

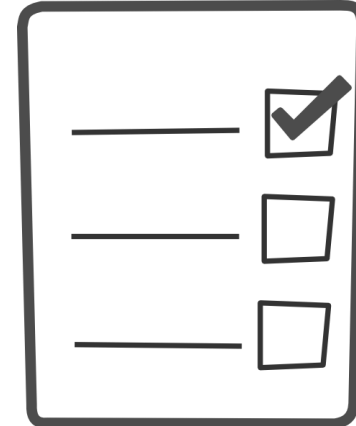
Database level monitoring Golden Gate

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Outline

- DB views for GG processes
 - Extract (capture)
 - Replicat (apply)
- Streams Performance Advisor (*UTL_SPADV*)
- Automatic Workload Repository (*AWR*)
- Strmmon v2
- Questions



GoldenGate views: extract

- **GG specific:**
 - *v\$goldengate_capture*
- **General purpose:**
 - *dba_capture*
 - *v\$buffered_queues*
 - *v\$logmnr_session*
 - *v\$session*



GoldenGate views: replicat

- **GG specific:**
 - *v\$gg_apply_coordinator*
 - *v\$gg_apply_reader*
 - *v\$gg_apply_server*
 - *v\$goldengate_table_stats*
- **General purpose:**
 - *dba_apply*
 - *dba_apply_progress*
 - *v\$buffered_queues*
 - *v\$session*



Streams Performance Advisor

1. Setup

1. Deploy the package (*UTL_SPADV*)

```
@?/rdbms/admin/utlspadv.sql
```

2. Truncate table with monitoring data

```
truncate table STREMAS$_PA_SHOW_COMP_STAT
```

3. Create directory object for report

```
create or replace directory temp as '/tmp'
```

2. Start data-collecting job

```
UTL_SPADV.START_MONITORING
```

3. Stop the job

```
UTL_SPADV.STOP_MONITORING
```

4. Generate report

```
UTL_SPADV.SHOW_STATS_HTML
```

```
UTL_SPADV.SHOW_STATS
```

Streams Performance Advisor

Event Metrics

Metric	Description
IDLE%	Percent of time in the run, spent waiting on upstream component
FLWCTRL%	Percent of time in the run, spent waiting on downstream component
TOPEVENT	Non-idle, Non-flwctrl Event which occupies most of run time
TOPEVENT%	Percent of time in the run, spent on Topevent

PATHS

Path 23

Component	Name	Database
CAPTURE	OGG\$CAP_TIR1SEXT	D3R_CERN.CH
Q	"GGADMIN"."OGG\$Q_TIR1SEXT"	D3R_CERN.CH
APPLY	OGG\$TIR1SEXT	D3R_CERN.CH

PATH LEVEL SUMMARY

Path Id	Avg CAPTURE msgs/sec	Avg CAPTURE latency	Avg APPLY txns/sec	Avg APPLY msgs/sec	Avg APPLY latency
23	27.15	1.5	.01	.01	0.

PATH LEVEL EVENT SUMMARY

(Click on Component acronym to view statistics for that component)

Path Id	Component	Topevent 1	% Topevent 1	Topevent 2	% Topevent 2	Topevent 3	% Topevent 3	% Bottleneck
23	LMR	control file sequential read	18.18	CPU + Wait for CPU	9.09	log file sequential read	33	0.
23	LMP(1)	CPU + Wait for CPU	8.71					0.
23	LMB							0.
23	CP							0.
23	Q							0.

RATE LEVEL STATS

(Click on each row to view stats for the specific run)

Path Id	Run Id	Run time	CAP msgs/sec	CAP latency	APPLY txns/sec	APPLY msgs/sec	APPLY latency	Bottleneck
23	1	26-MAY-2014 19:11:31	2	1	0	0	0	NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	2	26-MAY-2014 19:11:42	45	3	0	0	0	NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	3	26-MAY-2014 19:11:52	26	1	0	0	0	NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	4	26-MAY-2014 19:12:03	24	1	0	0	0	NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	5	26-MAY-2014 19:12:13	27	1	0	0	0	NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	6	26-MAY-2014 19:12:23	39	2	0	0	0	NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	7	26-MAY-2014 19:12:23						NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	8	26-MAY-2014 19:12:23						NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	9	26-MAY-2014 19:12:23						NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.
23	10	26-MAY-2014 19:12:23						NO BOTTLENECK IDENTIFIED.NO BOTTLENECK IDENTIFIED.

Automatic Workload Repository

1. EXEC dbms_workload_repository.create_snapshot
2. @\$ORACLE_HOME/rdbms/admin/awrrpt.sql

```
sys@D3R:SQL> @$ORACLE_HOME/rdbms/admin/awrrpt.sql

Current Instance
~~~~~

   DB Id   DB Name   Inst Num Instance
-----
  488336495 D3R             1 d3r1

Specify the Report Type
~~~~~
Would you like an HTML report, or a plain text report?
Enter 'html' for an HTML report, or 'text' for plain text
Defaults to 'html'
Enter value for report_type:

Type Specified:  html

Instances in this Workload Repository schema
~~~~~

   DB Id   Inst Num DB Name   Instance   Host
-----
*  488336495     1 D3R       d3r1       itrac910.cer
                                     n.ch
   488336495     2 D3R       d3r2       itrac924.cer
                                     n.ch
```


Automatic Workload Repository

Replication System Resource Usage

- System resource usage of GoldenGate/XStream processes aggregated by Session Type and Session Module
- Data is ordered by CPU Time in descending order, followed by Session Type and Session Module in ascending order

Session Type	Session Module	First Logon	CPU Time(s)	User IO Wait Time(s)	System IO Wait Time(s)
Apply Server	GoldenGate	31-May-14 12:05:58	2,070.61	3,485.86	0.00
Propagation Receiver	XStream	31-May-14 12:05:57	433.89	0.19	0.02
Apply Reader	GoldenGate	31-May-14 12:05:58	262.28	3.67	0.00
Apply Coordinator	GoldenGate	31-May-14 12:05:58	0.00	0.00	0.00

Automatic Workload Repository

GoldenGate Apply Reader

- GoldenGate Apply Reader statistics ordered by Replicat Name and Apply Name in ascending order
- Apply name prefixed with a * indicates process (re)started between Begin and End snapshots
- Columns suffixed with K,M,G,T,P are in multiples of 1000
- Lag(s) column displays lag in seconds of the most recently captured message

Replicat Name	Apply Name	Reader LCRs Deq	Reader Lag(s)
A_DWS	*OGGSA_DWS	18.9M	641,876.00

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GoldenGate Apply Coordinator

- GoldenGate Apply Coordinator statistics ordered by Replicat Name and Apply Name in ascending order
- Apply name prefixed with a * indicates process (re)started between Begin and End snapshots
- Wait Deps% refers to percentage of transactions having to wait for other transactions due to dependency
- Wait Commit% refers to percentage of transactions having to wait due to source transaction commit ordering
- Columns suffixed with K,M,G,T,P are in multiples of 1000

Replicat Name	Apply Name	Txns Received	Txns Applied	Txns Rolled Back	Wait Deps%	Wait Commit%	Unassigned Complete Txns	Total Errors
A_DWS	*OGGSA_DWS	265.4K	265.4K	0	0.00	0.00	0	0

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GoldenGate Apply Server

- GoldenGate Apply Server statistics ordered by Replicat Name and Apply Name in ascending order
- Apply name prefixed with a * indicates process (re)started between Begin and End snapshots
- Columns suffixed with K,M,G,T,P are in multiples of 1000

Replicat Name	Apply Name	Server LCRs Applied	Server Dequeue Time(s)	Server Apply Time(s)	Total LCRs Retrieved	Total Txns Retrieved
A_DWS	*OGGSA_DWS	18.9M	0.00	7681.75	0	0

Automatic Workload Repository

GoldenGate Apply Coordinator Rate

- GoldenGate Apply Coordinator rate information ordered by Replicat Name and Apply Name in ascending order
- Apply name prefixed with a * indicates process (re)started between Begin and End snapshots

Replicat Name	Apply Name	Txns Received/sec	Txns Applied/sec	Txns Rolled Back/sec	Unassigned Complete Txn/sec	Total Errors/sec
A_DWS	*OGGSA_DWS	153.65	153.65	0.00	0.00	0.00

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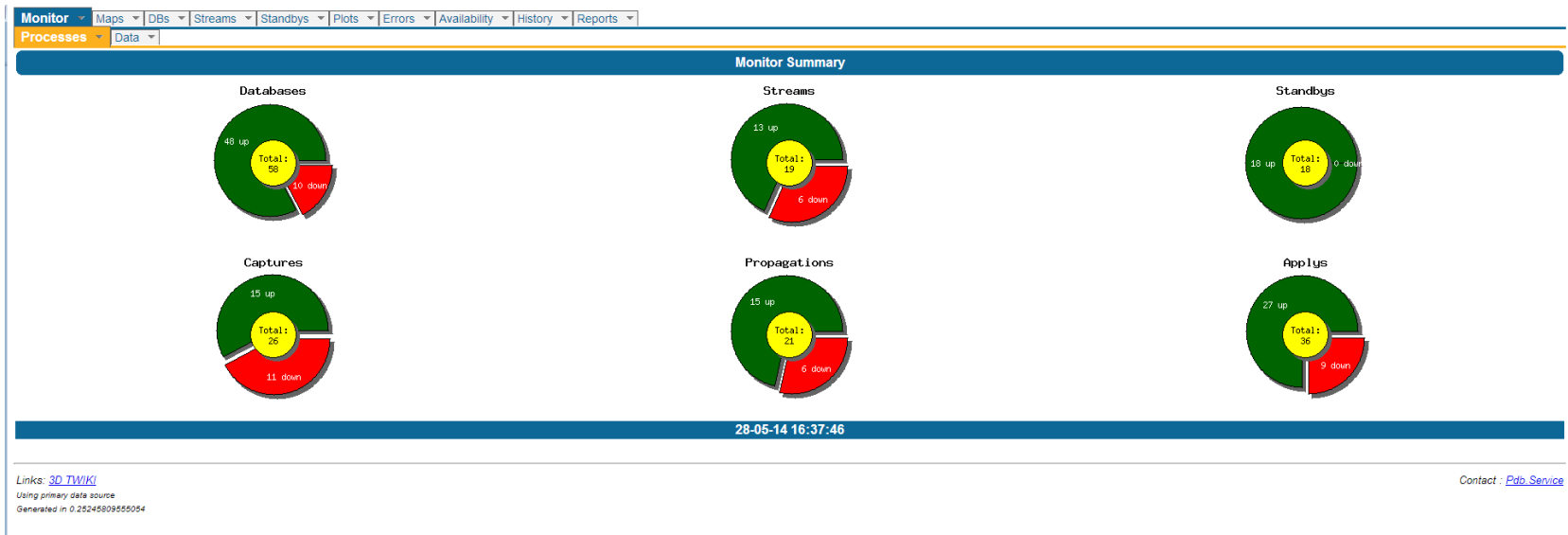
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GoldenGate Apply Reader and Server Rate

- GoldenGate Apply Reader and Server rate information ordered by Replicat Name and Apply Name in ascending order
- Apply name prefixed with a * indicates process (re)started between Begin and End snapshots
- Time Per Msg values are in centiseconds

Replicat Name	Apply Name	Reader LCRs/sec	Server LCRs Applied/sec	Server Dequeue Time/msg	Server Apply Time/msg	Total LCRs Retried/sec	Total Txn Retried/sec
A_DWS	*OGGSA_DWS	10941.43	10941.43	0.04	0.00	0.00	0.00

Strmmmon v2



1. GoldenGate supported
 1. Manual setup of *capture* -> *apply*
 2. No datapump monitoring (assuming integrated mode)
2. Events information provided
3. Notifications for GG events

Strmmmon: list + events

ACTIVE STREAMS										
#	Stream	LCRs Cap	LCRs Enq	LCRs Deq	LCRs App	Cap Latency	Since last shipment	Capture State	Apply State	State
1	D3R.CERN.CH=>BNLGGTEST.BNL.GOV	-	-	0 /s	0 /s	0 sec	4 day(s) 1 hr	DISABLED	DISABLED	IDLE
2	D3R.CERN.CH=>RACT.ST.TRIUMF.CA	-	-	-	-	0 sec	--	DISABLED	DISABLED	IDLE
3	D3R.CERN.CH=>ATLASINT.CERN.CH	55 /s	5 /s	0 /s	0 /s	8 sec	38 day(s) 1 hr	WAITING FOR TRANSACTION	IDLE	⚡
4	D3R.CERN.CH=>BNLGGTEST.BNL.GOV	55 /s	5 /s	0 /s	0 /s	8 sec	4 day(s) 1 hr	WAITING FOR TRANSACTION	IDLE	⚡
5	D3R.CERN.CH=>RACT.ST.TRIUMF.CA	55 /s	5 /s	-	-	8 sec	--	WAITING FOR TRANSACTION	DISABLED	IDLE
6	DWVSDDB.CERN.CH=>D3R.CERN.CH	4 /s	4 /s	0 /s	0 /s	7 sec	21 day(s) 5 hr	WAITING FOR TRANSACTION	IDLE	⚡

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Links: [3D TWIKI](#)
Using primary data source
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Contact: [Pdo Service](#)

Stream	Capture State	Apply State	State
4 day(s) 0 hr	DISABLED	IDLE	IDLE
--	DISABLED	DISABLED	IDLE
38 day(s) 1 hr	WAITING FOR TRANSACTION	IDLE	⚡
4 day(s) 0 hr	WAITING FOR TRANSACTION	IDLE	⚡
--	WAITING FOR TRANSACTION	IDLE	⚡
21 day(s) 4 hr	WAITING FOR TRANSACTION	IDLE	⚡

Capture: rdbms ipc message
Reader: Streams: waiting for messages
Server: rdbms ipc message

Strmmmon: detailed view

Monitor | Maps | DBs | Streams | **Golden Gates** | Standbys | Plots | Errors | Availability | History | Reports

GG DETAILS

SOURCE	
D3R.CERN.CH	
CAPTURE	
Name	OGG\$CAP_TIR1SEXT
State	WAITING FOR TRANSACTION
Info	
Error Time	
Error Msg	
LCRs captured	3168 (.87/s)
LCRs enqueued	2965 (.82/s)
SCN captured	6547405108697
SCN enqueued	6547405108688
Capture Latency	8 sec
QUEUE	
Name	OGG\$Q_TIR1SEXT
Id	1053219
Outstanding Msg	0
Cumulative Msg	0 (0/s)
Msg Spilled	0 (0/s)
SCN removed	6547405108649
DESTINATION	
ATLASINT.CERN.CH	
QUEUE	
Name	OGG\$QATLASREP
Id	517405
Outstanding Msg	0
Cumulative Msg	0 (0/s)
Msg Spilled	0 (0/s)
APPLY	
Name	OGG\$ATLASREP
State	IDLE
Error Time	
Error Msg	
LCRs Dequeued	131 (0/s)
LCRs Applied	58 (0/s)
SCN Dequeued	0
Low SCN Applied	0
High SCN Applied	0
Last applied LCR	2014-04-19 14:34:28 (38 day(s) 1 hr 13 min 51 sec ago)
Dequeue Latency	0 sec
Apply Latency	0 sec
Data Latency	N/A
Transaction Received	18
Transaction Assigned	18
Transaction Applied	18

D3R.CERN.CH
↓ .87 LCRs/s
OGG\$CAP_TIR1SEXT
↓ .82 LCRs/s
OGG\$Q_TIR1SEXT
↓ 0 LCRs/s
DATAPUMP
↓ 0 LCRs/s
OGG\$QATLASREP
↓ 0 LCRs/s
OGG\$ATLASREP
↓ 0 LCRs/s
ATLASINT.CERN.CH

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Links: [3D TWIKI](#)
Using primary data source
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Contact : [Pdb.Service](#)

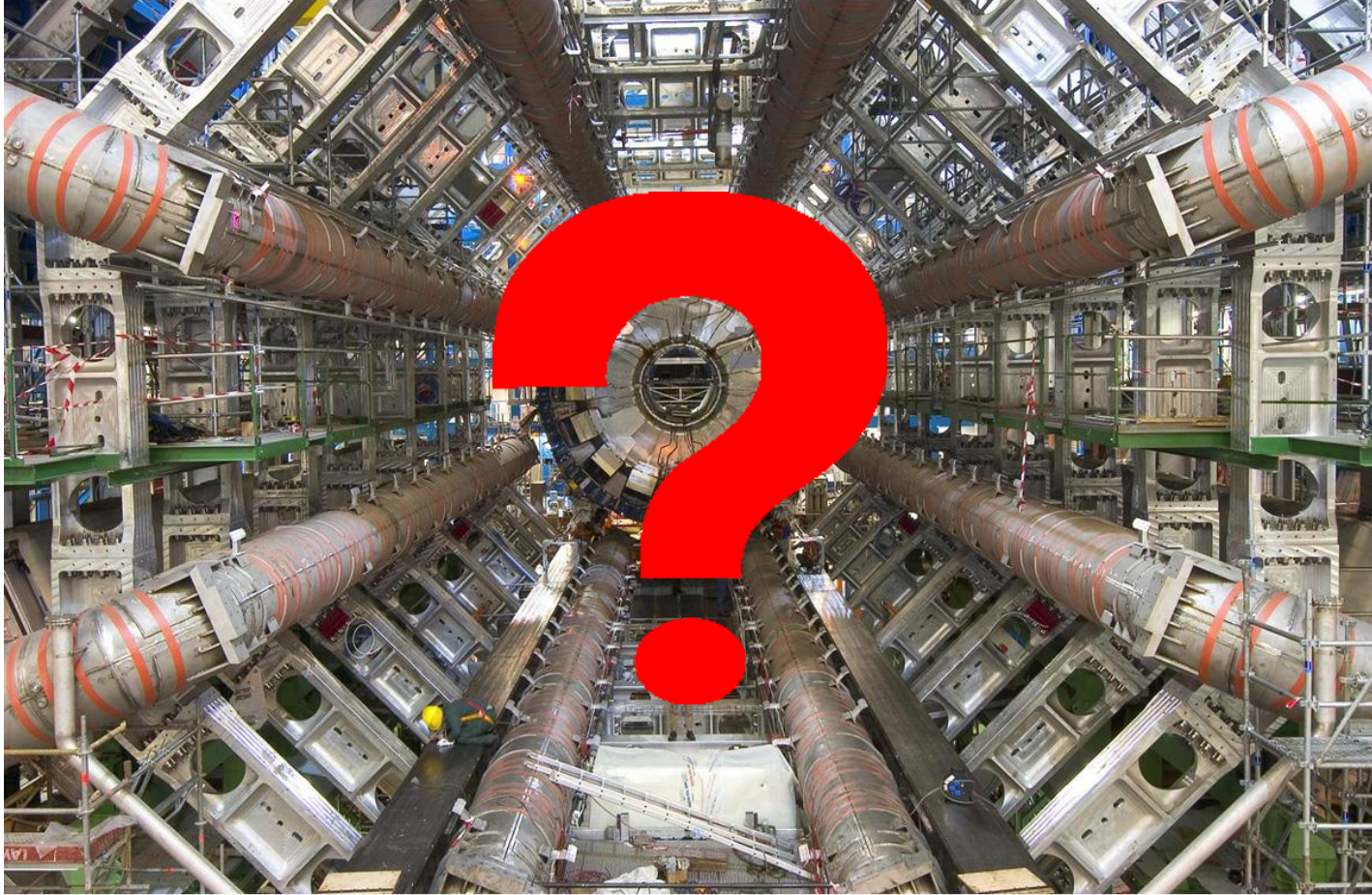


Strmmmon: notifications

- Capture latency exceeded (70 mins)
- Apply latency exceeded (5400 secs)
- Propagation disabled on error - *Streams*
- ORA-26851 - propagation failure
- Spilled TXNs
- Long running transactions (300 secs)
- High CPU usage (>20)
- Capture error
- Apply error



Questions?





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