SAP Note

SAP   **3085762 - False Alert (ID: 20) 'Table growth of non-partitioned column-store tables' is Raised**

Version 3   **Validity:** 07.09.2021 - active   **Language** English

---

Header Data

Released On	07.09.2021 11:49:09 **By** Beate Groetschnig (I035208)
Release Status	Released for Customer
Component	HAN-DB SAP HANA Database [Display ACRF Content]
Priority	Correction with high priority
Responsible	Jinsol Kim (I533393)
Processor	Beate Groetschnig (I035208)
Category	Program error
Relevant for Translation	No

Symptom

Alert (ID: 20) 'Table growth of non-partitioned column-store tables' is raised when actual growth in memory size of the reported table is lower than the calculated amount.

Other Terms

Persistent Memory (PMEM), SAP HANA Fast Restart Option

Reason and Prerequisites

Issue number 267297

Reason:

Due to a programming error in SAP HANA, Alert (ID: 20) calculates the growth in memory size of a table without taking **Persistent Memory (PMEM)** into account. This false positive alert can be ignored as it does not impose an operational risk.

A column-store table consists of mainly two parts - *Main Storage* and *Delta Storage*. By default Persistent Memory is not enabled and both Main Storage and Delta Storage are placed in DRAM.

Below are example scenarios where such an inconsistent size calculation can be observed when PMEM is configured:

Case 1

- With SAP HANA Fast Restart Option enabled for the first time, PMEM is configured and Main Storage in DRAM moves to PMEM
  - The actual size of a table remains the same, but Alert (ID: 20) sees this as a drastic **decrease** in memory size of the table
  - [**Main Storage+ Delta Storage**] (**DRAM**) -> [**Delta Storage**] (**DRAM**) + [Main Storage] (PMEM)

	Before	After
DRAM	**Main Storage + Delta Storage**	**Delta Storage**
PMEM		Main Storage

Case 2

- With Delta Merge, Delta Storage in DRAM moves to Main Storage in PMEM.
  - The actual size of a table remains the same, but Alert (ID: 20) sees this as a drastic **decrease** in memory size of the table
  - [**Delta Storage**] (**DRAM**) + [**Main Storage**] (PMEM) -> [] (**DRAM**) + [Main Storage+ Delta Storage] (PMEM)

	Before	After
DRAM	**Delta Storage**	

PMEM	Main Storage	Delta Storage + Main Storage

Case 3

- With a change (i.e, INSERT or UPDATE), a new row is inserted to Delta Storage
    - Alert (ID: 20) overestimates the growth rate

	Before	After
DRAM	**Delta Storage**	**Delta Storage' (= Delta Storage + α)**
PMEM	Main Storage	Main Storage

-
    - Actual growth rate : ((Delta Storage'+Main Storage)/(Delta Storage+Main Storage)) - 1 => *α/(Delta Storage + Main Storage)*
    - Calculated growth rate: (Delata Storage'/Delta Storage) - 1 => *α/Delta Storage*
    - α/Delta Storage > α/(Delta Storage + Main Storage)
    - Since the size of Delta Storage is considerably smaller than its corresponding Main Storage in general, even small amount of changes to a column store table can lead to this false alert

Affected Releases:

- SAP HANA 2:
    - Revisions of SPS03 - SPS04
    - Revisions <= 056.00 (SPS05)

Prerequisites:

- The alerted table is not partitioned **AND**
- HANA Persistent Memory is enabled

Solution

Apply one of the following SAP HANA Revisions:

- SAP HANA 2:
    - Revisions >= 057.00 (SPS05)
    - or higher

- or higher

Validity

Software Component	From Rel.	To Rel.	And Subsequent	
HDB	2.00	2.00		

Support Packages & Patches

Support Package Patches

Software Component	Support Package	Patch Level
SAP HANA DATABASE 2.0	SP057	0.0.0.0.0.0

References

This document refers to:

SAP Notes

2945435	HAN-DB	[Known issues detected in SAP HANA 2 SPS05](#)
2784704	HAN-DB	[Known issues detected in SAP HANA 2 SPS04](#)
2628684	HAN-DB	[Known issues detected in SAP HANA 2 SPS03](#)
2618154	HAN-DB	[SAP HANA Persistent Memory - Release Information](#)
2380229	HAN-DB	[SAP HANA Platform 2.0 - Central Note](#)

This document is referenced by:

Customer Incident (5)

Number	Year	Title	Status	Processor	Customer Number	Customer Name
0000729007	2022	[Solman FS3 - Blocked sessions](#)	Restricted	Andrew Byrne	0000614591	Ferrero S.p.A. Direzione Sistemi In
0000117077	2023	[Info for the alarm Monitoring Table Growth of Non-Partitione](#)	Restricted		0001122787	MERCADONA, S.A.
0000338325		[ACDOCA has grown significantly.](#)	Restricted		0000026075	Kellogg Company
0000463497	2022	[Alert "Table growth of non-partitioned column-store tables"](#)	Restricted	Paul Power	0001520702	Kulicke & Soffa Pte Ltd
0000494388		[Table growth of non-partitioned column-store tables](#)	Restricted	Sitesh Sinha	0000016372	PT Bank Permata Tbk

ServiceNow Case (5)

Number	Year	Text	Status	Processor	Customer Number	Customer
0000494388	2022	[Table growth of non-partitioned column-store tables](#)	Closed	Sitesh Sinha (C5244536)		
0000463497		[Alert "Table growth of non-partitioned column-store tables"](#)	Closed	John Paul Power (I041104)	0001520702	Kulicke & Soffa Pte Ltd (0001520702
0000729007		[Solman FS3 - Blocked sessions](#)	Closed	Andrew Byrne (I543015)		
0000338325	2023	[ACDOCA has grown significantly.](#)	Closed	Anonymized (I345433)		
0000117077		[Info for the alarm Monitoring Table Growth of Non-Partitione](#)	Closed	Ruchita Pandurang Rudrawar (C5284326)		