# 1322182 - Memory consumption of ABAP Shared Objects

| | | | |
|---|---|---|---|
| **Version** | 3 | **Type** | SAP Note |
| **Language** | English | **Master Language** | English |
| **Priority** | Recommendations / Additional Info | **Category** | Help for error analysis |
| **Release Status** | Released for Customer | **Released On** | 16.08.2016 |
| **Component** | BC-ABA-LA ( ABAP Syntax, Compiler, Runtime ) | | |

Please find the original document at **https://launchpad.support.sap.com/#/notes/ 1322182**

## Symptom

(1) An application terminates with a runtime error SYSTEM_NO_SHM_MEMORY or an unhandled exception of type CX_SHM_OUT_OF_MEMORY.

(2) The runtime errors TSV_TNEW_PAGE_ALLOC_FAILED or TSV_TNEW_OCCURS_NO_ROLL_MEMORY occur because there was no more memory to extend an internal table. Section "Error analysis" in the runtime error shows that the internal table is located in a Shared Objects area. Example entry:
Memory location: "**\AREA**=CL_WDR_CONF_APPL_SHM\INST=..."

Which profile parameter must be changed to avoid these runtime errors?

## Other Terms

abap/shared_objects_size_MB, CX_SHM_OUT_OF_MEMORY, SYSTEM_NO_SHM_MEMORY

## Reason and Prerequisites

ABAP Shared Objects represent special regions in the shared memory of an application server which can be accessed from ABAP applications in order to share common data.

Transaction SHMM can be used to monitor these areas and the current memory usage of the area instances. The total memory available for all Shared Objects areas on a server is set by profile parameter **abap/shared_objects_size_MB**.

Approximately 10-20% of the Shared Objects memory is used for internal administrative data, so that 80-90% are available for application data. The default value of profile parameter abap/shared_objects_size_MB is 20 MB.

## Solution

The default value of 20 MB for the Shared Objects memory is usually high enough for a small development system. In a productive system or test system, the value often needs to be enlarged.

It is not possible to give a general recommendation for the correct value of parameter abap/shared_objects_size_MB. This value depends very much on the specific applications which are using Shared Objects in a system and the data

volume which is stored in the Shared Objects areas.

For some applications, however, such a recommendation exists - the corresponding SAP Notes can be found in section "References". Typical values are from 100 - 500 MB.

If none of these SAP Notes is suitable, a possible strategy would be to double the value of abap/shared_objects_size_MB until the runtime error do not occur any more. This would correspond to steps 40 -> 80 -> 160.

After each change, transaction SHMM should be used to monitor the actual free space (value "Free Memory" on tab "Shared Objects Memory").

On the AIX platform you should also check if SAP Note 2343424 applies !

## This document refers to

| SAP Note/KBA | Title |
| --- | --- |
| 972757 | Occurence of the SYSTEM_NO_SHM_MEMORY runtime error |
| 928044 | BI lock server |
| 923610 | Memory parameter recommendations for banking systems |
| 741864 | FinBasis: Termination TSV_TNEW_PAGE_ALLOC_FAILED |
| 2343424 | Short dump SYSTEM_NO_SHM_MEMORY |
| 1784556 | Shared objects: Fragmentation of the memory |
| 1780851 | Memory size for parameter abap/shared_objects_size_MB |
| 1492745 | Runtime Error indicating exception CX_GENIL_SHM_BUILD_FAILED |
| 1371598 | Composite Note: RRKMULTIPROVHINT |
| 1294406 | Dump SYSTEM_NO_SHM_MEMORY occurs in Transp. Management |
| 1281896 | High Memory Consumption and CRM Webclient |

## This document is referenced by

| SAP Note/KBA | Title |
| --- | --- |
| 1826144 | PI: CX_XMS_SYSERR_NO_CHECK DUMP on ABAP proxy side |
| 2698631 | Error: UNCAUGHT_EXCEPTION / CX_SHM_BUILD_FAILED dump occurs when validating the cache in the SAP NetWeaver |

| 2407230 | Unable to retrieve the external data due to: EPM_SERVICE error / exception in SAP Analytics Cloud |
| 2588398 | Dump received when executing Service Level for Access Requests |
| 1963559 | Error "No memory available" in SRM Portal |
| 2422256 | Fiori Launchpad fails to start: No more memory available in Shared Object Memory |
| 2482695 | Error SYSTEM_NO_SHM_MEMORY in ST22 in CRM Production System |
| 2370470 | Capacity of shared object memory has been reached |
| 928044 | BI lock server |
| 1891734 | TPM12: Runtime error TSV_TNEW_OCCURS_NO_ROLL_MEMORY |
| 1780851 | Memory size for parameter abap/shared_objects_size_MB |
| 1784556 | Shared objects: Fragmentation of the memory |
| 923610 | Memory parameter recommendations for banking systems |
| 1281896 | High Memory Consumption and CRM Webclient |
| 1492745 | Runtime Error indicating exception CX_GENIL_SHM_BUILD_FAILED |
| 1294406 | Dump SYSTEM_NO_SHM_MEMORY occurs in Transp. Management |
| 1371598 | Composite Note: RRKMULTIPROVHINT |
| 741864 | FinBasis: Termination TSV_TNEW_PAGE_ALLOC_FAILED |
| 972757 | Occurence of the SYSTEM_NO_SHM_MEMORY runtime error |