

# SQL SERVER MAINTENANCE REPORT

## DC-SQL06\DBCf

Author	Phan Ngoc Phuong Nhi
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1. PHÊ DUYỆT

Tác giả:

Name	Position
Nhi, Phan Ngoc Phuong	Database Engineer

Giám sát:

Name	Position
Tri, Ho Quoc	Database Solution Manager

## 2. TÓM TẮT BÁO CÁO

Tại thời điểm theo dõi hệ thống, chưa có phát hiện các hiện tượng thất nút cổ chai, các database hoạt động đọc/ghi bình thường.

Tình trạng đồng bộ (AOG) từ DC về DR bình thường

Nhìn chung, hệ thống cơ sở dữ liệu vẫn đang hoạt động ổn định. Tuy nhiên, để cải thiện thêm hiệu suất hệ thống, báo cáo này có một số điểm lưu ý như sau:

HẠNG MỤC	HIỆN TRẠNG	RỦI RO	GỢI Ý	ĐỘ QUAN TRỌNG
<b>3.1 Dung lượng hard disk</b>	Dung lượng ổ cứng của server hiện tại chỉ còn 16.37% trống (163.68GB)	Ảnh hưởng đến hoạt động của database khi không cấp đủ dung lượng sử dụng	Cấp thêm dung lượng ổ cứng cho server	1
<b>5.1 Các câu lệnh khi chạy chiếm nhiều thời gian</b>	Một số câu lệnh của chiếm quá nhiều thời gian khi chạy	ảnh hưởng đến performance	Tuning lại các câu lệnh để giảm thời gian chờ.	3
<b>5.2 Missing Indexes</b>	Một số table của database không được đánh index	Ảnh hưởng đến performance	Tạo thêm index cho các table được gợi ý trong phần 5.2	4
<b>6 Sao lưu và phục hồi</b>	Chỉ database KHTT_ST backup đầy đủ	Mất dữ liệu khi có sự cố cần restore database	Backup đầy đủ cho các database	2

Để nắm rõ chi tiết, vui lòng đọc toàn bộ báo cáo.

### 3. PHẦN CỨNG VÀ HỆ ĐIỀU HÀNH

#### 3.1. HỆ THỐNG ĐĨA

<b>volume_mount_point</b>	D:\	E:\
<b>file_system_type</b>	NTFS	NTFS
<b>logical_volume_name</b>	Data	DC-STANDALONE-DBCF
<b>Total Size (GB)</b>	129.24	999.87
<b>Available Size (GB)</b>	16.35	163.68
<b>Space Free %</b>	12.65	16.37

#### 3.2. PHẦN CỨNG VÀ HỆ ĐIỀU HÀNH

<b>Machine Name</b>	DC-SQL06
<b>Operating System</b>	Windows Server 2014 R2 Standard Edition SP2
<b>Domain</b>	SGCOOP
<b>Physical Processors</b>	Intel(R) Xeon(R) CPU E5-2650 v3 @ 2.30GHz
<b>Processor Cores</b>	10
<b>Logical Processors</b>	20
<b>Physical Memory (MB)</b>	65406

### 4. DATABASE

#### 4.1. INSTANCE DATABASE

<b>Instance Name</b>	DBCF
<b>Cluster</b>	None
<b>SQL Server Version</b>	Microsoft SQL Server 2014
<b>Collation</b>	SQL_Latin1_General_CP1_CI_AS
<b>Data Path</b>	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\
<b>Log Path</b>	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\

#### 4.2. THỐNG KÊ DATABASES: KÍCH THƯỚC DATA FILES VÀ DUNG LƯỢNG CÒN TRỐNG CỦA DATA FILES

File Name	Physical Name	Total Size in MB	Available Space In MB	file_id	Filegroup Name	growth
AccessConfig	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\Access Config.mdf	6.0	3.19	1	PRIMARY	128
AccessConfig_log	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\AccessCo nfig_log.ldf	6.75	6.18	2	nan	10
KHTT_ST	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\KHTT_ ST.mdf	76411.88	10049.5	1	PRIMARY	128
KHTT_ST_log	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\KHTT_ST _log.ldf	285.06	118.32	2	nan	10
KHTT_ST	E:\DBCRM2017\KHTT_ST22.mdf	33878.88	0.19	1	PRIMARY	128
KHTT_ST_log	E:\DBCRM2017\KHTT_ST22.ldf	176.94	3.99	2	nan	10
KHTT_ST	E:\DBCRM2017\KHTT_ST23.mdf	36660.56	1.5	1	PRIMARY	128
KHTT_ST_log	E:\DBCRM2017\KHTT_ST23_log.ldf	1.0	0.57	2	nan	10
KHTT_ST	E:\DBCRM2017\KHTT_ST24.mdf	55130.25	1.94	1	PRIMARY	128
KHTT_ST_log	E:\DBCRM2017\KHTT_ST24_log.ldf	1.0	0.56	2	nan	10
KHTT_ST	D:\ChiTuyen_TEST_250715\KHTT_ST24.mdf	54699.69	1209.44	1	PRIMARY	128
KHTT_ST_log	D:\ChiTuyen_TEST_250715\KHTT_ST24_log.ld f	2321.38	2233.98	2	nan	10

ReportServer	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\ReportServer.mdf	4.25	0.31	1	PRIMARY	128
ReportServer_log	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\ReportServer_log.LDF	6.13	5.22	2	nan	10
ReportServerTempDB	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\ReportServerTempDB.mdf	3.25	0.81	1	PRIMARY	128
ReportServerTempDB_log	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\ReportServerTempDB_log.LDF	3.38	2.65	2	nan	10
SDI_CFNQ	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\SDI_CFNQ.mdf	184.0	58.31	1	PRIMARY	128
SDI_CFNQ_log	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\SDI_CFNQ_log.ldf	1.0	0.63	2	nan	10
SGCReport	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\SGCReport.mdf	31529.88	2.38	1	PRIMARY	128
SGCReport_log	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\SGCReport_log.ldf	813.5	789.62	2	nan	10
SGCReport_2016_2021	E:\DBCRM2017\SGCReport_2016_2021.mdf	36502.0	37.63	1	PRIMARY	128

SGCReport_2016_2021_log	E:\DBCRM2017\SGCReport_2016_2021_log.ldf	1.0	0.62	2	nan	10
Son_TEST_DCDR	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\Son_TEST_DCDR.mdf	90.0	79.63	1	PRIMARY	128
Son_TEST_DCDR_log	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\Son_TEST_DCDR_log.ldf	1.5	1.02	2	nan	10



### 4.3. TÌNH HÌNH SỬ DỤNG CPU VÀ BUFFER THEO DATABASES

#### 4.3.1. THỐNG KÊ I/O THEO FILES

Database Name	Logical Name	file_id	type_desc	Physical Name	Size on Disk (MB)	num_of_reads	num_of_writes	io_stall_read_ms	io_stall_write_ms	IO Stall Reads Pct	IO Stall Writes Pct	Writes + Reads	MB Read	MB Written	# Reads Pct	# Write Pct	Read Bytes Pct	Written Bytes Pct
AccessConfig	AccessConfig	1	ROWS	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\AccessConfig.mdf	6.0	286	11540	271	5994	4.3	95.7	11826	8.7	90.16	2.4	97.6	8.8	91.2
AccessConfig	AccessConfig_log	2	LOG	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\AccessConfig_log.ldf	6.75	3012	34392	1460	21416	6.4	93.6	37404	13.09	102.89	8.1	91.9	11.3	88.7
KHTT_ST	KHTT_ST	1	ROWS	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\KHTT_ST.mdf	76411.8	191733	422108	651436	643853	9.2	90.8	441282	156947	488102	4.3	95.7	76.3	23.7
KHTT_ST	KHTT_ST_log	2	LOG	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\KHTT_ST_log.ldf	285.06	215114	189679	114067	173837	6.2	93.8	191830	205067	188513	1.1	98.9	52.1	47.9
KHTT_ST22	KHTT_ST	1	ROWS	E:\DBCRM2017\KHTT_ST22.mdf	33878.8	37952	940	30497	1751	94.6	5.4	38892	1278.9	96.73	97.6	2.4	93.0	7.0

KHTT_ST22	KHTT_ST_log	2	LOG	E:\DBCRM2017\KHTT_ST22.ldf	176.94	4715	6893	22734	14893	60.4	39.6	11608	4524.94	329.87	40.6	59.4	93.2	6.8
KHTT_ST23	KHTT_ST	1	ROWS	E:\DBCRM2017\KHTT_ST23.mdf	36660.5	55683	1	52468	0	100.0	0.0	55684	2072.12	0.01	100.0	0.0	100.0	0.0
KHTT_ST23	KHTT_ST_log	2	LOG	E:\DBCRM2017\KHTT_ST23_log.ldf	1.0	7	5	4	2	66.7	33.3	12	0.32	0.02	58.3	41.7	95.2	4.8
KHTT_ST24	KHTT_ST	1	ROWS	E:\DBCRM2017\KHTT_ST24.mdf	55130.2	560890	57930	727215	116749	86.2	13.8	618820	20368.6	2810.84	90.6	9.4	87.9	12.1
KHTT_ST24	KHTT_ST_log	2	LOG	E:\DBCRM2017\KHTT_ST24_log.ldf	1.0	79	23548	47	28044	0.2	99.8	23627	0.71	1191.58	0.3	99.7	0.1	99.9
KHTT_ST_TE ST	KHTT_ST	1	ROWS	D:\ChiTuyen_TEST_250715\KHTT_ST 24.mdf	54699.6	593565	174195	384298	17121	100.0	0.0	767760	31000.6	6245.9	77.3	22.7	83.2	16.8
KHTT_ST_TE ST	KHTT_ST_log	2	LOG	D:\ChiTuyen_TEST_250715\KHTT_ST 24_log.ldf	2321.38	5493	106164	7472	138760	5.1	94.9	111657	336.32	5434.57	4.9	95.1	5.8	94.2
ReportServer	ReportServer	1	ROWS	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA \ReportServer.mdf	4.25	389	1	387	0	100.0	0.0	390	11.13	0.01	99.7	0.3	99.9	0.1

ReportServer	ReportServer_log	2	LOG	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\ReportServer_log.LDF	6.13	25	5	12	2	85.7	14.3	30	0.55	0.01	83.3	16.7	98.3	1.7
ReportServerTempDB	ReportServerTempDB	1	ROWS	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\ReportServerTempDB.mdf	3.25	238	1	223	0	100.0	0.0	239	7.35	0.01	99.6	0.4	99.9	0.1
ReportServerTempDB	ReportServerTempDB_log	2	LOG	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\ReportServerTempDB_log.LDF	3.38	16	6	8	2	80.0	20.0	22	0.45	0.01	72.7	27.3	97.8	2.2
SDI_CFNQ	SDI_CFNQ	1	ROWS	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\SDI_CFNQ.mdf	184.0	694	11644	508	5976	7.8	92.2	12338	16.5	90.97	5.6	94.4	15.4	84.6
SDI_CFNQ	SDI_CFNQ_log	2	LOG	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\SDI_CFNQ_log.ldf	1.0	2997	34805	1508	22509	6.3	93.7	37802	13.02	103.91	7.9	92.1	11.1	88.9
SGCReport	SGCReport	1	ROWS	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\SGCReport.mdf	31529.8	199670	465689	100334	399274	20.1	79.9	665359	59944.1	62605.1	30.0	70.0	48.9	51.1
SGCReport	SGCReport_log	2	LOG	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\SGCReport_log.ldf	813.5	91030	179643	426693	250870	14.5	85.5	188746	83256.6	79802.4	4.8	95.2	51.1	48.9
SGCReport_2016_2021	SGCReport_2016_2021	1	ROWS	E:\DBCRM2017\SGCReport_2016_2021.mdf	36502.0	3628	251627	2057	845350	0.2	99.8	255255	75.65	31424.6	1.4	98.6	0.2	99.8

SGCReport_2016_2021	SGCReport_2016_2021_log	2	LOG	E:\DBCRM2017\SGCReport_2016_2021_log.ldf	1.0	56	868633	29	949573	0.0	100.0	868689	0.86	41164.9	0.0	100.0	0.0	100.0
Son_TEST_DCDR	Son_TEST_DCDR	1	ROWS	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\DATA\Son_TEST_DCDR.mdf	90.0	182	1	137	0	100.0	0.0	183	6.38	0.01	99.5	0.5	99.9	0.1
Son_TEST_DCDR	Son_TEST_DCDR_log	2	LOG	E:\Program Files\Microsoft SQL Server\MSSQL12.DBCF\MSSQL\Log\Son_TEST_DCDR_log.ldf	1.5	9	5	5	2	71.4	28.6	14	0.37	0.02	64.3	35.7	95.9	4.1

## 4.3.2. SỐ LƯỢNG KẾT NỐI TỪ MÁY TRẠM, ỨNG DỤNG VÀO DATABASES

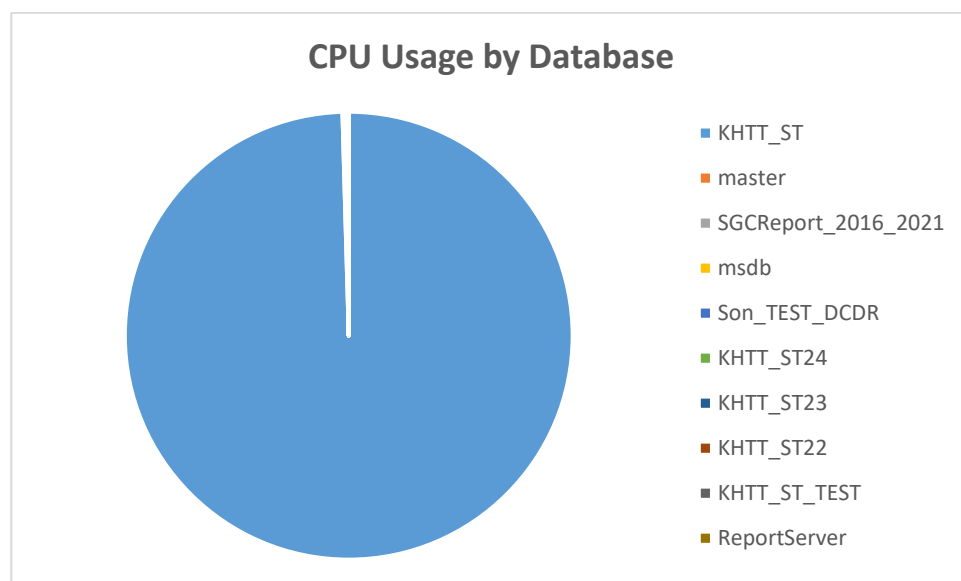
client_net_address	program_name	host_name	login_name	connection count
10.10.1.105	nan	DC-SQL06	NT AUTHORITY\SYSTEM	5
10.10.1.105	.Net SqlClient Data Provider	DC-SQL06	cfkhttget	23
10.10.1.105	Microsoft SQL Server Management Studio	DC-SQL06	khttadmin	1
10.10.1.105	Microsoft SQL Server Management Studio - Query	DC-SQL06	khttadmin	1
10.10.1.105	Microsoft? Windows? Operating System	DC-SQL06	NT AUTHORITY\SYSTEM	1
10.10.1.105	SQLAgent - Email Logger	DC-SQL06	NT AUTHORITY\SYSTEM	1
10.10.1.105	SQLAgent - Generic Refresher	DC-SQL06	NT AUTHORITY\SYSTEM	1
10.10.1.105	SQLAgent - Job invocation engine	DC-SQL06	NT AUTHORITY\SYSTEM	1
10.10.1.108	dbatools PowerShell module - dbatools.io	DC-DBA-REP	SGCOOP\adminsqlcdr	2
10.100.101.62	.Net SqlClient Data Provider	TONGDAI- KDTT	kiosk	2
10.100.101.63	.Net SqlClient Data Provider	TONGDAI- KDTT	kiosk	1
10.100.101.65	.Net SqlClient Data Provider	TONGDAI- KDTT	kiosk	4
10.100.101.68	.Net SqlClient Data Provider	TONGDAI- KDTT	kiosk	3
10.100.101.73	.Net SqlClient Data Provider	TONGDAI- KDTT	kiosk	1

10.100.11.115	.Net SqlClient Data Provider	NGOCTUYEN	cfkhttget	3
10.100.11.70	.Net SqlClient Data Provider	YAOURT-PC	feadmin	1
10.100.11.70	Microsoft SQL Server	YAOURT-PC	feadmin	2
10.200.114.66	.Net SqlClient Data Provider	645-C1	cfkhttget	1
10.200.122.61	.Net SqlClient Data Provider	652-VP2	cfkhttget	1
10.200.162.60	.Net SqlClient Data Provider	691-CASH01	cfkhttget	1
10.200.17.70	.Net SqlClient Data Provider	227-VP2	khtt_cfc_ct	1
10.200.5.72	.Net SqlClient Data Provider	215-CASH03	khtt_cfc_ct	1
10.205.26.202	.Net SqlClient Data Provider	9126-VP02	cfkhttget	1
10.205.39.169	.Net SqlClient Data Provider	9139-CASH1	kiosk	1
10.205.51.116	.Net SqlClient Data Provider	CASH01	kiosk	1
10.205.57.122	.Net SqlClient Data Provider	9158-CASH01	kiosk	1
10.205.57.135	.Net SqlClient Data Provider	9158-CASH02	kiosk	1
10.205.64.127	.Net SqlClient Data Provider	CHT-ECODREAM	cfkhttget	1
10.209.103.21	.Net SqlClient Data Provider	CFVTU1-SRV	cfkhttget	4
10.209.43.62	.Net SqlClient Data Provider	2088-VP	cfkhttget	1
10.209.61.68	.Net SqlClient Data Provider	2175-VP1	cfkhttget	1
10.69.1.70	.Net SqlClient Data Provider	CASH07NEW	kiosk	1
10.70.1.69	.Net SqlClient Data Provider	CASH03	kiosk	1

192.168.1.21	Microsoft SQL Server	SGC-CFNQ-SRV	TrungHieu	2
192.168.1.23	Microsoft SQL Server	DC-TOPOSINT-SVR	TrungHieu	4

#### 4.3.3. TÌNH HÌNH SỬ DỤNG CPU THEO DATABASE

CPU Rank	Database Name	CPU Percent
1	KHTT_ST	99.53
2	master	0.28
3	SGCReport_2016_2021	0.06
4	msdb	0.02
5	Son_TEST_DCDR	0.02
6	KHTT_ST24	0.01
7	KHTT_ST23	0.01
8	KHTT_ST22	0.01
9	KHTT_ST_TEST	0.01
10	ReportServer	0.01
11	ReportServerTempDB	0.01
12	tempdb	0.01
13	model	0.0
14	SGCReport	0.0
15	SDI_CFNQ	0.0
16	AccessConfig	0.0

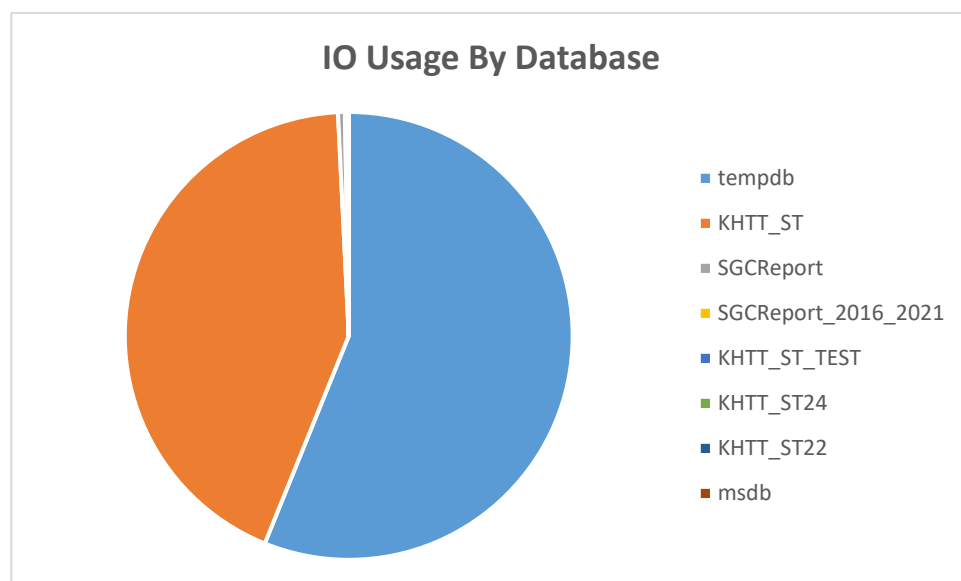


*Chart 1.CPU Usage by Databases*



#### 4.3.4. TÌNH HÌNH SỬ DỤNG IO THEO DATABASE

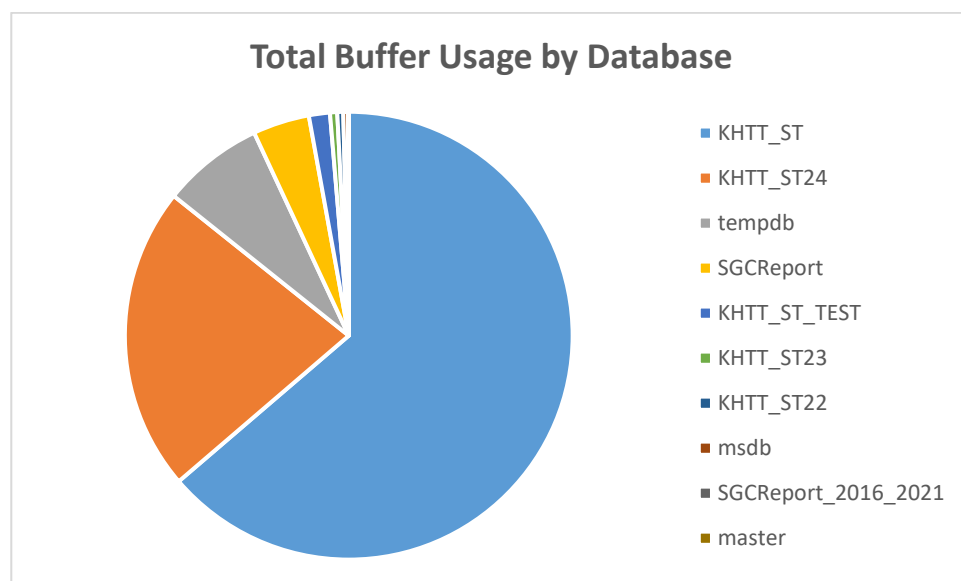
I/O Rank	Database Name	Total I/O %
1	tempdb	56.12
2	KHTT_ST	43.11
3	SGCReport	0.5
4	SGCReport_2016_2021	0.13
5	KHTT_ST_TEST	0.08
6	KHTT_ST24	0.04
7	KHTT_ST22	0.01
8	msdb	0.01
9	KHTT_ST23	0.0
10	SDI_CFNQ	0.0
11	AccessConfig	0.0
12	master	0.0
13	model	0.0
14	ReportServer	0.0
15	ReportServerTempDB	0.0
16	Son_TEST_DCDR	0.0



*Chart 2.IO Usage by Databases*

#### 4.3.5. TÌNH HÌNH SỬ DỤNG BUFFER THEO DATABASE

Buffer Pool Rank	Database Name	Buffer Pool Percent
1	KHTT_ST	63.71
2	KHTT_ST24	22.0
3	tempdb	7.33
4	SGCReport	4.08
5	KHTT_ST_TEST	1.52
6	KHTT_ST23	0.52
7	KHTT_ST22	0.43
8	msdb	0.35
9	SGCReport_2016_2021	0.02
10	master	0.01
11	SDI_CFNQ	0.01
12	ReportServer	0.0
13	AccessConfig	0.0
14	Son_TEST_DCDR	0.0
15	ReportServerTempDB	0.0
16	model	0.0



*Chart 3. Total memory buffer usage by Databases*

## 5. TỔNG QUAN VỀ CÂU TRUY VẤN VÀ INDEXES

### 5.1. CÁC CÂU LỆNH KHI CHẠY CHIẾM NHIỀU TÀI NGUYÊN NHẤT

Database Name	Short Query Text	Total Worker Time	Avg Worker Time
KHTT_ST	Create PROC [dbo].[sp_GET_CUSTOMER_ACCUMULATION_AT_SUPERMARKET] @Mathe varchar(50) with execute as OwnerASBEGIN DECLARE @sqlString nvarchar(4000), @where nvarchar(4000), @TongSoDiemTruDauNgay numeric(19,2), @TongSoDiemTru numeric	9347229138	643704
KHTT_ST	Create PROC [dbo].[sp_GET_CUSTOMER_ACCUMULATION_AT_SUPERMARKET] @Mathe varchar(50) with execute as OwnerASBEGIN DECLARE @sqlString nvarchar(4000), @where nvarchar(4000), @TongSoDiemTruDauNgay numeric(19,2), @TongSoDiemTru numeric	9107431146	627190
KHTT_ST	Create PROC [dbo].[KHTT_INTERFACE_TENDER_HCM_3]ASBEGININSERT INTO [KHTT_ST].dbo.[TNDSEV15] ( [TX_NO] ,[DATE] ,[TIME] ,[CUSTNUM] ,[REGISTER] ,[TILLID] ,[TYPE]	185386716	4030146
KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV]ASBEGIN-- D?ng INVTSRV10 - Tu TOPOS_CFCQ INSERT INTO [KHTT_ST].dbo.[INVTSERV10] (TX_NO ,[DATE] ,[TIME]	146679954	3120850

	,CUSTNUM ,[TYPE]	,REGISTER ,SKU_RE	
KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV_CFHCM2]ASBEGIN-- D?ng INVTSRV10 - Tu TOPOS_CFCQ_CUM1 INSERT INTO [KHTT_ST].dbo.[INVTSERV12] (TX_NO ,[DATE] ,[TIME] ,CUSTNUM ,[REGISTER] ,[TY	118708657	2525716
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TNDSERV15 WITH (nolock) where (DALAY_DT =0 or DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap	99440099	3824619
KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV_HCM_3]ASBEGIN-- D?ng INVTSRV15 - Tu TOPOS_CFCQ_CUM4 INSERT INTO [KHTT_ST].dbo.[INVTSERV15] (TX_NO ,[DATE] ,[TIME] ,CUSTNUM ,[REGISTER] ,[	93591931	2034607
KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV_HCM_2]ASBEGIN-- D?ng INVTSRV14 - Tu TOPOS_CFCQ_CUM3 - srv cloud cum 4 INSERT INTO [KHTT_ST].dbo.[INVTSERV14] (TX_NO ,[DATE] ,[TIME] ,CUSTNUM ,R	93226769	2026668

KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV_HCM_4]ASBEGIN-- D?ng INVTSRV16 - Tu TOPOS_CFCQ_CUM5 INSERT INTO [KHTT_ST].dbo.[INVTSERV16] (TX_NO ,[DATE] ,[TIME] ,CUSTNUM ,REGISTER	85822372	1865703
KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV_HCM_5]ASBEGIN-- D?ng INVTSRV17 - Tu TOPOS_CFCQ_CUM5 INSERT INTO [KHTT_ST].dbo.[INVTSERV17] (TX_NO ,[DATE] ,[TIME] ,CUSTNUM ,REGISTER	78162232	1699178
KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV_CFHN]ASBEGIN-- D?ng INVTSRV13 - Tu TOPOS_CFCQ_CUMHN INSERT INTO [KHTT_ST].dbo.[INVTSERV13] (TX_NO ,[DATE] ,[TIME] ,CUSTNUM ,REGISTER ,[TYP	62860388	1337455
KHTT_ST	--EXEC TP_INTERFACE_KHTTCREATE PROC [dbo].[KHTT_INTERFACE_INVTSERV_CFTinh]ASBEGIN-- D?ng INVTSRV10 - Tu TOPOS_CFCQ_CUM1 INSERT INTO [KHTT_ST].dbo.[INVTSERV11] (TX_NO ,[DATE] ,[TIME] ,CUSTNUM ,REGISTER ,[TYPE	59435484	1264584

KHTT_ST	create PROC [dbo].[KHTT_INTERFACE_TENDER]ASBEGININSERT INTO [KHTT_ST].dbo.[TNDSEV10] ( [TX_NO] [DATE] [TIME] ,[CUSTNUM] [REGISTER] [TILLID] [TYPE]	52348142	1113790
KHTT_ST	CREATE PROC [dbo].[KHTT_INTERFACE_TENDER_CFHCM2]ASBEGININSERT INTO [KHTT_ST].dbo.[TNDSEV12] ( [TX_NO] [DATE] [TIME] ,[CUSTNUM] [REGISTER] [TILLID] [TYPE]	42641028	907255
KHTT_ST	Create PROC [dbo].[KHTT_INTERFACE_TENDER_HCM_4]ASBEGININSERT INTO [KHTT_ST].dbo.[TNDSEV16] ( [TX_NO] [DATE] [TIME] ,[CUSTNUM] [REGISTER] [TILLID] [TYPE]	42287332	919289
KHTT_ST	Create PROC [dbo].[KHTT_INTERFACE_TENDER_HCM_5]ASBEGININSERT INTO [KHTT_ST].dbo.[TNDSEV17] ( [TX_NO] [DATE] [TIME] ,[CUSTNUM] [REGISTER] [TILLID] [TY	39441412	857422
KHTT_ST	Create PROC [dbo].[KHTT_INTERFACE_TENDER_HCM_2]ASBEGININSERT INTO [KHTT_ST].dbo.[TNDSEV14] ( [TX_NO] [DATE] [TIME] ,[CUSTNUM] [REGISTER] [TILLID] [TYPE]	37268879	810193
master	use master SELECT BLKLOCKREQ = count(distinct t1.lock_owner_address) FROM sys.dm_tran_locks as t1 INNER JOIN sys.dm_os_waiting_tasks as t2 ON t1.lock_owner_address = t2.resource_address	34250796	526935

KHTT_ST	CREATE PROC [dbo].[KHTT_INTERFACE_TENDER_CFTinh]ASBEGININSERT INTO [KHTT_ST].dbo.[TND SERV11] ( [TX_NO] ,[DATE] ,[TIME] ,[CUSTNUM] ,[REGISTER] ,[TILLID] ,[TYPE]	32170112	684470
KHTT_ST	(@1 int,@2 nvarchar(4000))UPDATE [The] set [KICHHOAT] = @1 WHERE [MATHE13]=@2	27877683	1991263
KHTT_ST	(@1 varchar(8000),@2 int,@3 nvarchar(4000))UPDATE [The] set [NGAYCAP] = @1,[DAKHOA] = @2 WHERE [MATHE13]=@3	27087420	1934815
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TND SERV10 WITH (nolock) where (DALAY_DT =0 or DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap	26446220	1017162
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TND SERV12 WITH (nolock) where (DALAY_DT =0 or DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap	24606212	946392
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TND SERV14 WITH (nolock) where (DALAY_DT =0 or DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap	24540022	943847
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TND SERV11 WITH (nolock) where (DALAY_DT =0 or	23414865	900571

	DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap		
KHTT_ST	CREATE PROC [dbo].[KHTT_INTERFACE_TENDER_CFHN]ASBEGININSERT INTO [KHTT_ST].dbo.[TNDSESV13] ( [TX_NO] ,[DATE] ,[TIME] ,[CUSTNUM] ,[REGISTER] ,[TILLID] ,[TYPE]	22539400	479561
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TNDSESV16 WITH (nolock) where (DALAY_DT =0 or DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap	20002642	952506
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TNDSESV13 WITH (nolock) where (DALAY_DT =0 or DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap	19711730	758143
KHTT_ST	SET TRANSACTION ISOLATION LEVEL READ COMMITTED SELECT tnd.*, ctps.MaHD FROM (select * from dbo.TNDSESV17 WITH (nolock) where (DALAY_DT =0 or DALAY_DT is null)) tnd inner join (select * from CTPhatSinh WITH (nolock) where convert (date,NgayNhap	18615422	979759
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'1751531248582'	14560661	2080094
SGCReport_2016_2021	select top 1 substring(convert(nvarchar(22),backup_finish_date,102),1,4), substring(convert(nvarchar(22),backup_finish_date,102),6,2),	12818139	180537



	substring(convert(nvarchar(22),backup_finish_date,102),9,2) from msdb..backupset where database_name = N'SGCRReport_201		
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'0998534001597'	12601720	2100286
KHTT_ST	(@Ngay datetime,@Ngay1 datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'5737333262748'	12542416	2090402
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'8853433146614'	12465215	2077535
KHTT_ST	(@Ngay datetime,@Ngay1 datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'8737233262814'	12458026	2076337
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'7794733205322'	12424119	2070686
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'5802433197648'	12419955	2069992
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'9431233568806'	12403377	2067229
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'0751531248590'	10755094	2151018

KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'4227359772655'	10599416	2119883
KHTT_ST	set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'6644130355933'	10548701	2109740
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'7751431248624'	10511019	2102203
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'2751531248574'	10506742	2101348
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'5751431248640'	10497361	2099472
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'5956195043849'	10435763	2087152
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'7946395053623'	10351571	2070314
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'6751431248632'	10311977	2062395
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM KhachHang WHERE MATHE13 = N'1751531248582'	8965662	1793132

master	Select TOP 1 resource_associated_entity_id,name from sys.sysdatabases ,sys.dm_tran_locks where resource_database_id=dbid and resource_associated_entity_id >0 GROUP BY resource_associated_entity_id,name ORDER BY COUNT(*) DESC;	8575790	779617
KHTT_ST	(@NgaySinhTu datetime,@NgaySinhDen datetime,@TuNgay datetime,@DenNgay datetime)set dateformat ymd SELECT * FROM The WHERE MATHE13 = N'8154933845114'	6314594	2104864

## 5.2. TOP MISSING INDEXES

Database.Schema.Table	equality_columns	inequality_columns	included_columns	user_seeks
[KHTT_ST].[dbo].[CTNhanThuong]	[MaThe13]	nan	nan	151860
[KHTT_ST].[dbo].[CTPhatSinh]	nan	[NgayNhap]	[MaThe13], [MaHD], [SoHD], [MaST], [NgayHD], [MaQuay]	10080
[KHTT_ST].[dbo].[CTPhatSinh]	[SoHD], [MaST], [MaQuay]	[NgayHD], [NgayNhap]	[MaThe13], [MaHD]	7392
[KHTT_ST].[dbo].[CTNhanThuong]	[MaThe13], [MaHH]	[NgayNhan]	[SoDiemTru]	574
[KHTT_ST].[dbo].[CTNhanThuong]	[MaThe13]	[NgayNhan]	nan	574
[KHTT_ST].[dbo].[CTPhatSinh07]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	434
[KHTT_ST].[dbo].[CTPhatSinh08]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	382
[KHTT_ST].[dbo].[CTPhatSinh09]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	388
[KHTT_ST].[dbo].[CTPhatSinh05]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	386
[KHTT_ST].[dbo].[CTPhatSinh10]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	350
[KHTT_ST].[dbo].[CTPhatSinh04]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	337
[KHTT_ST].[dbo].[CTPhatSinh03]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	323

[KHTT_ST].[dbo].[CTPhatSinh06]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	305
[KHTT_ST].[dbo].[CTPhatSinh02]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	322
[KHTT_ST].[dbo].[History_INVTSERV05]	[TX_NO], [DATE]	nan	[TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [STORE], [TXDATE]	22
[KHTT_ST].[dbo].[History_INVTSERV11]	[TX_NO], [DATE]	nan	[TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [STORE], [TXDATE]	10
[KHTT_ST].[dbo].[CTPhatSinh01]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	64
[KHTT_ST].[dbo].[CTPhatSinh]	[MaThe13]	nan	nan	33
[KHTT_ST].[dbo].[INVTSERV10]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF],	336

			[SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	
[KHTT_ST].[dbo].[INVTSERV10]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DMH], [STORE], [TXDATE]	337
[KHTT_ST].[dbo].[INVTSERV12]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM],	337

			[DALAY_DMH], [STORE], [TXDATE]	
[KHTT_ST].[dbo].[INVTSERV12]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	336
[KHTT_ST].[dbo].[INVTSERV14]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	336
[KHTT_ST].[dbo].[INVTSERV14]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU],	336

			[DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DMH], [STORE], [TXDATE]	
[KHTT_ST].[dbo].[INVTSERV15]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	337
[KHTT_ST].[dbo].[INVTSERV15]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DMH], [STORE], [TXDATE]	336



[KHTT_ST].[dbo].[INVTSERV16]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	337
[KHTT_ST].[dbo].[INVTSERV16]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DMH], [STORE], [TXDATE]	336
[KHTT_ST].[dbo].[INVTSERV11]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM],	336

			[SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	
[KHTT_ST].[dbo].[INVTSERV11]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DMH], [STORE], [TXDATE]	337
[KHTT_ST].[dbo].[CTPhatSinh]	[DaVanChuyen], [NgayVanChuyen]	nan	[ID]	7
[KHTT_ST].[dbo].[CTPhatSinh]	[DaVanChuyen], [NgayVanChuyen]	nan	[ID], [MaThe13], [MaHD], [SoHD], [MaDotKhuyenMai], [MaST], [NgayHD], [MaQuay], [TongTienHD], [DiemTichLuy], [DiemMuaHang], [DiemThuongTheoHD], [DiemThuongKhongTheoHD], [DoiCapDo], [DichVu], [LyDo], [MaLyDo], [MaNVNhap], [NgayNhap], [NVCash], [IDBiButToan]	7

[KHTT_ST].[dbo].[KhachHang]	[Passport]	[MaThe13]	[MaThe7], [MaNVCap], [MaNVCapNhat], [NgayCapNhat], [HoLot], [Ten], [NgaySinh], [GioiTinh], [CMND], [MaSoThue], [MaQuocGia], [SoNha], [TenDuong], [MaPhuongXa], [MaQuanHuyen], [MaTinhTP], [DTDD], [DTBan], [Email], [LaDoanhNghiep], [MaNgheNghiep], [CoNhanChuyenKhoan], [SoTaiKhoan], [NganHang], [DVThuHuong], [NhanQCQuaEmail], [NhanQCQuaSms], [NhanToRoiQCQuaDiaChi], [GhiChu], [MaST], [DacCach], [MaLyDoDacCach], [LyDoDacCach], [F1], [F2], [F3], [F4], [F5], [MaThuNhap], [MaLoaiKH], [MaNguonDKyKH], [TTHonNhan], [SoCon], [LaTVHTX], [NgayDangKyThamGiaHTX], [MaHTX], [SoVonGopBanDau]	4
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[KHTT_ST].[dbo].[CTPhatSinh_KhuyenMaiPOS]	[NgayVanChuyen], [DaVanChuyen]	nan	nan	92
[KHTT_ST].[dbo].[INVTSERV17]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	337
[KHTT_ST].[dbo].[INVTSERV17]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DMH], [STORE], [TXDATE]	336
[KHTT_ST].[dbo].[INVTSERV13]	[DALAY_DMH]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU],	336

			[DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DT], [STORE], [TXDATE]	
[KHTT_ST].[dbo].[INVTSERV13]	[DALAY_DT]	nan	[TX_NO], [DATE], [TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [DALAY_DMH], [STORE], [TXDATE]	336
[KHTT_ST].[dbo].[History_INVTSERV04]	[TX_NO], [DATE]	nan	[TIME], [CUSTNUM], [REGISTER], [TYPE], [SKU_REF], [SELL_UNIT], [VALUE], [QUAN], [SKU], [DEPARTMENT], [SUB_DEPT], [CLASSNUM], [SUB_CLASS], [VENDOR], [TILLID], [SEQNUM], [STORE], [TXDATE]	1
[KHTT_ST].[dbo].[KhachHang]	[MaTinhTP]	nan	[MaThe13], [MaThe7]	2

[KHTT_ST].[dbo].[CTQuyenNhanVien]	[MaQuyen], [TenControl]	nan	[MaNV], [Enable], [Visible], [TenHienThi]	178
[KHTT_ST].[dbo].[CTQuyenNhanVien]	[TenControl]	nan	[MaNV], [MaQuyen], [Enable], [Visible], [TenHienThi]	178
[KHTT_ST].[dbo].[KhachHang]	nan	[MaTinhTP]	[MaThe13], [MaThe7]	1
[KHTT_ST].[dbo].[INVTSERV15]	nan	[DATE]	[TX_NO], [TIME], [REGISTER], [TILLID], [SEQNUM]	50
[KHTT_ST].[dbo].[INVTSERV16]	nan	[DATE]	[TX_NO], [TIME], [REGISTER], [TILLID], [SEQNUM]	49
[KHTT_ST].[dbo].[INVTSERV11]	nan	[DATE]	[TX_NO], [TIME], [REGISTER], [TILLID], [SEQNUM]	50
[KHTT_ST].[dbo].[INVTSERV17]	nan	[DATE]	[TX_NO], [TIME], [REGISTER], [TILLID], [SEQNUM]	49
[KHTT_ST].[dbo].[CTPhatSinh]	[SoHD], [MaST], [MaQuay]	[NgayHD], [TongTienHD]	[ID], [IDBiButToan]	1
[KHTT_ST].[dbo].[CTPhatSinh]	[DaVanChuyen]	[NgayHD]	nan	1
[KHTT_ST].[dbo].[TNDSESV10]	nan	[DATE]	[TX_NO], [TIME], [REGISTER], [TILLID], [SEQNUM]	51

### 5.3.AGENT JOBS

Job Name	Job Description	Job Owner	Date Created	Job Enabled	Sched Enabled	next_run_date
[TOPOS_KHTT_64_HCM_5]Interface	No description available.	TrungHieu	8/31/2022 9:28:13 AM	1	1.0	20251211.0
[TOPOS_KHTT_64_HCM_5]Interface	No description available.	TrungHieu	8/31/2022 9:28:13 AM	1	1.0	20251211.0
[TOPOS_KHTT_79_HCM_2]Interface	No description available.	TrungHieu	4/29/2021 9:11:35 AM	1	1.0	20251211.0
[TOPOS_KHTT_79_HCM_2]Interface	No description available.	TrungHieu	4/29/2021 9:11:35 AM	1	1.0	20251211.0
[TOPOS_KHTT_79_HCM_3]Interface	No description available.	TrungHieu	11/10/2021 5:59:25 PM	1	1.0	20251211.0
[TOPOS_KHTT_79_HCM_3]Interface	No description available.	TrungHieu	11/10/2021 5:59:25 PM	1	1.0	20251211.0
[TOPOS_KHTT_79_HCM_4]Interface	No description available.	TrungHieu	11/23/2021 2:30:45 PM	1	1.0	20251211.0
[TOPOS_KHTT_79_HCM_4]Interface	No description available.	TrungHieu	11/23/2021 2:30:45 PM	1	1.0	20251211.0
[TOPOS_KHTT_CFHCM2]Interface	No description available.	TrungHieu	3/4/2021 9:55:06 AM	1	1.0	20251211.0
[TOPOS_KHTT_CFHCM2]Interface	No description available.	TrungHieu	3/4/2021 9:55:06 AM	1	1.0	20251211.0
[TOPOS_KHTT_CFHN]Interface	No description available.	TrungHieu	3/8/2021 10:40:05 AM	1	1.0	20251211.0

[TOPOS_KHTT_CFHN]Interface	No description available.	TrungHieu	3/8/2021 10:40:05 AM	1	1.0	20251211.0
[TOPOS_KHTT_CUM0_CFHCM]Interface	No description available.	TrungHieu	6/12/2020 11:09:50 AM	1	1.0	20251211.0
[TOPOS_KHTT_CUM0_CFHCM]Interface	No description available.	TrungHieu	6/12/2020 11:09:50 AM	1	1.0	20251211.0
[TOPOS_KHTT_CUM1_CFTinh]Interface	No description available.	TrungHieu	1/15/2021 11:29:28 AM	1	1.0	20251211.0
[TOPOS_KHTT_CUM1_CFTinh]Interface	No description available.	TrungHieu	1/15/2021 11:29:28 AM	1	1.0	20251211.0
CDW_DC-SQL06_DBCF_DC-SQL06_DBCF_0	No description available.	khhtadmin	7/15/2025 9:20:10 AM	1	nan	nan
check_job	No description available.	khhtadmin	12/29/2022 8:47:19 AM	1	nan	nan
EOY_Local_Transfer	No description available.	sa	10/10/2017 2:25:20 PM	1	0.0	0.0
HPT_Backup_NetWorker	No description available.	SGCOOP\adminsqlicdr	2/23/2022 4:34:20 PM	1	0.0	20220301.0
Job_Bk_TransLog	No description available.	usrHPT	4/27/2018 7:39:09 AM	1	1.0	20251211.0
KHTT_ST_Backup	No description available.	sa	10/10/2017 2:25:19 PM	1	1.0	20251211.0
KHTT_ST_ReIndex	No description available.	sa	10/10/2017 2:25:20 PM	1	1.0	20251212.0



KHTT_ST_Shrink	No description available.	sa	10/10/2017 2:25:20 PM	1	1.0	20251212.0
KHTT_ST_TichLuyTrongNgay	No description available.	sa	10/10/2017 2:25:20 PM	1	1.0	20251212.0
KHTT_ST_Transfer CTPhatSinh	Transfer CTPhatsinh monthly	sa	10/10/2017 2:25:20 PM	1	1.0	20260111.0
KHTT_ST_Transfer CTPhatSinh_KhuyenMai	Tranfers CTphatsinh_Khuyenmai monthly	sa	10/10/2017 2:25:20 PM	1	1.0	20251212.0
KHTT_ST_Transfer History_PrintVoucher	No description available.	khhtadmin	10/17/2025 1:54:26 PM	1	1.0	20251212.0
KHTT_ST_Transfer INVTSERVxx	No description available.	sa	10/10/2017 2:25:20 PM	1	1.0	20251217.0
KHTT_ST_Transfer_TNDSERVxx	No description available.	sa	6/15/2020 2:43:59 PM	1	1.0	20251217.0
KHTT_ST_TransferLocalData_ForReport	<p>Job ch?y chuy?n d? li?u vo d?u thng (ngy 1).</p> <p>Cc d? li?u du?c chuy?n ph?c v? cho bo co.</p> <p>G?m 3 steps:</p> <p>1. Transfer danh m?c khch hng c?a siu th?</p> <p>2. Transfer</p>	sa	7/1/2023 4:23:23 PM	1	1.0	20260101.0

	CTPhatSinh  3. Transfer CTPhatSinh_KhuyenM ai  4. Transfer Tich luy					
Shrink_DB_KHTT_ST	No description available.	khhtadmin	12/26/2022 2:18:41 PM	1	0.0	20230106.0
Son_ShrinkLog_DB	No description available.	feadmin	11/13/2021 10:34:32 AM	1	1.0	20251211.0
syspolicy_purge_history	No description available.	sa	8/24/2017 8:10:40 PM	1	1.0	20251212.0
Update_INVTSERV_LoaiDMH	No description available.	khhtadmin	12/11/2021 5:18:25 PM	1	1.0	20251212.0

## 6. LƯU VÀ PHỤC HỒI CƠ SỞ DỮ LIỆU

Database Name	recovery_model	Uncompressed Backup Size (MB)	Compressed Backup Size (MB)	Backup Finish Date
AccessConfig	FULL	2	2	2/24/2022 2:30:21 AM
AccessConfig	FULL	2	0	10/7/2018 3:28:26 PM
KHTT_ST	FULL	68513	68513	12/10/2025 11:59:25 PM
KHTT_ST	FULL	65836	65836	12/9/2025 11:55:50 PM
KHTT_ST	FULL	65843	65843	12/8/2025 11:59:19 PM

KHTT_ST	FULL	65750	65750	12/7/2025 11:59:13 PM
KHTT_ST	FULL	65794	65794	12/6/2025 11:56:16 PM
KHTT_ST	FULL	65509	65509	12/5/2025 11:58:07 PM
KHTT_ST	FULL	65586	65586	12/4/2025 11:59:11 PM
KHTT_ST	FULL	67975	67975	12/3/2025 11:56:42 PM
KHTT_ST	FULL	65232	65232	12/2/2025 11:58:57 PM
KHTT_ST	FULL	65135	65135	12/1/2025 11:59:35 PM
KHTT_ST	FULL	64815	64815	11/30/2025 11:58:24 PM
KHTT_ST	FULL	64901	64901	11/29/2025 11:56:50 PM
KHTT_ST	FULL	64688	64688	11/28/2025 11:59:27 PM
KHTT_ST	FULL	64522	64522	11/27/2025 11:58:05 PM
KHTT_ST	FULL	67444	67444	11/26/2025 11:57:19 PM
KHTT_ST	FULL	64625	64625	11/25/2025 11:59:39 PM
KHTT_ST	FULL	64775	64775	11/24/2025 11:58:43 PM
KHTT_ST	FULL	64679	64679	11/23/2025 11:57:37 PM
KHTT_ST	FULL	64375	64375	11/22/2025 11:59:30 PM
KHTT_ST	FULL	64378	64378	11/21/2025 11:57:13 PM
KHTT_ST	FULL	64338	64338	11/20/2025 11:58:57 PM
KHTT_ST	FULL	66297	66297	11/19/2025 11:59:11 PM
KHTT_ST	FULL	64219	64219	11/18/2025 11:53:28 PM
KHTT_ST	FULL	68747	68747	11/17/2025 11:59:25 PM

KHTT_ST	FULL	70733	70733	11/15/2025 11:59:21 PM
KHTT_ST	FULL	70666	70666	11/14/2025 11:55:58 PM
KHTT_ST	FULL	70554	70554	11/13/2025 11:59:40 PM
KHTT_ST	FULL	104834	104834	11/13/2025 12:00:58 AM
KHTT_ST	FULL	70596	70596	11/11/2025 11:56:39 PM
KHTT_ST	FULL	71211	71211	11/10/2025 11:58:13 PM
KHTT_ST22	FULL	33860	33860	10/2/2024 10:22:04 AM
KHTT_ST22	FULL	33860	33860	10/2/2024 10:22:04 AM
KHTT_ST23	FULL	36660	36660	10/2/2024 3:56:17 PM
KHTT_ST23	FULL	36660	36660	10/2/2024 3:56:17 PM
SDI_CFNQ	FULL	126	23	10/7/2018 3:53:58 PM
SDI_CFNQ	FULL	126	23	4/26/2018 10:02:49 PM
SDI_CFNQ	FULL	126	126	4/26/2018 9:41:55 PM
SGCReport	FULL	16277	4924	10/7/2018 3:54:57 PM
SGCReport	FULL	16277	16277	10/7/2018 3:51:11 PM
SGCReport	FULL	13495	3842	4/26/2018 10:04:10 PM
SGCReport	FULL	13495	13495	4/26/2018 9:42:27 PM
SGCReport	FULL	11827	11827	10/10/2017 10:00:12 AM