1 Service Summary

The EarlyWatch Alert service has detected severe problems that may cause you to lose business.
Please evaluate the recommendations.

Alerts Decisive For Red Report

	SAP HANA database: Number of Records exceeds critical limit.

Alert Overview

	ABAP number ranges are almost exhausted.
	SAP HANA database: The duration of the blocking savepoint phase is extraordinary long.
	SAP HANA database: No consistency checks are scheduled.
	SAP HANA network settings for System Replication is insecure.
	SAP HANA database: User SYSTEM is active and valid.
	Users with critical authorizations, which allow to do anything in client 000
	Users with critical authorizations, which allow to do anything in other client(s) than 000
	Users with critical authorizations, which should not be used in production in other client(s) than 000
	8 inconsistent material document header inconsistencies needs to be fixed in your system
	There are aborted postings (errors in UPDATE). Reprocess them to ensure consistent data.
	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: Memory consumption of tables exceeds 50% of usable memory.
	SAP HANA database: Number of Records of partitioned tables reaches critical limit.
	SAP HANA database: Row Store shows fragmentation
	Missing index causes expensive SQL statement.
	Configuration issue causes expensive SQL statement.
	Secure password policy is not sufficiently enforced.
	Gateway Access Control List reg_info is not effective.
	Protection of Passwords in Database Connections
	SAP HANA database: Users with critical privilege DATA ADMIN.
	SAP Software on this system is about to be outdated. Support with SAP Security Notes is endangered.
	RFC Gateway default security behaviour is not activated. System may be at risk, when ACLs secinfo or reginfo are missing.
	User SAP* does not exists in client 000, potentially allowing critical logon in the future
	User SAP* does not exists in other client(s) than 000, potentially allowing critical logon in the future

Note: This report can be viewed in "SAP for Me". One of the benefits using SAP EarlyWatch Alert Workspace is proactive alerts calculated in the workspace. Do not miss any important findings: subscribe to notifications with just a few clicks on Notification Activation. For detailed configuration options, read this Best Practices blog.

How to get access to the SAP EarlyWatch Alert apps is explained in SAP Note 2520319. The following link to the SAP EarlyWatch Alert Reports app always opens up the latest report for this system. Similarly, this link to the SAP EarlyWatch

Alert Dashboard shows you the analytical dashboard for this system. Specific links to analytical detail pages in SAP EarlyWatch Alert Workspace are included in the respective sections in this report.

The EWA Status App is your entry point for analysis if you are missing the current data in EarlyWatch Alert apps.

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
!	Software Configuration for PRD		
		✓	SAP Application Release - Maintenance Phases
		!	Security Risk Due to Outdated Support Packages
		✓	Database - Maintenance Phases
		✓	Operating System(s) - Maintenance Phases
		✓	SAP Kernel Release
✓	Performance Overview PRD		
✓	Workload Distribution PRD		
		✓	Workload by Application Module
		✓	DB Load Profile
⚡	SAP System Operating PRD		
		✓	Availability based on Collector Protocols
		!	Program Errors (ABAP Dumps)
		!	Update Errors
		!	Table Reorganization
		⚡	Critical Number Ranges
		!	Number Range Trace
		!	Exhausted Number Range Buffers
		✓	DDLOG Sequence Exhaustion may cause unplanned downtime*
✓	Hardware Capacity		
⚡	Security		
		✓	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 Network Settings for System Replication Communication (listeninterface)
		⚡	Activation Status and Validity of User SYSTEM
		!	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 *
		⚡	Critical authorizations, which allow to do anything
		⚡	Critical authorizations, which should not be used in production

Topic Rating	Topic	Subtopic Rating	Subtopic
		!	Critical authorizations, which should only see very limited use in production
!	Software Change and Transport Management of PRD		
		!	Emergency Changes
		!	Failed Changes
⚡	SAP HANA Database PRD		
		!	SAP HANA Stability and Alerts
		!	SAP HANA Database Configuration
		!	SAP HANA Resource Consumption
		⚡	SAP HANA Workload and Performance
		⚡	Size and Growth
		⚡	Administration
!	SAP NetWeaver Gateway		
		✓	MetaData Cache Activation
		✓	Logging Configuration
		✓	Gateway Error Logs*
		!	Important Periodic Jobs
✓	Fiori Checks for PRD		
		✓	Maintenance and Update Strategy for SAP Fiori Front-End Server
		✓	SAPUI5 Version
		✓	SAP Fiori Cache Buster Activation
		✓	HTTP/2 Support
		?	Activated but unused ICF services in UI5 apps*

*Remark: The check overview includes checks executed with a green result, which do not appear in the report.

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 case 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 or Customer Interaction Center. To contact the Customer Interaction Center, please refer to the contact methods provided in SAP Note 560499. For details of how to set the appropriate priority level, see SAP Note 67739.

Performance Indicators for PRD

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

Area	Indicators	Value
System Performance	Active Users (>400 steps)	10411
System Performance	Fiori Users	0
System Performance	Avg. Availability per Week	89 %
System Performance	Avg. Response Time in Dialog Task	1136 ms
System Performance	Max. Dialog Steps per Hour	290562
System Performance	Avg. Response Time at Peak Dialog Hour	1142 ms
System Performance	Avg. Response Time in RFC Task	487 ms
System Performance	Max. Number of RFCs per Hour	729071
System Performance	Avg. RFC Response Time at Peak Hour	498 ms
Hardware Capacity	Max. CPU Utilization on DB Server	44 %
Hardware Capacity	Max. CPU Utilization on Appl. Server	44 %
Database Performance	Avg. DB Request Time in Dialog Task	502 ms
Database Performance	Avg. DB Request Time for RFC	86 ms

Area	Indicators	Value
Database Performance	Avg. DB Request Time in Update Task	84 ms
Database Space Management	DB Size	7068.35 GB
Database Space Management	DB Growth Last Month	126.20- GB

2 Landscape

2.1 Products and Components in current Landscape

PRODUCT

System	SAP Product	Product Version
PRD~ABAP	SAP S/4HANA	2021

MAIN INSTANCES

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

DATABASES

Related System	Database System	Database Version	DB ID
PRD~ABAP	SAP HANA Database	2.00.059.04	PRD

2.2 Servers in current Landscape

SAP APPLICATION SERVERS

System	Host	Instance Name	Logical Host	ABAP	JAVA
PRD~ABAP	sapapp38	sapapp38_PRD_38	sapapp38	✓	
PRD~ABAP	sapapp20	sapapp20_PRD_20	sapapp20	✓	
PRD~ABAP	sapapp40	sapapp40_PRD_40	sapapp40	✓	
PRD~ABAP	sapapp37	sapapp37_PRD_37	sapapp37	✓	
PRD~ABAP	sapapp23	sapapp23_PRD_23	sapapp23	✓	
PRD~ABAP	sapapp41	sapapp41_PRD_41	sapapp41	✓	
PRD~ABAP	sapapp19	sapapp19_PRD_19	sapapp19	✓	
PRD~ABAP	sapapp33	sapapp33_PRD_33	sapapp33	✓	
PRD~ABAP	sapapp27	sapapp27_PRD_27	sapapp27	✓	
PRD~ABAP	sapapp18	sapapp18_PRD_18	sapapp18	✓	
PRD~ABAP	sapapp21	sapapp21_PRD_21	sapapp21	✓	
PRD~ABAP	sapapp35	sapapp35_PRD_35	sapapp35	✓	
PRD~ABAP	sapapp32	sapapp32_PRD_32	sapapp32	✓	
PRD~ABAP	sapapp31	sapapp31_PRD_22	sapapp31	✓	
PRD~ABAP	sapapp30	sapapp30_PRD_30	sapapp30	✓	
PRD~ABAP	sapapp36	sapapp36_PRD_36	sapapp36	✓	
PRD~ABAP	sapapp28	sapapp28_PRD_28	sapapp28	✓	
PRD~ABAP	sapapp31-ha	sapapp31-ha_PRD_22	sapapp31-ha	✓	
PRD~ABAP	sapapp29	sapapp29_PRD_29	sapapp29	✓	
PRD~ABAP	sapapp39	sapapp39_PRD_39	sapapp39	✓	
PRD~ABAP	sapapp34	sapapp34_PRD_34	sapapp34	✓	
PRD~ABAP	sapapp15	sapapp15_PRD_15	sapapp15	✓	
PRD~ABAP	sapapp26	sapapp26_PRD_26	sapapp26	✓	
PRD~ABAP	sapapp42	sapapp42_PRD_42	sapapp42	✓	
PRD~ABAP	sapapp43	sapapp43_PRD_43	sapapp43	✓	

DB SERVERS

Related System	Host	Logical Host (SAPDBHOST)
PRD~ABAP	tsls4proddbh	dbcls-tta-prd

COMPONENTS

Related System	Component	Host	Instance Name	Logical Host
PRD~ABAP	ABAP SCS	sapapp22	sapapp22_PRD_00	sapapp22

2.3 Hardware Configuration

HOST OVERVIEW

Host	Hardware Manufacturer	Model	CPU Type	CPU MHz	Operating System	CPUs	Cores	Memory in MB
sapapp15								
sapapp18								
sapapp19								
sapapp20								
sapapp21								
sapapp22								
sapapp23								
sapapp26								
sapapp27								
sapapp28								
sapapp29								
sapapp30								
sapapp31								
sapapp31-ha								
sapapp32								
sapapp33								
sapapp34								
sapapp35								
sapapp36								
sapapp37								
sapapp38								
sapapp39								
sapapp40								
sapapp41								
sapapp42								
sapapp43								
tsls4proddbh	Lenovo	Think SR950 - [7X13CTO1WW]-	Xeon Platinum 8280L	3150	SUSE Linux Enterprise Server 15 (x86_64)	448	224	12385750

3 Service Data Quality and Service Readiness

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

Rating	Check Performed
✔	Sending EarlyWatch Alert of PRD to SAP Backbone
!	Configuring PRD for SAP Note Assistant
✔	Service Data Quality
⚡	Service Preparation of PRD

3.1 Sending EarlyWatch Alert of PRD to SAP Backbone

○○■	System PRD is prepared for SAP Support Backbone update sending EWA data on HTTPS through SAP Focused Run 3.0 KPD

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 PRD:

LATEST SERVICE DATA FOR SYSTEM PRD SENT TO SAP

Date (collected)	System	Sends EWA?	Kernel	Kernel	ST-PI	ST-PI	Destination	User	Ready for 2020	Date (received)	Dest. Functional?
10.10.2025	SAP Focused Run 3.0 KPD	yes	777_REL 500	✔	740 24	✔	HTTPS -> SAP	technical communication user	✔	11.10.2025	✔
29.10.2025	SAP Focused Run 3.0 KPD	yes	777_REL 500	✔	740 24	✔	HTTPS -> SAP	technical communication user	✔	30.10.2025	✔
11.10.2025	Solution Manager 7.2 SOL	n/a	753_REL 923	✔	n/a	◇	n/a	n/a	◇		

3.1.1 Configuring PRD for SAP Note Assistant

CONFIGURATION AND USAGE OF DIGITALLY SIGNED SAP NOTES

Type	Finding	Further Information
⚡	A non-signed SAP Note was downloaded last time on 14.05.2025	SAP Note 2537133
ℹ	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 Preparation of PRD

Rating	Check Performed
⚡	Service Preparation Check (RTCCTOOL)
!	Service Data Control Center of PRD
!	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 2253047.

3.2.1 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 11.10.2025. During the check, the tool detected issues for which a RED rating was set.

Overall Status	SAP Note	Topic	Tool Status	Manual Status
!	69455	ST-A/PI 01V_731 Support Package 3	!	◇
!	2485075	SAP Note 2485075 for DVM [Serv. Exec]	!	◇
✓	69455	Addon ST-A/PI 01V_731	✓	◇
✓	69455	Proc. after addon impl.	!	✓
✓	69455	Switch on digital content verification	✓	◇
✓	69455	Allow Online data collectors	✓	◇
✓	539977	Addon ST-PI 740	✓	◇
✓	539977	ST-PI 740 Support Package 24	!	✓
✓	1985402	Note 1985402 datacoll. for HANA	!	✓
✓	12103	Collectors and TCOLL	✓	✓
✓	207223	EWAlert setup	✓	✓

Recommendation:
ST-A/PI 01V_731 Support Package 3
Addon supportpackage level 3 for ST-A/PI 01V_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 01V_731 download patches up to SAPKITABC6. Use the Maintenance optimizer to release the download. Upload from frontend to transaction SPAM, define a queue and import.

SAP Note 2485075 for DVM [Serv. Exec]
Table deletion from Analysis not working
Please implement coding correction from note 2485075 using SNOTE.

3.2.2 SDCC Destination Table

The table below summarizes the destinations configured in Service Data Control Center.

Finding	Details	Rating
There are conflicting multiple destinations to SAP Support Backbone defined.	2 destinations exist. Delete the superfluous destination(s).	!
A Solution Manager ('BACK') destination exists.		✓
There is one Source System for Service Definitions defined.	The Solution Manager is defined as Source System for Service Definitions. Find information about the Source System for Service Definitions flag in SAP Note SAP Note 1075827.	✓

Recommendation: Resolve the issue reported in the table.

3.2.3 Performance DB (ST03 / ST06)

Analysis of ST06 and history data indicate some problems with SAPOSCOL. Check SAPOSCOL and see SAP Note 1309499.

3.2.4 Hardware Utilization Data

Host	Operating System	Performance Data
sapapp15	OS not detected	OK
sapapp18	OS not detected	OK
sapapp19	OS not detected	OK
sapapp20	OS not detected	OK
sapapp21	OS not detected	OK

Host	Operating System	Performance Data
sapapp22	OS not detected	--
sapapp23	OS not detected	--
sapapp26	OS not detected	OK
sapapp27	OS not detected	OK
sapapp28	OS not detected	OK
sapapp29	OS not detected	OK
sapapp30	OS not detected	OK
sapapp31	OS not detected	OK
sapapp31-ha	OS not detected	OK
sapapp32	OS not detected	OK
sapapp33	OS not detected	OK
sapapp34	OS not detected	OK
sapapp35	OS not detected	OK
sapapp36	OS not detected	OK
sapapp37	OS not detected	OK
sapapp38	OS not detected	OK
sapapp39	OS not detected	OK
sapapp40	OS not detected	OK
sapapp41	OS not detected	OK
sapapp42	OS not detected	OK
sapapp43	OS not detected	OK
tsls4proddbh	SUSE Linux Enterprise Server 15 (x86_64)	--

Hardware capacity checks could not be run successfully due to missing data. See SAP Note 1309499.

4 Software Configuration for PRD

We have listed recommendations concerning the current software configuration on your system.

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

4.1 SAP Application Release - Maintenance Phases

SAP Product Version	End of Mainstream Maintenance	Status
SAP S/4HANA 2021	31.12.2026	✔

RATING LEGEND

Rating	Description
✔	Mainstream / Extended maintenance offered by SAP is available for the next 18 months or longer.
!	Mainstream / Extended maintenance offered by SAP will end in 6 to 18 months.
⚡	Mainstream / Extended maintenance offered by SAP has expired or will expire in the next 6 months.

Your main product version runs under SAP mainstream maintenance until 31.12.2026.

Please refer to the SAP Enterprise Support Reporting Cockpit for further information about the maintenance status of any additional Add-On product version on your system.

4.2 Security Risk Due to Outdated Support Packages

The chapter Security provides the following ratings regarding the maintenance status of implemented Support Packages:

Rating	Check	System ID
✔	Maintenance Status of current SAP HANA Database Revision	PRD
!	Age of Support Packages	PRD

The Support Package level of key software components on your system threatens to run out of security maintenance. For more information, see chapter Security.

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
BLACKLIN	S2205	0			BlackLine Connector Extractor For SAP S4 2005
BLG	C2205	0			
DMIS_CNT	2011_1_731	3	25	SAPK-11603INDMISCNT	TDMS Application Content
EA-DFPS	806	2	5	SAPK-80602INEADFPS	EA-Defense Forces & Public Security
EA-HR	608	105	126	SAPK-608A5INEAHR	SAP R/3 Enterprise Human Resource & Travel Extension
EA-PS	806	2	5	SAPK-80602INEAPS	SAP R/3 Enterprise Public Services
FI-CAX	806	2	5	SAPK-80602INFICAX	FI-CAX: Extended FI-CA
GBX01HR	600	19	19	SAPK-60019INGBX01HR	GBX01HR 600 (oData Base, HCM Fiori)

Software Component	Version	Patch Level	Latest Avail. Patch Level	Support Package	Component Description
GBX01HR5	605	21	27	SAPK-60521INGBX01HR5	GBX01HR5
GRCPIERP	V1200_S4	8	10	SAPK-V1208INGRCPIERP	SAP GRC PlugIn for ERP
GRCPINW	V1200_750	12	22	SAPK-V1212INGRCPINW	SAP GRC Plug-in for NW
INSURANCE	806	2	5	SAPK-80602ININSURANC	INSURANCE SAP Insurance
IS-OIL	806	2	5	SAPK-80602INISOIL	SAP for Oil & Gas
IS-PRA	806	2	5	SAPK-80602INISPRA	IS-PRA
IS-PS-CA	806	2	5	SAPK-80602INISPSCA	IS-Public Sector Contract Accounting
IS-UT	806	2	5	SAPK-80602INISUT	IS-UT
MDG_APPL	806	2	5	SAPK-80602INMDGAPPL	MDG Applications
MDG_FND	806	2	5	SAPK-80602INMDGFND	MDG Foundation
NMI_CONT	2006_1_700	21	21	SAPK-61721INNMICONT	New GL Migration Implementation CONTENT
OTBCBAS	0700_006	4	6	SAPK-00604INOTBCBAS	Business Center Base by OpenText
OTBCRM	0700_006	1	1	SAPK-00601INOTBCRM	OpenText Business Center xECM Integration
OTBCS4	1610_106	4	6	SAPK-10604INOTBCS4	Otbcs4
OTBCS4OC	1610_106	1	3	SAPK-10601INOTBCS4OC	Opentext Vim S/4 Order To Cash
OTBCS4PP	1610_106	1	3	SAPK-10601INOTBCS4PP	Opentext Vim S/4 P2p
OTBCSL00	0700_006	4	6	SAPK-00604INOTBCSL00	OpenText OTBCSL00
OTBCSL08	81610_106	0	1		OpenText OTBCSL08
OTBCSL30	81610_106	4	6	SAPK-10604INOTBCSL30	OTBCSL
OTBCSL38	80700_006	0			Otbcsl38
OTBCSLOC	0700_006	1	3	SAPK-00601INOTBCSLOC	Opentext Vim Order To Cash
OTBCSLPP	0700_006	1	3	SAPK-00601INOTBCSLPP	Opentext Vim Procure To Pay
OTBCWUI	0740_006	2	6	SAPK-00602INOTBCWUI	OT Business Center Web Ui
OTEXBAS	2140_700	0			Opentext Basis Add On
OTEXERP	2140_700	0			DOCU LINK ERP
OTEXRL	2140_700	0			Otexrl
OTEXVIM	81610_106	4	6	SAPK-10604INOTEXVIM	Vendor Invoice Management
S4CEXT	106	2	5	SAPK-10602INS4CEXT	S4cext
S4CORE	106	2	5	SAPK-10602INS4CORE	S4core
S4COREOP	106	2	5	SAPK-10602INS4COREOP	S/4HANA, On-Premise only parts.
S4CRM	206	2	5	SAPK-20602INS4CRM	SAP S/4HANA for customer management
S4DEPREC	106	2	5	SAPK-10602INS4DEPREC	S/4HANA, deprecation parts.
S4FND	106	2	5	SAPK-10602INS4FND	S/4HANA Foundation, common parts.
SAP_ABA	75G	2	5	SAPK-75G02INSAPABA	SAP Anwendungsbasis
SAP_BASIS	756	2	5	SAPK-75602INSAPBASIS	SAP Basis component

Software Component	Version	Patch Level	Latest Avail. Patch Level	Support Package	Component Description
SAP_BW	756	2	5	SAPK-75602INSAPBW	SAP Business Warehouse
SAP_GWFND	756	2	5	SAPK-75602INSAPGWFND	SAP NetWeaver Gateway Foundation
SAP_HR	608	105	126	SAPKE608A5	SAP HR
SAP_UI	756	4	8	SAPK-75604INSAPUI	User Interface Technology
ST-A/PI	01V_731	0	3		ST-A/PI Service Tools for Applications Plug-In
ST-PI	740	22	24	SAPK-74022INSTPI	Solution Tools Plugin
UIHR001	100	5	18	SAPK-10005INUIHR001	UI for ERP Human capital management
V4CORE	2020V2	0			Vistex V4 Hana Core
V4DMP	2020V2	0			Vistex V4Hana Data Maintanence Pricing
V4IA	2020V2	0			Vistex V/4 HANA Incentives Administration

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
26 Hosts					◇	
tsls4proddbh	SUSE Linux Enterprise Server 15 (x86_64)	31.07.2028	31.07.2031	Limited (LTSS)	✔	936887

* 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.

The automatic determination of the used operating system version(s) of system PRD did not work correctly for at least one host. For more information and possible reasons, refer to the section 'Service Preparation and Data Quality of PRD'.

4.6 HANA Database Version for PRD

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	Upgrade Information
PRD	2.00 SP 05	2.00.059.004	yes	✔	2378962	✔

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
25 Instances	2.12.025	✔

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
sapapp18_PRD_18	789	100	789	0	✔
sapapp27_PRD_27	789	100	789	0	✔
sapapp38_PRD_38	789	100	789	0	✔
sapapp20_PRD_20	789	100	789	0	✔
sapapp40_PRD_40	789	100	789	0	✔
sapapp37_PRD_37	789	100	789	0	✔
sapapp23_PRD_23	789	100	789	0	✔
sapapp41_PRD_41	789	100	789	0	✔
sapapp19_PRD_19	789	100	789	0	✔
sapapp33_PRD_33	789	100	789	0	✔
sapapp21_PRD_21	789	100	789	0	✔
sapapp35_PRD_35	789	100	789	0	✔
sapapp32_PRD_32	789	100	789	0	✔
sapapp31_PRD_22	789	100	789	0	✔
sapapp30_PRD_30	789	100	789	0	✔
sapapp36_PRD_36	789	100	789	0	✔
sapapp28_PRD_28	789	100	789	0	✔
sapapp31-ha_PRD_22	789	100	789	0	✔
sapapp29_PRD_29	789	100	789	0	✔
sapapp39_PRD_39	789	100	789	0	✔
sapapp34_PRD_34	789	100	789	0	✔
sapapp15_PRD_15	789	100	789	0	✔
sapapp26_PRD_26	789	100	789	0	✔
sapapp42_PRD_42	789	100	789	0	✔
sapapp43_PRD_43	789	100	789	0	✔

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

4.9 SAP Kernel Release

Your system is running an SAP kernel that is up to date. This means that you have the latest available improvements and error corrections offered by SAP to its customers.

Instance(s)	SAP Kernel Release	Patch Level	Age in Months	OS Family
25 instances	789	129	5	

4.9.1 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://me.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 KRNL789PL129 in the SAP Note search. For detailed information, see SAP Note 1802333 - Finding information about regressions in the SAP kernel.

4.10 Missing Side Effect Solving Notes for Finance

For all implemented SAP Notes in Finance causing side effects, the solution is implemented too.

4.11 Missing Side Effect Solving Notes for Materials Management

For all implemented SAP Notes in SAP Materials Management causing side effects, the solution is implemented too.

4.12 Missing Side Effect Solving Notes for Payroll

For all implemented SAP Notes in SAP Payroll causing side effects, the solution is implemented too.

4.13 Important SAP Notes for IBM Cloud

The table below lists important SAP Notes for your current hyperscaler environment.

SAP NOTES FOR IBM CLOUD

Description	SAP Note
General Support Statement for Virtual Environments	1492000
SAP Support in IaaS Environments	1380654
Key Monitoring Metrics for SAP on IaaS Infrastructure	2469354
SAP on IBM Cloud: Support Prerequisites	2414820
SAP Applications on IBM Cloud: Supported DB/OS and IBM Cloud Bare Metal Server Types	2414097
SAP Applications on IBM Cloud Virtual Private Cloud (VPC) Infrastructure environment	2927211

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 PRD

General
This analysis focuses on the workload during the peak working hours **(9-11, 13)** and is based on the hourly averages collected by SAPOSCOL. 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
sapapp21	34	05.10.2025	✔				◇
sapapp18	33	06.10.2025	✔				◇
sapapp27	26	10.10.2025	✔				◇
sapapp33	27	07.10.2025	✔				◇
sapapp19	30	07.10.2025	✔				◇
sapapp41	25	07.10.2025	✔				◇
sapapp37	36	07.10.2025	✔				◇
sapapp40	28	05.10.2025	✔				◇
sapapp20	42	10.10.2025	✔				◇
sapapp38	24	08.10.2025	✔				◇
sapapp35	34	06.10.2025	✔				◇
sapapp32	29	08.10.2025	✔				◇
sapapp31	2	05.10.2025	✔				◇
sapapp30	37	06.10.2025	✔				◇
sapapp36	27	07.10.2025	✔				◇
sapapp28	29	07.10.2025	✔				◇
sapapp31-ha	7	05.10.2025	✔				◇
sapapp29	29	07.10.2025	✔				◇
sapapp39	16	06.10.2025	✔				◇
sapapp34	29	08.10.2025	✔				◇
sapapp15	42	08.10.2025	✔				◇
sapapp26	43	08.10.2025	✔				◇
sapapp42	44	08.10.2025	✔				◇
sapapp43	2	05.10.2025	✔				◇

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).

5.2 Enhanced Hardware Monitoring in Cloud Environments

Enhanced hardware monitoring for virtualized environments is not working for some of the current hosts:

ENHANCED MONITORING SETTINGS

Host	Enhanced Monitoring Access	Status Message	Rating
sapapp15	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp18	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp19	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp20	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp21	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp22	n/a	n/a	◇
sapapp23	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp26	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp27	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp28	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp29	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp30	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp31	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp31-ha	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp32	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp33	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp34	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp35	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp36	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp37	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp38	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp39	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp40	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp41	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp42	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
sapapp43	FALSE	Check Host data access. Refer to SAP Note 1606643.	!
tsls4proddbh	n/a	n/a	◇

Recommendation:

For full SAP support, we recommend enabling built-in monitors on your SAP system and on the underlying infrastructure to retrieve enhanced information about configuration and resource utilization.

SAP Note 2469354 provides an overview of key metrics by IaaS platform that will get available once the enhanced monitoring is active.

See SAP Notes https://service.sap.com/sap/support/notes/ 2414820[2414820] and https://service.sap.com/sap/support/notes/ 2923984[2923984] for details on how to enable the enhanced hardware monitoring on IBM Cloud Infrastructure and SAP.

6 Business Key Figures

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?".

Rating	Step	Description
	CONFIGURATION IN SAP EWA MANAGEMENT	SYSTEM IS NOT ACTIVE FOR SPECIAL CONTENT (SEE SAP NOTE 1257308).
	DATA COLLECTION IN MANAGED SYSTEM	NO DATA HAS BEEN TRANSFERED FROM MANAGED SYSTEM.
	KEY FIGURES SHOWN IN SESSION	NO KEY FIGURE WAS YET PROCESSED.

6.1 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 PRD

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	10.811,0	173,9	1.193,0	1.786,5	0,0
BATCH	10.615,9	0,7	4.562,0	4.172,2	0,0
DIALOG	4.802,1	69,8	1.194,8	2.123,7	1.068,4
Others	445,3	22,0	105,6	257,5	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	19395	9430	981	29806

7.2 Workload Distribution PRD

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 Distribution across ABAP Application Servers

To prevent a workload imbalance on one or more servers, we have analyzed the workload statistics for each SAP instance in your SAP production system.

If your total hardware capacity is sufficient to handle your peak workload, an overload on one or more servers can increase response times for all users logged on to those servers. If the affected servers are running updates or a database instance, all users can be affected.
The following diagrams show the system workload distribution across all instances. We strongly recommend that you distribute the workload equally across all application servers.
The following aspects of the workload are evaluated below:
- The total number of transaction steps performed on the different servers
- The percentage of CPU time consumed by SAP applications running on the different servers

If the workload is distributed equally, the distribution of CPU time should be proportional to the number of CPUs on the different servers.

Note that your database capacity is limited by the database server hardware available. This is important, since your database is a central resource for all system activities. In contrast, application servers are not a central resource and affect only the users on that particular server. CPU shortages can be solved by improving the workload distribution or by adding a new application server. For information about automatic load balancing, refer to SAP Note 26317.

7.2.2 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
- Database time: total database load generated by the application

All programs that are not classified in the Application Hierarchy are summarized in the "Unassigned" category. Customer programs, industry solutions, and third-party add-on developments may fall into this category.

The Application Hierarchy can be found in the Repository Browser (transaction SE80): in the "Object Category" selection field choose "Application Hierarchy".

7.2.3 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
DB Load [avg. no. of processes]
40
30
20
10
0
00--06
06--07
07--08
08--09
09--10
10--11
11--12
12--13
13--14
14--15
15--16
16--17
17--18
18--19
19--20
20--21
21--24
Time Interval [hours from -- to]
DIALOG
BACKGROUND
RFC

8 Performance Overview PRD

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	15.220.527	1.135,8	282,6	16,5	3,0	502,3	252,7
RFC	71.940.058	541,0	59,7	8,7	1,0	89,4	0,0
UPDATE	7.260.789	130,4	36,8	1,1	2,9	84,3	0,0
UPDATE2	2.104.504	90,7	12,6	3,7	1,2	71,5	0,0
BATCH	4.853.064	7.874,8	3.384,1	0,5	27,8	3.094,9	0,0
SPOOL	374.913	528,9	28,5	29,4	0,5	145,0	0,0
HTTP	993.997	75,8	10,6	39,7	1,4	13,4	0,0
HTTPS	264.561	196,8	45,0	16,4	2,3	81,5	0,0
WS-HTTP	469.732	296,0	113,2	17,9	4,6	159,9	0,0

44% of the total response time is database time. If the dialog response time lies outside the acceptable boundaries and you are unhappy with overall system performance, investigate the reason for the high database times.

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).

Please refer to SAP Note 2428353 for details on how to analysis high GUI times on SAP systems.

8.1 Performance Evaluation

The measured times are compared against reference times to provide a rating.

- If the number of dialog steps in an hour is less than 1000, this hour is not considered.
- If the total number of transaction steps is less than 20000, the rating for the task is not performed (indicated by a gray icon in the table).
- RED if at least three time ranges are rated RED.
- YELLOW if two time ranges are rated RED or at least three time ranges are rated YELLOW.

The table below shows that no problem is expected on the application or database servers.

Task	Steps	Application Server Performance	Database Server Performance
Dia	15.187.268	✔	✔
Upd	7.260.789	✔	✔
HTTP	993.997	✔	✔
HTTPS	264.561	✔	✔

Rating	Task Type	Time	Dialog Steps	Response Time	CPU Time	DB Time
!	Dia	10-11	1.386.897,0	1.379,0	323,0	632,0
!	Dia	13-14	880.913,0	1.211,0	355,0	536,0

The ratings in the table above are determined by comparisons against the reference table below.

If the dialog response times are very poor, it will cause a RED rating for the entire check.

Task	Reference for Avg. Response Time (ms) Yellow Rating	Reference for Avg. Response Time (ms) Red Rating	Reference for Avg. DB time (ms) Yellow Rating	Reference for Avg. DB time (ms) Red Rating
Dia	1.200	3.600	600	1.800
Upd	2.400	3.600	1.200	1.800
HTTP	1.200	3.600	600	1.800
HTTPS	1.200	3.600	600	1.800

8.2 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.

8.2.1 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
/OPT/VIM_WP	DIA	874.368	2,9	1.920,9	444,6	999,4	341,1
ZSSNEW	DIA	169.525	1,6	5.297,8	2.109,0	2.671,6	897,3
SESSION_MANAGER	DIA	673.546	0,8	670,3	39,5	108,1	411,0
VA02	DIA	317.672	0,7	1.197,9	181,4	479,9	113,0
FBL3N	DIA	65.271	0,5	4.818,1	1.578,7	3.265,3	420,8
VA01	DIA	373.529	0,5	793,5	115,6	586,3	82,1
ZLOGSHEET1	DIA	4.210	0,5	68.621,6	43.060,7	26.466,3	0,0
ME23N	DIA	382.539	0,5	702,0	100,2	182,3	357,2
YSTOCKN	DIA	17.261	0,4	14.596,3	4.582,4	9.149,1	899,5
WCTL	DIA	309.693	0,4	808,2	169,6	367,3	212,5

2.5% of the total response time in the above table is caused by customer transactions.

WORKLOAD BY TRANSACTION (BATCH)

Transaction	Dialog Steps	Total Resp. Time in %	Total Resp. Time in s	Total CPU Time in s	Total DB Time in s
ZMFAR_FBL3N_GRIR_TEST	389	2,3	1.311.331,0	1.195.921,0	126.849,3
YMPIR_MODIFY_YMPIT_MRO_ORDTRK	271	2,2	1.274.974,0	622.906,0	720.093,1
RPTIME00	1.049	2,1	1.212.642,0	628.071,0	618.096,3
ZQEVAI30	4.394	2,0	1.158.150,0	411.450,0	1.010.876,5
YMFAR_COLLECTION_PENDINGSETOFF	34	1,8	1.029.908,0	1.012.082,0	19.956,5
YBASR_AUTH_DISPLAY	66	1,8	1.027.907,0	1.003.962,0	13.107,8
ZCRMB_STOCK	386	1,4	823.578,0	494.840,0	371.016,2

Transaction	Dialog Steps	Total Resp. Time in %	Total Resp. Time in s	Total CPU Time in s	Total DB Time in s
YMPCI_FPC_GR_POST	37.480	1,4	818.804,0	67.063,0	184.237,9
YMQMR_TC_FAILURE_BATCHES	54	1,3	720.119,0	185.341,0	655.943,6
EDOC_BACKGROUND	77.416	1,3	716.767,0	29.328,0	81.646,5

14.2% 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	658.562	100,0	706,6	127,0	250,2	
YMSDP_100082_II_STOCKYARDDTLS	3.008	28,0	43.316,4	125,4	335,7	asynchronous
YMSDI_100092_II_PO_RELEASE	294	13,9	219.461,4	1.377,7	4.001,9	asynchronous
YMPII_100024_CD_II_SI_IS_CONTR	100.183	11,4	528,9	233,3	464,6	synchronous
YOMSI_100002_II_SI_IA_ORDER_RE	60.791	4,6	349,8	93,1	243,7	asynchronous
YMSD_100012_CAPL_II_SI_IA_AUTO	147	4,2	132.366,1	18.942,6	116.024,4	asynchronous
YMCRM_100037II_CR2HR_TDC_CRMIS	1.735	3,3	8.930,9	1.779,1	4.093,0	asynchronous
YMPII_100039_II_SI_IS_TAX_BRE1	20.855	2,5	547,0	366,9	132,3	synchronous
YMCRMI_10037_II_TDC_PO_CRIMIS	1.709	2,0	5.520,5	1.175,4	2.693,0	asynchronous
YMSDI_100008_II_ORDER_CREATION	2.660	2,0	3.428,5	310,0	3.113,5	synchronous
YIUSC1_100017II_SI_IA_SERVICE	58	1,6	128.419,8	3.116,4	10.435,8	asynchronous

8.2.2 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
/OPT/VIM_WP	DIA	874.368	3,7	999,4
ZSSNEW	DIA	169.525	1,9	2.671,6
VA01	DIA	373.529	0,9	586,3
FBL3N	DIA	65.271	0,9	3.265,3
YSTOCKN	DIA	17.261	0,7	9.149,1
VA02	DIA	317.672	0,6	479,9
YHRPD022	DIA	2.109	0,6	70.733,5
YMSTB	DIA	20.915	0,6	6.780,9
ZVSOSTATUS	DIA	51.967	0,6	2.721,2
YSTOCKN_V2	DIA	36.479	0,6	3.767,0

5.0% of the total database time in the above table is caused by customer transactions.

If average database times are outside acceptable boundaries and you are unhappy with the performance of a transaction, contact your in-house developers about possible optimization potential and open a message under component SV-PERF if required.

DATABASE LOAD BY TRANSACTIONS (BATCH)

Transaction	Dialog Steps	Total DB Time in %	Total DB Time in s
ZQEVAI30	4.394	4,3	1.010.876,0
YMPIR_MODIFY_YMPIT_MRO_ORDTRK	271	3,1	720.093,0
YMQMR_TC_FAILURE_BATCHES	54	2,8	655.944,0
RPTIME00	1.049	2,6	618.096,0
ZPPNV_WIP_KPHNEW	30	2,3	542.734,0
RFITEMGL	440	1,7	408.306,0
YMPCR_STOCK_REPORT_HANA_V2	874	1,6	375.700,0
ZCRMB_STOCK	386	1,6	371.016,0
YMPCI_FPC_ACT_GI_POST	17.276	1,4	329.270,0

Transaction	Dialog Steps	Total DB Time in %	Total DB Time in s
YCTDI_SD_DATA_TRANSFER	9.207	1,3	301.751,0

18.4% 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 PRD	22.025.795	59,87
Sum of external systems	14.762.852	40,13
SLT Load (Part of Sum of external systems)	9.893.723	26,89
n/a (not available)	322	0,00
RFC load (sum of above)	36.788.969	100,00
RFC load in Performance Overview	38.922.419	105,80
Load of all task types in Performance Overview	122.323.588	332,50

TOP 20 RFC CALLS FROM EXTERNAL SYSTEMS - AVERAGE TIMES [MS]

Initial System	Initial Action	Total Resp. Time in s	% of RFC Load	Avg. Response Time	Avg. CPU Time	Avg. DB Time	Avg. Roll Wait Time
LTP	/1LT/IUC_LOAD_MT_01K_001	1.492.862	4,06	588,0	99,7	106,1	0,2
LTP	/1LT/IUC_LOAD_MT_002_001	711.155	1,93	444,6	20,6	40,1	0,2
LTP	/1LT/IUC_LOAD_MT_009_001	627.469	1,71	399,6	20,6	37,0	0,2
SPP	/1LT/IUC_LOAD_MT_009_001	601.717	1,64	813,3	35,1	52,2	0,1
undetermined	undetermined_startup_0	594.638	1,62	270,2	38,0	118,2	12,1
LTP	/1LT/IUC_LOAD_MT_001_001	530.582	1,44	614,2	15,7	37,5	0,4
SPP	/1LT/IUC_LOAD_MT_003_001	504.176	1,37	967,6	9,5	20,2	0,2
SPP	/1LT/IUC_LOAD_MT_00A_001	480.369	1,31	904,8	23,9	40,9	0,2
SPP	/1LT/IUC_LOAD_MT_002_001	471.156	1,28	1.037,2	16,7	82,1	0,2
SPP	/1LT/IUC_LOAD_MT_005_001	420.967	1,14	1.022,1	16,9	79,5	0,2
LTP	/1LT/IUC_LOAD_MT_01F_001	381.320	1,04	1.294,7	312,4	143,9	0,9
RQA	5CF3FCEB1CD81ED880977295CE7A0785	378.869	1,03	573,8	22,7	50,1	0,4

Initial System	Initial Action	Total Resp. Time in s	% of RFC Load	Avg. Response Time	Avg. CPU Time	Avg. DB Time	Avg. Roll Wait Time
LTP	/1LT/IUC_LOAD_MT_009_002	326.106	0,89	401,8	20,6	37,7	0,2
RQA	GRAC_REP_OBJ_SYNC_ECC	249.746	0,68	83.891,7	13.442,3	67.701,6	536,9
RQA	GRAC_ACTION_USAGE_SYNC	246.439	0,67	68.684,3	10.819,2	70,2	0,7
RQA	GRAC_ACTION_USAGE_ECC	242.865	0,66	61.687,8	9.811,6	43,2	0,5
LTP	/1LT/IUC_LOAD_MT_01H_001	199.029	0,54	1.193,8	266,3	89,0	1,5
LTP	/1LT/IUC_LOAD_MT_01K_002	197.802	0,54	601,4	106,0	108,5	0,2
LTP	/1LT/IUC_LOAD_MT_01D_001	191.179	0,52	369,6	6,8	13,4	0,7
GRAC_SOD_SEARCH_APPLN	005056ADFC181EDD8CA4680F10EBFCC6	188.212	0,51	666,2	75,9	79,3	5,2

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

Initial System	Initial Action	Total Resp. Time in s	% of RFC Load	Avg. Response Time	Avg. CPU Time	Avg. DB Time	Avg. Roll Wait Time
PRD	SAPMSSY1	5.423.004	14,74	4.516,6	1.382,4	634,3	248,4
PRD	/OPT/VIM_WP	3.391.005	9,22	501,1	18,6	78,3	1,0
PRD	/SDF/MON_SCHEDULER	785.946	2,14	4.569.451,2	10.187,7	220.375,5	1.763,0
PRD	RSARFCEX	753.394	2,05	67,7	8,1	7,0	0,3
PRD	/SDF/SMON_SCHEDULER	669.686	1,82	4.650.599,6	15.905,8	323.723,9	4.961,4
PRD	SECM_LOG_2_ESP	513.528	1,40	808,6	205,5	19,7	1,5
PRD	YSTD	426.740	1,16	1.689,5	17,4	31,0	0,2
PRD	YEPA_SCO_CREATE_KPO	412.727	1,12	4.782,8	32,1	66,6	0,4
PRD	YMPIR_IBSC_STARS_INTERFACE	345.852	0,94	653,3	29,5	67,6	0,1
PRD	TUBE_STO_CLOSE	334.177	0,91	40.599,8	23,4	33,9	0,2
PRD	VIM_BC_INBOUND_PROCESSING	275.961	0,75	677,0	157,4	178,0	0,2
PRD	YMT_EPA_SCO_CREATE	256.696	0,70	3.309,5	31,4	60,7	0,2
PRD	YMPIR_SD_AUTO_IV_POST	219.499	0,60	3.653,4	24,4	41,6	0,7
PRD	YMPIR_MM_MRP_INSURANCE_BG	204.065	0,55	194,7	10,9	17,3	0,3
PRD	YMPIR_CREATE_SES_EBUY	201.989	0,55	249,1	29,1	53,4	0,2
PRD	FPGR_POST_116_SLAB_A	175.445	0,48	354,2	9,9	24,1	0,2
PRD	YMSDR_EPA_SCOCRT_TUBES	171.799	0,47	4.222,5	31,0	55,8	0,3
PRD	TSBAN_MO_SETTLEMENT_IRON MAKING	154.739	0,42	4.411,8	212,7	3.496,6	111,2
PRD	TSBAN_MO_SETTLEMENT_MILLS	147.260	0,40	4.245,2	192,6	3.398,8	84,9
PRD	SAP_COLLECTOR_PERFMON_SWNCCOLL	145.875	0,40	3.078,0	2.414,4	296,3	0,8

10 SAP System Operating PRD

We analyzed the daily operation of your system and detected severe problems that may have a serious financial impact on your business.

Rating	Check
✔	Availability based on Collector Protocols
!	Program Errors (ABAP Dumps)
!	Update Errors
!	Table Reorganization
✘	Critical Number Ranges
!	Number Range Trace
!	Exhausted Number Range Buffers
✔	DDLOG Sequence Exhaustion may cause unplanned downtime

10.1 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."

10.2 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 have detected 939 update errors.

> **Recommendation:** Check the update errors periodically with the corresponding application teams according to SAP Note 1510367. This is in order to determine whether an update record can be updated again, depending on what action has already been taken by the affected users.
> Implementation: Problems during the processing of update requests can be checked in the syslog and the database log files; refer to the relevant SAP Notes.
> Note: To select the update errors in transaction SM13, enter the following values:
> - Client = *
> - User = *
> - From date back = one year

10.3 Table Reorganization

When analyzing your database, we detected large or rapidly growing tables or indexes.
Recommendation: Implement the SAP Notes listed below to reduce the size of some of these tables or indexes.
Background: For more information about SAP Data Volume Management, see SAP DVM wiki.

Table / Index Name	Size of Table / Index [MByte]	Recommended SAP Note
ACCTCR	123.504,0	178476, 48009
APQD	20.762,0	36781, 18307
ARFCSDATA	9.723,0	375566
TST03	94.710,0	48400, 130978, 16083

10.4 Program Errors (ABAP Dumps)

26070 ABAP dumps have been recorded in your system in the period 04.10.2025 to 11.10.2025. 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
04.10.2025	1.411
05.10.2025	4.747
06.10.2025	4.891
07.10.2025	4.363
08.10.2025	3.774
09.10.2025	3.290
10.10.2025	3.048
11.10.2025	546

Name of Runtime Error	Dumps	Server (e.g.)	Date (e.g.)	Time (e.g.)
CONNE_IMPORT_WRONG_COMP_TYPE	1	sapapp28_PRD_28	04.10.2025	02:16:27
DBIF_RSQL_SQL_ERROR	3	sapapp43_PRD_43	04.10.2025	23:52:13
DBIF_RTAB_SQL_ERROR	3	sapapp18_PRD_18	04.10.2025	23:55:28
FIND_INFINITE_LOOP	1	sapapp37_PRD_37	05.10.2025	09:42:11
SAPSQL_NO_ROLL	1	sapapp26_PRD_26	05.10.2025	10:01:37
CALL_DIALOG_CONTAINER_MISSING	1	sapapp40_PRD_40	05.10.2025	11:47:31
TSV_BTR_PAGE_ALLOC_FAILED	2	sapapp32_PRD_32	05.10.2025	12:06:25
SAPSQL_IN_ITAB_ILLEGAL_SIGN	2	sapapp27_PRD_27	05.10.2025	18:47:33
OPEN_DATASET_NO_AUTHORITY	1	sapapp30_PRD_30	06.10.2025	10:21:23
CATCH_ILLEGAL_STATE	1	sapapp33_PRD_33	06.10.2025	15:02:50
PERFORM_PARAMETER_MISSING	1	sapapp38_PRD_38	06.10.2025	15:20:47
RFCGUI_UNEXPECTED_DATA	1	sapapp20_PRD_20	06.10.2025	21:23:58
COMMIT_IN_POSTING	61	sapapp20_PRD_20	07.10.2025	10:16:27
PERFORM_NOT_FOUND	4	sapapp31-ha_PRD_22	07.10.2025	11:45:01
ITAB_DUPLICATE_KEY	3	sapapp26_PRD_26	07.10.2025	12:37:42
ASSERTION_FAILED	23	sapapp21_PRD_21	07.10.2025	13:05:50
TYPELOAD_NEW_VERSION	248	sapapp41_PRD_41	07.10.2025	14:58:22
TSV_ILLEGAL_REFERENCE	1	sapapp41_PRD_41	07.10.2025	16:05:41
TSV_LIN_ALLOC_FAILED	7	sapapp42_PRD_42	07.10.2025	16:16:17
REFS_NOT_SUPPORTED_YET	2	sapapp18_PRD_18	07.10.2025	19:32:45
TSV_TNEW_BLOCKS_NO_ROLL_MEMORY	7	sapapp39_PRD_39	07.10.2025	22:02:12
OBJECTS_NOT_CHARLIKE	5	sapapp21_PRD_21	07.10.2025	22:24:44
OBJECTS_OBJREF_NOT_ASSIGNED_NO	5	sapapp34_PRD_34	07.10.2025	22:50:54
STRING_OFFSET_TOO_LARGE	2	sapapp21_PRD_21	08.10.2025	10:10:24
DBSQL_NO_MORE_CONNECTION	50	sapapp41_PRD_41	08.10.2025	10:39:31
CALL_FUNCTION_REMOTE_ERROR	3	sapapp15_PRD_15	08.10.2025	14:07:24
TABLE_LINE_NOT_EXISTING	1	sapapp30_PRD_30	08.10.2025	14:41:35
SYSTEM_ABAP_ACCESS_DENIED	6	sapapp41_PRD_41	08.10.2025	15:46:31
DBIF_DSQL2_OBJ_UNKNOWN	35	sapapp29_PRD_29	08.10.2025	15:53:44
DYNPRO_SEND_IN_BACKGROUND	148	sapapp15_PRD_15	08.10.2025	15:58:28
SYSTEM_ON_COMMIT_INTERRUPTED	8	sapapp34_PRD_34	08.10.2025	16:09:52
PERFORM_CONFLICT_TYPE	5	sapapp38_PRD_38	08.10.2025	16:11:59
CONV_EXIT_FIELD_TOO_SHORT	8	sapapp31_PRD_22	08.10.2025	16:42:16
TABLE_INVALID_INDEX	9	sapapp31-ha_PRD_22	08.10.2025	18:27:24
COMPUTE_BCD_OVERFLOW	18	sapapp15_PRD_15	08.10.2025	19:32:11
EXSORT_FWRITE_FAILED	1	sapapp41_PRD_41	08.10.2025	19:41:10
COLLECT_OVERFLOW_TYPE_P	5	sapapp15_PRD_15	08.10.2025	19:45:31
DYNPRO_NOT_FOUND	9	sapapp36_PRD_36	09.10.2025	03:02:42
SYSTEM_NO_MEMORY	1	sapapp27_PRD_27	09.10.2025	10:05:24
SAPSQL_DATA_LOSS	33	sapapp41_PRD_41	09.10.2025	10:28:55
OBJECTS_OBJREF_NOT_ASSIGNED	12	sapapp37_PRD_37	09.10.2025	10:46:18
DBSQL_SQL_DEADLOCK_DETECTED	13	sapapp34_PRD_34	09.10.2025	12:00:12
DYNP_TOO_MANY_RADIOBUTTONS_ON	5	sapapp30_PRD_30	09.10.2025	12:05:21

Name of Runtime Error	Dumps	Server (e.g.)	Date (e.g.)	Time (e.g.)
LOAD_PROGRAM_TABLE_MISMATCH	1	sapapp34_PRD_34	09.10.2025	14:59:35
GETWA_NO_MEM	1	sapapp38_PRD_38	09.10.2025	15:21:47
SAPSQL_STMNT_TOO_LARGE	19	sapapp26_PRD_26	09.10.2025	16:39:36
DBSQL_SQL_ERROR	51	sapapp18_PRD_18	09.10.2025	16:53:38
LOAD_NO_SPACE_FOR_TABLE	5	sapapp34_PRD_34	09.10.2025	17:24:26
TCHK_MOVE_CORRESPONDING	4	sapapp34_PRD_34	09.10.2025	17:38:45
SYSTEM_CORE_DUMPED	10	sapapp15_PRD_15	09.10.2025	20:16:28
DBSQL_STMNT_TOO_LARGE	55	sapapp28_PRD_28	09.10.2025	20:40:25
BCD_FIELD_OVERFLOW	64	sapapp15_PRD_15	09.10.2025	21:29:13
DBIF_DSQL2_SQL_ERROR	7	sapapp30_PRD_30	10.10.2025	06:30:07
CALL_FUNCTION_NOT_FOUND	74	sapapp34_PRD_34	10.10.2025	10:50:58
MESSAGE_TYPE_UNKNOWN	3	sapapp34_PRD_34	10.10.2025	11:49:27
CALL_FUNCTION_CONFLICT_TYPE	12	sapapp41_PRD_41	10.10.2025	12:20:20
RABAX_CALLING_RABAX	2	sapapp21_PRD_21	10.10.2025	13:24:19
MEMORY_NO_MORE_PAGING	37	sapapp18_PRD_18	10.10.2025	13:37:29
CONVT_OVERFLOW	57	sapapp27_PRD_27	10.10.2025	14:29:30
CALL_TRANSACTION_NOT_FOUND	19	sapapp34_PRD_34	10.10.2025	15:55:04
LOAD_PROGRAM_NOT_FOUND	41	sapapp18_PRD_18	10.10.2025	16:33:34
SYNTAX_ERROR	19	sapapp37_PRD_37	10.10.2025	17:11:15
DYNPRO_MSG_IN_HELP	34	sapapp28_PRD_28	10.10.2025	18:00:56
LIST_TOO_MANY_LPROS	128	sapapp36_PRD_36	10.10.2025	18:21:27
DATA_OFFSET_TOO_LARGE	22	sapapp37_PRD_37	10.10.2025	18:23:24
TABLE_ILLEGAL_STATEMENT	20	sapapp37_PRD_37	10.10.2025	18:50:08
IMPORT_WRONG_END_POS	3	sapapp26_PRD_26	10.10.2025	19:10:38
SAPSQL_PARSE_ERROR	14	sapapp31-ha_PRD_22	10.10.2025	19:20:02
CALL_FUNCTION_PARM_MISSING	78	sapapp20_PRD_20	10.10.2025	19:22:24
UNCAUGHT_EXCEPTION	314	sapapp26_PRD_26	10.10.2025	19:40:04
CALL_TRANSACTION_NO_AUTH	82	sapapp18_PRD_18	10.10.2025	19:45:27
MESSAGE_TYPE_X	163	sapapp38_PRD_38	10.10.2025	21:46:50
GETWA_NOT_ASSIGNED	51	sapapp15_PRD_15	10.10.2025	22:22:03
DBSQL_DUPLICATE_KEY_ERROR	377	sapapp20_PRD_20	10.10.2025	23:51:03
DATA_OFFSET_NEGATIVE	43	sapapp20_PRD_20	10.10.2025	23:51:36
DBSQL_ILLEGAL_CLIENT_SPECIFIED	117	sapapp33_PRD_33	11.10.2025	00:01:02
SYSTEM_NO_ROLL	237	sapapp31-ha_PRD_22	11.10.2025	00:04:54
TSV_TABH_POOL_NO_ROLL_MEMORY	78	sapapp31-ha_PRD_22	11.10.2025	00:11:17
SESSIONMEM_QUOTA_WARNING	841	sapapp31-ha_PRD_22	11.10.2025	00:15:32
TSV_TNEW_OCCURS_NO_ROLL_MEMORY	128	sapapp31-ha_PRD_22	11.10.2025	00:16:03
CALL_FUNCTION_SEND_ERROR	3.425	sapapp31-ha_PRD_22	11.10.2025	00:33:44
TIME_OUT	538	sapapp33_PRD_33	11.10.2025	01:01:33
BCD_ZERODIVIDE	10	sapapp36_PRD_36	11.10.2025	02:00:19
CONVT_NO_NUMBER	338	sapapp36_PRD_36	11.10.2025	03:30:37
CONNE_IMPORT_WRONG_COMP_LENG	15	sapapp27_PRD_27	11.10.2025	03:52:36
RAISE_EXCEPTION	260	sapapp39_PRD_39	11.10.2025	04:57:46
ITAB_LINE_NOT_FOUND	2.585	sapapp15_PRD_15	11.10.2025	05:20:47
RFC_NO_AUTHORITY	4.499	sapapp31_PRD_22	11.10.2025	05:30:06
TSV_TNEW_PAGE_ALLOC_FAILED	4.704	sapapp39_PRD_39	11.10.2025	05:42:09
SQL_CAUGHT_RABAX	3.852	sapapp39_PRD_39	11.10.2025	05:42:11
DYNPRO_FIELD_CONVERSION	1.877	sapapp37_PRD_37	11.10.2025	05:44:50

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.

10.5 Critical Number Ranges

We have checked the usage of ABAP number ranges and found some that have already been used 90% or more.

The object names in column "Object" are provided with a direct link into the analysis of number ranges in the EarlyWatch Alert Workspace. There you can view the time series of the number range and a predicted worst-case date when the number range may be exhausted, provided that enough data is already available.

Rating	Client	% Used	% Warning	Object	Short text	Subobject	Interval	To Year	Length	Remaining Numbers	Rolling (Yes/No)	# per Week
	600	93,13	90,00	BU_PARTNER	Business partner		CP		1.000.000	68.690	No	0
	600	99,32	95,00	RV_BELEG	SD Documents		TB		100.000	684	Yes	0
	600	98,96	95,00	RV_BELEG	SD Documents		76		199.999	2.081	Yes	0
	500	97,17	99,00	ZLCNRANGE	No. range for LCN		09		99.999	2.827	No	0
	600	92,84	90,00	ZBATCH_TGS	ZBATCH_TGS	019	01		9.999	716	Yes	0
	600	92,17	99,00	ZLCNRANGE	No. range for LCN		2M		99.999	7.833	No	0
	600	90,15	99,00	ZLCNRANGE	No. range for LCN		2A		99.999	9.850	No	0
	600	87,52	99,00	ZLCNRANGE	No. range for LCN		SI		99.999	12.481	No	0
	600	84,11	99,00	ZLCNRANGE	No. range for LCN		SP		99.999	15.885	No	0
	600	83,07	99,00	ZLCNRANGE	No. range for LCN		DL		100.000	16.929	No	0
	600	25,08	10,00	ALE_CP	Change pointer		01		9.999.999.999	7.491.627.407	Yes	0

This table shows our findings. Please note that the following number ranges are not considered:

- Number ranges that have never been used (where the level is equal to the "from" value)
- External number ranges
- Number ranges below a certain level
- Number ranges of the client 000 except SPO_NUM, AENDBELEG
- Rolling number ranges that have rolled successfully in the past
- After three successful EarlyWatch Alert sessions, number ranges that do not change in their level are removed from the check. These are still visible in the EarlyWatch Alert Workspace -> "Critical Number Ranges Card"

The column "Length" indicates the total number of numbers in the number range. The column "% Warning" is a predefined threshold for the used percentage of a given number range object. If this limit is reached, the business user receives a warning. Unlike previous versions of this check, the rating of a number range now uses this warning threshold instead of an artificially chosen fixed value. This is to be closer to real-world usage of number ranges.

The column "Weeks" may contain a figure that indicates in how many weeks a number range might fill completely if it is used in the same rate like in the last two weeks.

In contrary to the prediction of the date when a number range may fill completely that is available in the EarlyWatch Alert Workspace this prediction is not calculated by means of machine learning but by simple linear extrapolation of up to three last known values. Take them with a grain of salt.

All empty columns will be hidden to improve the readability of the table.

When there are too many number range objects to report, up to 8 of each object per client are listed above.

This table lists those superfluous number range objects. Please use the links in the table for further analysis of these number ranges.

If a number range is exhausted, then the following may happen:

Non-rolling Number Range

- The process gets no new number and receives an error message.

Rolling Number Range

- The next number drawn after the last one will again be the one defined by the “from” value. There is no warning.

- There might be old objects with keys that are now drawn again from the number range. Depending on the business process, either existing objects will be overwritten, or they cannot be saved because of conflicting unique keys. The former might happen undetected and usually this is not what you want.

Recommendation: Check the number ranges that are critical to your business and make sure that you have enough numbers available. Depending on the business process and application area, the number range can be extended:

- By adapting the interval parameters "from number", "to number", and "level"
- By providing a new interval. This might happen automatically for some applications.

In case of rolling number ranges, make sure that old objects are reorganized, deleted, or archived in time before the number range reaches its limit.

Regarding specific number ranges, further information may be found in SAP Notes or Knowledge Base articles. Use the number range object name as a search criterium.

If you think that the rating is too harsh, that is, there are plenty of numbers still available, then check the warning level of that number range object in transaction SNRO or SNUM. Enter the number range object name and choose *Display*. Then check the value of *% Warning*. For example, a value of 10.0 % means "warn me if there are only 10 % of the possible numbers left", while here in this check, the respective *fill level* is displayed. In this example it would be 90 %. The warning level should nevertheless be set according to business requirements.

See also SAP Note 2292041 and SAP Help Portal Number range objects

10.6 Number Range Trace

The following table shows the findings regarding the number range trace. Please follow the recommendations below the table.

An active number range trace severely affects the performance of number assignment. It is meant as a means to track down specific issues for a short period of time.

For general information about the number range trace, please read SAP Note 2611178.

NUMBER RANGE TRACE INFORMATION

Remark	Client	NR Object	Subobject	NR Number	To Year	Trace Active	Orphaned Trace Records	No. of Trace Records
3	600	RF_BELEG	1000	65	2025		✓	1

Recommendation: Depending on the figure in the column Remark, we recommend:

(1) For this number range object, the trace is active. Please check whether this is necessary. The number range trace can cause performance degradations and thus should only be used to track down a specific issue. When this has been finished, the trace should be switched off.

(2) For this number range object, the trace is not active but there are still trace records available. See column No. of Trace Records. These should be deleted once they are not needed any more.

(3) There are trace records of a number range trace that has been deleted. These should be deleted once they are not needed any more.

The Number Range Trace is managed using program NK_SET_SYSLOG_PARMS. Trace records can be viewed and/or deleted using program NK_DISPLAY_TRACE. See also SAP Note 2611178.

The configuration of number range traces and the display of trace records with NK_DISPLAY_TRACE is not cross-client. You must log on to the respective client to follow the recommendations. See the client field in the table above.

10.7 Exhausted Number Range Buffers

We found number range buffers that are already exhausted.

Many exhausted number range buffers in the number range shadow table (NRIVSHADOW) can degrade the performance of number range assignment. This in turn directly affects the throughput of the respective business process.

Please read SAP KBA 2787435 for criteria for deletion (reorganization) of exhausted, that is, fully used up buffers.

EXHAUSTED LOCAL NUMBER RANGE BUFFERS

Client	Number of Exhausted Buffers
400	4.061
500	1.576
600	40
700	3.405

> **Recommendation:** Use program NK_REORGANIZE according to SAP KBA 2787435 to delete used buffers.

This means that ranges that have already been used up will be removed from the table NRIVSHADOW. That is where the number range level is greater than or equal to the buffer's upper limit.

11 Security

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

Rating	Check
✓	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 Network Settings for System Replication Communication (listeninterface)
⚡	Activation Status and Validity of User SYSTEM
!	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
⚡	Critical authorizations, which allow to do anything
⚡	Critical authorizations, which should not be used in production
!	Critical authorizations, which should only see very limited use in production

11.1 SAP HANA Database PRD

11.1.1 SAP HANA System Privilege DATA ADMIN

11.1.1.1 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	2

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.

11.1.2 SAP HANA Network Settings for System Replication Communication (listeninterface)

Rating	File Name	Section	Key	Current Value	Comment
⚡	global.ini	system_replication_communication	enable_ssl	off	TLS encrypted communication expected (when listeninterface = .global)

Rating	File Name	Section	Key	Current Value	Comment
	global.ini	system_replication_communication	listeninterface	.global	TLS encrypted communication expected (when listeninterface = .global)
	global.ini	system_replication_hostname_resolution	10.170.64.50	tsls4proddbdr	
	global.ini	system_replication_hostname_resolution	10.207.61.113	tsls4proddbh	
	global.ini	system_replication_hostname_resolution	10.207.61.123	tsls4proddb	

With current parameter settings, the default (public) network route is used for system replication communication or the system replication communication is not strictly restricted to the hosts of your scenario. This can be used to attack your SAP HANA system.

> **Recommendation:** Immediate action is recommended. Implement one of the best practices outlined below:
> Enable TLS encryption for system replication communication to ensure that all communication is limited to hosts having the same system PKI. As of SAP HANA 1.0 SPS 10, a system PKI is automatically set up as part of the installation. It is ready for use without further configuration:
> 1. Set parameter *enable_ssl* to value '*on*'. The parameter is in file *global.ini*, section *system_replication_communication*.
> 2. Encrypt the Internal Communication of SAP HANA by changing parameter *ssl* to value '*systempki*'. This parameter is in file *global.ini*, section [*communication*].
> Both parameters are not case sensitive and must be set on all sites of your replication scenario. After making the change, you must restart your SAP HANA system.
> This is the simplest approach to secure system replication communication. It is recommended for all current SAP HANA revisions: SAP HANA 1.0 revision 122.15 (January 2018) or later and SAP HANA 2.0 revision 12.4 (February 2018) or 24 (March 2018) or 30 (April 2018) or any later revision of the respective Support Package).
> If your system is already configured with separate networks for public, internal, and system replication communication, you can also choose an alternative approach. With such a network topology, you can ensure that hosts listen to system replication communication only on the dedicated ports of the separate network and reject incoming requests on other interfaces:
> 1. Set parameter *listeninterface* in section *system_replication_communication* to '*.internal*'.
> 2. In the *system_replication_hostname_resolution* section of the *global.ini* file, configure parameters that define a correct mapping of IP address to hostname for each host of your SR scenario. Select the appropriate name / value pairs based on your documentation of your network topology. Entries for hosts of neighboring sites must be included as a minimum.
> Note that some SAP HANA scenarios do not support the parameter setting *listeninterface* = *.internal*. If you choose this option, refer to the SAP HANA Security Guide on SAP Help Portal.

11.1.3 Activation Status and Validity of User SYSTEM

The activation status and validity dates (VALID FROM and VALID TO) of user SYSTEM have been checked in system table USERS.

Rating	Check
	User SYSTEM is currently active and valid.

Active standard users are an easy and widely used target for hacking attacks since they are available in every system. Furthermore, the user SYSTEM is like a super user with very powerful user authorizations that cannot be revoked.

> **Recommendation:** Review the current usage of user SYSTEM and set up and test a user and role concept, so that the use of user SYSTEM becomes obsolete.
>
> Deactivate the user account with the SQL statement:
> ALTER USER SYSTEM DEACTIVATE USER NOW.
>
> To prevent misuse of user SYSTEM, activate related audit policies in your SAP HANA system as described in the SAP HANA Administration Guide.

11.2 ABAP Stack of PRD

11.2.1 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
S4CORE	106	2	30.04.2022	20	14.08.2025	4	!
SAP_ABA	75G	2	26.03.2022	21	14.08.2025	4	!
SAP_BASIS	756	2	21.04.2022	20	14.08.2025	4	!
SAP_GWFND	756	2	26.03.2022	21	14.08.2025	4	!

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 about to leave this timeframe within the next 6 months.
In the case of SAP Solution Manager, the software component BBPCRM is not separately checked because the update is covered via software component ST.
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.

11.2.2 Default Passwords of Standard Users

Standard users have default passwords.

> **Recommendation:** Run report **RSUSR003** to check for standard users having default passwords in some clients.
> Ensure that user **SAP*** exists in all clients and has a non-default password even if profile parameter login/no_automatic_user_sapstar is set to 1.
> Ensure that user **SAPCPIC** has a non-default password in all clients.
> User **EARLYWATCH** was used in client 066 only. This client should no longer exist, and therefore, this user should not exist either in any client.
> SAP Note 1749142 describes how to remove an obsolete client 066.
> Make sure that user **TMSADM** exists only in client 000 and that the standard password has been changed. SAP Note 1414256 describes a support tool for changing the password of user TMSADM in all systems of the transport domain.
> For more information, see "Protecting Special Users" either on SAP Help Portal or in the SAP NetWeaver AS ABAP Security Guide.

11.2.3 Protection of Passwords in Database Connections

Database user passwords of connected systems can be found in table DBCON.

> **Recommendation:** Execute the valid manual postprocessing step described in SAP Security Note 1823566.
> Note: This Note is valid for all ABAP installations that use database connections, including when the text focuses on SAP Solution Manager. The Note refers to SAP Solution Manager because typically, many DB connections are maintained.
> If this recommendation is displayed, there are DB connections with passwords on the analyzed system. Although transaction DBCO (which you use to maintain such DB connections) does not show the passwords, you can find the obfuscated passwords using transaction SE16 for table DBCON with the field value PASSWORD <> space.

11.2.4 ABAP Password Policy

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

11.2.4.1 Password Complexity

PARAMETER: LOGIN/MIN_PASSWORD_LNG

Rating	Instance	Current Value(s)	Recommended Value
!	All instances	6	8

The current system settings allow a password length of fewer than 8 characters.
This allows weak passwords. Attackers may successfully recover these passwords and gain unauthorized access to the system.

> **Recommendation:** Assign a minimum value of 8 to the profile parameter login/min_password_lng.

In addition, SAP provides options to enforce complex passwords. Find the current settings of the corresponding profile parameters in the following table.

Parameter	Instance	Current Value(s)
login/min_password_digits	All instances	1

Parameter	Instance	Current Value(s)
login/min_password_letters	All instances	1
login/min_password_lowercase	All instances	1
login/min_password_uppercase	All instances	1
login/min_password_specials	All instances	1

Recommendation: Enforce a minimum of 3 independent character categories using the corresponding profile parameters. For more information, see SAP Note 862989 and the section Profile Parameters for Logon and Password (Login Parameters) either on SAP Help Portal or in the SAP NetWeaver AS ABAP Security Guide.

11.2.5 RFC Gateway Security

Enabling an Initial Security Environment

PARAMETER: GW/ACL_MODE

Rating	Instance	Current Value	Recommended Value
!	All instances	0	1

Profile parameter gw/acl_mode is not set to 1.

Recommendation: Profile parameter gw/acl_mode should be set to 1 to activate a more secure default behavior if either of the access control lists defined by profile parameters gw/sec_info and gw/reg_info does not exist.
SAP recommends setting profile parameter gw/acl_mode to 1 to establish an additional line of defense should any of the access control lists be missing. For more information, see SAP Note 1480644.

RFC Gateway Access Control Lists

PARAMETERS: GW/SEC_INFO GW/REG_INFO

Rating	Instance	Error Condition
✓	All instances	gw/reg_info and gw/sec_info are defined

REG_INFO

Rating	Instance	Error Condition	File does not exist (default)
!	All instances	P TP=*	

SEC_INFO

Rating	Instance	Error Condition	File does not exist (default)
✓	All instances		

PARAMETER: GW/SIM_MODE

Rating	Instance	Current Value	Recommended Value
✓	All instances	0	0

At least one of the following critical conditions is true:
- Profile parameters gw/reg_info is not set
- File reginfo does not exist
- File reginfo contains at least one trivial entry

Recommendation: The profile parameters gw/sec_info and gw/reg_info provide the file names of the corresponding access control lists. These access control lists are critical to controlling RFC access to your system, including connections to RFC servers. You should create and maintain both access control lists, which you can do using transaction SMGW.
The files secinfo and reginfo, which are referenced by these profile parameters, should exist and should not contain trivial entries.
The profile parameter gw/acl_mode should be set to 1 to enable secure default rules if any of these files do not exist.
The profile parameter gw/sim_mode should be set to 0 to disable the simulation mode which would accept any connections.
SAP recommends defining and properly maintaining these access control lists to prevent rogue servers from accessing the system. For more information, see the following SAP Notes:
SAP Note 1305851 - Overview note: "reg_info" and "sec_info"
SAP Note 1408081 - Basic settings for reg_info and sec_info

> For more information, see "Configuring Connections between SAP Gateway and External Programs Securely" on SAP Help Portal and the SAP Gateway wiki on the SAP Community Network.
> See also the white paper on SAP Security Recommendations: Securing Remote Function Calls (RFC) available at https://support.sap.com/content/dam/support/en_us/library/ssp/security-whitepapers/securing_remote-function-calls.pdf.

11.2.6 Users with Critical Authorizations

For more information about the following check results, see SAP Note 863362.

Note that 25 firefighter accounts have been identified in 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.

11.2.6.1 Critical authorizations, which allow to do anything

11.2.6.1.1 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	1	11	
001	1	1	
400	3	124	
500	6	737	
600	11	89.390	
700	4	285	
800	3	53	

Authorization profile:
SAP_ALL

11.2.6.1.2 Users Authorized to Debug / Replace

This authorization provides access to data and functions, since any authorization check that is built in ABAP can be bypassed. In addition, you can change data during processing, which may lead to inconsistent results. The specified number of users for each client have the checked authorization.

Client	No. of Users Having This Authorization	No. of Valid Users	Rating
000	2	11	
001	1	1	
400	7	124	
500	32	737	
600	70	89.390	
700	9	285	
800	14	53	

Authorization objects:
Object 1: S_DEVELOPwith ACTVT=02 (change) and OBJTYPE=DEBUG

Note: If you do not want to disable development in your system, you have to exclude the authorization for OBJTYPE=DEBUG with ACTVT=02 from roles and only allow any other object type for S_DEVELOP. This means that development and debugging with visualization is still possible.
You can achieve this by adding two authorizations to the object S_DEVELOP: one with all object types except for DEBUG and all activities, and another for the object type DEBUG only and all activities except for 02.

11.2.6.2 Critical authorizations, which should not be used in production

11.2.6.2.1 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
000	3	11	✔
001	1	1	✔
400	31	124	!
500	44	737	✔
600	4.644	89.390	!
700	49	285	!
800	20	53	!

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 = *

11.2.6.3 Critical authorizations, which should only see very limited use in production

11.2.6.3.1 Users Authorized to Start all Reports

This authorization allows critical functions and reports that do not contain their own authorization checks to be executed. The specified number of users for each client have the checked authorization.

Client	No. of Users Having This Authorization	No. of Valid Users	Rating
000	2	11	✔
001	1	1	✔
400	11	124	✔
500	20	737	✔
600	44	89.390	✔
700	12	285	✔
800	13	53	!

AUTHORIZATION OBJECTS:
Object 1: S_TCODE with TCD=SA38
Object 2: S_PROGRAM with P_ACTION=SUBMIT P_GROUP=*
or
Object 1: S_TCODE with TCD=SE38
Object 2: S_DEVELOP with OBJTYPE=PROG OBJNAME=* ACTVT=16

11.2.6.3.2 Users Authorized to Reset/Change User Passwords

The following users are allowed to change and reset the passwords of users. This is very risky because any of these users could change the password and log on themselves with another user. The only consequence is that the "real user" would no longer be able to log on because the password would have been changed. However, this normally results in the password being reset, because there is a chance that the "real user" might have forgotten the correct password.

Client	No. of Users Having This Authorization	No. of Valid Users	Rating
000	3	11	✔
001	1	1	✔
400	11	124	✔
500	33	737	✔
600	98	89.390	!
700	40	285	!
800	22	53	!

Authorization objects:
Object 1: S_TCODE with TCD=SU01 or TCD=OIBB or TCD=OOUS or TCD=OPF0 or TCD=OPJ0 or TCD=OVZ5
Object 2: S_USER_GRP with ACTVT=05

12 Software Change and Transport Management of PRD

Software change management issues were found in your system. See the information in the following sections.

12.1 SAP Netweaver Application Server ABAP of PRD

Rating	Check Performed
!	Emergency Changes
!	Failed Changes

12.1.1 Number of Transport Requests

The following diagram contains information about the number of transport requests per day that were imported into the SAP system in the last week.

Date	Workbench and Relocation Requests	Customizing Requests	Transport of Copies
04.10.2025	8	5	3
05.10.2025	11	3	0
06.10.2025	35	11	0
07.10.2025	27	6	0
08.10.2025	19	11	0
09.10.2025	8	1	0
10.10.2025	8	1	0

12.1.2 Number of Transported Objects

The following diagram contains information about the number of objects per day that was imported into the SAP system in the last week.

Date	Objects in Workbench and Relocation Requests	Objects in Customizing Requests	Objects in Transport of Copies
04.10.2025	15	8	97
05.10.2025	20	10	0
06.10.2025	151	17	0
07.10.2025	132	7	0
08.10.2025	50	165	0
09.10.2025	66	1	0
10.10.2025	37	3	0

12.1.3 Emergency Changes

We analyzed the number of emergency changes in system PRD in the last week.

Rating	Item	Value	Explanation
✔	Transport requests created in production	0	Number of transport requests; created or released in production.
!	Transport requests with short transition time	104	The duration between the export from the development system and the import into the production system was shorter than one day.
◇	Total number of transport requests	153	Total number of transport requests in production.

Transport Requests with a short Transition Time

Request	Export from DEV	Import in PRD
QS4K9U06JF	07.10.2025 12:07:08	07.10.2025 15:45:57
QS4K9U06JX	07.10.2025 12:21:55	07.10.2025 15:59:45
QS4K9U09FX	07.10.2025 16:40:48	07.10.2025 17:22:52
QS4K9U0F71	06.10.2025 18:49:14	07.10.2025 12:45:30
QS4K9U0F74	06.10.2025 18:49:19	07.10.2025 12:45:35
...		

Recommendation: Transport requests with a short transition time of less than one day have occurred in the last week. These transports may not have been tested sufficiently.
Make sure that they did not cause problems in production.

12.1.4 Failed Changes

In this check, we analyzed the number of failed changes in system PRD during the last week.

Rating	Item	Value	Explanation
!	Transport requests with import errors	1	Number of transport requests with import errors that were not resolved within one hour.
✓	Overtakers and bypassed transport requests	0	If an old object version overwrites a newer one we count this as a transport sequence error. We count both the overtaker transport and the bypassed transport. Each transport is only counted once.
◇	Total number of transport requests	153	Total number of transport requests that were imported or released in production within the last week.

Import Errors

Request	Import Date in PRD	Return Code	Import Step	Number of Failed Objects	Number of Objects in Request
QS4K9U0L7O	10.10.2025	0008	Generation	1	4

Recommendation: Import errors occurred in the last week. This means that transported objects or dependent objects could not be activated correctly. Make sure that these errors have been fixed in production.
Import errors should already be detected during imports into the QA environment and fixed by a correction transport. Both transports must then be imported into the production system together.

13 Financial Data Quality

After execution of the “quick” consistency checks and execution of the main reconciliation report, NO issues were identified that require your attention.

Please note that, due to a technical limitation in automatic data collection, we can only identify high-level indicators, which are a general sign of further inconsistencies in financial data.

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”. 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.

13.1 Financial Data Integrity

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

13.2 Financial Data Management

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

13.3 Reconciliation for S/4HANA

This section displays data from the reconciliation checks in the area of Finance.

13.3.1 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.

In your case, this transaction had not been executed or not fully executed. Please make sure to fully scan your system for possible further inconsistencies in your financial data.

14 Data Volume Management (DVM)

Data relevant for Data Volume Management was collected on system PRD 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/

15 Materials Management - Inventory Management Checks

Checks for Materials Management - Inventory Management-related inconsistencies were performed in your system. Below is the summary of the checks. For checks where your action is needed, the recommendations are provided.

Rating	Check
!	Inconsistent Material Document Header

15.1 MM-IM - Material Document Header Inconsistencies

8 material document header related inconsistencies were found in your system.

Recommendation: All entries in table MSEG must refer to a single entry in table MKPF. If you have entries in the MSEG table which are missing corresponding entries in the table MKPF, such entries should be fixed . These inconsistencies will also have an impact if you plan to migrate your system to S/4HANA.

Check if these entries are still needed. If yes, then correct the inconsistencies. You may choose to recover missing entries from an archive or a backup. Otherwise, the orphan entries should be deleted. To check the issue in detail, run the report 'MMIM_S4SIC_CHECKS' delivered with SAP Note 3268840 - MM-IM proactive consistency check (SI check) report. SAP Note 3212869 - Proactive Analysis of MM-IM consistency is a prerequisite to run this report.

For more details, refer to SAP Note 2197392 - Resolve findings of core ERP MM-IM S/4HANA pre checks -> section MKPF and MSEG consistency -> topic: ALL_MKPF_EXIST.

The table below shows the first 10 entries with material document header related inconsistencies in your system.

Client	Material Document Year	Material Document
600	2009	4905828677
600	2009	4905828703
600	2017	4905796105
600	2017	4905796771
600	2017	4907533902
600	2017	4907533911

16 SAP HANA Database PRD

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

16.1 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
2.00.059.04	fa/hana2sp05	15.10.2025 08:03:55

Technical Instances

Host	Database Name	System ID	Instance	Active	Daemon	Start Time	Time Zone	Nameserver Role	Indexserver Role
tsls4proddbh	PRD	PRD	00	yes	yes	2025-10-15 08:03:49.411	IST	MASTER	MASTER

Hardware Settings - General Data

Host	Physical Hostname	Manufacturer	Model
tsls4proddbh	tsls4proddbh	Lenovo	ThinkSystem SR950 -[7X13CTO1WW]-

Hardware Settings - CPU and Memory Data

Host	CPU Type	CPU Frequency	CPU Cores	Threads	Sockets	NUMA Nodes	Physical Memory [GB]	Allocation Limit [GB]	Swap Space [GB]
tsls4proddbh	Intel(R) Xeon(R) Platinum 8280L CPU @ 2.70GHz	3.156	224	448	8	8	12.095,5	9.500,0	0,0

Operating System Details

Host	Operating System PPMS Name	Operating System Version	Operating System Kernel	NOFILES Limit	OPEN_FILE Limit
tsls4proddbh	LINUX_X86_64	SUSE Linux Enterprise Server 15 SP2	5.3.18-150200.24.154-default	1.048.576	20.000.000

HANA Feature Usage

Usage	Installed / used	Additional data	SAP Note
Multitenant Database Containers (MDC)	Yes	System ID: PRD	2101244
Dynamic Tiering	No		2140959
Enterprise Performance Management Add-On (EPM MDS)	No		2456225

Usage	Installed / used	Additional data	SAP Note
Embedded liveCache	No		2593571
Streaming Server	No		
Advanced Function Libraries	No		
XS Advanced	No		
Embedded Statisticsserver active	Yes		2147247
System Replication	Yes		1999880
Smart Data Access (SDA)	No		2180119
Smart Data Integration (SDI)	No		2400022
Smart Data Streaming (SDS)	No		2367236
Persistent Memory	No		2700084
Fast Restart Option	No		2700084
Data Aging	No		2416490
Extension Node	No		2741690
Workload Classes	Yes		2222250
Native Storage Extension (NSE)	Yes		2775588
Multi Dimensional Expressions (MDX)	No		
Multi Dimensional Services (MDS)	No		2670064

System Replication Overview

Host	Site Name	Secondary Host	Secondary Site Name	Replication Mode	Full Sync	Operation Mode
tsls4proddbh	NODEB	tsls4proddb	NODEA	SYNC	DISABLED	logreplay
tsls4proddb	NODEA	tsls4proddbdr	NODEC	ASYNC	DISABLED	logreplay

HANA Update Information

Date	Version
08.07.2020	1.00.122.13.1507793622
09.07.2020	1.00.122.18.1531375173
12.07.2020	1.00.122.30.1582793455
20.06.2021	2.00.055.00.1615413201
15.09.2022	2.00.059.04.1655794895

16.2 SAP HANA Stability and Alerts

16.2.1 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
49	Identifies long-running blocking situations.	1.056	4

Alert ID	Alert	No. of Occurrences	Highest Rating
48	Identifies long-running uncommitted write transactions.	268	4
42	Identifies long-idling cursors.	37	4
78	Identifies closed connections between the primary system and a secondary system. If connections are closed, the primary system is no longer being replicated.	23	4
36	Determines whether or not the most recent data backup was successful.	10	4
20	Determines the growth rate of non-partitioned columns tables.	4	4
131	Determines the number of session requests waiting in the admission control queue. This can indicate an issue with the response time of the request.	3	4
30	Determines whether or not the disks to which data and log files are written are full. A disk-full event causes your database to stop and must be resolved.	1	4
27	Determines the number of records in the partitions of column-store tables. A table partition cannot contain more than 2,147,483,648 (2 billion) rows.	174	3
94	System Replication secondary site has a higher log replay backlog than expected.	5	3
39	Identifies long-running SQL statements.	3	3
59	Determines the percentage of transactions that are blocked.	1	3
5	Determines the percentage CPU idle time on the host and therefore whether or not CPU resources are running low.	1	3
46	Identifies new runtime dump files (*rtedump*) have been generated in the trace directory of the system. These contain information about, for example, build, loaded modules, running threads, CPU, and so on.	1	3
104	System Replication secondary site has a higher log shipping backlog than expected.	1	3

RECOMMENDATIONS

Alert ID	General Recommendation	KBA
5	Investigate CPU usage. For details please refer to the chapter "SAP HANA Resource Consumption".	1909670
20	Consider partitioning the table. For details please refer to the chapter "Size and Growth".	1910140
27	Consider repartitioning the table. For details please refer to the chapter "Size and Growth".	1910188
30	Resolve the disk-full event as follows: In the Administration Editor on the Overview tab, choose the "Disk Full Events" link and mark the event as handled. Alternatively, execute the SQL statements ALTER SYSTEM SET EVENT ACKNOWLEDGED '<host>:<port>' <id> and ALTER SYSTEM SET EVENT HANDLED '<host>:<port>' <id>.	1870858
36	Investigate why the last data backup failed, resolve the problem, and perform a new data backup as soon as possible. For details please refer to the chapter "Administration".	1900795
39	Investigate the statement. For more information, see the table _SYS_STATISTICS.HOST_LONG_RUNNING_STATEMENTS.	1849392
42	Close the cursor in the application, or kill the connection by executing the SQL statement ALTER SYSTEM DISCONNECT SESSION <LOGICAL_CONNECTION_ID>. For more information, see the table HOST_LONG_IDLE_CURSOR (_SYS_STATISTICS).	1849392, 1900261
46	Check the contents of the dump files. For details please refer to the chapter "SAP HANA Stability and Alerts".	1977099
48	Close the uncommitted transaction in the application or kill the connection by executing the SQL statement ALTER SYSTEM DISCONNECT SESSION <LOGICAL_CONNECTION_ID>. For more information, see the table HOST_UNCOMMITTED_WRITE_TRANSACTION (_SYS_STATISTICS).	1849392
49	Investigate the blocking and blocked transactions and if appropriate cancel one of them.	1849392
59	Investigate blocking and blocked transactions and if appropriate cancel some of them.	
78	Investigate why connections are closed (for example, network problem) and resolve the issue.	
94	Investigate on secondary site, why log replay backlog is increased	
104	Investigate on primary and secondary site, why log shipping backlog is increased	
131	Investigate why the session requests newly queued by admission control. Refer to M_ADMISSION_CONTROL_EVENTS for more information.	

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 and to the SAP Note 2445867 How-To: Interpreting and Resolving SAP HANA Alerts.

16.2.2 SAP HANA Dumps

	SAP HANA dumps were detected during the time period analyzed.

SAP HANA dumps indicate critical situations during SAP HANA system operation.

Date	Crash Dumps	OOM Dumps	Emergency Dumps	Cleanup OOM Dumps	Composite OOM Dumps	Page Dumps	Operating System OOM Dumps	Process Allocation Limit OOM Dumps
04.10.2025	0	0	0	0	0	0	0	0
05.10.2025	0	0	0	0	0	0	0	0
06.10.2025	0	0	0	0	1	0	0	0
08.10.2025	0	0	0	0	0	0	0	0

We observed a number of dumps in your SAP HANA system. Depending on the type of dump, different actions have to be performed:
Out-of-memory dumps:
There are different reasons for out-of-memory dumps.
- "OOM Dump": Insufficient memory for normal operation.
- "Composite OOM Dump": Expensive SQL statements in SAP HANA consume too much memory and exceed the statement limit.
- "Cleanup OOM dump": This is an automatic dump to document the memory state after cleanup of an OOM situation.
- "Operating System OOM Dump": This type is raised if a certain memory request cannot be fulfilled by the operating system. The root cause has to be evaluated by analyzing the related OOM diagnosis file. Open a customer incident on component HAN-DB*, if necessary.
- "Process Allocation Limit OOM Dump": This type is raised if a certain memory request cannot be fulfilled by the corresponding process (e.g. indexserver or nameserver). The root cause has to be evaluated by analyzing the related OOM diagnosis file and is mostly caused by a too low limit set with parameter <global.ini|nameserver.ini|indexserver.ini> -> [memorymanager] -> allocationlimit. Open a customer incident on component HAN-DB*, if necessary.

All other dumps:
In the event of emergency dumps or crash dumps, the call stack has to be evaluated. Open a customer incident on component HAN-DB*, if necessary.

Type of Dump	SAP Note
Out-Of-Memory Dump	1999997
Composite Out-Of-Memory Dump	1999997
Crash Dump	2177064
Page Dump	1977242
Operating System Out-Of-Memory Dump	2800138

To access the long-term history of memory consumption in SAP EarlyWatch Alert Workspace, click here.

16.2.3 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.

16.2.4 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.

16.3 SAP HANA Database Configuration

16.3.1 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	DATABASE	2048	<restore default>	!	2382421
global.ini [memorymanager]	gc_unused_memory_threshold_abs	DEFAULT	0	2432000	!	2169283
global.ini [memorymanager]	gc_unused_memory_threshold_rel	DEFAULT	-1	25	!	2169283
global.ini [persistence]	internal_caching_for_main	SYSTEM	false	<restore default>	!	2403124
global.ini [resource_tracking]	service_thread_sampling_monitor_enabled	DATABASE	true	<restore default>	!	2114710
global.ini [resource_tracking]	service_thread_sampling_monitor_thread_detail_enabled	DATABASE	true	<restore default>	!	2114710
indexserver.ini [memorymanager]	proactive_gc_interval	SYSTEM	10	<restore default>	!	2953186
indexserver.ini [search]	qo_top_1_optimization	DATABASE	false	<restore default>	!	2238679
indexserver.ini [table_consistency_check]	columncheck_parallel_threshold			4000000000	!	2116157
indexserver.ini [threads]	default_stack_size_kb			2048	!	1999997
indexserver.ini [threads]	worker_stack_size_kb			2048	!	1999997

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 table "SAP HANA Parameters deviating from default" lists parameters deviating from default. These parameters do not belong to the set of recommended parameters, they represent parameters that are not set to DEFAULT value.
In the list below, there might be parameters that needed to be changed, but also parameters that were supposed to be set back to their default values (as for special settings only in certain SAP HANA revisions) but were forgotten. The purpose of this output is only to report those parameters to bring them to your attention so you can check them.

SAP HANA PARAMETERS DEVIATING FROM DEFAULT

Location	Parameter	Layername	Current Value
global.ini [backup]	log_backup_buffer_size	SYSTEM	512
global.ini [memorymanager]	enable_sharing_allocator_for_implicit	DATABASE	true
global.ini [memorymanager]	global_allocation_limit	SYSTEM	9728000
global.ini [persistence]	non_trans_cch_block_size	SYSTEM	134217728
global.ini [system_replication]	logshipping_timeout	SYSTEM	3600
indexserver.ini [communication]	maxchannels	SYSTEM	40000
indexserver.ini [communication]	maxendpoints	SYSTEM	40000
indexserver.ini [mds]	use_sql_procedure_for_analytics	SYSTEM	TRUE
indexserver.ini [persistence]	disposition_lob_read	SYSTEM	1
indexserver.ini [persistence]	disposition_lob_read_small	SYSTEM	1
indexserver.ini [persistence]	disposition_lob_write	SYSTEM	1
indexserver.ini [persistence]	disposition_lob_write_small	SYSTEM	1
indexserver.ini [sql]	hex_enable_remote_table_access	SYSTEM	false
scriptserver.ini [communication]	maxchannels	SYSTEM	4000
scriptserver.ini [communication]	maxendpoints	SYSTEM	4000

16.3.2 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).

16.3.3 Disk Configuration

	There are no disk configuration issues.

Disk ID	Device ID	File system	Host	Path	Usage
2	192790	xfs	tsls4proddbh	/usr/sap/PRD/HDB00/backup/data/	DATA_BACKUP
3	56296	xfs	tsls4proddbh	/sapmnt/log/PRD/	LOG
4	192790	xfs	tsls4proddbh	/usr/sap/PRD/HDB00/backup/log/	LOG_BACKUP+CATALOG_BACKUP
5	192790	xfs	tsls4proddbh	/usr/sap/PRD/HDB00/tsls4proddbh/	TRACE
1	250990	xfs	tsls4proddbh	/sapmnt/data/PRD/	DATA

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

16.4 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.

16.4.1 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
tsls4proddbh	13.279,63	9.992,55	24,8	DATA	xfs	✓
tsls4proddbh	543,21	62,57	88,5	LOG	xfs	✓
tsls4proddbh	1.023,50	155,46	84,8	CATALOG_BACKUP+DATA_BACKUP+LOG_BACKUP+TRACE	xfs	✓

The graph shows the history of disk space usage.

16.4.2 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.

16.4.3 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	166.057
Indexes of Column Tables	173.584
Row Tables	23.846
Indexes of Row Tables	917

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.

16.4.4 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
tsls4proddbh	SAPPRD	5.182.950	Column store
tsls4proddbh	_SYS_STATISTICS	7.193	Column store
tsls4proddbh	_SYS_REPO	553	Column store
tsls4proddbh	_SYS_AUDIT	197	Column store
tsls4proddbh	_SYS_BI	13	Column store
tsls4proddbh	_SYS_RT	1	Column store
tsls4proddbh	_SYS_XS	1	Column store
tsls4proddbh	SAPPRD	68.759	Row store
tsls4proddbh	SYS	2.242	Row store
tsls4proddbh	SAPTMF_RT_3012#DI	7	Row store
tsls4proddbh	_SYS_STATISTICS	4	Row store
tsls4proddbh	SAPS4H_RT_9019#DI	2	Row store

16.4.5 SAP HANA Row Store

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	Total Size (GB)	Rating
tsls4proddbh	30046	154,33	✓

Row Store Fragmentation

	The row store is fragmented.

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
tsls4proddbh	30046	127.360	43.543	34	Yes

The row store shows high fragmentation. It should be reorganized to regain unused space and avoid performance issues.

There are two ways to implement row store reorganization.

Restart time row store reorganization
Row store reorganization can be performed at restart time. Since there are no active update transactions during the restart time, this reorganization achieves the maximum compression ratio.

Online row store reorganization
Row store reorganization can be performed at runtime. To minimize the interference of other transactions, the relevant tables are locked exclusively and update transactions cannot be carried out on those tables. The list of affected tables is determined on the fly depending on the memory usage. As it is executed at runtime, some uncompressed row store memory may remain.

> **Recommendation:** See SAP Note 1813245 for details and carefully follow the instructions for performing a row store reorganization.

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
SAPPRD	TST03	94.710	575	637	8.179.637	94.071	H1
SAPPRD	SXMSCLUR	82.215	4.308	4.952	10.166.560	77.262	H1
SAPPRD	SXMSCLUP	37.264	778	964	7.991.691	36.300	H1
SAPPRD	APQD	20.762	15.041	17.509	59.303.411	1.715	H1
SAPPRD	ODQDATA	18.883	351	416	2.951.948	18.467	H1
SAPPRD	ODQDATA_F	15.845	2	2	17.611	15.843	H1
SAPPRD	SWNCMONI	15.575	14.036	15.575	4.973.907	0	0
SAPPRD	ARFCSDATA	9.723	8.788	9.723	4.917.928	0	0
SAPPRD	VBDATA	5.213	372	447	1.533.348	4.760	H1
SAPPRD	QRFC_I_SDATA	4.981	4.183	4.979	4.901.515	2	H1

For large SAP Basis tables, remove obsolete data regularly according to SAP Note 2388483.

16.4.6 SAP HANA Column Store

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
SAPPRD	CDPOS	5	519.599	527.802	527.802	0	0
SAPPRD	ACDOCA	9	454.635	518.233	518.121	0	0
SAPPRD	DBTABLOG	1	357.652	24.933	24.933	333.203	H1
SAPPRD	SOFFCONT1	1	308.295	551	552	307.741	H1
SAPPRD	PRCD_ELEMENTS	5	253.506	262.541	262.250	0	0
SAPPRD	PCL4	1	224.481	226.334	226.334	0	0
SAPPRD	SOC3N	1	160.556	438	438	160.109	H4
SAPPRD	DMS_CONT1_CD1	1	147.693	340	341	147.338	H1
SAPPRD	EDOCUMENTFILE	1	125.881	16.243	16.243	109.787	H2
SAPPRD	ACCTCR	2	123.504	128.319	128.319	0	0

For large SAP Basis tables, remove obsolete data regularly according to SAP Note 2388483.

Largest Non-partitioned Column Tables (Records)

	The number of records in column-based table partitions may become critical very soon.

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	2 Billion Records App
SAPPRD	YBAST_AUDIT_INFO	1.830.733.473		Prediction
SAPPRD	BSEG	1.548.828.547		Prediction
SAPPRD	J_1I_INDX	1.516.072.791		Prediction
SAPPRD	FAGL_SPLINFO_VAL	1.511.145.150		Prediction
SAPPRD	BDCP2	1.222.533.501		Prediction
SAPPRD	JCDS	1.218.710.053		Prediction
SAPPRD	YKPI_VALUE	1.050.465.834		Prediction
SAPPRD	PPOIX	990.563.363		
SAPPRD	CFIN_ACCCR	932.193.670		
SAPPRD	/IRM/IPCRPTR	901.629.987		

At least one of the tables listed above has a very high number of records and may reach the technical limit for SAP HANA (two billion records per table) in the near future.
Tables with more than 300 million records are not yet critical with regard to the technical limit but table partitioning should be considered if these tables are expected to grow rapidly in the future.

> **Recommendation:** Consider partitioning for tables that are expected to grow rapidly in order to ensure parallelization and adequate performance. We recommend that you re-partition tables before inserting mass data or while they are still small.
> For more information, see SAP Note 1650394 or refer to the SAP HANA Administration Guide.

Note: The link to the 2 Billion Records app is only valid if you send SAP EarlyWatch Alert data to SAP. See this blog for details.

Largest Column Table Partitions (Records)

	The number of records in column-based table partitions may become 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	2 Billion Records App
SAPPRD	ACCTCR	2	1.579.771.554		Prediction
SAPPRD	ACCTCR	1	1.579.758.051		Prediction
SAPPRD	CDPOS	5	1.430.092.281		
SAPPRD	CDPOS	1	1.430.077.663		
SAPPRD	CDPOS	2	1.430.040.062		
SAPPRD	CDPOS	4	1.430.023.580		
SAPPRD	CDPOS	3	1.430.022.928		
SAPPRD	PRCD_ELEMENTS	4	1.144.562.288		
SAPPRD	PRCD_ELEMENTS	5	1.144.541.540		
SAPPRD	PRCD_ELEMENTS	1	1.144.520.369		

At least one of the table partitions listed above has a high number of records and will reach the technical limit for SAP HANA (two billion records per table or partition) in the near future.

> **Recommendation:** Consider re-partitioning tables that are expected to grow. We recommend that you re-partition tables before inserting mass data or while they are still small.
> For more information, see SAP Note 1650394 or refer to the SAP HANA Administration Guide (http://help.sap.com/hana/SAP_HANA_Administration_Guide_en.pdf).

Note: The link to the 2 Billion Records app is only valid if you send SAP EarlyWatch Alert data to SAP. See this blog for details.

16.4.7 Native Storage Extension

The table below lists tables for which Native Storage Extension or Data Archiving is configured. It also lists on which layer (table, partition, column) the page loadable is defined.

If the loadable page is enabled on column level, the corresponding column names are listed. In case a table is listed multiple times, the configuration was done on multiple layers (e.g. column and partition).

Schema Name	Table Name	Partitions	Column	Definition of Loadable Page
SAPPRD	/AIF/STRUC_CA_DD	0		TABLE
SAPPRD	AAB_ID_PROPT	0		TABLE
SAPPRD	ACDOCD	0		TABLE
SAPPRD	ACLPERMIS	0		TABLE
SAPPRD	ACMDCLSRC	0		TABLE
SAPPRD	ACMDCLSRCT	0		TABLE
SAPPRD	APJ_W_JCE_GR_T	0		TABLE
SAPPRD	APJ_W_JCE_PAR	0		TABLE
SAPPRD	APJ_W_JCE_RO_T	0		TABLE
SAPPRD	APJ_W_JCE_SCT_T	0		TABLE
SAPPRD	APJ_W_JT_RO_T	0		TABLE
SAPPRD	ARS_W_API	0		TABLE
SAPPRD	ARS_W_API_SCCSSR	0		TABLE
SAPPRD	ARS_W_API_STATE	0		TABLE
SAPPRD	BADIIMPL_ENH	0		TABLE
SAPPRD	BADI_CHAR_COND	0		TABLE
SAPPRD	BADI_IMPL	0		TABLE
SAPPRD	BADI_MAIN	0		TABLE
SAPPRD	BADI_SPOT	0		TABLE
SAPPRD	CFD_W_BUS_CTXT_T	0		TABLE
	The output is cut off because of too many entries.			

The largest tables according to the disk size of the loadable page are shown in the table below.
It lists the total number of partitions, the number of partitions for NSE, the total memory size (memory size in DRAM and persistent memory), the total memory size in DRAM (heap also including the loadable size of the table), the persistent memory size, the loadable size in memory, and the loadable size on disk of the tables.

Schema Name	Table Name	Total Number of Partitions	Number Partitions in NSE	Total Memory Size (MB)	Total Memory Size in DRAM (MB)	Memory Size in Persistent Memory (MB)	Memory Size of Loadable Page (MB)	Disk Size of Loadable Page (MB)
SAPPRD	DOKTL	1	1	1.532	1.532	0	1.418	1.420,71
SAPPRD	D010TAB	1	1	1.327	1.327	0	1.296	1.297,63
SAPPRD	DD03L	1	1	1.391	1.391	0	1.289	1.296,64
SAPPRD	D010INC	1	1	727	727	0	710	709,63
SAPPRD	DYNPSOURCE	1	1	225	225	0	222	222,39
SAPPRD	COV_GENDATA	1	1	181	181	0	177	177,51
SAPPRD	SPROXDAT	1	1	135	135	0	131	141,33
SAPPRD	TADIR	1	1	156	156	0	127	131,77
SAPPRD	DOKHL	1	1	140	140	0	125	128,46
SAPPRD	DD04T	1	1	124	124	0	114	115,48
SAPPRD	DDFIELDANNO	1	1	0	0	0	0	109,71
SAPPRD	DD03ND	1	1	110	110	0	101	108,02
SAPPRD	DD05S	1	1	124	124	0	103	104,95
SAPPRD	DD27S	1	1	123	123	0	100	104,14
SAPPRD	DOKIL	1	1	108	108	0	93	94,95
SAPPRD	SMIMCONT1	1	1	83	83	0	80	93,15
SAPPRD	DDCDS_CONDITION	1	1	31	31	0	25	80,13
SAPPRD	DD02T	1	1	82	82	0	75	75,54
SAPPRD	D021T	1	1	75	75	0	68	68,90
SAPPRD	DDHEADANNO	1	1	76	76	0	66	67,13

Schema Name	Table Name	Total Number of Partitions	Number Partitions in NSE	Total Memory Size (MB)	Total Memory Size in DRAM (MB)	Memory Size in Persistent Memory (MB)	Memory Size of Loadable Page (MB)	Disk Size of Loadable Page (MB)
	The output is cut off because of too many entries.							

SAP HANA NSE Buffer Cache

The table below lists information regarding the SAP HANA NSE Buffer Cache.

Host	Port	Cache Name	State	Replacement Policy	Max. Size (GB)	Used Size (GB)	Hit Ratio (%)
tsls4proddbh	30046	CS	ENABLED	IMPROVED LRU	950,00	7,49	99,99

The table below shows the page behavior of the Buffer Cache.

Host	Port	Cache Name	State	Replacement Policy	Page Size (kB)	Total Size (GB)	Hot Page Size (GB)	Out of Buffer Page Size (GB)
tsls4proddbh	30046	CS	ENABLED	IMPROVED LRU	4	7,79	0,03	0,00
					16	9,00	0,02	0,00
					64	9,37	0,18	0,00
					256	75,74	16,09	0,00
					1.024	75,93	20,90	0,00

16.5 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
tsls4proddbh_PRD_00	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.

16.5.1 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 weekly average of the hourly maximum values of the **'Memory usage of the index server'** 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]
tsls4proddbh_PRD_00	6.826	9.500	136	5.179	6.354	8.944

16.5.2 SAP HANA Instance tsls4proddbh_PRD_00

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.

We did not find any critical issues in this area.

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.

Memory Usage of SAP HANA Instance

	The memory consumption of the SAP HANA instance is not critical.

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 is not critical.

Memory Allocation of Tables

○△○	The memory usage of tables exceeds 50% 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.

The memory remaining for working operations may become critical.

> **Recommendation:** Monitor the SAP HANA memory consumption closely. 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 .

Memory Consumption of Indexserver

○△○	The memory consumption of the index server is 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 consumption of the index server was high.

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 and plan measures to reduce the memory consumption of the SAP HANA database.

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)
06.10.2025	17	Pool/ColumnStore/Main/Dictionary/RoDict	Column Store Tables	1687457
06.10.2025	17	Pool/ColumnStore/Main/Uncompressed	Column Store Tables	874136
06.10.2025	17	Pool/ColumnStore/Main/Index/Single	Column Store Tables	789781
06.10.2025	17	Pool/ColumnStore/Main/Compressed/Indirect	Column Store Tables	636003
06.10.2025	17	Pool/ColumnStore/Main/Rowid	Column Store Tables	391196
06.10.2025	17	Pool/JoinEvaluator/JERequestedAttributes/Results	Statement Execution & Intermediate Results	237117
06.10.2025	17	Pool/ColumnStore/Main/Dictionary/ValueDict	Column Store Tables	197800

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.

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.

16.6 SAP HANA Workload and Performance

16.6.1 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.

16.6.2 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. For more information, see 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)

16.6.3 Delta Merges

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
SAPPRD	CDPOS	3	106.514,8	1.187,0	3.363.055	1.429.978.792	5	TRUE
SAPPRD	BSEG	0	111.982,1	1.148,2	2.341.937	1.548.808.660	5	TRUE
SAPPRD	CFIN_ACCCR	0	32.297,7	1.112,9	6.137.634	932.090.952	4	TRUE
SAPPRD	CDPOS	4	106.568,4	1.085,3	3.185.844	1.429.980.025	4	TRUE
SAPPRD	PCL4	0	225.254,0	1.079,1	1.036.291	338.766.027	5	TRUE
SAPPRD	QAMV	0	43.718,5	1.066,3	3.343.093	512.230.628	6	TRUE
SAPPRD	ACCTCR	1	63.289,6	881,9	3.897.820	1.579.713.617	6	TRUE
SAPPRD	ACCTCR	2	63.314,2	830,2	3.931.693	1.579.727.240	6	TRUE
SAPPRD	FAGL_SPLINFO_VAL	0	40.333,0	821,2	3.928.400	1.511.133.090	6	TRUE
SAPPRD	BDCP2	0	57.912,7	816,3	3.714.732	1.222.531.914	7	TRUE

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.

Delta Merge Errors

The following table provides an overview of the delta merge errors that occurred in the monitored timeframe. The column "Message Type" shows the level of importance of the entry.

DELTA MERGE ERRORS

Date	Host	Port	Error code	Error range	Merge type	Number of errors	Message Type
10.10.2025	tsls4proddbh	30046	2486	2048	MERGE (AUTO)	5171	Information
11.10.2025	tsls4proddbh	30046	2482	2048	MERGE (AUTO)	1	Information
11.10.2025	tsls4proddbh	30046	2486	2048	MERGE (AUTO)	1486	Information

The following table lists descriptions and general recommendations for delta merge errors. Additional support for error handling can be requested via a customer message on component HAN-DB if necessary.

ERRORS ONLY FOR INFORMATION

Error	Description	Recommended action
2482	The delta storage is empty or the evaluation of the smart merge costfunction indicated that a merge is not necessary.	See the detailed recommendation below.
2486	All rows in delta were not optimizable	Check why merge operation was started although no row can be processed.

Recommendation for error 2482: No further action is required if this occurs occasionally.
If it occurs frequently: Check M_DELTA_MERGE_STATISTICS and review the smart merge cost function with SAP experts (smart_merge_decision_func parameter).

16.6.4 SAP HANA I/O Performance Counters

Duration of Blocking Savepoint Phase

	The duration of blocking savepoint phase is too high.

The majority of the savepoint is performed online without holding a lock, but the finalization of the savepoint requires a lock. This step is called the "blocking savepoint phase".

The graph shows the hourly average for the duration of the "blocking savepoint phase" in the monitored timeframe.

The hourly average duration of blocking savepoint phases exceeded 10 seconds during some periods of last week. While the blocking savepoint phase is running, DML operations such as INSERT, UPDATE and DELETE, and DDL operations are blocked with a ConsistentChangeLock (see SAP Note 1999998). High duration of blocking savepoint phases can be caused by I/O performance issues. For further investigation, check SAP Note 2100009 and consider opening an incident message on component HAN-DB.

16.7 Administration

16.7.1 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
tsls4proddbh	Weekly	Log	2	1.397,56
tsls4proddbh	Weekly	Trace	33	319,04
tsls4proddbh	Weekly	Dump	7	90,58
tsls4proddbh	Unlimited	TOTAL	169	3.707,74

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.

16.7.2 Backup and Recovery

○△○	Some issues for operating or administration in terms of backup/recovery have been detected.

Log Backup

Date	Weekday	Successful Log Backups	Unsuccessful Log Backups
04.10.2025	Monday	1.065	0
05.10.2025	Tuesday	1.055	0
06.10.2025	Wednesday	1.037	0
07.10.2025	Thursday	1.132	0
08.10.2025	Friday	1.096	0

Date	Weekday	Successful Log Backups	Unsuccessful Log Backups
09.10.2025	Saturday	998	0
10.10.2025	Sunday	1.004	0

Data Backup

Date	Weekday	Successful Data Backups	Unsuccessful Data Backups
04.10.2025	Monday	3	1
05.10.2025	Tuesday	1	1
06.10.2025	Wednesday	2	0
07.10.2025	Thursday	1	0
08.10.2025	Friday	0	0
09.10.2025	Saturday	2	0
10.10.2025	Sunday	0	0

Number of Log Segments

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

We found situations where the number of log segments increased significantly. A high number of free log segments is usually a consequence of an issue in the past (for example, failing log backup or savepoint delays). Therefore, SAP HANA created additional log segments and subsequently reuses them until they are manually reclaimed. A high number of non-reusable log segments results in increased log volume consumption on disk and, in the worst case, to disk full situations.

> **Recommendation:** Check whether log backup operation and performance are appropriate.
> Execute the following command in order to reclaim free log segments:
> ALTER SYSTEM RECLAIM LOG

16.7.3 Global Consistency Check Run

	The scheduling of the consistency check runs is not in agreement with SAP's recommendations.

The tables below show your setup of the consistency check runs. We differentiate between consistency check runs executed on all levels (CHECK_TABLE_CONSISTENCY(CHECK,'NULL','NULL')) and consistency check runs executed on table level (CHECK_TABLE_CONSISTENCY(CHECK,<SCHEMA_NAME>,<TABLE_NAME>)) or executed by the statistics server.

CONSISTENCY CHECK RUNS ON ALL LEVELS WITH ACTION 'CHECK'

Number of successful Executions	Last Start Date
0	

CONSISTENCY CHECK RUNS ON TABLE LEVEL WITH ACTION 'CHECK'

Number of checked Tables	Number of not verified Tables	Last Start Date
0	51203	

TABLE CONSISTENCY CHECK BY STATISTICSSERVER

Action	Time since last Run
check_delta_log, check_variable_part_sanity, check_data_container, check_variable_part_double_reference_global, check_partitioning, check_replication, check_table_container_no_load	220 Days, 6 Hours

No global consistency check and no consistency check scheduled by the statistics server was observed during the last 32 days, or a global consistency check on table level was running for less than 50% of the tables.

> **Recommendation:** SAP strongly recommends performing a global consistency check once in the backup cycle (at least once per month). Further information can be found in SAP Note 2116157 and in the SAP HANA Admin Guide -> Managing Tables -> Table and Catalog Consistency Check. Please note that the consistency check should be performed at times when there is a low load on your system. The consistency should be checked by calling the procedure 'CHECK_TABLE_CONSISTENCY('CHECK', NULL, NULL)'. Alternatively you can schedule the check 'CHECK_TABLE_CONSISTENCY('CHECK', <SCHEMA_NAME>, <TABLE_NAME>)' with a calculated list of tables.

16.7.4 License Information

	Your license is permanent and valid.

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
PRD	7120052684		TRUE	TRUE	SAP-HANA	9500

16.7.5 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
Status of the embedded Statisticsserver	Okay	✔
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_Statistics idle	Idle	✔
Number of collectors with retention times < 42 days	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	✔
Number of Statisticsserver worker threads	5	✔
Historic thread samples save interval (s)	600	✔
History of M_RECORD_LOCKS collected	no	✔

16.8 Important SAP Notes for SAP HANA

	Important information is available in the SAP Notes below.

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
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
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

SAP NOTES FOR OPERATING SYSTEM

SAP Note	Description
2684254	SAP HANA DB: Recommended OS settings for SLES 15 / SLES for SAP Applications 15

17 Problematic SQL Statements in PRD

At least one SQL statement causes unnecessary high load on the system.

In the following table(s), SQL statement(s) are shown for which a recommendation is provided in the next section. Details can be found in the section listed.

MISSING INDEX CAUSES EXPENSIVE SQL STATEMENT

Statement String	Statement Hash	Section	Rating
SELECT "VBELV" , "POSNV" , "VBELN" , "POSNN" FROM "VBFA" ...	26c09a7ce6c5ef9e6cad9845f229670b	Statements on Top Scanned Table/SQL Statement 26c09a7ce6c5ef9e6cad9845f229670b/Thread Distribution/High Number of Scanned Records	
SELECT "VBELV" , "POSNV" FROM "VBFA" WHERE "MANDT" = ? A ...	ada23372ea59c0abd82cc2ffe5bbd714	Statements on Top Scanned Table/SQL Statement ada23372ea59c0abd82cc2ffe5bbd714/Thread Distribution/High Number of Scanned Records	
SELECT "VBELV" , "POSNV" FROM "VBFA" WHERE "MANDT" = ? A ...	c68c04a41b33a9f31691287ed2b77388	Statements on Top Scanned Table/SQL Statement c68c04a41b33a9f31691287ed2b77388/Thread Distribution/High Number of Scanned Records	
SELECT "VBELV" , "VBELN" , "VBTYP_V" , "POSNN" FROM "VBF ...	da0cae818c8fca6b540d1d5f8357432a	Top Statements (CPU Peak Hour)/SQL Statement da0cae818c8fca6b540d1d5f8357432a/Thread Distribution/High Number of Scanned Records	

CONFIGURATION ISSUE CAUSES EXPENSIVE SQL STATEMENT

Statement String	Statement Hash	Section	Rating
SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" ...	54a9566c2195e1ab2540c7f5d0ac6ff4	Top Statements (Thread Samples)/SQL Statement 54a9566c2195e1ab2540c7f5d0ac6ff4/Statement used for Buffer Loading	
SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" ...	77658c84db4c1afd41fa26aff7df5464	Top Statements (Total Memory)/SQL Statement 77658c84db4c1afd41fa26aff7df5464/Statement used for Buffer Loading	

18 SAP HANA SQL Statements in PRD

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.

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: 38	Check SAP Note 2344673 for possible reasons. Some improvements on top of the current support package are available with the most recent version of SAP Note 2344673.	

18.1 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	15.10.2025 -- 08:03:55
Data Collection	11.10.2025 -- 06:41:29
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	03.10.2025 -- 23:48:58
End of Time Interval	11.10.2025 -- 00:55:39

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]
938619e1d06635b2b252709b7ccd58af	865.286,4	42.194	20.507.332,4	1,0	20.424.557,6
b1ee826430a30c5a298aa2631ce552c9	370.854,2	125.617	2.952.261,1	684,2	4.314,9
e83bedba7efbf579dcddfc21eabc1b91	313.291,7	3.550.842	88.230,3	1,0	88.242,1
7d6c514686df80e386680d0a8a249452	245.466,1	113.652	2.159.804,5	63,1	34.230,6
ac0fbdccfb4fc58deff85309166b95c0	191.741,8	437.896.093	437,9	70,7	6,2

18.1.1 SQL Statement 938619e1d06635b2b252709b7ccd58af

```
SELECT DISTINCT
 "A" . "REF_DOC" , "A" . "REF_DOC_YEAR" , "B" . "BUDAT_MKPF"
FROM
"/OPT/VIM_1ITEM" "A" INNER JOIN /* Redirected table: MSEG */ "NSDM_V_MSEG" "B" ON "A" . "MANDT" = "B" . "MANDT" AND "A"
. "REF_DOC" = "B" . "LFBNR" AND "A" . "REF_DOC_YEAR" = "B" . "MJAHR"
WHERE
"A" . "MANDT" = ? AND "A" . "DOCID" = ?  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,59
Contribution to Total Execution Time [%]	9,76
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	4,49

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 PRD -> Top Statements (CPU Peak Hour)
SAP HANA SQL Statements in PRD -> Top MATDOC Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top Statements (Thread Samples)
SAP HANA SQL Statements in PRD -> Top Statements (Total Memory)

18.1.1.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
/OPT/VIM_1ITEM	DOCID	=	✓	DEFAULT	10.594.120	119.414.604	816.740
/OPT/VIM_1ITEM	MANDT	=	✓	RLE	1	3.879	2

18.1.1.2 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	865.285	20.507.309	198	316.055.039
PREPARATION	1	23		
LOCK DURATION	0	0		

18.1.1.3 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.

18.1.1.4 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,81	strong correlation

Distiribution	Correlation Coefficient	Comment
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,62	strong correlation

18.1.1.5 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	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh
/OPT/VIM_1ITEM	SAPPRD	COLUMN	Table not partitioned	30.153.698	tsls4proddbh

18.1.1.6 Compatibility View Access

SAP S/4HANA Supply Chain (MM - Inventory Management) offers a simplified data model. Several tables have become obsolete and are removed. To allow existing coding to continue to work, these tables are replaced by views with the same name, known as "Compatibility Views". As a result, read access to these objects is still possible; however, performance is affected since it is now an access to a view instead of a simple table. For some general background information, see https://launchpad.support.sap.com/#/notes/2206980 [SAP Note 2206980].

For performance-critical coding parts, we strongly recommend the code adjustments suggested in Section 2 of the SAP Note. For non-critical parts, these adjustments are optional in the short term but recommended in the long term.

18.1.1.7 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/OPT/DR_BR_WAIT	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS_750	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_RULERUN	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_VA2	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_WP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	RSWIWILS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SBWP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SWIA	LZOPT_VIM_1U07	29	25.09.2019	
PRD	VIM_BC_INBOUND_PROCESSING	LZOPT_VIM_1U07	29	25.09.2019	
PRD	YP2P_DASH	LZOPT_VIM_1U07	29	25.09.2019	

18.1.2 SQL Statement b1ee826430a30c5a298aa2631ce552c9

SELECT

"MANDT" , "MATBF" , "WERKS" , "LGORT_SID" , "CHARG_SID" , "BUDAT" , "DISUB_OWNER_CID" , "MAT_KDAUF" , "MAT_KDPOS" , "CHARG_CID" , "LBBSA_SID" , "UNRESTRICTEDSTOCK" , "QUALITYINSSTOCK" , "RESTSTOCK" , "BLOCKSTOCK" , "BLOCKSTOCKRETURN" , "MEINS" , "STOCK_QTY" , "JARHPER" , "BWTAR" , "UPTO30DAYS" , "BT31TO90DAYS" , "BT90TO180DAYS" , "ABOVE180DAYS"

FROM

/* Entity name: YMPC_WRAPPER_MATDOC */ "YMPCWRAPMD" ("P_WERKS" => ? , "P_BUDAT" => ?) "YMPC_WRAPPER_MATDOC"

WHERE

"MANDT" = ? AND (("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID"= ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?)OR (

"MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" =? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND"CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID"= ?) OR ("MATBF" = ? AND "CHARG_SID" = ?)) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	1,18
Contribution to Total Execution Time [%]	4,18
Maximal CPU Consumption per Hour [%] (05.10.2025 between 00:00 and 01:00)	1,55

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 PRD -> Top MATDOC Statements (Elapsed Time)

18.1.2.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
MATDOC	CHARG_SID	=	333.954.108.842.427	972.081
MATDOC	MANDT	=	548.707.335.241	0
MATDOC	MATBF	=	185.327.222.403.864	4.974.459

18.1.2.2 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	370.834	2.952.103	1.410	113.465.225
PREPARATION	20	158		
LOCK DURATION	0	0		

18.1.2.3 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.

18.1.2.4 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
MATDOC	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh

18.1.2.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	FP_STOCK_BARA	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	FP_STOCK_CRM	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	FP_STOCK_LD2	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YMPCR_STOCK_REPORT_HANA	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YSTOCKN	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YSTOCKN_BE_SY	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YSTOCKN_D_5	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	

18.1.3 SQL Statement e83bedba7efbf579dcddfc21eabc1b91

```
SELECT
"DATA"
FROM
"REPOTEXT"
WHERE
"PROGNAME" = ? AND "R3STATE" = ? AND "LANGUAGE" = ?   WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,01
Contribution to Total Execution Time [%]	3,53
Maximal CPU Consumption per Hour [%] (09.10.2025 between 09:00 and 10:00)	0,01

18.1.3.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
REPOTEXT	LANGUAGE	=	0	0
REPOTEXT	PROGNAME	=	0	6.314.052
REPOTEXT	R3STATE	=	0	0

18.1.3.2 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	313.291	88.230	70	52.616.447
PREPARATION	1	0		
LOCK DURATION	0	0		

18.1.3.3 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.

18.1.3.4 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,52	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,39	medium correlation

18.1.3.5 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
REPOTEXT	SAPPRD	COLUMN	Table not partitioned	1.032.675	tsls4proddbh

18.1.3.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	ME52N	CL_SAL_READ_FILES==========CM003	5	01.06.2015	✓	BC-SEC-SAL	Security Audit Log

18.1.4 SQL Statement 7d6c514686df80e386680d0a8a249452

SELECT

"MANDANT" , "OBJECTCLAS" , "OBJECTID" , "CHANGENR" , "TABNAME" , "TABKEY" , "FNAME" , "CHNGIND" , "TEXT_CASE" , "UNIT_OLD" , "UNIT_NEW" , "CUKY_OLD" , "CUKY_NEW" , "VALUE_NEW" , "VALUE_OLD" , "_DATAAGING"

FROM

"CDPOS"

WHERE

"MANDANT" = ? AND "OBJECTID" IN (? , ? , ? ,

18.1.4.4 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,43	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,52	strong correlation

18.1.4.5 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
CDPOS	SAPPRD	COLUMN	HASH	7.150.225.343	tsls4proddbh

18.1.4.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	DEL_DOC_INCR_TRANSFER	YCTDI_SD_DATA_TRANSFER	5.546	13.04.2025		BC-DWB	ABAP Workbench, Java IDE and Infrastructure
PRD	DEL_DOC_INCR_TRANSFER_500	YCTDI_SD_DATA_TRANSFER	5.546	13.04.2025		BC-DWB	ABAP Workbench, Java IDE and Infrastructure

18.1.5 SQL Statement ac0fbdccfb4fc58deff85309166b95c0

```
SELECT
"CTYP" , "VORLNR" , "VERSION" , "MKMNR"
FROM
"QCVM"
WHERE
"MANDANT" = ? AND ( ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' ,
N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ?
AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' ,
N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ?
AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' ,
N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND"VERSION" = ? AND NOT "MKMNR" IN (
N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
"VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ?AND
"VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN
( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
"VORLNR" = ? AND "CTYP"= ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND
"VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN
( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
"VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND
"VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN
( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
"VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND
"VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN
( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' ,N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
"VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND
"VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR"IN
( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR
("VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND
"VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN
( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
"VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT"MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND
"VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? ANDNOT "MKMNR" IN
( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
"VORLNR" = ? AND "CTYP" = ? AND "VERSION" = ? AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' ,
N'TI_LSA' , N'V_LSA' , N'B_LSA' , N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR ( "VORLNR" = ? AND "CTYP" = ? AND
"VERSION" = ?AND NOT "MKMNR" IN ( N'ISI_LOGO' , N'NB_LSA' , N'MO_LSA' , N'TI_LSA' , N'V_LSA' , N'B_LSA' ,
N'CR_LSA' , N'NI_LSA' , N'CU_LSA' ) ) OR (
...
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,90
Contribution to Total Execution Time [%]	2,16
Maximal CPU Consumption per Hour [%] (07.10.2025 between 21:00 and 22:00)	0,25

18.1.5.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
QCVM	CTYP	=	0	0
QCVM	MANDANT	=	1.084	0
QCVM	MKMNR	IN	170.387.610.688	389.738
QCVM	VERSION	=	615	0
QCVM	VORLNR	=	0	102.102

18.1.5.2 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	191.712	438	140	703.863
PREPARATION	30	0		
LOCK DURATION	0	0		

18.1.5.3 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.

18.1.5.4 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,33	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,36	medium correlation

18.1.5.5 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
QCVM	SAPPRD	COLUMN	Table not partitioned	103.141	tsls4proddbh

18.1.5.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	YMQMR_TC_FAILURE_BATCHES_CR	LYMQMF_TC_FAILUREU01	80	09.05.2018	
PRD	YMQMR_TC_FAILURE_BATCHES_HR	LYMQMF_TC_FAILUREU01	80	09.05.2018	
PRD	YMQMR_TC_FAILURE_BATCHES_STK	LYMQMF_TC_FAILUREU01	80	09.05.2018	

18.2 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	15.10.2025 -- 08:03:55
Data Collection	11.10.2025 -- 06:41:29
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	03.10.2025 -- 23:48:58
End of Time Interval	11.10.2025 -- 00:55:39

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]
d0ada142d46046fe6eb866bc45bf8a3f	97.374,4	492	197.915.427,7	37,7	5.254.391,9
2d891796478663aecce2b831bcbb9b21	31.543,2	590.242	53.441,2	1,0	53.441,2
1cb2dc345d6d694335f129c231f1e82e	29.231,9	79.068	369.705,2	4.739,0	78,0
9c45856babfcb16e26d2fe198664c22f	24.446,1	993.044	24.617,4	1,0	24.777,0
69346611f70f086df2afb2a455766503	22.374,4	169.666	131.873,4	5,2	25.368,9

18.2.1 SQL Statement d0ada142d46046fe6eb866bc45bf8a3f

```
SELECT
"LFGJA" , "LFMON" , "VERPR" , "MATNR" , "BWTAR"
FROM
/* Redirected table: MBEWH */ "MBVMBEWH" "MBEWH"
WHERE
"MANDT" = ? AND ( ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR (
"MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND
"LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND
"LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR"= ? AND "LFMON" = ? AND "LFGJA" = ? AND
"BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND
"BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR (
"MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND
"LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND
"LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND
"BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND
"BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND"BWKEY" = ? ) OR (
"MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND
"LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND
"LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND
"BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND
```

"BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" =?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ?AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR"= ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" =? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND"BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?)) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,71
Contribution to Total Execution Time [%]	1,10
Maximal CPU Consumption per Hour [%] (07.10.2025 between 15:00 and 16:00)	2,55

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 PRD -> Top Statements (Total Memory)

18.2.1.1 Analysis of Where Clause

Table	Field	Operator
?	BWKEY	=
?	BWTAR	=
?	LFGJA	=
?	LFMON	=
?	MANDT	=
?	MATNR	=

18.2.1.2 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	97.373	197.912.591	119.457.067	374.958.438
PREPARATION	1	2.837		
LOCK DURATION	0	0		

18.2.1.3 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.

18.2.1.4 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,36	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,67	strong correlation

18.2.1.5 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
CKMLCR	SAPPRD	COLUMN	Table not partitioned	796.619.304	tsls4proddbh
MBEWH	SAPPRD	COLUMN	Table not partitioned	145.755.805	tsls4proddbh
MBEW	SAPPRD	COLUMN	Table not partitioned	21.021.143	tsls4proddbh
ACDOCA_M_EXTRACT	SAPPRD	COLUMN	Table not partitioned	16.159.656	tsls4proddbh
FMLT_CURTP_ML	SAPPRD	COLUMN	Table not partitioned	22	tsls4proddbh
DUMMY	SYS	ROW	Table not partitioned	1	tsls4proddbh
FMLT_PRICE	SAPPRD	COLUMN	Table not partitioned	0	tsls4proddbh

18.2.1.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	YMPCR_STOCK_REPORT_SUM	YMPCR_STOCK_REPORT_SUM	4.670	16.10.2025	
PRD	YSTOCKDTLS	YMPCR_STOCK_REPORT_SUM	4.670	16.10.2025	

18.2.2 SQL Statement 2d891796478663aecce2b831bcbb9b21

SELECT
COUNT(*)
FROM
"FAAV_LINEITEMS"
WHERE
"MANDT" = ? AND "AWTYP" = ? AND "AWREF" = ? AND "AWORG" = ? AND "AWSYS" = ? AND "ANLN1" <> N" WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,14
Maximal CPU Consumption per Hour [%] (08.10.2025 between 21:00 and 22:00)	0,29

18.2.2.1 Analysis of Where Clause

Table	Field	Operator
?	ANLN1	<>
?	AWORG	=
?	AWREF	=
?	AWSYS	=
?	AWTYP	=
?	MANDT	=

18.2.2.2 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	31.537	53.431	23.987	14.146.345
PREPARATION	6	10		
LOCK DURATION	0	0		

18.2.2.3 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.

18.2.2.4 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
ACDOCA	SAPPRD	COLUMN	HASH	3.570.094.832	tsls4proddbh
BKPF	SAPPRD	COLUMN	Table not partitioned	452.194.147	tsls4proddbh
FAAT_DOC_IT	SAPPRD	COLUMN	Table not partitioned	5.490.804	tsls4proddbh
T093	SAPPRD	COLUMN	Table not partitioned	1.948	tsls4proddbh
T093A	SAPPRD	COLUMN	Table not partitioned	1.789	tsls4proddbh
T030B	SAPPRD	COLUMN	Table not partitioned	1.473	tsls4proddbh
T093B	SAPPRD	COLUMN	Table not partitioned	545	tsls4proddbh
T001	SAPPRD	COLUMN	Table not partitioned	358	tsls4proddbh
FINSC_LD_CMP	SAPPRD	COLUMN	Table not partitioned	322	tsls4proddbh
FAGL_TLDGRP_MAP	SAPPRD	COLUMN	Table not partitioned	70	tsls4proddbh
... (further 8 tables)...	...	...	...		...

18.2.2.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	/OPT/VIM_VA2	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	ACC. DOCUMENT NO. UPDATE FOR DG	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	FB02	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	FB03	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	FB1D	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	FBL1N	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	FBL3N	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	FBS1	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	ME23N	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	MIR4	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	MIRO	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	RFITEMAP	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting
PRD	ZGST1	MF05LFO0	2.388	08.08.2025	✓	FI	Financial Accounting

18.2.3 SQL Statement 1cb2dc345d6d694335f129c231f1e82e

SELECT DISTINCT

"MANDT" , "KOKRS" , "BELNR" , "BUZEI" , "PERIO" , "WTGBTR" , "WOGBTR" , "WKGBTR" , "WKFBTR" , "PAGBTR" , "PAFBTR" , "MEGBTR" , "MEFBTR" , "MBGBTR" , "MBFBTR" , "LEDNR" , "OBJNR" , "GJAHR" , "WRTTP" , "VERSN" , "KSTAR" , "HRKFT" , "VRGNG" , "PAROB" , "PAROB1" , "USPOB" , "VBUND" , "PARGB" , "BEKNZ" , "TWAER" , "OWAER" , "MEINH" , "MEINB" , "MVFLG" , "SGTXT", "REFBZ" , "ZLENR" , "BW_REFBZ" , "GKONT" , "GKOAR" , "WERKS" , "MATNR" , "RBEST" , "EBELN" , "EBELP" , "ZEKKN" , "ERLKZ" , "PERNR" , "BTRKL" , "OBJNR_N1" ,

"OBJNR_N2" , "OBJNR_N3" , "PAOBJNR" , "BELTP" , "BUKRS" , "GSBER" , "FKBER" , "SCOPE" , "LOGSYSO" , "PKSTAR" , "PBUKRS" , "PFKBER" , "PSCOPE" , "LOGSYSP" , "DABRZ" , "BWSTRAT" , "OBJNR_HK" , "TIMESTMP", "QMNUM" , "GEBER" , "PGEBER" , "GRANT_NBR" , "PGRANT_NBR" , "REFBZ_FI" , "SEGMENT" , "PSEGMENT" , "POSNR" , "PRCTR" ,"PPRCT" , "BUDGET_PD" , "PBUDGET_PD" , "PRODPER" , "AWTYP" , "AWKEY" , "AWSYS" , "KWAER" , "ACCAS" , "ACCASTY" , "KOSTL" , "LSTAR" , "AUFNR" , "AUTYP" , "PSPNR" , "PSPID" , "VBELN" , "VBPOSNR" , "CE4KEY" , "ERKRS" , "PACCAS" , "PACCASTY" ,"PKOSTL" , "PLSTAR" , "PAUFNR" , "PAUTYP" , "PPSPNR" , "PPSPID" , "PVBELN" , "PVBPOSNR" , "PCE4KEY" , "QUANT1" , "QUANT2" , "QUANT3" , "QUNIT1" , "QUNIT2" , "QUNIT3"

FROM

/* Redirected table: COEP */ "V_COEP" "COEP"

WHERE

"MANDT" = ? AND "KOKRS" = ? AND "BELNR" IN (? , ? , ? ,

18.2.3.4 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
ACDOCA	SAPPRD	COLUMN	HASH	3.570.094.832	tsls4proddbh
COEP	SAPPRD	COLUMN	Table not partitioned	688.922.099	tsls4proddbh
PRPS	SAPPRD	COLUMN	Table not partitioned	94.047	tsls4proddbh
TKA01	SAPPRD	COLUMN	Table not partitioned	168	tsls4proddbh
FINSC_CMP_VERSND	SAPPRD	COLUMN	Table not partitioned	132	tsls4proddbh

18.2.3.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	CJ30	LBPFCFD1	5.226	08.08.2025	✓	FI-FM	Funds Management
PRD	RBPFCPN1	LBPFCFD1	5.226	08.08.2025	✓	FI-FM	Funds Management

18.2.4 SQL Statement 9c45856babfcb16e26d2fe198664c22f

SELECT

"MANDT" , "MATNR" , "BWKEY" , "BWTAR" , "LVORM" , "LBKUM" , "SALK3" , "VPRSV" , "VERPR" , "STPRS" , "PEINH" , "BKLAS" ,"SALKV" , "VMKUM" , "VMSAL" , "VMVPR" , "VMVER" , "VMSTP" , "VMPEI" , "VMBKL" , "VMSAV" , "VJKUM" , "VJSAL" , "VJVPR" ,"VJVER" , "VJSTP" , "VJPEI" , "VJBKL" , "VJSAV" , "LFGJA" , "LFMON" , "BWTTY" , "STPRV" , "LAEPR" , "ZKPRS" , "ZKDAT" ,"TIMESTAMP" , "BWPRS" , "BWPRH" , "VJBWS" , "VJBWH" , "VVJSL" , "VVJLB" , "VVMLB" , "VVSAL" , "ZPLPR" , "ZPLP1" , "ZPLP2" , "ZPLP3" , "ZPLD1" , "ZPLD2" , "ZPLD3" , "PPERZ" , "PPERL" , "PPERV" , "KALKZ" , "KALKL" , "KALKV" , "KALSC" , "XLIFO" , "MYPOL" , "BWPH1" , "BWPS1" , "ABWKZ" , "PSTAT" , "KALN1" , "KALNR" , "BWVA1" , "BWVA2" , "BWVA3" , "VERS1" , "VERS2" , "VERS3" , "HRKFT" , "KOSGR" , "PPRDZ" , "PPRDL" , "PPRDV" , "PDATZ" , "PDATL" , "PDATV" , "EKALR" , "VPLPR" , "MLMAA" , "MLAST" , "LPLPR" , "VKSAL" , "HKMAT" , "SPERW" , "KZIWL" , "WLINL" , "ABCIW" , "BWSPA" , "LPLPX" , "VPLPX" , "FPLPX" , "LBWST" , "VBWST" , "FBWST" , "EKLAS" , "QKLAS" , "MTUSE" , "MTORG" , "OWNPR" , "XBEWM" , "BWPEI" , "MBRUE" , "OKLAS" , "DUMMY_VAL_INCL_EEW_PS" , "OIPPINV"

FROM

/* Redirected table: MBEW */ "MBVMBEW" "MBEW"

WHERE
"MANDT" = ? AND "MATNR" = ? AND "BWKEY" = ? AND "BWTAR" = N" AND "STPRS" > CAST(0 AS DECIMAL(11,2)) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,09
Maximal CPU Consumption per Hour [%] (09.10.2025 between 16:00 and 17:00)	0,05

18.2.4.1 Analysis of Where Clause

Table	Field	Operator
?	BWKEY	=
?	BWTAR	=
?	MANDT	=
?	MATNR	=
?	STPRS	>

18.2.4.2 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	24.441	24.612	235	1.985.706
PREPARATION	6	6		
LOCK DURATION	0	0		

18.2.4.3 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.

18.2.4.4 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
CKMLCR	SAPPRD	COLUMN	Table not partitioned	796.619.304	tsls4proddbh
MBEW	SAPPRD	COLUMN	Table not partitioned	21.021.143	tsls4proddbh

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
ACDOCA_M_EXTRACT	SAPPRD	COLUMN	Table not partitioned	16.159.656	tsls4proddbh
FMLT_CURTP_ML	SAPPRD	COLUMN	Table not partitioned	22	tsls4proddbh
DUMMY	SYS	ROW	Table not partitioned	1	tsls4proddbh
FMLT_PRICE	SAPPRD	COLUMN	Table not partitioned	0	tsls4proddbh

18.2.4.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	CRM_POST_041_A	YMPCI_CRMIS_GR_POST	1.943	17.10.2025	
PRD	CRM_POST_127_A	YMPCI_CRMIS_GR_POST	1.943	17.10.2025	

18.2.5 SQL Statement 69346611f70f086df2afb2a455766503

SELECT

"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

"MANDT" = ? AND "OBJNR" IN (? , ?) AND "GJAHR" = ? AND "VERSN" IN (? , ?) AND "WRTTP" = N'04' AND "BEKNZ" <> N'A' WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,20
Maximal CPU Consumption per Hour [%] (10.10.2025 between 17:00 and 18:00)	0,97

18.2.5.1 Analysis of Where Clause

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

18.2.5.2 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	19.717	116.212	6.364	3.232.516
PREPARATION	2.657	15.662		
LOCK DURATION	0	0		

18.2.5.3 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.

18.2.5.4 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
ACDOCA	SAPPRD	COLUMN	HASH	3.570.094.832	tsls4proddbh
TKA01	SAPPRD	COLUMN	Table not partitioned	168	tsls4proddbh
FINSC_CMP_VERSNC	SAPPRD	COLUMN	Table not partitioned	132	tsls4proddbh
T000	SAPPRD	COLUMN	Table not partitioned	8	tsls4proddbh

18.2.5.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Descripti
PRD	PHASE0_PM_SETTL_LD1_2D	CL_FCO_ABR_BEL_PRE_READ_LAZY==CM00A	6	06.04.2021	✓	CO-OM-OPA	Overhead Cost Orde
PRD	PHASE2_PM_SETTL_SSS_W	CL_FCO_ABR_BEL_PRE_READ_LAZY==CM00A	6	06.04.2021	✓	CO-OM-OPA	Overhead Cost Orde
PRD	TSBAN_MO_SETTLEMENT_SHARED SERV	CL_FCO_ABR_BEL_PRE_READ_LAZY==CM00A	6	06.04.2021	✓	CO-OM-OPA	Overhead Cost Orde

18.3 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	15.10.2025 -- 08:03:55
Data Collection	11.10.2025 -- 06:41:29
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	03.10.2025 -- 23:48:58
End of Time Interval	11.10.2025 -- 00:55:39

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]
938619e1d06635b2b252709b7ccd58af	865.286,4	42.194	20.507.332,4	1,0	20.424.557,6
b1ee826430a30c5a298aa2631ce552c9	370.854,2	125.617	2.952.261,1	684,2	4.314,9
ca3a58d95faa0511223f7e57c57e3285	167.848,4	255.390	657.224,0	157,7	4.167,3
a3591253752496fbb5b23fd934e0a799	121.764,2	860.286	141.539,2	0,1	2.450.772,4
8081d474ada325a2ff0b41aacc964b66	81.238,1	6.116.248	13.282,3	5.422,0	2,4

18.3.1 SQL Statement 938619e1d06635b2b252709b7ccd58af

SELECT DISTINCT

"A" . "REF_DOC" , "A" . "REF_DOC_YEAR" , "B" . "BUDAT_MKPF"

FROM

"/OPT/VIM_1ITEM" "A" INNER JOIN /* Redirected table: MSEG */ "NSDM_V_MSEG" "B" ON "A" . "MANDT" = "B" . "MANDT" AND "A"

. "REF_DOC" = "B" . "LFBNR" AND "A" . "REF_DOC_YEAR" = "B" . "MJAHR"

WHERE

"A" . "MANDT" = ? AND "A" . "DOCID" = ? WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,59
Contribution to Total Execution Time [%]	9,76
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	4,49

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 PRD -> Top Statements (CPU Peak Hour)
SAP HANA SQL Statements in PRD -> Top Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top Statements (Thread Samples)
SAP HANA SQL Statements in PRD -> Top Statements (Total Memory)

18.3.1.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
/OPT/VIM_1ITEM	DOCID	=	✓	DEFAULT	10.594.120	119.414.604	816.740
/OPT/VIM_1ITEM	MANDT	=	✓	RLE	1	3.879	2

18.3.1.2 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	865.285	20.507.309	198	316.055.039
PREPARATION	1	23		
LOCK DURATION	0	0		

18.3.1.3 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.

18.3.1.4 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,81	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,62	strong correlation

18.3.1.5 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	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh
/OPT/VIM_1ITEM	SAPPRD	COLUMN	Table not partitioned	30.153.698	tsls4proddbh

18.3.1.6 Compatibility View Access

SAP S/4HANA Supply Chain (MM - Inventory Management) offers a simplified data model. Several tables have become obsolete and are removed. To allow existing coding to continue to work, these tables are replaced by views with the same name, known as "Compatibility Views". As a result, read access to these objects is still possible; however, performance is affected since it is now an access to a view instead of a simple table. For some general background information, see https://launchpad.support.sap.com/#/notes/2206980 [SAP Note 2206980].

For performance-critical coding parts, we strongly recommend the code adjustments suggested in Section 2 of the SAP Note. For non-critical parts, these adjustments are optional in the short term but recommended in the long term.

18.3.1.7 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/OPT/DR_BR_WAIT	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS_750	LZOPT_VIM_1U07	29	25.09.2019	

SID	Transaction / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/OPT/VIM_RULERUN	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_VA2	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_WP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	RSWIWILS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SBWP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SWIA	LZOPT_VIM_1U07	29	25.09.2019	
PRD	VIM_BC_INBOUND_PROCESSING	LZOPT_VIM_1U07	29	25.09.2019	
PRD	YP2P_DASH	LZOPT_VIM_1U07	29	25.09.2019	

18.3.2 SQL Statement b1ee826430a30c5a298aa2631ce552c9

SELECT

"MANDT" , "MATBF" , "WERKS" , "LGORT_SID" , "CHARG_SID" , "BUDAT" , "DISUB_OWNER_CID" , "MAT_KDAUF" , "MAT_KDPOS" , "CHARG_CID" , "LBBSA_SID" , "UNRESTRICTEDSTOCK" , "QUALITYINSSTOCK" , "RESTSTOCK" , "BLOCKSTOCK" , "BLOCKSTOCKRETURN" , "MEINS" , "STOCK_QTY" , "JARHPER" , "BWTAR" , "UPTO30DAYS" , "BT31TO90DAYS" , "BT90TO180DAYS" , "ABOVE180DAYS"

FROM

/* Entity name: YMPC_WRAPPER_MATDOC */ "YMPCWRAPMD" ("P_WERKS" => ? , "P_BUDAT" => ?) "YMPC_WRAPPER_MATDOC"

WHERE

"MANDT" = ? AND (("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID"= ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?)OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" =? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND"CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID"= ?) OR ("MATBF" = ? AND "CHARG_SID" = ?)) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	1,18
Contribution to Total Execution Time [%]	4,18
Maximal CPU Consumption per Hour [%] (05.10.2025 between 00:00 and 01:00)	1,55

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 PRD -> Top Statements (Elapsed Time)

18.3.2.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
MATDOC	CHARG_SID	=	333.954.108.842.427	972.081
MATDOC	MANDT	=	548.707.335.241	0

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
MATDOC	MATBF	=	185.327.222.403.864	4.974.459

18.3.2.2 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	370.834	2.952.103	1.410	113.465.225
PREPARATION	20	158		
LOCK DURATION	0	0		

18.3.2.3 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.

18.3.2.4 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
MATDOC	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh

18.3.2.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	FP_STOCK_BARA	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	FP_STOCK_CRM	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	FP_STOCK_LD2	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YMPCR_STOCK_REPORT_HANA	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YSTOCKN	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YSTOCKN_BE_SY	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	
PRD	YSTOCKN_D_5	YMPCR_STOCK_REPORT_HANA	4.602	16.11.2025	

18.3.3 SQL Statement ca3a58d95faa0511223f7e57c57e3285

SELECT

"MANDT" , "MATBF" , "WERKS" , "LGORT_SID" , "CHARG_SID" , "BUDAT" , "DISUB_OWNER_CID" , "MAT_KDAUF" , "MAT_KDPOS" , "CHARG_CID" , "LBBSA_SID" , "UNRESTRICTEDSTOCK" , "QUALITYINSSTOCK" , "RESTSTOCK" , "BLOCKSTOCK" , "BLOCKSTOCKRETURN" , "MEINS" , "STOCK_QTY" , "JARHPER" , "BWTAR" , "UPTO30DAYS" , "BT31TO90DAYS" , "BT90TO180DAYS" , "ABOVE180DAYS"

FROM

/* Entity name: YMPC_WRAPPER_MATDOC_TSM */ "YMPCWRAPMDB" ("P_WERKS" => ? , "P_BUDAT" => ?) "YMPC_WRAPPER_MATDOC_TSM"

WHERE

"MANDT" = ? AND (("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID"= ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?)OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" =? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND"CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID" = ?) OR ("MATBF" = ? AND "CHARG_SID"= ?) OR ("MATBF" = ? AND "CHARG_SID" = ?)) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,51
Contribution to Total Execution Time [%]	1,89
Maximal CPU Consumption per Hour [%] (08.10.2025 between 09:00 and 10:00)	0,29

18.3.3.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
MATDOC	CHARG_SID	=	333.954.108.842.427	972.081
MATDOC	MANDT	=	548.707.335.241	0
MATDOC	MATBF	=	185.327.222.403.864	4.974.459

18.3.3.2 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	167.842	657.201	1.010	80.235.090
PREPARATION	6	23		
LOCK DURATION	0	0		

18.3.3.3 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.

18.3.3.4 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,71	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,42	medium correlation

18.3.3.5 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	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh

18.3.3.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/IRM/LAUNCHPAD	YMPCR_STOCK_REPORT_HANA_V2	7.344	25.10.2025	
PRD	ANGUL_HR_STOCK	YMPCR_STOCK_REPORT_HANA_V2	7.344	25.10.2025	
PRD	KHOPOLI_HR_STK	YMPCR_STOCK_REPORT_HANA_V2	7.344	25.10.2025	
PRD	SBST_HR_STOCK	YMPCR_STOCK_REPORT_HANA_V2	7.344	25.10.2025	
PRD	SO02	YMPCR_STOCK_REPORT_HANA_V2	7.344	25.10.2025	
PRD	YMPCR_STOCK_REPORT_HANA_V2	YMPCR_STOCK_REPORT_HANA_V2	7.344	25.10.2025	
PRD	YSTOCKN_V2	YMPCR_STOCK_REPORT_HANA_V2	7.344	25.10.2025	

18.3.4 SQL Statement a3591253752496fbb5b23fd934e0a799

SELECT
"MATNR"
FROM

/* Redirected table: MARD */ "NSDM_V_MARD" "MARD"

WHERE

"MANDT" = ? AND "MATNR" = ? AND "WERKS" = ? AND "LGORT" = ? AND "LABST" >= ? WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,56
Contribution to Total Execution Time [%]	1,37
Maximal CPU Consumption per Hour [%] (10.10.2025 between 21:00 and 22:00)	0,29

18.3.4.1 Analysis of Where Clause

Table	Field	Operator
?	LABST	>=
?	LGORT	=
?	MANDT	=
?	MATNR	=
?	WERKS	=

18.3.4.2 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	121.763	141.538	701	1.688.226
PREPARATION	1	1		
LOCK DURATION	0	0		

18.3.4.3 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.

18.3.4.4 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
MATDOC_EXTRACT	SAPPRD	COLUMN	Table not partitioned	313.982.684	tsls4proddbh
MARD	SAPPRD	COLUMN	Table not partitioned	18.428.794	tsls4proddbh

18.3.4.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	TSM_FPGI_POST	YMPCI_FPC_ACT_GI_POST	871	22.09.2025	

18.3.5 SQL Statement 8081d474ada325a2ff0b41aacc964b66

```
SELECT
"WERKS" , "MATNR" , "CHARG" , "BWART" , "MBLNR" , "BUDAT_MKPF"
FROM
/* Redirected table: MSEG */ "NSDM_V_MSEG" "MSEG"
WHERE
"MANDT" = ? AND "CHARG" = ? AND "BWART" IN ( N'101' , N'531' , N'561' ) AND "BUDAT_MKPF" >= ?  WITH
RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,31
Contribution to Total Execution Time [%]	0,92
Maximal CPU Consumption per Hour [%] (07.10.2025 between 06:00 and 07:00)	0,51

18.3.5.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
MATDOC	BUDAT_MKPF	>=					
MATDOC	BWART	IN				6.018.692.923.567	3.376
MATDOC	CHARG	=	✓			1.143.214.930.736.203	46.005.376
MATDOC	MANDT	=				548.707.335.241	0

18.3.5.2 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	81.235	13.282	76	75.800.195
PREPARATION	3	1		
LOCK DURATION	0	0		

18.3.5.3 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.

18.3.5.4 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
MATDOC	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh

18.3.5.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	STOCK_REP10	ZCRMB_STOCK	1.636	15.08.2025		SD	Sales and Distribution
PRD	STOCK_REP11	ZCRMB_STOCK	1.636	15.08.2025		SD	Sales and Distribution
PRD	STOCK_TUBES6	ZCRMB_STOCK	1.636	15.08.2025		SD	Sales and Distribution
PRD	ZCRMB_STOCK3	ZCRMB_STOCK	1.636	15.08.2025		SD	Sales and Distribution
PRD	ZCRMB_STOCK_TSM1	ZCRMB_STOCK	1.636	15.08.2025		SD	Sales and Distribution

18.4 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 Statement 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 the accesses.

Schema	Table	Column
SAPPRD	VBFA	VBELN

See the following table for details of the selection:

Database Start	15.10.2025 -- 08:03:55

Data Collection	11.10.2025 -- 06:41:29
Analysis Type	Analysis of Plan Cache
Data Source	HOST_SQL_PLAN_CACHE
Begin of Time Interval	03.10.2025 -- 23:48:58
End of Time Interval	11.10.2025 -- 00:55:39

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]
ada23372ea59c0abd82cc2ffe5bbd714	31.577,3	3.121.252	10.116,9	0,9	11.710,0
c68c04a41b33a9f31691287ed2b77388	23.852,3	3.066.436	7.778,5	0,6	12.084,1
26c09a7ce6c5ef9e6cad9845f229670b	8.622,2	117.981	73.081,4	49,3	1.482,8
3b29e9d402ccfdf9219483fdd8f7d91e	3.789,5	38.255.677	99,1	1,0	99,1
6979b61a58e83eac89235d26ead77532	3.763,8	37.008.681	101,7	1,0	101,7

18.4.1 SQL Statement ada23372ea59c0abd82cc2ffe5bbd714

```
SELECT
"VBELV" , "POSNV"
FROM
"VBFA"
WHERE
"MANDT" = ? AND "VBELN" = ? AND "POSNN" = ? AND "VBTYP_N" = N'C'  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	1,71
Maximal CPU Consumption per Hour [%] (05.10.2025 between 03:00 and 04:00)	2,61

18.4.1.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
VBFA	MANDT	=	106.339.930	10
VBFA	POSNN	=	1.219.830.944	0
VBFA	VBELN	=	11.510.847.191.780.930	0
VBFA	VBTYP_N	=	1.964.333.043	4

18.4.1.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
PROJECT	VBFA.VBELV, VBFA.POS ...	HEX		1	1,226
_COLUMN TABLE	FILTER CONDITION: VB ...	HEX	VBFA	1	1,226

18.4.1.3 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	31.577	10.117	53	2.019.367
PREPARATION	0	0		
LOCK DURATION	0	0		

18.4.1.4 Thread Distribution

Thread State	Area	Samples
Running	SQL	14091
Job Exec Waiting	Idle	577
Mutex Wait	Lock	3

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (HEX job running hex::cs::TableScanScheduleOp)	13.780
SqlExecutor (ExecutePrepared)	191
JobWorker	120

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	HEX job running hex::cs::TableScanScheduleOp	operatorId=5, pipeline=4	13783
SqlExecutor	ExecutePrepared	SELECT "VBELV" , "POSNV" FROM "VBFA" WHERE "MANDT" = ? AND "VBELN" = ? AND "POSNN" = ? AND "VBTYP_N" = N'C' WITH RANGE_RESTRICTION('CURRENT')	768
JobWorker	?	?	120

Note:
Table and column scan-related thread methods contribute significantly to the load caused by this SQL statement. It might be possible to accelerate the table scan (and by doing so, the execution time of this statement) either by changing the application in order to use existing indexes of this table or by changing the current index design (see SAP Note 2000002).

> **Recommendation:** Consider creating a single column index for a column in the where clause not yet supported by an index.
> If more than one column meets this condition, choose the most selective field. In many cases, this will be the field with the highest value for SCANNED_RECORD_COUNT (obtained from M_CS_ALL_COLUMN_STATISTICS), in particular when specified with "=".
>
> See the following table with the fields specified with the where clause not yet supported by a single column index.

Table	Field	Operator	SCANNED_RECORD_COUNT
VBFA	VBELN	=	11.510.847.191.780.930
VBFA	POSNN	=	1.219.830.944

18.4.1.5 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

In the graph above, significant fluctuations in the average elapsed time can be observed. Besides reasons within the application, there might also be technical reasons for these fluctuations, for example, temporary CPU or memory bottlenecks.

18.4.1.6 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.4.1.7 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.

18.4.1.8 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
VBFA	SAPPRD	COLUMN	Table not partitioned	613.470.583	tsls4proddbh

18.4.1.9 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	ZSSDOWNLOAD_TPL	ZVVR1800	4.691	10.10.2025	

18.4.2 SQL Statement c68c04a41b33a9f31691287ed2b77388

```
SELECT
"VBELV" , "POSNV"
FROM
"VBFA"
WHERE
"MANDT" = ? AND "VBELN" = ? AND "POSNN" = ? AND "VBTYP_N" = N'C'
ORDER BY
"VBFA" . "MANDT" , "VBFA" . "RUUID"  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	1,53
Maximal CPU Consumption per Hour [%] (05.10.2025 between 03:00 and 04:00)	3,00

18.4.2.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
VBFA	MANDT	=	106.339.930	10
VBFA	POSNN	=	1.219.830.944	0
VBFA	VBELN	=	11.510.847.191.780.930	0
VBFA	VBTYP_N	=	1.964.333.043	4

18.4.2.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
PROJECT	VBFA.VBELV, VBFA.POS ...	HEX		1	1,226
_ORDER BY	VBFA.RUUID ASC	HEX		1	1,226
__COLUMN TABLE	FILTER CONDITION: VB ...	HEX	VBFA	1	1,226

18.4.2.3 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	23.852	7.779	73	1.015.696
PREPARATION	0	0		
LOCK DURATION	0	0		

18.4.2.4 Thread Distribution

Thread State	Area	Samples
Running	SQL	12546
Job Exec Waiting	Idle	505
Mutex Wait	Lock	3
Speculative Lock Retry backoff	Lock	1

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (HEX job running hex::cs::TableScanScheduleOp)	12.312
SqlExecutor (ExecutePrepared)	158
JobWorker	76

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	HEX job running hex::cs::TableScanScheduleOp	operatorId=5, pipeline=4	12315
SqlExecutor	ExecutePrepared	SELECT "VBELV" , "POSNV" FROM "VBFA" WHERE "MANDT" = ? AND "VBELN" = ? AND "POSNN" = ? AND "VBTYP_N" = N'C' ORDER BY "VBFA" . "MANDT" , "VBFA" . "RUUID" WITH RANGE_RESTRICTION('CURRENT')	663
JobWorker	?	?	77

Note:
Table and column scan-related thread methods contribute significantly to the load caused by this SQL statement. It might be possible to accelerate the table scan (and by doing so, the execution time of this statement) either by changing the application in order to use existing indexes of this table or by changing the current index design (see SAP Note 2000002).

> **Recommendation:** Consider creating a single column index for a column in the where clause not yet supported by an index.
> If more than one column meets this condition, choose the most selective field. In many cases, this will be the field with the highest value for SCANNED_RECORD_COUNT (obtained from M_CS_ALL_COLUMN_STATISTICS), in particular when specified with "=".
>
> See the following table with the fields specified with the where clause not yet supported by a single column index.

Table	Field	Operator	SCANNED_RECORD_COUNT
VBFA	VBELN	=	11.510.847.191.780.930
VBFA	POSNN	=	1.219.830.944

18.4.2.5 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

In the graph above, significant fluctuations in the average elapsed time can be observed. Besides reasons within the application, there might also be technical reasons for these fluctuations, for example, temporary CPU or memory bottlenecks.

18.4.2.6 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.4.2.7 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.

18.4.2.8 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
VBFA	SAPPRD	COLUMN	Table not partitioned	613.470.583	tsls4proddbh

18.4.2.9 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	YMSDR_ZSSQ_DISPLAY	ZVVR1800	5.094	10.10.2025	

18.4.3 SQL Statement 26c09a7ce6c5ef9e6cad9845f229670b

```
SELECT
"VBELV" , "POSNV" , "VBELN" , "POSNN"
FROM
"VBFA"
WHERE
"MANDT" = ? AND ( ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND"VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN"= ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" =? AND "VBELN" = ? AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ?AND "POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND
"POSNN" = ? ) OR ( "VBELV" = ? AND "VBELN" = ? AND "POSNN" = ? )OR ( "VBELV" = ? AND "VBELN" = ? AND
```

"POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND"VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?)) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,75
Maximal CPU Consumption per Hour [%] (08.10.2025 between 00:00 and 01:00)	0,84

18.4.3.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
VBFA	MANDT	=	106.339.930	10
VBFA	POSNN	=	1.219.830.944	0
VBFA	VBELN	=	11.510.847.191.780.930	0
VBFA	VBELV	=	463.249.971.146	161.104.466

18.4.3.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
COLUMN SEARCH	VBFA.VBELV, VBFA.POS ...	COLUMN		12	0,000
_COLUMN TABLE	FILTER CONDITION: (I ...	COLUMN	VBFA	12	0,000

18.4.3.3 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	8.616	73.028	583	1.766.602
PREPARATION	6	53		
LOCK DURATION	0	0		

18.4.3.4 Thread Distribution

Thread State	Area	Samples
Running	SQL	6139
Job Exec Waiting	Idle	268
Mutex Wait	Lock	2

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (IndirectPredScanVecOutJob<ScanVectorBinSearchPredicate>)	5.948
JobWorker (IndirectPredScanVecOutJob<ScanVectorPredicate>)	162
SqlExecutor (ExecutePrepared)	22
JobWorker	7

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	IndirectPredScanVecOutJob<ScanVectorBinSearchPredicate>	SAPPRD:VBFA.VBELN	5950
SqlExecutor	ExecutePrepared	SELECT "VBELV" , "POSNV" , "VBELN" , "POSNN" FROM "VBFA" WHERE "MANDT" = ? AND (("VBELV" = ? AND "VBELN" = ? AND	290

Thread Type	Thread Method	Thread Detail	Samples
		"POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AND "VBELN" = ? AND "POSNN" = ?) OR ("VBELV" = ? AN	
JobWorker	IndirectPredScanVecOutJob<ScanVectorPredicate>	SAPPRD:VBFA.VBELN	162
JobWorker	?	?	7

Note:
Table and column scan-related thread methods contribute significantly to the load caused by this SQL statement. It might be possible to accelerate the table scan (and by doing so, the execution time of this statement) either by changing the application in order to use existing indexes of this table or by changing the current index design (see SAP Note 2000002).

> **Recommendation:** Consider creating a single column index for a column in the where clause not yet supported by an index.
> If more than one column meets this condition, choose the most selective field. In many cases, this will be the field with the highest value for SCANNED_RECORD_COUNT (obtained from M_CS_ALL_COLUMN_STATISTICS), in particular when specified with "=".
>
> See the following table with the fields specified with the where clause not yet supported by a single column index.

Table	Field	Operator	SCANNED_RECORD_COUNT
VBFA	VBELN	=	11.510.847.191.780.930
VBFA	POSNN	=	1.219.830.944

18.4.3.5 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

18.4.3.6 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.4.3.7 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.

18.4.3.8 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
VBFA	SAPPRD	COLUMN	Table not partitioned	613.470.583	tsls4proddbh

18.4.3.9 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	STOCK_REP13	YMSDR_STOCK_JCP	834	07.03.2022	
PRD	YMSDR_STOCK_JCP	YMSDR_STOCK_JCP	834	07.03.2022	

18.4.4 SQL Statement 3b29e9d402ccfdf9219483fdd8f7d91e

```
SELECT
COUNT(*)
FROM
"VBFA"
WHERE
"MANDT" = ? AND "VBELV" = ? AND "POSNV" = ? AND "VBTYP_V" = N'J' AND ( "VBTYP_N" = N'i' OR "VBTYP_N" = N'R'
) AND "BWART" = N'101'  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,05
Maximal CPU Consumption per Hour [%] (08.10.2025 between 11:00 and 12:00)	0,09

18.4.4.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
VBFA	BWART	=	5.794.157	0
VBFA	MANDT	=	106.339.930	10
VBFA	POSNV	=	226.340.582.005	0
VBFA	VBELV	=	463.249.971.146	161.104.466
VBFA	VBTYP_N	=	1.964.333.043	4
VBFA	VBTYP_V	=	48.666.348.745	0

18.4.4.2 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	3.787	99	65	47.878
PREPARATION	3	0		
LOCK DURATION	0	0		

18.4.4.3 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.

18.4.4.4 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
VBFA	SAPPRD	COLUMN	Table not partitioned	613.470.583	tsls4proddbh

18.4.4.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	FRTCAL_FAMD	YMKUFRGCAL01_FAMD	568	06.09.2025	
PRD	ZFRC1_DD_FAMD	YMKUFRGCAL01_FAMD	568	06.09.2025	

18.4.5 SQL Statement 6979b61a58e83eac89235d26ead77532

```
SELECT
COUNT(*)
FROM
"VBFA"
WHERE
"MANDT" = ? AND "VBELV" = ? AND "POSNV" = ? AND "VBTYP_V" = N'J' AND ( "VBTYP_N" = N'i' OR "VBTYP_N" = N'R'
) AND "BWART" = N'102'  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,05
Maximal CPU Consumption per Hour [%] (10.10.2025 between 11:00 and 12:00)	0,10

18.4.5.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
VBFA	BWART	=	5.794.157	0
VBFA	MANDT	=	106.339.930	10
VBFA	POSNV	=	226.340.582.005	0
VBFA	VBELV	=	463.249.971.146	161.104.466

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
VBFA	VBTYP_N	=	1.964.333.043	4
VBFA	VBTYP_V	=	48.666.348.745	0

18.4.5.2 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	3.761	102	64	56.060
PREPARATION	2	0		
LOCK DURATION	0	0		

18.4.5.3 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.

18.4.5.4 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
VBFA	SAPPRD	COLUMN	Table not partitioned	613.470.583	tsls4proddbh

18.4.5.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	FRTCAL_FAMD	YMKUFRGCAL01_FAMD	594	06.09.2025	
PRD	ZFRC1_DD_FAMD	YMKUFRGCAL01_FAMD	594	06.09.2025	

18.5 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	15.10.2025 -- 08:03:55
Data Collection	11.10.2025 -- 06:41:29
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	Executions x Avg Mem x Avg Time[GB x s]	Memory / Execution [MB]
d6fd6678833f9a2e25e7b53239c50e9a	28.312.725	253.851,1	0,0	18.405.803	2.622,4
54a9566c2195e1ab2540c7f5d0ac6ff4	4.217	131.708.738,5	392.782,8	15.191.710	28.008,4
938619e1d06635b2b252709b7ccd58af	158.339	19.483.102,8	1,0	11.378.933	3.777,1
d0ada142d46046fe6eb866bc45bf8a3f	603	196.827.412,6	35,3	9.981.205	86.115,2
77658c84db4c1afd41fa26aff7df5464	7.023	66.005.022,4	245.510,6	4.935.961	10.903,7

18.5.1 SQL Statement d6fd6678833f9a2e25e7b53239c50e9a

call _SYS_STATISTICS.STATISTICS_SCHEDULABLEWRAPPER('Timer', ?, ?, ?, ?)

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,01
Contribution to Total Execution Time [%]	11,78
Maximal CPU Consumption per Hour [%] (08.10.2025 between 07:00 and 08:00)	0,01

18.5.1.1 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.

STATEMENT_HASH	SAP Note	Type	Object
d6fd6678833f9a2e25e7b53239c50e9a	2000002	CALL	STATISTICS_SCHEDULABLEWRAPPER

18.5.1.2 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	7.183.619	253.724	3.949	431.781.175
PREPARATION	3.598	127		
LOCK DURATION	0	0		

18.5.1.3 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	72.506.294	2.622,4	5,5	4.907,8

18.5.1.4 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.

18.5.1.5 Origin of SQL Statement

APPLICATION_NAME	APPLICATION_SOURCE	PASSPORT_ACTION
Embedded Statistics Server	running ID (27, deletion: yes) for 08.10.2025 00:25:07 000 Fri	
Embedded Statistics Server	running ID (38, deletion: yes) for 08.10.2025 00:10:07 000 Fri	
Embedded Statistics Server	running ID (39, deletion: no) for 08.10.2025 00:10:07 000 Fri	
Embedded Statistics Server	running ID (42, deletion: yes) for 08.10.2025 00:10:07 000 Fri	
Embedded Statistics Server	running ID (65, deletion: no) for 08.10.2025 00:10:07 000 Fri	
Embedded Statistics Server	running ID (65, deletion: no) for 09.10.2025 00:06:32 000 Sat	
Embedded Statistics Server	running ID (65, deletion: no) for 09.10.2025 00:11:32 000 Sat	
Embedded Statistics Server	running ID (65, deletion: no) for 10.10.2025 00:05:32 000 Sun	
Embedded Statistics Server	running ID (65, deletion: no) for 10.10.2025 00:10:32 000 Sun	
Embedded Statistics Server	running ID (69, deletion: yes) for 08.10.2025 00:10:07 000 Fri	

18.5.1.6 Internal SQL Statement

This SQL statement was executed from an internal database connection.

18.5.2 SQL Statement 54a9566c2195e1ab2540c7f5d0ac6ff4

```
SELECT
/* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST"
, "DATBI" , "DATAB" , "KBSTAT" , "KNUMH"
FROM
"A639"
WHERE
"MANDT" = ?
ORDER BY
"A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCHL" , "A639" . "VKORG" , "A639" . "KUNAG" , "A639" . "KUNWE" ,
"A639" . "WERKS" , "A639" . "ZZTDCNO" , "A639" . "KFRST" , "A639" . "DATBI"  WITH
RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,45
Contribution to Total Execution Time [%]	0,91
Maximal CPU Consumption per Hour [%] (05.10.2025 between 15:00 and 16:00)	2,29
Maximal Memory Consumption [%]	0,33

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 PRD -> Top Statements (CPU Peak Hour)
SAP HANA SQL Statements in PRD -> Top Statements (Thread Samples)

18.5.2.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
A639	MANDT	=	✓	RLE	1	4.021	677

Calendar Week(s) of "Distinct Values" Collection
202549

18.5.2.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
COLUMN SEARCH	A639.MANDT, A639.KAP ...	COLUMN		190.556.391	2.471,740
_ORDER BY	A639.KAPPL ASC, A639 ...	COLUMN		190.556.391	62,539
__COLUMN TABLE	FILTER CONDITION: A6 ...	COLUMN	A639	190.556.391	0,000

18.5.2.3 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	555.414	131.708.250	93	902.990.363
PREPARATION	2	488		
LOCK DURATION	0	0		

18.5.2.4 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	115.343	28.008,4	0,1	30.654,8

18.5.2.5 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	28325
Job Exec Waiting	Idle	5462
Mutex Wait	Lock	213
Semaphore Wait	Lock	31

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (RangeSortJob)	11.117

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (MakeHeapJob)	10.042
JobWorker (ParallelFor Job)	4.379
SqlExecutor (ExecutePrepared)	1.288
Others	1.499

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	MakeHeapJob	?	10042
SqlExecutor	ExecutePrepared	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST" , "DATBI" , "DATAB" , "KBSTAT" , "KNUMH" FROM "A639" WHERE "MANDT" = ? ORDER BY "A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCH	3040
JobWorker	ZipResultJob	?	1150
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 1/10)	587
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 2/10)	466
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 3/10)	464
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 5/10)	463
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 4/10)	454
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 6/10)	445
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 7/10)	440
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 8/10)	407
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 9/10)	380
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 10/10)	296
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 190353789	61
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 190353765	54
SqlExecutor	FetchCursor	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST" , "DATBI" , "DATAB" , "KBSTAT" , "KNUMH" FROM "A639" WHERE "MANDT" = ? ORDER BY "A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCH	24
JobWorker	RangeSortJob	RangeSort ranges from: 3612791 to: 4716227	21
JobWorker	RangeSortJob	RangeSort ranges from: 7910415 to: 8865183	19
JobWorker	RangeSortJob	RangeSort ranges from: 5691427 to: 6816623	18
JobWorker	RangeSortJob	RangeSort ranges from: 6816623 to: 7910415	18
OTHERS	OTHERS	OTHERS	15182

18.5.2.6 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

18.5.2.7 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.5.2.8 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.

18.5.2.9 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,85	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,61	strong correlation

18.5.2.10 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
A639	SAPPRD	COLUMN	Table not partitioned	190.556.392	tsls4proddbh

18.5.2.11 Statement used for Buffer Loading

Table
A639

The comment /* Buffer Loading */ in the statement text shows that this SQL statement was issued to copy information from the table listed above to the table buffer. A table should be loaded only rarely and the related SQL statement should not play an important role in a productive system. This statement might be executed frequently if the table is either invalidated very often or the table is displaced from the table buffer because the configuration of the table buffer is too small.

Recommendation: In order to check whether the buffering settings for this table are adequate, check the table statistics of this table in transaction ST10 (see SAP Note 1011158 and SAP Note 2457204). In order to check the setting for the table buffer, check the buffer statistics in ST02 for the different ABAP instances (see SAP Note 2442188).

If the buffer settings are not adequate, adjust the buffer settings, or un-buffer the table. If the configuration of the table buffer is too small and sufficient physical memory is available on the host, increase the size of the table buffer.

18.5.2.12 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	/IRM/LAUNCHPAD	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172721270460	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172882830938	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172901390382	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172901391221	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172925000872	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172929901592	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172932099571	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172933014931	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172933015250	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945410184	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945410470	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945415482	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945415793	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions

18.5.3 SQL Statement 938619e1d06635b2b252709b7ccd58af

```
SELECT DISTINCT
 "A" . "REF_DOC" , "A" . "REF_DOC_YEAR" , "B" . "BUDAT_MKPF"
FROM
"/OPT/VIM_1ITEM" "A" INNER JOIN /* Redirected table: MSEG */ "NSDM_V_MSEG" "B" ON "A" . "MANDT" = "B" . "MANDT" AND "A"
. "REF_DOC" = "B" . "LFBNR" AND "A" . "REF_DOC_YEAR" = "B" . "MJAHR"
WHERE
"A" . "MANDT" = ? AND "A" . "DOCID" = ?  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,59
Contribution to Total Execution Time [%]	5,06
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	4,49
Maximal Memory Consumption [%]	0,11

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 PRD -> Top Statements (CPU Peak Hour)
SAP HANA SQL Statements in PRD -> Top Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top MATDOC Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top Statements (Thread Samples)

18.5.3.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
/OPT/VIM_1ITEM	DOCID	=	✓	DEFAULT	10.594.120	119.414.604	816.740
/OPT/VIM_1ITEM	MANDT	=	✓	RLE	1	3.879	2

18.5.3.2 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	3.084.930	19.483.073	192	348.779.211
PREPARATION	5	30		
LOCK DURATION	0	0		

18.5.3.3 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	584.041	3.777,1	0,1	10.107,5

18.5.3.4 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.

18.5.3.5 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,81	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,62	strong correlation

18.5.3.6 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	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh
/OPT/VIM_1ITEM	SAPPRD	COLUMN	Table not partitioned	30.153.698	tsls4proddbh

18.5.3.7 Compatibility View Access

SAP S/4HANA Supply Chain (MM - Inventory Management) offers a simplified data model. Several tables have become obsolete and are removed. To allow existing coding to continue to work, these tables are replaced by views with the same name, known as "Compatibility Views". As a result, read access to these objects is still possible; however, performance is affected since it is now an access to a view instead of a simple table. For some general background information, see https://launchpad.support.sap.com/#/notes/2206980 [SAP Note 2206980].

For performance-critical coding parts, we strongly recommend the code adjustments suggested in Section 2 of the SAP Note. For non-critical parts, these adjustments are optional in the short term but recommended in the long term.

18.5.3.8 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/OPT/DR_BR_WAIT	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS_750	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_RULERUN	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_VA2	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_WP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	RSWIWILS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SBWP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SWIA	LZOPT_VIM_1U07	29	25.09.2019	
PRD	VIM_BC_INBOUND_PROCESSING	LZOPT_VIM_1U07	29	25.09.2019	
PRD	YP2P_DASH	LZOPT_VIM_1U07	29	25.09.2019	

18.5.4 SQL Statement d0ada142d46046fe6eb866bc45bf8a3f

```
SELECT
"LFGJA" , "LFMON" , "VERPR" , "MATNR" , "BWTAR"
FROM
/* Redirected table: MBEWH */ "MBVMBEWH" "MBEWH"
WHERE
"MANDT" = ? AND ( ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR (
"MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND
"LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND
"LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR"= ? AND "LFMON" = ? AND "LFGJA" = ? AND
"BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND
"BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR (
"MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND
"LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ? ) OR ( "MATNR" = ? AND "LFMON" = ? AND
```

"LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND"BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" =?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ?AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR"= ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" =? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND"BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?) OR ("MATNR" = ? AND "LFMON" = ? AND "LFGJA" = ? AND "BWTAR" = ? AND "BWKEY" = ?)) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,71
Maximal CPU Consumption per Hour [%] (07.10.2025 between 15:00 and 16:00)	2,55
Maximal Memory Consumption [%]	0,95

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 PRD -> Top ACDOCA Statements (Elapsed Time)

18.5.4.1 Analysis of Where Clause

Table	Field	Operator
?	BWKEY	=
?	BWTAR	=
?	LFGJA	=
?	LFMON	=
?	MANDT	=
?	MATNR	=

18.5.4.2 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	118.685	196.824.565	94.954.681	473.312.112

Activity	Total Time [s]	Average Time [us]	Minimal Time [us]	Maximal Time [us]
PREPARATION	2	2.847		
LOCK DURATION	0	0		

18.5.4.3 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	50.710	86.115,2	25.666,7	86.991,1

18.5.4.4 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.

18.5.4.5 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,36	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,67	strong correlation

18.5.4.6 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
CKMLCR	SAPPRD	COLUMN	Table not partitioned	796.619.304	tsls4proddbh
MBEWH	SAPPRD	COLUMN	Table not partitioned	145.755.805	tsls4proddbh
MBEW	SAPPRD	COLUMN	Table not partitioned	21.021.143	tsls4proddbh
ACDOCA_M_EXTRACT	SAPPRD	COLUMN	Table not partitioned	16.159.656	tsls4proddbh

Table Name	Schema Name	Table Type	Partition Type	Number of Records	Host
FMLT_CURTP_ML	SAPPRD	COLUMN	Table not partitioned	22	tsls4proddbh
DUMMY	SYS	ROW	Table not partitioned	1	tsls4proddbh
FMLT_PRICE	SAPPRD	COLUMN	Table not partitioned	0	tsls4proddbh

18.5.4.7 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	YMPCR_STOCK_REPORT_SUM	YMPCR_STOCK_REPORT_SUM	4.670	16.10.2025	
PRD	YSTOCKDTLS	YMPCR_STOCK_REPORT_SUM	4.670	16.10.2025	

18.5.5 SQL Statement 77658c84db4c1afd41fa26aff7df5464

```
SELECT
/* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "WERKS" , "MATNR" , "KUNNR" , "DATBI" , "DATAB" , "KNUMH"
FROM
"A915"
WHERE
"MANDT" = ?
ORDER BY
"A915" . "MANDT" , "A915" . "KAPPL" , "A915" . "KSCHL" , "A915" . "WERKS" , "A915" . "MATNR" , "A915" . "KUNNR" ,
"A915" . "DATBI"  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	1,89
Contribution to Total Execution Time [%]	0,76
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	0,97
Maximal Memory Consumption [%]	0,14

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 PRD -> Top Statements (Thread Samples)

18.5.5.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
A915	MANDT	=	✓	RLE	3	1.150.589	876

Calendar Week(s) of "Distinct Values" Collection
202549

18.5.5.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
COLUMN SEARCH	A915.MANDT, A915.KAP ...	COLUMN		31.165.134	282,040
_ORDER BY	A915.KAPPL ASC, A915 ...	COLUMN		31.165.134	9,257
__COLUMN TABLE	FILTER CONDITION: A9 ...	COLUMN	A915	31.165.134	0,000

18.5.5.3 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	463.552	66.004.868	218	378.326.540
PREPARATION	1	155		
LOCK DURATION	0	0		

18.5.5.4 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	74.782	10.903,7	0,1	12.720,3

18.5.5.5 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	15510
Job Exec Waiting	Idle	2992
Mutex Wait	Lock	367
Semaphore Wait	Lock	20

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (RangeSortJob)	5.891
JobWorker (ParallelFor Job)	3.847
JobWorker (MakeHeapJob)	3.106
SqlExecutor (ExecutePrepared)	1.209
Others	1.457

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	MakeHeapJob	?	3106
SqlExecutor	ExecutePrepared	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "WERKS" , "MATNR" , "KUNNR" , "DATBI" , "DATAB" , "KNUMH" FROM "A915" WHERE "MANDT" = ? ORDER BY "A915" . "MANDT" , "A915" . "KAPPL" , "A915" . "KSCHL" , "A915" . "WERKS" , "A915" . "MATNR" ,	3097
JobWorker	ZipResultJob	?	1047
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 1/7)	967
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 2/7)	685
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 3/7)	561
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 4/7)	494
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 5/7)	419
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 6/7)	383
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 7/7)	352
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 3521388	23
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 3519272	20

Thread Type	Thread Method	Thread Detail	Samples
SqlExecutor	FetchCursor	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "WERKS" , "MATNR" , "KUNNR" , "DATBI" , "DATAB" , "KNUMH" FROM "A915" WHERE "MANDT" = ? ORDER BY "A915" . "MANDT" , "A915" . "KAPPL" , "A915" . "KSCHL" , "A915" . "WERKS" , "A915" . "MATNR" ,	20
JobWorker	RangeSortJob	RangeSort ranges from: 2334857 to: 2952066	20
JobWorker	RangeSortJob	RangeSort ranges from: 3519272 to: 93470265	19
JobWorker	RangeSortJob	RangeSort ranges from: 1860490 to: 2334857	19
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 617141	16
JobWorker	RangeSortJob	RangeSort ranges from: 4676812 to: 37287904	15
JobWorker	RangeSortJob	RangeSort ranges from: 37287904 to: 38103530	15
JobWorker	RangeSortJob	RangeSort ranges from: 3942303 to: 4676812	15
OTHERS	OTHERS	OTHERS	7596

18.5.5.6 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

18.5.5.7 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.5.5.8 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.

18.5.5.9 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	0,73	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,56	strong correlation

18.5.5.10 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
A915	SAPPRD	COLUMN	Table not partitioned	93.498.956	tsls4proddbh

18.5.5.11 Statement used for Buffer Loading

Table
A915

The comment /* Buffer Loading */ in the statement text shows that this SQL statement was issued to copy information from the table listed above to the table buffer. A table should be loaded only rarely and the related SQL statement should not play an important role in a productive system. This statement might be executed frequently if the table is either invalidated very often or the table is displaced from the table buffer because the configuration of the table buffer is too small.

Recommendation: In order to check whether the buffering settings for this table are adequate, check the table statistics of this table in transaction ST10 (see SAP Note 1011158 and SAP Note 2457204). In order to check the setting for the table buffer, check the buffer statistics in ST02 for the different ABAP instances (see SAP Note 2442188).

If the buffer settings are not adequate, adjust the buffer settings, or un-buffer the table. If the configuration of the table buffer is too small and sufficient physical memory is available on the host, increase the size of the table buffer.

18.5.5.12 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	/IRM/LAUNCHPAD	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015562624	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015562754	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563097	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563367	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563375	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563460	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563919	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015564299	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015564353	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015564397	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions

18.6 Top Statements (Maximal Memory)

This section shows the top statements according to maximal memory consumption of a single execution. The data is obtained from the SQL PLAN CACHE.

See the following table for details of the selection:

Database Start	15.10.2025 -- 08:03:55
Data Collection	11.10.2025 -- 06:41:29
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	Memory / Execution [MB]	Maximum Memory [MB]
3ea62d41801822a39de258aaffcaecad	13	110.023.805,5	5.119,8	78.758,1	512.000,0
ea81f47ec13795eef6bb0c792e6437ee	348	58.500.724,7	7.847,4	21.128,5	511.999,8
723069d1b8560a3760f739c79d41c9a5	32	12.497.620,9	5.508,6	16.251,0	511.947,6
fa17a80f91c9a9b0481bca7fbaae941d	1	1.136.498.956,0	56.155.067,0	344.903,5	344.903,5
323cae7ebf5dc71bce8ba1bf0eba2025	26	67.744.388,5	159,4	58.485,1	342.490,8

18.6.1 SQL Statement 3ea62d41801822a39de258aaffcaecad

SELECT

"MSPR" . "MATNR" , "MSPR" . "WERKS" , "MSPR" . "LGORT" , "MSPR" . "CHARG" , "MSPR" . "SOBKZ" , "MSPR" . "PSPNR" , "MSSQ" . "KZBWS" , SUM("MSPR" . "PRLAB") "LABST" , SUM("MSPR" . "PRINS") "INSME" , SUM("MSPR" . "PRSPE") "SPEME" , SUM("MSPR" . "PREIN") "EINME" , SUM("MSPR" . "/CWM/PRLAB") "/CWM/LABST" , SUM("MSPR" . "/CWM/PRINS") "/CWM/INSME" , SUM("MSPR" . "/CWM/PRSPE") "/CWM/SPEME" , SUM("MSPR" . "/CWM/PREIN") "/CWM/EINME" , "MARA" . "/CWM/VALUM" "/CWM/VALUM", "MARA" . "/CWM/XCWMAT" "/CWM/XCWMAT" , "MCHA" . "BWTAR"

FROM

/* Entity name: NSDM_E_MSPR */ "NSDM_V_MSPR" "MSPR" INNER JOIN /* Entity name: NSDM_E_MSSQ_DIFF */ "NSDM_V_MSSQ_DIFF" "MSSQ" ON "MSPR" . "MANDT" = "MSSQ" . "MANDT" AND "MSPR" . "MATNR" = "MSSQ" . "MATNR" AND "MSPR" . "WERKS" = "MSSQ" . "WERKS" AND "MSPR" . "SOBKZ" = "MSSQ" . "SOBKZ" AND "MSPR" . "PSPNR" = "MSSQ" . "PSPNR" INNER JOIN "V_MARC_MD" "MARC" ON "MSPR" . "MANDT" = "MARC" . "MANDT" AND "MARC" . "MATNR" = "MSSQ" . "MATNR" AND "MARC" . "WERKS" = "MSSQ" . "WERKS" INNER JOIN "MARA" ON "MSPR" . "MANDT" = "MARA" . "MANDT" AND "MARA" . "MATNR" = "MSSQ" . "MATNR" LEFT OUTER JOIN "MCHA" ON "MSPR" . "MANDT" = "MCHA" . "MANDT" AND "MCHA" . "MATNR" = "MSPR" . "MATNR" AND "MCHA" . "WERKS" = "MSPR" . "WERKS" AND "MCH

A" . "CHARG" = "MSPR" . "CHARG"

WHERE

"MSPR" . "MANDT" = ? AND "MSPR" . "WERKS" = ? AND (1 = 1 OR 1 = 1 OR 1 = 1 OR 1 = 1 OR 1 = 1 OR 1 = 1 OR 1 = 1 OR 1 = 1

)

GROUP BY

"MSPR" . "MATNR" , "MSPR" . "WERKS" , "MSPR" . "LGORT" , "MSPR" . "CHARG" , "MSPR" . "SOBKZ" , "MSPR" . "PSPNR" , "MSSQ" . "KZBWS" , "MCHA" . "BWTAR" , "MARA" . "/CWM/VALUM" , "MARA" . "/CWM/XCWMAT" WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,00
Maximal CPU Consumption per Hour [%] (06.10.2025 between 13:00 and 14:00)	0,00
Maximal Memory Consumption [%]	5,59

18.6.1.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
?	1	=		
MSPR	MANDT	=	291.068	149
MSPR	WERKS	=	301.390.987	2.727

18.6.1.2 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	1.428	109.879.057	8.132	736.419.413
PREPARATION	2	144.749		
LOCK DURATION	0	0		

18.6.1.3 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	78.758,1	5,1	512.000,0

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]	8.937,3
Maximal Statement Size / Effective Allocation Limit [%]	5,6
Average Statement Size / Effective Allocation Limit [%]	0,9

18.6.1.4 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.

18.6.1.5 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_EXTRACT	SAPPRD	COLUMN	Table not partitioned	313.982.684	tsls4proddbh
MCHA	SAPPRD	COLUMN	Table not partitioned	89.451.778	tsls4proddbh
MARC	SAPPRD	COLUMN	Table not partitioned	9.458.859	tsls4proddbh
MARA	SAPPRD	COLUMN	Table not partitioned	4.170.642	tsls4proddbh
MSPR	SAPPRD	COLUMN	Table not partitioned	1.389.441	tsls4proddbh

18.6.1.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	MB52	RM07MLBS	4.232	08.08.2025	✓	MM-IM	Inventory Management
PRD	RM07MLBS	RM07MLBS	4.232	08.08.2025	✓	MM-IM	Inventory Management

18.6.2 SQL Statement ea81f47ec13795eef6bb0c792e6437ee

SELECT

"MSPR" . "MATNR" , "MSPR" . "WERKS" , "MSPR" . "LGORT" , "MSPR" . "CHARG" , "MSPR" . "SOBKZ" , "MSPR" . "PSPNR" , "MSSQ" . "KZBWS" , SUM("MSPR" . "PRLAB") "LABST" , SUM("MSPR" . "PRINS") "INSME" , SUM("MSPR" . "PRSPE") "SPEME" , SUM("MSPR" . "PREIN") "EINME" , SUM("MSPR" . "/CWM/PRLAB") "/CWM/LABST" , SUM("MSPR" . "/CWM/PRINS") "/CWM/INSME" , SUM("MSPR" . "/CWM/PRSPE") "/CWM/SPEME" , SUM("MSPR" . "/CWM/PREIN") "/CWM/EINME" , "MARA" . "/CWM/VALUM" "/CWM/VALUM", "MARA" . "/CWM/XCWMAT" "/CWM/XCWMAT" , "MCHA" . "BWTAR"

FROM

/* Entity name: NSDM_E_MSPR */ "NSDM_V_MSPR" "MSPR" INNER JOIN /* Entity name: NSDM_E_MSSQ_DIFF */ "NSDM_V_MSSQ_DIFF" "MSSQ" ON "MSPR" . "MANDT" = "MSSQ" . "MANDT" AND "MSPR" . "MATNR" = "MSSQ" . "MATNR" AND "MSPR" . "WERKS" = "MSSQ" . "WERKS" AND "MSPR" . "SOBKZ" = "MSSQ" . "SOBKZ" AND "MSPR" . "PSPNR" = "MSSQ" . "PSPNR" INNER JOIN "V_MARC_MD" "MARC" ON "MSPR" . "MANDT" = "MARC" . "MANDT" AND "MARC" . "MATNR" = "MSSQ" . "MATNR" AND "MARC" . "WERKS" = "MSSQ" . "WERKS" INNER JOIN "MARA" ON "MSPR" . "MANDT" = "MARA" . "MANDT" AND "MARA" . "MATNR" = "MSSQ" . "MATNR" LEFT OUTER JOIN "MCHA" ON "MSPR" . "MANDT" = "MCHA" . "MANDT" AND "MCHA" . "MATNR" = "MSPR" . "MATNR" AND "MCHA" . "WERKS" = "MSPR" . "WERKS" AND "MCH

A" . "CHARG" = "MSPR" . "CHARG"

WHERE

"MSPR" . "MANDT" = ? AND "MSPR" . "WERKS" = ? AND (("MSPR" . "PRLAB" > ? OR "MSPR" . "PRLAB" < ?) OR ("MSPR" . "PRINS" > ? OR "MSPR" . "PRINS" < ?) OR ("MSPR" . "PRSPE" > ? OR "MSPR" . "PRSPE" < ?) OR ("MSPR" . "PREIN" > ? OR "MSPR" . "PREIN" < ?) OR ("MSPR" . "/CWM/PRLAB" > ? OR "MSPR" . "/CWM/PRLAB" < ?) OR ("MSPR" . "/CWM/PRINS" > ? OR "MSPR". "/CWM/PRINS" < ?) OR ("MSPR" . "/CWM/PRSPE" > ? OR "MSPR" . "/CWM/PRSPE" < ?) OR ("MSPR" . "/CWM/PREIN" > ? OR "MS

PR" . "/CWM/PREIN" < ?))

GROUP BY

"MSPR" . "MATNR" , "MSPR" . "WERKS" , "MSPR" . "LGORT" , "MSPR" . "CHARG" , "MSPR" . "SOBKZ" , "MSPR" . "PSPNR" , "MSSQ" . "KZBWS" , "MCHA" . "BWTAR" , "MARA" . "/CWM/VALUM" , "MARA" . "/CWM/XCWMAT" WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,03
Maximal CPU Consumption per Hour [%] (08.10.2025 between 08:00 and 09:00)	0,13
Maximal Memory Consumption [%]	5,59

18.6.2.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
MSPR	/CWM/PREIN	<	0	0
MSPR	/CWM/PREIN	>	0	0
MSPR	/CWM/PRINS	<	0	0
MSPR	/CWM/PRINS	>	0	0
MSPR	/CWM/PRLAB	<	0	0
MSPR	/CWM/PRLAB	>	0	0
MSPR	/CWM/PRSPE	<	0	0

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
MSPR	/CWM/PRSPE	>	0	0
MSPR	MANDT	=	291.068	149
MSPR	PREIN	<	0	0
MSPR	PREIN	>	0	0
MSPR	PRINS	<	0	0
MSPR	PRINS	>	0	0
MSPR	PRLAB	<	0	0
MSPR	PRLAB	>	0	0
MSPR	PRSPE	<	0	0
MSPR	PRSPE	>	0	0
MSPR	WERKS	=	301.390.987	2.727

18.6.2.2 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	20.301	58.337.118	6.364	962.433.920
PREPARATION	57	163.607		
LOCK DURATION	0	0		

18.6.2.3 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	21.128,5	0,2	511.999,8

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]	8.937,3
Maximal Statement Size / Effective Allocation Limit [%]	5,6
Average Statement Size / Effective Allocation Limit [%]	0,2

18.6.2.4 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.

18.6.2.5 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_EXTRACT	SAPPRD	COLUMN	Table not partitioned	313.982.684	tsls4proddbh
MCHA	SAPPRD	COLUMN	Table not partitioned	89.451.778	tsls4proddbh
MARC	SAPPRD	COLUMN	Table not partitioned	9.458.859	tsls4proddbh
MARA	SAPPRD	COLUMN	Table not partitioned	4.170.642	tsls4proddbh
MSPR	SAPPRD	COLUMN	Table not partitioned	1.389.441	tsls4proddbh

18.6.2.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	MB52	RM07MLBS	4.232	08.08.2025	✓	MM-IM	Inventory Management
PRD	RM07MLBS	RM07MLBS	4.232	08.08.2025	✓	MM-IM	Inventory Management

18.6.3 SQL Statement 723069d1b8560a3760f739c79d41c9a5

SELECT

"A" . "BUKRS" , "A" . "HKONT" , "A" . "WAERS" , "A" . "XBLNR" , "A" . "MONAT" , "A" . "SHKZG" , "A" . "GSBER" , "A" . "DMBTR" , "A" . "WRBTR" , "A" . "KOSTL" , "A" . "ZFBDT" , "A" . "BDIFF" , "A" . "BDIF2" , "A" . "VBUND" , "A" . "PSWSL" ,"A" . "WVERW" , "A" . "DMBE2" , "A" . "DMBE3" , "A" . "BDIF3" , "A" . "XRAGL" , "A" . "PROJK" , "A" . "XARCH" , "A" . "PSWBT" , "A" . "XNEGP" , "A" . "RFZEI" , "A" . "CCBTC" , "A" . "XREF3" , "A" . "BUPLA" , "A" . "BEWAR" , "A" . "IMKEY" ,"A" . "GRANT_NBR" , "A" . "FKBER" , "A" . "GEBER" , "A" . "PPRCT" , "A" . "BUZID" , "A" . "UZAWE" , "A" . "PGEBER" , "A" . "PGRANT_NBR" , "A" . "RE_ACCOUNT" , "A" . "KIDNO" , "A" . "GKART" , "A" . "LOGSYSTEM_SENDER" , "A" . "BELNR_SENDER" , "A" . "GJAHR_SENDER" , "A" . "BUZEI_SENDER" , "B" . "RCLNT" , "LD_REP" . "RLDNR" , "B" . "RBUKRS" , "B" . "GJAHR" , "B" . "BELNR" , "B" . "DOCLN" , "B" . "RYEAR" , "B" . "RRCTY" , "B" . "RMVCT" , "B" . "BTTYPE" , "B" . "AWTYP" , "B" . "AWSYS" , "B" . "AWORG" , "B" . "AWREF" , "B" . "AWITEM" , "B" . "AWITGRP" , "B" . "XREVERSING" , "B" . "XREVERSED" , "B" ."XTRUEREV" , "B" . "AWTYP_REV" , "B" . "AWORG_REV" , "B" . "AWREF_REV" , "B" . "XSETTLING" , "B" . "XSETTLED" , "B" . "PREC_AWTYP" , "B" . "PREC_AWSYS" , "B" . "PREC_AWORG" , "B" . "PREC_AWREF" , "B" . "PREC_AWITEM" , "B" . "PREC_SUBTA" , "B" . "PREC_AWMULT" , "B" . "PREC_BUKRS" , "B" . "PREC_GJAHR" , "B" . "PREC_BELNR" , "B" . "PREC_DOCLN" , "B" . "SRC_AWTYP" , "B" . "SRC_AWSYS" , "B" . "SRC_AWORG" , "B" . "SRC_AWREF" , "B" . "SRC_AWITEM" , "B" . "SRC_AWSUBIT" , "B" .

"XCOMMITMENT" , "B" . "RTCUR" , "B" . "RWCUR" , "B" . "RHCUR" , "B" . "RKCUR" , "B" . "RFCCUR" , "B" . "ROCUR" , "B" . "RVCUR" , "B" . "RBCUR" , "B" . "RCCUR" , "B" . "RDCUR" , "B" . "RECUR" , "B" . "RFCUR" , "B" . "RGCUR" , "B" . "RCO_OCUR" , "B" . "RUNIT" , "B" . "RVUNIT" , "B" . "QUNIT1" , "B" . "QUNIT2" , "B" . "QUNIT3" , "B" . "RACCT" , "B" . "RCNTR" , "B" ."PRCTR" , "B" . "RFAREA" , "B" . "RBUSA" , "B" . "KOKRS" , "B" . "SEGMENT" , "B" . "SCNTR" , "B" . "PPRCTR" , "B" . "SFAREA" , "B" . "SBUSA" , "B" . "RASSC" , "B" . "PSEGMENT" , "B" . "TSL" , "B" . "WSL" , "B" . "HSL" , "B" . "KSL" , "B" ."FCSL" , "B" . "OSL" , "B" . "VSL" , "B" . "BSL" , "B" . "CSL" , "B" . "DSL" , "B" . "ESL" , "B" . "FSL" , "B" . "GSL" , "B" . "KFSL" , "B" . "PSL" , "B" . "PFSL" , "B" . "CO_OSL" , "B" . "MSL" , "B" . "MFSL" , "B" . "VMSL" , "B" . "VMFSL", "B" . "QUANT1" , "B" . "QUANT2" , "B" . "QUANT3" , "B" . "DRCRK" , "B" . "POPER" , "B" . "PERIV" , "B" . "FISCYEARPER" , "B" . "BUDAT" , "B" . "BLDAT" , "B" . "BLART" , "B" . "BUZEI" , "B" . "ZUONR" , "B" . "BSCHL" , "B" . "BSTAT" , "B" . "LINETYPE" , "B" . "KTOSL" , "B" . "SLALITTYPE" , "B" . "XSPLITMOD" , "B" . "USNAM" , "B" . "TIMESTAMP" , "B" . "EPRCTR" , "B" . "RHOART" , "B" . "GLACCOUNT_TYPE" , "B" . "KTOPL" , "B" . "LOKKT" , "B" . "KTOP2" , "B" . "REBZG" , "B" . "REBZJ" , "B" . "REBZZ" , "B" . "REBZT" , "B" . "RBEST" , "B" . "EBELN" , "B" . "EBELP" , "B" . "ZEKKN" , "B" . "SGTXT" , "B" . "KDAUF" , "B" . "KDPOS" , "B" . "MATNR" , "B" . "WERKS" , "B" . "KUNNR" , "B" . "FBUDA" , "B" . "PEROP_BEG" , "B" ."PEROP_END" , "B" . "COCO_NUM" , "B" . "KOART" , "B" . "UMSKZ" , "B" . "MWSKZ" , "B" . "HBKID" , "B" . "HKTID" , "B" . "VALUT" , "B" . "XOPVW" , "B" . "AUGDT" , "B" . "AUGBL" , "B" . "AUGGJ" , "B" . "AFABE" , "B" . "ANLN1" , "B" . "ANLN2" , "B" . "BZDAT" , "B" . "ANBWA" , "B" . "MOVCAT" , "B" . "DEPR_PERIOD" , "B" . "ANLGR" , "B" . "ANLGR2" , "B" . "KALNR" , "B" . "KZBWS" , "B" . "XOBEW" , "B" . "SOBKZ" , "B" . "MAT_KDAUF" , "B" . "MAT_KDPOS" , "B" . "MAT_PS_POSID" , "B" . "MAT_LIFNR" , "B" . "BWTAR" , "B" . "BWKEY" , "B" . "BUKRS_SENDER" , "B" . "RACCT_SENDER" , "B" . "ACCAS_SENDER" , "B" . "ACCASTY_SENDER" , "B" . "HKGRP" , "B" . "CO_BELKZ" , "B" . "BELTP" , "B" . "MUVFLG" , "B" . "GKONT" , "B" . "GKOAR" , "B" . "ERLKZ" , "B" . "PERNR" , "B" . "SCOPE" , "B" . "PBUKRS" , "B" . "PSCOPE" , "B" . "AUFNR_ORG" , "B" . "UKOSTL" , "B" . "ULSTAR" , "B" . "UPRZNR" , "B" . "UPRCTR" , "B" . "ACCAS" , "B" . "ACCASTY" , "B" . "LSTAR" , "B" . "AUFNR" , "B" ."AUTYP" , "B" . "PS_POSID" , "B" . "PS_PSPID" , "B" . "NPLNR" , "B" . "NPLNR_VORGN" , "B" . "PRZNR" , "B" . "KSTRG" , "B" . "BEMOT" , "B" . "RSRCE" , "B" . "QMNUM" , "B" . "SERVICE_DOC_TYPE" , "B" . "SERVICE_DOC_ID" , "B" . "SERVICE_DOC_ITEM_ID" , "B" . "SERVICE_CONTRACT_TYPE" , "B" . "SERVICE_CONTRACT_ID" , "B" . "SERVICE_CONTRACT_ITEM_ID" , "B" . "ERKRS" , "B" . "PACCAS" , "B" . "PACCASTY" , "B" . "PLSTAR" , "B" . "PAUFNR" , "B" . "PAUTYP" , "B" . "PPS_PSP_PNR" , "B" . "PPS_POSID" , "B" . "PPS_PRJ_PNR" , "B" . "PPS_PSPID" , "B" . "PKDAUF" , "B" . "PKDPOS" , "B" . "PNPLNR" , "B" . "PNPLNR_VORGN" , "B" . "PPRZNR" , "B" . "PKSTRG" , "B" . "PSERVICE_DOC_TYPE" , "B" . "PSERVICE_DOC_ID" , "B" . "PSERVICE_DOC_ITEM_ID" , "B" . "OVERTIMECAT" , "B" . "WORK_ITEM_ID" , "B" . "ARBID" , "B" . "VORNR" , "B" . "AUFPS" , "B" . "UVORN" , "B" ."EQUNR" , "B" . "TPLNR" , "B" . "ISTRU" , "B" . "ILART" , "B" . "PLKNZ" ,

...

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,00
Maximal CPU Consumption per Hour [%] (06.10.2025 between 19:00 and 20:00)	0,04
Maximal Memory Consumption [%]	5,59

18.6.3.1 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	339	10.592.095	17.545	304.843.375
PREPARATION	61	1.905.526		
LOCK DURATION	0	0		

18.6.3.2 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	16.251,0	1,7	511.947,6

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]	8.937,3
Maximal Statement Size / Effective Allocation Limit [%]	5,6
Average Statement Size / Effective Allocation Limit [%]	0,2

18.6.3.3 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.

18.6.3.4 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
ACDOCA	SAPPRD	COLUMN	HASH	3.570.094.832	tsls4proddbh
BSEG	SAPPRD	COLUMN	Table not partitioned	1.548.827.352	tsls4proddbh
BKPF	SAPPRD	COLUMN	Table not partitioned	452.194.147	tsls4proddbh
BSAS_BCK	SAPPRD	COLUMN	Table not partitioned	194.087.107	tsls4proddbh
FINSC_LEDGER_REP	SAPPRD	COLUMN	Table not partitioned	26	tsls4proddbh

18.6.3.5 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	FAGLB03	LFAGL_ITEMS_SELECTU07	402	15.01.2020	✓	FI-GL-IS	Information System
PRD	FAGL_ACCOUNT_BALANCE	LFAGL_ITEMS_SELECTU07	402	15.01.2020	✓	FI-GL-IS	Information System

18.6.4 SQL Statement fa17a80f91c9a9b0481bca7fbaae941d

SELECT

"HEAD" . "BUKRS" , "ACDOCA" . "BELNR" , "ACDOCA" . "BSTAT" , "ACDOCA" . "UMSKZ" , "HEAD" . "XBLNR" , "ACDOCA" . "BLART", "ACDOCA" . "RBUSA" "GSBER" , "ACDOCA" . "ZUONR" , "ACDOCA" . "GJAHR" , "HEAD" . "MONAT" , "ACDOCA" . "BLDAT" , "ACDOCA" . "BUDAT" , "ACDOCA" . "DRCRK" "SHKZG" , "ACDOCA" . "HSL"

"BWWRT" , "ACDOCA" . "RHCUR" "HWAER" , "ACDOCA" . "WSL" "WRBTR" , "ACDOCA" . "RWCUR" "WAERS" , "ACDOCA" . "LIFNR" , "ACDOCA" . "KUNNR" , "ACDOCA" . "RASSC" "VBUND" , "ACDOCA" . "SGTXT" , "HEAD" . "BKTXT" , "ACDOCA" . "KTOSL" , "ACDOCA" . "REBZG" , "ACDOCA" . "RACCT" "HKONT" , "ACDOCA" . "GKONT" , "ACDOCA" . "BSCHL" , "HEAD" . "STBLG" , "ACDOCA" . "AUGBL" , "ACDOCA" . "AUGDT" , "HEAD" . "CPUDT" , "HEAD" . "CPUTM" , "ACDOCA" . "BUZEI" , "ACDOCA" . "DOCLN" "CUSTOM_1" , "ACDOCA" . "KOART" , "ACDOCA" . "MWSKZ" , "ACDOCA" . "PS_PSP_PNR" "PROJK" , "ACDOCA" . "NPLNR" "NPLNR" , "ACDOCA" . "MATNR" , "ACDOCA" . "AWREF" , "ACDOCA" . "AWORG" , "ACDOCA" . "EBELN" ,"ACDOCA" . "EBELP" , "ACDOCA" . "GKOAR"

FROM

"ACDOCA" LEFT OUTER JOIN "BKPF" "HEAD" ON "ACDOCA" . "RCLNT" = "HEAD" . "MANDT" AND "ACDOCA" . "RBUKRS" = "HEAD" . "BUKR

S" AND "ACDOCA" . "BELNR" = "HEAD" . "BELNR" AND "ACDOCA" . "GJAHR" = "HEAD" . "GJAHR"

WHERE

"ACDOCA" . "RCLNT" = ? AND "ACDOCA" . "RLDNR" = N'0L' AND NOT ("ACDOCA" . "BLART" = ?) AND ("ACDOCA" . "AUGDT" > ? OR "ACDOCA" . "AUGDT" = ?) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,01
Maximal CPU Consumption per Hour [%] (07.10.2025 between 13:00 and 14:00)	0,28
Maximal Memory Consumption [%]	3,77

18.6.4.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
ACDOCA	AUGDT	=	12.553.799.417.252	0
ACDOCA	AUGDT	>	12.553.799.417.252	0
ACDOCA	BLART	=	167.273.767.653	0
ACDOCA	RCLNT	=	19.225.649.307	0
ACDOCA	RLDNR	=	5.322.555.019.223	4.763

18.6.4.2 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	1.135	1.135.459.704	1.135.459.704	1.135.459.704
PREPARATION	1	1.039.252		
LOCK DURATION	0	0		

18.6.4.3 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	344.903,5	344.903,5	344.903,5

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]	8.937,3
Maximal Statement Size / Effective Allocation Limit [%]	3,8
Average Statement Size / Effective Allocation Limit [%]	3,8

18.6.4.4 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.

18.6.4.5 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	SAPPRD	COLUMN	HASH	3.570.094.832	tsls4proddbh
BKPF	SAPPRD	COLUMN	Table not partitioned	452.194.147	tsls4proddbh

18.6.4.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	ZFBL3N_BL_RP	ZMFAR_FBL3N_GRIR_SUB_TEST	1.675	24.11.2025	

18.6.5 SQL Statement 323cae7ebf5dc71bce8ba1bf0eba2025

SELECT

"MCHB" . "WERKS" "WERKS" , "MCHB" . "MATNR" "MATNR" , "VBAP" . "VGBEL" "SONO" , "VBAP" . "VGPOS" "SOITEM" , "EBAN" . "BANFN" "STRNO" , "EBAN" . "BNFPO" "STRITEM" , SUM("MCHB" . "CLABS") "STK" , "MAKT" . "MAKTX" "MAKTX" , "MVKE" . "MVGR2""MVGR2" , "TVM2T" . "BEZEI" "BEZEI" , "VBAK" . "AUART" "AUART" , "EKPO" . "EBELN" "STONO" , "EKPO" . "EBELP" "STOITEM" , "EKPO" . "MENGE" "MENGE" , "VBAP" . "VBELN" "DONO" , "VBAP" . "POSNR" "DOITEM" , "VBAP" . "KWMENG" "KWMENG" , "VBAK" ."KUNNR" "KUNNR" , "KNA1" . "NAME1" "NAME1" , "EBAN" . "WERKS" "RCVPLNT" , "T001W" . "NAME1" "RCVDESC" , "KNA1" . "ORT01" "ORT01" , "VBAK" . "VKBUR" "VKBUR" , "ISDDOCPARTNERWAD" . "PERSONEXTERNALID" "EMPLOYEE" , "ISDDOCPARTNERWAD" . "PERSONFULLNAME" "EMPLOYEEFULLNAME"

FROM

/* Redirected table: MCHB */ "NSDM_V_MCHB" "MCHB" INNER JOIN "MAKT" ON "MCHB" . "MANDT" = "MAKT" . "MANDT" AND "MAKT" ."MATNR" = "MCHB" . "MATNR" INNER JOIN "MVKE" ON "MCHB" . "MANDT" = "MVKE" . "MANDT" AND "MVKE" . "MATNR" = "MAKT" . "MATNR" INNER JOIN "TVM2T" ON "MCHB" . "MANDT" = "TVM2T" . "MANDT" AND "TVM2T" . "MVGR2" = "MVKE" . "MVGR2" AND "TVM2T" . "SPRAS" = ? INNER JOIN "MARA" ON "MCHB" . "MANDT" = "MARA" . "MANDT" AND "MARA" . "MATNR" = "MCHB" . "MATNR" AND "MARA" ."MATKL" BETWEEN N'A' AND N'X' AND "MARA" . "MATNR" BETWEEN N'000000000000242533' AND N'000000000009999999' INNER JOIN /* Redirected table: MBEW */ "MBVMBEW" "MBEW" ON "MCHB" . "MANDT" = "MBEW" . "MANDT" AND "MBEW" . "MATNR" = "MCHB" . "MATNR" AND "MBEW" . "BWKEY" = "MCHB" . "WERKS" AND "MBEW" . "BKLAS" IN (N'7021' , N'7061' ,

N'7093') LEFT OUTER JOIN "VEPVG" ON "MCHB" . "MANDT" = "VEPVG" . "MANDT" AND "VEPVG" . "VSTEL" = "MCHB" . "WERKS" AND "VEPVG" . "AUART" = N'ZDO' LEFTOUTER JOIN "VBAP" ON "MCHB" . "MANDT" = "VBAP" . "MANDT" AND "VBAP" . "VBELN" = "VEPVG" . "VBELN" AND "VBAP" . "MATNR" = "MCHB" . "MATNR" AND "VBAP" . "WERKS" = "MCHB" . "WERKS" LEFT OUTER JOIN "VBAK" ON "MCHB" . "MANDT" = "VBAK" . "MANDT"AND "VBAK" . "VBELN" = "VBAP" . "VGBEL" AND "VBAK" . "AUART" IN (N'ZSO' , N'ZVCD') LEFT OUTER JOIN "KNA1" ON "MCHB" ."MANDT" = "KNA1" . "MANDT" AND "KNA1" . "KUNNR" = "VBAK" . "KUNNR" LEFT OUTER JOIN "ISDDOCPARTNERWAD" ON "MCHB" . "MANDT" = "ISDDOCPARTNERWAD" . "MANDT" AND "ISDDOCPARTNERWAD" . "SDDOCUMENT" = "VBAK" . "VBELN" AND "ISDDOCPARTNERWAD" . "PARTNERFUNCTION" = N'VE' LEFT OUTER JOIN "VETVG" ON "MCHB" . "MANDT" = "VETVG" . "MANDT" AND "VETVG" . "VSTEL" = "MCHB" . "WERKS" AND "VETVG" . "AUART" = N'ZWLL' LEFT OUTER JOIN "EBAN" ON "MCHB" . "MANDT" = "EBAN" . "MANDT" AND "EBAN" . "RESWK" = "MCHB" . "WERKS" AND "EBAN" . "MATNR" = "MCHB" . "MATNR" AND "EBAN" . "EBELN" = "VETVG" . "VBELN" AND "EBAN" . "BSART" = N'ZBTS' LEFT OUTER JOIN "EKPO" ON "MCHB" . "MANDT" = "EKPO" . "MANDT" AND "EKPO" . "EBELN" = "EBAN" . "EBELN" AND "EKPO" . "EBELP" = "EBAN" . "EBELP" LEFT OUTER JOIN "T001W" ON "MCHB" . "MANDT" = "T001W" . "MANDT" AND "T001W" . "WERKS"

= "EBAN" . "WERKS"

WHERE

"MCHB" . "MANDT" = ? AND "MCHB" . "WERKS" IN (? , ?) AND "MVKE" . "MVGR2" IN (? , ? , ? , ? , ? , ?) AND "MCHB" . "C

LABS" > CAST(0 AS DECIMAL(13,3))

GROUP BY

"MCHB" . "WERKS" , "MCHB" . "MATNR" , "VBAP" . "VGBEL" , "VBAP" . "VGPOS" , "EBAN" . "BANFN" , "EBAN" . "BNFPO" , "MAKT" . "MAKTX" , "MVKE" . "MVGR2" , "TVM2T" . "BEZEI" , "VBAK" . "AUART" , "EKPO" . "EBELN" , "EKPO" . "EBELP" , "EKPO" . "MENGE" , "VBAP" . "VBELN" , "VBAP" . "POSNR" , "VBAP" . "KWMENG" , "VBAK" . "KUNNR" , "KNA1" . "NAME1" , "EBAN" . "WERKS" , "T001W" . "NAME1" , "KNA1" . "ORT01" , "VBAK" . "VKBUR" , "ISDDOCPARTNERWAD" . "PERSONEXTERNALID" , "ISDDOCPARTNERWAD" . "PERSONFULLNAME" WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,03
Maximal CPU Consumption per Hour [%] (06.10.2025 between 16:00 and 17:00)	0,28
Maximal Memory Consumption [%]	3,74

18.6.5.1 Analysis of Where Clause

Table	Field	Operator
?	CLABS	>
?	MANDT	=
?	MVGR2	IN
?	WERKS	IN

18.6.5.2 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	1.725	66.336.094	2.760.730	336.023.401
PREPARATION	37	1.408.294		
LOCK DURATION	0	0		

18.6.5.3 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	58.485,1	480,9	342.490,8

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]	8.937,3
Maximal Statement Size / Effective Allocation Limit [%]	3,7
Average Statement Size / Effective Allocation Limit [%]	0,6

18.6.5.4 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.

18.6.5.5 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
CKMLCR	SAPPRD	COLUMN	Table not partitioned	796.619.304	tsls4proddbh
VBPA	SAPPRD	COLUMN	Table not partitioned	358.526.695	tsls4proddbh
MATDOC_EXTRACT	SAPPRD	COLUMN	Table not partitioned	313.982.684	tsls4proddbh
MCHB	SAPPRD	COLUMN	Table not partitioned	85.401.854	tsls4proddbh
EKPO	SAPPRD	COLUMN	Table not partitioned	38.758.670	tsls4proddbh
VBAP	SAPPRD	COLUMN	Table not partitioned	27.322.065	tsls4proddbh
MBEW	SAPPRD	COLUMN	Table not partitioned	21.021.143	tsls4proddbh
ACDOCA_M_EXTRACT	SAPPRD	COLUMN	Table not partitioned	16.159.656	tsls4proddbh
VBAK	SAPPRD	COLUMN	Table not partitioned	10.357.120	tsls4proddbh
EBAN	SAPPRD	COLUMN	Table not partitioned	9.366.281	tsls4proddbh
... (further 25 tables)...	...	...	...		...

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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	YWSTK	YGWP_STK_FG	2.631	14.08.2025	

18.7 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	15.10.2025 -- 08:03:55
Data Collection	11.10.2025 -- 06:41:29
Analysis Type	Analysis of Thread Samples
Data Source	HOST_SERVICE_THREAD_SAMPLES
First Day	04.10.2025
Last Day	10.10.2025

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
938619e1d06635b2b252709b7ccd58af	20.507.332,4	1,0	20.424.557,6	29.504
54a9566c2195e1ab2540c7f5d0ac6ff4	118.147.256,7	490.873,4	240,7	28.325
a8eb789ee40468a3bc31c19f4e3c2733	4.651.401,0	79,2	58.732,8	25.985
0afe14bc6bea35eee9d86b117185c277	314.977,3	16,6	18.925,9	18.408
77658c84db4c1afd41fa26aff7df5464	66.188.156,0	335.199,0	197,5	15.510

18.7.1 SQL Statement 938619e1d06635b2b252709b7ccd58af

```
SELECT DISTINCT
 "A" . "REF_DOC" , "A" . "REF_DOC_YEAR" , "B" . "BUDAT_MKPF"
FROM
"/OPT/VIM_1ITEM" "A" INNER JOIN /* Redirected table: MSEG */ "NSDM_V_MSEG" "B" ON "A" . "MANDT" = "B" . "MANDT" AND "A"
. "REF_DOC" = "B" . "LFBNR" AND "A" . "REF_DOC_YEAR" = "B" . "MJAHR"
WHERE
"A" . "MANDT" = ? AND "A" . "DOCID" = ?  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,59
Contribution to Total Execution Time [%]	9,76
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	4,49
Maximal Memory Consumption [%]	0,11

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 PRD -> Top Statements (CPU Peak Hour)
SAP HANA SQL Statements in PRD -> Top Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top MATDOC Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top Statements (Total Memory)

18.7.1.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
/OPT/VIM_1ITEM	DOCID	=	✓	DEFAULT	10.594.120	119.414.604	816.740
/OPT/VIM_1ITEM	MANDT	=	✓	RLE	1	3.879	2

18.7.1.2 Time Consumption

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

Activity	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	20.507.309	198	316.055.039
PREPARATION	23		
LOCK DURATION	0		

18.7.1.3 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	3.777,1	0,1	10.107,5

18.7.1.4 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.

18.7.1.5 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,81	strong correlation

Distiribution	Correlation Coefficient	Comment
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,62	strong correlation

18.7.1.6 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	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh
/OPT/VIM_1ITEM	SAPPRD	COLUMN	Table not partitioned	30.153.698	tsls4proddbh

18.7.1.7 Compatibility View Access

SAP S/4HANA Supply Chain (MM - Inventory Management) offers a simplified data model. Several tables have become obsolete and are removed. To allow existing coding to continue to work, these tables are replaced by views with the same name, known as "Compatibility Views". As a result, read access to these objects is still possible; however, performance is affected since it is now an access to a view instead of a simple table. For some general background information, see https://launchpad.support.sap.com/#/notes/2206980 [SAP Note 2206980].

For performance-critical coding parts, we strongly recommend the code adjustments suggested in Section 2 of the SAP Note. For non-critical parts, these adjustments are optional in the short term but recommended in the long term.

18.7.1.8 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/OPT/DR_BR_WAIT	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS_750	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_RULERUN	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_VA2	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_WP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	RSWIWILS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SBWP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SWIA	LZOPT_VIM_1U07	29	25.09.2019	
PRD	VIM_BC_INBOUND_PROCESSING	LZOPT_VIM_1U07	29	25.09.2019	
PRD	YP2P_DASH	LZOPT_VIM_1U07	29	25.09.2019	

18.7.2 SQL Statement 54a9566c2195e1ab2540c7f5d0ac6ff4

```
SELECT
/* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST"
, "DATBI" , "DATAB" , "KBSTAT" , "KNUMH"
FROM
"A639"
WHERE
"MANDT" = ?
ORDER BY
"A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCHL" , "A639" . "VKORG" , "A639" . "KUNAG" , "A639" . "KUNWE" ,
"A639" . "WERKS" , "A639" . "ZZTDCNO" , "A639" . "KFRST" , "A639" . "DATBI"  WITH
RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,45

Indicator	Value
Contribution to Total Execution Time [%]	1,36
Maximal CPU Consumption per Hour [%] (05.10.2025 between 15:00 and 16:00)	2,29
Contribution to Total Memory Consumption [%]	0,09
Maximal Memory Consumption [%]	0,33

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 PRD -> Top Statements (Total Memory)
SAP HANA SQL Statements in PRD -> Top Statements (CPU Peak Hour)

18.7.2.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
A639	MANDT	=	✓	RLE	1	4.021	677

Calendar Week(s) of "Distinct Values" Collection
202549

18.7.2.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
COLUMN SEARCH	A639.MANDT, A639.KAP ...	COLUMN		190.556.391	2.471,740
_ORDER BY	A639.KAPPL ASC, A639 ...	COLUMN		190.556.391	62,539
__COLUMN TABLE	FILTER CONDITION: A6 ...	COLUMN	A639	190.556.391	0,000

18.7.2.3 Time Consumption

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

Activity	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	118.146.871	100	347.709.520
PREPARATION	385		
LOCK DURATION	0		

18.7.2.4 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	30.650,9	30.650,9	30.650,9

18.7.2.5 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	28325
Job Exec Waiting	Idle	5462
Mutex Wait	Lock	213

Thread State	Area	Samples
Semaphore Wait	Lock	31

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (RangeSortJob)	11.117
JobWorker (MakeHeapJob)	10.042
JobWorker (ParallelFor Job)	4.379
SqlExecutor (ExecutePrepared)	1.288
Others	1.499

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	MakeHeapJob	?	10042
SqlExecutor	ExecutePrepared	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST" , "DATBI" , "DATAB" , "KBSTAT" , "KNUMH" FROM "A639" WHERE "MANDT" = ? ORDER BY "A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCH	3040
JobWorker	ZipResultJob	?	1150
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 1/10)	587
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 2/10)	466
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 3/10)	464
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 5/10)	463
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 4/10)	454
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 6/10)	445
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 7/10)	440
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 8/10)	407
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 9/10)	380
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 10/10)	296
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 190353789	61
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 190353765	54
SqlExecutor	FetchCursor	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST" , "DATBI" , "DATAB" , "KBSTAT" , "KNUMH" FROM "A639" WHERE "MANDT" = ? ORDER BY "A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCH	24
JobWorker	RangeSortJob	RangeSort ranges from: 3612791 to: 4716227	21
JobWorker	RangeSortJob	RangeSort ranges from: 7910415 to: 8865183	19
JobWorker	RangeSortJob	RangeSort ranges from: 5691427 to: 6816623	18
JobWorker	RangeSortJob	RangeSort ranges from: 6816623 to: 7910415	18
OTHERS	OTHERS	OTHERS	15182

18.7.2.6 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

18.7.2.7 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.7.2.8 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.

18.7.2.9 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,85	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,61	strong correlation

18.7.2.10 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
A639	SAPPRD	COLUMN	Table not partitioned	190.556.392	tsls4proddbh

18.7.2.11 Statement used for Buffer Loading

Table
A639

The comment /* Buffer Loading */ in the statement text shows that this SQL statement was issued to copy information from the table listed above to the table buffer. A table should be loaded only rarely and the related SQL statement should not play an important role in a productive system. This statement might be executed frequently if the table is either invalidated very often or the table is displaced from the table buffer because the configuration of the table buffer is too small.

Recommendation: In order to check whether the buffering settings for this table are adequate, check the table statistics of this table in transaction ST10 (see SAP Note 1011158 and SAP Note 2457204). In order to check the setting for the table buffer, check the buffer statistics in ST02 for the different ABAP instances (see SAP Note 2442188).

If the buffer settings are not adequate, adjust the buffer settings, or un-buffer the table. If the configuration of the table buffer is too small and sufficient physical memory is available on the host, increase the size of the table buffer.

18.7.2.12 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	/IRM/LAUNCHPAD	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172721270460	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172882830938	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172901390382	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172901391221	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172925000872	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172929901592	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172932099571	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172933014931	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172933015250	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945410184	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945410470	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945415482	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945415793	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions

18.7.3 SQL Statement a8eb789ee40468a3bc31c19f4e3c2733

SELECT

"EKPO" . "EBELN" , "EKPO" . "BEDNR" , "EKKO" . "BSTYP" , "EKKO" . "SUBMI"

FROM

"EKPO" INNER JOIN "EKKO" ON "EKPO" . "MANDT" = "EKKO" . "MANDT" AND "EKKO" . "EBELN" = "EKPO" . "EBELN"

WHERE

"EKPO" . "MANDT" = ? AND ("EKKO" . "SUBMI" = ? OR "EKKO" . "SUBMI" BETWEEN ? AND ? OR "EKPO" . "BEDNR" = ?) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,16
Contribution to Total Execution Time [%]	1,30
Maximal CPU Consumption per Hour [%] (05.10.2025 between 23:00 and 24:00)	3,05

18.7.3.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
EKKO	SUBMI	=	42.494.402	304.054
EKKO	SUBMI	BETWEEN	42.494.402	304.054
EKPO	BEDNR	=	462.433.387	74.213
EKPO	MANDT	=	7.488.593.045	55.331

18.7.3.2 Time Consumption

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

Activity	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	4.651.384	2.401.013	13.091.010
PREPARATION	17		
LOCK DURATION	0		

18.7.3.3 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	970,9	967,3	1.106,7

18.7.3.4 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.

18.7.3.5 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
EKPO	SAPPRD	COLUMN	Table not partitioned	38.758.670	tsls4proddbh
EKKO	SAPPRD	COLUMN	Table not partitioned	14.321.805	tsls4proddbh

18.7.3.6 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	YMPIR_MRO_ORDER_UPDATE	YMPIR_MRO_ORDER_UPDATE	201	06.11.2020	

18.7.4 SQL Statement 0afe14bc6bea35eee9d86b117185c277

SELECT

"MANDANT" , "OBJECTCLAS" , "OBJECTID" , "CHANGENR" , "TABNAME" , "TABKEY" , "FNAME" , "CHNGIND" , "TEXT_CASE" , "UNIT_OLD" , "UNIT_NEW" , "CUKY_OLD" , "CUKY_NEW" , "VALUE_NEW" , "VALUE_OLD" , "_DATAAGING"

FROM

"CDPOS"

WHERE

"MANDANT" = ? AND "OBJECTCLAS" = N'IDENTITY' AND "OBJECTID" BETWEEN ? AND ? AND "TABNAME" = N'USR04' AND "FNAME" = N'KEY' AND "CHNGIND" = N'D' WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	2,24
Contribution to Total Execution Time [%]	1,90
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	0,57

18.7.4.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
CDPOS	CHNGIND	=	579	0
CDPOS	FNAME	=	64.805.619.468	2.978.098
CDPOS	MANDANT	=	61.527.983	30
CDPOS	OBJECTCLAS	=	8.997.435	71
CDPOS	OBJECTID	BETWEEN	1.277.616.497.678.994	3.297.086
CDPOS	TABNAME	=	58.493.754.973	269.413

18.7.4.2 Time Consumption

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

Activity	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	314.970	768	42.019.897
PREPARATION	7		
LOCK DURATION	0		

18.7.4.3 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	32,7	0,2	3.869,5

18.7.4.4 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.

18.7.4.5 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,63	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,50	medium correlation

18.7.4.6 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
CDPOS	SAPPRD	COLUMN	HASH	7.150.225.343	tsls4proddbh

18.7.4.7 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	GRAC_REPOSITORY_OBJECT_SYNC	/GRCPI/CL_GRIA_USR==========CM001	757	08.08.2025	✓	GRC-ACP	GRC Access Control Plug-In
PRD	GRAC_REP_OBJ_SYNC_ECC	/GRCPI/CL_GRIA_USR==========CM001	757	08.08.2025	✓	GRC-ACP	GRC Access Control Plug-In
PRD	GRAC_REP_OBJ_SYNC_LOGSYS500	/GRCPI/CL_GRIA_USR==========CM001	757	08.08.2025	✓	GRC-ACP	GRC Access Control Plug-In

18.7.5 SQL Statement 77658c84db4c1afd41fa26aff7df5464

```
SELECT
/* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "WERKS" , "MATNR" , "KUNNR" , "DATBI" , "DATAB" , "KNUMH"
FROM
"A915"
WHERE
"MANDT" = ?
ORDER BY
"A915" . "MANDT" , "A915" . "KAPPL" , "A915" . "KSCHL" , "A915" . "WERKS" , "A915" . "MATNR" , "A915" . "KUNNR" ,
"A915" . "DATBI"  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	1,89
Contribution to Total Execution Time [%]	1,54
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	0,97
Maximal Memory Consumption [%]	0,14

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 PRD -> Top Statements (Total Memory)

18.7.5.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
A915	MANDT	=	✓	RLE	3	1.150.589	876

Calendar Week(s) of "Distinct Values" Collection
202549

18.7.5.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
COLUMN SEARCH	A915.MANDT, A915.KAP ...	COLUMN		31.165.134	282,040
_ORDER BY	A915.KAPPL ASC, A915 ...	COLUMN		31.165.134	9,257
__COLUMN TABLE	FILTER CONDITION: A9 ...	COLUMN	A915	31.165.134	0,000

18.7.5.3 Time Consumption

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

Activity	Average Time [us]	Minimal Time [us]	Maximal Time [us]
TOTAL EXECUTION	66.188.069	218	261.527.158
PREPARATION	87		
LOCK DURATION	0		

18.7.5.4 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	11.852,2	0,1	12.720,3

18.7.5.5 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	15510
Job Exec Waiting	Idle	2992
Mutex Wait	Lock	367
Semaphore Wait	Lock	20

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (RangeSortJob)	5.891
JobWorker (ParallelFor Job)	3.847
JobWorker (MakeHeapJob)	3.106
SqlExecutor (ExecutePrepared)	1.209
Others	1.457

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	MakeHeapJob	?	3106
SqlExecutor	ExecutePrepared	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "WERKS" , "MATNR" , "KUNNR" , "DATBI" , "DATAB" , "KNUMH" FROM "A915" WHERE "MANDT" = ? ORDER BY "A915" . "MANDT" , "A915" . "KAPPL" , "A915" . "KSCHL" , "A915" . "WERKS" , "A915" . "MATNR" ,	3097
JobWorker	ZipResultJob	?	1047
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 1/7)	967
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 2/7)	685
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 3/7)	561
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 4/7)	494
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 5/7)	419
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 6/7)	383
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A915 (t 434) (parallelFor job 7/7)	352
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 3521388	23
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 3519272	20
SqlExecutor	FetchCursor	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "WERKS" , "MATNR" , "KUNNR" , "DATBI" , "DATAB" , "KNUMH" FROM "A915" WHERE "MANDT" = ? ORDER BY "A915" . "MANDT" , "A915" . "KAPPL" , "A915" . "KSCHL" , "A915" . "WERKS" , "A915" . "MATNR" ,	20
JobWorker	RangeSortJob	RangeSort ranges from: 2334857 to: 2952066	20
JobWorker	RangeSortJob	RangeSort ranges from: 3519272 to: 93470265	19
JobWorker	RangeSortJob	RangeSort ranges from: 1860490 to: 2334857	19
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 617141	16
JobWorker	RangeSortJob	RangeSort ranges from: 4676812 to: 37287904	15
JobWorker	RangeSortJob	RangeSort ranges from: 37287904 to: 38103530	15
JobWorker	RangeSortJob	RangeSort ranges from: 3942303 to: 4676812	15
OTHERS	OTHERS	OTHERS	7596

18.7.5.6 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of

information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

18.7.5.7 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.7.5.8 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.

18.7.5.9 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,73	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,56	strong correlation

18.7.5.10 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
A915	SAPPRD	COLUMN	Table not partitioned	93.498.956	tsls4proddbh

18.7.5.11 Statement used for Buffer Loading

Table
A915

The comment /* Buffer Loading */ in the statement text shows that this SQL statement was issued to copy information from the table listed above to the table buffer. A table should be loaded only rarely and the related SQL statement should not play an important role in a productive system. This statement might be executed frequently if the table is either invalidated very often or the table is displaced from the table buffer because the configuration of the table buffer is too small.

Recommendation: In order to check whether the buffering settings for this table are adequate, check the table statistics of this table in transaction ST10 (see SAP Note 1011158 and SAP Note 2457204). In order to check the setting for the table buffer, check the buffer statistics in ST02 for the different ABAP instances (see SAP Note 2442188).

If the buffer settings are not adequate, adjust the buffer settings, or un-buffer the table. If the configuration of the table buffer is too small and sufficient physical memory is available on the host, increase the size of the table buffer.

18.7.5.12 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	/IRM/LAUNCHPAD	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015562624	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015562754	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563097	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563367	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563375	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563460	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015563919	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015564299	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015564353	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 00000015564397	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions

18.8 Top Statements (CPU Peak Hour)

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.

For this section, the hour with the highest number of thread samples in thread state" "Running" is determined, that is, the "CPU peak hour". The top statements observed in this hour are listed and analyzed.

HOUR OF MAXIMAL CPU CONSUMPTIION

From	To
05.10.2025 -- 12:00:00	05.10.2025 -- 13:00:00

See the following table for details of the selection:

Database Start	15.10.2025 -- 08:03:55
Data Collection	11.10.2025 -- 06:41:29
Analysis Type	Analysis of Thread Samples
Data Source	HOST_SERVICE_THREAD_SAMPLES
First Day	04.10.2025
Last Day	10.10.2025

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 if Samples in CPU Peak Hour
938619e1d06635b2b252709b7ccd58af	20.507.332,4	1,0	20.424.557,6	1.581
da0cae818c8fca6b540d1d5f8357432a	686.082,5	56,2	12.202,4	869
54a9566c2195e1ab2540c7f5d0ac6ff4	118.147.256,7	490.873,4	240,7	752
3876e9bc48476246934e1f701b04af96	12.620.061,5	0,3	36.882.414,0	503
f26860d87aea91b859d94199ce6b5dff	505.244,6	0,0	59.789.994,2	464

18.8.1 SQL Statement 938619e1d06635b2b252709b7ccd58af

```
SELECT DISTINCT
 "A" . "REF_DOC" , "A" . "REF_DOC_YEAR" , "B" . "BUDAT_MKPF"
FROM
"/OPT/VIM_1ITEM" "A" INNER JOIN /* Redirected table: MSEG */ "NSDM_V_MSEG" "B" ON "A" . "MANDT" = "B" .
"MANDT" AND "A"
. "REF_DOC" = "B" . "LFBNR" AND "A" . "REF_DOC_YEAR" = "B" . "MJAHR"
WHERE
"A" . "MANDT" = ? AND "A" . "DOCID" = ?  WITH RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,59
Contribution to Total Execution Time [%]	9,76
Maximal CPU Consumption per Hour [%] (05.10.2025 between 12:00 and 13:00)	4,49
Maximal Memory Consumption [%]	0,11

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 PRD -> Top Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top MATDOC Statements (Elapsed Time)
SAP HANA SQL Statements in PRD -> Top Statements (Thread Samples)
SAP HANA SQL Statements in PRD -> Top Statements (Total Memory)

18.8.1.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
/OPT/VIM_1ITEM	DOCID	=	✓	DEFAULT	10.594.120	119.414.604	816.740
/OPT/VIM_1ITEM	MANDT	=	✓	RLE	1	3.879	2

18.8.1.2 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	865.285	20.507.309	198	316.055.039
PREPARATION	1	23		
LOCK DURATION	0	0		

18.8.1.3 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]

18.8.1.4 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.

18.8.1.5 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,81	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,62	strong correlation

18.8.1.6 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	SAPPRD	COLUMN	Table not partitioned	565.077.043	tsls4proddbh
/OPT/VIM_1ITEM	SAPPRD	COLUMN	Table not partitioned	30.153.698	tsls4proddbh

18.8.1.7 Compatibility View Access

SAP S/4HANA Supply Chain (MM - Inventory Management) offers a simplified data model. Several tables have become obsolete and are removed. To allow existing coding to continue to work, these tables are replaced by views with the same name, known as "Compatibility Views". As a result, read access to these objects is still possible; however, performance is affected since it is now an access to a view instead of a simple table. For some general background information, see https://launchpad.support.sap.com/#/notes/2206980 [SAP Note 2206980].

For performance-critical coding parts, we strongly recommend the code adjustments suggested in Section 2 of the SAP Note. For non-critical parts, these adjustments are optional in the short term but recommended in the long term.

18.8.1.8 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/OPT/DR_BR_WAIT	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_ANALYTICS_750	LZOPT_VIM_1U07	29	25.09.2019	

SID	Transaction / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	/OPT/VIM_RULERUN	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_VA2	LZOPT_VIM_1U07	29	25.09.2019	
PRD	/OPT/VIM_WP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	RSWIWILS	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SBWP	LZOPT_VIM_1U07	29	25.09.2019	
PRD	SWIA	LZOPT_VIM_1U07	29	25.09.2019	
PRD	VIM_BC_INBOUND_PROCESSING	LZOPT_VIM_1U07	29	25.09.2019	
PRD	YP2P_DASH	LZOPT_VIM_1U07	29	25.09.2019	

18.8.2 SQL Statement da0cae818c8fca6b540d1d5f8357432a

```
SELECT
"VBELV" , "VBELN" , "VBTYP_V" , "POSNN"
FROM
"VBFA"
WHERE
"MANDT" = ? AND ( ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ?
AND "VBTYP_V"= N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT"
>= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND
"ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ?
AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR (
"VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" =? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' )
OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND"ERDAT" >= ? AND "VBTYP_V" =
N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND
"VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ?
AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT"
>= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND
"ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ?
AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR (
"VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' )OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' )
OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" =
N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND
"VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ?
AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT"
>= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND
"ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ?
AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR (
"VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' )
OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V"= N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" =
N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND
"VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR( "VBELN" = ? AND "ERDAT" >= ?
AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT"
>= ? AND "VBTYP_V" = N'J' ) OR ( "VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J' ) )  WITH
RANGE_RESTRICTION('CURRENT')
```

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,45
Maximal CPU Consumption per Hour [%] (06.10.2025 between 11:00 and 12:00)	2,90

18.8.2.1 Analysis of Where Clause

Table	Field	Operator	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
VBFA	ERDAT	>=	874.829.585.184	0
VBFA	MANDT	=	106.339.930	10
VBFA	VBELN	=	11.510.847.191.780.930	0
VBFA	VBTYP_V	=	48.666.348.745	0

18.8.2.2 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	3.146	685.809	777	4.458.554
PREPARATION	1	273		
LOCK DURATION	0	0		

18.8.2.3 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	5,6	0,1	21,5

18.8.2.4 Thread Distribution

Thread State	Area	Samples
Running	SQL	3700
Job Exec Waiting	Idle	195
Mutex Wait	Lock	14

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (IndirectScanVecOutJob<range>)	3.621
SqlExecutor (ExecutePrepared)	32
JobWorker (IndirectPredScanVecOutJob<ScanVectorBinSearchPredicate>)	25
JobWorker	21
Others	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
JobWorker	IndirectScanVecOutJob<range>	SAPPRD:VBFA.VBELN	3634
SqlExecutor	ExecutePrepared	SELECT "VBELV" , "VBELN" , "VBTYP_V" , "POSNN" FROM "VBFA" WHERE "MANDT" = ? AND (("VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J') OR ("VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J') OR ("VBELN" = ? AND "ERDAT" >= ? AND "VBTYP_V" = N'J')	228
JobWorker	IndirectPredScanVecOutJob<ScanVectorBinSearchPredicate>	SAPPRD:VBFA.VBELN	25
JobWorker	?	?	21
JobWorker	IndirectPredScanVecOutJob<ScanVectorPredicate>	SAPPRD:VBFA.VBELN	1

Note:
Table and column scan-related thread methods contribute significantly to the load caused by this SQL statement. It might be possible to accelerate the table scan (and by doing so, the execution time of this statement) either by changing the application in order to use existing indexes of this table or by changing the current index design (see SAP Note 2000002).

> **Recommendation:** Consider creating a single column index for a column in the where clause not yet supported by an index.
> If more than one column meets this condition, choose the most selective field. In many cases, this will be the field with the highest value for SCANNED_RECORD_COUNT (obtained from M_CS_ALL_COLUMN_STATISTICS), in particular when specified with "=".
>
> See the following table with the fields specified with the where clause not yet supported by a single column index.

Table	Field	Operator	SCANNED_RECORD_COUNT
VBFA	VBELN	=	11.510.847.191.780.930
VBFA	ERDAT	>=	874.829.585.184
VBFA	VBTYP_V	=	48.666.348.745

18.8.2.5 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

18.8.2.6 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.8.2.7 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.

18.8.2.8 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,43	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,19	weak correlation

18.8.2.9 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
VBFA	SAPPRD	COLUMN	Table not partitioned	613.470.583	tsls4proddbh

18.8.2.10 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	YGSTNR	YMSDR_GSTIN	291	06.03.2025	
PRD	YMSDR_GSTIN	YMSDR_GSTIN	291	06.03.2025	

18.8.3 SQL Statement 54a9566c2195e1ab2540c7f5d0ac6ff4

SELECT

/* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST" , "DATBI" , "DATAB" , "KBSTAT" , "KNUMH"

FROM

"A639"

WHERE
"MANDT" = ?
ORDER BY
"A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCHL" , "A639" . "VKORG" , "A639" . "KUNAG" , "A639" . "KUNWE" , "A639" . "WERKS" , "A639" . "ZZTDCNO" , "A639" . "KFRST" , "A639" . "DATBI" WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	3,45
Contribution to Total Execution Time [%]	1,36
Maximal CPU Consumption per Hour [%] (05.10.2025 between 15:00 and 16:00)	2,29
Contribution to Total Memory Consumption [%]	0,09
Maximal Memory Consumption [%]	0,33

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 PRD -> Top Statements (Total Memory)
SAP HANA SQL Statements in PRD -> Top Statements (Thread Samples)

18.8.3.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
A639	MANDT	=	✓	RLE	1	4.021	677

Calendar Week(s) of "Distinct Values" Collection
202549

18.8.3.2 Explain Plan

OPERATOR_NAME	DETAILS	ENGINE	TABLE_NAME	OUTPUT_SIZE	SUBTREE_COST
COLUMN SEARCH	A639.MANDT, A639.KAP ...	COLUMN		190.556.391	2.471,740
_ORDER BY	A639.KAPPL ASC, A639 ...	COLUMN		190.556.391	62,539
__COLUMN TABLE	FILTER CONDITION: A6 ...	COLUMN	A639	190.556.391	0,000

18.8.3.3 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	120.746	118.146.871	100	347.709.520
PREPARATION	0	385		
LOCK DURATION	0	0		

18.8.3.4 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	30,0	30.650,9	30.650,9

18.8.3.5 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	28325
Job Exec Waiting	Idle	5462
Mutex Wait	Lock	213
Semaphore Wait	Lock	31

Thread Type (Thread Method) when THREAD_STATE = "Running"	Samples
JobWorker (RangeSortJob)	11.117
JobWorker (MakeHeapJob)	10.042
JobWorker (ParallelFor Job)	4.379
SqlExecutor (ExecutePrepared)	1.288
Others	1.499

The following table shows the "thread distribution" in terms of "thread detail" and for all thread samples.

Thread Type	Thread Method	Thread Detail	Samples
JobWorker	MakeHeapJob	?	10042
SqlExecutor	ExecutePrepared	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST" , "DATBI" , "DATAB" , "KBSTAT" , "KNUMH" FROM "A639" WHERE "MANDT" = ? ORDER BY "A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCH	3040
JobWorker	ZipResultJob	?	1150
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 1/10)	587
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 2/10)	466
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 3/10)	464
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 5/10)	463
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 4/10)	454
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 6/10)	445
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 7/10)	440
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 8/10)	407
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 9/10)	380
JobWorker	ParallelFor Job	AE/getValues BlockJob on table PRD::SAPPRD:A639 (t 337) (parallelFor job 10/10)	296
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 190353789	61
JobWorker	RangeSortJob	RangeSort ranges from: 0 to: 190353765	54
SqlExecutor	FetchCursor	SELECT /* Buffer Loading */ "MANDT" , "KAPPL" , "KSCHL" , "VKORG" , "KUNAG" , "KUNWE" , "WERKS" , "ZZTDCNO" , "KFRST" , "DATBI" , "DATAB" , "KBSTAT" , "KNUMH" FROM "A639" WHERE "MANDT" = ? ORDER BY "A639" . "MANDT" , "A639" . "KAPPL" , "A639" . "KSCH	24
JobWorker	RangeSortJob	RangeSort ranges from: 3612791 to: 4716227	21
JobWorker	RangeSortJob	RangeSort ranges from: 7910415 to: 8865183	19
JobWorker	RangeSortJob	RangeSort ranges from: 5691427 to: 6816623	18
JobWorker	RangeSortJob	RangeSort ranges from: 6816623 to: 7910415	18
OTHERS	OTHERS	OTHERS	15182

18.8.3.6 Statement History (Elapsed Time)

The following graph shows the number of executions and the average "Elapsed Time" of the statement within the considered time interval as obtained from the monitoring view HOST_SQL_PLAN_CACHE. Note that the absence of information at a given point in time does not necessarily mean that the statement was not executed, but only that no data was found in this monitoring view.

18.8.3.7 Statement History (All Thread Samples)

The following graph shows the number of threads, both for state "Running" and for all other thread states. Threads in state "Running" are responsible for the CPU consumption due to the statements. Non-running threads could be "idle", but might also indicate network or I/O issues or locking situations.

18.8.3.8 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.

18.8.3.9 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,85	strong correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,61	strong correlation

18.8.3.10 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
A639	SAPPRD	COLUMN	Table not partitioned	190.556.392	tsls4proddbh

18.8.3.11 Statement used for Buffer Loading

Table
A639

The comment /* Buffer Loading */ in the statement text shows that this SQL statement was issued to copy information from the table listed above to the table buffer. A table should be loaded only rarely and the related SQL statement should not play an important role in a productive system. This statement might be executed frequently if the table is either invalidated very often or the table is displaced from the table buffer because the configuration of the table buffer is too small.

Recommendation: In order to check whether the buffering settings for this table are adequate, check the table statistics of this table in transaction ST10 (see SAP Note 1011158 and SAP Note 2457204). In order to check the setting for the table buffer, check the buffer statistics in ST02 for the different ABAP instances (see SAP Note 2442188).

If the buffer settings are not adequate, adjust the buffer settings, or un-buffer the table. If the configuration of the table buffer is too small and sufficient physical memory is available on the host, increase the size of the table buffer.

18.8.3.12 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	/IRM/LAUNCHPAD	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172721270460	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172882830938	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172901390382	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172901391221	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172925000872	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172929901592	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172932099571	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172933014931	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172933015250	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945410184	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945410470	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945415482	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions
PRD	Auto Delivery of 95172945415793	LV61ZU01	938	30.01.2017	✓	SD-BF-PR	Pricing and Conditions

18.8.4 SQL Statement 3876e9bc48476246934e1f701b04af96

SELECT

"MATNR" , "WERKS" , "LGORT" , "CHARG" , "ERSDA" , "SOBKZ" , "VBELN" , "POSNR" , "KALAB" , "KAINS" , "KASPE"

FROM

"NSDM_V_MSKA"

WHERE

"MANDT" = ? AND (("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ?AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ"= N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ?AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ?

AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR"= ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E') OR ("MATNR" = ? AND "WERKS" = ? AND "CHARG" LIKE ? AND "SOBKZ" = N'E')) WITH RANGE_RESTRICTION('CURRENT')

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	1,24
Contribution to Total Execution Time [%]	0,69
Maximal CPU Consumption per Hour [%] (05.10.2025 between 11:00 and 12:00)	2,15

18.8.4.1 Analysis of Where Clause

Table	Field	Operator
?	CHARG	LIKE
?	MANDT	=
?	MATNR	=
?	SOBKZ	=
?	WERKS	=

18.8.4.2 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	61.403	12.618.812	487.922	78.714.690
PREPARATION	6	1.249		
LOCK DURATION	0	0		

18.8.4.3 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]

18.8.4.4 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.

18.8.4.5 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,47	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,17	weak correlation

18.8.4.6 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_EXTRACT	SAPPRD	COLUMN	Table not partitioned	313.982.684	tsls4proddbh
MSKA	SAPPRD	COLUMN	Table not partitioned	10.252.159	tsls4proddbh

18.8.4.7 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding
PRD	ZPP005	ZRPP_STOCK_REPORT_TSL	486	29.10.2025	
PRD	ZRPP_STOCK_REPORT_TSL	ZRPP_STOCK_REPORT_TSL	486	29.10.2025	

18.8.5 SQL Statement f26860d87aea91b859d94199ce6b5dff

SELECT

"MANDANT" , "OBJECTCLAS" , "OBJECTID" , "CHANGENR" , "USERNAME" , "UDATE" , "UTIME" , "TCODE" , "PLANCHNGNR" , "ACT_CHNGNO" , "WAS_PLANND" , "CHANGE_IND" , "LANGU" , "VERSION" , "_DATAAGING"

FROM

"CDHDR"

WHERE

"MANDANT" = ? AND "OBJECTCLAS" = ? AND ("OBJECTID" LIKE ? OR "OBJECTID" LIKE ? AND (N'_' <> ? OR "OBJECTID" <> N"))

STATEMENT IMPACT

Indicator	Value
Contribution to Total CPU Load [%]	0,63
Maximal CPU Consumption per Hour [%] (07.10.2025 between 11:00 and 12:00)	1,81

18.8.5.1 Analysis of Where Clause

Table	Field	Operator	Supported by Single Column Index	Compression	Distinct Values	SCANNED RECORD COUNT	INDEX LOOKUP COUNT
CDHDR	MANDANT	=				17.957.888.310	4.588
CDHDR	N'_'	<>					
CDHDR	OBJECTCLAS	=				2.076.686.009.642	228.080
CDHDR	OBJECTID	<>				819.406.919.288.633	12.809.846
CDHDR	OBJECTID	LIKE				819.406.919.288.633	12.809.846

18.8.5.2 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	3.707	505.228	297	2.200.788
PREPARATION	0	17		
LOCK DURATION	0	0		

18.8.5.3 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	2,8	0,1	32,0

18.8.5.4 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.

18.8.5.5 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.

Distiribution	Correlation Coefficient	Comment
CPU consumption index server(s) - Threads (running) from this SQL statement	0,43	medium correlation
Memory consumption index server(s) - Threads (running) from this SQL Statement	0,37	medium correlation

18.8.5.6 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
CDHDR	SAPPRD	COLUMN	Table not partitioned	720.603.854	tsls4proddbh

18.8.5.7 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 / Jobaname	Report	Line	Last Changed on:	SAP Coding	Application Component	Description
PRD	/OPT/VIM_ANALYTICS_750	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	/OPT/VIM_VA2	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	/OPT/VIM_WP	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	BP	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	FB03	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	FK02	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	FK03	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	RFITEMAP	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	SBWP	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	UKM_BP	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	UKM_BP_DISPLAY	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	VA03	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	VF03	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	VL03	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	XD03	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents
PRD	XK03	LCD_READF01	3.057	08.08.2025	✓	BC-SRV-ASF-CHD	Change Documents

19 SAP NetWeaver Gateway

The gateway configuration and administration of your SAP S/4HANA system PRD have been analyzed and areas that require your attention have been highlighted. To ensure system stability, you should implement the recommendations in the following section.

Rating	Check
✔	MetaData Cache Activation
✔	Logging Configuration
✔	Gateway Error Logs
!	Important Periodic Jobs

19.1 Gateway Configuration

19.1.1 MetaData Cache Activation

Cache	Activated
Metadata Cache	Yes

The metadata cache is activated in your system as recommended.

19.1.2 Logging Configuration

Logging Use Case	Log Level	Recommended Log Level
Regular processing	Error, Security, Warning	Error, Security, Warning

The gateway logging configuration is set correctly on your system.

19.2 Gateway Administration

19.2.1 Important Periodic Jobs

The jobs based on the reports listed in the table below are important for the smooth operation of your system.

Report Name	Scheduled Periodically?	Scheduled Frequency	Recommended Frequency	Rating	Further Information
/UI5/UPD_ODATA_METADATA_CACHE		-	48 Hours*	!	LINK
/UI5/APP_INDEX_CALCULATE		-	Daily*	!	LINK
/IWFND/R_SM_CLEANUP	X	1 per day	Daily	✔	LINK
/IWBEP/R_CLEAN_UP_QRL	X	1 per day	Daily	✔	LINK
/IWBEP/SUTIL_CLEANUP	X	1 per day	Daily	✔	LINK
/UI2/PERS_EXPIRED_DELETE		-	Weekly	!	LINK
/IWFND/R_METERING_DELETE		-	Daily	!	LINK
/IWFND/R_METERING_AGGREGATE		-	Daily	!	LINK

*Schedule these jobs as indicated, or more often in periods of frequent imports, depending on your use case. Take observed job duration for your system into account when tuning the schedule.

> **Recommendation**: See the recommended schedule for the important periodic jobs listed in the table above. One or more periodic jobs important for the smooth operation of your system are not scheduled to run regularly as recommended.

20 UI Technologies Checks

No major problems were found with the UI technology configuration or administration of your SAP S/4HANA system PRD.

20.1 Fiori Checks for PRD

Rating	Check
✔	Maintenance and Update Strategy for SAP Fiori Front-End Server
✔	SAPUI5 Version
✔	SAP Fiori Cache Buster Activation
✔	HTTP/2 Support
	Activated but unused ICF services in UI5 apps

No major problems were found with the SAP Fiori configuration or administration of your SAP S/4HANA system PRD.

20.1.1 Maintenance and Update Strategy for SAP Fiori Front-End Server

Software Product	SAP_UI Release	End of Maintenance	Rating
SAP Fiori FES 2021 for S/4HANA	756	31.12.2024	✔

Your version of the SAP Fiori Front-End Server (SAP_UI) is still in maintenance by SAP. For further information on the SAP Fiori Front-End Server maintenance and upgrade strategy, refer to SAP Note 2217489.

20.1.2 SAPUI5 Version

Current SAPUI5 Version Installed
1.96.8

Your SAPUI5 Library version is up to date as recommended. The planned end of maintenance for your SAPUI5 Library version is 31.12.2024.

SAP recommends to plan updates and upgrades with SAP Maintenance Planner.

It is strongly recommended that you test all of your SAPUI5 applications before upgrading the SAPUI5 version in the productive system.

20.1.3 SAP Fiori Cache Buster Activation

You have activated the cache buster mechanism for system PRD because the ICF service /sap/bc/ui2/flp is activated in SICF.

Please note that to use the cache buster mechanism, you need to call the SAP Fiori launchpad with one of the following URLs:

https://<server>:<port>/sap/bc/ui2/flp/

https://<server>:<port>/sap/bc/ui2/flp/index.html

https://<server>:<port>/sap/bc/ui2/flp/FioriLaunchpad.html

You can also maintain a custom URL via an SICF external alias as described here: Customize the Launchpad URL

Background:

Web browsers store static resources like JavaScript files, stylesheets, and images in the browser cache. When these resources are changed on the server in a software upgrade, you want the browser to load the new resources from the server rather than from the cache, without having to manually clear the browser cache.

Cache buster techniques cause Web browsers to load content from the server rather than from the browser cache when new resources are available on the server.

You can find the latest information about the cache buster for SAP Fiori components in 2043432.

20.1.4 HTTP/2 Support

HTTP/2 support is currently active as recommended.

The HTTP protocol is one of the most frequently used protocols on the Internet. However, HTTP/1.0 and HTTP/1.1 have some disadvantages for modern applications, in particular with respect to performance in wide-area networks. To improve these problems, their successor RFC 7540 HTTP/2 has been implemented.

For more information on HTTP/2 Support, see here

Host	Parameter Name	Current Value	Rating
sapapp18	icm/HTTP/support_http2	TRUE	✔
sapapp27	icm/HTTP/support_http2	TRUE	✔
sapapp38	icm/HTTP/support_http2	TRUE	✔
sapapp20	icm/HTTP/support_http2	TRUE	✔
sapapp40	icm/HTTP/support_http2	TRUE	✔
sapapp37	icm/HTTP/support_http2	TRUE	✔
sapapp23	icm/HTTP/support_http2	TRUE	✔
sapapp41	icm/HTTP/support_http2	TRUE	✔
sapapp19	icm/HTTP/support_http2	TRUE	✔
sapapp33	icm/HTTP/support_http2	TRUE	✔
sapapp21	icm/HTTP/support_http2	TRUE	✔
sapapp35	icm/HTTP/support_http2	TRUE	✔
sapapp32	icm/HTTP/support_http2	TRUE	✔
sapapp31	icm/HTTP/support_http2	TRUE	✔
sapapp30	icm/HTTP/support_http2	TRUE	✔
sapapp36	icm/HTTP/support_http2	TRUE	✔
sapapp28	icm/HTTP/support_http2	TRUE	✔
sapapp31-ha	icm/HTTP/support_http2	TRUE	✔
sapapp29	icm/HTTP/support_http2	TRUE	✔
sapapp39	icm/HTTP/support_http2	TRUE	✔
sapapp34	icm/HTTP/support_http2	TRUE	✔
sapapp15	icm/HTTP/support_http2	TRUE	✔
sapapp26	icm/HTTP/support_http2	TRUE	✔
sapapp42	icm/HTTP/support_http2	TRUE	✔
sapapp43	icm/HTTP/support_http2	TRUE	✔

21 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.

21.1 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.

21.2 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.

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	/OPT/VIM_WP	9,5
Transaction 2	ZSSNEW	5,1
Transaction 3	SESSION_MANAGER	2,6
Transaction 4	VA02	2,4
Transaction 5	FBL3N	1,8

Workload Profile of all Task Types

Dialog

RFC

21.3 System Operation

The following diagram or table shows important KPIs for system operation.

21.4 Hardware Capacity

Report time frame: Service data was collected starting at 11.10.2025 04:21:19. This took 157 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	850372985