Deloitte

Deloitte In-Time - Uncover the potential of SAP HANA®: FAQ

Deloitte In-Time Add-on optimizes the performance of high-load analytic applications in SAP HANA

What is the attitude of SAP® towards the Deloitte In-Time add-on?

In November 2015, the Deloitte In-Time-based SAP HANA application "Deloitte In-Time for Profit Contribution Report" has been officially certified by SAP (please find details here). Moreover, we are collaborating with SAP with regard to a certification of the Deloitte In-Time add-on.

Which SAP HANA products are supported by the Deloitte In-Time add-on?

Deloitte In-Time can be used with SAP HANA Enterprise Edition and SAP HANA Platform Edition. All SAP HANA 1 Support Package Stacks (SPS) from SPS 06 to SPS 12 and SAP HANA 2 are supported. Further, the utilization in SAP BW-driven scenarios is possible and is continuously enhanced.

The Deloitte In-Time Add-on is usually deployed as an application in the XS Advanced Runtime (XSA). If no XS Advanced Runtime exists, which is the case for all SPS prior to SPS 11, the Deloitte In-Time Add-on can be deployed into an existing Apache TomEE server.

What are possible use cases for the Deloitte In-Time add-on?

The Deloitte In-Time add-on for SAP HANA can prove beneficial in a very broad spectrum of SAP HANA use cases. One end of the spectrum is batch processing, with complex calculations and large data volumes. At the other end is real-time processing, characterized by a large number of concurrent user requests and typically a lower degree of calculation complexity but with the dependency of server processing time on data volume to be processed. To support the applicability assessment of In-Time, the In-Time Diagnostics toolset

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monitors the system and identifies potential use cases.

What does the Deloitte In-Time delivery model look like?

The In-Time delivery model consists of four subsequent steps, and the full implementation of the solution takes 4-10 weeks depending on the complexity of the application. As a first step, Deloitte conducts an applicability assessment, i.e. it is tested whether the Deloitte In-Time approach is suitable for the given SAP HANA system. This phase takes 3-5 days. In the second phase is piloting a project, which takes 2-5 weeks. One of the deliverables of this phase is estimation of the In-Time service level agreement (SLA). As a third step, Deloitte will develop an In-Time business case and estimate the benefits of the In-Time approach. After the software license contract has been signed, Deloitte will start with the implementation of the In-Time add-on, which includes the finalization of the SLA, the In-Time configuration, activation, and the migration from the real time/ batch processing to the Deloitte In-Time processing.

Does the Deloitte In-Time add-on support SAP HANA features like Workload Classes, History tables and Smart Data Access?

Yes. The Deloitte In-Time add-on supports these features.

What kind of support is provided for the Deloitte In-Time add-on?

The support provided by Deloitte is reachable 12/5. Deloitte is in discussions with SAP about an official acknowledgement of Deloitte In-Time as Solution Extension for SAP HANA. A 24/7 support for In-Time would then be available by SAP.

What is the estimated size of the in-memory pre-calculated object?

The size of the pre-calculated in-memory object mainly depends on

the underlying data set size, report data flow and the report complexity.

Experiences from existing projects give a maximum of 15% of the underlying dataset size for the pre-calculated in-memory object. The actual size of will be determined during the piloting phase.

What is the query memory allocation size?

The query memory allocation size during the In-Time calculation is highly flexible and configurable. First of all, its value depends on the calculation complexity itself. Second, the Deloitte In-Time server provides various options which can be used to fine-tune the memory allocation size. For instance:

Logical partitioning: the more detailed partitioning is, the lower the query memory allocation size.

Job Executor number: this parameter does not really impact the query allocation size, but it has impact on the overall memory allocation during the job calculations.

What is the difference between a static and a dynamic cache types in SAP HANA to Deloitte In-Time data handling?

SAP HANA supports two types of caches: static and dynamic. While the first one is based on a retention period which is similar to the In-Time SLA, the latter one provides transactional consistent data by incorporating delta information. This is similar to the In-Time approach which monitors changes in the data foundation and updates only those partitions where changes took place. However, the key difference is that Deloitte In-Time does not impose limitations such as a maximum number of delta records, supported aggregation functions and data sources or the applicability to scale-out systems. Furthermore, Deloitte In-Time can be applied to all types of views and even to procedures.

To what products can the In-Time add-on be applied? Are there any benefits for products such as SAP S/4HANA Embedded Analytics or SAP BW/4HANA?

Deloitte In-Time can be applied to all SAP HANA products under the following conditions:
- The applications use SAP HANA-native objects
- The calculation process can be partitioned semantically
- The applications show characteristics of high-load analytics (high-load analytics applications are the result of factors such as a growing complexity of calculations, involved data volumes and/or an increasing (even occasionally) number of concurrent users).

SAP S/4HANA Embedded Analytics or SAP BW/4HANA can benefit from Deloitte In-Time if transformations and the process chain require more efforts than the data provisioning by Deloitte In-Time.

How does the functionality of SAP HANA Advanced Diagnostics with Deloitte In-Time differ from the standard monitoring tools in SAP HANA?

Advanced Diagnostics utilizes the statistics capabilities provided by SAP HANA and provides enhanced insights compared to the standard monitoring tools. This is achieved by additional logic for data analysis and techniques for its visualization. For instance, Advanced Diagnostics offers administrators the means to understand how much resources are consumed by users and functional areas, as well as to monitor the system over time.

What is the difference between logical partitioning in Deloitte In-Time and manually created semantic partitions in models or composite providers in SAP BW? What is so innovative about logical partitioning?

A composite provider in SAP BW supports Semantically Partitioned Objects (SPOs). These objects (and their partitioning) have to be maintained with a lot of efforts, have static structures and limitations (e.g. regarding the maximum number of partitions). Logical partitioning in Deloitte In-Time allows dynamic handling of all available semantic partitions. The initialization and maintenance of partitions happens automatically. Based on historical data, Deloitte In-Time leverages machine learning to optimize and update partitions.

What is the difference between a custom solution using pre-calculations and Deloitte In-Time?

Deloitte In-Time provides a holistic solution to define, operate and monitor pre-calculations. The solution offering goes considerably beyond custom-defined solutions. Deloitte In-Time offers not only a proven template and sophisticated algorithms to reduce resource consumption (e.g. executor optimization) but also monitoring tools and a management environment.

How is Deloitte In-Time different from the standard replication job in EIM at snapshot creation?

Deloitte In-Time can achieve a significantly better parallelization while using less resources than a standard replication job in EIM at snapshot time. As a consequence of the high parallelization, snapshots become obsolete in most cases.

How are delta loads managed in Deloitte In-Time? Are separate branches or activation logs used?

Deloitte In-Time monitors changes in the data foundation and updates only affected semantic partitions based on a pre-defined schedule in the pre-calculated object. This is the recommended approach for updates that is usually completed within seconds. In case updates take a longer time, an activation log is recommended and can be implemented with the flexible framework of Deloitte In-Time.

Can an Embedded BW be used to achieve the same results as Deloitte In-Time?

The strengths of Deloitte In-Time become apparent in high-load analytics scenarios, when In-Time provides calculation results in near-real time with minimal resource consumption, for which Embedded BW is less or not suitable in most of the cases.

What visualizations are provided by SAP HANA Advanced Diagnostics with Deloitte In-Time?

Advanced Diagnostics is a collection of tools that provide enhanced insights to administrators and help them to understand what is happening in their system. For instance, the TCO visualizer in combination with the load generator allows to compare the system load of a real-time system to a system running In-Time-optimized applications. Another application of Advanced Diagnostics, the Performance Cube, visualizes all executed statements within a system in a 3D scatter plot using statement characteristics such as used memory, CPU time and server execution time.

How does the scheduler used by Deloitte In-Time differ from an XS job?

In contrast to a usual XS job, the scheduler of Deloitte In-Time is event-driven. Customers may integrate a custom firm calendar for scheduling (e.g. scheduling of jobs on the first day of the accounting period). Furthermore, the scheduler used by Deloitte In-Time takes into account the current system load and postpones the execution of jobs if the SLA will not be violated.

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