We use Event Tracing for Windows to create trace logs on both the production application servers as well as on the Citrix/RDP workstation servers. This has the advantage that we have real data with which users are experiencing problems. Alternatively, you can reproduce a number of scenarios in an environment that is different to the production one, thereby enabling us to analyze the code that is executed.

BATCH REVIEW

In this audit, we create a report of all batch jobs that run both during the day and at night. Using the history, we look for anomalies that could indicate potential problems, e.g. batches that run more slowly on certain days, overlapping jobs that could cause locking, and any missing clean-up jobs.

APPLICATION LIFECYCLE MANAGEMENT (ALM): AUDIT/TRAINING

Realdolmen has many years of experience in the implementation of ALM processes both for custom C# development and for Dynamics AX 2009, 2012 and 365 implementations. In relation to Dynamics AX 2009/2012 it was not mandatory, but we decided to use these tools to improve the quality of our custom developments and releases. We can provide a wide range of services and recommendations, including:

- Standard ALM-training
- Setup and optimization of build servers for Dynamics Ax 2009, 2012, 365
- Branch and release management

OUR OFFERING

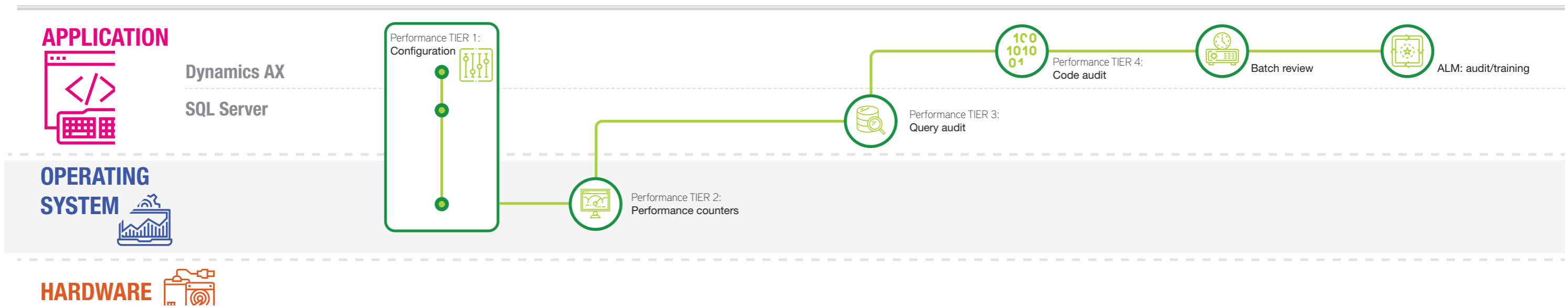
PERFORMANCE AUDIT

PERFORMANCE TIER 1: configuration

The best way to start a performance audit is at the bottom with the configuration of all the components. This takes place at both the database and application levels. We also check that maintenance plans are being applied correctly, and look at which tables contain the largest volumes. Using this information, we may, for example, recommend the use of a number of clean-up jobs, or apply trace flags that would not be set for a default SQL installation.

PERFORMANCE TIER 2: performance counters

In this analysis, we use a number of performance counters at the level of the operating system. These measurements will allow us to draw conclusions about the processor, memory and disk usage and database-specific items. Two outcomes are possible here: either further resources need to be provided in the hardware, or a query/code audit (tier 3-4) will provide answers.





Configuration

DELIVERABLE:

Overview of all configurations

TIME REQUIRED:

Half a day



Performance counters

DELIVERABLE:

- PAL report with all measurements
- A document that interprets these measurements

TIME REQUIRED:

- Installation and analysis: 1 day
- Duration: 3 days so that relevant working days/nights can be measured



Query audit

DELIVERABLE:

- Problematic queries are summarized in a document together with the actions to be taken.
- In the event of missing indexes, they can be created in the production environment. This enables us to immediately measure how effective they are.
- Implementing potential improvements is outside the scope of this audit.

TIME REQUIRED:

The audit usually requires three days to ensure that we obtain a true overall picture of the workload that the SQL server has to process during the day and night.



Code audit

DELIVERABLE:

- The values measured are documented with suggestions for optimizing the code.
- An additional report is generated by Microsoft Lifecycle Services.
- Implementing potential improvements is outside the scope of this audit.

TIME REQUIRED:

This audit usually requires three days because there is a great deal of data to process and analyze.



Batch review

DELIVERABLE:

Report with a list of batch jobs and potential problems.

TIME REQUIRED:

1 day



ALM: audit/training

DELIVERABLE:

- ALM-training (standard or custom)
- Setup and optimization of build servers for Dynamics AX 2009, 2012, 365
- Branch and release management

TIME REQUIRED:

Depending on the specific needs.