



Service Report

EarlyWatch ® Alert

Confidential

SAP System ID

SEP

Product

SAP S/4HANA 1809

Status

Productive

DB System

SAP HANA Database 2.00.063.00

Processed on

SAP Solution Manager

SMP

Release

SOLUTION MANAGER 7.2

Service Tool

720 SP22

Analysis from

20.10.2025

Session No.

1000000005525

Until

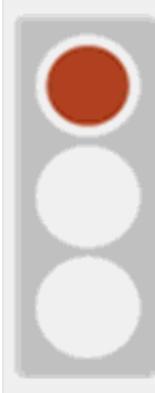
26.10.2025

Installation No.

0021196846

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1 Service Summary



The EarlyWatch Alert service has detected severe problems that may cause you to lose business. Take corrective action immediately.

Alerts Decisive For Red Report

	SAP HANA database: Memory consumption of tables exceeds 70% of usable memory.
	SAP HANA database: Severe issues for operating or administration in terms of log backup/recovery have been detected.

Alert Overview

	Mainstream/extended maintenance/priority-one support (if offered) for your SAP product version has ended or will end soon.
	Backlog found in Business Key Figures Chapter
	SAP Software on this system is outdated. Support with SAP Security Notes is no longer ensured.
	SAP HANA database: Support Package has run out of security maintenance. Support with SAP Security Notes is no longer ensured.
	Based on OLAP processing times for BW queries, performance problems might exist or are expected.
	Please check if SAP Hotnews 2734503 about loss of address data for one time customers is relevant for you.
	We found more than 30 ABAP dumps in your system.
	SAP HANA database parameters are not set in accordance with the recommendation.
	SAP HANA database: Column unloads occurred on the system
	A high number of users has critical authorizations
	SAP HANA database: Users with critical privilege DATA ADMIN.
	SAP HANA database: Recommended Audit configuration is not applied.
	SAP HANA database: System Recommendations are not used or outdated.

Note: If you send SAP EarlyWatch Alert data to SAP, this report can also be viewed in the SAP ONE Support Launchpad in an interactive SAP Fiori application [SAP Note 2520319](#). Here is the link to the latest reports for this system: [SAP EarlyWatch Alert Workspace](#)

Specific links to analytical detail pages in SAP EarlyWatch Alert Workspace are included in the respective sections or in this report.

Based on these findings, it is recommended that you perform the following Guided Self-Services.

Guided Self Service	FAQ SAP Note
Security Optimization Service	1484124

For more information about Guided Self-Services, see [SAP Enterprise Support Academy](#). Academy - Check Overview

Topic Rating	Topic	Subtopic Rating	Subtopic
	SAP System Configuration		
			Database - Maintenance Phases
			SAP Kernel Release
	Performance Overview		
	Workload Distribution		Workload by Application Module

Topic Rating	Topic	Subtopic Rating	Subtopic
		✓	DB Load Profile
!	SAP System Operating	✓	Availability based on Collector Protocols
		!	Program Errors (ABAP Dumps)
		✓	Update Errors
		✓	Table Reorganization
✓	Hardware Capacity		
!	BW Checks	✓	BW Administration & Design
		!	BW Reporting & Planning
		!	BW Warehouse Management
!	Security	!	System Recommendations (HANA)
		!	Maintenance Status of current SAP HANA Database Revision
		!	SAP HANA System Privilege DATA ADMIN
		✓	SAP HANA Password Policy
		!	SAP HANA Audit Trail
		✓	SAP HANA SQL Trace Level
		✓	SAP HANA Network Settings for Internal Services
		✓	SAP HANA SSFS Master Encryption Key
		✓	Activation Status and Validity of User SYSTEM
		!	System Recommendations (ABAP)
		!	Age of Support Packages
		✓	Default Passwords of Standard Users
		✓	Control of the Automatic Login User SAP*
		✓	Protection of Passwords in Database Connections
		✓	ABAP Password Policy
		✓	RFC Gateway Security
		✓	Message Server Security
		!	Users with Critical Authorizations
✓	Software Change Management	✓	
		✓	Number of Changes
!	HANA Technology	✓	Overview
		!	SAP HANA MiniChecks
		✓	SAP HANA Critical Revisions
		✓	SAP HANA Critical Operating System Settings
		!	SAP HANA Stability and Alerts
		!	SAP HANA Database Configuration
		!	SAP HANA Resource Consumption
		!	SAP HANA Workload and Performance
		!	Size and Growth
		!	Administration
		✓	Important SAP Notes

Note: All recommendations in this report are based on our general experience. Test them before using them in your production system. Note that EarlyWatch Alert is an automatic service.

Note: If you have any questions about the accuracy of the checks in this report or the correct configuration of the SAP Solution Manager EarlyWatch Alert service, create a customer message under component SV-SMG-SER-EWA.

Note: If you require assistance to resolve concerns about the performance of the system, or if you require a technical analysis of other aspects of your system as highlighted in this report, please contact your customer representative (for example, TQM or ESA). To contact the SAP Enterprise Support advisory team or Customer Interaction Center, please refer to the local contact number specified in [SAP Note 560499](#). For details of how to set the appropriate priority level, see [SAP Note 67739](#).

1.1 Performance Indicators for SEP

The following table shows the relevant performance indicators in various system areas.

Area	Indicators	Value	Trend
System Performance	Active Users (>400 steps)	231	↗
	Avg. Availability per Week	96 %	↗
	Avg. Response Time in Dialog Task	1472 ms	↗
	Max. Dialog Steps per Hour	8853	↗
	Avg. Response Time at Peak Dialog Hour	1011 ms	↗
	Avg. Response Time in RFC Task	618 ms	↘
	Max. Number of RFCs per Hour	97118	↗
	Avg. RFC Response Time at Peak Hour	157 ms	↘
	Max. CPU Utilization on DB Server	27 %	↗
Hardware Capacity	Max. CPU Utilization on Appl. Server	4 %	↗
	Avg. DB Request Time in Dialog Task	447 ms	↗
Database Performance	Avg. DB Request Time for RFC	140 ms	↘
	Avg. DB Request Time in Update Task	227 ms	↗
Database Space Management	DB Size	1475.06 GB	↗
	DB Growth Last Month	12.02 GB	↗

2 Landscape

2.1 Products and Components in current Landscape

Product

System	SAP Product	Product Version
SEP~ABAP	SAP S/4HANA	1809

Note: System does not use Unicode technology.

Main Instances (ABAP or JAVA based)

Related System	Main Instance
SEP~ABAP	SAP S/4HANA Server

Databases

Related System	Database System	Database Version	DB ID
SEP~ABAP	SAP HANA Database	2.00.063.00	SEP

2.2 Servers in current Landscape

SAP Application Servers

System	Host	Instance Name	Logical Host	ABAP	JAVA
SEP~ABAP	saazs-v-sap30	saazs-v-sap30_SEP_30	SAAZS-V-SAP30	<input checked="" type="checkbox"/>	
SEP~ABAP	saazs-v-sap37	saazs-v-sap37_SEP_37	SAAZS-V-SAP37	<input checked="" type="checkbox"/>	

DB Servers

Related System	Host	Logical Host (SAPDBHOST)
SEP~ABAP	saazs-v-sap33	saazs-v-sap33

Components

Related System	Component	Host	Instance Name	Logical Host
SEP~ABAP	ABAP SCS	saazs-v-sap30	saazs-v-sap30_SEP_01	SAAZS-V-SAP30

2.3 Hardware Configuration

Host Overview

Host	Hardware Manufacturer	Model	CPU Type	CPU MHz	Virtualization	Operating System	CPUs	Cores	Memory in MB
saazs-v-sap30	Microsoft Corporation	Virtual Machine	Xeon E5-2673 v4	2300	AZURE	Windows Server 2016	16	8	65536
saazs-v-sap33	Microsoft Corporation	Virtual Machine[7.0]	Xeon Platinum 8280M	2700	AZURE	SUSE Linux Enterprise Server 12 (x86_64)	64	32	515986

Host	Hardware Manufacturer	Model	CPU Type	CPU MHz	Virtualization	Operating System	CPUs	Cores	Memory in MB
saazs-v-sap37	Microsoft Corporation	Virtual Machine	Xeon Platinum 8171M	2100	AZURE	Windows Server 2016	16	8	65536

3 Service Data Quality and Service Readiness



Configuration hints for optional service data are provided.

The SAP S/4HANA system SEP is not fully prepared for delivery of future **remote services**.

Rating	Check Performed
✓	Sending EarlyWatch Alert of SEP to SAP Backbone
⚠	Configuring SEP for SAP Note Assistant
◆	Service Data Quality
✗	Service Preparation of SEP

3.1 Sending EarlyWatch Alert of SEP to SAP Backbone

●●●	System SEP is prepared for SAP Support Backbone update sending EWA data on HTTPS through Solution Manager 7.2 SMP
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All connections to SAP Support Backbone use https protocol only. For a how to, refer to [Connectivity to SAP](#).

The following table shows the latest data transmissions for system SEP:

Latest Service Data for System SEP Sent to SAP

Date (collected)	System	Sends EWA?	Kernel	Kernel	ST-PI	ST-PI	Destination	User	Ready for 2020	Date (last sent)	Dest. Functional?
27.10.2025	Solution Manager 7.2 SMP	yes	753_REL 1500	✓	740 26	✓	HTTPS -> SAP	S-user	✓	20.10.2025	✓
27.10.2025	Solution Manager SMP	n/a	n/a	◆	n/a	◆	n/a	n/a	◆		

3.1.1 Configuring SEP for SAP Note Assistant

Configuration and Usage of Digitally Signed SAP Notes

Type	Finding	Further Information
⚠	SNOTE is configured to connect with HTTPS to SAP using destination SAP-SUPPORT_PORTAL to SAP's Service market place and destination SAP-SUPPORT_NOTE_DOWNLOAD to SAP's File content management system	Guided Answer 'Options for Downloading Digitally Signed SAP Notes'

3.2 Service Data Quality

The service data is collected by the Service Data Control Center (SDCCN) or read from the Solution Manager's BW or Configuration and Change Database (CCDB).

Recommendation: To resolve issues with the service data quality, follow the hints and SAP Notes provided below.

Explanation for 'Priority' Column In Tables Below



Prio.	Explanation: Impact of Missing or Erroneous Data
!	An optional check was skipped.

3.2.1 Quality of Service Data in Solution Manager Diagnostics - BW

Prio.	Report Area affected	Details and Related Infocube	SAP Note
!	Workload of ABAP System SEP	No performance data is returned from BW InfoCube. InfoCube: 0CCMSMTPH used in section ' Workload Overview SEP	1840395

3.2.2 Managed System Setup In Solution Manager

Prio.	Report Area affected	Details	SAP Note
!	Configuration of ABAP System SEP	Collector job DSWP_GET_PPMS_DATA_AUS_OSS for retrieval of the latest available SAP support packages is probably suspended. Information about the latest available SAP support packages was omitted from this report due to outdated data. Please ensure daily scheduling of this job in your SAP Solution Manager system. Used in check ' Support Package Maintenance - ABAP	894279

3.3 Service Preparation of SEP

Rating	Check Performed
✗	Service Preparation Check (RTCCTOOL)
✓	Service Data Control Center of SEP
!	Hardware Utilization Data

In preparation for SAP services, ensure that connections, collectors, and service tools are up to date. These functionalities are explained in SAP Notes [91488](#) and [1172939](#).

3.3.1 Service Preparation Check (RTCCTOOL)

Before we can ship any services, the latest version of the SAP Service tools must be implemented in your system.

Report RTCCTOOL was last run on 27.10.2025. During the check, the tool detected issues for which a RED rating was set.

Overall Status	SAP Note	Title	Tool Status	Manual Status
✗	69455	ST-A/PI 01W_731 Support Package 2	✗	◆
✗	539977	ST-PI 740 Support Package 32	✗	◆
✗	1985402	datacoll. for HANA	✗	◆
!	69455	Addon ST-A/PI 01W_731	!	◆
✓	69455	Proc. after addon impl.	✓	◆
✓	69455	Switch on digital content verification	✓	◆
✓	69455	Allow Online data collectors	✓	◆
✓	539977	Addon ST-PI 740	✓	◆
✓	12103	Collectors and TCOLL	✓	◆

Recommendation: ST-A/PI 01W_731 Support Package 2 Addon supportpackage level 2 for ST-A/PI 01W_731 for

NetWeaver as of 7.31 [your current version is more than two levels lower than the latest available] From http://support.sap.com/supporttools ->ST-A/PI->Support packages-> ST-A/PI 01W_731 download patches up to SAPKITABC9. Use the Maintenance optimizer to release the download. Upload from frontend to transaction SPAM, define a queue and import.

[ST-PI 740 Support Package 32](#) Addon supportpackage level 32 for ST-PI 740 for basis as of 7.40 [patches up to level 32 for Basis tools for services. Your current patch is more than four levels lower than the latest available.] Open http://support.sap.com/supporttools ->ST-PI supportpk.-> ST-PI 740. Add patch SAPK-74032INSTPI (and predecessors if not yet implemented) t download basket. Release basket via Maintenance optimizer. Upload from frontend into transaction SPAM, define a queue and import the queue.

[datacoll. for HANA Latest ST-PI level *OR* SAP Note 1985402](#) is required to collect service data for SAP HANA database on basis as of 731 with HANA Either implement the latest ST-PI level (which is 32 for ST-PI 740, see recommendations above) *OR* Implement the corrections from SAP note & 1985402 (note version at least 128) using SNOTE. If your ST-PI is too low for SAP note 1985402, you have to update ST-PI.

[Addon ST-A/PI 01W_731 "Servicetools for Applications Plug-In"](#) for NetWeaver as of 7.31 [your current version is one or two levels lower than the latest available] From http://support.sap.com/supporttools ->ST-A/PI->Installations&Upgrades download the installation ST-A/PI 01W_731. Upload to tx SAINT and install as per note 69455. Then restart report RTCCTOOL and choose 'List->Refresh from SAPNet'.

3.3.2 Hardware Utilization Data

Host	Operating System	Performance Data
saazs-v-sap30	Windows Server 2016	OK
saazs-v-sap33	SUSE Linux Enterprise Server 12 (x86_64)	--
saazs-v-sap37	Windows Server 2016	OK

Hardware capacity checks could not be run successfully due to missing data. See SAP Note [1309499](#).

4 Software Configuration for SEP



We have listed important recommendations concerning the current software configuration on your system. These recommendations should be implemented at the earliest opportunity.

Your system's software versions are checked. If known issues with the software versions installed are identified, they are highlighted.

4.1 Codepage Technology Support

It was not possible to detect whether you are using other codepage technologies in addition to Unicode. We support and fully recommend Unicode in systems involving multiple languages.

As of SAP NetWeaver Release 7.0, Unicode is the only supported and available codepage technology.

We can only ensure data consistency in installations with multiple languages if the entire system is based on Unicode. See SAP Note 838402 -> Attachments -> "Customer Letter" for information about our supported codepage technologies.

Recommendation: If you are using a codepage technology other than Unicode, we recommend that you review our disclaimer, which you can find at: [/unicode](#) -> Unicode Media Library -> SAP ERP 6.0 and MDMP -> "Disclaimer: MDMP with SAP 6.0".

For more information about how to migrate to Unicode completely, see the document "Roadmap: From MDMP to SAP ERP 6.0 Unicode", which you can find at the path above.

We recommend that you review SAP Note 179991, which contains recommendations relevant to your SAP component. If you are not using multiple languages, ignore this recommendation.

4.2 SAP Application Release - Maintenance Phases

SAP Product Version	End of Mainstream Maintenance	Status
SAP S/4HANA 1809	31.12.2023	

Your system SEP is running on SAP S/4HANA 1809. Mainstream maintenance for SAP S/4HANA 1809 ended on 31.12.2023. SAP does not offer extended maintenance or priority-one support for SAP S/4HANA 1809.

Recommendation: We recommend that you check for a successor version in the Product Availability Matrix [support.sap.com/pam](#) and, if a successor version is available, upgrade your system.

For SAP releases and SAP BusinessObjects releases based on SAP NetWeaver, SAP offers customer-specific maintenance after the end of mainstream maintenance. For more information about the maintenance phases offered for SAP and SAP BusinessObjects software, see [support.sap.com/maintenance](#).

In February 2020, SAP announced a maintenance extension for SAP Business Suite 7 core application releases to 2027. If you are running a relevant release, see SAP Note [1648480](#) for more details and applicable restrictions.

4.3 Support Package Maintenance - ABAP

The following table shows an overview of currently installed software components.

Support Packages

Software Component	Version	Patch Level	Latest Avail. Patch Level	Support Package	Component Description
ARBCI1	10S	20		SAPK-10S20INARBCI1	Ariba Cloud Integration for SAP S/4HANA 1.0

Software Component	Version	Patch Level	Latest Avail. Patch Level	Support Package	Component Description
ARBCI2	10S	12		SAPK-10S12INARBCI2	Ariba Cloud Integration 2 for SAP S/4HANA 1.0
ARBCIGR	10S	1		1 SAPK-10S01INARBCIGR	ARIBA CLOUD INTEGRATION FOR RETAIL S/4HANA
BI_CONT	757	20		27 SAPK-75720INBICONT	BI CONT SAP NW 7.40 ADDON 7.57
BI_CONT_XT	757	20		27 SAPK-75720INBI CONTXT	Bi Cont Ext For Bi Cont 7.57
BSNAGT	200	2		6 SAPK-20002INBSNAGT	BSN Agent 200
EA-DFPS	803	1		4 SAPK-80301INEADFPS	EA-Defense Forces & Public Security 803
EA-HR	608	60		84 SAPK-60860INEAHR	SAP R/3 Enterprise Human Resource & Travel Extension 608
EA-PS	803	1		4 SAPK-80301INEAPS	SAP R/3 Enterprise Public Services 803
ECC-SE	803	1		4 SAPK-80301INECCSE	ESA FAST TRACK (ECC-SE) 803
FI-CAX	803	1		4 SAPK-80301INFICAX	FI-CAX: Extended FI-CA 803
GBX01HR	600	11		18 SAPK-60011INGBX01HR	GBX01HR 600 (oData Base, HCM Fiori) 600
GBX01HR5	605	8		15 SAPK-60508INGBX01HR5	GBX01HR5 605
GRCFND_A	V8100	9		10 SAPK-V8109INGRCFND_A	SAP GRC Shared Components 8100
GRCPIERP	V1200_S4	5		6 SAPK-V1205INGRCPIERP	SAP GRC PLUGIN S4HANA 1610+
GRCPINW	V1200_750	9		10 SAPK-V1209INGRCPINW	SAP GRC Plug-in for NW 7.50 and higher
INSURANCE	803	1		4 SAPK-80301ININSURANCE	INSURANCE 803
IS-OIL	803	1		4 SAPK-80301INISOIL	SAP for Oil & Gas 803
IS-PRA	803	1		4 SAPK-80301INISPRA	IS-PRA 803
IS-PS-CA	803	1		4 SAPK-80301INISPSCA	IS-Public Sector Contract Accounting 803
IS-UT	803	1		4 SAPK-80301INISUT	IS-UT 803
MDG_APPL	803	1		4 SAPK-80301INMDGAPPL	MDG Applications 803
MDG_FND	803	1		4 SAPK-80301INMDGFND	MDG Foundation 803
MDG_UX	803	1		4 SAPK-80301INMDGUX	MDG Additional User Interface 803
MRSS	V2000	4		6 SAPK-V2004INMRSS	Multi resource service scheduling V2000

Software Component	Version	Patch Level	Latest Avail. Patch Level	Support Package	Component Description
MRSS_UI5	V2000	5	7	SAPK-V2005INMRSSUI5	Multi Resource Scheduling with UI5 V2000
MSGPMCON	200	3	4	SAPK-20003INMS GPMCON	Connection-packet FS-PM and PRODUCT ENGINE (msg.PM) 200
ONQOAS	100_752	5		SAPK-10024INONQOAS	
S4CORE	103	1	4	SAPK-10301INS4CORE	S4CORE 103
S4FND	103	1	4	SAPK-10301INS4FND	Foundation for SAP S/4HANA 103 (S/4HANA only parts)
S4MERP	100	3	7	SAPK-10003INS4MERP	Mobile Application Integration for S/4 Enterprise Management 100
S4MFND	100	3	7	SAPK-10003INS4MFND	Mobile Integration Framework Foundation for S/4Hana 100
SAP_ABA	75D	1	4	SAPK-75D01INSAPABA	SAP Anwendungsbasis 7.5D
SAP_BASIS	753	1	4	SAPK-75301INSAPBASIS	SAP Basis Component 7.53
SAP_BW	753	1	4	SAPK-75301INSAPBW	SAP Business Warehouse 7.53
SAP_GWFND	753	2	4	SAPK-75302INSA PGWFND	SAP NetWeaver Gateway Foundation 7.53
SAP_HR	608	60	84	SAPKE60860	SAP HR 6.08
SAP_UI	753	4	7	SAPK-75304INSAPUI	User Interface Technology 7.53
SRA004	600	11	11	SAPK-60011INSRA004	My Travel Requests 1.0
ST-A/PI	01V_731	3		SAPKITABC6	
ST-PI	740	27		SAPK-74027INSTPI	Solution Tools Plugin 740Further information's and responsibles: https://wiki.wdf.sap.corp/wiki/display/STPI/Home
UIBAS001	400	2	4	SAPK-40002INUIBAS001	UI for Basis Applications 400
UIGRAC01	100	4	4	SAPK-10004INUIGRAC01	SAP FIORI FOR SAP AC 1.0

4.4 Database - Maintenance Phases

Database Version	End of Standard Vendor Support*	Comment	Status	SAP Note
SAP HANA Database 2.0		Follows Application	✓	2378962

* Maintenance phases and duration for the DB version are defined by the vendor. Naming of the phases and required additional support contracts differ depending on the vendor. Support can be restricted to specific patch levels by the vendor or by SAP. Check in the referenced SAP Note(s) whether your SAP system requires a specific patch release to guarantee

support for your database version.

4.5 Operating System(s) - Maintenance Phases

Host	Operating System	End of Standard Vendor Support*	End of Extended Vendor Support*	Comment	Status	SAP Note
saazs-v-sap33	SUSE Linux Enterprise Server 12 (x86_64)	31.10.2024	31.10.2027	Limited (LTSS)	!	936887
2 Hosts	Windows Server 2016	11.01.2022	11.01.2027		!	1177282

* Maintenance phases and duration for the operating system version are defined by the vendor. Naming of the phases and required additional support contracts differ depending on the vendor. Support can be restricted to specific patch levels by the vendor or by SAP. Check in the referenced SAP Note(s) whether your SAP system requires a specific patch release to guarantee support for your operating system version.

4.6 HANA Database Version for SEP

The following table shows your current/planned SAP HANA database version.

HANA Database Version

SID	SPS Stack	SP Revision	Maintenance Revision	In Maintenance ?	SAP Notes
SEP	2.00 SP 06	2.00.063.000	no	!	2378962

4.6.1 HANA Database Support Package Stack for SEP

The following table shows your current/planned SAP HANA database support package stack. For the current support package stack, the remaining number of days until the end of maintenance is reached is calculated. If the number of days until the end of maintenance is greater than 90 days a warning is shown.

Support Package Stack

Current Version	Current Support Package Stack	Available Version	Available Support Package Stack	Maintenance end	Number of days until Maintenance End	Rating
2	06	2	05		0	!

The current HANA Support Package is no longer in maintenance or the SAP HANA Version runs out of maintenance within the next 90 days.

Recommendation: Please develop a clear SAP HANA maintenance strategy ensuring that the HANA software is kept up to date. SAP HANA maintenance requires deployment and testing across the HANA landscape in a controlled and timely manner (for example, system and user testing in a development environment before updating a production environment).

4.7 SAP HANA: SQLDBC Version

4.7.1 SAP HANA: Installed SQLDBC Version

The following table shows your currently installed SAP HANA database client component version.

Instance Name	SQLDBC Version	Rating
2 Instances	2.13.022	✓

SAP Note	Description
1906576	HANA client and server cross-version compatibility
2339267	The SAP HANA client version and installation manifest file doesn't match currently available SAP HANA server version information

4.8 SAP HANA: Installed DBSL Version

The following table shows the DBSL version currently installed.

Instance	Current DBSL Release	Current DBSL Patch	Recommended DBSL Release	Recommended DBSL Patch	Rating
saazs-v-sap30_SE_P_30	777	600	777	05	✓
saazs-v-sap37_SE_P_37	777	600	777	05	✓

Your installed SAP HANA DBSL meets the recommended requirement to access the SAP HANA database.

4.9 SAP Kernel Release

The following table lists all information about your SAP kernel(s) currently in use.

Instance(s)	SAP Kernel Release	Patch Level	Age in Months	OS Family
2 instances	777	600	28	Windows Server (x86_64)

4.9.1 Kernel out of date

Your current SAP kernel release is probably not up to date.

Recommendation: Make sure that you are using the recommended SAP kernel together with the latest Support Package stack for your product.

4.9.2 Additional Remarks

SAP releases Support Package stacks (including SAP kernel patches) on a regular basis for most products (generally 2–4 times a year). We recommend that you base your software maintenance strategy on these stacks.

You should only consider using a more recent SAP kernel patch than that shipped with the latest Support Package Stack for your product if specific errors occur.

For more information, see SAP Service Marketplace at <https://support.sap.com/software/patches/stacks.html> (SAP Support Package Stack information) and <https://launchpad.support.sap.com/#/softwarecenter/support/index> (Support Packages & patch information).

For each patch there is an SAP Note in which all known regressions for this level are listed. Find it using the keyword **KRNL777PL600** in the SAP Note search. For detailed information, see SAP Note [1802333](#) - Finding information about regressions in the SAP kernel.

4.10 S/4HANA Usage and Adoption

Scenario Overview

Scenario	Used	Details
Module Sales and Distribution (SD)		No dialog activity in module SD was identified.
Module Materials Management (MM)	✓	According to the workload monitor module MM is in use.

4.10.1 SAP Hotnews On Address Data Loss

Risk: Loss of addresses can disrupt business processes such as processing of sales orders, maintaining or creating delivery documents or invoices. Other processes in SD/LE or other applications which need the addresses may be affected as well.

Important SAP Notes

SAP Note	Implementation Status	Error came into SEP by	Rating	Hotnews?
2713240	not downloaded	SAP_BASIS 753 SP01	☒	
2742499	Note not relevant, because software component not in this system	-	✓	
2734503	not downloaded	SAP_BASIS 753 SP01	☒	✓

Findings: In your system, a coding error is present described in [SAP Note 2819968](#). Although you do not appear to use the business processes affected, you may want to check if this SAP Note is relevant for system SEP.

Recommendation: Implement the SAP Notes for one-time addresses. Relevant SAP Notes are rated red in the table above.

To avoid this warning, you may rate the SAP Note in SAP Note Assistant as Not Relevant.

5 Hardware Capacity



We have checked your system for potential CPU or memory bottlenecks and found that the hardware of your servers is sufficient for the current workload.

Note: Hardware capacity evaluation is based on hosts for which data is at least partially available.

5.1 Overview System SEP

General This analysis focuses on the workload during the peak working hours (**7-18**) and is based on the hourly averages collected by SAPOS COL. The data of **Saturday, Sunday** has been ignored. For information about the definition of peak working hours, see SAP Note [1251291](#).

CPU If the average CPU load exceeds **75%**, temporary CPU bottlenecks are likely to occur. An average CPU load of more than **90%** is a strong indicator of a CPU bottleneck.

Memory If your hardware cannot handle the maximum memory consumption, this causes a memory bottleneck in your SAP system that can impair performance. The paging rating depends on the ratio of paging activity to physical memory. A ratio exceeding **25%** indicates high memory usage (if Java has been detected **0%**) and values above **50%** (Java **10%**) demonstrate a main memory bottleneck.

Server	Max. CPU load [%]	Date	Rating	RAM [MB]	Max. Paging [% of RAM]	Date	Rating	Analysis Start	Analysis End
saazs-v-s ap30	4	20.10.2025	✓	65.536	1	22.10.2025	✓	20.10.2025	26.10.2025
saazs-v-s ap37	3	20.10.2025	✓	65.536	0		✓	20.10.2025	26.10.2025

Note: For virtualization or IaaS scenarios (for example, IBM PowerVM, VMware, Amazon AWS, ...) it is possible that the CPU rating for some hosts is YELLOW or RED, even though the utilization value is quite low. In this case, the relevant host could not use maximum usable capacity due to a resource shortage within the virtualized infrastructure (for example, IBM PowerVM: Shared Pool CPU utilization).

6 BKF Info & Admin for SAP EWA

System errors or business exceptions can be a reason for open, overdue, or unprocessed business documents or long-lasting processes. SAP Business Process Analysis, Stabilization and Improvement offerings focus on helping you to find these documents (as it may directly or indirectly negatively impact business).

This section provides an example of indicators, and its findings are a basis of further SAP offerings. In the example below, the backlog of business documents is compared to daily or weekly throughput or set in relation to absolute threshold numbers.

It provides business information to discuss possible technical or core business improvement process potential.

SAP tools and methods can help to monitor and analyze business processes in more detail.

Find more information, see [here](#).

NOTE: Overdue or exceptional business documents are often caused by system errors, such as user handling issues, configuration or master data issues, or open documents on inactive organizational units or document types that can be included in the measurements. These documents are rarely processed further by the business departments and often do not have a direct impact on customer satisfaction, revenue stream, or working capital. Nevertheless, these documents can have negative impacts on other areas such as supply chain planning accuracy, performance (of other transactions, reports, or processes), and reporting quality.

For more information about this section, see [here](#). See "Which optional content can be activated in SAP EarlyWatch Alert?".

6.1 Reference Key Figures Measured Value Summary

The below values originate from reference key figures executed in your back-end system. A rating is given as the first criticality indicator for each value that may represent open, overdue, or exception documents. The rating can be based on the absolute number of references or relate to a certain business throughput. Note that a rating can be assigned only if a reference value is available (in the case of relative evaluation) or if the evaluation is based on an absolute number.

The following general rule of thumb applies to most ratings of application-related backlog key figures:

GREEN – the backlog is smaller than one day of typical daily throughput

YELLOW – the backlog is between one and five days of typical daily throughput

RED – the backlog is above five days of typical daily throughput

GRAY – standard evaluation is not possible due to missing reference value

Bear in mind that all assumptions and ratings in this presentation are based on our general experience with other customers and that the findings are not necessarily business-critical in your particular case. The key figures are further described in the [KPI Cloud Catalog](#).

Data collection status:

Data collection frequency (in months): 3

Rating	Business Area: Key Figure Short Name	Finding	#
!	Finance: Overdue vendor payments (actual fiscal year) [K20]	464 open vendor items in Accounts Payable in the current were identified, whereby the due date for payment is .. (27 less than three months & 46 older than twelve months).Based on absolute numbers (GREEN[<100]; RED[>1000]).	
!	Finance: Overdue customer payments (actual fiscal year) [K15]	796 open customer items in Accounts Receivable in the current were identified, whereby the due date for payment is .. (101 less than three months & 411 older than twelve months).Based on absolute numbers (GREEN[<100]; RED[>1000]).	
!	Finance: Bank Statement Items not completed [K16]	25 bank statement items were identified that have not been fully posted (0 less than three months & 19 older than twelve months).Based on absolute numbers (GREEN[<10]; RED[>100]).	
!	Finance: Early Payments FI-AP (before cash discount 1) [K22]	38 early payments before cash discount 1 were identified.Based on absolute numbers (GREEN[<10]; RED[>100]).	
✓	Order To Cash: Deliveries with overdue invoices [K12]	10 deliveries with overdue Invoices were identified.Based on absolute numbers (GREEN[<100]; RED[>1000]).	
◆	Order To Cash: Sales Order Schedule Line Items overdue [K04]	10 open sales order schedule line items were found that were not delivered or only partially delivered with at le.. (1 less than three months & 9 older than twelve months).Based on 0 created (max per week).	

Rating	Business Area: Key Figure Short Name	Finding	#
◆	Procure To Pay: Overdue Inbound Deliveries [K29]	47 overdue inbound deliveries were identified for which the delivery date is more than one day ago and no or only .. (0 less than three months & 47 older than twelve months).Based on 0 created (max per week).	
◆	Procure To Pay: Planned Orders with Planned Opening Date in the past (ext.) [K32]	2 planned orders (external procurement) were identified for which the planned opening date is in the past (0 less than three months & 2 older than twelve months).Based on 0 created (max per week).	
◆	Procure To Pay: Overdue PO items [K28]	2.400 purchase order items were identified that are overdue by more than 10 days and that are not yet completely deli.. (440 less than three months & 262 older than twelve months).Based on 0 PO items created (max per week).	
⚠	Procure To Pay: Purchase Order Items without Final Invoice Indicator [K33]	822 purchase order items were identified that are more than 30 days and without a final invoice indicator (1 less than three months & 779 older than twelve months).Based on absolute numbers (GREEN[<100]; RED[>1000]).	
⚡	Procure To Pay: Overdue Purchase Requisition Items [K27]	3.351 purchase requisition items were identified that are open and overdue by more than 10 days (346 less than three months & 1.975 older than twelve months).Based on 196 created (max per week) (GREEN[<196]; RED[>980]).	
⚡	Procure To Pay: Blocked invoices for payment [K30]	6.305 vendor invoices items were identified which were created more than 30 days ago and still have not been released.. (203 less than three months & 5.270 older than twelve months).Based on absolute numbers (GREEN[<100]; RED[>1000]).	
⚠	Plan To Produce: Process Orders overdue for Delivery Completed [K59]	53 process orders were identified that have been overdue for delivery completed for seven days (7 less than three months & 25 older than twelve months).Based on 98 created (max per week) (GREEN[<33]; RED[>98]).	
✓	Plan To Produce: Process Orders overdue for Del. Ind. and not Closed [K55]	3.809 process orders have been identified for which the deletion status was not yet active more than 30 days ago (94 less than three months & 3.423 older than twelve months).Based on absolute numbers (GREEN[<20000]; RED[>100000]).	
⚡	Plant Maintenance: Failed goods movements: Work Orders [K70]	(0 less than three months & 49 older than twelve months).Based on absolute numbers (GREEN[<10]; RED[>100]).	
⚡	Plant Maintenance: Overdue Notifications [K67]	15.576 notifications were identified that are overdue by more than 30 days (1.440 less than three months & 2.848 older than twelve months).Based on 808 created (max per week) (GREEN[<808]; RED[>4040]).	
✓	Plant Maintenance: Work Orders in phase created [K68]	26 work orders in the "created" phase that are older than 30 days were identified.Based on 806 created (max per week) (GREEN[<806]; RED[>4030]).	
⚡	Plant Maintenance: Work Orders in phase released [K69]	4.924 work orders were identified that are in the "released" phase, created more than 60 days ago, and that have not .. (211 less than three months & 1.049 older than twelve months).Based on 806 created (max per week) (GREEN[<806]; RED[>4030]).	
◆	Replenishment: Overdue Stock Transport Order Items w/o Outb. Del. Compl. [K35]	1.028 STO items were identified that are more than 10 days overdue and that have not yet been completely delivered (65 less than three months & 722 older than twelve months).Based on 0 created (max per week).	
◆	Replenishment: Overdue Stock Transport Order Schedule Lines [K34]	1.212 STO schedule lines were identified that are overdue by more than 10 days and that have not yet been completely .. (78 less than three months & 862 older than twelve months).Based on 0 created (max per week).	

SAP Active Global Support provides several self-assessments or guided services to encourage customers to benefit from an SAP Business Process Analysis, Stabilization, or Improvement project.

6.2 SAP Business Process Analytics

With SAP Business Process Analytics in SAP Solution Manager, you can continuously analyze the above key figures and



more than 750 additional out-of-the-box key figures for continuous improvement potential in your SAP business processes.

With SAP Business Process Analytics, you can perform the following functions:

(1) Internal business process benchmarking (across organizational units, document types, customers, materials, and so on) for a number of exceptional business documents and/or for the cumulated monetary value of these documents.

(2) Age analysis to measure how many open documents you have from the previous years or months.

(3) Trend analysis for these business documents over a certain time period.

(4) Create a detailed list for all of these exceptional business documents in the managed system, enabling a root cause analysis to find reasons why these documents are open, overdue, or erroneous.

SAP Business Process Analytics can help you to achieve the following main goals:

- Gain global transparency of business-relevant exceptions to control template adherence
- Improve process efficiency and reduce process costs by reducing system issues and eliminating waste (for example, user handling, configuration issues, and master data issues)
- Improve working capital (increase revenue, reduce liabilities and inventory levels)
- Ensure process compliance (support internal auditing)
- Improve supply chain planning (better planning results and fewer planning exceptions)
- Improve closing (fewer exceptions and less postprocessing during period-end closing)

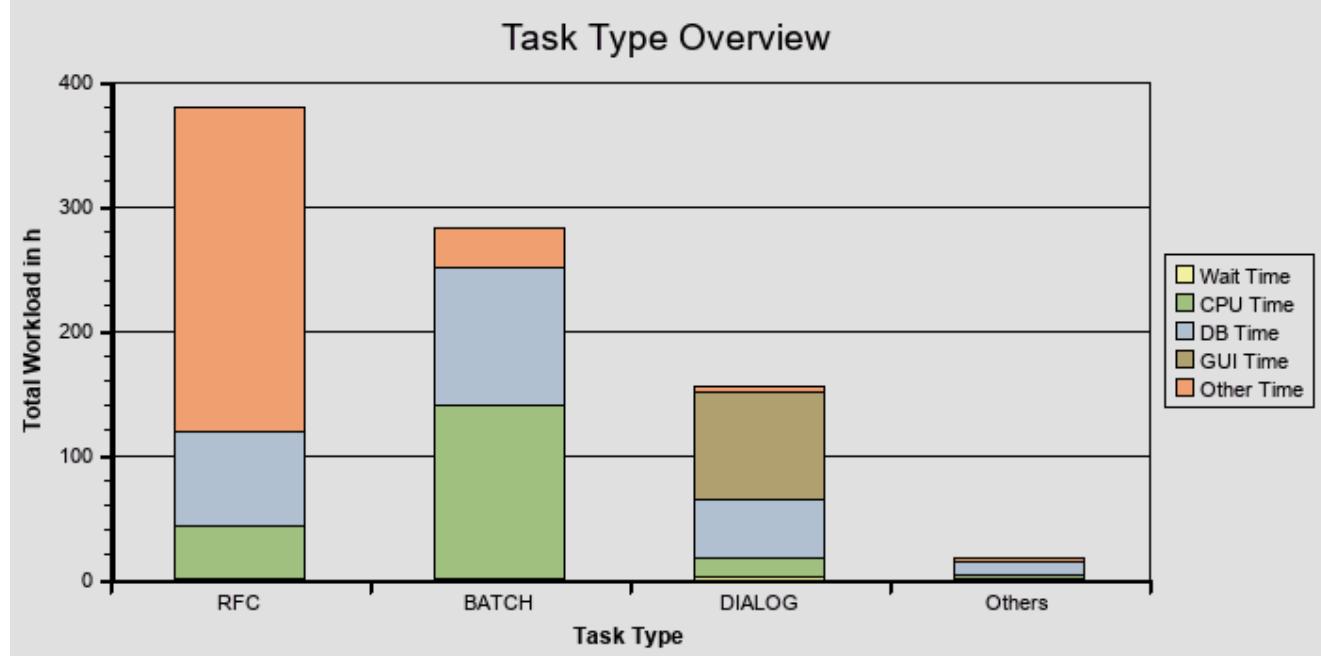
SAP also provides business process improvement methodology to help you identify and analyze improvement potential within your business processes using Business Process Analytics in SAP Solution Manager and visualize it for your senior management.

For more information, navigate to the following link: [here](#).

In general, SAP Active Global Support provides several self-assessments or guided services to encourage customers to benefit from an SAP Business Process Stabilization and/or Business Process Improvement project.

7 Workload of System SEP

This chart displays the main task types and indicates how their workload is distributed in the system. The table below lists the detailed KPIs.



Response Time Components In Hours

Task Type	Response Time	Wait Time	CPU Time	DB Time	GUI Time
RFC	379,8	1,2	42,2	76,1	0,0
BATCH	283,0	0,1	139,3	110,8	0,0
DIALOG	155,0	2,5	15,4	47,1	85,2
Others	17,1	1,2	2,0	11,6	0,0

7.1 Workload By Users

User activity is measured in the workload monitor. Only users of at least medium activity are counted as 'active users'.

Users	Low Activity	Medium Activity	High Activity	Total Users
dialog steps per week	1 to 399	400 to 4799	4800 or more	
measured in system	255	198	33	486

7.2 Workload Distribution SEP

The performance of your system was analyzed with respect to the workload distribution. We did not detect any major problems that could affect the performance of your SAP system.

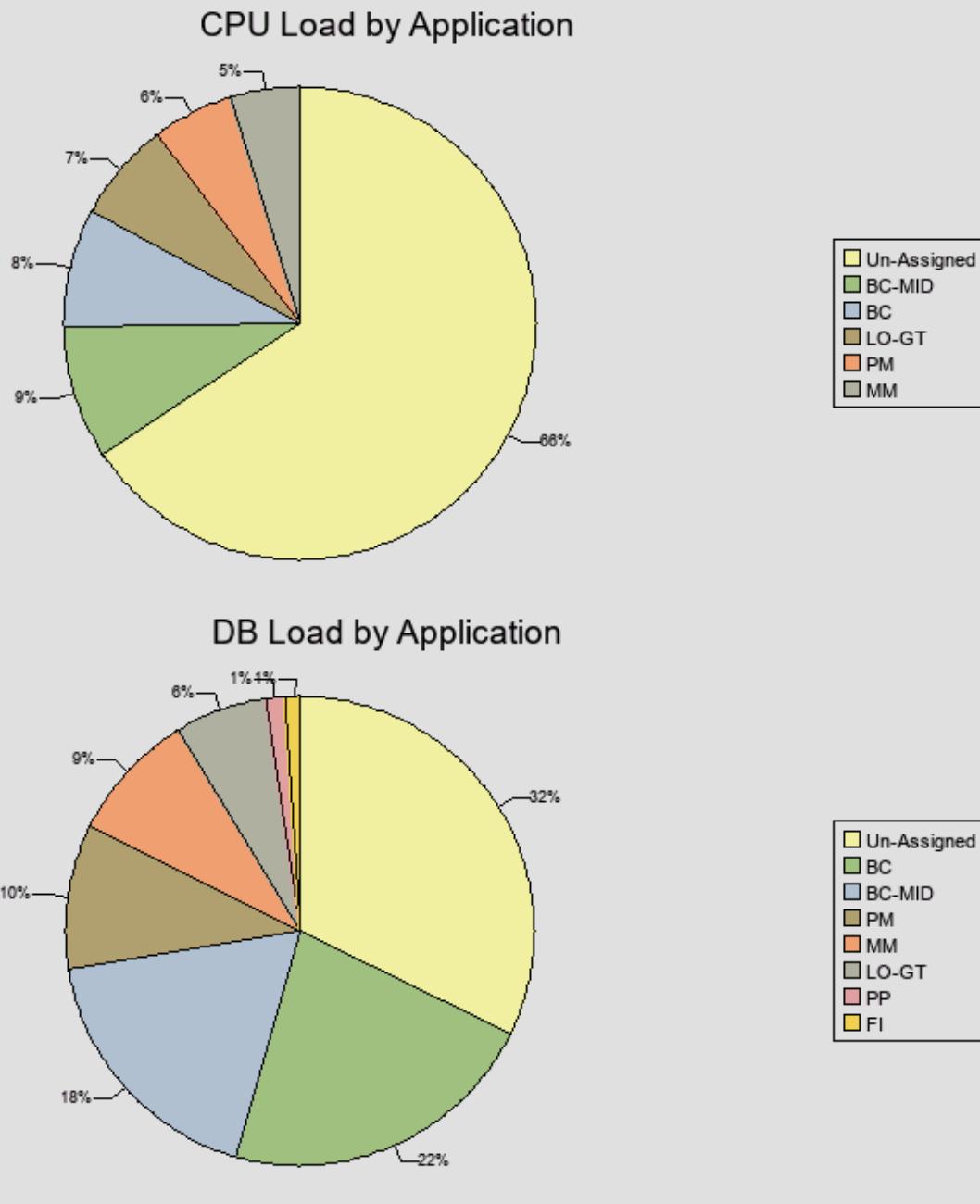
7.2.1 Workload by Application Module

The following diagrams show how each application module contributes to the total system workload. Two workload aspects are shown:

- CPU time: total CPU load on all servers in the system landscape
- Database time: total database load generated by the application

All programs that are not classified in the SAP Application Hierarchy (transaction SE81) are summarized in the

"Un-Assigned" category. Customer programs, industry solutions, and third-party add-on developments fall into this category.



7.2.2 DB Load Profile

●●● The number of work processes creating database load in parallel is not significantly high.

The following diagram shows the DB load caused by dialog, RFC, HTTP(S), and background tasks, over different time frames.

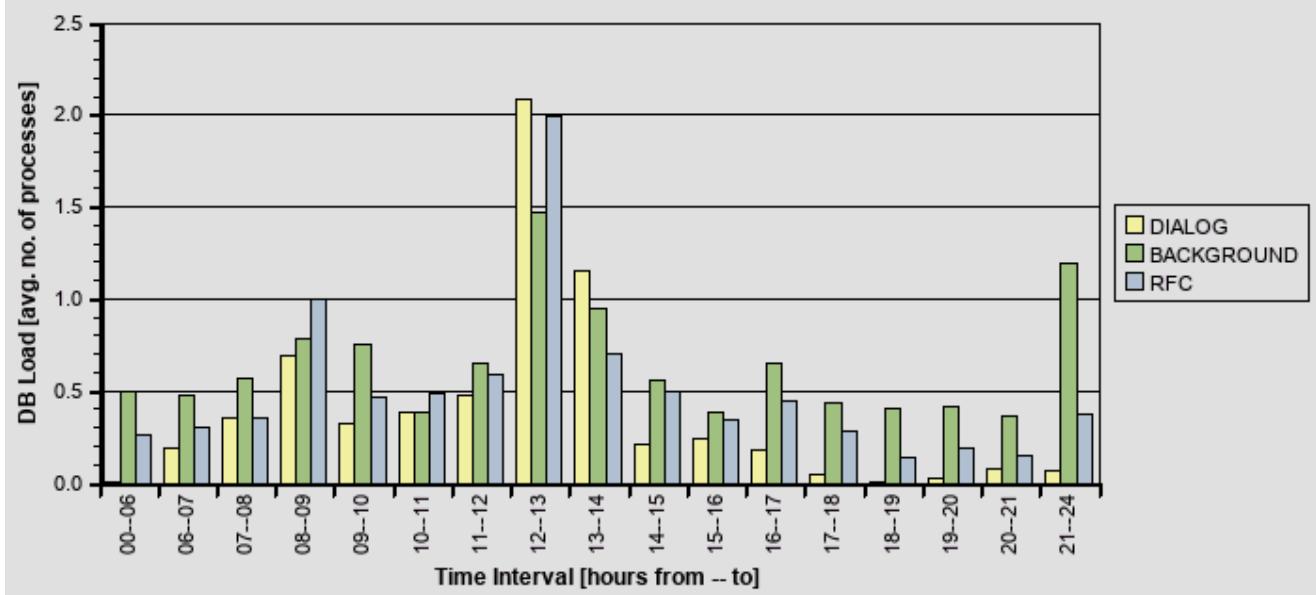
The data provided in the diagram represents the average number of database processes occupied by each task type in the database during the specified time frames.

These statistics are calculated as a weekly average, the average values over six working days with a unit of one hour. Periods between 00:00-06:00 and 21:00-24:00 contain an average value per hour, as these are not core business hours.

You can enable 24-hour monitoring by implementing SAP Note 910897. With 24-hour monitoring, the time profile returns the workload of the system or application server on an hourly basis rather than returning an average value per hour for the periods 00:00-06:00 and 21:00-24:00.

By comparing the load profiles for dialog and background activity, you can get an overview of the volume of background activity during online working hours.

Average No. Of Work Processes Waiting On DB Response



8 Performance Overview SEP



The performance of your system was analyzed with respect to the average response times and total workload. We did not detect any major problems that could affect the performance of your system.

Note: To access the response time statistics in SAP EarlyWatch Alert Workspace, click [system response time](#)

The following table shows the average response times for various task types:

Averages of Response Time Components in ms

Task type	Dialog Steps	Response Time	CPU Time	Wait Time	Load Time	DB Time	GUI Time
DIALOG	379.196	1.471,5	146,0	23,8	4,0	447,2	809,3
RFC	1.956.465	698,9	77,6	2,2	0,7	140,1	0,0
UPDATE	150.657	293,3	34,4	15,0	1,1	226,8	0,0
UPDATE2	50.120	62,9	11,2	0,1	0,9	42,6	0,0
BATCH	275.759	3.695,8	1.818,9	1,0	4,9	1.447,1	0,0
SPOOL	21.629	320,8	8,2	84,7	0,2	39,8	0,0
HTTP	71.618	19,8	10,2	5,2	0,4	2,5	0,0
HTTPS	10.254	522,2	73,5	3,0	3,1	297,0	0,0
WS-HTTP	2.366	943,8	64,9	16,9	6,1	795,7	0,0

More than 200 ms of the dialog response time is caused by GUI time. High GUI time can be caused by poor network performance.

Perform a LAN Ping check via ST06 with a package size of 4096 bytes. The reference response times are:

- In a local area network (LAN): < 20 milliseconds
- In a Wide Area Network (WAN): < 50 milliseconds
- With a modern connection (for example, 56 KB): < 250 milliseconds
- There should be no loss of data package.

For further analysis, use NIPING as per SAP Note 500235 - Network Diagnosis with NIPING. If necessary, contact your network partner to improve the network throughput.

Other optimization options:

Low-Speed Connection

In WAN (wide area network) environments, switch the network communication between the GUI and the application level to Low Speed Connection.

This will reduce the volume of data transferred per dialog step (see SAP Note 164102). You can activate the low-speed connection in the SAP logon window by selecting the entry for an SAP system and selecting the "Low Speed Connection" option in the Properties Advanced menu option.

SAP Easy Access Menu

- 1) Restrict the number of transactions in a user role (ideally 1,000 or fewer).
- 2) Avoid widely used background images in SAP Easy Access menu (which should be no larger than 20 KB).

Refer to SAP Note 203924 for details.

8.1 Transaction Profile Check

The following tables show the response times and the number of dialog steps for the transactions that cause the heaviest workload in your system.

8.1.1 Transactions by Total Workload

To access the transaction response time in SAP EarlyWatch Alert Workspace, click [here](#).



The following tables list the activities with the highest contribution to the total workload.

Workload by Transaction (Dialog/HTTP(S)/WS-HTTP)

Transaction	Type	Dialog Steps	Total Resp. Time in %	Avg. Resp. Time in ms	Avg. CPU Time in ms	Avg. DB Time in ms	Avg. GUI Time in ms
IW3D	DIA	12.826	5,1	6.545,0	402,5	448,3	5.698,8
ME53N	DIA	40.237	4,6	1.886,8	82,0	292,0	1.411,9
IW32	DIA	36.103	2,2	990,9	98,1	309,7	541,8
SESSION_MANAGER	DIA	17.456	2,1	1.956,9	60,0	830,1	648,4
IW38	DIA	24.973	2,0	1.308,9	202,5	486,6	599,6
ME23N	DIA	25.279	1,6	1.011,5	78,8	371,5	527,3
SBWP	DIA	6.646	1,1	2.778,5	125,9	1.102,6	1.363,9
/MRSS/PLBOGEN	DIA	7.501	1,1	2.351,8	434,3	818,7	1.084,2
ME51N	DIA	16.640	0,9	847,9	66,7	168,1	516,2
SWO_ASYNC	DIA	803	0,8	16.367,8	54,7	539,5	16.765,7

Workload by Transaction (Batch)

Transaction	Dialog Steps	Total Resp. Time in %	Total Resp. Time ins	Total CPU Time ins	Total DB Time in s
ZCM_CONTRACT_DETAILS_REPORT	41	15,8	259.139,0	242.853,0	16.908,4
FCC_STD_BA_CKGROUND_PROGRAM	788	6,2	101.044,0	23.753,0	91.043,2
RWB2BREL	43	5,9	96.411,0	46.998,0	49.065,6
RHAUTUPD_NEW	659	5,5	89.618,0	28.739,0	66.563,7
FCLM_FLOW_BUILDER	1.328	4,8	79.121,0	100,0	1.261,6
RSAL_BATCH_TOOL_DISPATCHING	164	3,1	50.089,0	48.953,0	648,1
RBDAPP01	658	2,3	38.156,0	34,0	34.750,6
ZEXTRACT_PR	163	2,0	32.058,0	31.353,0	624,6
ZFI_OPEN_PO_COMMIT	4	1,9	31.342,0	30.001,0	1.351,5
RISTRATO	167	1,3	21.945,0	7.758,0	6.433,6

19.7% of the total response time in the above table is caused by customer transactions.

Workload by Web Services

Service	Calls	Total Resp. Time in %	Avg. Resp. Time in ms	Avg. CPU Time in ms	Avg. DB Time in ms	Type
Total	3.781	100,0	801,6	163,6	581,6	
II_ARBCIG_SERVICE_ENTRY_SHEET	475	51,1	3.261,4	436,1	2.746,3	asynchronous
II_ARBCIG_QUOTE_PURCH_CONTRACT	29	22,0	23.040,4	8.727,9	15.291,6	asynchronous
II_ARBCIG_DOCUMENT_STATUS_UPDT	2.387	14,5	184,4	40,1	69,0	asynchronous
II_UKM_CREDIT_WORTINESS_QUERY	882	6,7	229,2	42,0	172,2	synchronous
II_MDG_BP_RPLCTRQ	4	3,2	24.414,8	753,8	21.941,3	asynchronous
ZHCMII_SP_PAOM_IN	4	2,4	18.393,3	5.613,3	11.684,5	asynchronous

8.1.2 Transactions by DB Load

The following transaction profiles list the transactions that have the greatest share in the database load, sorted by

percentage of total database access times.

Database Load by Transactions (Dialog/HTTP(S))

Transaction	Type	Dialog Steps	Total DB Time in %	Avg. DB Time in ms
SESSION_MANAGER	DIA	17.456	2,4	830,1
IW38	DIA	24.973	2,0	486,6
ME53N	DIA	40.237	1,9	292,0
IW32	DIA	36.103	1,8	309,7
ME23N	DIA	25.279	1,5	371,5
SAPMSYST	DIA	756	1,4	11.106,3
SBWP	DIA	6.646	1,2	1.102,6
/MRSS/PLBOGEN	DIA	7.501	1,0	818,7
IW3D	DIA	12.826	0,9	448,3
ME2N	DIA	1.339	0,8	3.453,7

Database Load by Transactions (Batch)

Transaction	Dialog Steps	Total DB Time in %	Total DB Time ins
FCC_STD_BACKGROUND_PROGRAM	788	14,9	91.043,0
RHAUTUPD_NEW	659	10,9	66.564,0
RWB2BREL	43	8,0	49.066,0
RBDAPP01	658	5,7	34.751,0
ARBCIG_INBOUND_IDOC_SUR	651	3,1	19.076,0
RSBTCRTE	84.067	2,9	17.470,0
ZCM_CONTRACT_DETAILS_REPORT	41	2,8	16.908,0
RM06BB30	1.944	2,0	12.010,0
/MRSS/SGE_PN_MNT	309	1,1	6.650,0
RISTRA20	167	1,1	6.434,0

2.8% of the total database time in the above table is caused by customer transactions.

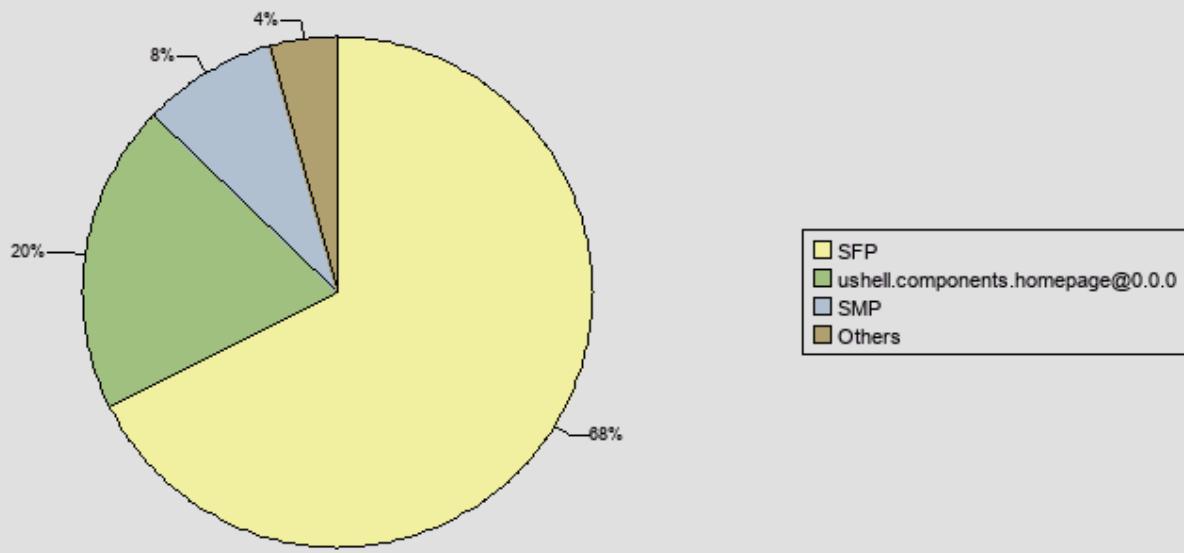
9 RFC Load by Initiating Action

The load in task type RFC is shown. In the workload monitor, this information is shown as 'Load from External Systems'. The calling system can be an application server of the system itself or any external system using the RFC interface. The 'Initial Action' is the calling program initiating the RFC. The total response time for each initial action is shown as an absolute value and as a percentage compared to the total RFC load considered in this table. The average times (per dialog step) are shown in milliseconds [ms]. Calls from external systems are shown if they account for at least 8h or 5% of the total RFC load. Local calls are shown if they account for at least 24h or 20% of the total RFC load.

Load Overview

Initial System	Load [s]	Load %
Local system SEP	952.903	83,71
Sum of external systems	180.840	15,89
n/a (not available)	4.616	0,41
RFC load (sum of above)	1.138.359	100,00
RFC load in Performance Overview	1.367.394	120,12
Load of all task types in Performance Overview	3.060.845	268,88

Load Distribution From External Systems



Top 20 RFC Calls From External Systems - Average Times [ms]

Initial System	Initial Action	Total Resp. Time ins	% of RFC Load	Avg. Response Time	Avg. CPU Time	Avg. DB Time	Avg. Roll Wait Time
SFP	/UI5/UP D_ODATA _METADA TA_CACHE	122.084	10,72	748.981,2	274.679,3	482.541,8	0,1
SMP	/BDL/TAS K_PROCES SOR	11.412	1,00	23.337,0	598,5	4.199,9	0,2
ushell.components.homepage@0.0.0	__button16_c lick_2	7.176	0,63	5.901,0	49,7	877,6	0,2
SMP	EFWK RESOURCE MANAGER	3.509	0,31	3.864,9	492,5	2.907,5	0,1

Initial System	Initial Action	Total Resp. Time ins	% of RFC Load	Avg. Response Time	Avg. CPU Time	Avg. DB Time	Avg. Roll Wait Time
ushell.components.homepage@0.0.0	__button30_click_4	1.373	0,12	3.631,6	71,5	743,6	0,1
undetermined	undetermined_startup_0	939	0,08	1.654,0	34,4	1.588,4	0,2
ushell.components.homepage@0.0.0	__button14_click_2	887	0,08	16.734,1	61,0	6.800,1	0,2
.ushell.renderers.fiori2@1.71.30	__tile1_click_0	614	0,05	2.455,6	44,0	2.361,9	0,2
cross.fnd.fi ori.inbox@1.23.17	__xmlview3--tabBar_mouseup_1	533	0,05	10.668,3	52,5	10.576,8	0,5
cross.fnd.fi ori.inbox@1.23.17	__xmlview2--list_click_3	526	0,05	22.859,5	63,2	22.735,9	1,3
ushell.components.homepage@0.0.0	__button17_click_4	524	0,05	3.157,8	50,6	1.405,7	0,2
ME2N_RM06_EN00	M0:37::btn[8]_Press_4	501	0,04	501.108,0	182.000,0	402.446,0	0,0
ushell.components.homepage@0.0.0	__button16_click_3	485	0,04	3.706,0	64,9	448,8	0,2
ushell.components.homepage@0.0.0	__button90_click_9	426	0,04	85.221,2	125,0	83.626,0	10,2
cross.fnd.fi ori.inbox@1.23.17	__xmlview2--list_click_4	422	0,04	10.538,0	56,3	10.440,1	0,2
cross.fnd.fi ori.inbox@1.23.17	__xmlview15--scfld_SEARCH_mouseup_124	375	0,03	187.507,0	47,0	43.244,5	143.911,5
ushell.components.homepage@0.0.0	__button17_click_5	360	0,03	2.767,5	59,7	175,5	0,2
ushell.components.homepage@0.0.0	__button26_click_4	331	0,03	7.185,9	30,2	1.246,9	0,2
ushell.components.homepage@0.0.0	__button114_click_16	328	0,03	3.489,7	36,7	49,5	0,2
ushell.components.homepage@0.0.0	__button47_click_34	317	0,03	26.393,5	45,6	23.820,3	0,1

Top 20 RFC Calls From Local System - Average Times [ms]

Initial System	Initial Action	Total Resp. Time ins	% of RFC Load	Avg. Response Time	Avg. CPU Time	Avg. DB Time	Avg. Roll Wait Time
SEP	<BGRFC WATCHDOG>	239.702	21,06	6.780,8	7,7	30,1	0,3
SEP	/SDF/MON_SCHEDULER	138.309	12,15	6.586.158,0	2.060.293,9	120.912,0	42.537,3

Initial System	Initial Action	Total Resp. Time ins	% of RFC Load	Avg. Response Time	Avg. CPU Time	Avg. DB Time	Avg. Roll Wait Time
SEP	MIGO	73.741	6,48	25.176,1	21,8	35,9	0,1
SEP	SBWP	45.150	3,97	3.776,6	41,2	340,9	0,2
SEP	SAP_COLL_ECTOR_PE_RFMON_SW_NCCOLL	32.342	2,84	83,4	30,6	38,9	0,1
SEP	BI_PROCES_S_PLSEQ	30.069	2,64	2.312.978,3	21,6	75,7	0,7
SEP	ME51N	29.055	2,55	5.255,1	71,7	1.234,2	189,3
SEP	ZARBCIG_I_NBOUND_ID_OC_INV_OR_DRSP	28.675	2,52	3.181,9	105,9	1.134,2	0,1
SEP	/MRSS/SG_PLBOARD_ORGSRV	27.827	2,44	1.672,2	78,8	828,8	0,1
SEP	ZD_WM_DL_MONITOR_30D_KH04_UPD	20.796	1,83	913,4	46,8	171,0	0,1
SEP	IW38	19.277	1,69	1.733,3	109,4	683,8	0,1
SEP	/MRSS/PLBO_ORGSRV	19.133	1,68	1.819,3	81,7	723,1	0,1
SEP	RIAUFK20	18.862	1,66	1.577,7	120,0	680,6	0,1
SEP	ZW_WM_MR_S_PLNNODE	17.188	1,51	1.307,6	132,0	264,6	65,7
SEP	IW41	16.278	1,43	2.055,6	131,6	628,4	0,1
SEP	ZD_MM_IM_MRP_NEUPL_EC_BECSA	16.265	1,43	41.492,2	7.775,2	28.470,9	0,8
SEP	ME21N	13.862	1,22	3.144,1	36,9	1.143,0	0,3
SEP	ZW_WM_MR_S_HRAVAIL	12.584	1,11	433.932,7	52.814,1	130.794,1	92,4
SEP	ML81N	10.174	0,89	9.207,1	26,4	1.990,1	0,1
SEP	ZW_WM_MR_S_HRAVAI_L_CM_KH93_UPD	10.162	0,89	5.602,2	38,7	313,6	0,3

10 RFC Load initiated by Fiori

The table below shows averages for standard workload related to SAP Fiori SAPUI5 (non-Web GUI, non-Web Dynpro) that is triggered via an RFC destination in the local system. Information on the top 10 calls with the highest total response time is shown here.

Fiori related workload - Average Times[ms]

GUID	Steps	Response Time	CPU Time	DB Time	Wait Time	Trans. KB
ushell.components.homepage@0.0.0	10477	3378	59	448	0	88
cross.fnd.fiori.inbox@1.23.17	1647	1850	56	1479	179	39
.ushell.renderers.fiori2@1.71.30	1260	828	37	751	0	56
ponents.shell.UserSettings@0.0.0	2	28	8	8	0	1

The information in the table above can be seen in transaction ST03 as follows: Go to /nST03 -> Expert Mode -> Select Time period -> Load from External Systems -> filter on column 'System ID of the Triggering System' for results that contain the '@' symbol.

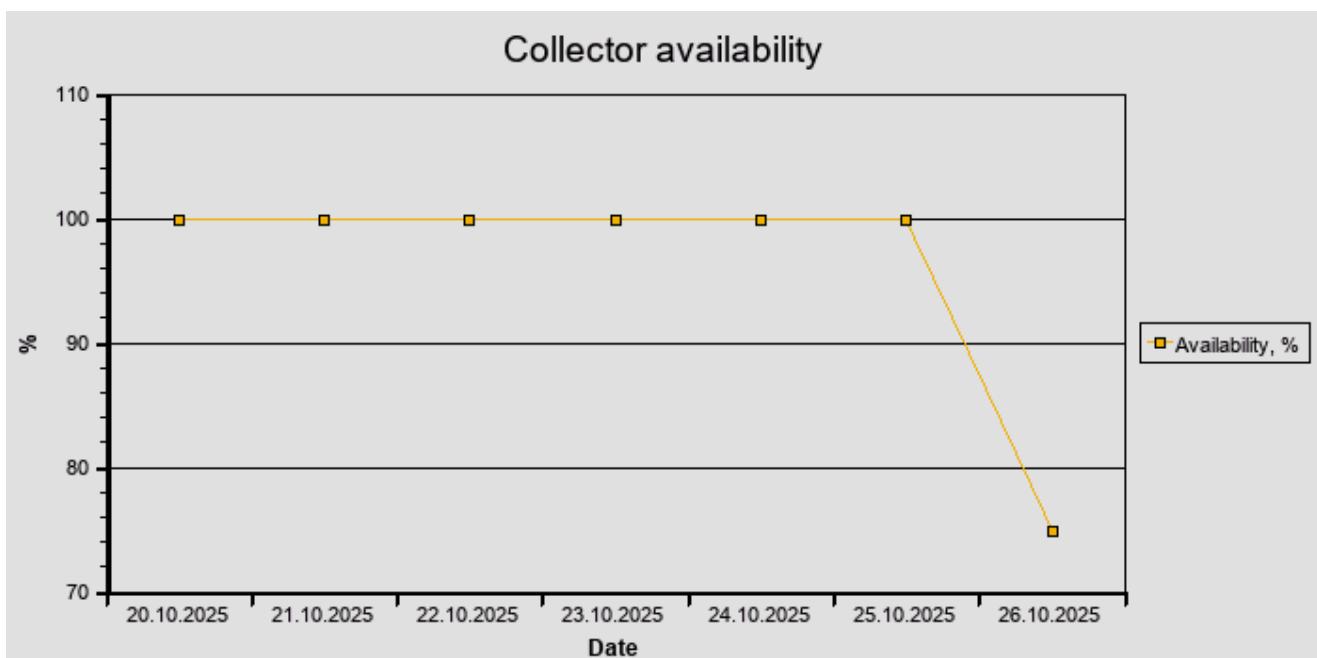
11 SAP System Operating SEP



The daily operation of your system was analyzed. We detected some problems that may impair system operation and stability.

Rating	Check
✓	Availability based on Collector Protocols
⚠	Program Errors (ABAP Dumps)
✓	Update Errors
✓	Table Reorganization

11.1 Availability based on Collector Protocols



A value of 100% means that the collector was available all day. "Available" in the context of this report means that at least one SAP instance was running. If the SAP collector was not running correctly, the values in the table and graphics may be incorrect.

To check these logs, call transaction ST03N (expert mode) and choose "Collector and Performance DB -> Performance Monitor Collector -> Log".

This check is based on the logs for job COLLECTOR_FOR_PERFORMANCEMONITOR that runs every hour.

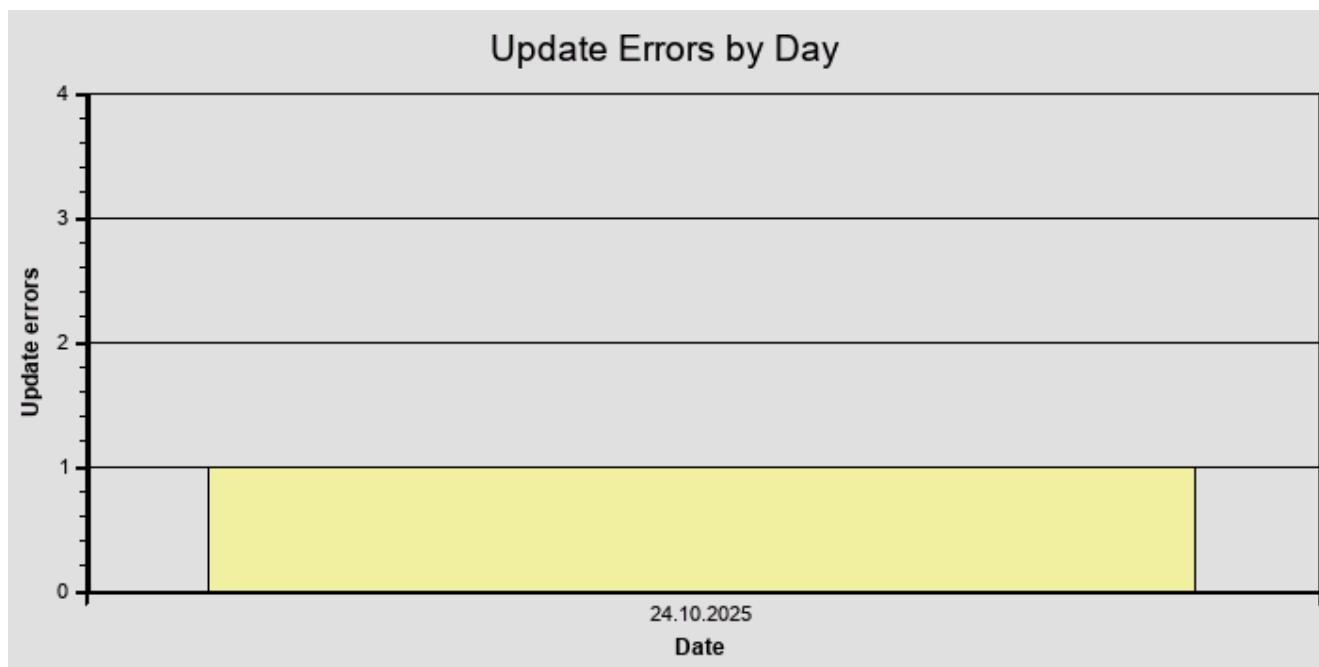
The job does NOT check availability; it carries out only general system tasks such as collecting and aggregating SAP performance data for all servers/instances. The log does not contain any direct information about availability; it contains only information about the status of the hourly statistical data collection.

As of SAP Basis 6.40, system availability information is available in the CCMS (Computing Center Management System) of an SAP System, in Service Level Reporting of SAP Solution Manager.

This function is provided by the relevant Solution Manager Support Packages as an advanced development. For more information, refer to SAP Note 944496, which also lists the prerequisites that must be fulfilled before implementation can take place."

11.2 Update Errors

In a system running under normal conditions, only a small number of update errors should occur. To set the rating for this check, the number of active users is also taken into consideration. The following table contains the number of update errors detected.



We did not detect any problems.

11.3 Table Reorganization

The largest tables and/or rapidly growing tables of system SEP were checked. No standard SAP recommendations for the applicable data volume management were found.

11.4 Program Errors (ABAP Dumps)

58 ABAP dumps have been recorded in your system in the period 20.10.2025 to 26.10.2025. ABAP dumps are generally deleted after 7 days by default. To view the ABAP dumps in your system, call transaction ST22 and choose Selection. Then select a timeframe.

Date	Number of Dumps
20.10.2025	2
21.10.2025	4
22.10.2025	10
23.10.2025	21
24.10.2025	12
25.10.2025	1
26.10.2025	8

Name of Runtime Error	Dumps	Server (e.g.)	Date (e.g.)	Time (e.g.)
RAISE_EXCEPTION	2	SAAZS-V-SAP37_SEP_37	23.10.2025	10:14:57
CONV_EXIT_FIELD_TOO_SHORT	2	SAAZS-V-SAP30_SEP_30	24.10.2025	10:57:10
TSV_TNEW_PAGE_ALLOC_FAILED	12	SAAZS-V-SAP30_SEP_30	24.10.2025	15:07:58
SQL_CAUGHT_RABAX	5	SAAZS-V-SAP30_SEP_30	24.10.2025	15:07:59
TIME_OUT	25	SAAZS-V-SAP30_SEP_30	24.10.2025	15:53:07
DATASET_WRITE_ERROR	1	SAAZS-V-SAP30_SEP_30	25.10.2025	23:51:06
MESSAGE_TYPE_X	11	SAAZS-V-SAP30_SEP_30	26.10.2025	16:08:33

It is important that you monitor ABAP dumps using transaction ST22 on a regular basis. If ABAP dumps occur, you should determine the cause as soon as possible.

Based on our analysis, we found several ABAP dumps that need your attention. Evaluate and resolve the above

dumps. If you cannot find a solution, send a customer message to SAP to request support.

12 Security



Critical security issues were found in your system. See the information in the following sections.

Rating	Check
!	System Recommendations (HANA)
!	Maintenance Status of current SAP HANA Database Revision
!	SAP HANA System Privilege DATA ADMIN
✓	SAP HANA Password Policy
!	SAP HANA Audit Trail
✓	SAP HANA SQL Trace Level
✓	SAP HANA Network Settings for Internal Services
✓	SAP HANA SSFS Master Encryption Key
✓	Activation Status and Validity of User SYSTEM
!	System Recommendations (ABAP)
!	Age of Support Packages
✓	Default Passwords of Standard Users
✓	Control of the Automatic Login User SAP*
✓	Protection of Passwords in Database Connections
✓	ABAP Password Policy
✓	RFC Gateway Security
✓	Message Server Security
!	Users with Critical Authorizations

12.1 SAP HANA Database SEP

12.1.1 System Recommendations (HANA)

System Recommendations is not used for this system.

Recommendation: SAP strongly recommends applying important security fixes as soon as possible. The 'System Recommendations' application provides a detailed recommendation regarding which SAP security notes (ABAP and non-ABAP) should be implemented based on the actual status of the system and the notes already implemented. This is a mandatory prerequisite for setting up a strong security patch process. For more information, refer to <https://support.sap.com/sysrec>.

12.1.2 Maintenance Status of current SAP HANA Database Revision

The following table shows your current SAP HANA database revision.

Rating	Product Version	HANA Revision	Deployment Date	Age of Deployment Date in Months
!	2.00 SP 06	2.00.063.00	21.08.2022	39

The Support Package level of your SAP HANA database has run out of security maintenance. Due to the age of your SAP HANA revision, you are likely already missing published and unpublished security fixes. Furthermore, if new vulnerabilities are detected that require a code correction from SAP, SAP no longer analyzes whether your current revision is affected. To ensure the security of your system, you will then need to upgrade to a new Support Package.

Recommendation: Implement a clear SAP HANA maintenance strategy ensuring that the HANA software is kept up to date.

As a general recommendation, an upgrade to the latest HANA revision of an SAP HANA major release should be

performed at least once per year. For more information about the SAP HANA revision and maintenance strategy, see SAP Notes
[2021789](#) - SAP HANA 1.0 Revision and Maintenance Strategy [2378962](#) - SAP HANA 2.0 Revision and Maintenance Strategy [1948334](#) - SAP HANA Database Update Paths for Maintenance Revisions for possible update paths.
Note: As of SAP HANA 2.0 SPS 1, Multi Tenancy is mandatory. Systems running as SINGLEDB will be converted. Consequently, several manual security measures will be required in your system to protect the newly created SYSTEMDB.
For additional general information, refer to SAP Note
[2115815](#) - FAQ: SAP HANA Database Patches and Upgrades

12.1.3 SAP HANA System Privilege DATA ADMIN

12.1.3.1 Users with DATA ADMIN Privilege

Users in your SAP HANA database have the DATA ADMIN system privilege.

The count considers direct grants to the users as well as indirect grants using roles. Users are counted as activated if the validity time range matches the time of the evaluation and the user is not deactivated.

The SYSTEM and _SYS_REPO users are not considered, because these users have the DATA ADMIN privilege by design and the privilege cannot be revoked from these users.

Number of Additional Users with DATA ADMIN Privilege	3
--	---

DATA ADMIN provides the authorization to modify and delete every object in every schema.

Recommendation: Remove the DATA ADMIN privilege from all user accounts except the SYSTEM und _SYS_REPO users.

12.1.4 SAP HANA Audit Trail

Sources of information for the SAP HANA audit trail:

- SAP HANA Security Guide - SAP HANA Administration Guide - SAP HANA Audit Trail Best Practice in the SCN

12.1.4.1 Auditing Status

Auditing is disabled in the security settings of your SAP HANA database.

Recommendation: Activate the SAP HANA audit trail and define appropriate audit policies.

12.1.4.2 Audit Policies

No customer-defined audit policies are enabled.

Recommendation: Define audit policies according to your needs.

12.2 ABAP Stack of SEP

12.2.1 System Recommendations (ABAP)

System Recommendations is not used for this system.

Recommendation: SAP strongly recommends applying important security fixes as soon as possible. The 'System Recommendations' application provides a detailed recommendation regarding which SAP security notes (ABAP and non-ABAP) should be implemented based on the actual status of the system and the notes already implemented. This is a mandatory prerequisite for setting up a strong security patch process. For more information, refer to <https://support.sap.com/sysrec>.

12.2.2 Age of Support Packages



The following table shows the current status, the final assembly date at SAP, and the implementation date of selected key software components that are installed in the system.

Software Component	Release	Support Package	Final assembly date	Age of final assembly date in months	Support Package import date	Age of SP import date in months	Rating
BI_CONT	757	20	03.12.2018	84	12.09.2019	75	☒
S4CORE	103	1	09.01.2019	83	13.04.2019	80	☒
SAP_ABA	75D	1	20.12.2018	83	13.04.2019	80	☒
SAP_BASIS	753	1	16.12.2018	84	13.04.2019	80	☒
SAP_GWFND	753	2	29.03.2019	80	04.09.2019	75	☒

SAP provides SAP Security Notes with high or very high priority for Support Packages shipped within the last 24 months. We identified key software components on your system that are outside of this timeframe.

For more information as well as exceptions, see <https://support.sap.com/securitynotes> --> "SAP Security Patch Day".

Recommendation: Run support package updates at least once a year. In addition, evaluate SAP Security Notes once a month at the time of the monthly SAP Security Patch Day. SAP strongly recommends always performing support package updates for the complete support package stack and not just for the software components listed above. See <https://support.sap.com/en/my-support/software-downloads/support-package-stacks.html> for further information.

12.2.3 ABAP Password Policy

If password login is allowed for specific instances only, the password policy is checked only for these instances.

12.2.4 Users with Critical Authorizations

For more information about the following check results, see SAP Note [863362](#).

Note that 56 firefighter accounts have been identified on your system. These firefighter accounts are not considered in the subsequent checks for critical authorizations.

Recommendation: Depending on your environment, review your authorization concept and use the Profile Generator (transaction PFCG) to correct roles and authorizations. You can use the User Information System (transaction SUIM) to check the results. For each check, you can review the roles or profiles that include the authorization objects listed in the corresponding section.

12.2.4.1 Super User Accounts

Users with authorization profile SAP_ALL have full access to the system. There should be a minimum of such users. The number of users with this authorization profile is stated for each client.

Client	No. of Users Having This Authorization	No. of Valid Users	Rating
000	8	12	⚠
100	12	720	⚠

Authorization profile: SAP_ALL

12.2.4.2 Users Authorized to Change or Display all Tables

Unauthorized access to sensitive data is possible if too many users have this authorization. The specified number of users for each client have the checked authorization.

Client	No. of Users Having This Authorization	No. of Valid Users	Rating
100	141	720	⚠

Authorization objects: Object 1: S_TCODE with TCD=SE16, TCD=SE16N, TCD=SE17, TCD=SM30, or TCD=SM31
Object 2: S_TABU_DIS with ACTVT = 03 or 02 and DICBERCLS = *

13 Software Change and Transport Management of SEP



No critical software change management issues were found in your system.

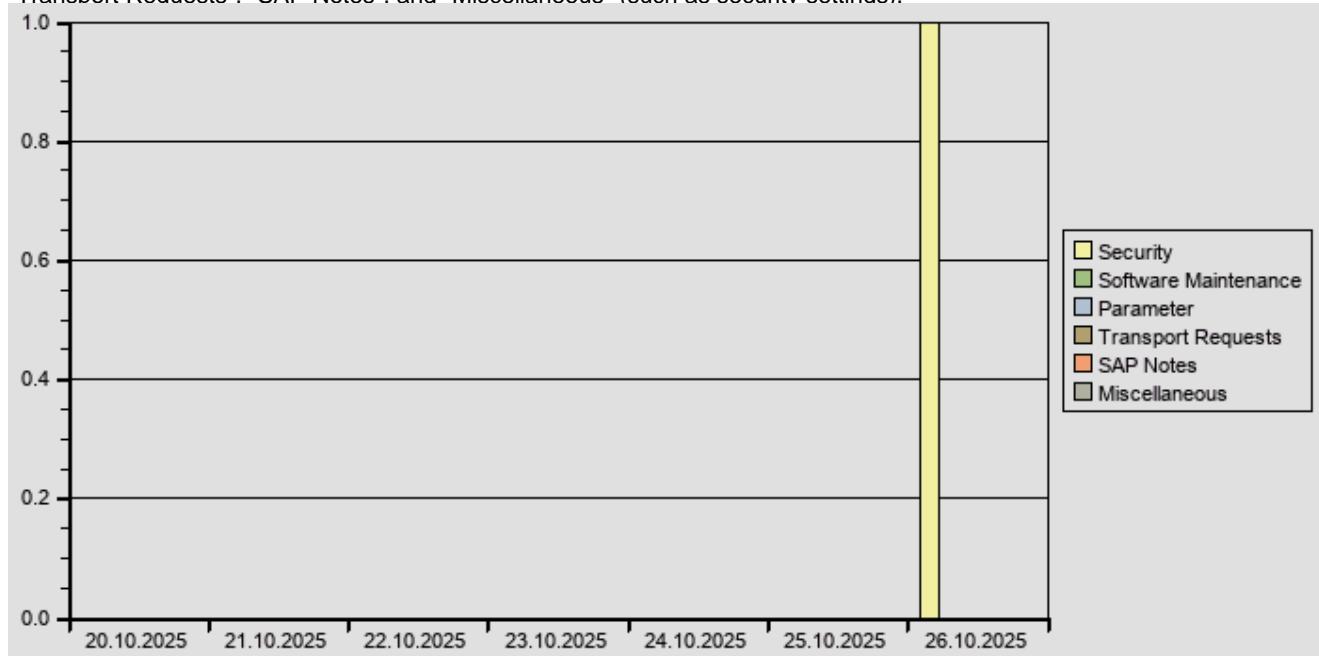
13.1 SAP Netweaver Application Server ABAP of SEP

Rating	Check Performed
✓	Number of Changes

13.1.1 Number of Changes

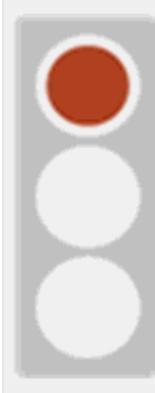
Performing changes is an important cost driver for the IT department. It is only acceptable to make a large number of software and configuration changes in exceptional situations, such as during go-live for an implementation project.

The following diagram shows the number of changes per day that were performed in the SAP system in the last week. The data is extracted from the Change Diagnostics application in SAP Solution Manager. The changes are grouped into "Software Maintenance" (such as support or enhancement packages), "Parameter" (instance, database, operating system), "Transport Requests", "SAP Notes", and "Miscellaneous" (such as security settings).



Date	Security	Software Maintenance	Parameter	Transport Requests	SAP Notes	Miscellaneous
26.10.2025	1	0	0	0	0	0

14 Financial Data Quality



After execution of the “quick” consistency checks and execution of the main reconciliation report, issues were identified that require your attention.

The current Financial Data Quality chapter contains essential information about the quality and consistency of your financial data.

This chapter is structured with three subchapters: “Financial Data Integrity”, “Financial Data Management”, “Reconciliation for S/4HANA Results”. The first two chapters are based on “quick” checks of different financial modules. The latter chapter displays the status and results of the main reconciliation checks.

It is important to understand that, due to the technical limitation of the automated data collection, we can cover only a limited result list in your system using the “quick” consistency checks. The reconciliation checks are the main sources of data for our financial data quality analysis and should be executed. These checks ensure full transparency at the consistency level of your financial data.

Additional Benefits (FDQ)

The relevant data for Financial Data Quality was collected in the system and stored in the SDCCN download. If you gave your consent, this data has been sent to SAP for further analysis. The analysis contains several checks regarding financial data inconsistencies. After the analysis has finished, the results will be provided in SAP Support Launchpad via the link displayed in the "Link to SAP Support Launchpad" column in the table below. Analyses may not be included in the FDQ Dashboard since some analyses are filtered out. (For example, No data for BKPF or the analysis is deprecated).

Note:

For more information about how to activate content for FDQ, see <https://launchpad.support.sap.com/#/notes/2980796> [Knowledge Base Article 2980796.]

Link to SAP Support Launchpad

<https://launchpad.support.sap.com/#/financialdataquality/>

14.1 Financial Data Integrity

Our “quick” checks identified no inconsistencies in the area of Financial Data Integrity that require your attention.

14.2 Financial Data Management

Our “quick” checks identified no inconsistencies in the area of Financial Data Management that require your attention.

14.3 Chapter for different Reconciliation runs

This section displays data from the reconciliation checks in the area of Finance. For ECC customers, we provide checks in the area of General Ledger and Asset Accounting.

14.3.1 Reconciliation of S4 System

The data displayed in this chapter is a result of execution of the FINS_REC transaction. This transaction reconciles the

General Ledger. Identified inconsistencies might have a negative impact on your daily business. Please note that, when estimating the resolution effort of the identified inconsistencies, you should refer to the number of different error types, but not the total number of errors.

Refer to SAP Note [2714344](#) for more information about the identified error types.

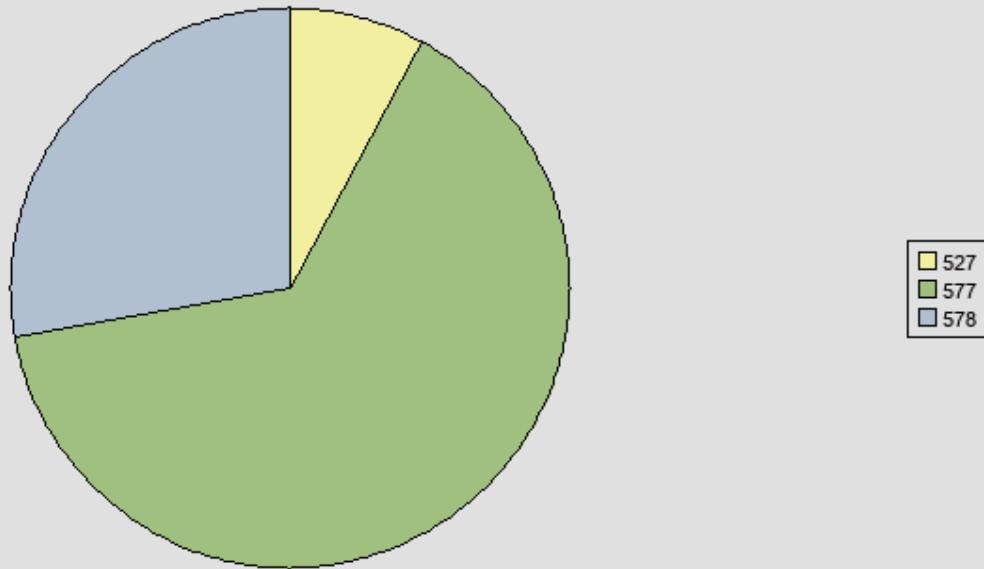
Please see the coverage and the error counter of the executed checks in the tables below.

Transaction	Last Execution	Number of Errors	Coverage(%)
FINS_REC	20.10.2025	115	100

Company Code ID	Company Code Text	Number of Errors
KD30	Ingwe Surface Holdings	8
KH00	Seriti Power (Pty) Ltd	107

Fiscal Year	Number of Errors
2019	32
2020	79
2021	2
2024	1
2026	1

Detected Errors by Message Number



Message Number	Number of Errors
527	9
577	74
578	32

15 Data Volume Management (DVM)

Data relevant for Data Volume Management was collected on system SEP and stored in the SDCCN download. If you gave your consent, this data has been sent to SAP for further analysis. After the analysis has finished, you can find the analysis result in SAP Support Launchpad via the link shown in the "Link to SAP Support Launchpad" column in the table below.

Note: For more information about DVM cloud-based service delivery, see [Knowledge Base Article 2716655](#).

Link to SAP Support Launchpad
https://launchpad.support.sap.com/#/dataoverview

16 BW Checks for SEP



Some problems were detected, that may impair your system's performance and stability. You should take corrective action as soon as possible.

Rating Overview

Rating	Check
✓	BW Administration & Design
⚠	BW Reporting & Planning
⚠	BW Warehouse Management

The first table above contains the ratings for the three main areas in this service. To identify what check causes one area (such as BW Administration & Design) to receive a RED rating, the individual checks with RED ratings are listed in subsequent tables with information about the check name and the main area to which the check belongs.

In general, the checks are structured in a hierarchy and, in most cases, a check with a RED rating will propagate the rating to its parent check. For this reason, it usually makes sense to follow the recommendations for the check at the lowest level in the hierarchy.

However, not all checks propagate their rating to their main check. In other words, a section can have a GREEN rating even though one of its checks has a RED rating.

16.1 BW Administration & Design

16.1.1 BW - KPIs

Some BW KPIs exceed their reference values. This indicates either that there are critical problems or that performance, data volumes, or administration can be optimized.

Follow the recommendations below.

Note If a large number of aggregates have 0 calls or are suggested for deletion, please check whether you deactivate (that is, delete the content of) aggregates before your roll-up/change runs. Aggregates recommended for deletion may include those that were recently deactivated and have not been used between deactivation and data collection for this service.

KPI	Description	Observed	Reference	Rating	Relevant for Overall Service Rating
Avg.OLAP time (s)	Average OLAP time of all queries (s)	94.31	60	YELLOW	NO

Recommendation regarding OLAP processing times: The average OLAP processing times for BW queries in your system might indicate a general performance problem in BW, and consequently decrease end-user satisfaction.

To achieve optimal OLAP performance, use precalculation of the OLAP cache. Set the OLAP cache settings for optimal performance.

16.1.2 Data Distribution

16.1.2.1 Largest InfoCubes

The values in the "Records" column are the sum of the number of rows in the E and F tables. If they exceed specified threshold values, a YELLOW or RED rating will be propagated by this check in the session. The threshold values are **500,000,000** for YELLOW and **1,000,000,000** for RED.

Recommendations

The more records that are stored within an InfoCube, the more time is needed for administrative and/or maintenance tasks for the cube. Follow these guidelines to keep the number of records as small as possible and, therefore, manageable.

The more records (requests) that are stored in the F-fact table, the longer queries have to run to collect all relevant entries

for their result sets. It also increases the time needed to delete and recreate secondary indexes before and after uploads into the cube, which is mandatory/advisable on some databases. Compress as many requests as possible. Depending on the cube design, this may also reduce the total number of records.

Query runtimes generally deteriorate if there are too many records, simply because the individual database tables get too big. If possible from a business perspective, archive or delete data that is no longer relevant for reporting.

If you cannot remove any records for business reasons, consider splitting one InfoCube into multiple physical objects. Split the InfoCube into multiple cubes using a suitable characteristic (time-based, region-based, and so on) and combine these cubes within a MultiProvider for reporting purposes. This concept is known as logical partitioning. On a BW release >= 7.30, you can use a semantically partitioned object (SPO) to benefit from the advantages of logical partitioning (smaller physical objects) without the maintenance overhead formerly attached to this strategy.

16.1.2.2 Largest Master data tables (SID-tables)

Master data SID-Table	Table Name	# Records
/ERP/COORDE	/B631/SCOORDER	1.341.769
/ERP/DOC_NO	/B631/SDOC_NO	1.254.376
/ERP/ACCAS	/B631/SACCAS	1.239.904
/ERP/MATERI	/B631/SMATERIAL	84.824
OFISCPER	/BI0/SFISCPER	54.240

16.1.2.3 Largest Master data tables (time independent: X-tables)

Master data X-Table	Table Name	# Records
0WORKCENTER	/BI0/XWORKCENTER	1
0VENDOR	/BI0/XVENDOR	1
0TCTWSPNAME	/BI0/XTCTWSPNAME	1
0TCTWMACT	/BI0/XTCTWMACT	1
0TCTSUBSTEP	/BI0/XTCTSUBSTEP	1

The table above shows the largest tables with time-independent navigational attributes. The usage of navigational attributes in aggregates will increase the runtime of the change run.

16.1.2.4 Largest Master data tables (time dependent: Y-tables)

Master data Y-Table	Table Name	# Records
/ERP/COSTCN	/B631/YCOSTCNTR	1
/ERP/PROFTC	/B631/YPROFTCTR	1
0COSTCENTER	/BI0/YCOSTCENTER	1
0EMPLOYEE	/BI0/YEMPLOYEE	1
0HRPOSITION	/BI0/YHRPOSITION	1

The table above shows the largest tables with time-dependent navigational attributes. Time-dependent navigational attributes can have a negative impact in the runtime of queries.

Recommendation: Please consider the usage of such objects carefully.

16.1.2.5 Largest Hierarchy tables (I-tables)

Master data Hierarchy	Table Name	# Records
PSTCKFLOW	/BIC/IPSTCKFLOW	48

Large hierarchy I-Tables will have a negative impact on the runtime of queries using those hierarchies.

Recommendation: See SAP Note 738098 - "Performance problems with hierarchies".

16.1.3 Analysis of InfoProviders



16.1.3.1 InfoProvider Distribution

The following section provides an overview of the distribution of your InfoProviders. Only objects that are currently available for reporting are taken into account.

InfoProviders (individual)

Total	DataStore Objects	Advanced DataStore Objects	InfoCubes	InfoObjects
630	0	1	36	593

InfoProviders (collective)

Total	MultiProvider	HybridProviders	SPOs (InfoCube)	SPOs (DSO)	InfoSets
20	19	1	0	0	0

16.1.3.1.1 DataStore Objects

The table below provides an overview of the active DataStore Objects of the analyzed BW system.

Note that DataStore objects with a BEx flag = 'N' cannot be used directly in a reporting scenario but only as part of an InfoSet.

Total	DSO without BEx-flag	DSO with BEx-flag = "X"	DSOs with BEx-flag = "N"	Write-optimized DSOs	Write-optimized DSOs with BEx-flag = "N"	Direct-Update DSO
0	0	0	0	0	0	0

16.1.3.1.2 InfoCubes

The table below provides an overview of the active InfoCubes of the analyzed BW system.

Total	#InfoCube	#Realtime Cubes	#Virtual Cube	#Remote Cube
36	14	2	3	17

16.1.3.1.3 MultiProviders

Note This check has been redesigned with the recent ST-SER Support Package and requires service tools add-on ST-A/API release 01S or higher to be installed in the analyzed BW system. Therefore, please upgrade the BW's ST-A/API accordingly to benefit from the latest improvements.

The following table shows the TOP10 MultiProviders (sorted by total number of InfoProviders), including information about the number and type of their part providers. A complete list with all MultiProviders is available within the service session in your SAP Solution Manager system.

MultiProvider	Total	#IC	#PC	#VC	#RC	#DSO	#WO-DSO	#DU-DSO	#IO	#HP	#SPO-IC	#SPO-DSO	#SPO-WO-DSO	#IS
#Multi Provider (Total)	19													
#Part Provider (Total)	33													
/ERP/SFIN_M01	3	0	1	2	0	0	0	0	0	0	0	0	0	0
OTCT_MCWS	3	0	0	0	3	0	0	0	0	0	0	0	0	0
OTCT_MC01	2	1	0	0	1	0	0	0	0	0	0	0	0	0
OTCT_MC02	2	1	0	0	1	0	0	0	0	0	0	0	0	0
OTCT_MC03	2	1	0	0	1	0	0	0	0	0	0	0	0	0
OTCT_MC05	2	1	0	0	1	0	0	0	0	0	0	0	0	0
OTCT_MC21	2	1	0	0	1	0	0	0	0	0	0	0	0	0
OTCT_MC22	2	1	0	0	1	0	0	0	0	0	0	0	0	0
OTCT_MC23	2	1	0	0	1	0	0	0	0	0	0	0	0	0

MultiProvider	Total	#IC	#PC	#VC	#RC	#DSO	#WO-DSO	#DU-DSO	#IO	#HP	#SPO-IC	#SPO-DSO	#SPO-WO-DSO	#IS
0TCT_MC31	2	1	0	0	1	0	0	0	0	0	0	0	0	0

IC - InfoCube, PC - Realtime Cube, VC - Virtual Cube, RC - Remote Cube

DSO - Standard DSO, WO-DSO - Write-optimized DSO, DU-DSO - Direct-Update DSO

IO - InfoObject

HP - Hybrid Provider

SPO-IC - SPO(InfoCubes), SPO-DSO - SPO(Standard DSOs), SPO-WO-DSO - SPO(Write-optimized DSOs)

IS - InfoSet

16.1.3.1.4 Semantic Partitioned Objects

The following table shows the TOP 10 semantically partitioned objects per type (sorted by number of partitions). A complete list with all SPOs is available within the service session in your SAP Solution Manager system.

SPO (InfoCube)	#Partitions	SPO (DSO)	#Partitions	BEx-Flag	SPO (WO-DSO)	#Partitions	BEx-Flag
Total #SPOs	0	Total #SPOs	0		Total #SPOs	0	
Total #Partitions	0	Total #Partitions	0		Total #Partitions	0	

16.1.4 Partitioning of BW Tables managed by RSTSODS

Depending on the database on which your BW system runs, several BW-specific table types will be range-partitioned automatically by the application. This mechanism applies to write-optimized DSOs, standard DSO change logs, PSA tables, and DTP error stacks.

The partitioning criterion is controlled by field PARTNO of table RSTSODS. This field is defined as numc(4), which means the range value cannot exceed 9.999. If this limitation is reached, no further INSERTs into the table are possible. As a result, further uploads into the PSA/WO-DSO or DSO activations would fail.

Possible countermeasures: [For SAP_BW >= 7.30 SAP Note 2247910 - 730SP15: PSA Repartitioning](#)

[Reorganization Tool](#) introduces ABAP report RSAR_PSA_REPARTITION, which allows you to repartition these tables in order to "move" data from partitions with a high PARTNO value to those with a low value. If you want to make use of this feature, please make sure that the subsequent SAP Notes are either implemented or that you are already on the corresponding release/SP levels:

* [2551718 - 730SP19: Restart Scenario of Repartition/Reorganization PSA tool doesn't work correctly](#) * [2688169 - 730SP19:Restart Scenario of Repartition/Reorganization PSA tool doesn't work correctly\(2\)](#) * [2714214 - 730SP20: Minor problems in PSA repartitioning](#) * [2756311 - 740SP22: Problems in PSA Service and Re-Partitioning of PSA](#) * [2765807 - 740 SP22: Minor problems in PSA Repartition - II](#) * [2769445 - 740 SP22: Syntax errors in SQL in Re-partition of PSA in SYBASE and MSSQL](#)

[For SAP_BW < 7.30 \(only on Oracle\)](#) You may run ABAP report SAP_PSA_PARTNO_COMPRESS to repartition the table(s). Before you do, make sure that [SAP Note 2295109 - SP34:Maximum partition '9999' reached in PSA/changelog table](#) is implemented or that you are at least on a corresponding release/SP level.

[SAP_BW release and database independent](#) If none of the options above apply to your system, you have the option of dropping the table from the database and activating the corresponding object (DataSource, DSO, DTP) again, which will recreate the table with initial RSTSODS settings. However, this is only a possibility if you no longer require the data it originally contained.

If necessary, you can increase the threshold values regarding the size of the individual table partitions by using maintenance transaction RSCUSTV6. The higher the value, the less frequent a new partition will be created and the longer it will take to reach the 9.999 limit.

The table below lists the Top10 tables with PARTNO >= 5.000. If no table is displayed, there either are no such tables or the necessary data to analyze the situation was not available.

Conclusion: No table in the analyzed system exceeds 50% (5,000) of the available RSTSODS-partitions yet.

16.1.5 Number Range Buffering for BW Objects

For each characteristic and dimension, BW uses a number range to uniquely identify a value (IDs and DIM IDs). If the system creates a large number of new IDs periodically, the performance of a data load may decrease.

To avoid the high number of accesses to the NRIV table, activate Main Memory Number Range Buffering for these BW objects.

To map InfoCube dimensions to their number range objects, use table RSDDIMELOC with INFOCUBE = <InfoCube Name> to find the number range object in the NOBJECT field.

To map InfoObjects to their number range objects, use table RSDCHABASLOC with CHABASNM = <InfoObject Name>. The number range object is the value of NUMBRANR with the prefix 'BIM'.

The tables below provide an overview of the number range buffering settings of dimensions and InfoObjects, sorted in descending order by the number range level ("Level"). This information identifies candidates for activating the number range main memory buffer. The figures in the '# Rows' column are based on database statistics.

Recommendation Activate number range buffering for all dimensions and InfoObjects with a high number of rows, based on the rules in SAP Note [857998](#). Note that you must NEVER buffer the package dimension of an InfoCube nor InfoObject 0REQUID (usually number range object BIM9999998).

Note Neither the number of DIM IDs in a dimension table nor the number of SIDs of an InfoObject may exceed the threshold value of **2 billion** (technical limitation). Coming close to this limit indicates a problem with your dimension or InfoObject modeling. In this case, the corresponding data model should be refined. For a thorough discussion of this topic, see SAP Note [1331403](#).

This check considers an object to be critical if its number range level exceeds **1.5 billion**.

TOP 10 Buffered Dimensions [by Number Range Level] You currently have not activated number range buffering for any InfoCube dimension.

Top10 Unbuffered InfoObjects [by Number Range Level]

InfoObject	SID Table	# Rows	NR Object	NR Level
/ERP/COORDER	/B631/SCOORDER	1.341.769	BIM0000531	1.341.769
/ERP/DOC_NO	/B631/SDOC_NO	1.254.376	BIM0000542	1.254.376
/ERP/ACCAS	/B631/SACCAS	1.239.904	BIM0000521	1.239.904
/ERP/MATERIAL	/B631/SMATERIAL	84.824	BIM0000503	84.824
/ERP/MATL_GRP	/B631/SMATL_GRP	21.289	BIM0000504	21.289
0IOBJNM	/BI0/SIOBJNM	17.612	BIM9999991	17.611
/ERP/GL_ACCT	/B631/SGL_ACCT	6.003	BIM0000552	6.003
/ERP/WBSELMT	/B631/SWBSELMT	2.387	BIM0000585	2.387
0ATIMSTMP	/BI0/SATIMSTMP	2.218	BIM9999773	2.218
/ERP/COSTCNTR	/B631/SCOSTCNTR	2.132	BIM0000534	2.132

TOP 10 Buffered InfoObjects [by Number Range Level] You currently have not activated number range buffering for any InfoObject.

16.1.6 DTP Error Handling

The first table below shows an overview of the error handling usage of the active data transfer processes in the BW system. It indicates the total number of active DTPs and the number of DTPs using the four different error handling options.

The second table shows the number of existing error DTPs as well as the number of missing and unnecessary ones. 'Missing' in this context means that a DTP uses error handling option 3 or 4 but no error DTP exists for it. This may indicate that error handling is being used inadvertently and could be deactivated to improve performance. 'Unnecessary' refers to error DTPs of which the source DTP does not use error handling. These error DTPs, therefore, could probably be deleted. This is a pure maintenance task; there is no effect on performance whatsoever.

DTP Overview - Error Handling

# DTPs	#1 Deactivated	#2 No Update, No Reporting	#3 Update Valid Records, No Reporting	#4 Update Valid Records, Reporting Possible
3	1	1	0	1

DTP Overview - Error DTPs

# Error DTPs	# Missing Error DTPs	# Unnecessary Error DTPs
0	1	0

Recommendation:



[Deactivate error handling with error stack creation if not required:](#)

Do not use error handling with error stack creation for every upload. Use the 'No Update, No Reporting' option instead. We recommend using error handling with error stack creation only once per data flow, usually for the first DTP in a dataflow, when the potential for incorrect data delivery from the source system is highest. For further data mart uploads, use it only where necessary (for example, with a very complex, error-prone transformation routine in a certain upload).

[When using error handling with error stack creation:](#)

Error handling with error stack creation also filters out correct records for data targets that require sorting, when semantic grouping is activated. As semantic grouping causes a sorting and re-packaging of the source packages, which allows loading in parallel packages afterwards to the data targets, it is also resource intensive. For this reason, we advise not using it in every upload where error handling with error stack creation is activated. Instead, it should be used only when it is necessary to support parallel loading. Here is a quick matrix:

Use semantic grouping when loading with error handling (and error stack) to the following targets to support parallel loading:

- InfoObject
- standard DSO or write-optimized DSO with semantic key

Do not use semantic grouping when loading with error handling (and error stack) to the following targets (as they allow parallel loading anyway):

- InfoCube
- write-optimized DSO without semantic key

[Differences between option 1 'Error Handling deactivated' and option 2 'No update, no reporting'](#)

If an incorrect record exists while using option 1 'Error Handling deactivated', the error is reported at data package level, that is, it is not possible to identify the incorrect record(s). With option 2 'No update, no reporting', the incorrect record(s) is/are highlighted so that the error can be assigned to specific data records. This makes it easier to correct the request in the source system. As neither scenario writes to the error stack, the whole request is terminated and has to be loaded again in its entirety. The performance difference between option 1 and option 2 is minimal, especially when compared to an error handling option using the error stack (options 3 and 4).

16.1.7 Recommendations for BW System SEP

16.1.7.1 Important SAP Notes for BW

The table below lists important SAP Notes for BW that address performance.

Important notes for BW 3.x

SAP Note Number	Description
1118754	NetWeaver 3.5 BW Frontend Patch delivery schedule
0166433	Options to find aggregates
0567747	Composite note BW 3.x performance: Extraction
0567746	Composite note BW 3.x performance: Query
0567745	Composite note BW 3.x performance: DB-specific

Important notes for BW 7.x

SAP Note Number	Description
1392715	DSO req. activation:collective perf. problem note
1331403	SIDs, Numbrarranges and BW Infoobjects
1162665	Changerun with very big MD-tables
1136163	Query settings in RSRT -> Properties
1106067	Low performance when opening Bex Analyzer on Windows Server
1101143	Collective note: BEx Analyzer performance
1085218	NetWeaver 7.0NetWeaver 7.x BI Frontend SP\Patch Delivery Schedule

SAP Note Number	Description
1083175	IP: Guideline to analyze a performance problem
1061240	Slow web browser due to JavaScript virus scan
1056259	Collective Note: BW Planning Performance and Memory
1018798	Reading high data volumes from BIA
968283	Processing HTTP requests in parallel in the browser
914677	Long runtime in cache for EXPORT to XSTRING
899572	Trace tool: Analyzing BEx, OLAP and planning
892513	Consulting: Performance: Loading data, no of pkg,
860215	Performance problems in transfer rules
857998	Number range buffering for DIM-IDs and SIDs
803958	Debuffering BW master data tables
550784	Changing the buffer of InfoObjects tables
192658	Setting parameters for BW systems

16.1.8 BW Statistics

Since new data is continuously loaded into the Business Warehouse(BW), the amount of data is always increasing. The structure of such data may also change. You can obtain information about data growth from the statistical data in the "BW Statistics" menu, at InfoCube, query, InfoSource, and aggregate level. These statistics also provide information about the performance of your queries.

An overview of the BW processes is essential, and more useful than a detailed view of database statistics, or even CCMS.

Background: When you maintain the settings for the query statistics, deactivating the statistics is the same as activating the statistics internally with detail level 9. In both cases, no statistical data is written.

The settings on the "InfoProvider" tab page affect the collection of statistical data for queries, as well as the settings on the "Query" tab page (transaction RSDDSTAT). The following logic applies: If there are settings for the query (other than "Default"), the maintained statistical settings are chosen to write or not write the statistical data. Otherwise, the setting for the InfoProvider on which the query is defined, is used. If there is neither a setting for the query, nor for the InfoProvider (both are "D"), the general default setting maintained for all queries is used. If you have not changed the default settings, the statistics are activated with detail level 1.

For Web templates, workbooks, and InfoProviders, you can decide between activating or deactivating the statistics only. If you did not maintain settings for the individual objects, the default setting for the object is used. If you did not change the default settings, the statistics are activated.

The following table contains an overview of the current statistical settings for the different objects.

Object	Statistics activated?	Detail Level	# Objects
Query Element	X	1	561

Object	Statistics activated?	Statistics deactivated?	# Objects
Aggregation Level	X		3
Web Template	X		196
Workbook	X		2
InfoProvider	X		285

16.1.8.1 BW Technical Content for Statistical Data

From NetWeaver BW 7.0, activate the technical content for the BW statistical data. You can then use many additional features, such as ST03N. Process chains are also provided to facilitate the administration of the statistical data and provide routines for automatic deletion of the RSDDSTAT* tables.

The table below provides an overview of the technical content for statistical data currently available in your system. This table provides the Basis InfoProviders and the corresponding MultiProviders and Virtual Cubes. The current object version and the date when the statistical data was last uploaded to the Basis InfoProvider are also listed. If there is no table, you have not yet imported any technical content. Upload the statistical data at least once a week.

Recommendation: Activate the technical content and upload the data regularly. For further information, see [SAP Note 934848](#), steps 1 to 5.

Basis InfoProvider	Object Version	Last Upload	MultiProvider Object Version	Virtual Cube Object Version	Long Description Basis InfoProvider
0TCT_C01	A	00.00.0000	A	A	Front-End and OLAP Statistics (Aggregated)
0TCT_C02	A	00.00.0000	A	A	Front-End and OLAP Statistics (Details)
0TCT_C03	A	00.00.0000	A	A	Data Manager Statistics (Details)
0TCT_C05	A	00.00.0000	A	A	OLAP Statistics: Cache type Memory Consumption
0TCT_C12	D	00.00.0000	A	A	Process Status
0TCT_C14	A	00.00.0000	A		Report Availability Status
0TCT_C15	A	00.00.0000	A		BW Data Storages with inconsistent and incomplete data
0TCT_C21	A	00.00.0000	A	A	Process Statistics
0TCT_C22	A	00.00.0000	A	A	DTP Statistics
0TCT_C23	A	00.00.0000	A	A	InfoPackage Statistics
0TCT_C25	A	00.00.0000	A		Database Volume Statistics
0TCT_C31	A	00.00.0000	A	A	BWA Statistics: CPU Consumption
0TCT_C32	A	00.00.0000	A	A	BWA Statistics: InfoProvider Memory Consumption
0TCT_CA1	A	00.00.0000	A	A	Front-End and OLAP Statistics (Highly Aggregated)

16.2 BW Reporting & Planning

16.2.1 BW Runtime Statistics for SEP

The performance of your queries and upload was analyzed with respect to average runtime and total workload. The following table provides an overview of your system activity and performance from the BW point of view.

Note: All queries using the 'Read API' of your system (such as from connected SAP-APO or SAP-SEM systems) are named 'RSDRI_QUERY,' so you cannot locate them in your BW system. Please note that the following chapters only contain queries/InfoCubes for which the statistics indicators are set.

Task type	Navigation steps	Runtime > 20 seconds [%]	Avg. runtime [s]	Avg. time OLAPCAC HE [s]	Avg. time OLAP [s]	Avg. time DB [s]	Avg. time Frontend [s]	Other time/ RFC [s]
All Queries	26	62	125,8	0,0	94,3	13,3	0,6	0,0

16.2.1.1 Top Infoprovider per Queries

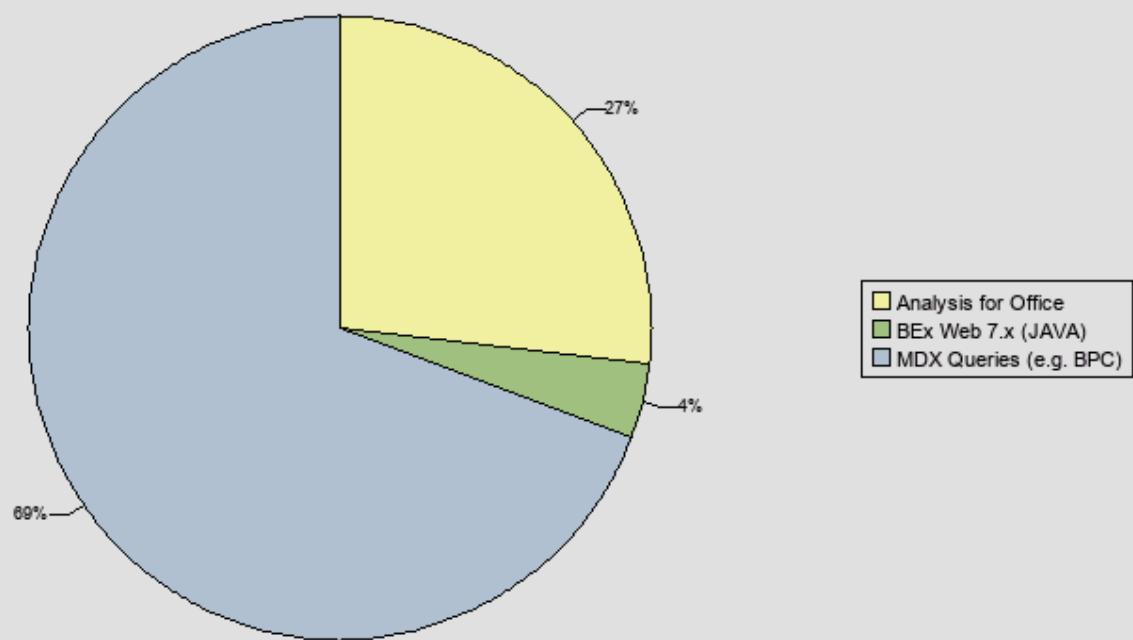
The following table lists the top five InfoProviders based on the number of query hits.

Top InfoProviders per number of queries

InfoProvider	Query Steps	Avg. runtime [s]	Runtime [%]	Avg. time OLAP [s]	Avg. time DB [s]	Avg. time Planning [s]	Avg. Frontend time [s]	Avg. Time Others/RFC [s]
2CZAPWTI MECUBE	12	229,30	84	179,10	16,20	0,00	0,00	0,00
2CZMLIFIA PLNJE2	4	107,20	13	63,60	32,20	0,00	3,20	0,00
2CYCFSR CUBE1	2	22,80	1	15,30	3,80	0,00	0,80	1,30
2CZAPWS TATSCUBE	8	5,70	1	2,20	1,90	0,00	0,00	0,00

16.2.1.2 Frontend Distribution

The diagram and the table below provide an overview of the front-end distribution. It contains the total number of queries executed in the last complete week (Monday to Sunday) and the number of queries executed via the different front ends.



# Query executions	Analysis for Office	BEx Web 7.x (JAVA)	MDX Queries (e.g. BPC)
26	7	1	18

16.2.1.3 Query Profile Check

16.2.1.3.1 Queries

Task Type	# Query executions	Runtime > 20 seconds [%]	Avg. Runtime [s]	Avg. Time OLAPINIT [s]	Avg. Time OLAP [s]	Avg. Time DB [s]	Avg. Time Planning [s]	Avg. Time Others/RFC [s]
All Queries	26	62	125,82	0,02	94,31	13,28	0,00	0,10
DB Queries	26	62	125,82	0,02	94,31	13,28	0,00	0,10

The following table provides a summary of the query runtimes and distinguishes between the different front ends.

If no queries were started over the last seven days with the specified options, the corresponding summary line is not displayed.

Task Type	Query execution s	Runtime > 20 seconds [%]	Avg. Runtime [s]	Avg. Time OLAPINIT [s]	Avg. Time OLAP [s]	Avg. Time DB [s]	Avg. Time Planning [s]	Avg. Time Frontend [s]	Avg. Time Others/ RFC [s]
All Queries	26	62	125,82	0,02	94,31	13,28	0,00	0,58	0,10
Analysis for Office	7	71	68,90	0,01	41,05	20,11	0,00	2,16	0,37
BEx Web (JAVA)	1	0	8,69	0,02	3,56	2,70	0,00	0,00	0,00
MDX	18	61	154,46	0,02	120,06	11,21	0,00	0,00	0,00

16.2.1.3.2 Top Time Queries by Total Workload

The total workload caused by queries is defined as the sum of the total runtimes of all queries. The following query profile lists the queries, as a percentage of total runtime, that contribute the greatest amount to the total workload.

Query name	InfoCube	Query Executions	Runtime [%]	Avg. runtime [s]	Avg. DB time [s]	Avg. OLAP time [s]	Avg. Frontend time [s]	Avg. Time Others/ RFC [s]
Total		26	100	125,82	13,28	94,31	0,58	0,10
2CZAPWTI MEQUERY	2CZAPWTI MECUBE	12	84	229,30	16,16	179,12	0,04	0,00
2CZFICCP LNACT	2CZMLIFIA PLNJE2	4	13	107,16	32,16	63,60	3,24	0,01
YCFSRCU BE1_REP_001	2CYCFSR CUBE1	2	1	22,81	3,79	15,29	0,82	1,29
2CZAPWS TATSQUE RY	2CZAPWS TATSCUBE	8	1	5,68	1,89	2,21	0,00	0,00

16.2.1.3.3 Top Time Queries by DB Load

The total database workload generated by the BW system is the sum of the total database access times of all queries. The following query profile lists the queries, as percentages of total database access time, that make up the largest part of the database load.

Query name	InfoCube	# Executions	DB load [%]	Avg. DB time [s]	Avg. Runtime [s]
Total		26	100	13,28	125,82
2CZAPWTIMEQUERY	2CZAPWTIMECUBE	12	56	16,16	229,30
2CZFICCP LNACT	2CZMLIFIAPLNJE2	4	37	32,16	107,16
2CZAPWSTATSQUERY	2CZAPWSTATSCUBE	8	4	1,89	5,68
YCFSRCUBE1 REP_001	2CYCFSRCUBE1	2	2	3,79	22,81

16.2.1.3.4 Top Time Queries by Average Runtime

The ten queries whose average runtimes have the highest optimization potential are listed here.

Query name	InfoCube	Avg. Runtime [s]	Avg. DB time [s]	Avg. OLAP time [s]	Avg. Frontend time [s]	Avg. Time Others/ RFC [s]
Total		125,82	13,28	94,31	0,58	0,10
2CZAPWTIME QUERY	2CZAPWTIME CUBE	229,30	16,16	179,12	0,04	0,00
2CZFICCP LNACT	2CZMLIFIAPLN JE2	107,16	32,16	63,60	3,24	0,01
YCFSRCUBE1 REP_001	2CYCFSRCUB E1	22,81	3,79	15,29	0,82	1,29

Query name	InfoCube	Avg. Runtime [s]	Avg. DB time [s]	Avg. OLAP time [s]	Avg. Frontend time [s]	Avg. Time Others/ RFC [s]
2CZAPWSTAT SQUERY	2CZAPWSTAT SCUBE	5,68	1,89	2,21	0,00	0,00

16.2.1.4 Queries by Total Workload per Frontend

The tables below contain data about the 10 queries for each step type that consumed the most time with regard to runtime. Note that these tables contain data about single query executions. This means that the data is not summarized and that the name of a query may appear several times.

Queries: BEx Web 7.x (JAVA)

Query name	InfoCube	Query Executions	Runtime [%]	Avg. runtime [s]	Avg. DB time [s]	Avg. OLAP time [s]	Avg. Frontend time [s]	Avg. Time Others/ RFC [s]
2CZAPWS TATSQUERY	2CZAPWS TATSCUBE	1	100	8,69	2,70	3,56	0,00	0,00

16.2.1.5 Integrated Planning Performance

16.2.1.5.1 BW Planning Activities

The table below provides an overview of the integrated planning activities from the past week. You can use this information to identify peak times within your planning cycle.

The "No. Users" column displays the number of different users that used planning functions or input queries on a specific day. The plan buffers are technical queries (!!1-Queries) used from both input queries and planning functions to read transactional data from the InfoProviders.

Date	# Users	# Planning Sequences	# Planning Functions	# PlanBuffers
22.10.2025	1	0	10	11

All runtimes in the following tables are measured in seconds.

16.2.1.5.2 Overview: Planning Sequences

The table below shows how many planning sequences were executed each day last week, together with the average runtime and average number of planning functions executed for each planning sequence.

Date	# Executions	Avg. Runtime [s]	Avg. No. Planning Functions
20.10.2025	1	0,07	10
21.10.2025	1	0,07	10
22.10.2025	1	0,08	10
23.10.2025	1	0,07	10
24.10.2025	1	0,07	10
25.10.2025	1	0,07	10
26.10.2025	1	0,07	10
27.10.2025	1	0,06	10

The following tables list the most performance-critical planning sequences by performance area. These planning sequences showed a high overall runtime or a high runtime in a particular area. However, planning sequences that contributed significantly to the overall planning workload can also be found in the system.

16.2.1.5.3 Top Planning Sequences by Single Execution

A list is shown below of the longest running planning sequence executions. If one planning sequence ran several times last week, only the most expensive sequence execution is displayed.

Planning Sequence	Runtime [s]	# Planning Functions	Date	Time
P_S_PS101	0,08	10	22.10.2025	00:00:07

16.2.1.5.4 Top Planning Sequences by Average Runtime

The table below shows the planning sequences with the highest average runtime per execution. In comparison to the table above, statistical outliers can be eliminated by also taking into account the number of calls. The number of calls indicates how often this function was executed in the last week.

Planning Sequence	Avg. Runtime [s]	# Executions	Total Runtime [s]	# Planning Functions
P_S_PS101	0,07	8	0,55	80

16.2.1.5.5 Top Planning Sequences by Workload Contribution

The table below shows the planning sequences that contributed significantly to the overall BW planning workload (last week) in your system. The "Runtime [%]" column shows what percentage of the total runtime (runtime of all planning sequences) was caused by this particular sequence.

Planning Sequence	Runtime [%]	# Executions	Total Runtime [s]	Avg. Runtime [s]	# Planning Functions
P_S_PS101	55	8	0,55	0,07	80

16.2.1.5.6 Overview: Planning Functions

The number of planning function executions on a particular day and the average runtime are displayed here. The "Avg. Time Logic [s]" describes the part of the average runtime that the planning function requires to execute the actual function logic, for example, for a formula function to execute the FOX code. The "Avg. Read Time [s]" is the time required to read transaction data (and reference data) via the plan buffer. The "Avg. Records" include records read as well as those changed, deleted, and newly created. Reference data is also included.

Date	# Executions	Avg. Runtime [s]	Avg. Read Time [s]	Avg. Logic Time [s]	Avg. Records
20.10.2025	10	0,01	0,00	0,14	0
21.10.2025	10	0,01	0,00	0,15	0
22.10.2025	10	0,01	0,00	0,18	0
23.10.2025	10	0,01	0,00	0,15	0
24.10.2025	10	0,01	0,00	0,15	0
25.10.2025	10	0,01	0,00	0,15	0
26.10.2025	10	0,01	0,00	0,12	0
27.10.2025	10	0,01	0,00	0,11	0

16.2.1.5.7 Overview Planning Functions by Function Type

The contribution of the different planning function types to the overall BW planning function workload is shown below.

Function Type	Runtime [%]	# Executions	Avg. Runtime [s]	Avg. Read Time [s]	Avg. Logic Time [s]	Avg. Records
N/A (PF deleted)	0	80	0,01	0,00	0,14	0

The following tables list the most performance-critical planning functions by performance area. These planning functions showed a high overall runtime or a high runtime in a specific area. However, planning functions that contributed significantly to the overall planning workload can also be found in the system.

16.2.1.5.8 Top Planning Functions by Single Execution

A list is shown below of the longest running planning function executions. If a planning function ran several times last week, only the most expensive function execution is displayed.

InfoProvider	Planning Function	Function Type	Runtime [s]	Read Time [s]	Logic Time [s]	# Records
	DS:PSC01_A20_PF008	N/A (PF deleted)	0,05	0,00	0,03	0
	ES:PSC01_A20_PF004	N/A (PF deleted)	0,01	0,00	1,00	0
	DS:PSC01_A20_PF004	N/A (PF deleted)	0,00	0,00	0,03	0

InfoProvider	Planning Function	Function Type	Runtime [s]	Read Time [s]	Logic Time [s]	# Records
	DS:PSC01_A20_PF005	N/A (PF deleted)	0,00	0,00	0,02	0
	DS:PSC01_A20_PF006	N/A (PF deleted)	0,00	0,00	0,03	0
	DS:PSC01_A20_PF007	N/A (PF deleted)	0,00	0,00	0,02	0
	ES:PSC01_A20_PF005	N/A (PF deleted)	0,00	0,00	0,03	0
	ES:PSC01_A20_PF006	N/A (PF deleted)	0,00	0,00	0,02	0
	ES:PSC01_A20_PF007	N/A (PF deleted)	0,00	0,00	0,02	0
	ES:PSC01_A20_PF008	N/A (PF deleted)	0,00	0,00	0,02	0

16.2.1.5.9 Top Planning Functions by Average Runtime

The table below shows the planning functions with the highest average runtime per execution. In comparison to the table above, statistical outliers can be eliminated by also taking into account the number of calls. The number of calls indicates how often this function was executed in the last week.

InfoProvider	Planning Function	Function Type	Avg. Runtime [s]	# Executions	Avg. Read Time [s]	Avg. Logic Time [s]	Avg. Records
	DS:PSC01_A20_PF008	N/A (PF deleted)	0,05	8	0,00	0,03	0
	ES:PSC01_A20_PF004	N/A (PF deleted)	0,01	8	0,00	1,16	0
	DS:PSC01_A20_PF004	N/A (PF deleted)	0,00	8	0,00	0,03	0
	ES:PSC01_A20_PF005	N/A (PF deleted)	0,00	8	0,00	0,03	0
	DS:PSC01_A20_PF005	N/A (PF deleted)	0,00	8	0,00	0,06	0
	ES:PSC01_A20_PF006	N/A (PF deleted)	0,00	8	0,00	0,03	0
	DS:PSC01_A20_PF006	N/A (PF deleted)	0,00	8	0,00	0,03	0
	ES:PSC01_A20_PF007	N/A (PF deleted)	0,00	8	0,00	0,02	0
	DS:PSC01_A20_PF007	N/A (PF deleted)	0,00	8	0,00	0,04	0
	ES:PSC01_A20_PF008	N/A (PF deleted)	0,00	8	0,00	0,02	0

16.2.1.5.10 Top Planning Functions by Workload Contribution

The table below shows the planning functions that contributed significantly to the overall BW planning workload (from last week) in your system. The "Runtime[%]" column indicates what percentage of the total runtime (runtime of all planning functions) was caused by this particular function.

InfoProvider	Planning Function	Function Type	Runtime [%]	# Executions	Avg. Runtime [s]	Avg. Read Time [s]	Avg. Logic Time [s]	Avg. Records [s]
	ES:PSC01_A20_PF004	N/A (PF deleted)	0	8	0,01	0,00	1,16	0
	DS:PSC01_A20_PF004	N/A (PF deleted)	0	8	0,00	0,00	0,03	0
	ES:PSC01_A20_PF005	N/A (PF deleted)	0	8	0,00	0,00	0,03	0
	DS:PSC01_A20_PF005	N/A (PF deleted)	0	8	0,00	0,00	0,06	0
	ES:PSC01_A20_PF006	N/A (PF deleted)	0	8	0,00	0,00	0,03	0

InfoProvider	Planning Function	Function Type	Runtime [%]	# Executions	Avg. Runtime [s]	Avg. Read Time [s]	Avg. Logic Time [s]	Avg. Records [s]
	DS:PSC01_A20_PF006	N/A (PF deleted)	0	8	0,00	0,00	0,03	0
	ES:PSC01_A20_PF007	N/A (PF deleted)	0	8	0,00	0,00	0,02	0
	DS:PSC01_A20_PF007	N/A (PF deleted)	0	8	0,00	0,00	0,04	0
	ES:PSC01_A20_PF008	N/A (PF deleted)	0	8	0,00	0,00	0,02	0
	DS:PSC01_A20_PF008	N/A (PF deleted)	0	8	0,05	0,00	0,03	0

16.2.2 BW Workload

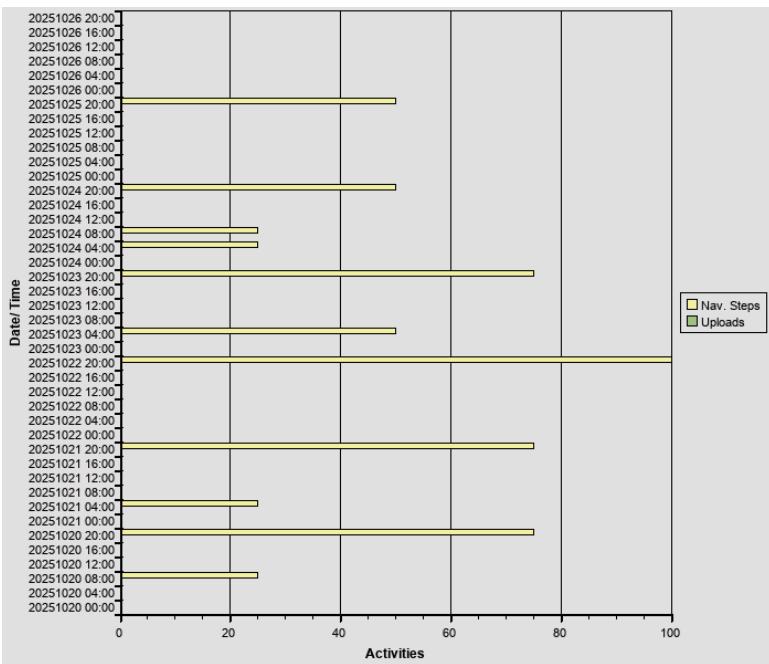
16.2.2.1 Workload per User and Navigation Steps

This overview takes into account the following:

- The number of users who execute queries independent of the statistical settings (grand total)
- This number is grouped according to InfoConsumer, Executive, and Power User (totals), depending on their number of navigation steps
- The InfoConsumer is divided again according to the number of navigation steps (subtotals).
- The timeframe is the last full week from Monday to Sunday.

User/Consumer	Number
Grand total: Users performing queries	5
Total: Info Consumer [1 - 400 Nav Steps/ week]	5
...Sub total: Info Consumer 1-10 Nav Steps/ week	4
...Sub total: Info Consumer 11-50 Nav Steps/ week	1
...Sub total: Info Consumer 51-100 Nav Steps/ week	0
...Sub total: Info Consumer 101-200 Nav Steps/ week	0
...Sub total: Info Consumer 201-300 Nav Steps/ week	0
...Sub total: Info Consumer 301-400 Nav Steps/ week	0
Total: Executive [401 - 1200 Nav Steps/ week]	0
Total: Power User [> 1200 Nav Steps/ week]	0

16.2.2.2 Reporting and Upload Workload last week



The diagram above shows an overview of the workload distribution with regard to reporting and upload activities from the last week. Note that the values shown do not reflect the actual values. In each case, we have taken the highest value and considered it to be "100". The other values show the ratio to the maximum values.

Maximum values are listed below.

Note that the minimum requirement is ST-A/PI 01I*. If this has not been applied, no upload activity will be shown in the diagram. If even ST-A/PI 01G* has not been applied, no reporting activities can be measured.

Max. # Navigation Steps	Max. # Uploads
4	0

16.2.3 Analysis of Query Definition

# Queries	# Queries with Read Mode 'A'	# Queries with Read Mode 'X'	# Queries with Read Mode 'H'
577	12	51	514

Some of your BW queries use the read mode "Query to read all data at once". In most cases, this is not appropriate.

Background When a user navigates through a report, data can be read from the database in three different ways (the read modes depend on the Customizing settings):

1. Query to read all data at once
2. Query to read data during navigation
3. Query to read when you navigate or expand hierarchies

The first read mode (Query to read all data at once) may cause unnecessary data to be read from the database, decreasing the performance of your queries, so you should only use this in special situations.

Recommendation Use the read mode "Query to read data during navigation" or "Query to read when you navigate or expand hierarchies" for new queries. Check whether the performance of existing queries can be improved by changing the read mode.

Implementation Call transaction RSRT.

* To change the read mode for a specific query only, select it and choose the button 'Properties'

* To change the read mode for all (or multiple) queries of a specific InfoProvider, follow the menu path 'Environment' -> 'Query Mass Maintenance'

* In BW releases 7.30 - 7.40 you can also use OK-CODE 'RALL' to adjust the read mode of all queries at once

16.2.4 Analysis of OLAP Cache

The OLAP Cache is used for duplicated storing of query results that are often used, whereby these query results can be accessed quickly.

The tables below contain information about the size and the usage of the OLAP Cache.

16.2.4.1 Cache usage of queries

16.2.4.1.1 Defined Queries

The OLAP cache can buffer results from queries and provide them again for different users and similar queries (that is, the same queries or real subsets of them). The OLAP cache therefore reduces the workload of the DB server and decreases the response time.

The OLAP cache can store the query results with their navigation statuses in the memory of the application server; the data can also be stored in database tables and files.

When the main memory buffer (located in the export/import shared memory) overruns, the displaced data is either removed or, depending on the persistence mode, stored on the database server.

The following OLAP cache modes exist in your system:

- 0 Cache Is Inactive
- 1 Main Memory Cache Without Swapping (Default, unless 5 exists)
- 2 Main Memory Cache with Swapping
- 3 Persistent Cache per Application Server
- 4 Persistent Cache Across Each Application Server

Default Cache Mode In most cases, the optimal cache mode will be the system default.

MODE 0 - Cache is Inactive All data is read from the relevant InfoProvider and only the local cache (for navigation of the executed query, for example) is used.

MODE 1 - Main Memory Cache without Swapping New data is stored in the export/import SHM buffer until this memory area is full. If new data then has to be added to the buffer, an LRU mechanism is applied. Data used least recently is permanently removed from the buffer. If this data is requested again by a query, it must access the relevant InfoProvider on the DB server.

MODE 2 - Main Memory Cache with Swapping This works in a similar way to MODE 1. However, if the memory is full and data is removed from the cache, it is not deleted but written to a cluster table/flat file (depending on your cache persistency settings). If this data is then needed again by a query, it can be read from the cluster table/flat file, which is still quicker than reading it from the relevant InfoProvider on the DB server.

NOTE: Note that modes 1 and 2 are instance-dependent.

MODE 3 - Persistent Cache per Application Server The cache data is kept persistently in a cluster table or in flat files for each application server. The overall data quantity is only restricted by the database or file system. Swapping does not occur in the same way as with the main memory cache mode.

MODE 4 - Persistent Cache Across Each Application Server This mode is the same as the mode described above (cluster/flat file for each application server), the only difference being that the cache entries of all of the application servers in a system are used together.

NOTE: If you use a flat file as persistent storage for modes 3 or 4, select a directory that is close to the application server(s).

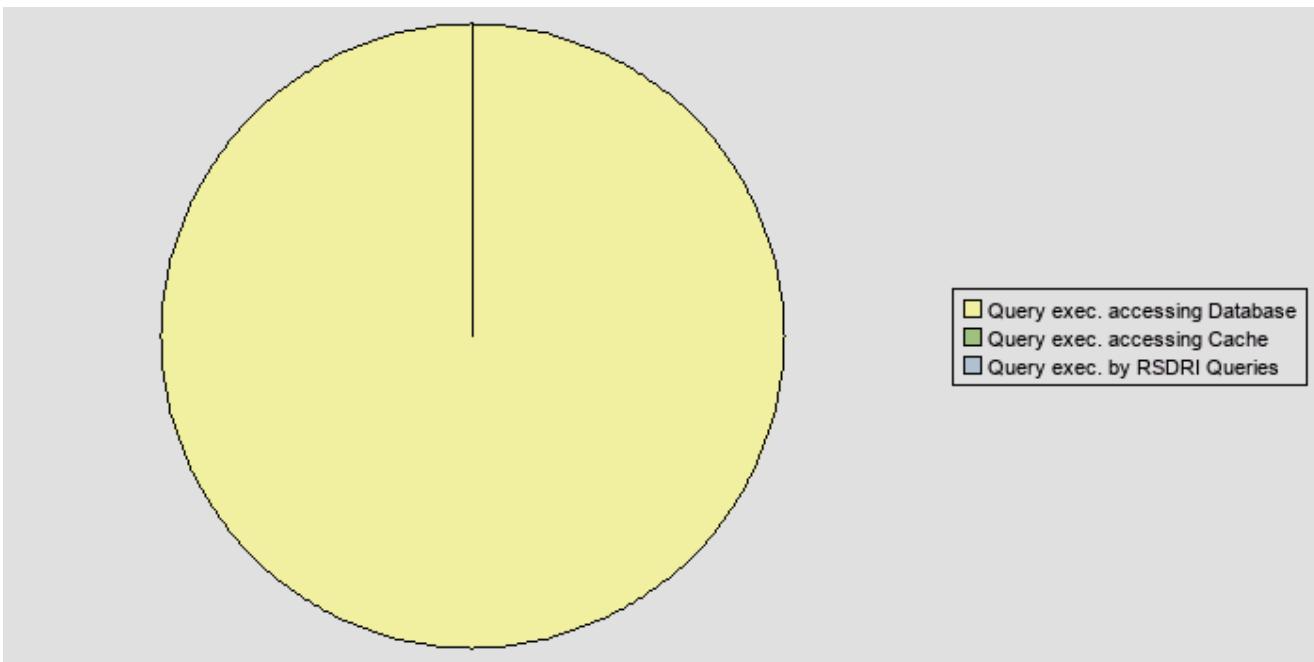
Number of Queries per Cache Mode

Cache Mode	# Queries
Total	578
[0] OFF	389
[1] Main Memory w/o Swapping	109
[5] BLOB/Cluster Enhanced	7
[D] Database	69
[] InfoProvider Setting	4

Number of InfoCubes per Cache Mode

Cache Mode	# Infocubes
[0] OFF	20
[D] Database	36

16.2.4.1.2 Executed Queries



The following table provides an overview of the number of navigation steps executed and shows how many query results the OLAP cache was able to provide/ how often the database had to be accessed. Note that RSDRI queries cannot be stored in the OLAP cache and are, therefore, listed separately in the table.

Task type	# Query Executions	Accessed DB [%]	Accessed Cache [%]	RSDRI Queries [%]
All Queries	26	100	0	0

There are two types of caches: The local cache and the transactional cache (OLAP cache). The local cache belongs to a query session and therefore cannot be used by other sessions. The OLAP cache can store query data on the application server and can have a swap file or use a swap cluster table.

The OLAP memory cache is located in the Export/Import buffer SHM (parameter rsdb/esm/buffersize_kb). Since the global cache size is a logical value and the Export/Import SHM gives a physical limit, and also considering that other applications (such as BCS) might use the Export/Import SHM, we recommend that you set the global cache parameter maximally to 90% of the Export/Import SHM buffer.

Rating	Description	Current Value	Recommendation
✓	Cache active	Active	Active
◆	Cache Persistence Mode	Flat File	N/A
◆	Flat File Name	BW_OLAP_CACHE	N/A
◆	Comprehensive Flat File Name for AppServer		N/A
◆	Local Cache Size (MB)	32	N/A
⚠	Global Cache Size (MB)	192	Please check SAP Notes 656060 and 702728.
✓	Exp/Imp SHM (KB) on Instance SAAZS-V-SAP30_SEP_30	4096	4096
✓	Exp/Imp SHM (KB) on Instance SAAZS-V-SAP37_SEP_37	4096	4096

Recommendation:

Check your cache settings carefully using transaction RSRCACHE or RSCUSTV14. We recommend that you set the OLAP cache to active and the global cache size to 90% of the size of the Export/Import SHM buffer. Please note that the global cache size is defined in MB while the Export/Import SHM buffer parameter is configured in KB.

16.3 BW Warehouse Management

16.3.1 Upload Statistics

16.3.1.1 Transactional data load statistics (RSDDSTATWHM)

This section provides an overview of the execution of InfoPackages that do not only load into PSA but also (or only) into InfoProviders. Only transactional data uploads are taken into account.

We could not detect any uploads of transactional data from 20.10.2025 to 27.10.2025. This means that either no such InfoPackage was executed in the analyzed period or that the statistics are not properly collected in the system. To rule out the latter, check the activation status of the BW WHM statistics as described below.

Collection of BW Statistics Call the Administrator Workbench (transaction RSA1) and choose Tools -> "Settings for BI Statistics", or call transaction RSDDSTAT:

--> Switch to the InfoProvider tab and activate the statistics settings.

16.3.1.2 Top DTP Load

The following table provides an overview of the load caused by data transfer processes in your BW system during the past week.

Note that the cumulated times displayed may be larger than the total times. When cumulated times are calculated, all times are added together, whereas parallel processing is considered when total times are calculated.

Total

# Sources	# Targets	# Requests	Time Total	Time Total Cum.	Time Source	Time Errorfilter	Time Transformation	Time Target	# recs. Source	# recs. Target
0	0	0	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	0	0

16.3.2 Top InfoProviders

16.3.2.1 Top InfoProviders per total number of requests

Having too many requests within a single InfoProvider may lead to performance problems for request administration tasks when the request control information is checked. The runtime for request administration can grow up to several minutes, leading to delays during data loading and/or housekeeping activities. This is independent from the number of records loaded by these requests.

The performance degradation is a gradual phenomenon and depends, among other things, on general system performance (CPU power, available memory, and so on). This check uses 10,000 requests for objects using OREQUID-based administration (InfoCubes, DataStore Objects, and InfoObjects in SAP NetWeaver BW systems) and 50,000 for objects using the TSN-based approach (Advanced DataStore Objects and InfoObjects in SAP BW/4HANA).

Depending on the object type, different remedies are available:

InfoObjects (SAP NetWeaver only)

To clean up administrative information and status manager tables of InfoObjects (both attribute and text loads), you can run ABAP report RSSM_AUTODEL_REQU_MASTER_TEXT.

DataStore Objects and InfoCubes

1. The first option is described in some detail in [SAP Note 620361 - Data loading performance/Admin. data target, many requests](#). The basic idea is to load the data of an InfoProvider into a copy and then either use this copy afterwards, or delete the original provider's content before loading the data back (in a small number of requests). While this is the cleanest solution, it can also be quite time-consuming and, depending on how extensively the original InfoProvider is used in the system, it might be hard to find a suitable window of time to perform this task.
2. Therefore, ABAP report RSSM_REDUCE_REQUESTLIST was created, which, as the name indicates, provides the option of reducing the request list of the administration tables. An extensive FAQ document is available in [SAP Note 2146472 - FAQ for Report - RSSM_REDUCE_REQUESTLIST and RSSM_EXPAND_REQUESTLIST](#).

Advanced DataStore Objects

ADSOs use another kind of request administration based on RSPM* tables, which comes with an inbuilt housekeeping feature, ABAP report RSPM_HOUSEKEEPING. Basically, it moves unnecessary request information from RSPM* tables into RSPMHK* tables, reducing the data volume of the RSPM* tables. This has a positive effect on any task (mainly loading-related activities) that reads from these tables. The current features of the report are outlined in [SAP Note 2716063 - Improvements of RSPM housekeeping](#).

Top InfoProvider (by Number of Requests)

InfoProvider	Type	Requests
PSA01	ADSO	1.632

We did not detect any InfoProviders with a critical number of requests.

16.3.3 Process Chains - Runtime Overview

The process chain runtime analysis is based on the last 7 days before the download.

The table contains statistical information of all chains that were not started by another (local) process chain. This includes process chains that are started by the service API or remotely by a chain from another system. Note that only the top 20 chains with the longest runtimes are displayed.

The '# Total Subchains' and '# Total Steps' columns represent the summarized values of the main chain and its subchains. The runtimes have a range from the start of the main chain up to the end of the last process type executed within the main chain and its subchains. This means that the real runtime of the main chain and its subchains is displayed here.

Main Chain	#Total Sub chains	#Total Steps	#Runs	Total Run time [min]	Avg. Run time [min]	Med. Run time [min]	Avg. Proc.Type Runt. [min]
BPC_SIC_DAILY	0	2	7	10	2	2	2
ZOHD_ADF	0	2	7	3	1	1	1

16.3.4 Source System Overview

16.3.4.1 Source System Release Information

The tables below contain information about the source systems attached to the analyzed BW system. The first table lists all source systems, regardless of their type. The second table shows detailed release information about R/3 source systems while the third table is dedicated to BW source systems, which potentially include the analyzed system itself (data mart). If one of the last two tables is missing, there are no source systems of the respective type.

Attached Source Systems

Logical System Name	Type	Status
SEPLCLNT100	Datamart	active

BW Source Systems

Logical System Name	Release	Support Pack	ABAP Patch	Basis Patch
SEPLCLNT100	753	0000	75D 0000	753 0000

16.3.4.2 Data Transfer Customizing

Customization of SAP Source Systems Data transfer settings of all SAP source systems attached to the analyzed BW system are maintained in transaction SBIW and stored in table ROIDOCPRMS. These settings influence data package size, the frequency of InfoDocs, and, depending on the transfer method, the number of processes used for the data transfer. If no values are maintained in ROIDOCPRMS, the system uses hard-coded default values.

MAXSIZE [kB] and MAXLINES [#] control the maximum size of a data package. Whichever of the two limitations is reached first controls the actual size of the data packages. While the default for MAXLINES (100,000) is reasonable in most cases, the default for MAXSIZE (10,000 kB) leads to large numbers of rather small data packages. The current standard recommendation is approximately 50,000 (kB). Generally, both values should be low enough to prevent memory issues when processing a data package and to allow some degree of parallelism, and high enough to avoid the creation of too many data packages.

Note that it is not mandatory for extractors to comply with these limitations. Nevertheless, the overwhelming majority of SAP DataSources do so. Whether your own developments take these parameters into account depends on your coding.

STATFRQU controls the frequency of InfoDocs containing statistical information about loading that are sent while the InfoPackage is being processed. A value of X means that one InfoDoc is sent after each Xth data package. The default value of 1 leads to an IDoc processing overhead; our standard recommendation is 10.

MAXPROCS determines how many dialog processes are maximally used by each InfoPackage to send the prepared data packages to the BW system. Whether this parameter is taken into account, however, depends on the release and the settings of the source system. In most cases, this parameter is only relevant for InfoPackages that upload not only into

PSA, but also (or only) into data targets. This method of transferring data packages is usually referred to as SBIW-controlled or SAPI-controlled. The default value of 2 may easily result in a bottleneck, especially if the time needed by the extractor to prepare a data package is less than the time needed to send and process it in the BW system. The number of maximal processes for InfoPackages loading only into PSA is usually limited by the configuration in transaction SMQS (tRFC scheduler). While MAXPROCS limits the number of processes per InfoPackage, SMQS limits the number of concurrent connections between the source and the BW system, that is, the total number of processes that all concurrently executed InfoPackages may use. Here, the default value of 2 can also have a negative effect on extraction performance.

For more information about the two different loading methods, see [SAP Note 1163359 - Load methods using SMQS or SAPI-controlled to transfer to BW](#).

To make sure that your SBIW configurations do not have a negative effect on the performance of your InfoPackages, we checked data transfer settings for all attached source systems.

Data Transfer Settings of SAP Source Systems

Source System	MAXSIZE	MAXLINES	STATFRQU	MAXPROCS
SEPCLNT100	0	0	0	0

Customization of Flat File DataSources Data transfer settings for flat file uploads are customized in transaction RSCUSTV6 and stored in table RSADMINC. You can control the maximum number of records per data package (Package Size) as well as the InfoDoc frequency (FrequencyStatus-IDOC).

Verification of Data Transfer Settings To avoid potential extraction problems, adjust the data transfer settings in the respective source systems as indicated in the tables below. Note that we strongly recommend changes if the settings are lower than expected, unless you experience memory issues with higher values. If, on the other hand, the recommendation table suggests decreasing certain parameters but you do not face any of the related problems described above (memory dumps, no parallelism), please ignore this particular recommendation.

Implementation a) For SAP source systems, you can change the data transfer settings centrally from the BW system within transaction RSA1. In the 'Source Systems' area, right-click the particular system and choose "Customizing Extractors", which calls transaction SBIW in the selected system. There, choose "General Settings" --> "Maintain Control Parameters for the Data Transfer". Obviously, you can also call transaction SBIW directly in the source systems.

b) For flat file source systems, use transaction RSCUSTV6 in your BW system.

Recommendations for SAP Source Systems

Source System	Parameter	Current value	Recommended value
SEPCLNT100	Max. (kB)	0	50.000
SEPCLNT100	Frequency	0	10
SEPCLNT100	Max. proc.	0	5

17 SAP HANA Database SEP



We have checked your SAP HANA environment and found some issues that might have a negative impact on your overall system stability. Review the report carefully and implement our recommendations.

Rating	Check
!	SAP HANA Stability and Alerts
!	SAP HANA Database Configuration
!	SAP HANA Resource Consumption
!	SAP HANA Workload and Performance
!	Size and Growth
!	Administration

17.1 Overview

The tables below provide an overview of your current SAP HANA database configuration.

DB Version / Start Time

Current SAP HANA DB Version	Build Branch	Start Time
2.00.063.00	fa/hana2sp06	26.10.2025 15:10:28

Technical Instances

Host	Database Name	System ID	Instance	Active	Daemon	Start Time	Time Zone	Nameserver Role	Indexserver Role
saazs-v-sap33	SEP	SHP	33	yes	yes	2025-10-26 15:10:14.160	SAST	MASTER	MASTER

Hardware Settings

Host	Physical Hostname	Manufacturer	Model	CPU Type	CPU Frequency	CPU Cores	Threads	Sockets	NUMA Nodes	Physical Memory [GB]	Allocation Limit [GB]	Swap Space [GB]
saazs-v-sap33	saazs-v-sap33	Microsoft Corporation	Virtual Machine	Intel(R) Xeon(R) Platinum 8280M CPU @ 2.70GHz	2.693	32	64	2	2	503,9	484,2	0,0

Operating System Details

Host	Operating System PPMS Name	Operating System Version	Operating System Kernel	NOFILES Limit	OPEN_FILE Limit
saazs-v-sap33	LINUX_X86_64	SUSE Linux Enterprise Server 12 SP4	4.12.14-95.128-default	1.048.576	20.000.000

HANA Feature Usage

Usage	Installed / used	Additional data	SAP Note
Multitenant Database Containers (MDC)	Yes	System ID: SHP	2101244
Dynamic Tiering	No		2140959
Enterprise Performance Management Add-On (EPM MDS)	Yes		2456225
embedded liveCache	No		2593571
Streaming server	No		
Advanced Function Libraries	Yes	epmmds	
Embedded Statisticsserver active	Yes		2147247
System Replication	No		1999880
Smart Data Access (SDA)	No		2180119
Smart Data Integration (SDI)	Yes		2400022
Smart Data Streaming (SDS)	No		2367236
Persistent Memory	No		2700084
Fast Restart Option	No		2700084
Extension Node	No		2741690
Workload Classes	Yes		2222250
Native Storage Extension (NSE)	No		2775588
Multi Dimensional Expressions (MDX)	No		
Multi Dimensional Services (MDS)	No		2670064

HANA Update Information

Date	Version
25.04.2019	2.00.033.00.1535711040
25.04.2019	2.00.036.00.1547699771
23.05.2020	2.00.047.00.1586595995
20.02.2021	2.00.054.00.1611906357
21.08.2022	2.00.063.00.1655123455

17.2 SAP HANA Stability and Alerts

17.2.1 SAP HANA Alerts

 SAP HANA alerts have been issued for the monitored timeframe.

SAP HANA collects system information periodically and issues alerts of different priority levels according to predefined thresholds. These alerts can be used to monitor the performance and stability of the SAP HANA database. Possible alert priorities are:

- 1 – Information
- 2 – Low
- 3 – Medium
- 4 – High
- 5 – Statistics Server Alert

The following "Alerts" table shows SAP HANA alerts that reached at least medium priority during the monitored timeframe. It also shows how often an alert was created and the highest priority for this particular alert.

The "Recommendations" table lists recommendations for the alerts found and refers to SAP KBA Notes if available. Further details and recommendations for SAP HANA alerts are available in the relevant sections of the report.

Alerts

Alert ID	Alert	No. of Occurrences	Highest Rating
43	Determines what percentage of its effective allocation limit a service is using.	5.619	4
20	Determines the growth rate of non-partitioned columns tables.	62	4

Alert ID	Alert	No. of Occurrences	Highest Rating
38	Determines whether or not the most recent log backups for services and volumes were successful.	37	4
65	Determines whether or not the most recent log backup terminates in the given time.	9	3
62	Identifies database users whose password is due to expire in line with the configured password policy. If the password expires, the user will be locked. If the user in question is a technical user, this may impact application availability. It is recommended that you disable the password lifetime check of technical users so that their password never expires (ALTER USER <username> DISABLE PASSWORD LIFETIME).	8	3
55	Determines how many columns in columnstore tables have been unloaded from memory. This can indicate performance issues.	4	3

Recommendations

Alert ID	General Recommendation	KBA
20	Consider partitioning the table. See SAP Note 1910140. For details please refer to the chapter "Size and Growth".	1910140
38	Investigate why the log backup failed and resolve the problem. See SAP Note 1900788. For details please refer to the chapter "Administration".	1900788
43	Check for services that consume a lot of memory. See SAP Note 1900257.	1900257 , 1840954
55	Check sizing with respect to data distribution. See SAP Note 1977207. For details please refer to the chapter "SAP HANA Resource Consumption".	
62	Change the password of the database user. See SAP Note 2082406.	2082406
65	Investigate why the log backup runs for too long, and resolve the issue. See SAP Note 2081845.	

Recommendation: Monitor SAP HANA alerts in the system closely to get an overview of the SAP HANA system status. React to warnings and problems visible in the alerts in due time. If you require support, open a message on component HAN-DB*. For details, refer to the [SAP HANA Administration Guide](#).

17.2.2 SAP HANA Service Restarts

	No critical issues with SAP HANA service restarts were detected.
--	--

We did not find critical issues with SAP HANA service restarts.

17.2.3 SAP HANA DB Availability

The SAP HANA DB availability was based on the availability of the index server as logged in the daemon trace file. No critical problems occurred regarding the availability of SAP HANA services.

17.3 SAP HANA Database Configuration

17.3.1 Parameter Recommendation

	Check parameter settings
--	--------------------------

Some parameters are not set as recommended, or there are parameters deviating from default values.

This table highlights the parameters that were checked with regard to their impact on system performance and stability.

Important SAP HANA Parameters

Location	Parameter	Layername	Current Value	Recommended Value	Rating	SAP Note
global.ini [communication]	tcp_backlog	SYSTEM	2048	<restore default>	!	2382421
global.ini [memorymanager]	impli_enable_reset	DATABASE	true	<restore default>	!	1999997
global.ini [resource_tracking]	enable_tracking	DATABASE	on	<restore default>	!	1999997
global.ini [resource_tracking]	memory_tracking	DATABASE	on	<restore default>	!	1999997
global.ini [resource_tracking]	service_thread_sampling_monitor_enabled	DATABASE	true	<restore default>	!	2114710
indexserver.ini [memorymanager]	huge_alignmemt_cache_target	DATABASE	10240	<restore default>	!	2953186
indexserver.ini [memorymanager]	huge_alignment_gc	DATABASE	false	<restore default>	!	2953186
indexserver.ini [sql]	hex_check_multiple_consumers	DATABASE	true	<restore default>	!	3019121
indexserver.ini [sql]	max_table_count_in_statement	DATABASE	0	<restore default>	!	1969700

Recommendation: Set the SAP HANA parameters to the recommended value in the table.

Note: The recommendation "<restore default>" is assigned if a custom parameter value is equal to the SAP HANA default and therefore not explicitly required. In that case, the default should be restored. Use the SQL command "ALTER SYSTEM ALTER CONFIGURATION ('<filename>', '<layername>') UNSET ('<section>', '<parameter name>')". See SAP Note [2186744](#) for details.

Be aware that for a proper tenant DB parameter setting, the parameters configured on the system DB side must also be double-checked. Otherwise, critical parameters can be set in the system DB that appear as default values on the tenant side. Default values are only reported by the parameter check if an explicit recommendation exists, therefore, critical settings can be missed by focusing only on the tenant DB parameter check.

The parameters in the table below deviate from the default value.

This may affect performance and system stability. Check why these parameters have been modified and whether they should be reset to the default values.

Note that parameters for which a custom value has been configured cannot be changed automatically with new HANA revisions.

SAP HANA Parameters deviating from default

Location	Parameter	Layername	Default Value	Current Value
diserver.ini [communication]	listenport	SYSTEM		3\$(SAPSYSTEM)05
docstore.ini [jwt_identity_provider]	issuer	DATABASE		hana://saazs-v-sap33/SHP/SEP
docstore.ini [numa]	table_location_salt	DATABASE		48271
dpserver.ini [jwt_identity_provider]	issuer	DATABASE		hana://saazs-v-sap33/SHP/SEP
dpserver.ini [numa]	table_location_salt	DATABASE		48271
global.ini [backup]	backint_response_timeout	DATABASE		7200
global.ini [backup]	catalog_backup_using_backint	DATABASE		true
global.ini [backup]	enable_accumulated_catalog_backup	DATABASE		false
global.ini [backup]	enable_log_backup_compression	DATABASE		false
global.ini [backup]	log_backup_interval_mode	DATABASE		service
global.ini [backup]	log_backup_using_backint	DATABASE		true
global.ini [backup]	parallel_data_backup_backint_channels	DATABASE		1

Location	Parameter	Layername	Default Value	Current Value
global.ini [ldap]	sslminprotocolversion	SYSTEM		TLS10
indexserver.ini [dynamic_result_cache]	enable_implicit_match	DATABASE		true
indexserver.ini [numa]	table_location_salt	DATABASE		48271
indexserver.ini [repository]	enable_repository	SYSTEM		true
indexserver.ini [sqlscript]	enable_builtin_procedure_get_objects_in_ddl_statement	DATABASE		true
xsengine.ini [httpserver]	embedded	SYSTEM		true
xsengine.ini [httpserver]	maxthreads	SYSTEM		10
xsengine.ini [httpserver]	workerpoolsize	SYSTEM		5
xsengine.ini [jwt_identity_provider]	issuer	DATABASE		hana://saazs-v-sap33/SHP/SEP
xsengine.ini [numa]	table_location_salt	DATABASE		48271
xsengine.ini [scheduler]	enabled	DATABASE		true

17.3.2 SAP HANA Workload Management

 SAP HANA workload parameters are set in the recommended range.

Workload management in SAP HANA allows you to balance and manage all workload types for optimal throughput and response times. The available workload management parameters limit resource consumption (e.g. CPU, threads, memory) for certain operations. The recommended values depend on available memory resources and on the number of CPU threads of the database server (also referred to as number of logical CPUs). For general information, refer to SAP Note [2222250](#) (FAQ: SAP HANA Workload Management).

If the current value deviates from the default, we check whether the current value is within the interval specified by the minimum and maximum formula.

We were not able to determine the complete SAP HANA landscape. The recommendations below are only valid if you have one tenant.

Location	Parameter	Layername	Current Value	Recommended Value
global.ini [execution]	default_statement_concurrency_limit	DATABASE	16	<between 6 and 32>
global.ini [memorymanager]	statement_memory_limit	SYSTEM	48	<between 30 and 140>
global.ini [persistence]	max_gc_parallelity	DATABASE	32	32
indexserver.ini [optimize_compression]	row_order_optimizer_threads	DATABASE	16	<between 6 and 16>
indexserver.ini [parallel]	tables_preloaded_in_parallel	DEFAULT	6	<between 5 and 6>

17.3.3 Disk Configuration

 There are no disk configuration issues.

Disk ID	Device ID	File system	Host	Path	Usage
2	510919	xfs	saazs-v-sap33	/usr/sap/SHP/HDB33/backup/data/	DATA_BACKUP
3	828981	xfs	saazs-v-sap33	/hana/log/SHP/	LOG
4	510919	xfs	saazs-v-sap33	/usr/sap/SHP/HDB33/backup/log/	LOG_BACKUP+CATALOG_BACKUP
5	510919	xfs	saazs-v-sap33	/usr/sap/SHP/HDB33/saazs-v-sap33/	TRACE
1	639307	xfs	saazs-v-sap33	/hana/data/SHP/	DATA

There are no disk configuration issues. Data and log data is stored on separate physical devices.

17.4 Size and Growth

Monitoring the size and growth of the HANA database is crucial for system stability and performance. In terms of stability, the growth on disk is shown. In terms of performance, the size of row and column tables as well as the size of delta areas in column tables are analyzed.

17.4.1 Disk Usage

	Percentage of free disk space < 20%
--	-------------------------------------

The table below shows the disk occupancy with respect to the partitions and their usage types. If the percentage of free disk space falls below 10%, an intermediate action has to be performed. Otherwise, there is a risk of standstill in the SAP HANA database.

Disk Space

Host	Available Disk Space [GB]	Used Disk Space [GB]	Percentage of free Disk Space	Usage Types	File system	Rating
saazs-v-sap33	2.099,00	1.691,00	19,00	DATA	xfs	
saazs-v-sap33	461,00	79,00	83,00	LOG	xfs	
saazs-v-sap33	512,00	47,00	91,00	CATALOG_BA CKUP+DATA_ BACKUP+LOG _BACKUP+TRACE	xfs	

For one or more volumes, the usage exceeds 80% of the available capacity.

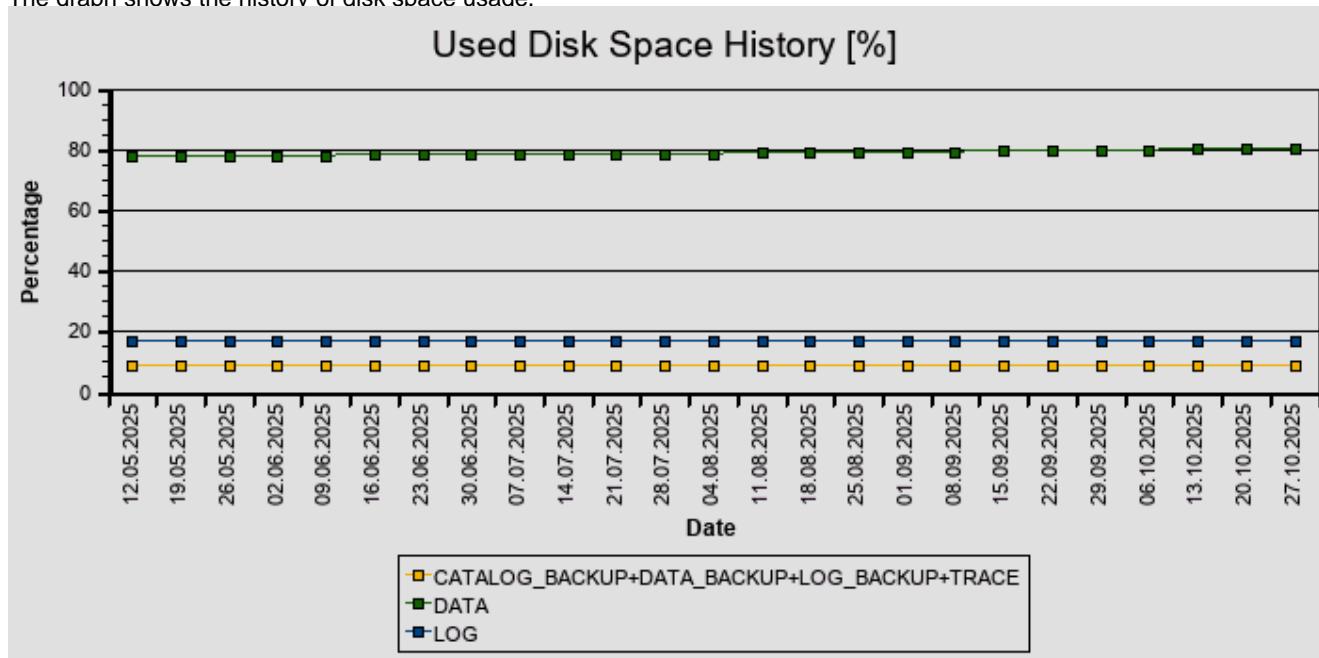
Recommendation: Ensure that you are providing sufficient disk resources to your SAP HANA system.

Delete/archive unnecessary files or increase disk capacity if required.

DATA When the disk space for data volumes runs full, the database is suspended. The database stops and can no longer be operated. A disk-full event must be resolved before the database can resume. Space on the data volumes has to be freed up or the disk space has to be expanded.

Check whether the database or additional components caused the high disk usage. Move or delete any files that are not needed, or add additional disk space.

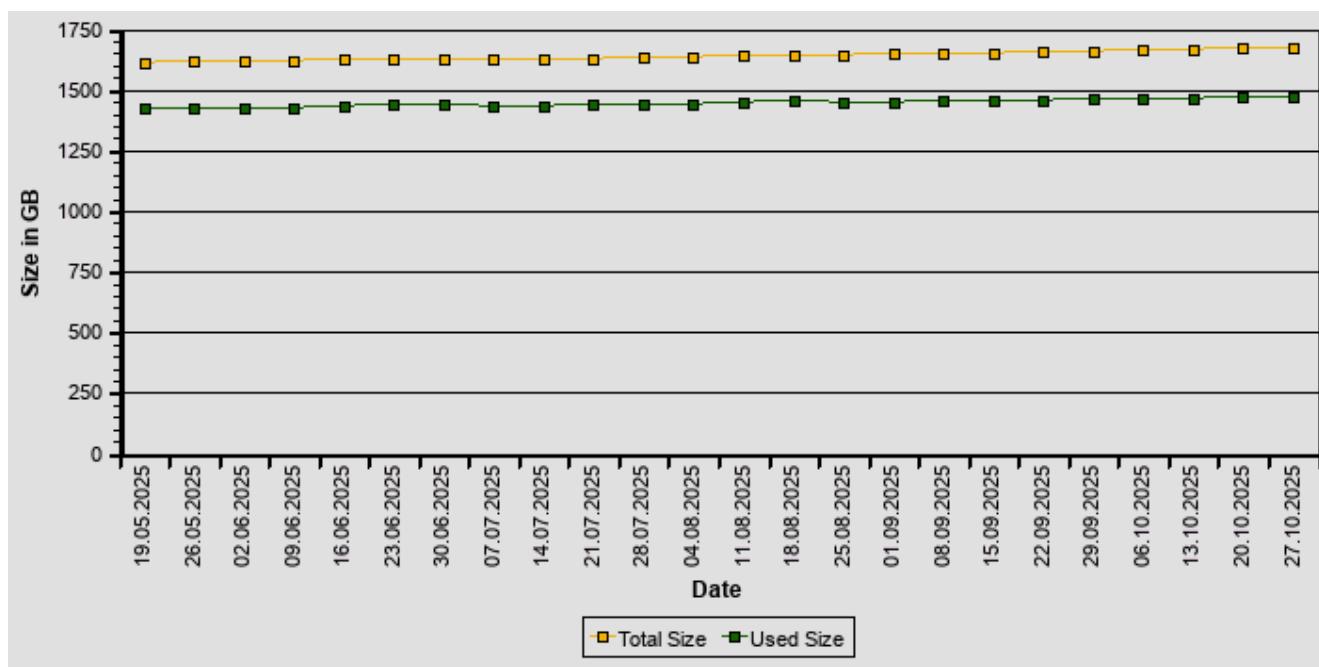
The graph shows the history of disk space usage.



17.4.2 Database Growth

The graph shows the database size and growth based on the size of data volumes.

Total Size: Amount of data allocated by SAP HANA database on data volumes. Used Size: Amount of used data by SAP HANA database on data volumes.



To access the database growth chart in SAP EarlyWatch Alert Workspace, click [here](#).

17.4.3 Tables and Indexes

The table below displays the number of column and row tables together with their indexes.

Tables and Indexes

Objects	Number
Column Tables	132.050
Indexes of Column Tables	137.520
Row Tables	
Indexes of Row Tables	834

For some use cases in SAP CRM / ERP / SCM on SAP HANA, it can still be beneficial to use secondary indexes. This is especially true for highly selective queries on non-primary key fields. For more information, see SAP Note 1794297 (Secondary Indexes for the Business Suite on SAP HANA). This Note has three reports (ZHDB_INDEX_ANALYZE, ZHDB_INDEX_CREATE, and ZHDB_INDEX_CHECK) to analyze and create the necessary indexes.

17.4.4 Size of Database Schemas

The following table lists the size of schemas in the SAP HANA database.

Size of HANA schemas

Host	Schema name	Size in MB	Store type
saazs-v-sap33	SAPHANADB	342.592	Column store
saazs-v-sap33	_SYS_REPO	1.001	Column store
saazs-v-sap33	_SYS_STATISTICS	698	Column store
saazs-v-sap33	_SYS BI	15	Column store
saazs-v-sap33	_SYS_RT	4	Column store
saazs-v-sap33	_SYS_TASK	2	Column store
saazs-v-sap33	SAPS4H_RT_7937#DI	2	Column store
saazs-v-sap33	_SYS_XS	2	Column store
saazs-v-sap33	_SYS_DI	2	Column store
saazs-v-sap33	FDT_TEST_CONTAINER_GEN_7454#DI	1	Column store

Host	Schema name	Size in MB	Store type
saazs-v-sap33	SAP_XS_LM	1	Column store
saazs-v-sap33	FDT_CP_BR_SOURCE_5054#DI	1	Column store
saazs-v-sap33	SAPS4H_RT_GEN_3134#DI	1	Column store
saazs-v-sap33	SAPESH_RT_GEN_6188#DI	1	Column store
saazs-v-sap33	SAP_XS_LM_PE	1	Column store
saazs-v-sap33	SAPHANADB	14.171	Row store
saazs-v-sap33	SYS	1.384	Row store
saazs-v-sap33	SAPS4H_RT_7937#DI	5	Row store

17.4.5 SAP HANA Row Store

17.4.5.1 Row Store Size

 The allocated row store size is below the technical limit.

The table below shows the size of the SAP HANA row store. The row store contains mainly SAP Basis and application statistics tables. The rating indicates whether the technical size limit will be reached in the near future.

The size of the row store generally has a direct impact on the start-up time of the SAP HANA database. This is relevant for system start-up and for recovery. We recommend that you keep the row store at an optimum size by performing housekeeping for large Basis tables (SAP Note 2388483) and, where feasible, moving large application tables from row store to column store.

Row Store Size

Host	Port	Allocated Size [MB]	Rating
saazs-v-sap33	33340	20.032	

17.4.5.2 Row Store Fragmentation

 The fragmentation of the row store is not critical.

The following table shows the allocated size and free page ratio (fragmentation) of the row store. The term 'fragmentation' refers to unused space in the SAP HANA row store that cannot be used for technical reasons. High fragmentation can cause performance issues and longer backup times. Row store reorganization is generally recommended if the allocated row store size is larger than 10 GB and the free page ratio is greater than 30%.

Row Store Size and Fragmentation

Host	Port	Allocated Size [MB]	Free Size [MB]	Free Page Ratio [%]	Row Store Reorganization Recommended
saazs-v-sap33	33340	20.032	4.795	24	No

17.4.5.3 Largest Row Store Tables

The table lists the largest tables according to total disk size. The size of the memory and the number and type of LoBs are also shown. The LOBs are marked with either "H" (Hybrid) or "M" (Memory) and the number of the existing LoB columns.

Schema Name	Table Name	Total Disk Size (MB)	Size in Memory (MB)	Max Size in Memory (MB)	Nr. of Records	LOB Size (MB)	LOB Details
SAPHANADB	TST03	173.284	937	1.100	14.716.953	172.185	H1
SAPHANADB	TRFCQDATA	9.269	8.377	9.269	4.688.731	0	0
SAPHANADB	SXMSCLUR	3.676	156	167	458.304	3.509	H1
SAPHANADB	DDNTF	3.407	349	412	1.429.808	2.996	H1
SAPHANADB	FPLAYOUTT	1.948	1	1	7.107	1.948	H2
SAPHANADB	SXMSCLUP	1.773	36	37	373.424	1.735	H1
SAPHANADB	SWNCMONI	1.315	1.180	1.315	421.777	0	0
SAPHANADB	DDNTT	1.094	489	551	1.602.522	543	H1

Schema Name	Table Name	Total Disk Size (MB)	Size in Memory (MB)	Max Size in Memory (MB)	Nr. of Records	LOB Size (MB)	LOB Details
SAPHANADB	FPCONTEXT	746	1	2	5.070	744	H1
SAPHANADB	ENHHEADER	547	2	3	20.167	544	H1

For large SAP Basis tables, remove obsolete data regularly according to SAP Note [2388483](#).

17.4.6 SAP HANA Column Store

17.4.6.1 Largest Column Tables (Size)

The table lists the largest tables according to total disk size. The size of the memory and the number and type of LoBs are also shown. The LOBs are marked with either "H" (Hybrid) or "M" (Memory) and the number of the existing LoB columns.

Schema Name	Table Name	Nr. of Partitions	Total Disk Size (MB)	Size in Memory (MB)	Max. Size in Memory (MB)	LOB Size (MB)	LOB Details
SAPHANADB	SOFFCONT1	1	822.931	1.733	1.876	821.036	H1
SAPHANADB	EDID4	1	111.533	108.743	112.351	0	0
SAPHANADB	FQM_FLOW	1	62.799	31.611	63.566	0	0
SAPHANADB	SWWLOGHIST	1	37.191	36.987	39.726	0	0
SAPHANADB	SWWCNTP0	1	27.679	27.417	27.803	0	0
SAPHANADB	BALDAT	1	15.399	15.355	15.402	0	0
SAPHANADB	GRACSDODREPDATA	1	11.352	1	1	11.350	H1
SAPHANADB	CDPOS	1	9.672	9.065	9.696	0	0
SAPHANADB	CMM_VLOGP	1	9.555	9.677	9.676	0	H2
SAPHANADB	REPOSRC	1	9.263	1.842	1.842	7.415	H1

For large SAP Basis tables, remove obsolete data regularly according to SAP Note [2388483](#).

17.4.6.2 Largest Non-partitioned Column Tables (Records)

	The number of records in column-based table partitions is not critical.
--	---

The table below shows the largest non-partitioned column tables in terms of the number of records.

Largest Non-partitioned Column Tables According To Records

Schema Name	Table Name	Records (Total)	Rating
SAPHANADB	FQM_FLOW	973.189.470	✓
SAPHANADB	SWWLOGHIST	481.191.755	✓
SAPHANADB	EDID4	233.675.657	✓
SAPHANADB	/MRSS/D_CHG_HIST	187.326.903	✓
SAPHANADB	CDPOS	141.944.273	✓
SAPHANADB	CMM_VLOGP_CONV_C	118.706.247	✓
SAPHANADB	CMM_VLOGP	89.744.633	✓
SAPHANADB	D010TAB	88.219.928	✓
SAPHANADB	JCDS	85.545.185	✓
SAPHANADB	SWW_CONT	83.433.660	✓

The table partitions can handle the number of the records.

17.4.6.3 Largest Column Table Partitions (Records)

	The number of records in column-based table partitions is not critical.
--	---

The table below lists the largest column table partitions in the productive schema in terms of number of entries.

Largest Partitioned Column Tables According To Records

Schema Name	Table Name	Partition ID	Records (Total)	Rating
SAPHANADB	/BIC/APSA011	2	10.160.683	✓
SAPHANADB	/BIC/APSA011	3	10.092.140	✓
SAPHANADB	/BIC/APSA011	8	10.067.513	✓
SAPHANADB	/BIC/APSA011	1	10.067.307	✓
SAPHANADB	/BIC/APSA011	5	10.062.396	✓
SAPHANADB	/BIC/APSA011	6	10.053.001	✓
SAPHANADB	/BIC/APSA011	7	10.040.259	✓
SAPHANADB	/BIC/APSA011	10	10.023.530	✓
SAPHANADB	/BIC/APSA011	4	10.018.951	✓
SAPHANADB	/BIC/APSA011	9	10.015.068	✓

The table partitions can handle the number of the records.

17.5 SAP HANA Resource Consumption

The following table shows an overview of the resource consumption of the SAP HANA instances in the monitored timeframe.

HANA Instances Overview

HANA Instance	Role	CPU Usage	Memory Usage of HANA server	Memory Usage of SAP HANA Instance	Memory Allocation of Tables	Memory Consumption Indexserver
saazs-v-sap33_SEP_33	MASTER	✓	✓	⚡	⚡	⚡

Some of the SAP HANA hardware resources are not sufficient for the current workload. This may lead to performance and stability issues. Details of resource consumption issues are listed in the sections below.

17.5.1 Memory Utilization Overview for SAP HANA Instances

The following table shows the memory usage of the SAP HANA database. The table displays weekly average values for the SAP HANA memory areas:

'Memory usage of the HANA database' corresponds to the memory used by the entire SAP HANA database (comparable to 'DB used memory' in SAP HANA studio).

'Global allocation limit' is the limit for the overall memory usage of the SAP HANA instance defined by the global_allocation_limit parameter.

'Row store size' shows the average size of row store tables in SAP HANA memory.

'Column store size' shows the average size of column store tables in SAP HANA memory.

The main SAP HANA workload is handled by the SAP HANA index server. The average 'Memory usage of the indexserver' and the 'Effective allocation limit' of the index server are listed.

More detailed information about memory shortage on an SAP HANA instance is provided in the sections below.

Avg. memory usage by SAP HANA Instances

HANA instance	Memory usage of SAP HANA [GB]	Global allocation limit [GB]	Row store size [GB]	Column store size [GB]	Memory usage of indexserver [GB]	Effective allocation limit of indexserver [GB]
saazs-v-sap33_SEP_33	421	484	23	317	424	468

17.5.2 SAP HANA Instance saazs-v-sap33_SEP_33



17.5.2.1 CPU Usage of SAP HANA Server

No CPU bottlenecks were detected.

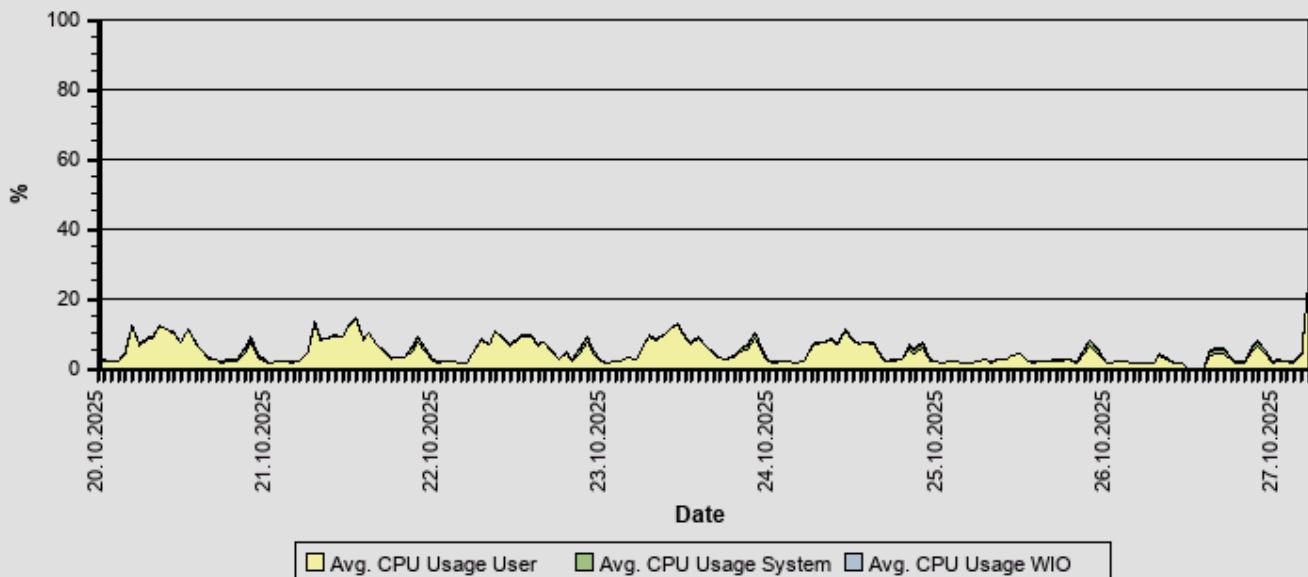
To access the CPU usage charts in SAP EarlyWatch Alert Workspace, click [here](#).

The graphics below show the average and maximum CPU consumption per hour.

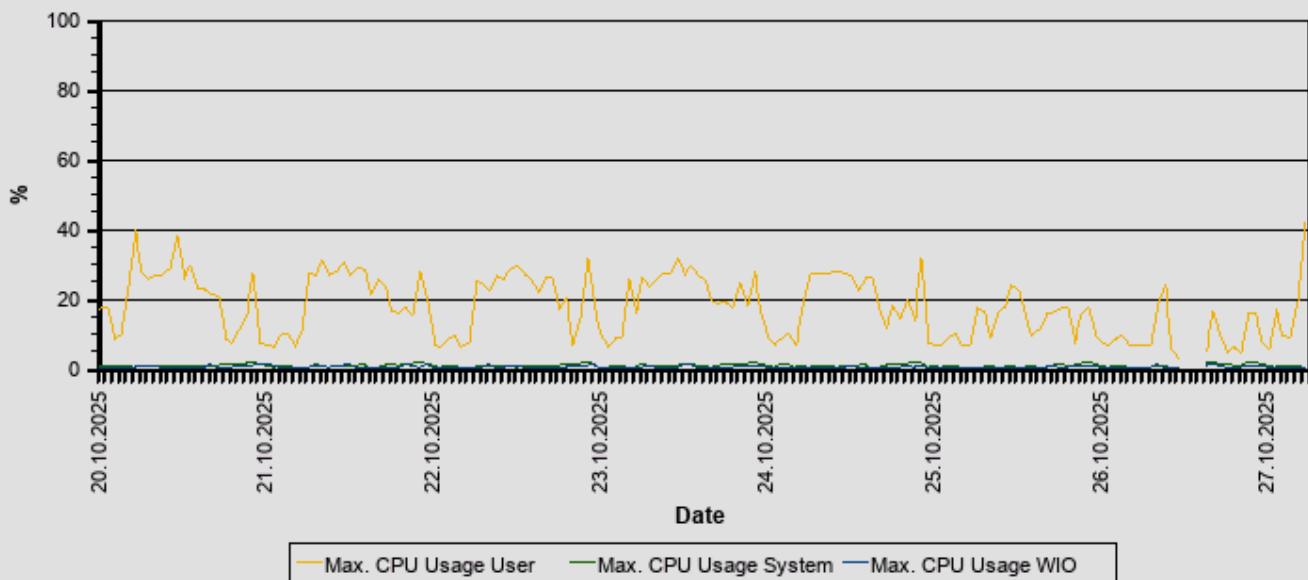
The data is obtained from the statistics tables of the SAP HANA database.

If the average CPU consumption exceeds 75%, a YELLOW rating is assigned. If it exceeds the threshold of 90%, a RED rating is assigned.

Average CPU Usage (Hourly Aggregates)



Maximum CPU Usage (Hourly Aggregates)



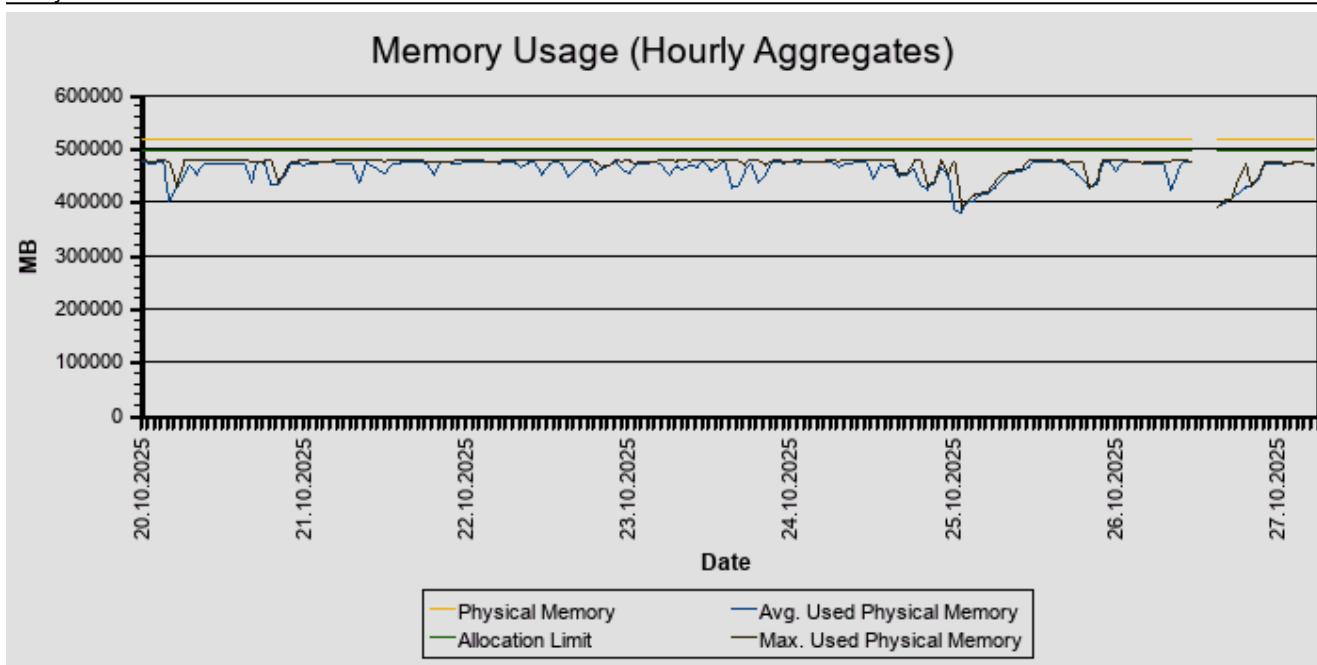
We did not find any critical issues in this area.

17.5.2.2 Memory Usage of SAP HANA Server

No memory bottlenecks were detected.

To access the memory usage chart in SAP EarlyWatch Alert Workspace, click [here](#).

The following graph shows the physical memory usage during the monitored timeframe. The average and maximum memory used by SAP HANA (and possibly other processes) is compared with the available physical memory of the SAP HANA server.



No critical issues were detected in this area.

17.5.2.3 Memory Usage of SAP HANA Instance

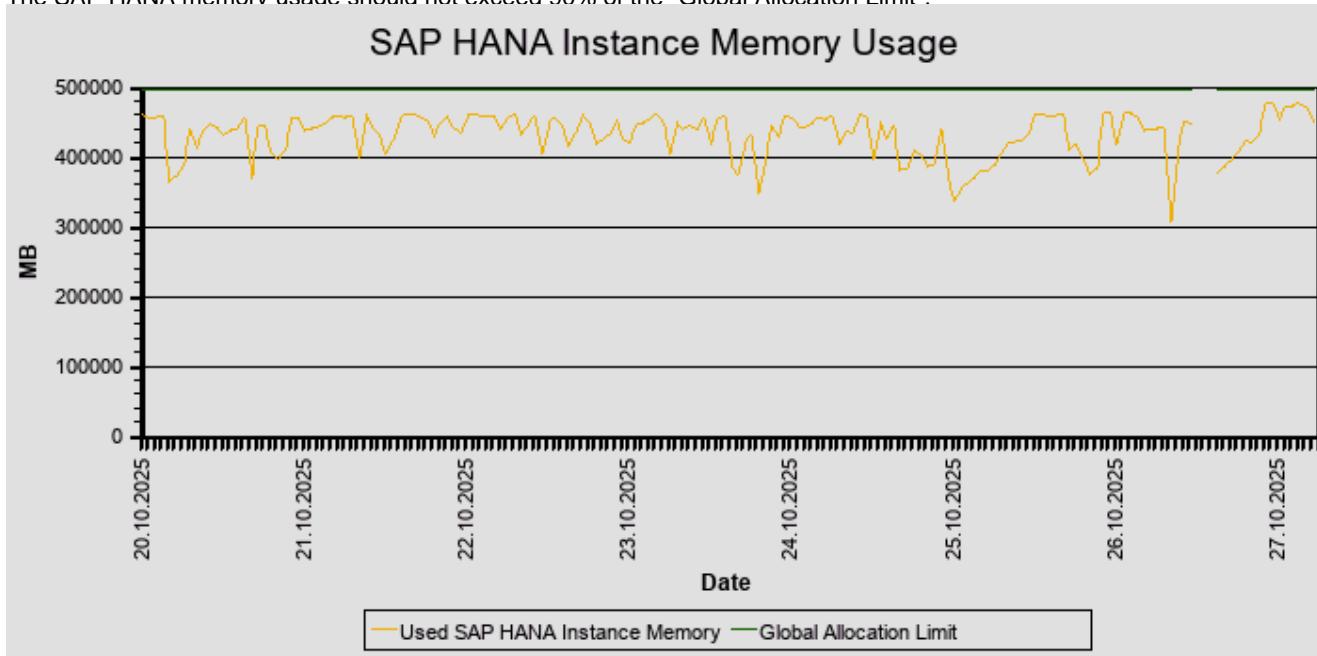
●●●	The memory consumption of the SAP HANA instance exceeds 90% of the global allocation limit.
--------------------------------------	---

To access the memory usage chart in SAP EarlyWatch Alert Workspace, click [here](#).

The following graph shows the memory usage of the SAP HANA database instance during the monitored timeframe. The memory used by SAP HANA on the SAP HANA host is compared with the global allocation limit of the SAP HANA instance.

If the "Used SAP HANA Instance Memory" approaches the "Global Allocation Limit", data has to be unloaded from SAP HANA memory. This may affect the overall performance and stability of the SAP HANA database.

The SAP HANA memory usage should not exceed 90% of the "Global Allocation Limit".

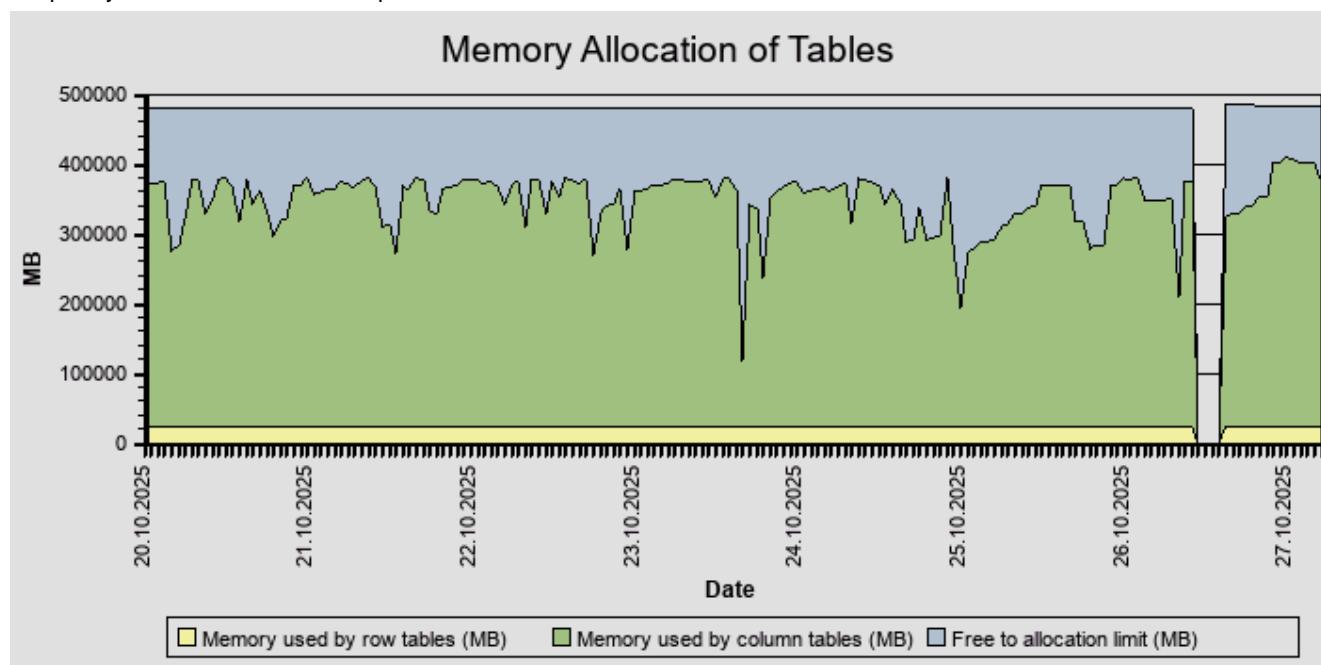


The memory consumption of the SAP HANA instance exceeds 90% of the global allocation limit. Problems in terms of the performance and stability of SAP HANA are expected with this high level of memory consumption.

17.5.2.4 Memory Allocation of Tables

●●●	The memory usage of tables exceeds 70% of the global allocation limit of the SAP HANA instance.
--------------------------------------	---

This graphic shows the average memory consumption for storing row and column tables, and the memory available for temporary calculations and other operations.



From a SAP HANA sizing perspective, it is recommended that the memory usage for SAP HANA tables remains below 50% of the global allocation limit.

If the memory usage for SAP HANA tables reaches 70% of the global allocation limit, the remaining memory resources for temporary calculations may be too small.

We have evaluated the amount of memory used for database tables in comparison to the memory available for temporary computations. The memory left for working operations is insufficient. Revise the sizing of the SAP HANA server and contact your hardware partner if necessary. For more information about SAP HANA memory consumption and monitoring, see the SAP HANA Administration Guide, chapter "Monitoring SAP HANA systems" at http://help.sap.com/hana/SAP_HANA_Administration_Guide_en.pdf.

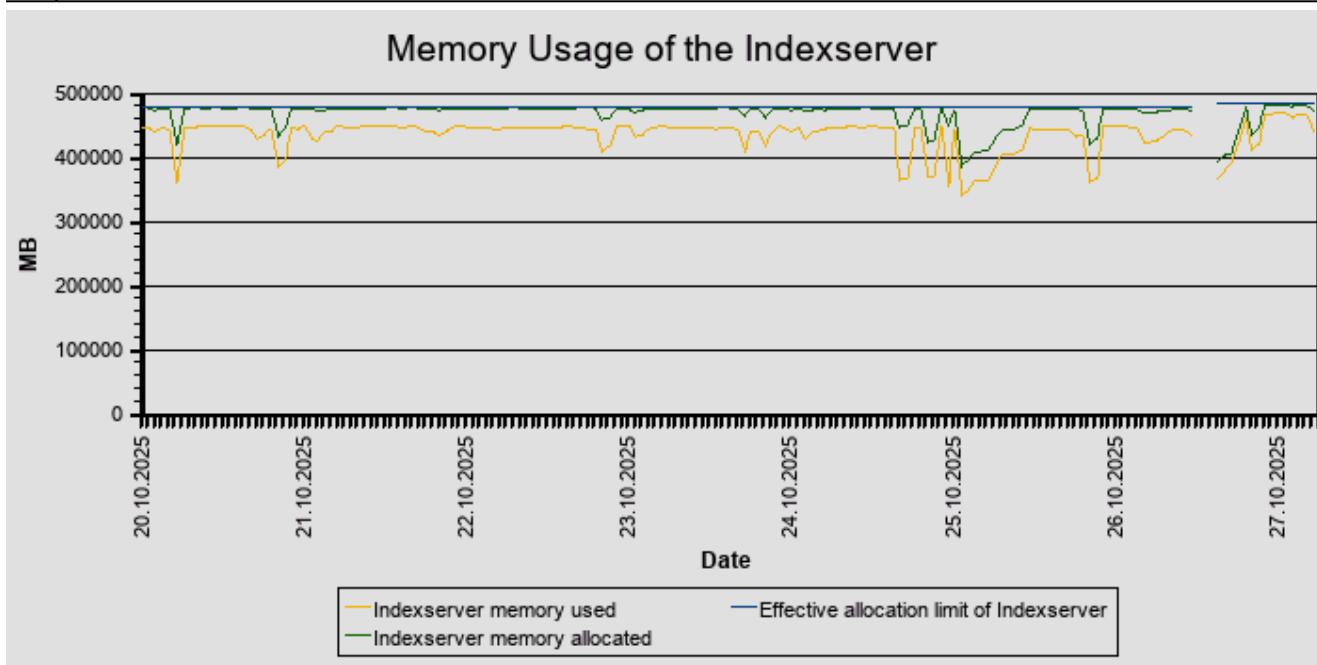
17.5.2.5 Memory Consumption of Indexserver

The memory consumption of the index server was critical.

To access the memory usage chart in SAP EarlyWatch Alert Workspace, click [here](#).

The index server is the most critical component with regard to SAP HANA memory consumption and must be monitored regularly. If the memory consumption of the index server approaches the effective allocation limit, table unloads or even out-of-memory dumps may occur.

The following graph shows the memory consumption of the index server in relation to its effective allocation limit.



The memory usage of the index server was very close to its effective allocation limit.

This is due either to the large amount/size of loaded tables or to query processing in the SAP HANA database consuming too much memory.

Recommendation: Analyze the reason for high memory consumption of the index server. Either reduce the memory consumption or revise the sizing of the SAP HANA database.

17.5.2.5.1 SAP HANA Heap Consumption

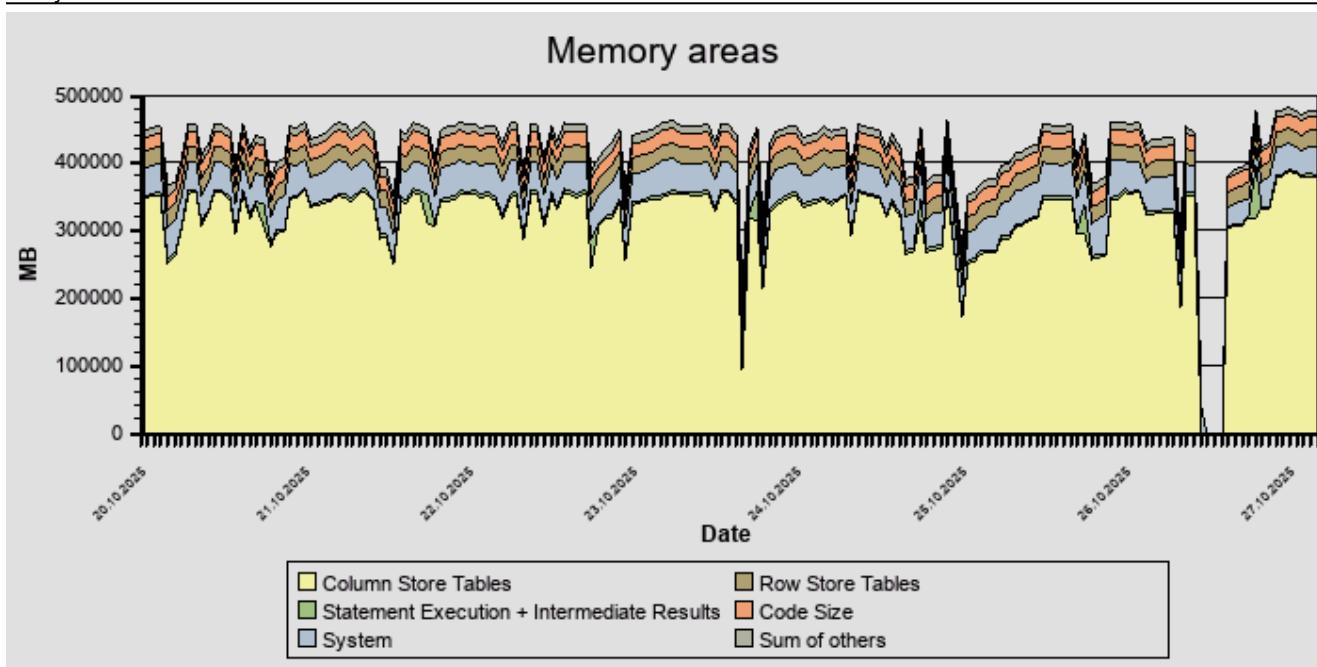
In the table below, the largest heap allocators are shown for the two periods with highest memory consumption during the previous week. The heap allocator sizes are average values per hour.

Date	Time	Category	Component	Size (MB)
27.10.2025	0	Pool/ColumnStore/Main/Dictionary/RoDict	Column Store Tables	213029
27.10.2025	0	Pool/ColumnStore/Main/Index/Single	Column Store Tables	37949
27.10.2025	0	Pool/ColumnStore/Main/Uncompressed	Column Store Tables	32042
27.10.2025	0	Pool/ColumnStore/Main/Compressed/Indirect	Column Store Tables	26659
27.10.2025	0	Pool/ColumnStore/Main/Rowid	Column Store Tables	18860
27.10.2025	0	Pool/PersistenceManager/UnifiedTableContainer	Column Store Tables	9914
27.10.2025	0	Pool/ColumnStore/Main/Dictionary/ValueDict	Column Store Tables	8758
27.10.2025	1	Pool/ColumnStore/Main/Dictionary/RoDict	Column Store Tables	236143
27.10.2025	1	Pool/ColumnStore/Main/Index/Single	Column Store Tables	36799
27.10.2025	1	Pool/ColumnStore/Main/Uncompressed	Column Store Tables	31483
27.10.2025	1	Pool/ColumnStore/Main/Compressed/Indirect	Column Store Tables	26495
27.10.2025	1	Pool/ColumnStore/Main/Rowid	Column Store Tables	10810
27.10.2025	1	Pool/PersistenceManager/UnifiedTableContainer	Column Store Tables	9941
27.10.2025	1	Pool/ColumnStore/Main/Dictionary/ValueDict	Column Store Tables	8736

We observed a memory bottleneck in the previous week, which might be caused by temporary large heap allocators belonging to different memory areas. SAP Note [1999997](#) describes an overview of the heap allocators, as well as possible actions.

17.5.2.6 Main Memory Areas of SAP HANA

The following graph shows the top 5 consumers of SAP HANA memory. Additional allocators are summed up in the "Others" category. Refer to SAP Note [1999997](#) - FAQ: SAP HANA Memory for a more detailed explanation of SAP HANA memory allocation.

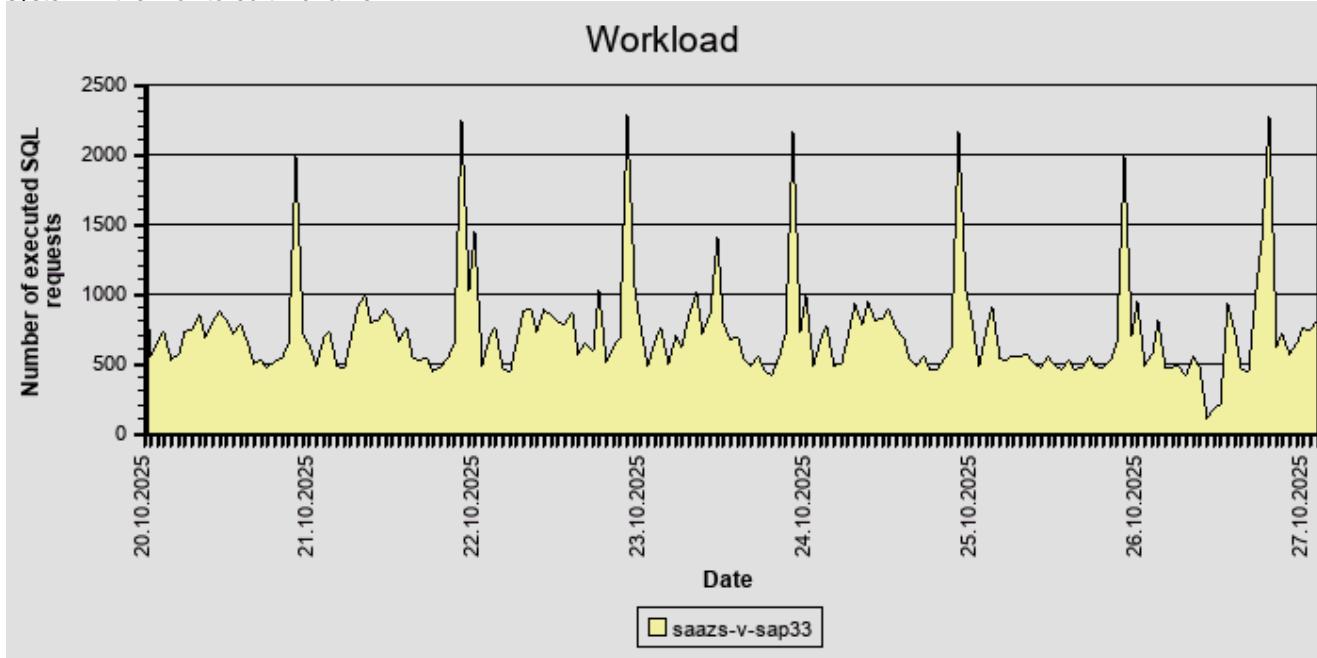


To access the memory usage chart in SAP EarlyWatch Alert Workspace, click [here](#).

17.6 SAP HANA Workload and Performance

17.6.1 SAP HANA Workload

The table shows the number of SQL requests executed per second and per node (maximum 23 nodes) in your SAP HANA system in the monitored timeframe.



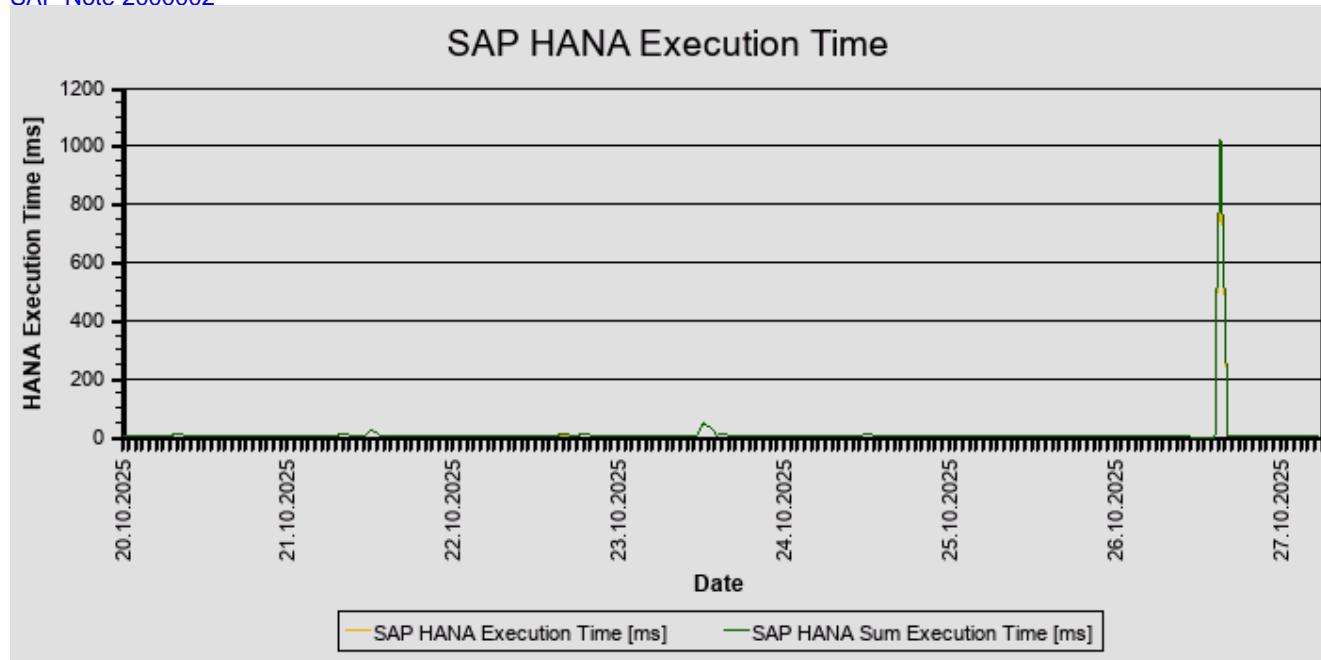
17.6.2 SAP HANA Response Times

The following graph shows the execution times of the SAP HANA system in the monitored timeframe aggregated from all SAP HANA nodes. The displayed "Execution Time" is the hourly average execution time obtained by the historized SQL Plan Cache.

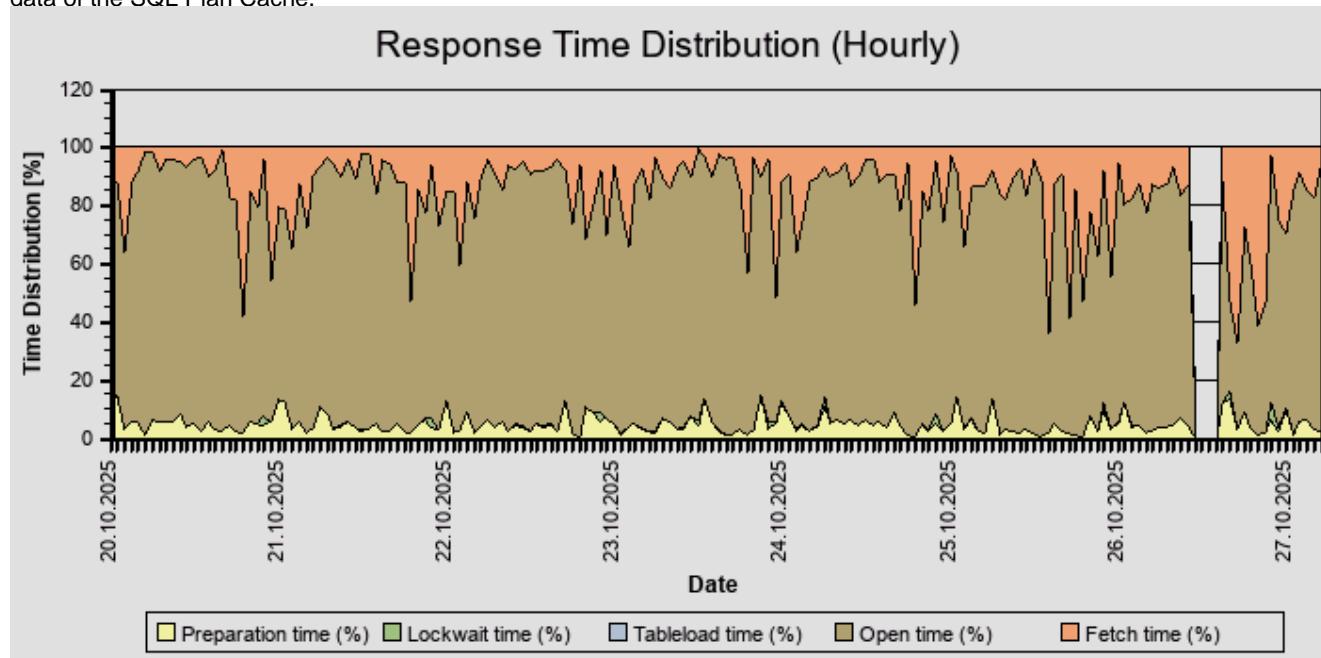
Since the "Execution Time" in the SQL Plan Cache does not contain all response time parts, we also show in the graph below the "Sum Execution Time", which is the sum of the "Execution Time" plus preparation time and table load time. See

also

[SAP Note 2000002](#)



The following graph shows the response time distribution of the SAP HANA system. The data is collected from the history data of the SQL Plan Cache.



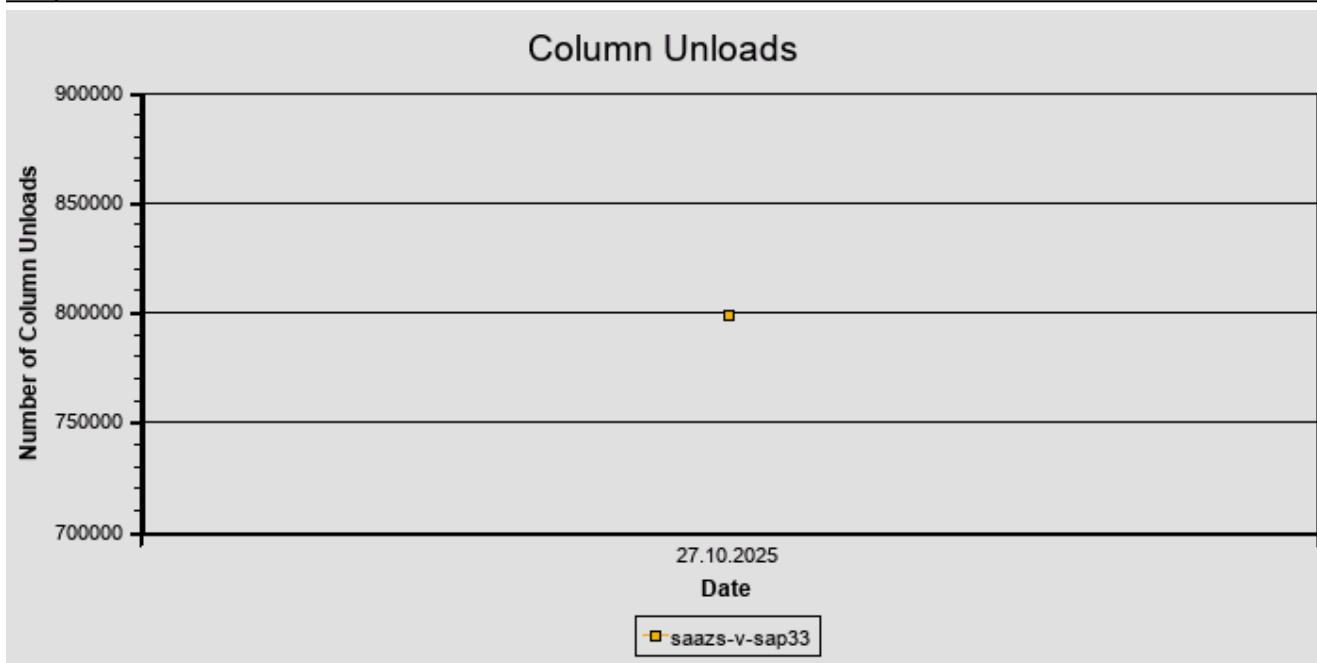
Explanation of the SAP HANA response time shares:

- Preparation time – time share for plan preparation
- Open time – time share for cursor open and select
- Fetch time – time share for cursor fetch
- Lock wait time - lock wait time share for the plan
- Table load time – time share for loading tables during plan preparation (available as of SAP HANA rev. 50)

17.6.3 SAP HANA Column Unloads

Column unloads were detected during the time period analyzed.

The following graph shows column unloads in the SAP HANA system during the monitored timeframe. It displays data from a maximum of 10 hosts.



Column unloads with reason "Low Memory" indicate that there was not sufficient SAP HANA memory available for working operations.

This can be due to a number of different reasons: Either the memory for the working space is too small or one or more expensive memory operations were occupying the complete SAP HANA memory.

The SAP HANA memory remaining for working operations is currently sufficient, but may become critical.

Recommendation: Monitor the SAP HANA memory consumption closely and identify and optimize applications with high memory consumption.

To access the long-term history of memory consumption in SAP EarlyWatch Alert Workspace, click [here](#).

17.6.4 Delta Merges

17.6.4.1 Column Tables with Largest Delta Stores

●●●	No problems with the delta size of column store tables were detected.
--	---

The separation into main and delta storage allows high compression and high write performance at the same time. Write operations are performed on the delta store and changes are transferred from the delta store to the main store asynchronously during delta merge.

The column store automatically performs a delta merge according to several technical limits that are defined by parameters.

If applications require more direct control over the merge process, the smart merge function can be used for certain tables (for example, BW prevents delta merges during data loading for performance reasons).

Largest Column Tables in terms of Delta size

Schema Name	Table Name	Partition ID	Memorysize in Main Store [MB]	Memorysize in Delta Store [MB]	Records in Delta Store	Sum of Records	Days since last Merge	Auto Merge On
SAPHANA DB	CMM_VLO GP_CONV_C	0	4.178,9	136,4	689.602	118.706.247	7	TRUE
SAPHANA DB	CMM_VLO GP	0	9.542,4	134,4	419.598	89.744.633	4	TRUE
SAPHANA DB	BALDAT	0	15.270,9	79,3	266.828	39.261.424	2	TRUE
SAPHANA DB	PRCD_ELEMENTS	0	1.029,8	58,0	346.276	32.180.043	3	TRUE
SAPHANA DB	FQM_FLOW	0	31.569,7	41,4	160.973	973.189.470	1	TRUE

Schema Name	Table Name	Partition ID	Memorysize in Main Store [MB]	Memorysize in Delta Store [MB]	Records in Delta Store	Sum of Records	Days since last Merge	Auto Merge On
SAPHANA DB	CDPOS	0	9.032,1	32,4	140.179	141.944.196	6	TRUE
SAPHANA DB	/MRSS/D_DAG_TDE	0	192,0	29,3	173.209	6.489.913	1	TRUE
SAPHANA DB	/MRSS/D_DAG_PDE	0	192,0	28,0	173.209	6.489.929	1	TRUE
SAPHANA DB	/MRSS/D_CAG(CG_U	0	8,7	27,5	158.174	4.270.005	1	TRUE
SAPHANA DB	/MRSS/D_CAG(CG_T	0	7,4	26,4	158.005	4.322.086	1	TRUE

17.6.4.2 Delta Merge Statistics

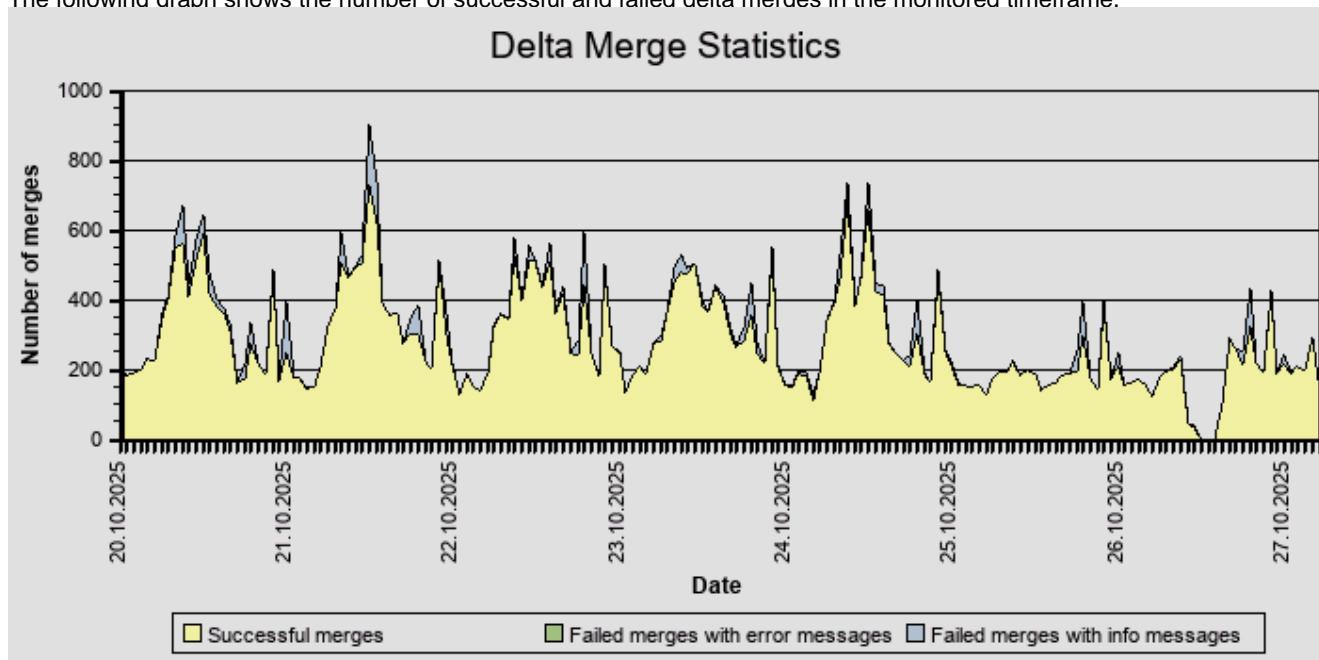
The SAP HANA database column store uses efficient compression algorithms to keep relevant application data in memory. Write operations on the compressed data are costly since they require the storage structure to be reorganized and the compression to be recalculated. Therefore, write operations in the column store do not directly modify the compressed data structure in the "main storage".

Instead, all changes are first written into a separate data structure called "delta storage" and synchronized with the main storage at a later point in time. This synchronization operation is called a delta merge.

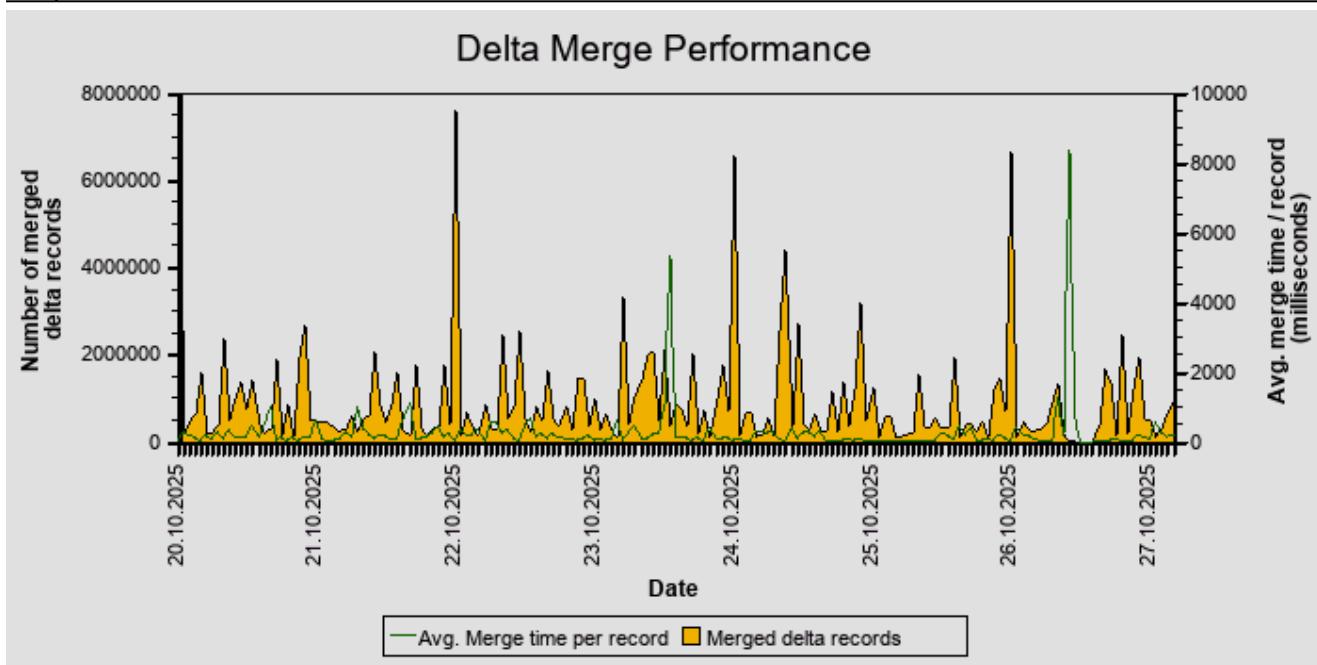
Performance issues may occur in SAP HANA if there is a large amount of data in the delta storage, because read times from delta storage are considerably slower than reads from main storage.

In addition, the merge operation on a large data volume may cause bottleneck situations, since the data to be merged is held in memory twice during the merge operation.

The following graph shows the number of successful and failed delta merges in the monitored timeframe.



The following graph shows the delta merge volume from all merge types and the average delta merge time per record in the monitored timeframe:



Note: High merge duration can be a result of a high number of records to be merged or of a high-load situation in the system.

17.7 Administration

17.7.1 Diagnosis Files

●●● The trace directory contains a high number of diagnosis files or the files occupy a lot of disk space.

During operation, the SAP HANA database service writes messages and information to log files in its trace directory. The system administrator should check these files regularly and react to error messages accordingly. A large number of files may be generated, which can take up a lot of disk space and impair performance. The following table shows the number of files contained in the trace directory.

Diagnosis Files

Server	Measured Time Period	Type	Number of Files	Total Size in MB
saazs-v-sap33	Weekly	Log	2	2.469,53
saazs-v-sap33	Weekly	Trace	74	664,61
saazs-v-sap33	Unlimited	TOTAL	798	4.804,69

We recommend that you check the content of the trace folder in the SAP HANA database installation directory on a regular basis and delete any files that are no longer required.

17.7.2 Backup and Recovery

●●● Severe issues for operating or administration in terms of backup/recovery have been detected.

17.7.2.1 Log Backup

Date	Weekday	Successful Log Backups	Unsuccessful Log Backups	Max. Single Time without Backup (min)	Sum of Time without Backup (min)
20.10.2025	Monday	771	0		
21.10.2025	Tuesday	771	0		
22.10.2025	Wednesday	771	0		
23.10.2025	Thursday	771	0		
24.10.2025	Friday	770	0		

Date	Weekday	Successful Log Backups	Unsuccessful Log Backups	Max. Single Time without Backup (min)	Sum of Time without Backup (min)
25.10.2025	Saturday	771	0		
26.10.2025	Sunday	566	537	190	190

The log backup operating appears to be critical. Frequent log backups could not be detected.

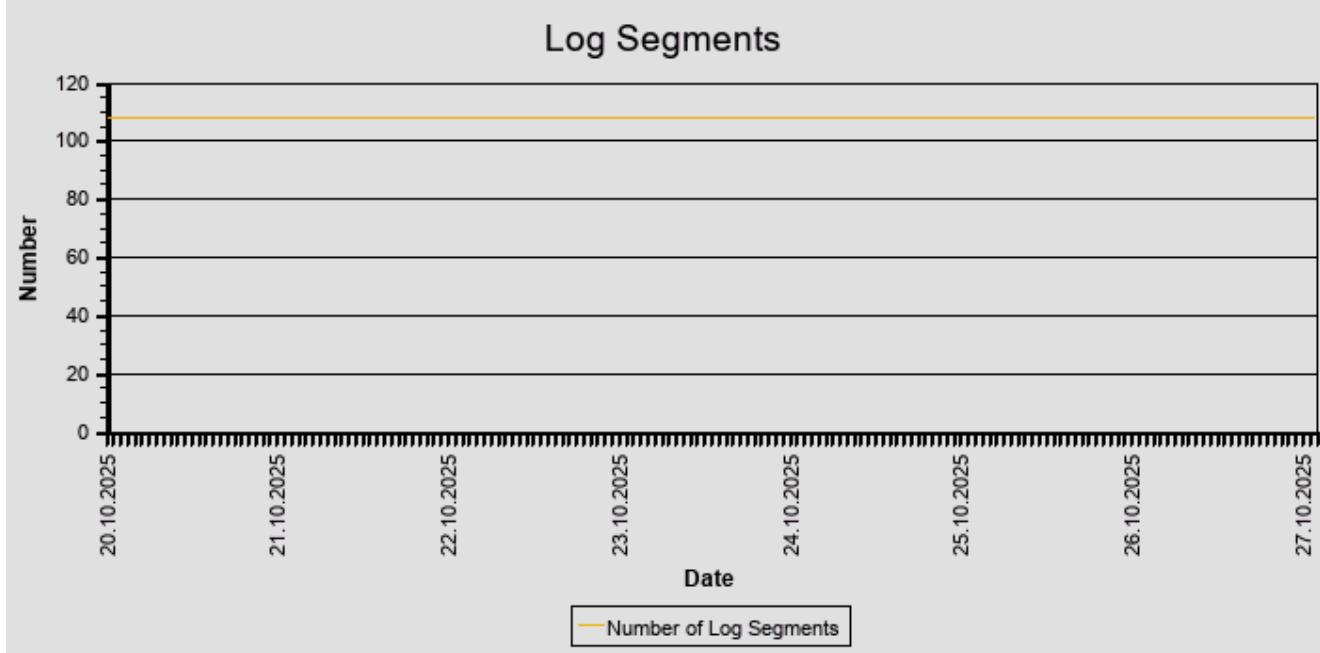
Recommendation: SAP HANA database logs should be backed up automatically by setting SAP HANA parameters correctly. For more information, see SAP Note [1642148](#) (FAQ: SAP HANA Database Backup & Recovery).

17.7.2.2 Data Backup

Date	Weekday	Successful Data Backups	Unsuccessful Data Backups
20.10.2025	Monday	2	0
21.10.2025	Tuesday	2	0
22.10.2025	Wednesday	2	0
23.10.2025	Thursday	2	0
24.10.2025	Friday	1	0
25.10.2025	Saturday	2	0
26.10.2025	Sunday	3	0

17.7.2.3 Number of Log Segments

This graph shows the number of log segments residing on your log volume.



We found no issues related to log segments.

17.7.3 License Information

	Your license is permanent and valid.
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The following table shows information about the validity of your license. The license should be permanent and valid.

License Information

System ID	Installation Number	Expiration Date	Permanent	Valid	Product Name	Product Limit
SHP	0021196845		TRUE	TRUE	SAP-HANA	512

17.7.4 Statisticsserver and Monitoring

	No issues with the statistics server were detected.
--	---

The table below shows KPIs relevant for monitoring stability with the embedded statistics server.

KPI	Current value	Rating
Migration to embedded Statisticsserver	Successful	✓
Alerts in the Statisticsserver are not scheduled in the expected timeframe.	0	✓
Number of tables not located on the master server	0	✓
Number of disabled alert collectors	0	✓
Number of disabled statistic collectors	0	✓
Collector_Global_Table_Persistence_S statistics idle	Idle	✓
Number of collectors with retention times < 42 days	0	✓
Number of Execution Counts with "0" Values in "HOST_SQL_PLAN_CACHE_BASE"	0	✓
High number of unprocessed e-Mails	28	✓
Status of Collector HOST_CS_UNLOADS	Inactive	✓
Number of relevant inactive actions	0	✓
Number of actions with unknown state	0	✓

17.8 Important SAP Notes for SAP HANA

	Important information is available in the SAP Notes below.
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The following tables list important SAP Notes for SAP HANA.

SAP Notes for SAP HANA

SAP Note	Description
1514967	SAP HANA: Central Note
2380229	SAP HANA Platform 2.0 - Central Note
2091951	Best Practice: SAP HANA Database Backup & Restore
2021789	SAP HANA Revision and Maintenance Strategy
2000003	FAQ: SAP HANA
2600030	Parameter Recommendations in SAP HANA Environments
1837308	FAQ: Technical limitations of Infoproviders and Characteristics in BW
1911180	HANA EarlyWatch Alerts (EWA) Issues
1592925	SAP HANA Database service connections
1642148	FAQ: SAP HANA Database Backup & Recovery
1664432	DBA Cockpit: SAP HANA database as remote database
1681092	Multiple SAP HANA databases on one appliance
1661202	Support for multiple applications on SAP HANA
1650394	SAP HANA DB: Partitioning and Distribution of Large Tables
1600929	SAP BW powered by SAP HANA DB: Information
1953429	SAP HANA and SAP NetWeaver AS ABAP on one Server
1761546	SAP ERP powered by SAP HANA - Optimizations
1872170	Suite on HANA and S/4 HANA sizing report
1794297	Secondary Indexes for the business suite on HANA
2044468	FAQ: SAP HANA Partitioning
2081591	FAQ: SAP HANA Table Distribution

SAP Notes for operating system

SAP Note	Description
2205917	SAP HANA DB: Recommended OS settings for SLES 12 / SLES for SAP Applications 12

18 SAP HANA SQL Statements in SEP

This section provides an overview of the "most expensive SQL statements". When possible, a recommendation is provided. A more detailed analysis of the SQL statements (including the possibility to choose different time windows) is supported by the "Self-Service SQL Statement Tuning" (see [SAP Note 1601951](#)). For general information on dealing with expensive SQL statements in SAP HANA, see [SAP Note 2000002](#) .

18.1 Data Quality

A download-based SQL statement analysis can be performed.

The following table provides information about the data in the SDCC download. For details, see [SAP Note 2344673](#).

Observation	Comment	Rating
Version of ST-PI function module: 40	This is the most recent version	●●●

18.2 Top Statements (Elapsed Time)

This section shows the top non-internal statements according to "Total Elapsed Time". The "Total Elapsed Time" is the sum of the "Total Execution Time" and the "Total Preparation Time" from the SQL PLAN CACHE. It has a direct impact on the response time of the application calling the statement.

See the following table for details of the selection:

Database Start	26.10.2025 -- 15:10:28
Data Collection	27.10.2025 -- 05:24:44
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	19.10.2025 -- 23:48:28
End of Time Interval	27.10.2025 -- 00:12:43

The selected statements - identified by their "Statement Hash" - are listed in the following table. Further details of these statements can be found in the subsections.

Statement Hash	Total Elapsed Time [s]	Number of Executions	Time / Execution [us]	Records / Execution	Time / Record [us]
df5c94b4e8dd5a6d42965efd275d12d4	42.502,7	1.142	37.217.740,9	0,0	0,0
4d5e991121993cd050c0def69f1d0d26	22.889,5	1.144	20.008.309,7	0,0	0,0
46acafa655c740db1f7db77316e19624	20.195,8	4.380	4.610.907,9	3,4	1.366.981,0
0801e5b7a78f54716c6a8522d8037b0a	16.164,3	566	28.558.774,8	19,7	1.451.011,4
c975f90c50b7f2e3151d420ad675c15d	13.298,1	279.796	47.527,9	1,0	47.529,9

18.2.1 Statement df5c94b4e8dd5a6d42965efd275d12d4

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,09
Maximal CPU Consumption per Hour [%] (21.10.2025 between 10:00 and 11:00)	0,09
Maximal Memory Consumption [%] (23.10.2025 -- 11:38:40)	1,92

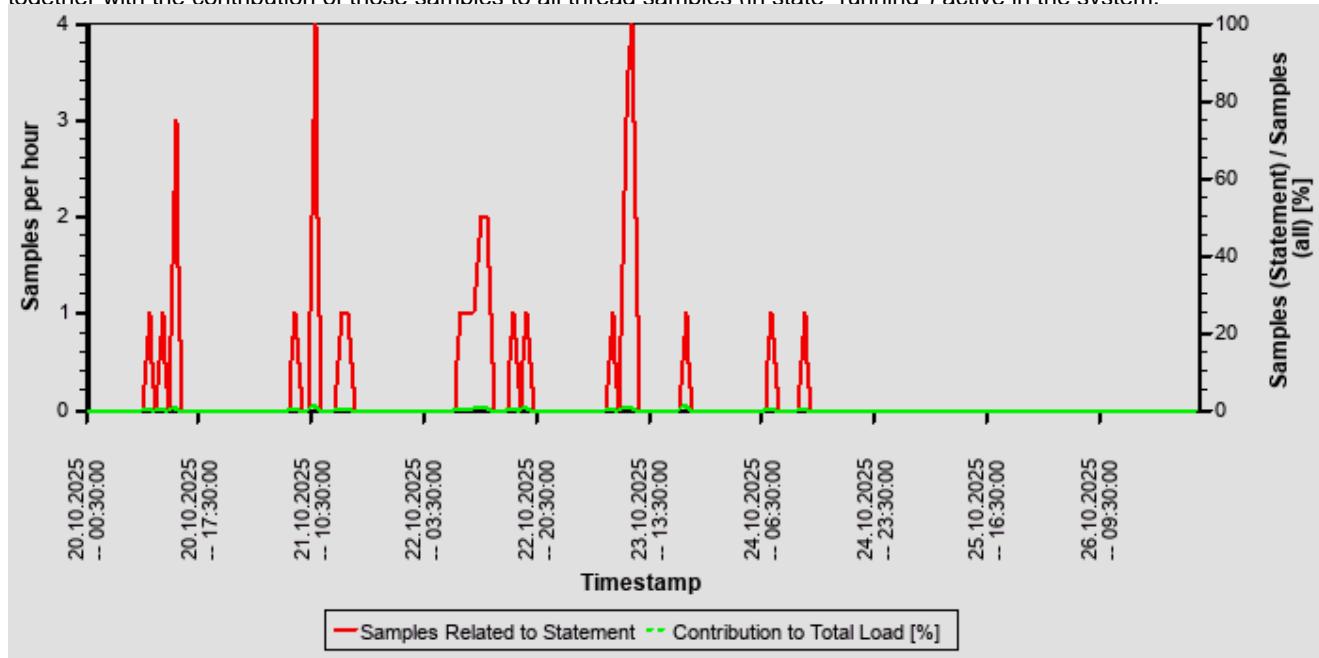
Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement

SAP HANA SQL Statements in SEP -> Top Statements (Total Memory)
SAP HANA SQL Statements in SEP -> Top Statement (Maximal Memory in Trace)

18.2.1.1 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.2.1.2 Correlation with Index Server Resource Consumption

The distribution of thread samples with the status "Running" correlates with the overall CPU or memory consumption of the system. Such a correlation indicates that this statement might be responsible for peaks in the memory or CPU consumption.

Distribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,42	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,10	no significant correlation

18.2.1.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
BSEG	SAPHANADB	COLUMN	Table not partitioned	13.950.627	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
DUMMY	SYS	ROW	Table not partitioned	1	saazs-v-sap33

Note This statement accesses one or more tables in the column store and one or more tables in the row store. Processing

such a statement leads to increased CPU and memory consumption compared with processing a statement in which all tables are of the same type. Check whether it is possible to locate all accessed tables in the same type of store or to change the statement such that it only accesses tables of one type.

18.2.1.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	FCLM_FLOW_BUI LDER_EVENT_100	ZCL_FCLM_BSEGFLOW_SAMPLE 10====CM00C	1	14.08.2020	

18.2.2 Statement 4d5e991121993cd050c0def69f1d0d26

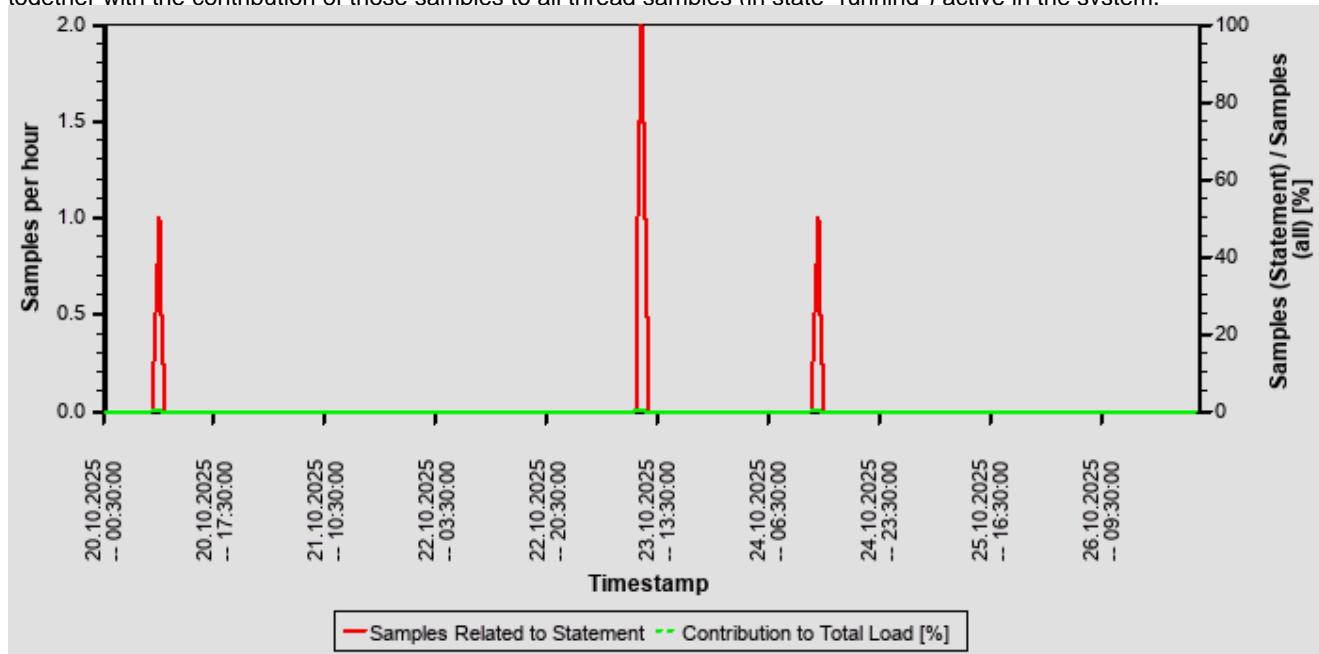
CALL "ZCL_FCLM_MMFLOW_SAMPLE=>BUILD_MMDOC_M#stb2#20200814182638" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (23.10.2025 between 10:00 and 11:00)	0,04
Maximal Memory Consumption [%] (23.10.2025 -- 11:06:21)	0,12

18.2.2.1 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.2.2.2 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
EBKN	SAPHANADB	COLUMN	Table not partitioned	602.433	saazs-v-sap33
CEPC	SAPHANADB	COLUMN	Table not partitioned	67	saazs-v-sap33

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
DUMMY	SYS	ROW	Table not partitioned	1	saazs-v-sap33

Note This statement accesses one or more tables in the column store and one or more tables in the row store. Processing such a statement leads to increased CPU and memory consumption compared with processing a statement in which all tables are of the same type. Check whether it is possible to locate all accessed tables in the same type of store or to change the statement such that it only accesses tables of one type.

18.2.2.3 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	FCLM_FLOW_BUI LDER_EVENT_100	ZCL_FCLM_MMFLOW_SAMPLE== =====CM002	1	14.08.2020	

18.2.3 Statement 46acafa655c740db1f7db77316e19624

```

SELECT
/* FDA READ */ "TABIX" , "_DATAAGING" , "LENGTH" , "DATA"
FROM
"SWWCNTP0"
WHERE
"CLIENT" = ? AND "WI_ID" = ?
Statement Impact

```

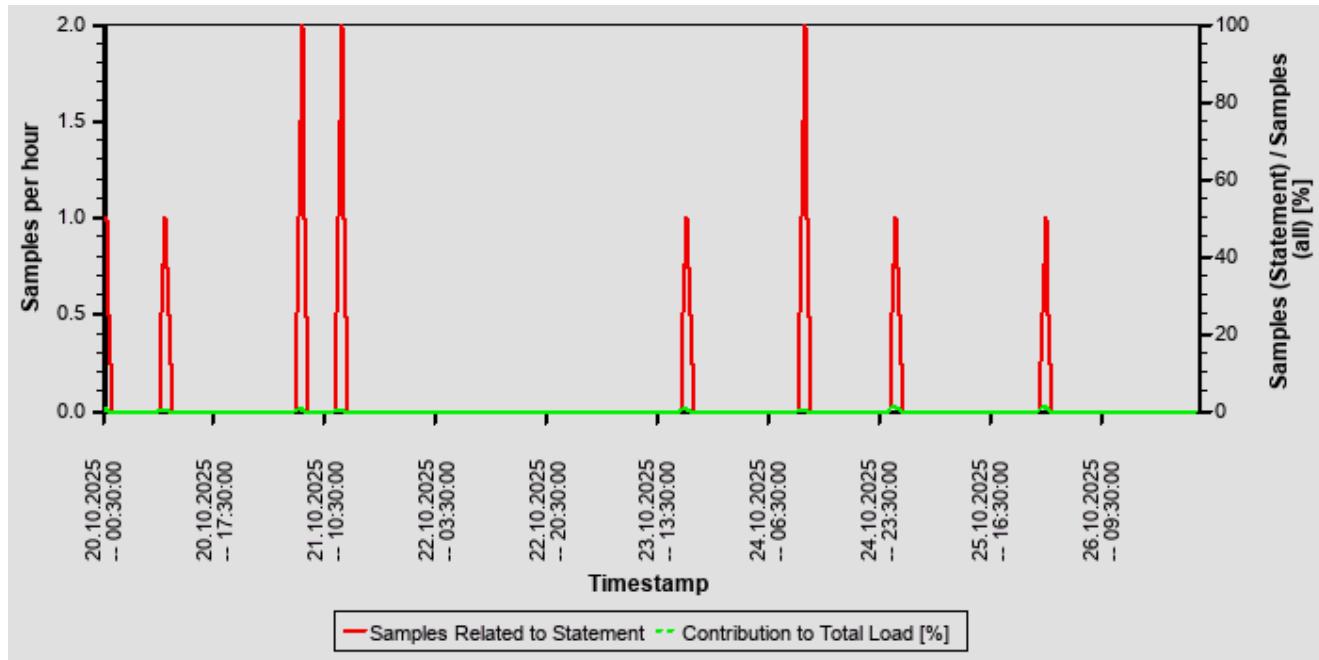
Indicator	Value
Contribution to Total CPU Load [%]	0,03
Maximal CPU Consumption per Hour [%] (21.10.2025 between 06:00 and 07:00)	0,03

18.2.3.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values	SCANNED_RECORD_COUNT	INDEX_LOOKUP_COUNT
SWWCNTP0	CLIENT	=			
SWWCNTP0	WI_ID	=		0	131

18.2.3.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.2.3.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
SWWCNTP0	SAPHANADB	COLUMN	Table not partitioned	46.938.597	saazs-v-sap33

18.2.3.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	BC_SAP_WORKFLOW_RESTART	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	SAP_WORKFLOW_DEADLINE	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	SBWP	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	SO01	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	START_0	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	Z_SES_NOTIFICATION	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	__button30_click_4	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	__tile1_click_0	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	__xmlview2-list_click_3	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow
SEP	__xmlview3-tabBar _mouseup_26	CL_SWF_CN T_P0_CONT AINER=====CM001	38	30.03.2016	✓	BC-BMT-WFM	SAP Business Workflow

18.2.4 Statement 0801e5b7a78f54716c6a8522d8037b0a

```

SELECT
/* FDA READ */ *
FROM
"DOKTL"
WHERE
"LANGU" = ? AND "ID" = ? AND "OBJECT" = ? AND "TYP" = ? AND "DOKVERSION" = ?
ORDER BY
"DOKTL" . "ID" , "DOKTL" . "OBJECT" , "DOKTL" . "LANGU" , "DOKTL" . "TYP" , "DOKTL" . "DOKVERSION" , "DOKTL" .
"LINE"

```

Statement Impact

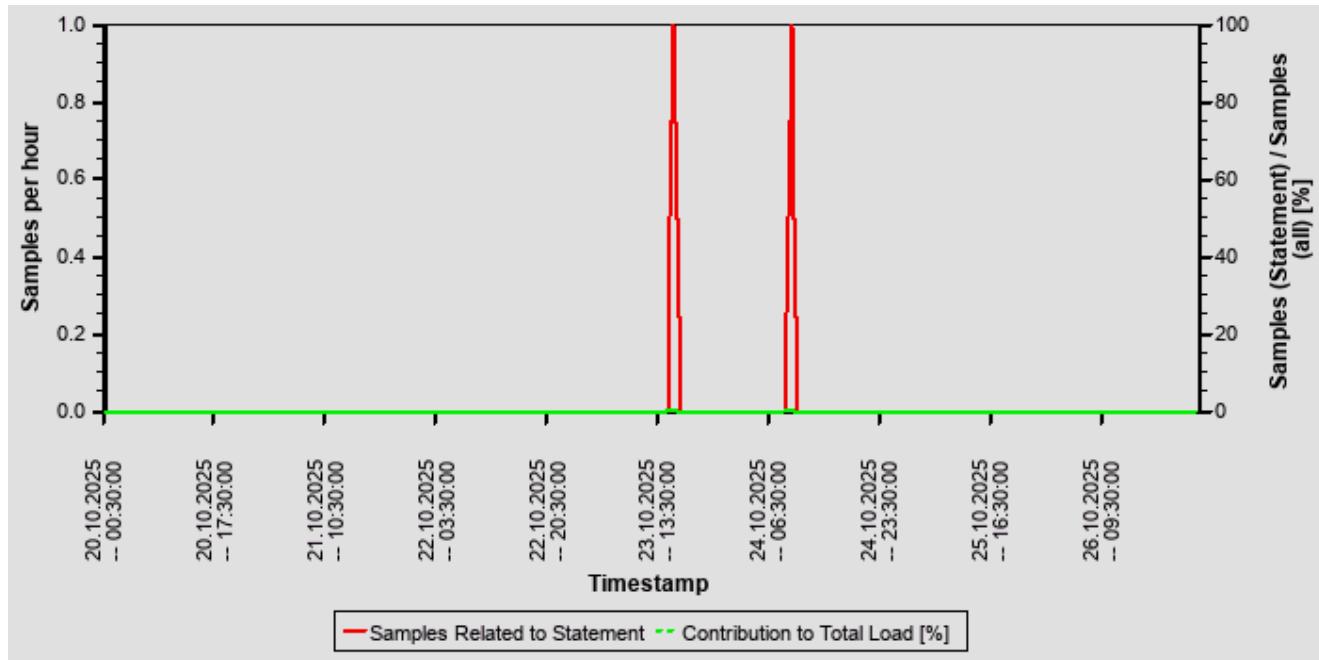
Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (23.10.2025 between 15:00 and 16:00)	0,02

18.2.4.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values	SCANNED_RECORD_COUNT	INDEX_LOOKUP_COUNT
DOKTL	DOKVERSION	=			
DOKTL	ID	=			
DOKTL	LANGU	=			
DOKTL	OBJECT	=		0	518
DOKTL	TYP	=			

18.2.4.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.2.4.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
DOKTL	SAPHANADB	COLUMN	Table not partitioned	28.506.936	saazs-v-sap33

18.2.4.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	/SDF/MON_SCHEDULER	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	<BGRFC WATCHDOG >	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	FAGLB03	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	IH01	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	IP18	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	IW22	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	IW59	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	ME23N	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	MIGO	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	SESSION_MANAGER	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	START_REPORT	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security
SEP	ZARBCIG_INBOUND_IDOC_SUR	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	__refresh0_click_1	SAPMSYST	2.622	01.06.2015	✓	BC-SEC	Security

18.2.5 Statement c975f90c50b7f2e3151d420ad675c15d

```

SELECT
VERSION, "EXTENSIONS"
FROM
"DYNPSOURCE"
WHERE
PROGNAME = ? AND DYNPNUMBER = ? AND R3STATE = 'A'
Statement Impact

```

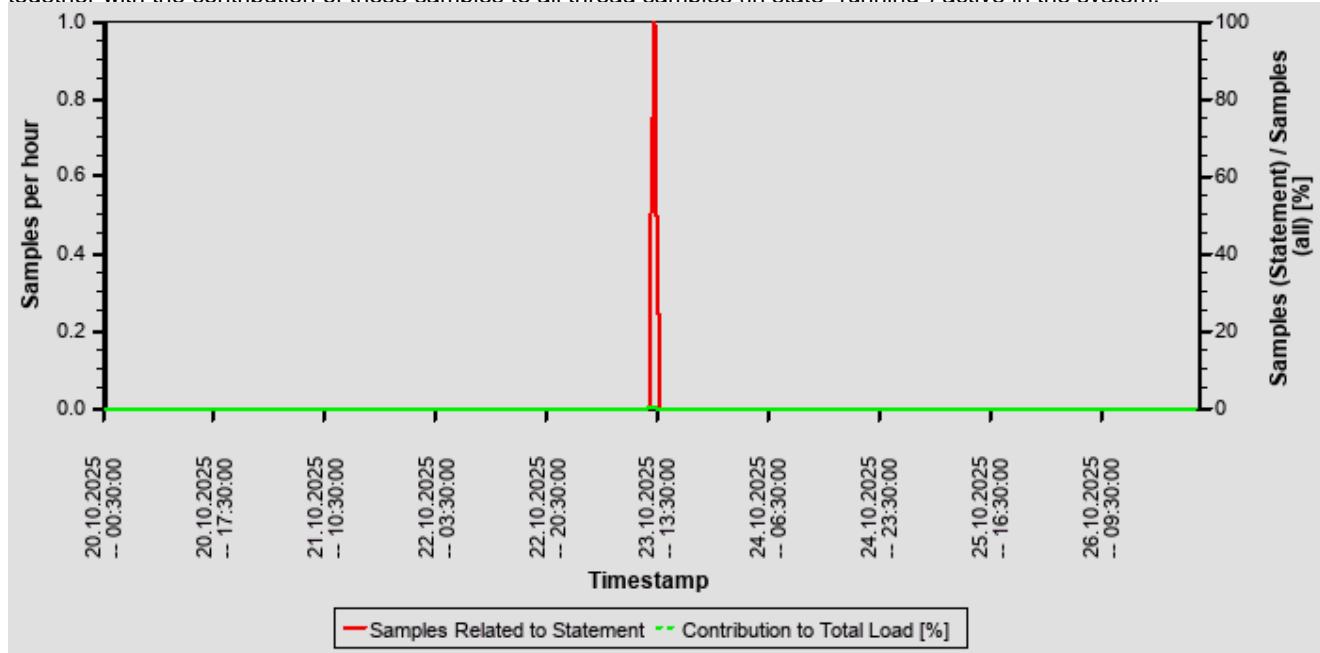
Indicator	Value
Contribution to Total CPU Load [%]	0,00
Maximal CPU Consumption per Hour [%] (23.10.2025 between 12:00 and 13:00)	0,02

18.2.5.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values
DYNPSOURCE	DYNPNUMBER	=	
DYNPSOURCE	PROGNAME	=	
DYNPSOURCE	R3STATE	=	

18.2.5.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.2.5.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
DYNPSOURCE	SAPHANADB	COLUMN	Table not partitioned	272.434	saazs-v-sap33

18.2.5.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	IW32	CL_DSH_SA PGUI_TYPE _AHEAD=====CM008	15	26.01.2018	✓	BC-DWB-DIC -F4	F4 Help
SEP	ME52N	CL_DSH_SA PGUI_TYPE _AHEAD=====CM008	15	26.01.2018	✓	BC-DWB-DIC -F4	F4 Help
SEP	SESSION_MANAGER	CL_DSH_SA PGUI_TYPE _AHEAD=====CM008	15	26.01.2018	✓	BC-DWB-DIC -F4	F4 Help

18.3 Top ACDOCA Statements (Elapsed Time)

This section shows the top non-internal statements according to "Total Elapsed Time". The "Total Elapsed Time" is the sum of the "Total Execution Time" and the "Total Preparation Time" from the SQL PLAN CACHE. It has a direct impact on the response time of the application calling the statement.

Only statements accessing table ACDOCA are shown.

See the following table for details of the selection:

Database Start	26.10.2025 -- 15:10:28
Data Collection	27.10.2025 -- 05:24:44
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	19.10.2025 -- 23:48:28
End of Time Interval	27.10.2025 -- 00:12:43

The selected statements - identified by their "Statement Hash" - are listed in the following table. Further details of these statements can be found in the subsections.

Statement Hash	Total Elapsed Time [s]	Number of Executions	Time / Execution [us]	Records / Execution	Time / Record [us]
19b364b05575309dfb3ba0a838d0a5c4	812,2	7	116.032.839,1	2,9	40.611.493,7
96edae5e614b3bc d2b4aa0b227339570	516,7	352	1.468.024,6	0,0	0,0
d2c6bc9e526539cc1a854945c3ccfc	360,2	19	18.956.521,3	39,5	479.592,4
3a64f05af8b14fa69728336c858bf426	317,5	352	901.851,5	0,0	0,0
b9cfb99d44596ca c15c1d91c18dd5e8d	312,2	2.203	141.694,9	320,0	442,8

18.3.1 Statement 19b364b05575309dfb3ba0a838d0a5c4

```
SELECT
```

```
/* FDA READ */ "A" . *
```

```
FROM
```

```
"ACDOCA" "A" INNER JOIN "BKPF" "B" ON "A" . "RCLNT" = "B" . "MANDT" AND "A" . "RBUKRS" = "B" . "BUKRS" AND "A" . "GJAHR"
```

```
= "B" . "GJAHR" AND "A" . "BELNR" = "B" . "BELNR"
```

```
WHERE
```

```
"A" . "RCLNT" = ? AND "A" . "AWORG" = ? AND "A" . "AWREF" = ? AND ( "A" . "AWSYS" = ? OR "A" . "AWSYS" = ? )  
AND "A" . "AWTYP" = ? AND "A" . "XREVERSED" = ? AND "A" . "XREVERSING" = ?
```

Statement Impact

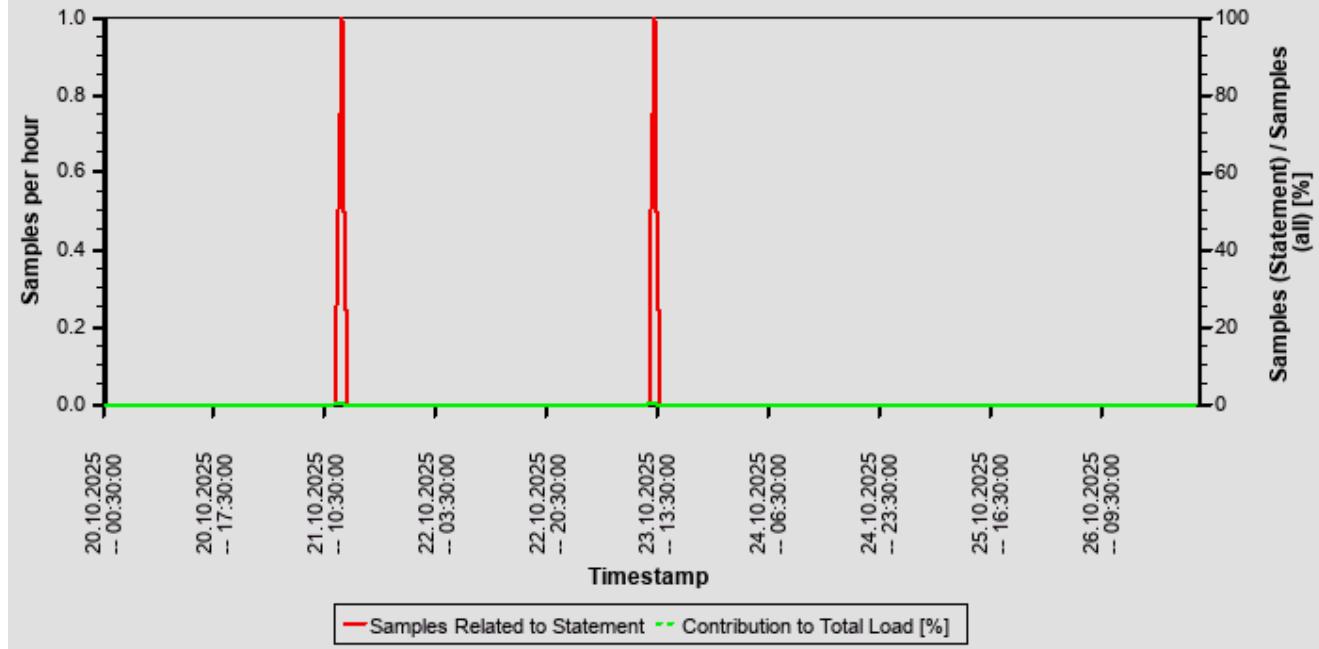
Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (21.10.2025 between 12:00 and 13:00)	0,02

18.3.1.1 Analysis of Where Clause

Table	Field	Operator
?	AWORG	=
?	AWREF	=
?	AWSYS	=
?	AWTYP	=
?	RCLNT	=
?	XREVERSED	=
?	XREVERSING	=

18.3.1.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.3.1.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA	SAPHANADB	COLUMN	Table not partitioned	38.154.498	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33

18.3.1.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	MIGO	CL_FINS_ACDOC_RE VERSE_UTIL=====CM 001	134	13.04.2019	✓	FI-GL	General Ledger Accounting
SEP	MIRO	CL_FINS_ACDOC_RE VERSE_UTIL=====CM 001	134	13.04.2019	✓	FI-GL	General Ledger Accounting
SEP	MR8M	CL_FINS_ACDOC_RE VERSE_UTIL=====CM 001	134	13.04.2019	✓	FI-GL	General Ledger Accounting

18.3.2 Statement 96edae5e614b3bcd2b4aa0b227339570

```
CALL "CL_FINS_RECONCILE_DOCUMENT=>CHECK_BSEG_VS_ACDOCA#stb2#20200609195607" ( ?, ?, ?, ? )
```

18.3.2.1 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA	SAPHANADB	COLUMN	Table not partitioned	38.154.498	saazs-v-sap33
BSEG	SAPHANADB	COLUMN	Table not partitioned	13.950.627	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
FINS_REC_MSG_MAP	SAPHANADB	COLUMN	Table not partitioned	225	saazs-v-sap33

18.3.2.2 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	FINS_REC-29.09.25-05 :11:44---2	CL_FINS_RECONCIL E_DOCUME NT=====CM005	1	24.05.2017	✓	FIN-MIG	SAP Simple Finance data migration

18.3.3 Statement d2c6bc9e526539ccc1a854945c3ccfc b

SELECT

```
"A" . "RCLNT" , "LD_REP" . "RLDNR" , "A" . "RBUKRS" , "A" . "GJAHR" , "A" . "BELNR" , "A" . "DOCLN" , "A" . "RYEAR" ,  
"A" . "RRCTY" , "A" . "RMVCT" , "A" . "BTTYPE" , "A" . "AWTYP" , "A" . "AWSYS" , "A" . "AWORG" , "A" . "AWREF" , "A" .  
"AWITEM" , "A" . "AWITGRP" , "A" . "XREVERSING" , "A" . "XREVERSED" , "A" . "XTRUEREV" , "A" . "AWTYP_REV" ,  
"A" . "AWORG_REV" , "A" . "AWREF_REV" , "A" . "XSETTLING" , "A" . "XSETTLED" , "A" . "PREC_AWTYP" , "A" .  
"PREC_AWSYS" , "A" . "PREC_AWORG" , "A" . "PREC_AWREF" , "A" . "PREC_AWITEM" , "A" . "SRC_AWTYP" , "A" .
```

```

"SRC_AWSYS", "A" . "SRC_AWORG", "A" . "SRC_AWREF", "A" . "SRC_AWITEM", "A" . "SRC_AWSUBIT", "A" .
"XCOMMITMENT", "A" . "RTCUR", "A" . "RWCUR", "A" . "RHCUR", "A" . "RKCUR", "A" . "ROCUR", "A" . "RVCUR",
"A" . "RBCUR", "A" . "RCCUR", "A" . "RDCUR", "A" . "RECUR", "A" . "RFCUR", "A" . "RGCUR", "A" . "RCO_OCUR",
"A" . "RUNIT", "A" . "RVUNIT", "A" . "QUNIT1", "A" . "QUNIT2", "A" . "QUNIT3", "A" . "RACCT", "A" . "RCNTR", "A" .
"PRCTR", "A" . "RFAREA", "A" . "RBUSA", "A" . "KOKRS", "A" . "SEGMENT", "A" . "SCNTR", "A" . "PPRCTR", "A" .
"SFAREA", "A" . "SBUSA", "A" . "RASSC", "A" . "PSEGMENT", "A" . "TSL", "A" . "WSL", "A" . "HSL", "A" . "KSL", "A" .
"OSL", "A" . "VSL", "A" . "BSL", "A" . "CSL", "A" . "DSL", "A" . "ESL", "A" . "FSL", "A" . "GSL", "A" . "KFSL", "A" . "PSL"
, "A" . "PFSL", "A" . "CO_OSL", "A" . "MSL", "A" . "MFSL", "A" . "VMSL", "A" . "VMFSL", "A" . "QUANT1", "A" .
"QUANT2", "A" . "QUANT3", "A" . "DRCRK", "A" . "POPER", "A" . "PERIV", "A" . "FISCYEARPER", "A" . "BUDAT", "A" .
"BLDAT", "A" . "BLART", "A" . "BUZEI", "A" . "ZUONR", "A" . "BSCHL", "A" . "BSTAT", "A" . "LINETYPE", "A" .
"KTOSL", "A" . "SLALITTYPE", "A" . "XSPLITMOD", "A" . "USNAM", "A" . "TIMESTAMP", "A" . "EPRCTR", "A" .
"RHOART", "A" . "GLACCOUNT_TYPE", "A" . "KTOPL", "A" . "LOKKT", "A" . "KTOP2", "A" . "REBZG", "A" . "REBZJ",
"A" . "REBZZ", "A" . "REBZT", "A" . "RBEST", "A" . "EBELN", "A" . "EBELP", "A" . "ZEKKN", "A" . "SGTXT", "A" .
"KDAUF", "A" . "KDPOS", "A" . "MATNR", "A" . "WERKS", "A" . "KUNNR", "A" . "FBUDA", "A" . "COCO_NUM", "A" .
"KOART", "A" . "UMSKZ", "A" . "MWSKZ", "A" . "HBKID", "A" . "HKTID", "A" . "XOPVW", "A" . "AUGDT", "A" . "AUGBL"
, "A" . "AUGGJ", "A" . "AFABE", "A" . "ANLN1", "A" . "ANLN2", "A" . "BZDAT", "A" . "ANBWA", "A" . "MOVCAT", "A" .
"DEPR_PERIOD", "A" . "ANLGR", "A" . "ANLGR2", "A" . "KALNR", "A" . "KZBWS", "A" . "XOBEW", "A" . "SOBKZ", "A" .
"MAT_KDAUF", "A" . "MAT_KDPOS", "A" . "MAT_PS_POSID", "A" . "MAT_LIFNR", "A" . "BWTAR", "A" . "BWKEY",
"A" . "BUKRS_SENDER", "A" . "RACCT_SENDER", "A" . "ACCAS_SENDER", "A" . "ACCASTY_SENDER", "A" .
"HKGRP", "A" . "CO_BELKZ", "A" . "BELTP", "A" . "MUVFLG", "A" . "GKONT", "A" . "GKOAR", "A" . "ERLKZ", "A" .
"PERNR", "A" . "SCOPE", "A" . "PBUKRS", "A" . "PSCOPE", "A" . "AUFNR_ORG", "A" . "UKOSTL", "A" . "ULSTAR",
"A" . "UPRZNR", "A" . "UPRCTR", "A" . "ACCAS", "A" . "ACCASTY", "A" . "LSTAR", "A" . "AUFNR", "A" . "AUTYP", "A" .
"PS_POSID", "A" . "PS_PSPID", "A" . "NPLNR", "A" . "NPLNR_VORGN", "A" . "PRZNR", "A" . "KSTRG", "A" .
"BEMOT", "A" . "RSRCE", "A" . "QMNUM", "A" . "ERKRS", "A" . "PACCAS", "A" . "PACCASTY", "A" . "PLSTAR", "A" .
"PAUFNR", "A" . "PAUTYP", "A" . "PPS_PSP_PNR", "A" . "PPS_POSID", "A" . "PPS_PRJ_PNR", "A" . "PPS_PSPID",
"A" . "PKDAUF", "A" . "PKDPOS", "A" . "PNPLNR", "A" . "PNPLNR_VORGN", "A" . "PPRZNR", "A" . "PKSTRG", "A" .
"WORK_ITEM_ID", "A" . "ARBID", "A" . "VORN", "A" . "AUFPS", "A" . "UVORN", "A" . "EQUNR", "A" . "TPLNR", "A" .
"ISTRU", "A" . "ILART", "A" . "PLKNZ", "A" . "ARTPR", "A" . "PRIOK", "A" . "MAUFNR", "A" . "MATKL_MM", "A" .
"PLANNED_PARTS_WORK", "A" . "FKART", "A" . "VKORG", "A" . "VTWEG", "A" . "SPART", "A" . "MATNR_COPA",
"A" . "MATKL", "A" . "KDGRP", "A" . "LAND1", "A" . "BRSCH", "A" . "BZIRK", "A" . "KUNRE", "A" . "KUNWE", "A" .
"KONZS", "A" . "KMVKBU_PA", "A" . "KMVKGR_PA", "A" . "VKBUR_PA", "A" . "VKGRP_PA", "A" . "WWBAT_PA", "A" .
"WWBCS_PA", "A" . "WWBOL_PA", "A" . "AUART_PA", "A" . "INCO1_PA", "A" . "BWTAR_PA", "A" . "KTGRD_PA", "A" .
"WWPTF_PA", "A" . "WWSAI_PA", "A" . "WWSTD_PA", "A" . "WWCCV_PA", "A" . "WWCNU_PA", "A" . "WWCTY_PA"
, "A" . "WWDLG_PA", "A" . "WWNOM_PA", "A" . "WWWORD_PA", "A" . "WWTYP_PA", "A" . "WWVSL_PA", "A" .
"ZTERM_PA", "A" . "WWCLF_PA", "A" . "WWIN2_PA", "A" . "WWDDN_PA", "A" . "WWDDI_PA", "A" . "SWENR", "A" .
"SGENR", "A" . "SGRNR", "A" . "SMENR", "A" . "RECNNR", "A" . "SNKSL", "A" . "SEMPSL", "A" . "DABRZ", "A" .
"PSWENR", "A" . "PSGENR", "A" . "PSGRNR", "A" . "PSMENR", "A" . "PRECNR", "A" . "PSNKSL", "A" . "PSEMPSL",
"A" . "PDABRZ", "A" . "ACROBJTYPE", "A" . "ACROBJ_ID", "A" . "ACRSOBJ_ID", "A" . "ACRITMTYPE", "A" .
"VALOBJTYPE", "A" . "VALOBJ_ID", "A" . "VALSOBJ_ID", "A" . "NETDT", "A" . "RISK_C"
...

```

18.3.3.1 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA	SAPHANADB	COLUMN	Table not partitioned	38.154.498	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
FINSC_LEDGER_REP	SAPHANADB	COLUMN	Table not partitioned	2	saazs-v-sap33

18.3.3.2 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	FAGLB03	LFAGL_ITE MS_SELECTU08	425	13.07.2018	✓	FI-GL	General Ledger Accounting

SID	Transaction / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	FAGL_ACCO UNT_BALANCE	LFAGL_ITE MS_SELECTU08	425	13.07.2018	✓	FI-GL	General Ledger Accounting

18.3.4 Statement 3a64f05af8b14fa69728336c858bf426

```
CALL "CL_FINS_RECONCILE_DOCUMENT=>CHECK_ACDOCA_FIELDS#stb2#20200609195607" ( ?, ?, ?, ? )
```

18.3.4.1 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA	SAPHANADB	COLUMN	Table not partitioned	38.154.498	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
FINS_REC_MSG_MAP	SAPHANADB	COLUMN	Table not partitioned	225	saazs-v-sap33

18.3.4.2 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	FINS_REC-27.10.25-05 :04:13---2	CL_FINS_RECONCILE_DOCUME NT=====CM00A	1	24.05.2017	✓	FIN-MIG	SAP Simple Finance data migration
SEP	FINS_REC-27.10.25-05 :04:13---3	CL_FINS_RECONCILE_DOCUME NT=====CM00A	1	24.05.2017	✓	FIN-MIG	SAP Simple Finance data migration
SEP	FINS_REC-27.10.25-05 :12:14---2	CL_FINS_RECONCILE_DOCUME NT=====CM00A	1	24.05.2017	✓	FIN-MIG	SAP Simple Finance data migration
SEP	FINS_REC-27.10.25-05 :12:14---3	CL_FINS_RECONCILE_DOCUME NT=====CM00A	1	24.05.2017	✓	FIN-MIG	SAP Simple Finance data migration

18.3.5 Statement b9cfb99d44596cac15c1d91c18dd5e8d

SELECT

```
/* FDA READ */ "LEDNR", "OBJNR", "GJAHR", "VERSN", "WRTTP", "KSTAR", "HRKFT", "VRGNG", "PAROB",  
"USPOB", "VBUND", "PARGB", "BEKNZ", "TWAER", "MEINH", "BEMOT", "BELTP", "WTGBTR", "WTGPER",  
"WOGBTR", "WOGPER", "WKGBTR", "WKGPER", "WKFBTR", "WKFPER", "PAGBTR", "PAGPER", "PAFBTR",  
"PAFPER", "MEGBTR", "MEGPER", "MEFBTR", "MEFPER", "MUVBTR", "MUVPER"
```

FROM

```
/* Entity name: FCO_ABR_BEL_04 */ "FCOV_ABR_BEL04" ( "AKPERIO" => ? , "AKGJAHR" => ? ) "FCO_ABR_BEL_04"
```

WHERE

18.3.5.1 Analysis of Where Clause

Table	Field	Operator
?	BEKNZ	<>
?	GJAHR	<=
?	MANDT	=
?	OBJNR	IN
?	VERSN	=
?	WRTTP	=

18.3.5.2 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA	SAPHANADB	COLUMN	Table not partitioned	38.154.498	saazs-v-sap33
FINSC_CMP_VERSNC	SAPHANADB	COLUMN	Table not partitioned	61	saazs-v-sap33
TKA01	SAPHANADB	COLUMN	Table not partitioned	60	saazs-v-sap33
T000	SAPHANADB	COLUMN	Table not partitioned	2	saazs-v-sap33

18.3.5.3 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	1029_WM_B_W_SETTLE_WO_KH03_UPD	CL_FCO_AB_R_BEL_PRE_READ_LA Y==CM00A	5	03.04.2018	✓	CO-OM-OPA	Overhead Cost Orders
SEP	ZD_WM_SETTLE_WO_KH16_UPD	CL_FCO_AB_R_BEL_PRE_READ_LA Y==CM00A	5	03.04.2018	✓	CO-OM-OPA	Overhead Cost Orders

18.4 Top MATDOC Statements (Elapsed Time)

This section shows the top non-internal statements according to "Total Elapsed Time". The "Total Elapsed Time" is the sum of the "Total Execution Time" and the "Total Preparation Time" from the SQL PLAN CACHE. It has a direct impact on the response time of the application calling the statement.

Only statements accessing table MATDOC are shown.

See the following table for details of the selection:

Database Start	26.10.2025 -- 15:10:28
Data Collection	27.10.2025 -- 05:24:44
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	19.10.2025 -- 23:48:28
End of Time Interval	27.10.2025 -- 00:12:43

The selected statements - identified by their "Statement Hash" - are listed in the following table. Further details of these statements can be found in the subsections.

Statement Hash	Total Elapsed Time [s]	Number of Executions	Time / Execution [us]	Records / Execution	Time / Record [us]
d5247723fb4101afd511e50b71ac5126	472,5	985	479.682,5	6,3	76.640,3
a8baafcb562e98623852c5bc3376e640	331,9	258	1.286.372,6	1,8	719.922,2
8abb663944b87b30db354ad2c5780a62	232,0	441	526.020,3	0,0	0,0
ecef9eb9165156c216bf034e6f82235a	229,0	381	601.080,9	1.567,7	383,4
9028731b0a886a8d93b76ae73ed2f313	189,8	200.159	948,0	0,9	1.003,8

18.4.1 Statement d5247723fb4101afd511e50b71ac5126

```

SELECT
/* FDA READ */ *
FROM
/* Redirected table: MSEG */ "NSDM_V_MSEG" "MSEG"
WHERE
"MANDT" = ? AND "MBLNR" = ? AND "MJAHR" = ? AND "BWART" <> N'543'
Statement Impact

```

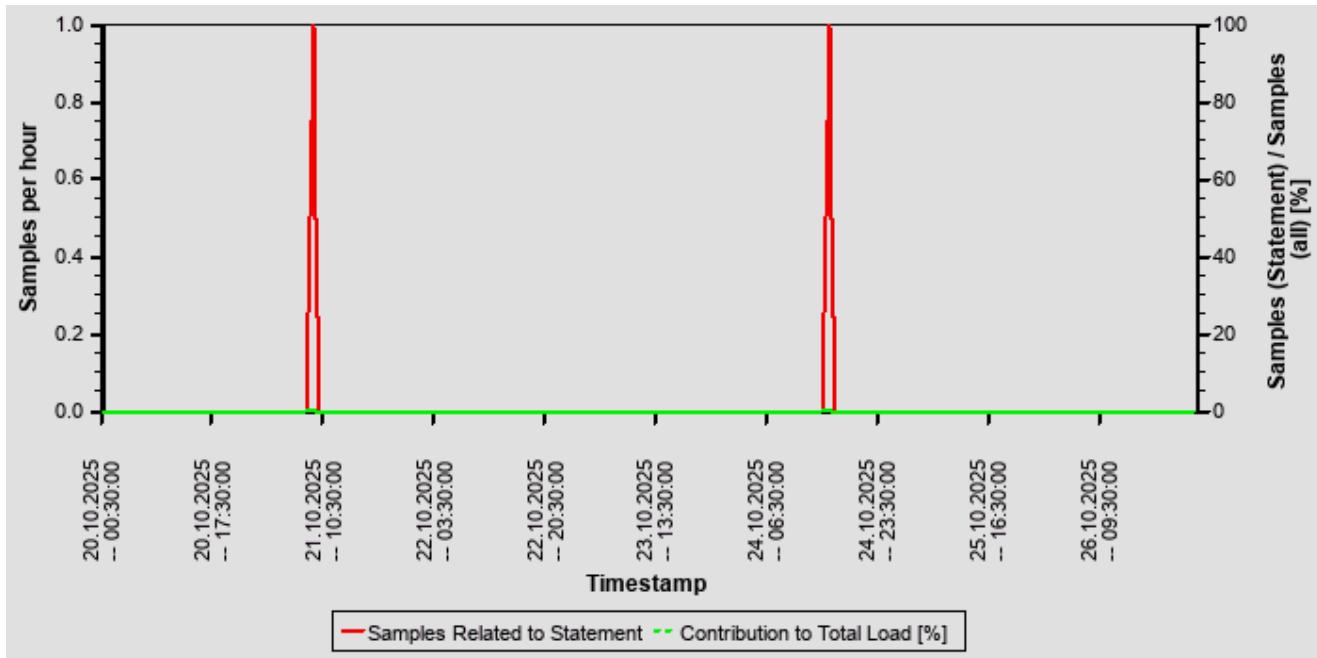
Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (21.10.2025 between 08:00 and 09:00)	0,02

18.4.1.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values	SCANNED_RECORD_COUNT	INDEX_LOOKUP_COUNT
MATDOC	BWART	<>			
MATDOC	MANDT	=			
MATDOC	MBLNR	=		0	10.465
MATDOC	MJAHR	=			

18.4.1.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.4.1.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
MATDOC	SAPHANADB	COLUMN	Table not partitioned	2.183.415	saazs-v-sap33

18.4.1.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Report	Line	Last Changed on:	SAP Coding
SEP	ZCL_MM_GOODSMOVT_FORM=====CM003	103	30.08.2019	

18.4.2 Statement a8baafcb562e98623852c5bc3376e640

```

SELECT
/* FDA READ */
FROM
/* Redirected table: MSEG */ "NSDM_V_MSEG" "MSEG"
WHERE
"MANDT" = ? AND "MBLNR" = ? AND "MJAHR" = ?
ORDER BY
"MSEG" . "MANDT" , "MSEG" . "MBLNR" , "MSEG" . "MJAHR" , "MSEG" . "ZEILE"

```

18.4.2.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values	SCANNED_RECORD_COUNT	INDEX_LOOKUP_COUNT
MATDOC	MANDT	=			
MATDOC	MBLNR	=		0	10.465
MATDOC	MJAHR	=			

18.4.2.2 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
MATDOC	SAPHANADB	COLUMN	Table not partitioned	2.183.415	saazs-v-sap33

18.4.2.3 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	LMBMBU02	99	31.01.2018	✓	MM-IM	Inventory Management

18.4.3 Statement 8abb663944b87b30db354ad2c5780a62

CALL "CL_PPH_READ_CLASSIC=>GET_MRP_ELEMENTS#stb2#20190927091954" (?, ?)

18.4.3.1 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
AUFK	SAPHANADB	COLUMN	Table not partitioned	2.240.711	saazs-v-sap33
EBKN	SAPHANADB	COLUMN	Table not partitioned	602.433	saazs-v-sap33
EBUB	SAPHANADB	COLUMN	Table not partitioned	1	saazs-v-sap33

18.4.3.2 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	MD04	CL_PPH_RE AD_CLASSI C=====CM001	1	24.04.2018	✓	PP-MRP	Material Requirements Planning
SEP	ME51N	CL_PPH_RE AD_CLASSI C=====CM001	1	24.04.2018	✓	PP-MRP	Material Requirements Planning
SEP	MMBE	CL_PPH_RE AD_CLASSI C=====CM001	1	24.04.2018	✓	PP-MRP	Material Requirements Planning
SEP	RMMMBESTN	CL_PPH_RE AD_CLASSI C=====CM001	1	24.04.2018	✓	PP-MRP	Material Requirements Planning
SEP	ZD_MM_IM_ MRP_NEUPL _EC_BECSA	CL_PPH_RE AD_CLASSI C=====CM001	1	24.04.2018	✓	PP-MRP	Material Requirements Planning

18.4.4 Statement ecef9eb9165156c216bf034e6f82235a

SELECT

```

/* FDA WRITE */ DISTINCT "A" . * , "C" . "MANDT" , "C" . "MATNR" , "C" . "WERKS" , "C" . "PSTAT" , "C" . "LVORM" , "C".
"BWTTY" , "C" . "XCHAR" , "C" . "MMSTA" , "C" . "MMSTD" , "C" . "MAABC" , "C" . "KZKRI" , "C" . "EKGRP" , "C".
"AUSME" , "C" . "DISPR" , "C" . "DISMM" , "C" . "DISPO" , "C" . "KZDIE" , "C" . "PLIFZ" , "C" . "WEBAZ" , "C" . "PERKZ" ,
"C" . "AUSSS" , "C" . "DISLS" , "C" . "BESKZ" , "C" . "SOBSL" , "C" . "MINBE" , "C" . "EISBE" , "C" . "BSTMI" , "C".
"BSTMA" , "C" . "BSTFE" , "C" . "BSTRF" , "C" . "MABST" , "C" . "LOSFX" , "C" . "SBDKZ" , "C" . "LAGPR" , "C" . "ALTSI" ,
"C" . "KZAUS" , "C" . "AUSDT" , "C" . "NFMAT" , "C" . "KZBED" , "C" . "MISKZ" , "C" . "FHORI" , "C" . "PFREI" , "C".
"FFREI" , "C" . "RGEKZ" , "C" . "FEVOR" , "C" . "BEARZ" , "C" . "RUEZT" , "C" . "TRANZ" , "C" . "BASMG" , "C" . "DZEIT" ,
"C" . "MAXLZ" , "C" . "LZEIH" , "C" . "KZPRO" , "C" . "GPMKZ" , "C" . "UEETO" , "C" . "UEETK" , "C" . "UNETO" , "C".
"WZEIT" , "C" . "ATPKZ" , "C" . "VZUSL" , "C" . "HERBL" , "C" . "INSMK" , "C" . "SPROZ" , "C" . "QUAZT" , "C" . "SSQSS" ,
"C" . "MPDAU" , "C" . "KZPPV" , "C" . "KZDKZ" , "C" . "WSTGH" , "C" . "PRFRQ" , "C" . "NKMPR" , "C" . "UMLMC" , "C".
"LADGR" , "C" . "XCHPF" , "C" . "USEQU" , "C" . "LGRAD" , "C" . "AUFTL" , "C" . "PLVAR" , "C" . "OTYPE" , "C" . "OBJID"
,"C" . "MTVFP" , "C" . "PERIV" , "C" . "KZKFK" , "C" . "VRVEZ" , "C" . "VBAMG" , "C" . "VBEAZ" , "C" . "LIZYK" , "C".
"BSCL" , "C" . "KAUTB" , "C" . "KORDB" , "C" . "STAWN" , "C" . "HERKL" , "C" . "HERKR" , "C" . "EXPME" , "C".
"MTVER" , "C" . "PRCTR" , "C" . "TRAME" , "C" . "MRPPP" , "C" . "SAUFT" , "C" . "FXHOR" , "C" . "VRMOD" , "C" . "VINT1"
,"C" . "VINT2" , "C" . "VERKZ" , "C" . "STLAL" , "C" . "STLAN" , "C" . "PLNNR" , "C" . "APLAL" , "C" . "LOSGR" , "C".
"SOBSK" , "C" . "FRTME" , "C" . "LGPRO" , "C" . "DISGR" , "C" . "KAUSF" , "C" . "QZGTP" , "C" . "QMATT" , "C" . "TAKZT"
,"C" . "RWPRO" , "C" . "COPAM" , "C" . "ABCIN" , "C" . "AWSLS" , "C" . "SERNP" , "C" . "CUOBJ" , "C" . "STDPD" , "C".
"SFEPR" , "C" . "XMCNG" , "C" . "QSSYS" , "C" . "LFRHY" , "C" . "RDPRF" , "C" . "VRBMT" , "C" . "VRBWK" , "C".
"VRBDT" , "C" . "VRBFK" , "C" . "AUTRU" , "C" . "PREFE" , "C" . "PRENC" , "C" . "PRENO" , "C" . "PREND" , "C".
"PRENE" , "C" . "PRENG" , "C" . "ITARK" , "C" . "SERVG" , "C" . "KZKUP" , "C" . "STRGR" , "C" . "CUOVB" , "C" . "LGFSB"
,"C" . "SCHGHT" , "C" . "CCFIX" , "C" . "EPRIOD" , "C" . "QMATA" , "C" . "RESVP" , "C" . "PLNTY" , "C" . "UOMGR" , "C".
"UMRSL" , "C" . "ABFAC" , "C" . "SFCPF" , "C" . "SHFLG" , "C" . "SHZET" , "C" . "MDACH" , "C" . "KZECH" , "C".
"MEGRU" , "C" . "MFRGR" , "C" . "PROFIL" , "C" . "VKUMC" , "C" . "VKTRW" , "C" . "KZAGL" , "C" . "FVIDK" , "C".
"FXPRU" , "C" . "LOGGR" , "C" . "FPRFM" , "C" . "GLGMG" , "C" . "VKGLG" , "C" . "INDUS" , "C" . "MOWNR" , "C".
"MOGRU" , "C" . "CASNR" , "C" . "GPNUM" , "C" . "STEUC" , "C" . "FABKZ" , "C" . "MATGR" , "C" . "VSPVB" , "C".
"DPLFS" , "C" . "DPLPU" , "C" . "DPLHO" , "C" . "MINLS" , "C" . "MAXLS" , "C" . "FIXLS" , "C" . "LTINC" , "C" . "COMPL"
,"C" . "CONVT" , "C" . "SHPRO" , "C" . "AHDIS" , "C" . "DIBER" , "C" . "KZPSP" , "C" . "OCMPF" , "C" . "APOKZ" , "C".
"MCRUE" , "C" . "LFMON" , "C" . "LFGJA" , "C" . "EISLO" , "C" . "NCOST" , "C" . "ROTATION_DATE" , "C" . "UCHKZ" , "C".
"UCMAT" , "C" . "BWESB" , "C" . "SGT_COVS" , "C" . "SGT_STATC" , "C" . "SGT_SCOPE" , "C" . "SGT_MRPSI" , "C".
"SGT_PRCM" , "C" . "SGT_CHINT" , "C" . "SGT_STK_PRT" , "C" . "SGT_DEFSC" , "C" . "SGT_MRP_ATP_STATUS" , "C".
"SGT_MMSTD" , "C" . "FSH_MG_ARUN_REQ" , "C" . "FSH_SEAIM" , "C" . "FSH_VAR_GROUP" , "C" . "FSH_KZECH"
,"C" . "FSH_CALENDAR_GROUP" , "C" . "ARUN_FIX_BATCH" , "C" . "PPSKZ" , "C" . "CONS_PROC" , "C".
"GI_PR_TIME" , "C" . "MULTIPLE_EKGRP" , "C" . "REF_SCHEMA" , "C" . "MIN_TROC" , "C" . "MAX_TROC" , "C".
"TARGET_STOCK" , "C" . "NF_FLAG" , "C" . "/CWM/UMLMC" , "C" . "/CWM/TRAME" , "C" . "/CWM/BWESB" , "C".
"SCM_MATLOCID_GUID16" , "C" . "SCM_MATLOCID_GUID22" , "C" . "SCM_GRPR" , "C" . "SCM_GIPRT" , "C".
"SCM_SCOST" , "C" . "SCM_RELDT" , "C" . "SCM_RRP_TYPE" , "C" . "SCM_HEUR_ID" , "C" . "SCM_PACKAGE_ID"
,"C" . "SCM_SSPPEN" , "C" . "SCM_GET_ALERTS" , "C" . "SCM_RES_NET_NAME" , "C" . "SCM_CONHAP" , "C".
"SCM_HUNIT" , "C" . "SCM_CONHAP_OUT" , "C" . "SCM_HUNIT_OUT" , "C" . "SCM_SHELF_LIFE_LOC" , "C".
"SCM_SHELF_LIFE_DUR" , "C" . "SCM_MATURITY_DUR" , "C" . "SCM_SHLF_LFE_REQ_MIN" , "C".
"SCM_SHLF_LFE_REQ_MAX" , "C" . "SCM_LSUOM" , "C" . "SCM_REORD_DUR" , "C" . "SCM_TARGET_DUR" , "C".
"SCM_TSTRID" , "C" . "SCM_STRA1" , "C" . "SCM_PEG_PAST_ALERT" , "C" . "SCM_PEG_FUTURE_ALERT" , "C".
"SCM_PEG_STRATEGY" , "C" . "SCM_PEG_WO_ALERT_FST" , "C" . "SCM_FIXPEG_PROD_SET" , "C".
"SCM_WHATBOM" , "C" . "SCM_RRP_SEL_GROUP" , "C" . "SCM_INTSRC_PROF" , "C" . "SCM_PRIO" , "C".
"SCM_MIN_PASS_AMOUNT" , "C" . "SCM_PROFID" , "C" . "SCM_GES_MNG_USE" , "C" . "SCM_GES_BST_USE" , "C".
"DUMMY_PLNT_INCL_EEW_PS" , "C" . "/SAPMP/TOLPRPL" , "C" . "/SAPMP/TOLPRMI" , "C" . "/STT
...

```

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (20.10.2025 between 13:00 and 14:00)	0,04

18.4.4.1 Time Consumption

The following table gives an overview of the time consumption of the analyzed SQL statement.

Activity	Total Time [s]	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	167	437.684	58.839	1.181.591
PREPARATION	62	163.397		
LOCK DURATION	0	0		

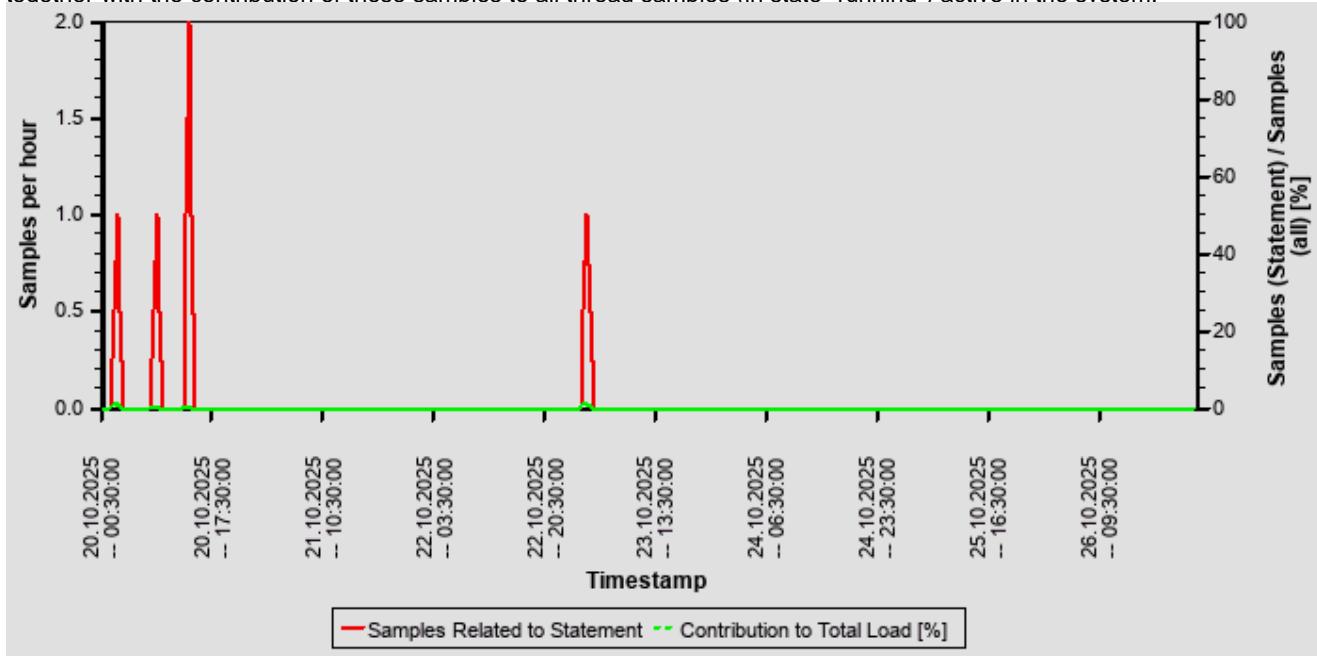
18.4.4.1.1 High Preparation Time

The preparation time for this statement is relatively high when compared with the execution time.

See [SAP Note 2124112](#) for advice on how to analyze performance or memory issues caused by parsing in SAP HANA environments.

18.4.4.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.4.4.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
MARA	SAPHANADB	COLUMN	Table not partitioned	120.812	saazs-v-sap33
/SAPSLL/TUNOS	SAPHANADB	COLUMN	Table not partitioned	52	saazs-v-sap33
T001W	SAPHANADB	COLUMN	Table not partitioned	21	saazs-v-sap33
/SAPSLL/NOSCA	SAPHANADB	COLUMN	Table not partitioned	0	saazs-v-sap33
/SAPSLL/MARITC	SAPHANADB	COLUMN	Table not partitioned	0	saazs-v-sap33

18.4.4.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	MD01	CL_PPH_HA NA_ACCESS _MATERIAL==CM003	229	13.04.2019	✓	PP-MRP	Material Requirements Planning
SEP	MD07	CL_PPH_HA NA_ACCESS _MATERIAL==CM003	229	13.04.2019	✓	PP-MRP	Material Requirements Planning

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	ZD_MM_IM_MRP_NEUPL_EC_BECSA	CL_PPH_HA NA_ACCESS MATERIAL==CM003	229	13.04.2019	✓	PP-MRP	Material Requirements Planning

18.4.5 Statement 9028731b0a886a8d93b76ae73ed2f313

```

SELECT
/* FDA READ */ *
FROM
/* Redirected table: MSEG */ "NSDM_V_MSEG" "MSEG"
WHERE
"MANDT" = ? AND "EBELN" = ? AND "EBELP" = ?
Statement Impact

```

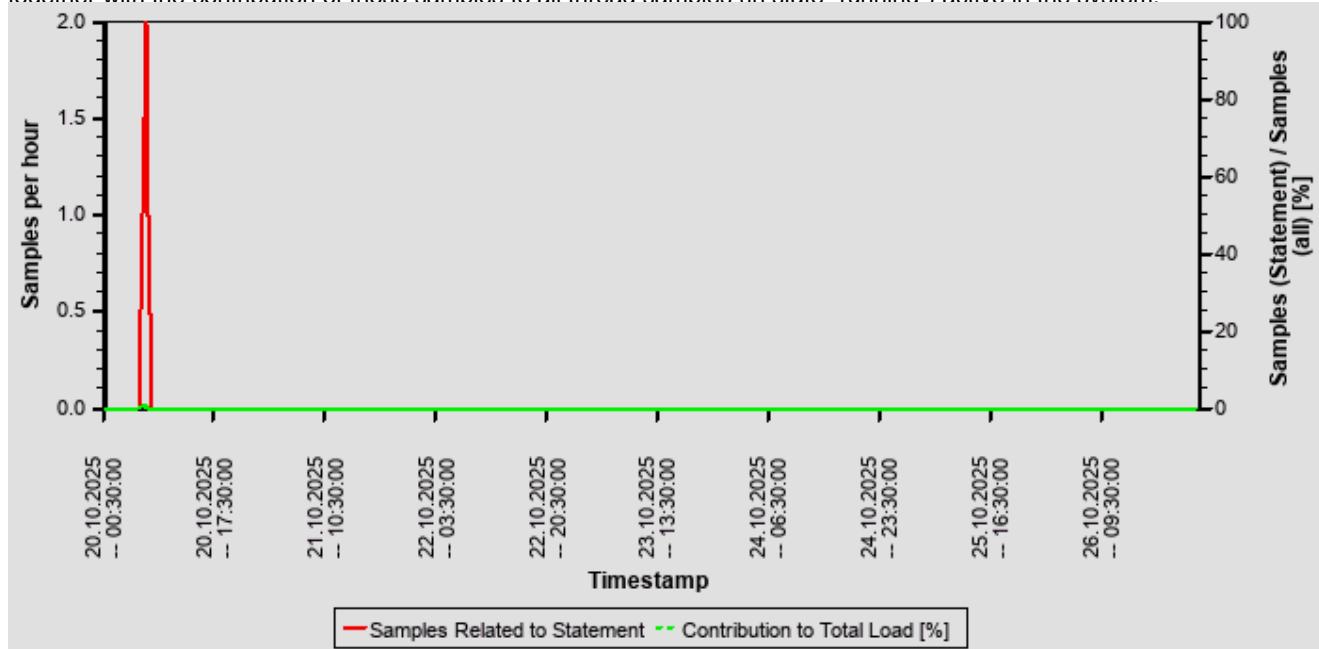
Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (20.10.2025 between 06:00 and 07:00)	0,05

18.4.5.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values	SCANNED_RECORD_COUNT	INDEX_LOOKUP_COUNT
MATDOC	EBELN	=		10.865.465.520	0
MATDOC	EBELP	=			
MATDOC	MANDT	=			

18.4.5.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.4.5.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
MATDOC	SAPHANADB	COLUMN	Table not partitioned	2.183.415	saazs-v-sap33

18.4.5.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	ZCM_DTS_DOWNLOAD	ZCM_CONTRACT_DETAILS_REPORT	2.652	31.05.2021	

18.5 Statements on Top Scanned Table

This section shows the top non-internal statements according to "Total Elapsed Time". The "Total Elapsed Time" is the sum of the "Total Execution Time" and the "Total Preparation Time" from the SQL PLAN CACHE. It has a direct impact on the response time of the application calling the statement.

Only SQL statements accessing the "top scanned table" are shown. The "top scanned table" is the table that contains the column with the highest number of "SCANNED_RECORDS" in M_CS_ALL_COLUMN_STATISTICS (see the following table). In many cases, creating an index on that column might improve access.

Schema	Table	Column
SAPHANADB	/MRSS/D_DAG_UNA	NODE_GUID

See the following table for details of the selection:

Database Start	26.10.2025 -- 15:10:28
Data Collection	27.10.2025 -- 05:24:44
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	19.10.2025 -- 23:48:28
End of Time Interval	27.10.2025 -- 00:12:43

The selected statements - identified by their "Statement Hash" - are listed in the following table. Further details of these statements can be found in the subsections.

Statement Hash	Total Elapsed Time [s]	Number of Executions	Time / Execution [us]	Records / Execution	Time / Record [us]
3312fcff20ac3a7b1d726b86d8f9220	1.529,7	266.401	5.742,2	113,3	50,7
0954407f3b90c7b26c34f62d61759e39	382,9	169.965	2.253,0	112,0	20,1
a5d62b60c2e7a756572d2cfe9f2c404c	245,5	168.774	1.454,6	112,3	12,9

18.5.1 Statement 3312fcff20ac3a7b1d726b86d8f9220

```
SELECT DISTINCT
"CLIENT" , "GUID" , "NODE_GUID" , "DAG_TYPE" , "BEGTSTMP" , "ENDTSTMP" , "USED" , "USED_INTEGRAL" ,
"UNITS"
```

FROM

"/MRSS/D_DAG_UNA"

WHERE

"CLIENT" = ? AND "NODE_GUID" = ? AND "DAG_TYPE" = ? AND "BEGTSTMP" < ? AND "ENDTSTMP" > ?

Statement Impact



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SAP HANA SQL Statements in
SEP

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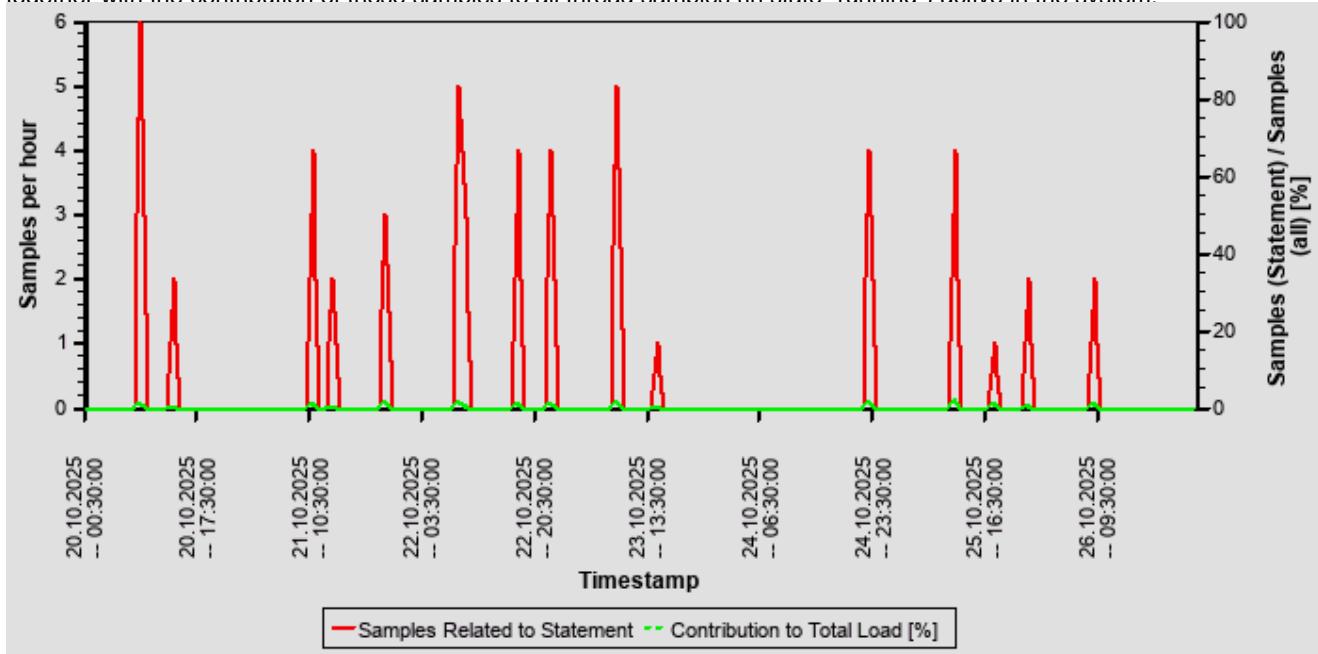
Indicator	Value
Contribution to Total CPU Load [%]	0,15
Maximal CPU Consumption per Hour [%] (20.10.2025 between 08:00 and 09:00)	0,09

18.5.1.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values	SCANNED_RECORD_COUNT	INDEX_LOOKUP_COUNT
/MRSS/D_DAG_UNA	BEGTSTMP	<			
/MRSS/D_DAG_UNA	CLIENT	=			
/MRSS/D_DAG_UNA	DAG_TYPE	=			
/MRSS/D_DAG_UNA	ENDTSTMP	>			
/MRSS/D_DAG_UNA	NODE_GUID	=		430.670.594.396	0

18.5.1.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.5.1.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
/MRSS/D_DAG_UNA	SAPHANADB	COLUMN	Table not partitioned	25.089.336	saazs-v-sap33

18.5.1.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	ZW_WM_MR S_HRAVAIL_CM_KH9 3_UPD	/MRSS/CL_CAG_INTEG RAL_LIST====CM009	81	13.04.2019	✓	PM-WOC-MO	Maintenance Orders

18.5.2 Statement 0954407f3b90c7b26c34f62d61759e39

INSERT

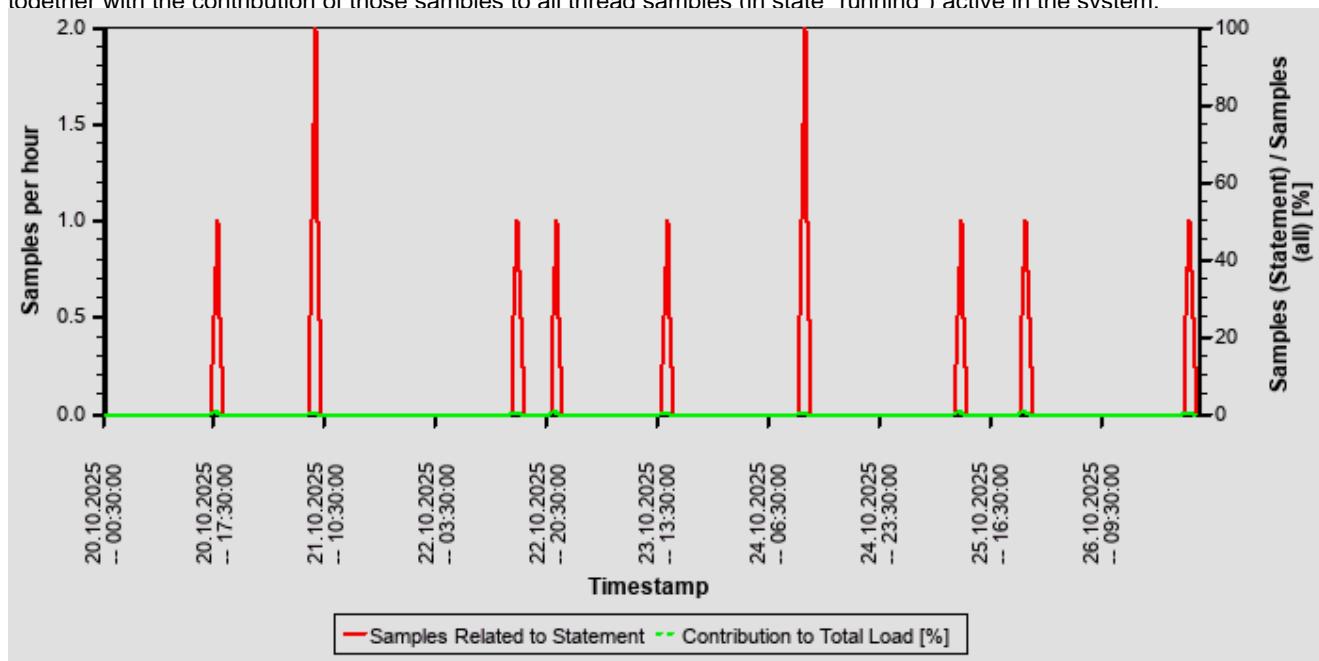
```
INTO "/MRSS/D_DAG_UNA" VALUES( ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ? )
```

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,03
Maximal CPU Consumption per Hour [%] (21.10.2025 between 08:00 and 09:00)	0,04

18.5.2.1 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.5.2.2 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
/MRSS/D_DAG_UNA	SAPHANADB	COLUMN	Table not partitioned	25.089.336	saazs-v-sap33

18.5.2.3 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Report	Line	Last Changed on:	SAP Coding

SID	Report	Line	Last Changed on:	SAP Coding
SEP	/MRSS/LCAG(CG_UPDU07	69	13.04.2019	<input checked="" type="checkbox"/>

18.5.3 Statement a5d62b60c2e7a756572d2cfe9f2c404 c

```
DELETE
FROM "/MRSS/D_DAG_UNA"
WHERE
"CLIENT" = ? AND "GUID" = ?
```

Statement Impact

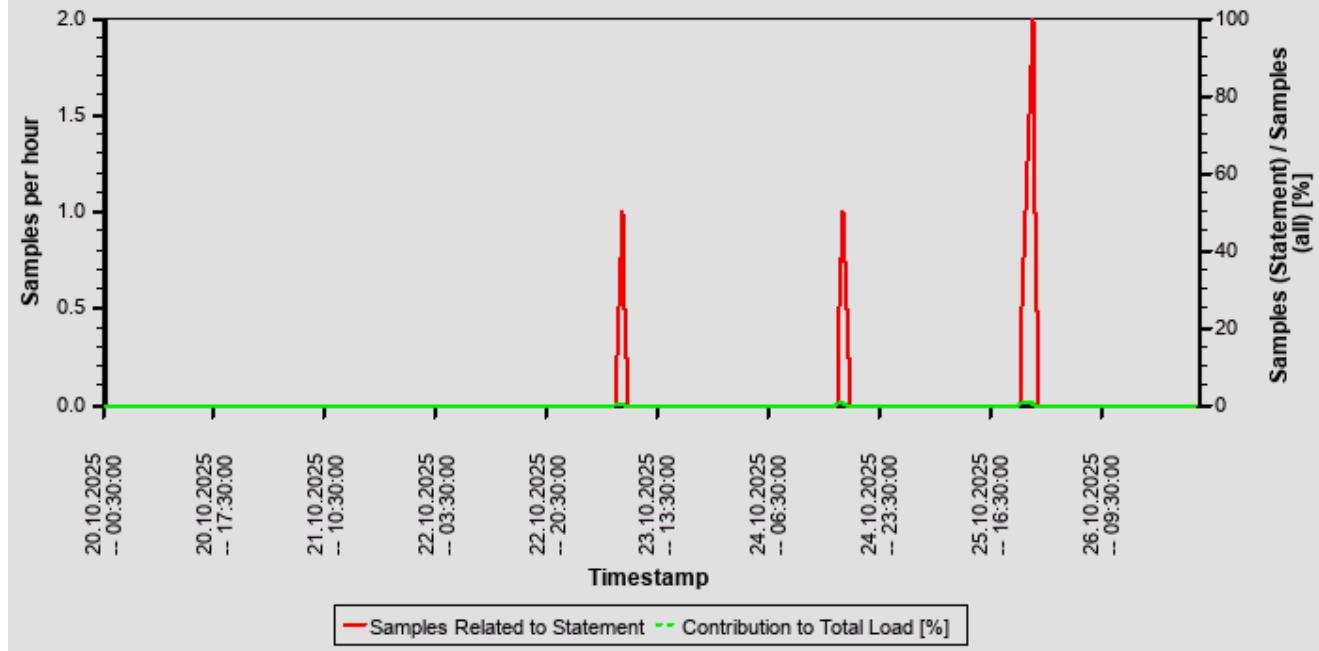
Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (25.10.2025 between 22:00 and 23:00)	0,05

18.5.3.1 Analysis of Where Clause

Table	Field	Operator	Distinct Values
/MRSS/D_DAG_UNA	CLIENT	=	
/MRSS/D_DAG_UNA	GUID	=	

18.5.3.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.5.3.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
/MRSS/D_DAG_UNA	SAPHANADB	COLUMN	Table not partitioned	25.089.336	saazs-v-sap33

18.5.3.4 Origin of SQL Statement



The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Report	Line	Last Changed on:	SAP Coding
SEP	/MRSS/LCAG(CG_UPDU07	68	13.04.2019	<input checked="" type="checkbox"/>

18.6 Top Statements (Total Memory)

This section shows the top statements according to memory consumption as obtained from the SQL PLAN CACHE. It considers the product of the number of executions and the average memory consumption per execution.

See the following table for details of the selection:

Database Start	26.10.2025 -- 15:10:28
Data Collection	27.10.2025 -- 05:24:44
Analysis Type	Analysis of Plan Cache
Data Source	M_SQL_PLAN_CACHE

The selected statements - identified by their "Statement Hash" - are listed in the following table. Further details of these statements can be found in the subsections.

Statement Hash	Number of Executions	Time / Execution [us]	Records / Execution	Executionsx Avg Memx Avg Time[GBx s]	Memory / Execution [MB]
b1ea1151d3439d97fe0aa5d3353154c9	4	128.999.503,0	4.107.785,0	19.097	37.897,4
df5c94b4e8dd5a6d42965efd275d12d4	6	86.724.106,8	0,0	1.528	3.006,9
8c2d3a7c3772d22872867fc7aa3fd8fa	5	55.249.473,4	9.548.009,6	658	2.440,4
7e3b27c93bd4fd7f2dfba19861cb957c	1	49.632.054,0	20,0	388	8.009,8
01d15b50b8dab0b9df28c9396a7c664c	6	17.510.413,5	1,0	309	3.006,9

18.6.1 Statement b1ea1151d3439d97fe0aa5d3353154c9

SELECT

```
"BISIS"."MANDT", `BSIS"."BUKRS", `BSIS"."HKONT", `BSIS"."AUGDT", `BSIS"."AUGBL", `BSIS"."ZUONR",
`BSIS"."GJAHR", `BSIS"."BELNR", `BSIS"."BUZEI", `BSIS"."BUDAT", `BSIS"."BLDAT", `BSIS"."WAERS",
`BSIS"."XBLNR", `BSIS"."BLART", `BSIS"."MONAT", `BSIS"."BSCHL", `BSIS"."SHKGZ", `BSIS"."GSBER",
`BSIS"."MWSKZ", `BSIS"."FKONT", `BSIS"."DMBTR", `BSIS"."WRBTR", `BSIS"."MWSTS", `BSIS"."WMWST",
`BSIS"."SGTXT", `BSIS"."PROJN", `BSIS"."AUFNR", `BSIS"."WERKS", `BSIS"."KOSTL", `BSIS"."ZFBDT",
`BSIS"."XOPVW", `BSIS"."VALUT", `BSIS"."BSTAT", `BSIS"."BDIFF", `BSIS"."BDIF2", `BSIS"."VBUND", `BSIS"."PSWSL",
`BSIS"."WVERW", `BSIS"."DMBE2", `BSIS"."DMBE3", `BSIS"."MWST2", `BSIS"."MWST3", `BSIS`.`BDIF3",
`BSIS`.`RDIF3", `BSIS`.`XRAGL", `BSIS`.`PROJK", `BSIS`.`PRCTR", `BSIS`.`XSTOV", `BSIS`.`XARCH",
`BSIS`.`PSWBT", `BSIS`.`XNEGP", `BSIS`.`RFZEI", `BSIS`.`CCBTC", `BSIS`.`XREF3", `BSIS`.`BUPLA",
`BSIS`.`PPDIF", `BSIS`.`PPDIF2", `BSIS`.`PPDIF3", `BSIS`.`BEWAR", `BSIS`.`IMKEY", `BSIS`.`DABRZ",
`BSIS`.`INTRENO", `BSIS`.`GRANT_NBR", `BSIS`.`FKBER", `BSIS`.`FIPOS", `BSIS`.`FISTL", `BSIS`.`GEBER",
`BSIS`.`PPRCT", `BSIS`.`BUZID", `BSIS`.`AUGJJ", `BSIS`.`UZAWE", `BSIS`.`SEGMENT", `BSIS`.`PSEGMENT",
`BSIS`.`PGEBER", `BSIS`.`PGRANT_NBR", `BSIS`.`MEASURE", `BSIS`.`BUDGET_PD", `BSIS`.`PBUDGET_PD",
`BSIS`.`_DATAAGING", `BSIS`.`KIDNO", `BSIS`.`PRODPER", `BSIS`.`QSSKZ", `BSIS`.`PROPMANO", `BSIS`.`GKONT",
`BSIS`.`GKART", `BSIS`.`GHKON"
```

FROM



Confidential

SAP HANA SQL Statements in
SEP

105/141

"SAPHANADB"."BSSIS"

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,21
Maximal CPU Consumption per Hour [%] (20.10.2025 between 19:00 and 20:00)	0,14
Maximal Memory Consumption [%] (26.10.2025 -- 18:46:57)	7,86

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement

SAP HANA SQL Statements in SEP -> Top Statement (Maximal Memory in Trace)

18.6.1.1 Memory Consumption

The following table provides an overview of the memory consumption of the analyzed SQL statement as obtained from the monitoring view M_SQL_PLAN_STATISTICS (or – if not yet available – M_SQL_PLAN_CACHE), that is, without taking a specific time interval into account.

Activity	Total Memory [GB]	Average Memory [MB]	Minimal Memory [MB]	Maximal Memory [MB]
EXECUTION_MEMORY_SIZE	148	37.897,4	37.832,3	37.935,3

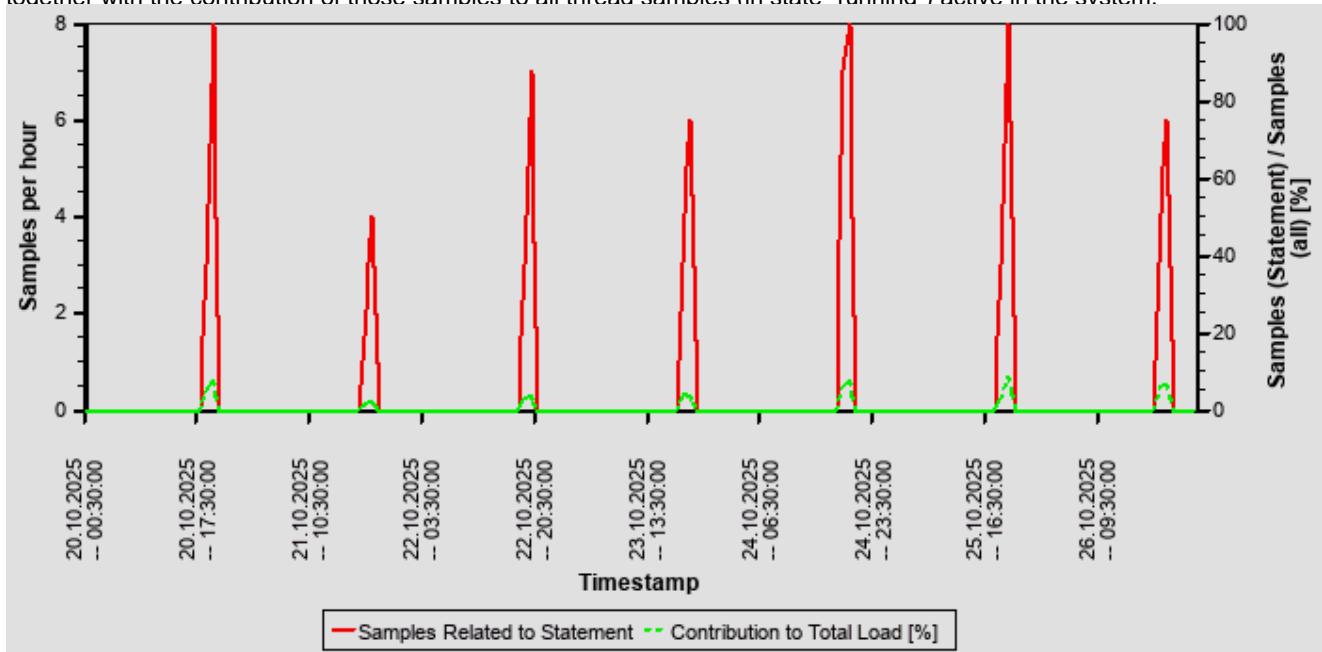
18.6.1.1.1 High Memory Consumption

The memory consumption of this statement is relatively high when compared with the minimum "effective allocation limit" of the index server(s) as obtained from M_SERVICE_MEMORY. See the following table for details. Note that the excessive memory consumption of a single statement might impact the stability of the whole SAP HANA system. See [SAP Note 1999997](#) for details and for an option to restrict the maximum memory allocated by a single statement.

(Minimal) Effective Allocation Limit [GB]	471,4
Maximal Statement Size / Effective Allocation Limit [%]	7,9
Average Statement Size / Effective Allocation Limit [%]	7,9

18.6.1.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.6.1.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
BSEG	SAPHANADB	COLUMN	Table not partitioned	13.950.627	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
BSIS_BCK	SAPHANADB	COLUMN	Table not partitioned	0	saazs-v-sap33

18.6.1.4 Origin of SQL Statement

APPLICATION_NAME	APPLICATION_SOURCE	PASSPORT_ACTION
ADMS		

18.6.2 Statement df5c94b4e8dd5a6d42965efd275d12d4

CALL "ZCL_FCLM_BSEGFLOW_SAMPLE10=>GET_REL_DOCS_Q#stb2#20200814181941" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)

Statement Impact

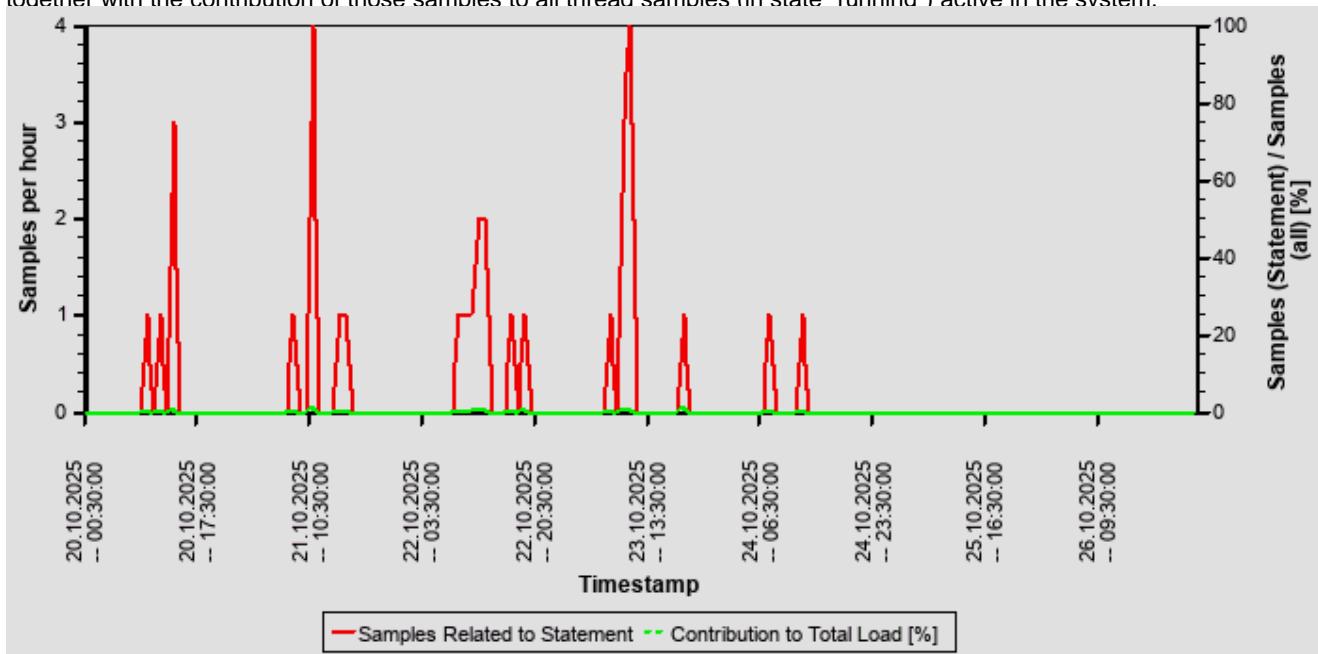
Indicator	Value
Contribution to Total CPU Load [%]	0,09
Maximal CPU Consumption per Hour [%] (21.10.2025 between 10:00 and 11:00)	0,09
Maximal Memory Consumption [%] (23.10.2025 -- 11:38:40)	1,92

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement
SAP HANA SQL Statements in SEP -> Top Statement (Maximal Memory in Trace)
SAP HANA SQL Statements in SEP -> Top Statements (Elapsed Time)

18.6.2.1 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.6.2.2 Correlation with Index Server Resource Consumption

The distribution of thread samples with the status "Running" correlates with the overall CPU or memory consumption of the system. Such a correlation indicates that this statement might be responsible for peaks in the memory or CPU consumption.

Distribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,42	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,10	no significant correlation

18.6.2.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
BSEG	SAPHANADB	COLUMN	Table not partitioned	13.950.627	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
DUMMY	SYS	ROW	Table not partitioned	1	saazs-v-sap33

Note This statement accesses one or more tables in the column store and one or more tables in the row store. Processing such a statement leads to increased CPU and memory consumption compared with processing a statement in which all tables are of the same type. Check whether it is possible to locate all accessed tables in the same type of store or to change the statement such that it only accesses tables of one type.

18.6.2.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	FCLM_FLOW_BUI LDER_EVENT_100	ZCL_FCLM_BSEGFLOW_SAMPLE 10====CM00C	1	14.08.2020	

18.6.3 Statement 8c2d3a7c3772d22872867fc7aa3fd8fa

SELECT

```
/* FDA WRITE */ DISTINCT "A" . "PRICING_KEY" , "A" . "DOCUMENT" , "A" . "KPOSN" , "A" . "VERSION" , "A" .
"PREDECESSOR_DOC" , "A" . "PREDECESSOR_DOC_ITM" , "A" . "KSCHL" , "A" . "TERMSTATUS" , "A" .
"QUOTPERIOD_BEGIN" , "A" . "QUOTPERIOD_END" , "A" . "CGROUP" , "A" . "DCSID" , "A" . "TERMINO" , "A" .
"TERMID" , "B" . "TERMSTTEXT" , "A" . "KBETR" , "A" . "KRECH" , "A" . "KWERT" , "A" . "WAERS" , "A" . "WAERK" , "A" .
"KAPPL" , "P" . "KKURS" , "A" . "KALSM" , "C" . "SIGN" , "A" . "VALID_TO_DATE" , "A" . "VALID_TO_TIME" , "A" .
"KSCHL_SUBKEY"
```

FROM

```
( "CMM_VLOGP" "A" LEFT OUTER JOIN "CPEC_TERMSTATUST" "B" ON "A" . "MANDT" = "B" . "CLIENT" AND "A" .
"TERMSTATUS" = "B" . "TERMSTATUS" LEFT OUTER JOIN "PRCD_ELEMENTS" "P" ON "A" . "MANDT" = "P" .
"CLIENT" AND "A" . "PRICING_KEY" = "P" . "KNUMV" AND "A" . "KSCHL" = "P" . "KSCHL" LEFT OUTER JOIN
"CMM_MTM_CALC" "C" ON "A" . "MANDT" = "C" . "MANDT" AND "A" . "KAPPL" = "C" . "KAPPL" AND "A" . "KALSM" =
"C" . "KALSM" AND "A" . "KSCHL" = "C" . "KSCHL" ) , ? AS "t_00" ("C_0" NVARCHAR
```

(20)

WHERE

```
"A" . "MANDT" = ? AND "A" . "DOCUMENT" = "t_00" . "C_0" AND "B" . "LANGU" = ?
```

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,11
Maximal CPU Consumption per Hour [%] (23.10.2025 between 23:00 and 24:00)	0,20
Maximal Memory Consumption [%] (23.10.2025 -- 02:05:26)	1,20

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement

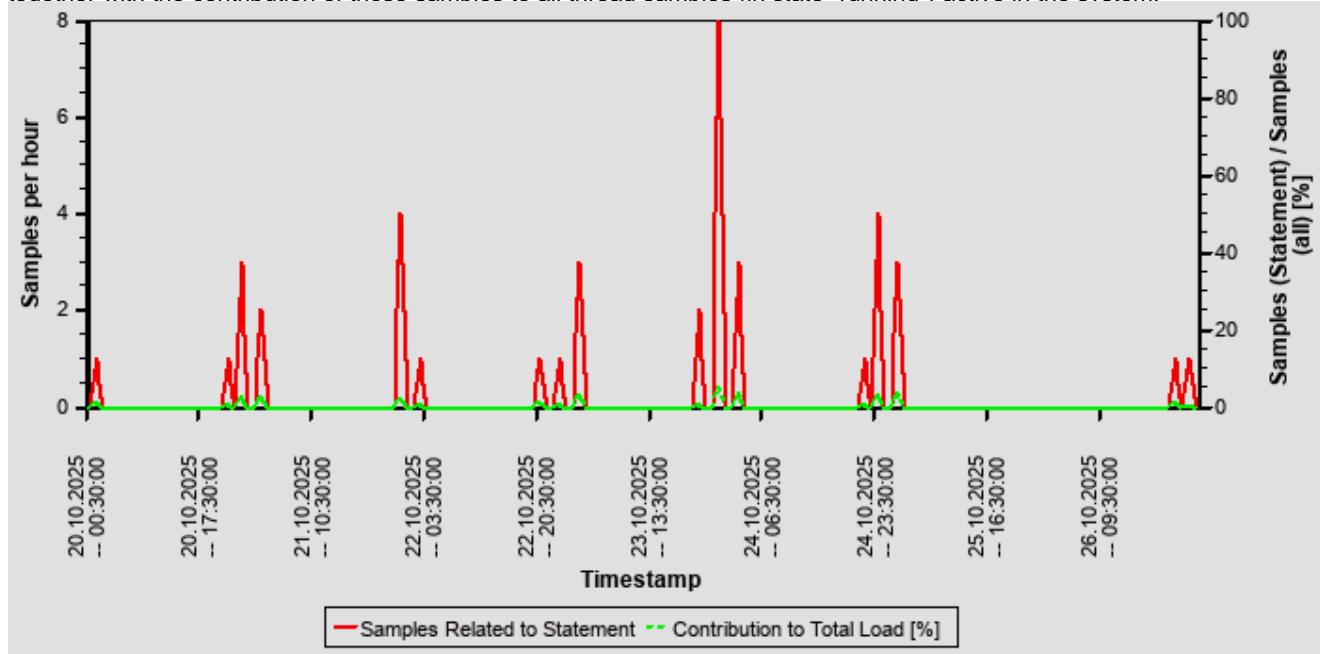
SAP HANA SQL Statements in SEP -> Top Statement (Maximal Memory in Trace)

18.6.3.1 Analysis of Where Clause

Table	Field	Operator
?	DOCUMENT	=
?	LANGU	=
?	MANDT	=

18.6.3.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.6.3.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
CMM_VLOGP	SAPHANADB	COLUMN	Table not partitioned	89.744.633	saazs-v-sap33
PRCD_ELEMENTS	SAPHANADB	COLUMN	Table not partitioned	32.180.061	saazs-v-sap33
CPEC_TERMSTATUST	SAPHANADB	COLUMN	Table not partitioned	80	saazs-v-sap33
CMM_MTM_CALC	SAPHANADB	COLUMN	Table not partitioned	62	saazs-v-sap33

18.6.3.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the



information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	ZCM_DTS_DOWNLOAD	ZCM_CONTRACT_DETAILS_REPORT	782	31.05.2021	
SEP	ZCM_MK_TC_CDR	ZCM_CONTRACT_DETAILS_REPORT	782	31.05.2021	

18.6.4 Statement 7e3b27c93bd4fd7f2dfba19861cb957c

SELECT

ZZHDBSSA1.*

FROM

(SELECT /* [NAME] HANA_Tables_ColumnStore_Columns_2.00.040+ [DESCRIPTION] - Provides information for columns located in column store [SOURCE] - SAP Note 1969700 [DETAILS AND RESTRICTIONS] - M_CS_ALL_COLUMN_STATISTICS available with SAP HANA >= 2.00.030 - M_CS_ALL_COLUMNS.PERSISTENT_MEMORY_SIZE_IN_TOTAL available with SAP HANA >= 2.00.030 - M_CS_ALL_COLUMNS.NUMA_NODE_INDEX available with SAP HANA >= 2.00.040 [VALID FOR] - Revisions: >= 2.00.040 [SQL COMMAND VERSION] - 2014/03/13: 1.0 (initial version) - 2014/04/02: 1.1 (NUM_DISTINCT included) - 2014/07/09: 1.2 (LOADED added) - 2014/10/20: 1.3 (OBJECT_LEVEL added) - 2015/01/17: 1.4 (FULLTEXT_INDEXES included) - 2015/07/21: 1.5 (EXCLUDE_PK_AND_UNIQUE included) - 2017/03/21: 1.6 (LAST_LOAD_TIME included) - 2018/12/17: 1.7 (dedicated 2.00.030+ version including M_CS_ALL_COLUMN_STATISTICS) - 2019/03/16: 1.8 (PERSISTENT_MEMORY included) - 2019/06/05: 1.9 (persistent memory details considered) - 2019/06/26: 2.0 (COLUMN_NAME filter added) - 2019/11/03: 2.1 (ONLY_PK_AND_UNIQUE added) - 2020/09/24: 2.2 (dedicated 2.00.040+ version including NUMA node information, PART_ID filter added) - 2020/10/01: 2.3 (PERSISTENCY_TYPE and LOAD_UNIT added) - 2020/12/05: 2.4 (MEM_PAGED_MB added) - 2021/06/15: 2.5 (DISK_MB and DISK_PAGE_MB added) [INVOLVED TABLES] - CS_JOIN_CONDITIONS - CONSTRAINTS - INDEX_COLUMNS - INDEXES - M_CS_ALL_COLUMNS - M_CS_ALL_COLUMN_STATISTICS - M_CS_COLUMNS_PERSISTENCE - TABLE_COLUMNS [INPUT PARAMETERS] - HOST Host name 'saphana01' --> Specific host saphana01 'saphana%' --> All hosts starting with saphana '%' --> All hosts - PORT Port number '30007' --> Port 30007 '%03' --> All ports ending with '03' '%' --> No restriction to ports - SERVICE_NAME Service name 'indexserver' --> Specific service indexserver '%server' --> All services ending with 'server' '%' --> All services - SCHEMA_NAME Schema name or pattern 'SAPSR3' --> Specific schema SAPSR3 'SAP%' --> All schemata starting with 'SAP' '%' --> All schemata - TABLE_NAME Table name or pattern 'T000' --> Specific table T000 'T%' --> All tables starting with 'T' '%' --> All tables - COLUMN_NAME Column name 'MATNR' --> Column MATNR '%' --> Columns starting with "Z" '%' --> No restriction related to columns - PART_ID Partition number 2 --> Only show information for partition number 2 -1 --> No restriction related to partition number - DATA_TYPE Column data type 'NCLOB' --> Type 'NCLOB' '%LOB%' --> All types containing 'LOB' '%' --> All types - COLUMN_NAME_LENGTH_LIMIT Maximum length of displayed column name (truncation if name is longer) 40 --> Display a maximum of 40 characters of column name -1 --> Display complete column names - ATTRIBUTE_TYPE Column attribute type 'ROWID' --> Restriction to columns with internal attribute type 'ROWID' 'TREX%' --> Restriction to columns with internal attribute type starting with 'TREX' '%' --> No restriction by internal attribute type - LOADED Column memory load state 'TRUE' --> Column loaded into memory 'FALSE' --> Columns not loaded into memory '%' --> No restriction related to column load state - LOAD_UNIT Column load unit 'COLUMN' --> Load unit COLUMN (i.e. loading of complete column) 'PAGE' --> Load unit PAGE (i.e. page-wise loads) - PAGEABLE Restriction to pageable / non-pageable columns (paged attributes, see SAP Note 1871386) 'YES' --> Only show columns that can be defined as paged attributes 'NO' --> Only show columns that cannot be defined as paged attributes '%' --> No restriction related to paged attributes - PERSISTENT_MEMORY Utilization of persistent memory (SAP Note 2700084) 'TRUE' --> Only show tables using persistent memory 'FALSE' --> Only show tables not using persistent memory '%' --> No restriction related to persistent memory - PERSISTENCE_TYPE Persistence type of column 'SINGLE' --> Persistence type SINGLE 'VIRTUAL_FILE' --> Persistence type VIRTUAL_FILE '%' --> No restriction related to persistence type - ONLY_INTERNAL_COLUMNS Activates / deactivates restriction to internal columns 'X' --> Only internal columns (typically starting with '\$') are considered '' --> All columns are considered - EXCLUDE_PK_AND_UNIQUE Possibility to exclude columns related to primary keys and unique indexes 'X' --> Exclude columns related to primary keys and unique indexes '' --> No restriction

...

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,05
Maximal CPU Consumption per Hour [%] (20.10.2025 between 04:00 and 05:00)	0,32
Maximal Memory Consumption [%]	1,66

18.6.4.1 Memory Consumption

The following table provides an overview of the memory consumption of the analyzed SQL statement as obtained from the monitoring view M_SQL_PLAN_STATISTICS (or – if not yet available – M_SQL_PLAN_CACHE), that is, without taking a specific time interval into account.

Activity	Total Memory [GB]	Average Memory [MB]	Minimal Memory [MB]	Maximal Memory [MB]
EXECUTION_MEMORY_SIZE	8	8.009,8	8.009,8	8.009,8

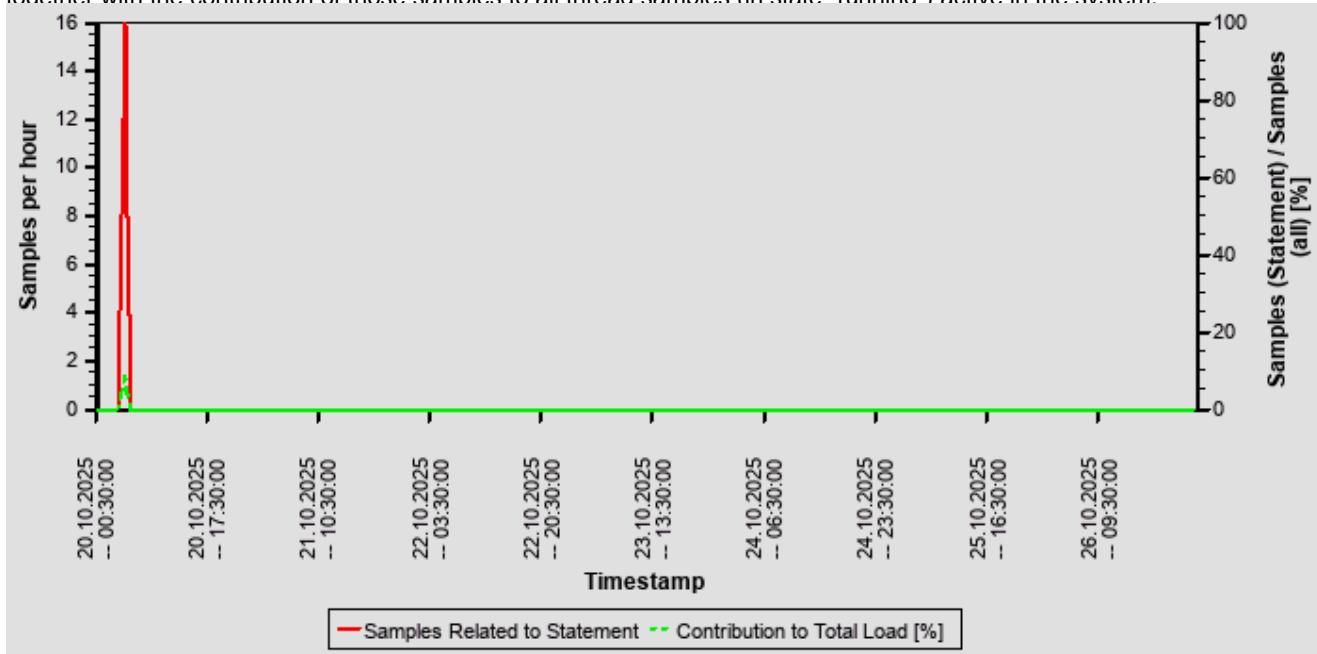
18.6.4.1.1 High Memory Consumption

The memory consumption of this statement is relatively high when compared with the minimum "effective allocation limit" of the index server(s) as obtained from M_SERVICE_MEMORY. See the following table for details. Note that the excessive memory consumption of a single statement might impact the stability of the whole SAP HANA system. See [SAP Note 1999997](#) for details and for an option to restrict the maximum memory allocated by a single statement.

(Minimal) Effective Allocation Limit [GB]	471,4
Maximal Statement Size / Effective Allocation Limit [%]	1,7
Average Statement Size / Effective Allocation Limit [%]	1,7

18.6.4.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.6.4.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
RS_COLUMNS_	SYS	ROW	Table not partitioned	1.254.412	saazs-v-sap33
P_INDEXES_	SYS	ROW	Table not partitioned	138.364	saazs-v-sap33
RS_TABLES_	SYS	ROW	Table not partitioned	10.806	saazs-v-sap33
P PROCEDURES_	SYS	ROW	Table not partitioned	10.481	saazs-v-sap33
P_SCHEMAS_	SYS	ROW	Table not partitioned	65	saazs-v-sap33

18.6.4.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	/BDL/TASK_PROCES SOR	CL_SQL_ST ATEMENT== =====CM004	23	28.05.2018	✓	BC-DB-DBI	DB-Independent Database Interface

18.6.5 Statement 01d15b50b8dab0b9df28c9396a7c664c

```

SELECT
case when flow_id is null then a.nrlevel else case when a.nrlevel >= b.flow_id then a.nrlevel else b.flow_id end end
asnrlvl
FROM( select nrlevel
FROM
"ZCL_FCLM_BSEGFLOW_SAMPLE10=>NRIV#covw"
WHERE
object = __typed_NString__(\$1, 10) and nrrangernr = __typed_NString__(\$2, 2) and CLIENT = __typed_NString__(\$3, 3) )
as a, ( select max(flow_id) as flow_id
FROM
"ZCL_FCLM_BSEGFLOW_SAMPLE10=>FQM_FLOW#covw"
WHERE
mandt = __typed_NString__(\$3, 3) ) as b

```

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	24,88
Maximal CPU Consumption per Hour [%] (20.10.2025 between 13:00 and 14:00)	5,96
Maximal Memory Consumption [%]	1,79

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement

SAP HANA SQL Statements in SEP -> Top Statements (Thread Samples)

18.6.5.1 Analysis of Where Clause

Table	Field	Operator
?	CLIENT	=
?	MANDT	=
?	NRRANGENR	=
?	OBJECT	=
?	ZCL_FCLM_BSEGFLOW_SAMPLE10=	>

18.6.5.2 Thread Distribution

The following table(s) shows both (if available) the "thread distribution" in terms of "thread state" and for thread samples in state "Running" (that is consuming CPU resources) the distribution of thread type and method. The information is obtained from the view HOST_SERVICE_THREAD_SAMPLES in the time interval analyzed. By this, some insight is given to the internal activities when the statement is processed, helping to understand which activities are responsible for the resource and/or time consumption.

For more information concerning threads and thread samples, see also [SAP Note 2114710](#).



Thread State	Area	Samples
Running	SQL	8845
Job Exec Waiting	Idle	1814
Semaphore Wait	Lock	64

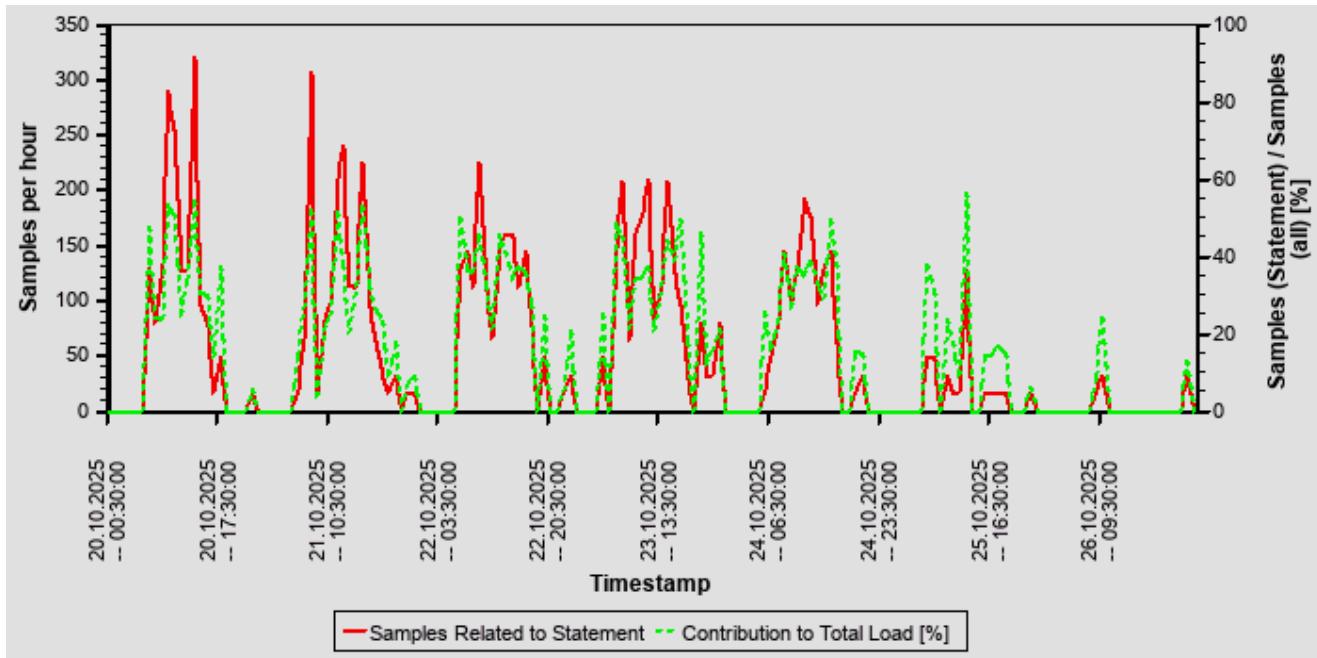
Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (WorkerJob)	8.829
JobWorker (PlanExecutor calc)	15
JobWorker	1

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
SqlExecutor	ExecutePrepared	CALL "ZCL_FCLM_BSEGFLOW_ SAMPLE10=>GET_REL_D OCS_Q#stb2#20200814 181941" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)	631
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (8%)	413
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (15%)	356
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (9%)	323
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (14%)	312
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (6%)	301
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (32%)	298
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (7%)	292
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (13%)	289
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (5%)	282
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (16%)	244
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (17%)	243
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (12%)	237
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (37%)	221
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (4%)	211
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (18%)	208
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (3%)	198
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (11%)	195
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (19%)	191
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (10%)	179
OTHERS	OTHERS	OTHERS	5099

18.6.5.3 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.6.5.4 Correlation with Index Server Resource Consumption

The distribution of thread samples with the status "Running" correlates strongly with the overall CPU or memory consumption of the system. Such a correlation indicates that this statement might be responsible for peaks in the memory or CPU consumption.

Distribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,83	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,22	weak correlation

18.6.5.5 Root Statement

The following table shows details on the "ROOT STATEMENT", which is responsible for the observed SQL statement.

ROOT_STATEMENT_HASH	ROOT_STATEMENT_TEXT	Samples
df5c94b4e8dd5a6d42965efd275d12d4	CALL "ZCL_FCLM_BSEGFLOW_SAMPLE10 =>GET_REL_DOCS_Q#stb2#2020 814181941" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ...,	10723

18.6.5.6 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	FCLM_FLOW_BUI LDER_EVENT_100	ZCL_FCLM_BSEGFLOW_SAMPLE 10====CM00C	1	14.08.2020	

18.6.5.7 Internal SQL Statement

This SQL statement was executed from an internal database connection.

18.7 Top Statement (Maximal Memory in Trace)

This section shows the top statements according to the maximal memory usage as observed in the expensive statement trace, meaning M_EXPENSIVE_STATEMENTS.

See the following table for details of the selection:

Database Start	26.10.2025 -- 15:10:28
Data Collection	27.10.2025 -- 05:24:44
Analysis Type	Analysis of Expensive Statement Trace
Data Source	M_EXPENSIVE_STATEMENTS
First Day	20.10.2025
Last Day	26.10.2025

The selected statements - identified by their "Statement Hash" - are listed in the following table. Further details of these statements can be found in the subsections.

Statement Hash	Time / Execution [us]	Records / Execution	Time / Record [us]	Maximum Memory [MB]
b1ea1151d3439d97fe0aa5d3353154c9	136.672.262,5	4.105.944,4	33,3	37.935,0
df5c94b4e8dd5a6d42965efd275d12d4	37.217.740,9	0,0	0,0	9.264,0
8c55b47e63c4bc14aa737098b9021e5a	22.003.795,0	41.912,0	525,0	6.015,0
7b321cdeb569728db903aa36cf461792	31.015.656,0	42.252,0	734,1	5.951,0
8c2d3a7c3772d22872867fc7aa3fd8fa	52.796.543,0	8.929.140,6	5,9	5.816,0

18.7.1 Statement b1ea1151d3439d97fe0aa5d3353154c9

SELECT

```
"BSIS"."MANDT", `BSIS`."BUKRS", `BSIS`."HKONT", `BSIS`."AUGDT", `BSIS`."AUGBL", `BSIS`."ZUONR",
`BSIS`."GJAHR", `BSIS`."BELNR", `BSIS`."BUZEI", `BSIS`."BUDAT", `BSIS`."BLDAT", `BSIS`."WAERS",
`BSIS`."XBLNR", `BSIS`."BLART", `BSIS`."MONAT", `BSIS`."BSCHL", `BSIS`."SHKZG", `BSIS`."GSBER",
`BSIS`."MWSKZ", `BSIS`."FKONT", `BSIS`."DMBTR", `BSIS`."WRBTR", `BSIS`."MWSTS", `BSIS`."WMWST",
`BSIS`."SGTXT", `BSIS`."PROJN", `BSIS`."AUFNR", `BSIS`."WERKS", `BSIS`."KOSTL", `BSIS`."ZFBDT",
`BSIS`."XOPVW", `BSIS`."VALUT", `BSIS`."BSTAT", `BSIS`."BDIFF", `BSIS`."BDIF2", `BSIS`."VBUND", `BSIS`."PSWSL",
`BSIS`."WVERW", `BSIS`."DMBE2", `BSIS`."DMBE3", `BSIS`."MWST2", `BSIS`."MWST3", `BSIS`."BDIF3",
`BSIS`."RDIF3", `BSIS`."XRAGL", `BSIS`."PROJK", `BSIS`."PRCTR", `BSIS`."XSTOV", `BSIS`."XARCH",
`BSIS`."PSWBT", `BSIS`."XNEGP", `BSIS`."RFZEI", `BSIS`."CCBTC", `BSIS`."XREF3", `BSIS`."BUPLA",
`BSIS`."PPDIFF", `BSIS`."PPDIF2", `BSIS`."PPDIF3", `BSIS`."BEWAR", `BSIS`."IMKEY", `BSIS`."DABRZ",
`BSIS`."INTRENO", `BSIS`."GRANT_NBR", `BSIS`."FKBER", `BSIS`."FIPOS", `BSIS`."FISTL", `BSIS`."GEBER",
`BSIS`."PPRCT", `BSIS`."BUZID", `BSIS`."AUGGJ", `BSIS`."UZAWE", `BSIS`."SEGMENT", `BSIS`."PSEGMENT",
`BSIS`."PGEBER", `BSIS`."PGRANT_NBR", `BSIS`."MEASURE", `BSIS`."BUDGET_PD", `BSIS`."PBUDGET_PD",
`BSIS`."_DATAAGING", `BSIS`."KIDNO", `BSIS`."PRODPER", `BSIS`."QSSKZ", `BSIS`."PROPMANO", `BSIS`."GKONT",
`BSIS`."GKART", `BSIS`."GHKON"
```

FROM

"SAPHANADB"."BSIS"

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,21
Maximal CPU Consumption per Hour [%] (20.10.2025 between 19:00 and 20:00)	0,14
Maximal Memory Consumption [%] (26.10.2025 -- 18:46:57)	7,86

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement

SAP HANA SQL Statements in SEP -> Top Statements (Total Memory)

18.7.1.1 Memory Consumption

The following table provides an overview of the memory consumption of the analyzed SQL statement as obtained from the monitoring view M_SQL_PLAN_STATISTICS (or – if not yet available – M_SQL_PLAN_CACHE), that is, without taking a specific time interval into account.

Activity	Average Memory [MB]	Minimal Memory [MB]	Maximal Memory [MB]
EXECUTION_MEMORY_SIZE	37.897,4	37.832,3	37.935,3

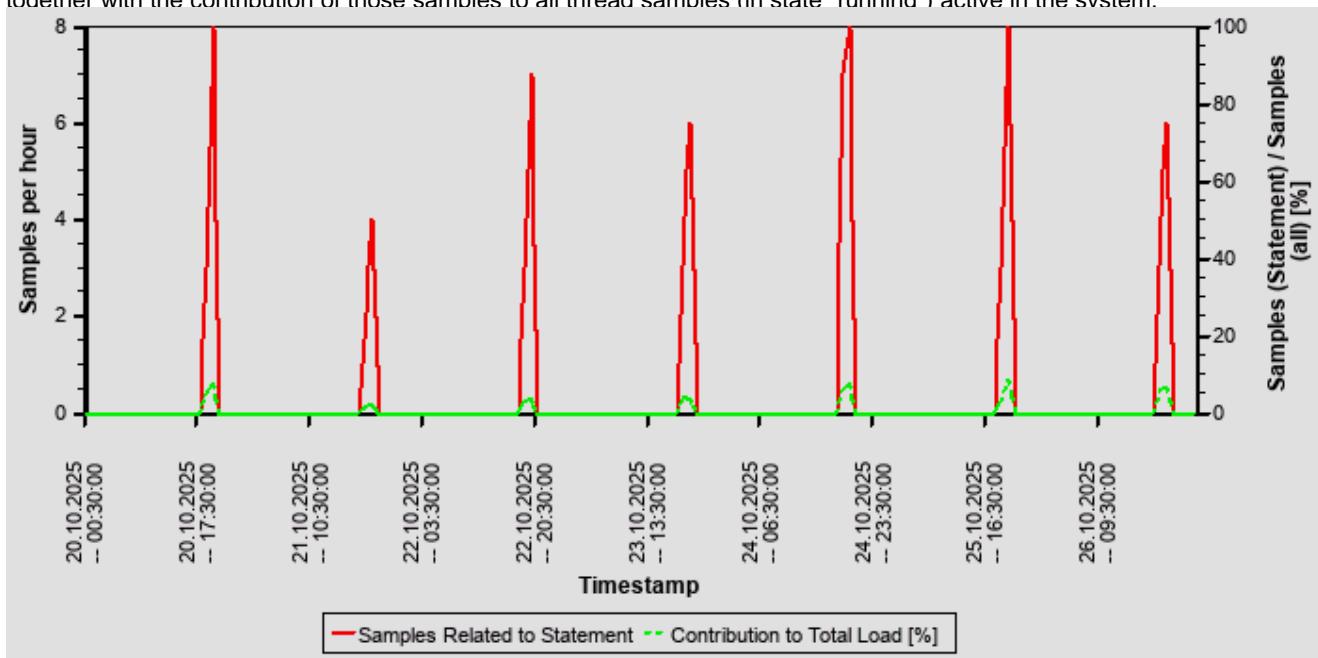
18.7.1.1.1 High Memory Consumption

The memory consumption of this statement is relatively high when compared with the minimum "effective allocation limit" of the index server(s) as obtained from M_SERVICE_MEMORY. See the following table for details. Note that the excessive memory consumption of a single statement might impact the stability of the whole SAP HANA system. See [SAP Note 1999997](#) for details and for an option to restrict the maximum memory allocated by a single statement.

(Minimal) Effective Allocation Limit [GB]	471,4
Maximal Statement Size / Effective Allocation Limit [%]	7,9
Average Statement Size / Effective Allocation Limit [%]	7,9

18.7.1.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.7.1.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
BSEG	SAPHANADB	COLUMN	Table not partitioned	13.950.627	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
BSIS_BCK	SAPHANADB	COLUMN	Table not partitioned	0	saazs-v-sap33

18.7.1.4 Origin of SQL Statement

APPLICATION_NAME	APPLICATION_SOURCE	PASSPORT_ACTION
------------------	--------------------	-----------------

APPLICATION_NAME	APPLICATION_SOURCE	PASSPORT_ACTION
ADMS		

18.7.2 Statement df5c94b4e8dd5a6d42965efd275d12d4

CALL "ZCL_FCLM_BSEGFLOW_SAMPLE10=>GET_REL_DOCS_Q#stb2#20200814181941" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)

Statement Impact

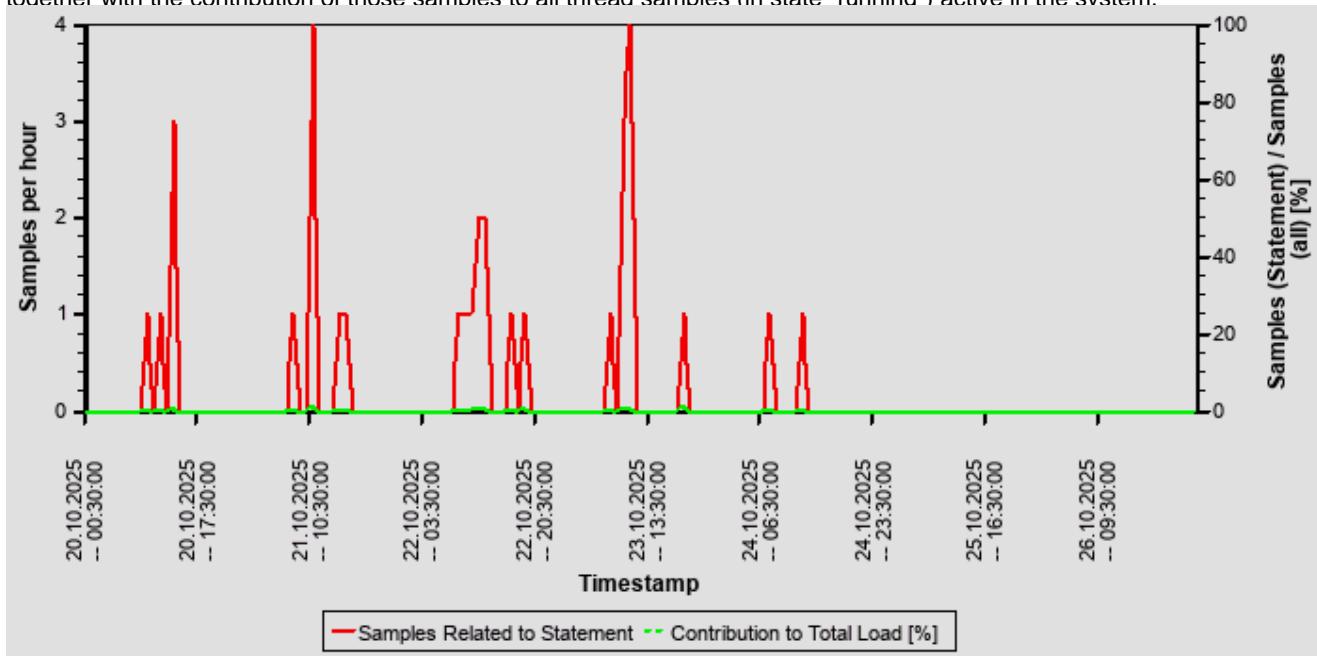
Indicator	Value
Contribution to Total CPU Load [%]	0,09
Maximal CPU Consumption per Hour [%] (21.10.2025 between 10:00 and 11:00)	0,09
Maximal Memory Consumption [%] (23.10.2025 -- 11:38:40)	1,92

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement
SAP HANA SQL Statements in SEP -> Top Statements (Total Memory)
SAP HANA SQL Statements in SEP -> Top Statements (Elapsed Time)

18.7.2.1 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
BSEG	SAPHANADB	COLUMN	Table not partitioned	13.950.627	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
ATPRA	SAPHANADB	COLUMN	Table not partitioned	14	saazs-v-sap33

18.7.2.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	FCLM_FLOW_BUI LDER_EVENT_100	ZCL_FCLM_BSEGFLOW_SAMPLE 10====CM00C	1	14.08.2020	

18.7.3 Statement 8c55b47e63c4bc14aa737098b9021e5a

```

SELECT
"CHARTOFAccounts" "K____1205" , "ControllingArea" "K____2899" , "GLAccount" "K____1211" ,
"COSTCENTER" "K____3067" , "ACCOUNTINGDOCCREATEDBYUSER" "K____13531" ,
"ACCOUNTINGDOCUMENTHEADERTEXT" "K____13532" , "GLOBALCURRENCY" "K____13241" ,
"COMPANYCODECURRENCY" "K____13294" , "BASEUNIT" "K____13351" , "PLANNINGCATEGORY" "K____7040" ,
COUNT(*) "Z____131_SUM" , SUM( "AMOUNTINCOMPANYCODECURRENCY" ) "Z____13259_SUM" , SUM(
"AMOUNTINGLOBALCURRENCY" ) "Z____13274_SUM" , SUM( "QUANTITY" ) "Z____13361_SUM"
FROM
/* Entity name: ZML_I_ACTUALPLANJRNLENTRYITMC2 */ "ZMLIFIAPLNJE2" "A1"
WHERE
"MANDT" = ? AND "LEDGERFISCALYEAR" = ? AND "CHARTOFAccounts" = ? AND "ControllingArea" = ? AND
"SEGMENT" = ? AND "FISCAL
YEARVARIANT" = ? AND "LEDGER" = ?
GROUP BY
"CHARTOFAccounts" , "ControllingArea" , "GLAccount" , "COSTCENTER" ,
"ACCOUNTINGDOCCREATEDBYUSER" , "ACCOUNTINGDOCUMENTH
EADERTEXT" , "GLOBALCURRENCY" , "COMPANYCODECURRENCY" , "BASEUNIT" , "PLANNINGCATEGORY"
ORDER BY
"A1" . "GLAccount" , "A1" . "COSTCENTER" , "A1" . "ACCOUNTINGDOCCREATEDBYUSER" , "A1" .
"ACCOUNTINGDOCUMENTHEADERTEXT" WITH HINT(RESULT_LAG ('hana_long'))
Statement Impact

```

Indicator	Value
Maximal Memory Consumption [%] (24.10.2025 -- 11:28:28)	1,25

18.7.3.1 Analysis of Where Clause

Table	Field	Operator
?	CHARTOFAccounts	=
?	ControllingArea	=
?	FISCALYEARVARIANT	=
?	LEDGER	=
?	LEDGERFISCALYEAR	=
?	MANDT	=
?	SEGMENT	=

18.7.3.2 Time Consumption

The following table gives an overview of the time consumption of the analyzed SQL statement.

Activity	Total Time [s]	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	14	14.124.627	14.124.627	14.124.627
PREPARATION	8	7.879.168		
LOCK DURATION	0	0		

18.7.3.2.1 High Preparation Time

The preparation time for this statement is relatively high when compared with the execution time.

See [SAP Note 2124112](#) for advice on how to analyze performance or memory issues caused by parsing in SAP HANA environments.

18.7.3.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA	SAPHANADB	COLUMN	Table not partitioned	38.154.498	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
AUFK	SAPHANADB	COLUMN	Table not partitioned	2.240.711	saazs-v-sap33
ACDOCP	SAPHANADB	COLUMN	Table not partitioned	2.044	saazs-v-sap33
CEPC	SAPHANADB	COLUMN	Table not partitioned	67	saazs-v-sap33

18.7.3.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	CL_RSDRS_SQL_QUERY== =====CM01H	48	30.01.2017	✓	BW-BEX-OT	OLAP Technology

18.7.4 Statement 7b321cdeb569728db903aa36cf461792

SELECT

```
"CHARTOFAccounts" "K____1205" , "ControllingArea" "K____2899" , "GLAccount" "K____1211" ,
"COSTCENTER" "K____3067" , "ISSTATISTICALCOSTCENTER" "K____13295" ,
"ACCOUNTINGDOCCREATEDBYUSER" "K____13531" , "ACCOUNTINGDOCUMENTHEADERTEXT" "K____13532" ,
"GLOBALCURRENCY" "K____13241" , "COMPANYCODECURRENCY" "K____13294" , "BASEUNIT" "K____13351" ,
"PLANNINGCATEGORY" "K____7040" , COUNT(*) "Z____131_SUM" , SUM(
"AMOUNTINCOMPANYCODECURRENCY") "Z____13259_SUM" , SUM( "AMOUNTINGLOBALCURRENCY" )
"Z____13274_SUM" , SUM( "QUANTITY" ) "Z____13361_SUM"
```

FROM

```
/* Entity name: ZML_I_ACTUALPLANJRNLENTRYITMC2 */ "ZMLIFIAPLNJE2" "A1"
```

WHERE

```
"MANDT" = ? AND "LEDGERFISCALYEAR" = ? AND "CHARTOFAccounts" = ? AND "ControllingArea" = ? AND
"SEGMENT" = ? AND "FISCAL
```

YEARVARIANT" = ? AND "LEDGER" = ?

GROUP BY

```
"CHARTOFAccounts" , "ControllingArea" , "GLAccount" , "COSTCENTER" ,
```



"ISSTATISTICALCOSTCENTER" , "ACCOUNTINGDOCCREATEDBY

USER" , "ACCOUNTINGDOCUMENTHEADERTEXT" , "GLOBALCURRENCY" , "COMPANYCODECURRENCY" ,
"BASEUNIT" , "PLANNINGCATEGORY"

ORDER BY

"A1" . "GLACCOUNT" , "A1" . "COSTCENTER" , "A1" . "ISSTATISTICALCOSTCENTER" , "A1" .

"ACCOUNTINGDOCCREATEDBYUSER" , "A1" . "ACCOUNTINGDOCUMENTHEADERTEXT" WITH HINT(RESULT_LAG
('hana_long'))

Statement Impact

Indicator	Value
Maximal Memory Consumption [%] (24.10.2025 -- 11:26:14)	1,23

18.7.4.1 Analysis of Where Clause

Table	Field	Operator
?	CHARTOFAccountS	=
?	CONTROLLINGAREA	=
?	FISCALYEARVARIANT	=
?	LEDGER	=
?	LEDGERFISCALYEAR	=
?	MANDT	=
?	SEGMENT	=

18.7.4.2 Time Consumption

The following table gives an overview of the time consumption of the analyzed SQL statement.

Activity	Total Time [s]	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	17	16.903.445	16.903.445	16.903.445
PREPARATION	14	14.112.211		
LOCK DURATION	0	0		

18.7.4.2.1 High Preparation Time

The preparation time for this statement is relatively high when compared with the execution time.

See [SAP Note 2124112](#) for advice on how to analyze performance or memory issues caused by parsing in SAP HANA environments.

18.7.4.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA	SAPHANADB	COLUMN	Table not partitioned	38.154.498	saazs-v-sap33
BKPF	SAPHANADB	COLUMN	Table not partitioned	8.844.857	saazs-v-sap33
AUFK	SAPHANADB	COLUMN	Table not partitioned	2.240.711	saazs-v-sap33
ACDOCOP	SAPHANADB	COLUMN	Table not partitioned	2.044	saazs-v-sap33
CEPC	SAPHANADB	COLUMN	Table not partitioned	67	saazs-v-sap33

18.7.4.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	CL_RSDRS_SQL_QUERY== =====CM01H	48	30.01.2017	✓	BW-BEX-OT	OLAP Technology

18.7.5 Statement 8c2d3a7c3772d22872867fc7aa3fd8fa

```

SELECT
/* FDA WRITE */ DISTINCT "A" . "PRICING_KEY" , "A" . "DOCUMENT" , "A" . "KPOSN" , "A" . "VERSION" , "A" .
"PREDECESSOR_DOC" , "A" . "PREDECESSOR_DOC_ITM" , "A" . "KSCHL" , "A" . "TERMSTATUS" , "A" .
"QUOTPERIOD_BEGIN" , "A" . "QUOTPERIOD_END" , "A" . "CGROUP" , "A" . "DCSID" , "A" . "TERMINO" , "A" .
"TERMID" , "B" . "TERMSTTEXT" , "A" . "KBETR" , "A" . "KRECH" , "A" . "KWERT" , "A" . "WAERS" , "A" . "WAERK" , "A" .
"KAPPL" , "P" . "KKURS" , "A" . "KALSM" , "C" . "SIGN" , "A" . "VALID_TO_DATE" , "A" . "VALID_TO_TIME" , "A" .
"KSCHL_SUBKEY"
FROM
( "CMM_VLOGP" "A" LEFT OUTER JOIN "CPEC_TERMSTATUST" "B" ON "A" . "MANDT" = "B" . "CLIENT" AND "A" .
"TERMSTATUS" = "B" . "TERMSTATUS" LEFT OUTER JOIN "PRCD_ELEMENTS" "P" ON "A" . "MANDT" = "P" .
"CLIENT" AND "A" . "PRICING_KEY" = "P" . "KNUMV" AND "A" . "KSCHL" = "P" . "KSCHL" LEFT OUTER JOIN
"CMM_MTM_CALC" "C" ON "A" . "MANDT" = "C" . "MANDT" AND "A" . "KAPPL" = "C" . "KAPPL" AND "A" . "KALSM" =
"C" . "KALSM" AND "A" . "KSCHL" = "C" . "KSCHL" ) , ? AS "t_00" ("C_0" NVARCHAR
(20))
WHERE
"A" . "MANDT" = ? AND "A" . "DOCUMENT" = "t_00" . "C_0" AND "B" . "LANGU" = ?

```

Statement Impact

Indicator	Value
Contribution to Total CPU Load [%]	0,11
Maximal CPU Consumption per Hour [%] (23.10.2025 between 23:00 and 24:00)	0,20
Maximal Memory Consumption [%] (23.10.2025 -- 02:05:26)	1,20

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement

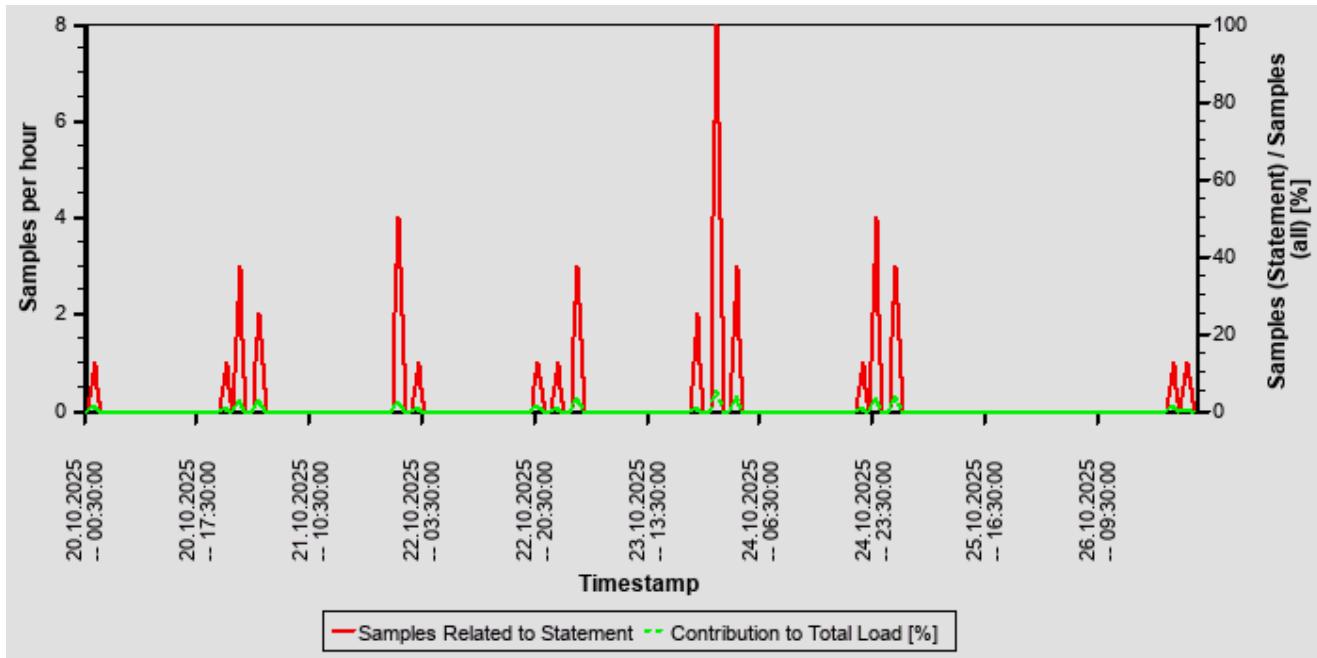
SAP HANA SQL Statements in SEP -> Top Statements (Total Memory)

18.7.5.1 Analysis of Where Clause

Table	Field	Operator
?	DOCUMENT	=
?	LANGU	=
?	MANDT	=

18.7.5.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.7.5.3 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
CMM_VLOGP	SAPHANADB	COLUMN	Table not partitioned	89.744.633	saazs-v-sap33
PRCD_ELEMENTS	SAPHANADB	COLUMN	Table not partitioned	32.180.061	saazs-v-sap33
CPEC_TERMSTATUST	SAPHANADB	COLUMN	Table not partitioned	80	saazs-v-sap33
CMM_MTM_CALC	SAPHANADB	COLUMN	Table not partitioned	62	saazs-v-sap33

18.7.5.4 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	ZCM_DTS_DOWNLOAD	ZCM_CONTRACT_DETAILS_REPORT	782	31.05.2021	
SEP	ZCM_MK_TC_CDR	ZCM_CONTRACT_DETAILS_REPORT	782	31.05.2021	

18.8 Top Statements (Thread Samples)

This section shows the top statements according to the number of observed "threads" ("Number of Samples") in the SERVICE THREAD SAMPLES. A statement might occupy a high number of threads if (a) it has a long execution time, (b) it is executed very often, or (c) it has a highly parallelized execution. In any case, it shows statements with a high resource consumption on the SAP HANA database.

See the following table for details of the selection:

Database Start	26.10.2025 -- 15:10:28
Data Collection	27.10.2025 -- 05:24:44
Analysis Type	Analysis of Thread Samples
Data Source	HOST_SERVICE_THREAD_SAMPLES
First Day	20.10.2025
Last Day	26.10.2025

The selected statements - identified by their "Statement Hash" - are listed in the following table. Further details of these statements can be found in the subsections.

Statement Hash	Time / Execution [us]	Records / Execution	Time / Record [us]	Number of Samples
01d15b50b8dab0b9df28c9396a7c664c	21.247.851,4	1,0	21.247.851,4	8.845
dbc5873a840795ef673d9ffab6233bae	19.042.528,4	1,0	19.042.528,4	8.301
9839265e2929b77258cb495ace05b7d1	2.007.813,4	479,8	4.185,0	939
989462653170b77e32b7f50531a75cb3	22.992,8	7,4	3.127,4	519
ba81a383d98a296d2e44e04278ccb770	4.302.134,2	0,0	0,0	236

18.8.1 Statement 01d15b50b8dab0b9df28c9396a7c664c

```

SELECT
case when flow_id is null then a.nrlevel else case when a.nrlevel >= b.flow_id then a.nrlevel else b.flow_id end end
asnrlvl
FROM( select nrlevel
FROM
"ZCL_FCLM_BSEGFLOW_SAMPLE10=>NRIV#covw"
WHERE
object = __typed_NString__(\$1, 10) and nrangenr = __typed_NString__(\$2, 2) and CLIENT = __typed_NString__(\$3, 3) )
as a, ( select max(flow_id) as flow_id
FROM
"ZCL_FCLM_BSEGFLOW_SAMPLE10=>FQM_FLOW#covw"
WHERE
mandt = __typed_NString__(\$3, 3) ) as b
Statement Impact

```

Indicator	Value
Contribution to Total CPU Load [%]	24,88
Maximal CPU Consumption per Hour [%] (20.10.2025 between 13:00 and 14:00)	5,96
Maximal Memory Consumption [%]	1,79

Note: The statement as identified by its statement hash can also be found in other sections of this report:

Other Sections Dealing with this Statement

SAP HANA SQL Statements in SEP -> Top Statements (Total Memory)

18.8.1.1 Analysis of Where Clause

Table	Field	Operator
?	CLIENT	=
?	MANDT	=
?	NRRANGENR	=
?	OBJECT	=
?	ZCL_FCLM_BSEGFLOW_SAMPLE10=	>

18.8.1.2 Thread Distribution

The following table(s) shows both (if available) the "thread distribution" in terms of "thread state" and for thread samples in state "Running" (that is consuming CPU resources) the distribution of thread type and method. The information is obtained from the view HOST_SERVICE_THREAD_SAMPLES in the time interval analyzed. By this, some insight is given to the internal activities when the statement is processed, helping to understand which activities are responsible for the resource and/or time consumption.

For more information concerning threads and thread samples, see also [SAP Note 2114710](#).

Thread State	Area	Samples
Running	SQL	8845
Job Exec Waiting	Idle	1814
Semaphore Wait	Lock	64

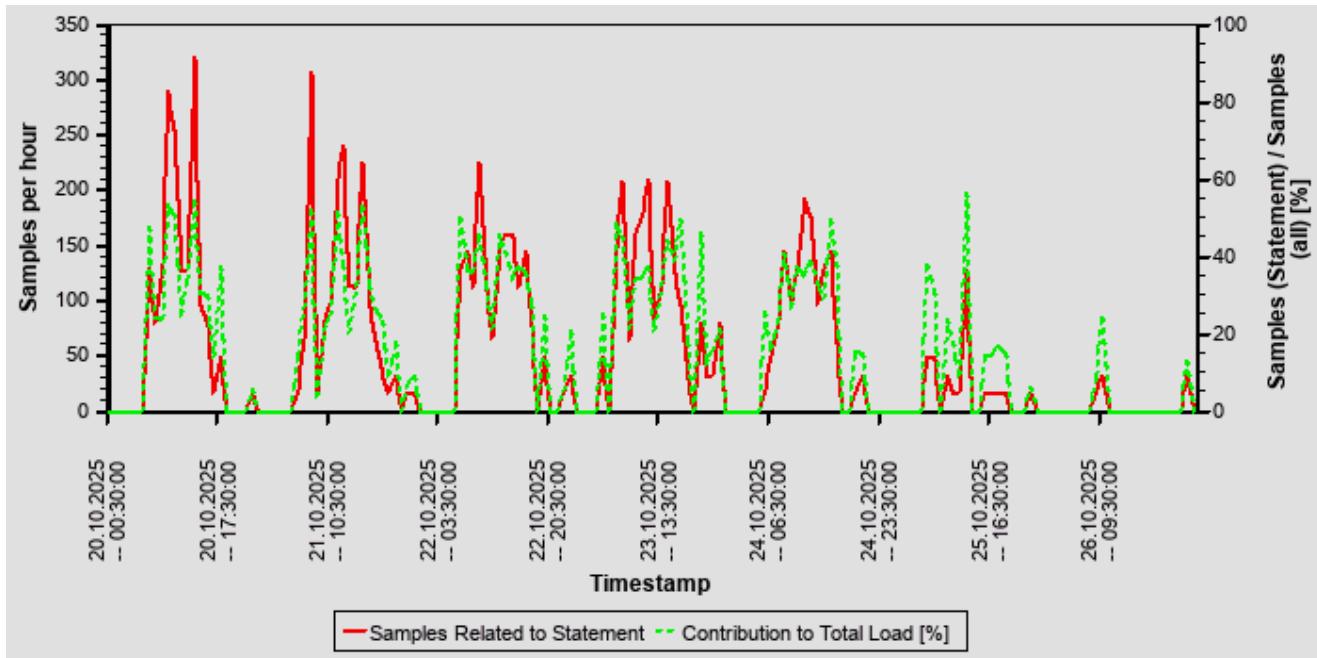
Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (WorkerJob)	8.829
JobWorker (PlanExecutor calc)	15
JobWorker	1

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
SqlExecutor	ExecutePrepared	CALL "ZCL_FCLM_BSEGFLOW_SAMPLE10=>GET_REL_D OCS_Q#stb2#20200814 181941" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)	631
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (8%)	413
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (15%)	356
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (9%)	323
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (14%)	312
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (6%)	301
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (32%)	298
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (7%)	292
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (13%)	289
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (5%)	282
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (16%)	244
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (17%)	243
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (12%)	237
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (37%)	221
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (4%)	211
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (18%)	208
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (3%)	198
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (11%)	195
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (19%)	191
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (10%)	179
OTHERS	OTHERS	OTHERS	5099

18.8.1.3 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.8.1.4 Correlation with Index Server Resource Consumption

The distribution of thread samples with the status "Running" correlates strongly with the overall CPU or memory consumption of the system. Such a correlation indicates that this statement might be responsible for peaks in the memory or CPU consumption.

Distribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,83	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,22	weak correlation

18.8.1.5 Root Statement

The following table shows details on the "ROOT STATEMENT", which is responsible for the observed SQL statement.

ROOT_STATEMENT_HASH	ROOT_STATEMENT_TEXT	Samples
df5c94b4e8dd5a6d42965efd275d12d4	CALL "ZCL_FCLM_BSEGFLOW_SAMPLE10 =>GET_REL_DOCS_Q#stb2#2020 814181941" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ...,	10723

18.8.1.6 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	FCLM_FLOW_BUI LDER_EVENT_100	ZCL_FCLM_BSEGFLOW_SAMPLE 10====CM00C	1	14.08.2020	

18.8.1.7 Internal SQL Statement

This SQL statement was executed from an internal database connection.

18.8.2 Statement dbc5873a840795ef673d9ffab6233bae

```

SELECT
case when flow_id is null then a.nrlevel else case when a.nrlevel >= b.flow_id then a.nrlevel else b.flow_id end end
asnrlvl
FROM( select nrlevel
FROM
"ZCL_FCLM_MMFLOW_SAMPLE=>NRIV#covw"
WHERE
object = __typed_NString__(\$1, 10) and nrrangernr = __typed_NString__(\$2, 2) and CLIENT = __typed_NString__(\$3, 3) )
as a, ( select max(flow_id) as flow_id
FROM
"ZCL_FCLM_MMFLOW_SAMPLE=>FQM_FLOW#covw"
WHERE
mandt = __typed_NString__(\$3, 3) ) as b
Statement Impact

```

Indicator	Value
Contribution to Total CPU Load [%]	23,35
Maximal CPU Consumption per Hour [%] (21.10.2025 between 13:00 and 14:00)	8,40

18.8.2.1 Analysis of Where Clause

Table	Field	Operator
?	CLIENT	=
?	MANDT	=
?	NRRANGENR	=
?	OBJECT	=
?	ZCL_FCLM_MMFLOW_SAMPLE=	>

18.8.2.2 Thread Distribution

The following table(s) shows both (if available) the "thread distribution" in terms of "thread state" and for thread samples in state "Running" (that is consuming CPU resources) the distribution of thread type and method. The information is obtained from the view HOST_SERVICE_THREAD_SAMPLES in the time interval analyzed. By this, some insight is given to the internal activities when the statement is processed, helping to understand which activities are responsible for the resource and/or time consumption.

For more information concerning threads and thread samples, see also [SAP Note 2114710](#).

Thread State	Area	Samples
Running	SQL	8301
Job Exec Waiting	Idle	1583
Semaphore Wait	Lock	1

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (WorkerJob)	8.288
JobWorker (PlanExecutor calc)	13

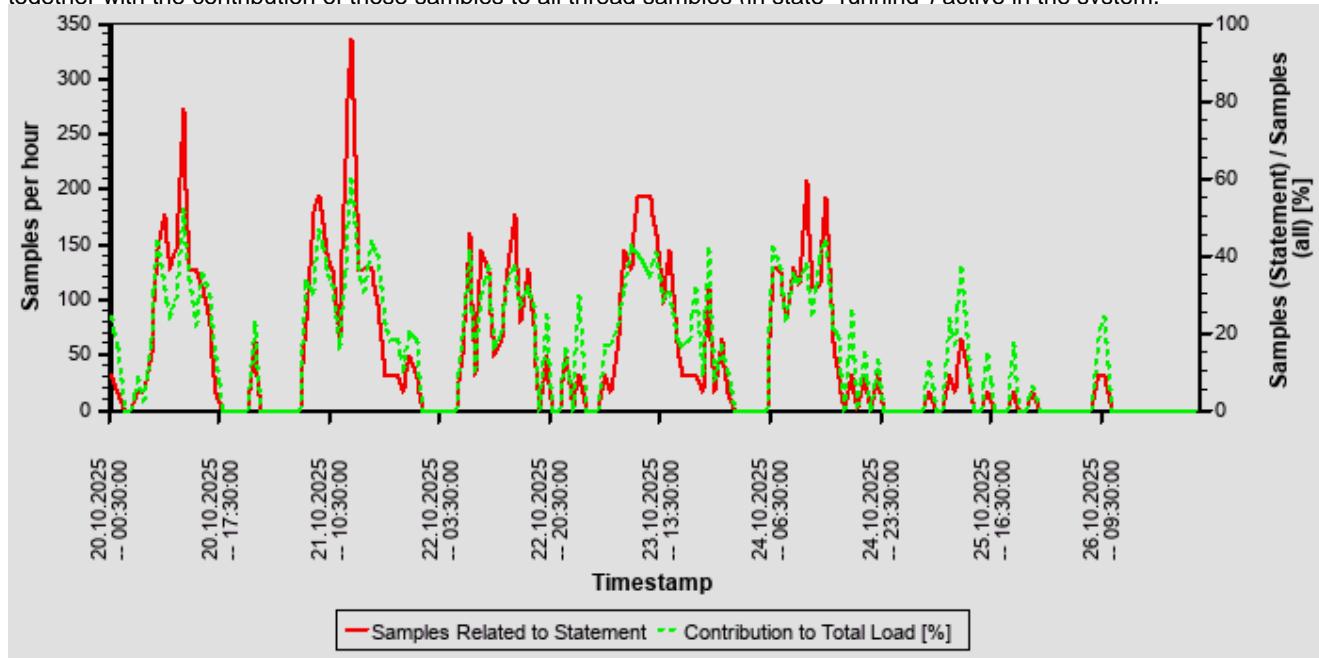
The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
SqlExecutor	ExecutePrepared	CALL "ZCL_FCLM_MMFLOW_SA MPLE=>BUILD_MMDOC_M #stb2#2020081418263 8" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)	532
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FLOWen (14%)	351
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FLOWen (7%)	330
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FLOWen (15%)	321
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FLOWen (11%)	314

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (13%)	288
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (5%)	267
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (8%)	260
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (9%)	256
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (12%)	249
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (10%)	235
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (3%)	223
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (6%)	207
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (32%)	193
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (36%)	192
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (16%)	189
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (46%)	189
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (33%)	182
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (4%)	179
JobWorker	WorkerJob	worker SEP::SAPHANADB:FQM_FL OWen (34%)	179
OTHERS	OTHERS	OTHERS	4749

18.8.2.3 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.8.2.4 Correlation with Index Server Resource Consumption

The distribution of thread samples with the status "Running" correlates strongly with the overall CPU or memory consumption of the system. Such a correlation indicates that this statement might be responsible for peaks in the memory or CPU consumption.

Distribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,86	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,23	weak correlation

18.8.2.5 Root Statement

The following table shows details on the "ROOT STATEMENT", which is responsible for the observed SQL statement.

ROOT_STATEMENT_HASH	ROOT_STATEMENT_TEXT	Samples
4d5e991121993cd050c0def69f1d0d26	CALL "ZCL_FCLM_MMFLOW_SAMPLE=>B UILD_MMDOC_M#stb2#20200814 182638" (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?...)	9885

18.8.2.6 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding
SEP	FCLM_FLOW_BUI LDER_EVENT_100	ZCL_FCLM_MMFLOW_SAMPLE== =====CM002	1	14.08.2020	

18.8.2.7 Internal SQL Statement

This SQL statement was executed from an internal database connection.

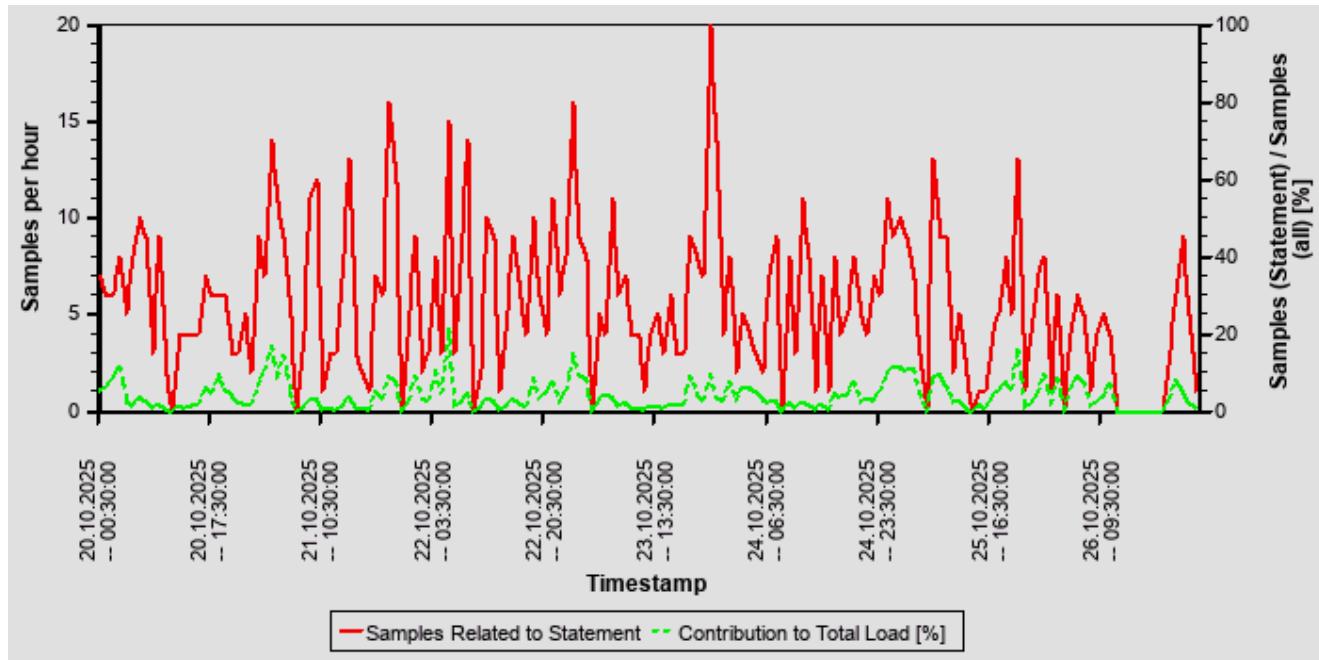
18.8.3 Statement 9839265e2929b77258cb495ace05b7d 1

```
/* procedure: "_SYS_STATISTICS"."COLLECTOR_HOST_SERVICE_THREAD_CALLSTACKS" line: 8 col: 2 (at pos 820)
*/ insert into _SYS_STATISTICS.HOST_SERVICE_THREAD_CALLSTACKS_BASE (snapshot_id, server_timestamp,
site_id, FRAME_LEVEL, FRAME_NAME, HOST, IS_ACTIVE, PORT, SERVICE_NAME, THREAD_ID) select
__typed_Longdate__($1) AS "SNAPSHOT_ID", current_timestamp,
STC.site_id, STC.frame_level, STC.frame_name, STC.host, STC.is_active, STC.port, STC.service_name, STC.thread_id
FROM
_SYS_STATISTICS.SOURCE_COLLECTOR_5057_SERVICE_THREAD_CALLSTACKS STC join
_SYS_STATISTICS.SOURCE_COLLECTOR_5057_SERVICE_T
HREADS ST on STC.host = ST.host and STC.port=ST.port and STC.site_id=ST.site_id and STC.thread_id = ST.thread_id
WHERE
ST.connection_id != current_connection and STC.is_active = 'TRUE'
ORDER BY
STC.thread_id, STC.frame_level, STC.site_id
Statement Impact
```

Indicator	Value
Contribution to Total CPU Load [%]	2,64
Maximal CPU Consumption per Hour [%] (23.10.2025 between 21:00 and 22:00)	0,49

18.8.3.1 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.8.3.2 Root Statement

The following table shows details on the "ROOT STATEMENT", which is responsible for the observed SQL statement.

ROOT_STATEMENT_HASH	ROOT_STATEMENT_TEXT	Samples
d6fd6678833f9a2e25e7b53239c50e9a	call _SYS_STATISTICS.STATISTICS_SC HEDULABLEWRAPPER('Timer', ?, ?, ?, ?)	1598

18.8.3.3 Origin of SQL Statement

APPLICATION_NAME	APPLICATION_SOURCE	PASSPORT_ACTION
Embedded Statistics Server	running ID (5057, deletion: no) for 01.10.2025 09:33:16 000 Wed	
Embedded Statistics Server	running ID (5057, deletion: no) for 05.10.2025 05:38:16 000 Sun	
Embedded Statistics Server	running ID (5057, deletion: no) for 09.10.2025 09:58:16 000 Thu	
Embedded Statistics Server	running ID (5057, deletion: no) for 12.10.2025 19:28:16 000 Sun	
Embedded Statistics Server	running ID (5057, deletion: no) for 13.10.2025 17:28:16 000 Mon	
Embedded Statistics Server	running ID (5057, deletion: no) for 14.10.2025 13:03:16 000 Tue	
Embedded Statistics Server	running ID (5057, deletion: no) for 25.09.2025 05:08:16 000 Thu	
Embedded Statistics Server	running ID (5057, deletion: no) for 27.09.2025 00:28:16 000 Sat	
Embedded Statistics Server	running ID (5057, deletion: no) for 27.09.2025 01:43:16 000 Sat	
Embedded Statistics Server	running ID (5057, deletion: no) for 29.09.2025 11:18:16 000 Mon	

18.8.3.4 Internal SQL Statement

This SQL statement was executed from an internal database connection.

18.8.4 Statement 989462653170b77e32b7f50531a75cb3

```

SELECT
/* FDA READ */ DISTINCT "MANDT" , "QNAME" , MIN( "QCOUNT" ) "FQCOUNT" , COUNT(*) "QDEEP"
FROM
"TRFCQIN"
WHERE
"MANDT" = ? AND "QNAME" LIKE ?

```

GROUP BY

"MANDT", "QNAME"
Statement Impact

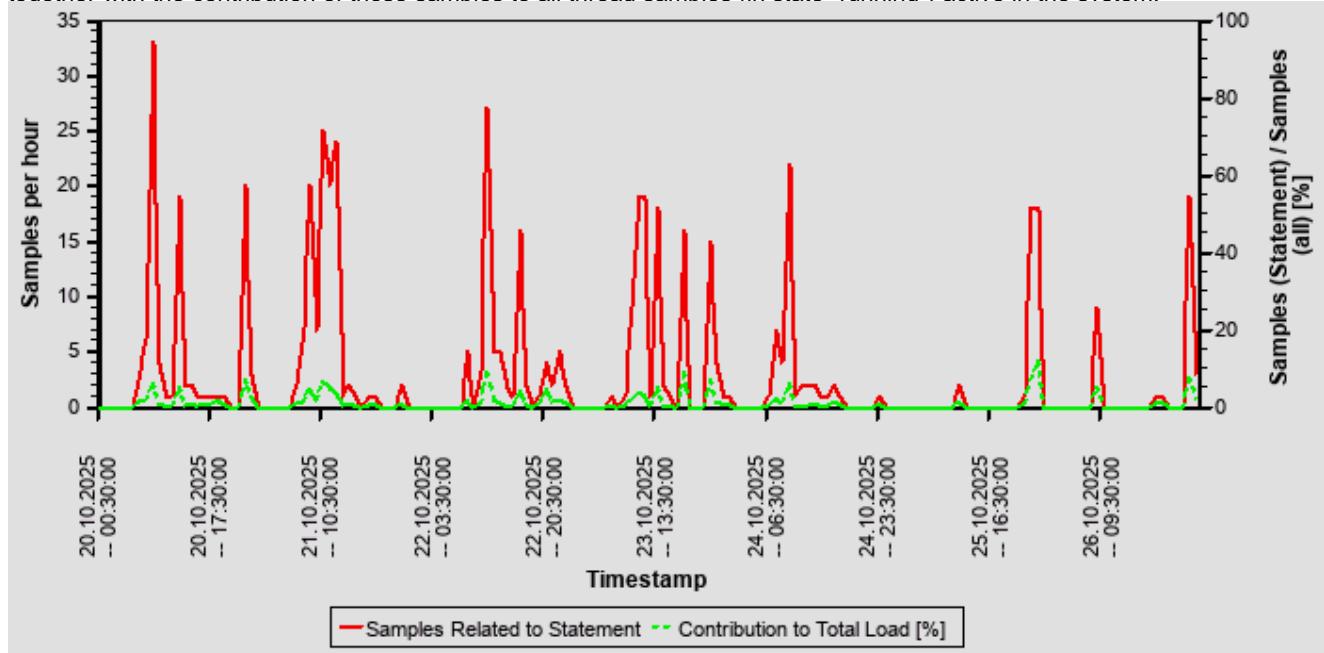
Indicator	Value
Contribution to Total CPU Load [%]	1,46
Maximal CPU Consumption per Hour [%] (20.10.2025 between 08:00 and 09:00)	0,50

18.8.4.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Distinct Values
TRFCQIN	MANDT	=		

18.8.4.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.8.4.3 Correlation with Index Server Resource Consumption

The distribution of thread samples with the status "Running" correlates with the overall CPU or memory consumption of the system. Such a correlation indicates that this statement might be responsible for peaks in the memory or CPU consumption.

Distribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,46	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,15	weak correlation

18.8.4.4 Tables

In the following, the tables involved in the SQL statement are listed (maximum of 20), sorted by the number of records.

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
TRFCQIN	SAPHANADB	ROW	Table not partitioned	382.741	saazs-v-sap33

18.8.4.5 Origin of SQL Statement

The following table shows details of the applications responsible for the statement. This information is based on the information provided by SAP HANA in the "application source" connected to the statement in the "thread samples" or the list of "prepared" or "active" statements, and is not necessarily complete.

SID	Transaction / Jobname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
SEP	/MRSS/PLBOORGSRV	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	/MRSS/SG_PLBOARD_ORGSRV	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	1025_WM_B_D_DL_MON_ITOR_30D_KH03	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	IW28	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	IW32	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	IW38	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	IW41	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	RIAUFK20	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	RIQMEL20	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	RI_ORDER_OPERATION_LIST	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	ZD_WM_DL_MONITOR_30D_KH04_UPD	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	ZW_WM_MRS_HRAVAIL	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	ZW_WM_MRS_HRAVAIL_CM_KH03_UPD	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC
SEP	ZW_WM_MRS_HRAVAIL_CM_KH93_UPD	LIRFCU34	47	31.05.2013	✓	BC-MID-RFC	RFC

18.8.5 Statement ba81a383d98a296d2e44e04278ccb770

```

/* procedure: "_SYS_STATISTICS"."ALERT_MON_PART_TABLE_SIZE_HOST_MAIN_MEM" variable: TABLES line: 21
col: 106 (at pos 1799) */ select top 100 t0.host || '.' || t0.port || '.' || t1.schema_name || '.' || t1.table_name || '.' || t1.part_id
index_id, t0.host, t0.port, t1.schema_name, t1.table_name, t1.part_id, round(t1.memory_size_in_main /
t0.effective_allocation_limit * 100,0) main_mem_usage_perc, round(t1.memory_size_in_total / t0.effective_allocation_limit *
100,0) total_mem_usage_perc, t1.memory_size_in_main, t1.memory_size_in_total, t0.effective_allocation_limit
FROM
_SYS_STATISTICS.source_alert_45_service_memory t0, _SYS_STATISTICS.source_alert_45_cs_tables t1
WHERE
t0.host=t1.host and t0.port=t1.port
ORDER BY
main_mem_usage_perc desc
Statement Impact

```

Indicator	Value
Contribution to Total CPU Load [%]	0,66
Maximal CPU Consumption per Hour [%] (23.10.2025 between 20:00 and 21:00)	0,47

18.8.5.1 Known Issue



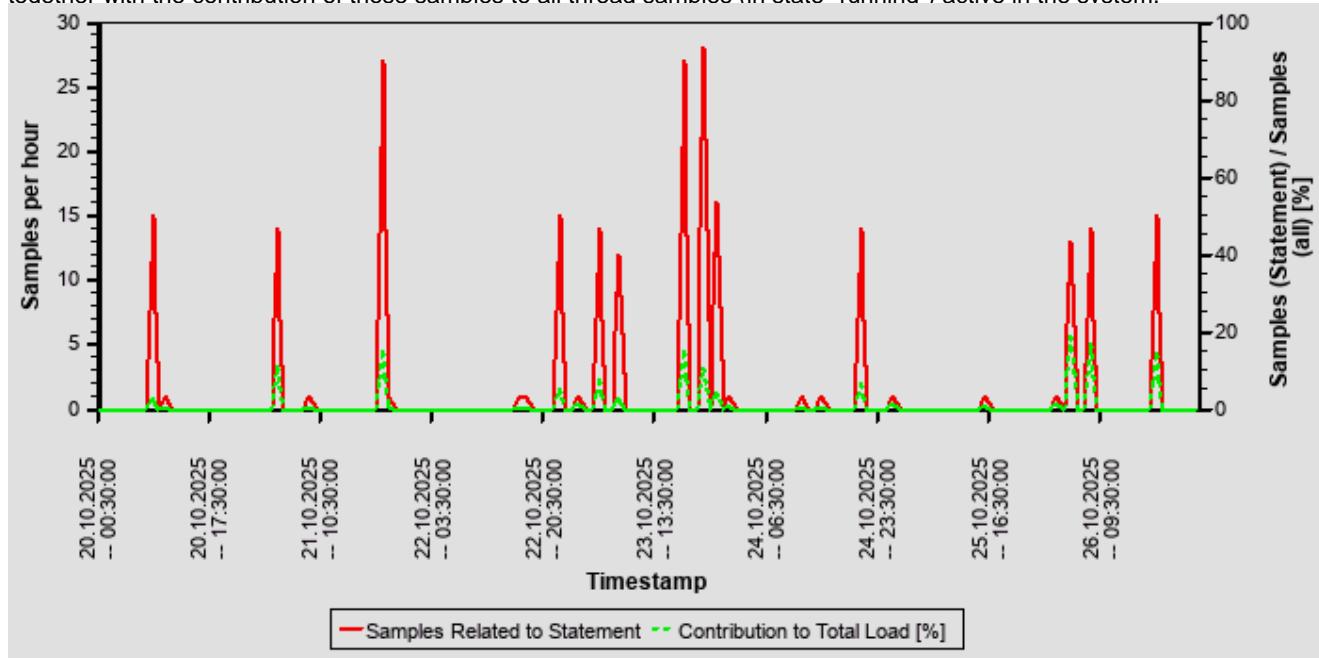
Information about this statement (as identified by its STATEMENT_HASH) can be found in the following SAP Note:

Recommendation: Check the mentioned SAP Note(s) for the recommendation concerning the statement and apply the recommendation if applicable.

SAP Note	Type	Object
2000002	SELECT	M_CS_ALL_COLUMNS, M_CS_COLUMNS, M_CS_TABLES

18.8.5.2 Statement History (Thread Sample 'Running')

The following graph shows the number of observed thread samples (in state "running") related to this SQL statement together with the contribution of those samples to all thread samples (in state "running") active in the system.



18.8.5.3 Root Statement

The following table shows details on the "ROOT STATEMENT", which is responsible for the observed SQL statement.

ROOT_STATEMENT_HASH	ROOT_STATEMENT_TEXT	Samples
d6fd6678833f9a2e25e7b53239c50e9a	call _SYS_STATISTICS.STATISTICS_SC HEDULABLEWRAPPER('Timer', ?, ?, ?, ?)	294

18.8.5.4 Internal SQL Statement

This SQL statement was executed from an internal database connection.

19 Cross Application Business Process Analysis

This section provides insights into cross-application data in the areas of jobs, interfaces, and data consistency.

The data is collected in the cross-application business process analysis (BPA) and the data collection findings are displayed in the EWA if it is configured to include BPA data. Further details can be found in the cross-application BPA.

With Business Process Monitoring in SAP Solution Manager, you can continuously analyze the key figures displayed below in addition to approximately 800 out-of-the-box key figures.

Disclaimer

Bear in mind that all assumptions and ratings in this presentation are based on our general experience with other customers and that the findings are not necessarily business-critical in your particular case.

Rating	Area	Key Figure	Finding
✓	Jobs	Canceled background jobs	1 of jobs have been canceled on the peak day of the analyzed week.
◆	Interfaces	IDoc throughput (Inbound)	1454 of all inbound IDocs have been successfully processed in the analyzed week.
✗	Interfaces	Erroneous IDocs (Inbound)	193 erroneous inbound IDocs were identified for the analyzed week.
✓	Interfaces	IDoc backlog (Inbound)	0 backlog inbound IDocs have been identified in the analyzed week.
◆	Interfaces	IDoc throughput (Outbound)	1245 of all outbound IDocs have been successfully processed in the analyzed week.
✗	Interfaces	Erroneous IDocs (Outbound)	1176 erroneous outbound IDocs were identified for the analyzed week.
✓	Interfaces	IDoc backlog (Outbound)	0 backlog outbound IDocs have been identified in the analyzed week.
✓	Interfaces	Erroneous qRFC (Inbound)	0 qRFC inbound errors occurred during the analyzed week.
✓	Interfaces	Backlog qRFC (Inbound)	0 inbound qRFC were in backlog in the analyzed week.
✗	Interfaces	Erroneous qRFC (Outbound)	22 qRFC outbound errors occurred during the analyzed week.
✓	Interfaces	Backlog qRFC (Outbound)	1 outbound qRFC were in backlog in the analyzed week.
✗	Interfaces	Erroneous tRFC (Outbound)	44 tRFC errors occurred during the analyzed week.
✗	Interfaces	Backlog tRFC (Outbound)	44 tRFC were in backlog in the analyzed week.
✗	Interfaces	Erroneous bgRFC (Inbound)	38826 bgRFC inbound errors occurred during the analyzed week.
✗	Interfaces	Backlog bgRFC (Inbound)	21152 inbound bgRFC were in backlog in the analyzed week.
✓	Interfaces	Erroneous bgRFC (Outbound)	0 bgRFC outbound errors occurred during the analyzed week.
✓	Interfaces	Backlog bgRFC (Outbound)	0 outbound bgRFC were in backlog in the analyzed week.
✓	Interfaces	Workflows in error	2 errors in workflows have been identified in the analyzed week.
◆	Interfaces	Throughput batch input sessions	96 throughput batch input sessions have been identified in the analyzed week.
✗	Interfaces	Batch input sessions with errors	1743 erroneous batch input sessions have been identified in the analyzed week.
✗	Interfaces	Batch input sessions in backlog	2195 batch input sessions in backlog have been identified in the analyzed week.
✗	Interfaces	Erroneous PI messages	14 erroneous PI messages have been identified in the analyzed week.

Rating	Area	Key Figure	Finding
✓	Interfaces	PI messages in backlog	0 PI messages in backlog have been identified in the analyzed week.
✓	Interfaces	Canceled PI messages messages	0 canceled PI messages have been identified in the analyzed week.
✓	Data Consistency	Errors in update task	4 errors in update tasks occurred during the analyzed week.
⚠	Data Consistency	Consistency check scheduling verification	Not all variants for all recommended Data Consistency reports have been executed

The displayed measurements relate to the findings in the cross-application business process analysis (BPA). For more information, see the results of the BPA. For more information about the BPA, check the following link:

<https://websmp103.sap-ag.de/~sapdownload/011000358700000461312009E/SAPCQCBPAMonitoring.pdf>

If you have an **SAP Enterprise Support** contract, SAP Active Global Support will provide you with the following offerings to provide job monitoring, interface monitoring, and data consistency monitoring:

- Expert Guided Implementation Data Consistency Management (EGI link:

https://service.sap.com/sap/bc/bsp/spn/esa_redirect/index.htm?gotocourse=X&courseid=70209396)

- CQC Interface Management (link to fact sheet:

20 Trend Analysis

This section contains the trend analysis for key performance indicators (KPIs). Diagrams are built weekly once the EarlyWatch Alert service is activated.

In this section, a "week" is from Monday to Sunday. The date displayed is the Sunday of the week.

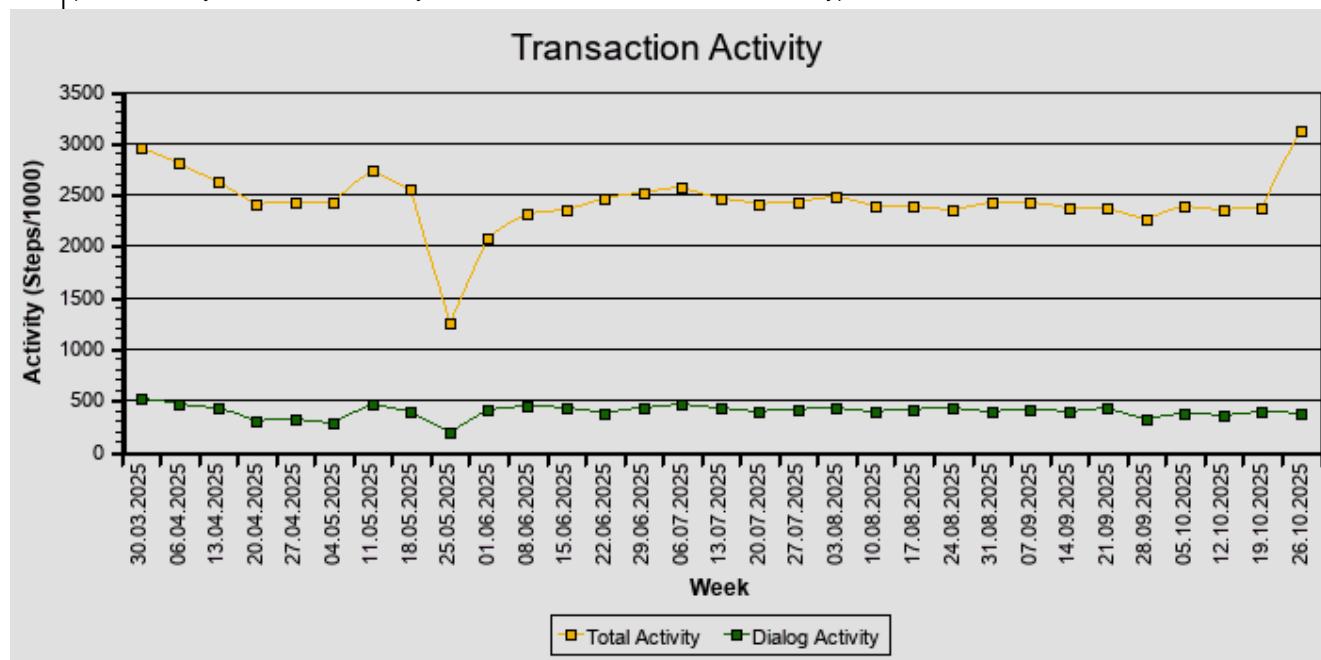
20.1 System Activity

The following diagrams show the system activity over time.

The "Transaction Activity" diagram below depicts transaction activity in the system over time.

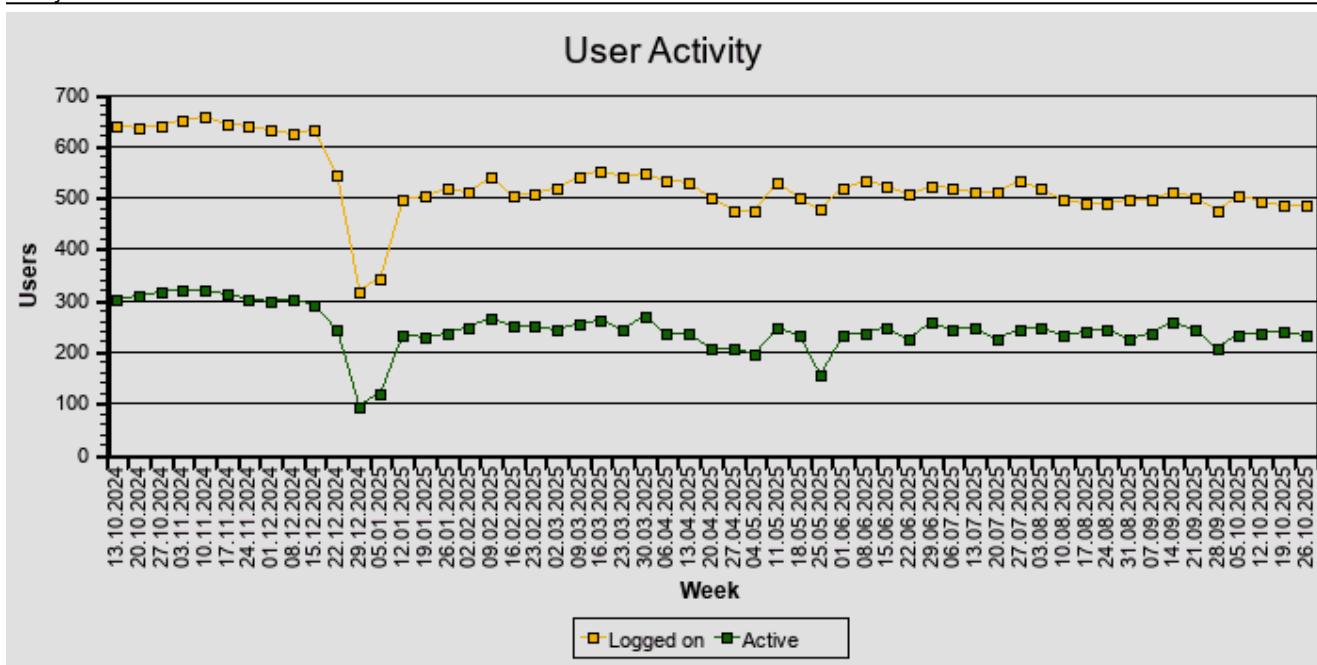
- **Total Activity:** Transaction steps performed each week (in thousands)
- Dialog Activity: Transaction steps performed in dialog task each week (in thousands)
- Peak Activity: Transaction steps (in thousands) during the peak hour; this peak hour is calculated as the hour with the maximum dialog activity in the ST03 time profile divided by 5 working days per week.

(Peak Activity is absent if "Activity Data" is taken from ST03 data directly).



The "User Activity" diagram below shows the user activity on the system over time.

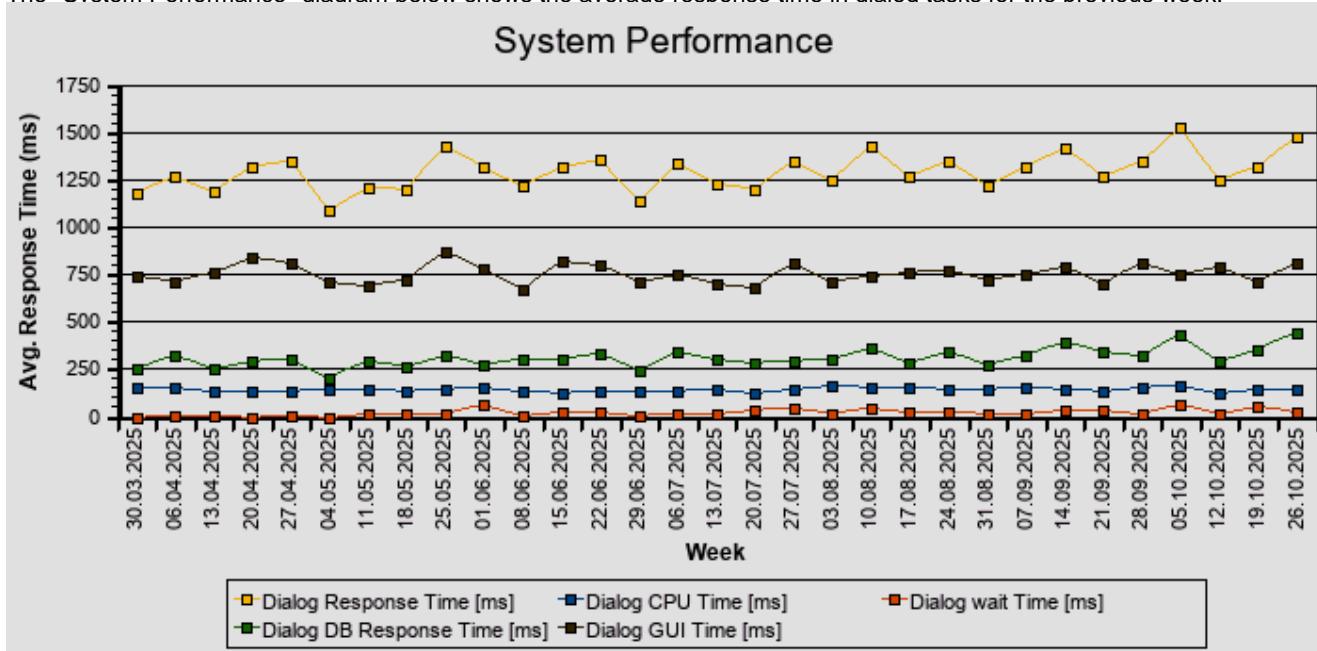
- **Total Users:** Total users that logged on in one week.
- Active Users: Users who performed more than 400 transaction steps in one week.



20.2 Response Times

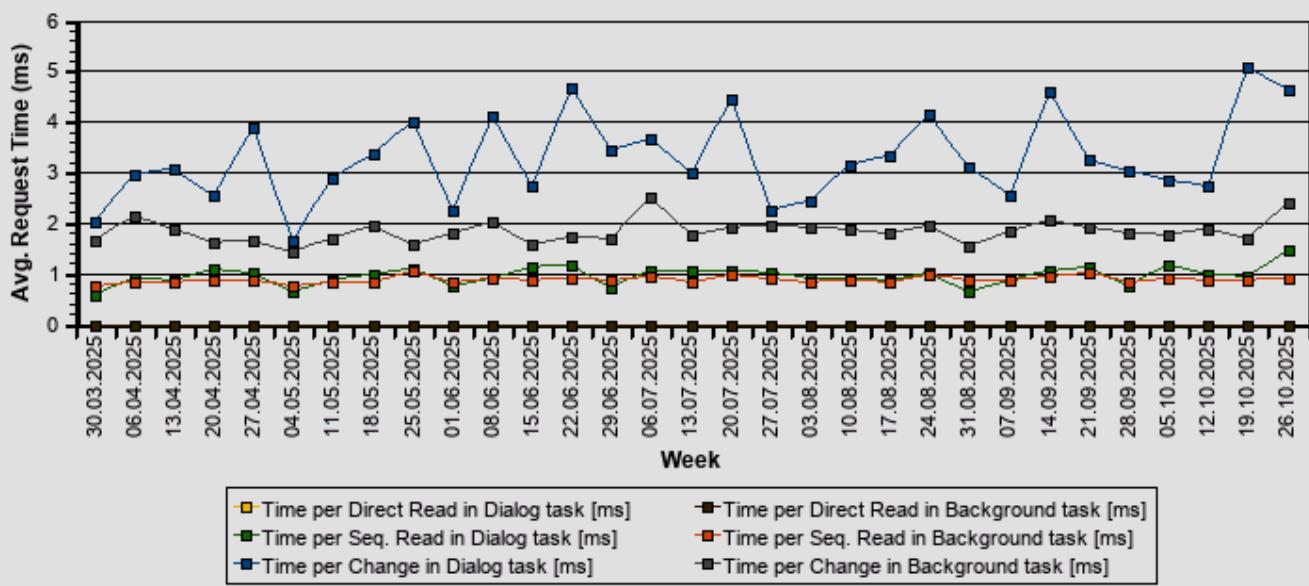
The following diagrams show how the response time varies over time.

The "System Performance" diagram below shows the average response time in dialog tasks for the previous week.

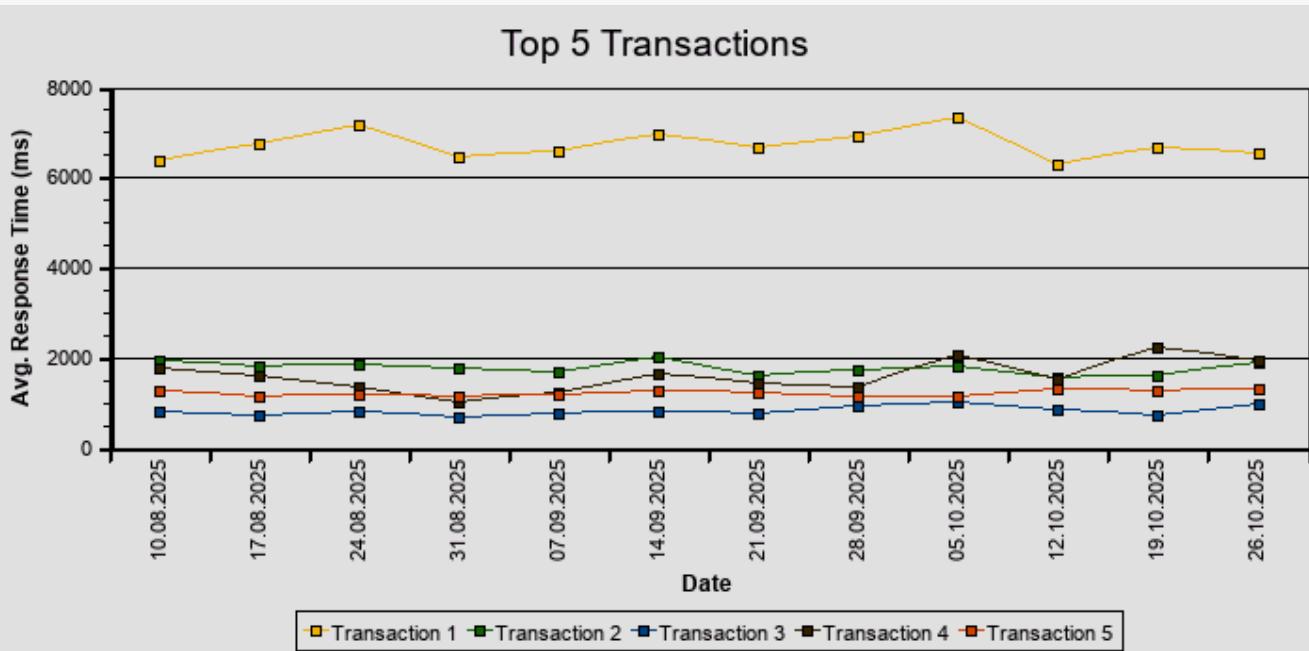


The "Database Performance" diagram below shows the average DB response time in dialog tasks.

Database Performance



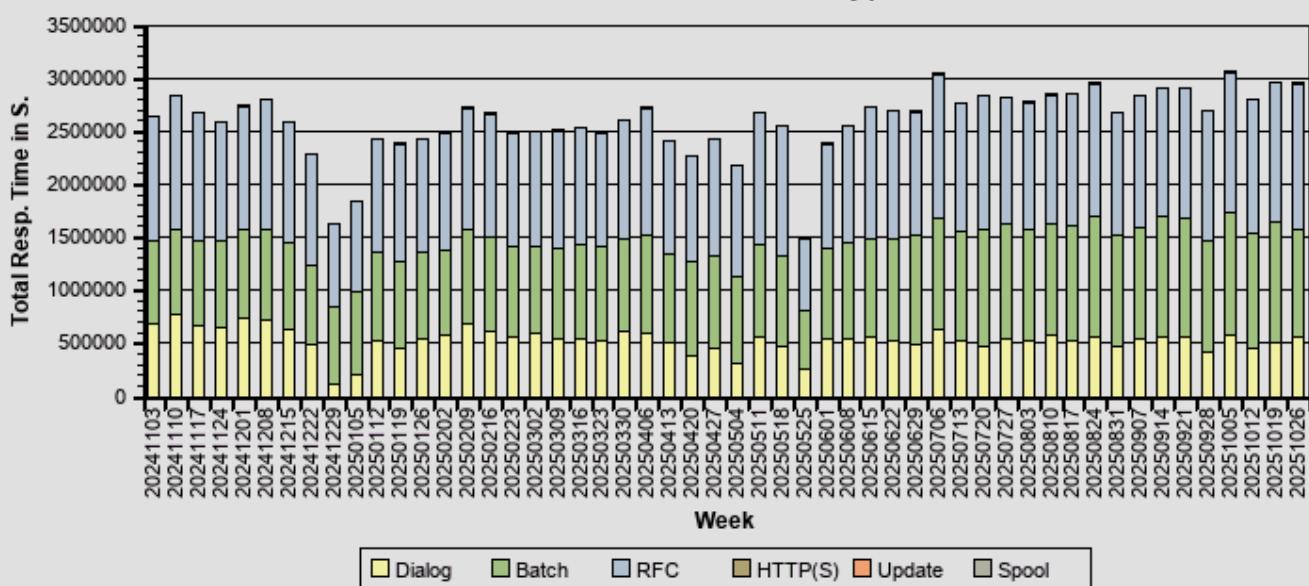
The "Top 5 transactions" diagram below shows the average response time in dialog tasks for the top 5 transactions.



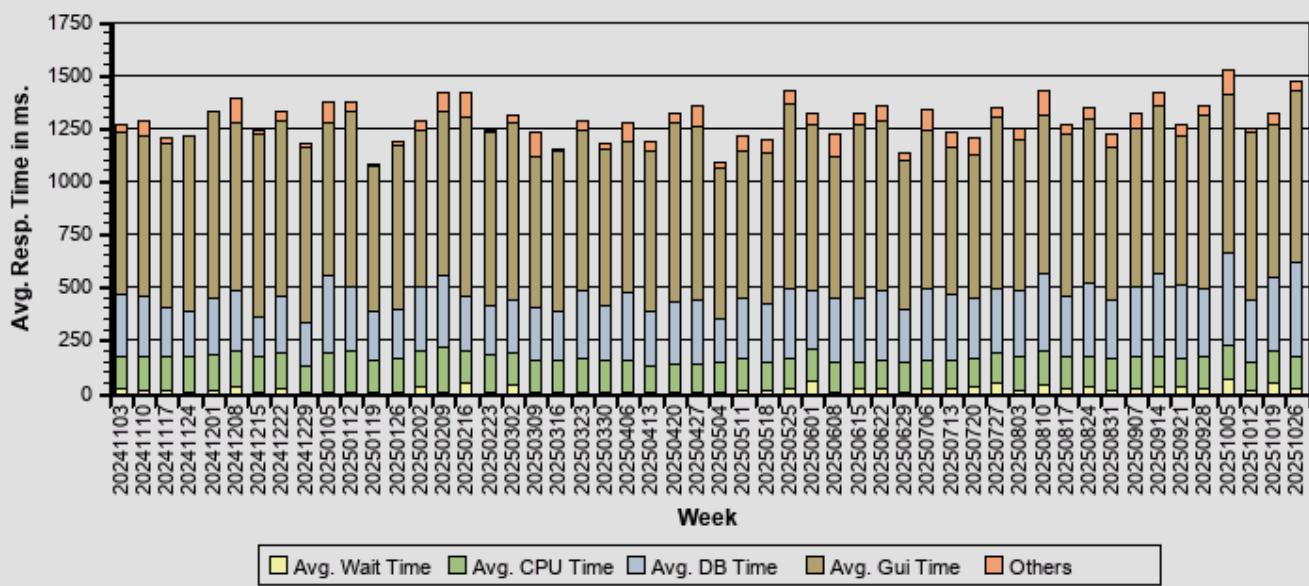
The "Transaction Code" table below shows the load percentage caused by the top 5 transactions.

No	Transaction Code	Load (%)
Transaction 1	IW3D	14,7
Transaction 2	ME53N	13,4
Transaction 3	IW32	6,7
Transaction 4	SESSION_MANAGER	6,0
Transaction 5	IW38	5,7

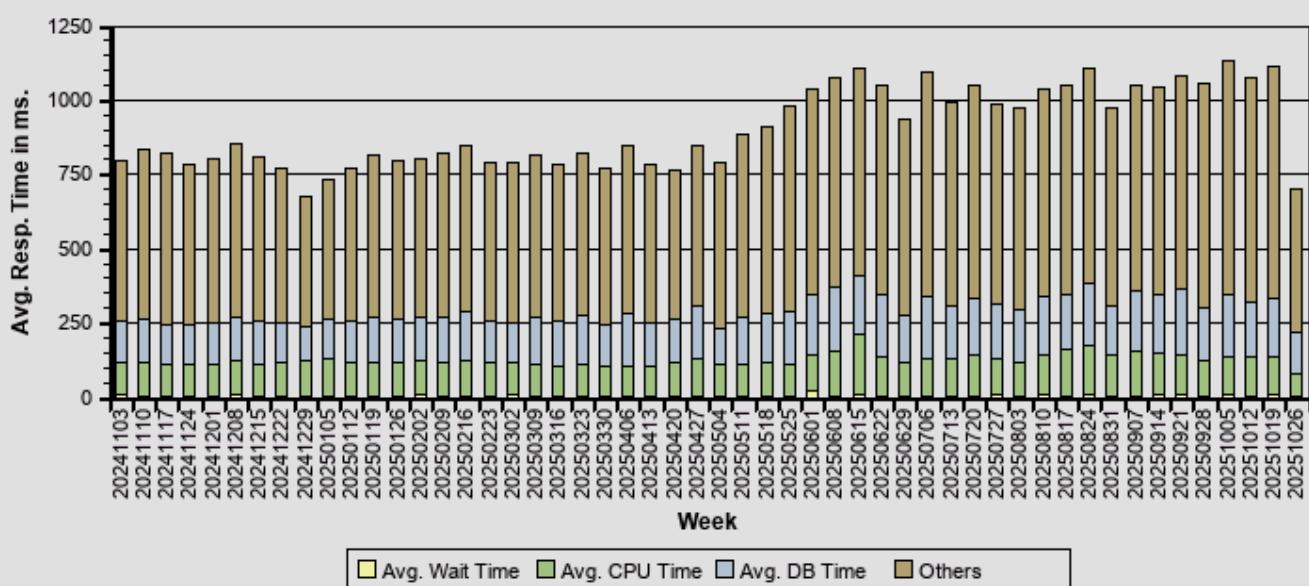
Workload Profile of all Task Types



Dialog



RFC



20.3 Application profile

In the following, we analyzed the trend within the following time frames:

Short term: From calendar week 40/2025 to 43/2025

Long term: From calendar week 32/2025 to 43/2025

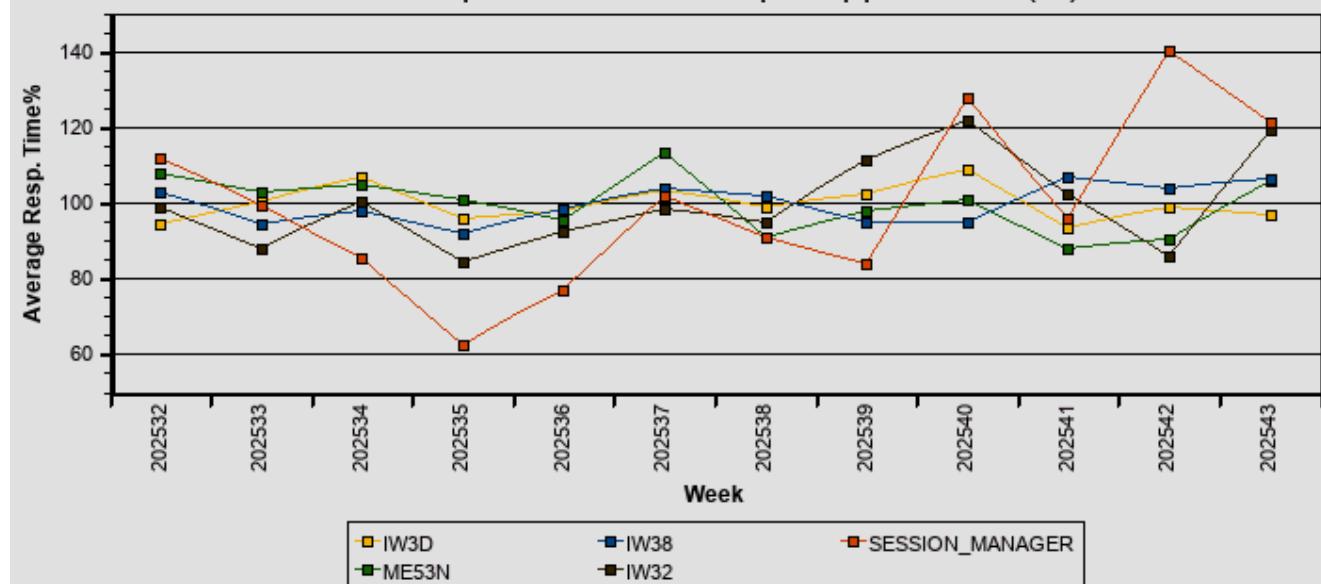
The table below shows the time profile of the top applications by total workload during the analyzed period.

Top Applications by Response Time

Task Type	Application	Total Resp. Time ins	% of Total Load	Avg. Resp. Time in ms	Long Term Growth (%/year)	Short Term Growth (%/year)	Avg. DB Time in ms	Avg. CPU Time in ms
Dialog	IW3D	1029916	16	6745	-0,3	-131,3	381	396
Dialog	ME53N	833491	13	1783	-18,3	76,0	206	82
Dialog	IW38	382321	6	1228	12,6	137,9	458	209
Dialog	IW32	369636	6	822	31,1	-89,4	228	92
Dialog	SESSION_MANAGER	364078	6	1604	60,1	90,4	498	62
Dialog	ME23N	269424	4	1019	-11,8	168,6	203	84
Dialog	/MRSS/PLB_OGEN	198875	3	2201	7,4	-67,9	647	395
Dialog	ME51N	172178	3	879	-11,1	-230,6	157	66
Dialog	SBWP	163696	3	1708	74,2	618,3	545	135
Dialog	ME2N	160742	3	9776	-31,4	254,5	5801	3340
Dialog	ME21N	116657	2	2380	-24,6	126,5	178	97
Dialog	ME52N	111040	2	1131	-1,6	-344,4	224	82
Dialog	MIGO	100881	2	830	-6,8	52,8	328	101
Dialog	IP24	86411	1	13354	-6,1	-44,5	9963	4214
Dialog	FCLOCO	73701	1	21282	-125,0	-937,9	417	93
Dialog	ME5A	72951	1	1519	46,3	-236,0	394	694
Dialog	IW41	72133	1	207	54,0	141,6	130	48
Dialog	ME3L	62131	1	2354	69,7	-602,1	1409	638
Dialog	IW22	61232	1	546	21,2	240,4	98	62
Dialog	MMBE	57335	1	714	31,5	467,9	219	59

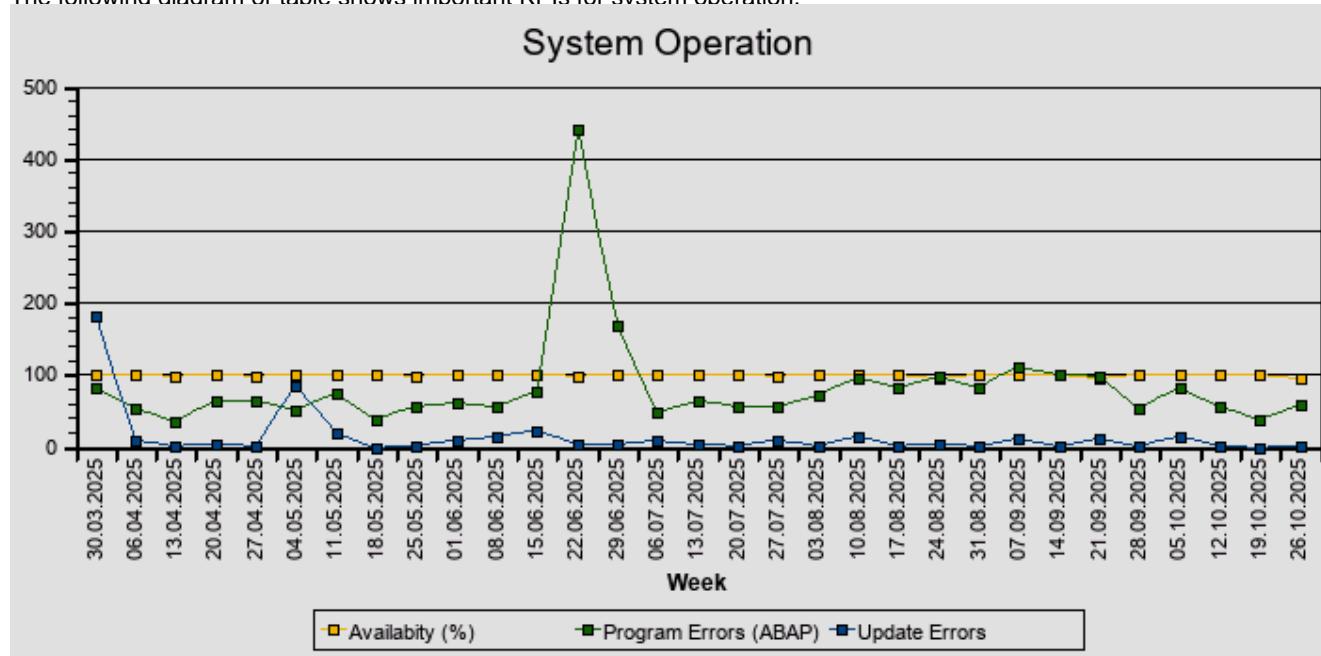
The graph below shows how the average response time of the top five applications varies over time. Data is normalized to 100% equaling the average value.

Trend in Response Times of Top 5 Applications (%)

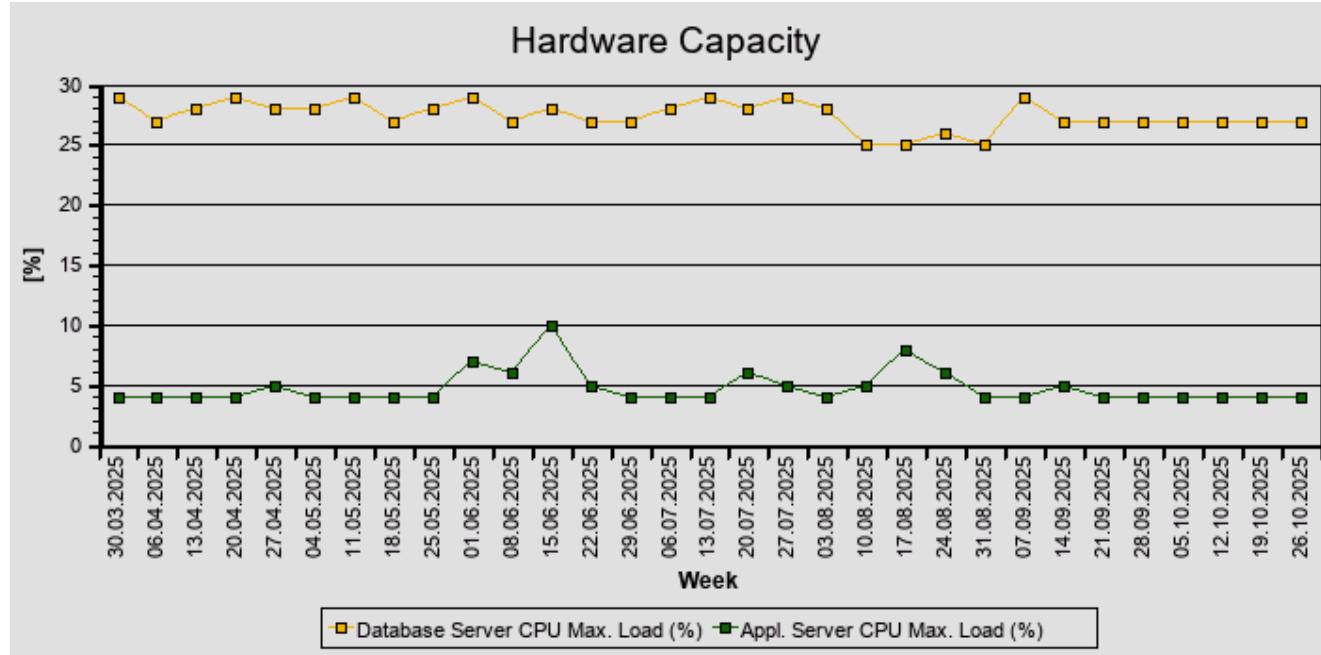


20.4 System Operation

The following diagram or table shows important KPIs for system operation.



20.5 Hardware Capacity



Report time frame: Service data was collected starting at 27.10.2025 04:39:06. This took 52 minutes.

You can see sample SAP EarlyWatch Alert reports on SAP Support Portal at [SAP EarlyWatch Alert](#) -> Sample Reports.

For general information about SAP EarlyWatch Alert, see [SAP Note 1257308](#).

About System And Solution Manager

System No. Of Target System	800368862
Solution Manager System	SMP

EarlyWatch Alert

21196846 - SEP

20.10.2025 - 26.10.2025

Solution Manager Version	SOLUTION MANAGER 7.2
Service Tool	720 SP22