

## SAP Note

**3011616 - Model Inconsistency Is Caused by Incorrect Handling of ROOT\_NODE\_VISIBILITY for Leveled Hierarchies**

**Version** 8    **Validity:** 25.06.2021  
- active

**Language** English

## Header Data

**Released On** 25.06.2021 06:39:42 **By** Jinsol Kim (I533393)  
**Release Status** Released for Customer  
**Component** HAN-DB SAP HANA Database [Display ACRF Content](#)  
**Priority** Correction with high priority  
**Responsible** Jinsol Kim ( I533393 )  
**Processor** Jinsol Kim ( I533393 )  
**Category** Program error  
**Relevant for Translation** No

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## Symptom

On Web IDE a leveled hierarchy returns an error that is similar as follows:

Case 1: MDX Statement Executed on Hierarchy

(dberror)[256]: sql processing error: ERROR - Members Rowset command failed to search Members: Hierarchy Hierarchy create error  
"TEST1\_HDI\_DB\_1"."TEST1.db::TPA\_TIME1/hier/Gregorian\_Hierarchy" unhandled exception - exception 70006981: Internal error during hierarchy processing: \$message\$=Internal Hierarchy Error.

Case 2: SQL Statement Exceuted on Hierarchy

Ca(dberror)[2048]: column store error: search table error: [6981] Internal error during hierarchy processing; exception 70006981: Internal error during hierarchy processing; \$message\$=Internal Hierarchy Error. ,Exception in executor plan xxxxxxxx@<hostname>:<port> while executing pop 1

**[Example]** (Please refer to 'root\_node\_visibility\_webide\_issue.pdf' in the attachment as a walkthrough guide to reproduce the issue)

1. Create time data tables

- Right click a directory where you want to create time tables
- Modeling -> Maintain Time Tables
- Under 'Gregorian' mark 'Month', 'Week', 'Year' and 'Time' and click 'OK'

2. Create a calculation view

- Right click 'src' directory

- New -> Calculation View

- Fill in following information

Name: TEST\_TIME

Data Category: DIMENSION

Type: TIME

Calendar: Gregorian

Granularity: Year

Table: Choose what you created from step 1 (M\_TIME\_DIMENSION\_YEAR)

### 3. Build (deploy) TEST\_TIME

4. Run a simple MDX or SQL statement on the hierarchy for sanity check. You will see an error if there is a model inconsistency in the generated Gregorian hierarchy

5. Check the definition of the hierarchy and how it is processed during query execution

--- Definition of the involved hierarchy view:

"SAP\_DB\_HDI\_CONTAINER\_1"."TEST\_TIME/hier/Gregorian\_Hierarchy" ---

CREATE COLUMN VIEW

"SAP\_DB\_HDI\_CONTAINER\_1"."TEST\_TIME/hier/Gregorian\_Hierarchy" TYPE HIERARCHY

WITH PARAMETERS(

**'hierarchyDefinition'**='{ "CACHE":false,

"DATABASE":"RS0",

"INTERNAL":{ "NODETYPE":"STRING"},

"NODESTYLE":"namePath",

"NODETYPE":"string",

"ORPHANS":null,

"RUNTIMEOBJECTTYPE":"blob",

"SOURCEQUERYSCHEMA":"SAP\_DB\_HDI\_CONTAINER\_1",

"SOURCES":{

"attributeMapping":

{ "DAY":"DAY", "MONTH":"MONTH", "QUARTER":"QUARTER", "WEEK":"WEEK", "YEAR":"YEAR"},

"levels":["**YEAR**", "**QUARTER**", "**MONTH**", "**WEEK**", "**DAY**"], **<===== 5 levels (Root node 'All' is not included)**

"name":"TPA\_TIME",

```
"orderBy":["YEAR",true,"QUARTER",true,"MONTH",true,"WEEK",true,"DAY",true],

"schema":"SAP_DB_HDI_CONTAINER_1",

"type":"leveled"

}],

"SORCETYPE":"LEVELED"}

);
```

----- Excerpt from [hierarchy] debug trace -----

2000-01-01 00:00:00 i hierarchies BlobBuilderFromItabLeveledSorted.cpp(00242) : begin  
BlobBuilderItabLeveledSorted::transferData, rows:1829 levels:5

2000-01-01 00:00:00 i hierarchies BlobBuilderFromItabLeveledSorted.cpp(00399) : end  
BlobBuilderItabLeveledSorted::transferData

2000-01-01 00:00:00 d hierarchies HierarchyBlob.cpp(08861) : **Level 0: All <===== Root node is visible (thus 6 levels in total are counted)**

2000-01-01 00:00:00 d hierarchies HierarchyBlob.cpp(08861) : Level 1: YEAR

2000-01-01 00:00:00 d hierarchies HierarchyBlob.cpp(08861) : Level 2: QUARTER

2000-01-01 00:00:00 d hierarchies HierarchyBlob.cpp(08861) : Level 3: MONTH

2000-01-01 00:00:00 d hierarchies HierarchyBlob.cpp(08861) : Level 4: WEEK

2000-01-01 00:00:00 d hierarchies HierarchyBlob.cpp(08861) : Level 5: DAY

2000-01-01 00:00:00 d hierarchies HierarchyBlob.cpp(08883) : End  
buildLeveledHierarchyMembers [TEST\_TIME].[Gregorian\_Hierarchy]

## Other Terms

Model Inconsistency, Leveled Hierarchy, Root Node Visibility, MDX, SQL, Web IDE

## Reason and Prerequisites

Issue number 256119

### Reason:

Due to a programming error in SAP HANA, a leveled hierarchy is generated with ROOT\_NODE\_VISIBILITY in BIMC\_HIRARCHIES set to 'true' when rootNodeVisibility in the hierarchy definition is not specified. With rootNodeVisibility not specified, the root node is designed to be visible only if it is explicitly defined and it is not set to 'NULL' in the hierarchy definition. The hierarchy newly generated from Web IDE does not specify the root node (that is, the root node is set to 'NULL' in the

definition) so the root node should not be visible meaning ROOT\_NODE\_VISIBILITY should be set to 'false'.

**Affected Releases:**

- SAP HANA 1:
  - Revisions of SPS07 - SPS12
- SAP HANA 2:
  - Revisions of SPS00 - SPS03
  - Revisions <= 048.03 (SPS04)
  - Revisions <= 054.00 (SPS05)

**Prerequisites:**

- Property 'withRootNode' is not set in the hierarchy definition
- The hierarchy is generated on Web IDE

## Solution

Apply one of the following SAP HANA Revisions:

- SAP HANA 2:
  - Revisions >= 048.04 (SPS04)
  - Revisions >= 055 (SPS05)
  - or higher
- or higher

**Workaround:**

- Specify ROOT\_NODE\_VISIBILITY manually (either 'Add Root Node' or 'Do Not Add Root Node') and then redeploy the problematic hierarchy

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## Validity

Software Component	From Rel.	To Rel.	And Subsequent	
HDB	1.00	1.00		
	2.00	2.00		

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## 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](#)  
2525424 HAN-DB [Known issues detected in SAP HANA 2 SPS02](#)  
2462139 HAN-DB [Known issues detected in SAP HANA 2 SPS01](#)  
2380229 HAN-DB [SAP HANA Platform 2.0 - Central Note](#)  
2325090 HAN-DB [Known issues detected in SAP HANA 1 SPS12](#)  
2265103 HAN-DB [Known issues detected in SAP HANA 1 SPS11](#)  
2184212 HAN-DB [Known issues detected in SAP HANA 1 SPS10](#)  
2093754 HAN-DB [Known issues detected in SAP HANA 1 SPS09](#)  
2066225 HAN-DB [Known issues detected in SAP HANA 1 SPS08](#)  
1523337 HAN-DB [SAP HANA Database 1.00 - Central Note](#)

## This document is referenced by:

### SAP Notes (1)

3021026 HAN-DB [SAP HANA 2 SPS05 Revision 055.00](#)

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## Attachments

File Name	File Size	Mime Type
<a href="#">root_node_visibility_webide_issue.pdf</a>	656	application/pdf

Attachments only available in english.