1793345 - Sizing for SAP Suite on HANA

Version	16	Type	SAP Note
Language	English	Master Language	English
Priority	Recommendations / Additional Info	Category	Performance
Release Status	Released for Customer	Released On	27.04.2015
Component	BC-EHP-INS (Please use BC-UPG-TLS*)		

Please find the original document at https://launchpad.support.sap.com/#/notes/ 1793345

Symptom

Initial Sizing observations for SAP Suite on HANA (SAP enhancement package 7 for SAP ERP 6.0, version for SAP HANA, SAP enhancement package 3 for SAP CRM 7.0, version for SAP HANA, SAP enhancement package 3 for SAP SCM 7.0, version for SAP HANA, SAP enhancement package 3 for SAP Supplier Relationship Management 7.0, version for SAP HANA).

Please refer to SAP Note 1872170 (Suite on HANA memory sizing), if you want to do a HANA memory sizing of an already productive system. This SAP Note implements a report to estimate the memory space requirement for the database tables of Suite on HANA systems. The program runs on non-HANA systems.

Other Terms

Sizing, resource requirements, performance, update, hardware, enhancement packages, Suite on HANA

Reason and Prerequisites

Customers plan hardware expenditures prior to moving to HANA
Please note that SAP enhancement package 6 for SAP ERP 6.0, SAP enhancement package 2 for SAP CRM 7.0, SAP enhancement package 2 for SAP SCM 7.0, and SAP enhancement package 3 for SAP SRM 7.0 are prerequisites for this move. (You can use note 1723135 and related notes to plan the hardware requirements for the update to SAP ERP EHP6).

Solution

Initial sizing observations are based on lab measurements, load tests and measurements performed in customer test systems. This information may change, if additional measurement results are available. This information is only valid, if the system usage is not changed after the move; intense additional reporting and OLAP processing is not taken into account.

Initial Sizing
For initial (greenfield) sizings, you should use the HANA Quick Sizer at http://service.sap.com/hanaqs (please note that no other calculation/formulas need to be applied when using the HANA Quick Sizer).

Productive Sizing
For productive (brownfield) sizings, there are two different approaches possible. The first approach is very straight forward and can be applied as a first rough assessment, whereas the second approach (report) is much more detailed and therefore also more reliable. The recommendation from SAP is to apply the report.

1. Quick and easy approach

If you want to get a first ballpark estimate for your required HANA Main Memory, then you should first check the size of your current database (use the standard SAP monitoring tools). An assumption is that your source system is well-maintained and uncompressed. The recommendation from SAP is that you take half of size of your disk-based database, include a safety buffer of 20% and add 50 GB fixed size for code, stack and other services. This means, if the database is currently approximately 2000 GB in size (tables plus indexes), the maximum memory consumption will be 1250 GB (2000 GB/2 * 1,2 + 50 GB).

You should not forget to consider your future data growth into your planning. SAP doesn't expect changes in memory requirements for applications using liveCache. If you are using SAP HANA Enterprise Search, you should add 20% memory resources on top.

If you want to estimate the HANA CPU requirements, then you should identify the CPU consumption of the database. You can for example look at the CPU consumption of the database process(es) using SAP's monitoring tools. To fully support the parallel processing capabilities of HANA for optimal response times for analytical applications SAP prefers a factor of 3 more CPU power for HANA than for disk based databases without parallelization of single statements. This also considers the load for running OLTP and Reporting simultaneously and includes a moderate use of SAP HANA Enterprise Search. Extensive usage of SAP HANA Enterprise Search capabilities might require additional CPU resources.

To give a prediction regarding the required HANA disk space (or: total net disk space), you have to take into consideration the net data size on disk (anyDB) and the disk space required for Delta Merges. During a Delta Merge, the affected tables are temporarily duplicated on disk for a short period of time. The disk space for merges is calculated by taking the sum of the two biggest tables and include this value into the calculation. On top, you should add 25GB for the space required by the statistics server, HANA metadata, etc. The final calculation looks as follows:

HANA disk space (Total Net Disk Space) = (Net Data Size anyDB + Disk Space for Merges) / 4 (compression) * 1,2 (20% safety buffer) + 25GB

If you are using SAP HANA Enterprise Search, you should add 20% disk resources on top.

More information regarding SAP HANA Storage Requirements can be found in this document (http://scn.sap.com/docs/DOC-62595).

Please note that SAP doesn't expect any changes concerning CPU, memory and network requirements for the ABAP application server. This means that the existing hardware and network infrastructure can still be used.

1. Sizing report for a more accurate sizing

Please refer to SAP Note 1872170 (Suite on HANA memory sizing), if you want to do a HANA memory sizing of an already productive system. This SAP Note implements a report to estimate the memory space requirement for the database tables of Suite on HANA systems. The program runs on non-HANA systems and is the preferred choice to size an already productive system.

Please note that both further experiences from existing, productive HANA customers as well as optimizations in HANA may lead to changes regarding the sizing procedure for Suite on HANA.

Software Components

Software Component	Release
SAP_APPL	606 - 606
SAP_APPL	616 - 616
SAP_APPL	617 - 617
SCM	702 - 702
SCM	712 - 712
BBPCRM	702 - 702
BBPCRM	712 - 712

Other Components

Component	Description
HAN-DB	SAP HANA Database

This document refers to

SAP Note/KBA	Title
1872170	Business Suite on HANA and S/4HANA sizing report
1723135	Resource requirements for SAP ERP Central Component 6.0 EHP6
1637145	SAP BW on HANA: Sizing SAP In-Memory Database
1514966	SAP HANA 1.0: Sizing SAP In-Memory Database

This document is referenced by

SAP Note/KBA	Title
2490281	SAP installation on HANA fails due to insufficient memory
1953429	SAP HANA and SAP NetWeaver AS ABAP on one Server
2043509	SAP HANA and SAP NetWeaver Java on a Single Host

1872170	Business Suite on HANA and S/4HANA sizing report
1974405	Resource requirements for SAP ERP Central Component 6.0 EHP7 and EHP8
1637145	SAP BW on HANA: Sizing SAP In-Memory Database
1514966	SAP HANA 1.0: Sizing SAP In-Memory Database
1723135	Resource requirements for SAP ERP Central Component 6.0 EHP6

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