2899330 - FAQ: SAP HANA KPI Collector (hdbkpic)

Component: HAN-DB (SAP HANA > SAP HANA Database), Version: 18, Released On: 05.09.2025

Symptom

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Other Terms

HANA Performance, HANA troubleshooting, hdbkpic, SAP HANA HotSpots

Solution

Important Remarks:

1. Please always use the latest version of this tool (v2.9), check the download link: https://developers.sap.com/trials-downloads.html?search=hana+kpi, otherwise the output is not valid for further analysis.
2. When collecting data with type 'General', it normally makes not much sense to use a timeframe too long (larger than 2 days) or too short (less than 3 hours). The best way is to collect data with type 'General' **covering 24 hours**.

1. What is SAP HANA KPI Collector (hdbkpic)?

SAP HANA KPI Collector (hdbkpic) is a command line tool (with both Windows and Linux version) to collect SAP HANA database KPI information during troubleshooting.

2. What is the main function of hdbkpic?

There are already many trace files available to help to analyze SAP HANA database problems, some most frequently used trace files are:

- Full system info dump (FSID): 2573880 - FAQ: SAP HANA Full System Info Dump
- Runtime dump (RTE): 2400007 - FAQ: SAP HANA Runtime Dumps

For a complete list of such trace files please refer to SAP Note "2119087 - How-To: Configuring SAP HANA Traces".

However, HANA database historical KPI information are not complete in the available trace files.

Therefore during the HANA database troubleshooting, we still need to manually collect such information via SQL scripts (e.g. those delivered in SAP Note "1969700 - SQL Statement Collection for SAP HANA").

SAP HANA KPI Collector is designed to simplify this task. Its main function is to execute SQL commands automatically and in chain (i.e. execute one SQL command first, modify the second SQL command based on the result of the first SQL command and execute, and so on and so forth). Finally all most important HANA database KPI information can be collected in one piece.

The result can be shared with SAP support together with FSID and RTE for further investigation.

Such result can be read by the SAP internal tool SAP HANA HotSpots (2927209 - FAQ: SAP HANA HotSpots) to generate reports for troubleshooting.

Specifically, SAP employees can use the SAP HANA HotSpots Cloud to generate reports.

3. How to download hdbkpic?

Extenal (for SAP customers): download hdbkpic from SCN: https://developers.sap.com/trials-downloads.html?search=hana+kpi

Internal (for SAP employees): download hdbkpic from Workzone.

If SAP customer can not download the tool from SCN, SAP support could download the latest version from internal workzone and provide it to the customer via attachment in the ticket.

4. How to use hdbkpic?

SAP HANA KPI Collector is delivered as a command line tool (on Windows and Linux), its name is 'hdbkpic'.

Please type '**hdbkpic -h**' to read the help and disclaimer. (On Windows platform please first open a cmd window)

Then type '**hdbkpic collect -h**' to read the complete document.

Main functions and examples are described as following:

4.1. Connecting to a HANA database:

1a) Use option **-host/-port/-user/-pw** to conect to a self defined target SAP HANA database.

Example: **hdbkpic collect -host** myhanahost **-port** 30015 **-user** SYSTEM **-pw** mypassword

The above command will connect to a target SAP HANA database on host 'myhanahost' via the SQL port 30015 using database user SYSTEM and password 'mypassword'.

Note: please always use the **SQL port** of the indexserver for option -port to connect to the SAP HANA database.

The SQL port of indexserver can be acquired via command:

SELECT SQL_PORT FROM M_SERVICES WHERE SERVICE_NAME = 'indexserver'

1b) Use option **-key** to connect to SAP HANA database with keys defined in hdbuserstore

Example: **hdbkpic collect -key** PRD

1c) Use option **-sso** to use Single Sign On when connecting to a target SAP HANA database. When -sso is used, -pw is not required.

1d) Use option **-ssl** to switch on SSL when connecting to a target SAP HANA database.

4.2. Choose type of the data collection:

Use option **-tp** to define the data collection type.

There are currently 4 types supported: Overview/General/TopSQL/SingleSQL

Normally SAP support will inform the customer what data type is required, by default the tool will use type 'General'.

Example: hdbkpic collect -tp topsql

The above command will collect data with type "topsql". Note that the type name is not case sensitive.

If the data type is 'SingleSQL', the option -sqlhash must be used to provide the SQL HASH.

Example: hdbkpic collect -tp singlesql -sqlhash 82978fe9fcba1a6d12337837c6d152b3

4.3. Define time frame of the data collection:

Use option **-bt/-et** to define the data collection time range.

-bt defines the begin timestamp and -et defines the end timestamp.

Following formats are supported to define the timestamp:

3a) Complete timestamp in the format of yyyy/mm/dd hh:mi:ss

Example: hdbkpic collect -bt "2023/01/01 00:00:00" -et "2023/01/02 00:00:00"

The above command will collect 24 hours data between Jan 1st, 2023 00:00 and Jan 2nd, 2023 00:00.

3b) Use shortcuts for relative timestamps:

Example: hdbkpic collect -bt c-1d -et c

The above command will collect data starting from 1 day ago (defined as 'c-1d') until current timestamp (defined as 'c').

Please use 'hdbkpic collect -h' to see a complete description of these shortcuts.

4.4. Define parallel degree:

To improved the perrformance, hdbkpic can use multiple connections to collect data from SAP HANA database.

By default, it uses 4 connections, i.e. the parallel degree is 4.

It is possible to change the parallel degree via option **-p**.

Example: hdbkpic collect -p 2

The above command will use a parallel degree of 2.

4.5. Define output directory (*new in v2.9*)

By default, the collected data is saved to './data' directory. It is possible to change the output directory via the option **-odir**.

Example: hdbkpic collect -odir "./output/directory"

Please make sure that this output directory is already created and writeble, otherwise the tool will fail.

4.6. Define script directory (*new in v2.9*)

Some script used by hdbkpic must be up to date, specifically the SAP HANA database parameter checking script *HANA_Configuration_Parameters_<version>.txt* from SAP Note "1969700 - SQL Statement Collection for SAP HANA". Otherwise the result might be incorrect.

To fullfill this requirement, use option **-sdir** to define the directory where the most up to date SAP HANA script collection are located.

Example: hdbkpic collect -sdir "./directory/to/1969700"

Please make sure that the **up to date** scripts from the attachment *SQLStatements.zip* to SAP Note 1969700 **are already extracted to the folder defined**.

4.7. Perform SAP HANA database parameter check or not (*new in v2.9*)

This is a switch option, i.e. use **-pc** to include SAP HANA database parameter check and use **-no-pc** to skip the parameter check.

The option only applies to data type = General.

By default, the parameter check is included.

Example: hdbkpic collect -tp general -no-pc

Data type general will be collected while the SAP HANA database parameter check will be skipped.

4.8. Include expensive data collection or not (*new in v2.9*)

There are some expensive data collections that might run for long time. This option can be used to skip them.

This is a switch option, i.e. use **-xc** to include some expensive data collections and user **-no-xc** to skip such expensive data collections.

The option only applies to data type = General.

By default, these expensive data collections are included.

If very long run time are encountered during data collection, please consider use the -no-xc option to reduce the run time.

Example: hdbkpic collect -tp general -no-xc

Data type general will be collected while some expensive data collections will be skipped.

4.9. Complete command:

Combine all the options describe above, below is an example of a complete command:

Example: **hdbkpic collect -host myhanahost -port 30015 -user HANAADMIN -sso -sdir "./directory/to/1969700" -odir "./output/dir" -tp general -bt c-1d -et c -p 4 -no-pc -no-xc**

Explanation: The above command will connect to a target SAP HANA database

on host 'myhanahost' (-host)

via SQL port 30015 (-port)

using database user HANAADMIN (-user)

with Single Sign On (-sso) (therefore no password is provided)

[*new in v2.9*] read script from SAP Note 1969700 from directory "./directory/to/1969700" (-sdir)

[*new in v2.9*] output data to directory "./output/dir" (-odir)

collecting data with type General (-tp)

collecting data in the last 1 day(-bt c-1d -et c) (begin timestampe is 1 day before current timestamp and end timestamp is current timestamp)

setting parallel degree to 4 (-p)

[*new in v2.9*] skip SAP HANA database parameter check (-no-pc)

[*new in v2.9*] skip some expensive data collections (-no-xc)

4.10. Output file:

The finaly output data is saved as a file with zip format and the following naming convention:

<HANA DB ID>_<HANA System ID>_<Data Type>_<Timestamp>.zip

Example: PRD_PRD_Overview_2023.01.01_09.00.zip

The output file is saved under directory defined by option -odir (by default to "./data")

5. Will hdbkpic cause extra workload on the production system?

The hdbkpic mainly read data from HANA monitoring views and statistics service catalog (`_SYS_STATISTICS`).
The extra workload introduced is normally negligible in comparison with other queries accessing application tables on a production system.

6. What are common issues to use the tool?

6.1 Error message on Linux: *error while loading shared libraries: libz.so.1: failed to map segment from shared object*

Reason: the /tmp path is mounted with noexec.

Solution: set environment variable TMPDIR to a path with exec privilege and start the tool again.

7. How to get support?

SAP HANA KPI Collector is mainly used for SAP support to investigate SAP HANA database problems, therefore no support is provided to SAP customers.

This document refers to

SAP Note/KBA	Component	Title
2573880		HAN-DB-ENG
2400007	HAN-DB-PERF	FAQ: SAP HANA Runtime Dumps
2119087	HAN-DB	How-To: Configuring SAP HANA Traces
1969700	HAN-DB	SQL Statement Collection for SAP HANA

This document is referenced by

SAP Note/KBA	Component	Title
2119087		How-To: Configuring SAP HANA Traces
2000003	HAN-DB-ENG	FAQ: SAP HANA
3074718	XX-SER-MCC	Overview of SAP Mission Control Center Support Tools