



# CA Database Management for Db2 for z/OS 20.0 (Db2 Tools) Customer Community Update

**Team Product Owners**

May 10<sup>th</sup>, 2021

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# Agenda

## CA Detector

- Exclude activity by Connection Type

## Sysview for Db2

- Grafana Dashboard
- Archive Tables Update
- New IRLM stats and global contention counts

## MTC-DBM UI

- Embedded Hyperlinks
- Breadcrumbs

# Please Provide Feedback...





# CA Detector: Exclude activity by Connection Type (LU01002)

**Andrew Badgley**

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# What are the challenges from our customers?

- In an effort to reduce overhead costs of running an SQL monitoring tool customers want the ability to control what types of SQL activity is monitored. CA Detector already provides the ability to exclude activity based on Location, CORRID, Plan, and/or AUTHID. However, Customers have asked for the ability to also exclude activity based on Connection Type.

# Exclude activity using Collection Profiles

```
20.0 ----- CA-Detector Main Menu ----- 20/11/20 15:19
OPTION ==> _
```

```
DB2 SSID ==> D12A          USERID ==> BADANA2          DS Group ==> DSNDTGP
```

```
-----
1  SSID current interval data          9  DS Group current interval data
2  SSID historical interval data       10 DS Group historical interval data
3  SSID collection status              11 DS Group collection status
```

```
4  Maintain collect/report profiles    P  Product profile
5  Initialize SSID collection          T  Tutorial
```

```
6  Terminate SSID collection
```

```
7  Create/Initiate SSID collection     20.0 ----- DETECTOR Collection/Reporting Profiles Menu ----- 20/11/20 15:22
```

```
OPTION ==> _
```

```
8  SSID, Active Interval, and DS Group DB2 SSID ==> D12A          USERID ==> BADANA2
```

```
-----
1  View Collection Profiles - Create, view, and modify collection profiles
2  View Reporting Profiles  - Create, view, and modify reporting profiles
```



# Select your Collection Profile

```

20.0 ----- DETECTOR Collection Profiles Display ----- 20/11/20 15:25
Command ==>
DB2 SSID ==> D12A
Create Profile ==> _

```

```

S -View/Modify Profile      D -Delete Profile      L -Load Profile

```

PROFILE	DESCRIPTION	CREATOR	CDATE	CTIME
TESTAJB	ADFASDFASDFASDF	BADANA2	20/11/18	15:38:41
RTPTST				
CUSR003				

```

20.0 ----- DETECTOR Collection Exclusion Groups Menu ----- 20/11/20 15:27
Command ==> _

View Group Type ==> X (A=Application, R=Resource, X=EXclude, K=Keys)
Profile ID ==> TESTAJB                                Profile SSID ==> D12A

-----

1 Collection Profile Plan Exclude/Include Group
2 Collection Profile SQL Error Exclusion Group

```

# New CONNTYPE column

```
20.0 ----- View/Modify Include/Exclude List Entries ----- 21/05/08 14:17
Command ==>
                                     Scroll ==> CSR
                                     LINE 1 OF 1

Profile ID ==> BADANA2
Profile SSID ==> D12A
Add Entry ==> y

-----

S -View Entry      U -Update Entry      D -Delete Entry

A LOCATION          PLAN          CORRID          AUTHID          CONNTYPE  ACT  DYN  KEY  TBL  DTB
- - - - -          - - - - -          - - - - -          - - - - -          - - - - -  - -  - -  - -  - -  - -
_ %                %                %                %                %          Y   Y   Y   Y   Y
*****
***** BOTTOM OF DATA *****
```

# Adding a new Include/Exclude entry

```
20.0 ----- Add Include/Exclude Entry ----- 21/05/08 14:07
Command ==>
```

```
Profile ID      ==> BADANA2
Profile SSID    ==> D12A
```

```
-----
SQL activity selection criteria:
```

```
Location Name   ==> %.....
Planname        ==> %.....
Correlation ID  ==> %..... (Case sensitive)
Authid          ==> %.....
```

```
Connection Types ==>  _ TSO          S Batch          S CICS
                   _ DL/I Batch   _ IMS             _ Distributed
```

```
Include selected SQL activity in:
```

```
Detector Statistics Collection      ==> N
Dynamic SQL Statistics Collection    ==> N
Additional Keys Statistics Collection ==> N
Standard Activity Table/Index Statistics Collection ==> N
Dynamic SQL Table/Index Statistics Collection ==> N
```

# Adding a new Include/Exclude entry

```
20.0 ----- Add Include/Exclude Entry ----- 21/05/08 14:14
Command ==>
```

```
Profile ID      ==> BADANA2
Profile SSID    ==> D12A
```

-----

SQL activity selection criteria:

```
Location Name  ==> %.....
Planname       ==> %.....
Correlation ID ==> %..... (Case sensitive)
Authid         ==> MYID....
Connection Types ==>  _ TSO          S Batch          S CICS
                   _ DL/I Batch   _ IMS             _ Distributed
```

Include selected SQL activity in:

```
Detector Statistics Collection      ==> Y
Dynamic SQL Statistics Collection   ==> Y
Additional Keys Statistics Collection ==> Y
Standard Activity Table/Index Statistics Collection ==> Y
Dynamic SQL Table/Index Statistics Collection ==> Y
```

# New CONNTYPE column

```
20.0      ----- View/Modify Include/Exclude List Entries ----- 21/05/08 14:09
Command ==> _                                                    Scroll ==> CSR
                                                    LINE 1 OF 3

Profile ID   ==> BADANA2
Profile SSID ==> D12A
Add Entry    ==> _

-----

S -View Entry      U -Update Entry      D -Delete Entry

A LOCATION          PLAN          CORRID          AUTHID          CONNTYPE          ACT  DYN  KEY  TBL  DTB
- - - - -
%                   %              %              MYID            Batch, >          Y   Y   Y   Y   Y
%                   %              %              %              Batch, >          N   N   N   N   N
%                   %              %              %              %                Y   Y   Y   Y   Y
***** BOTTOM OF DATA *****
```

# Please Provide Feedback...

PTF: LU01002

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# CA SYSVIEW for Db2 for z/OS: Externalization of Db2 performance data for use in Grafana dashboards

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# Toolset

## CA SYSVIEW for Db2 REST API via DBM Data Service component

- A new `/idb2/prometheus/generic` endpoint (modelled after `/idb2/generic`) is to be introduced to provide data in Prometheus exposition format

{REST:API}



## Prometheus (open-source component - <http://prometheus.io>)

- A time series database running on LUW
- ‘Scrapes’ metrics from URLs at regular time intervals
- Powerful PromQL language and query functions for analysis
- Numeric data only, a metric can have labels (“dimensions”)
- Includes own simple web UI



## Grafana (open-source component - <http://grafana.com>)

- A web UI running on LUW
- Powerful data visualization for analytics and monitoring
- Supports various data source, but not Db2
- Allows creating, exploring, and sharing dashboards
- Integrates very well with Prometheus DB





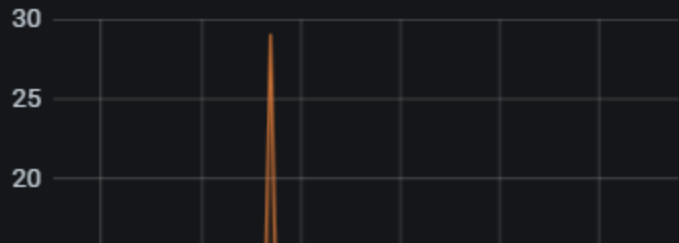
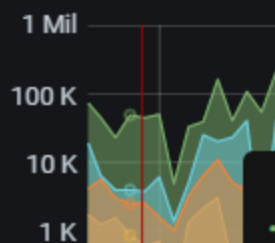
# Sample dashboard: idb2\_grafana\_gw\_v1.0.json



# Sample dashboard: idb2\_grafana\_gm\_v1.0.json

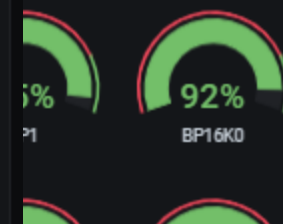


## Remote SQLs Received

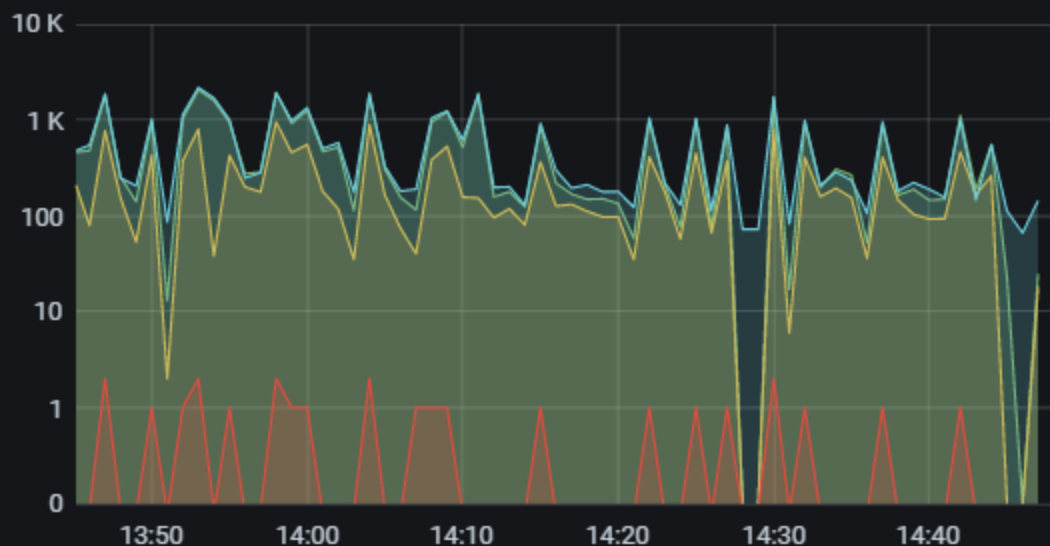


	current	total
::FFFF:10.175.84.11	0	82
::FFFF:10.74.144.255	0	29
DTGP75::FFFF:10.175.84.46..1400	0	0
::FFFF:10.175.81.18	0	0

## Hit Ratio (All)



## SQL Counts



	current
Dynamic	25
Ins/Upd/Del	18
Open/Sel	144
Accelerator	0
SP CALLs	0

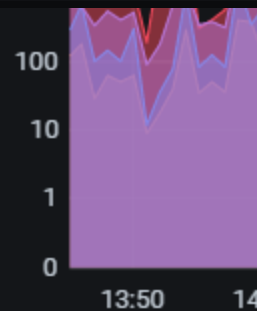
## Avg Dynamic SQL Hit Ratio



Local Cache



Global Cache

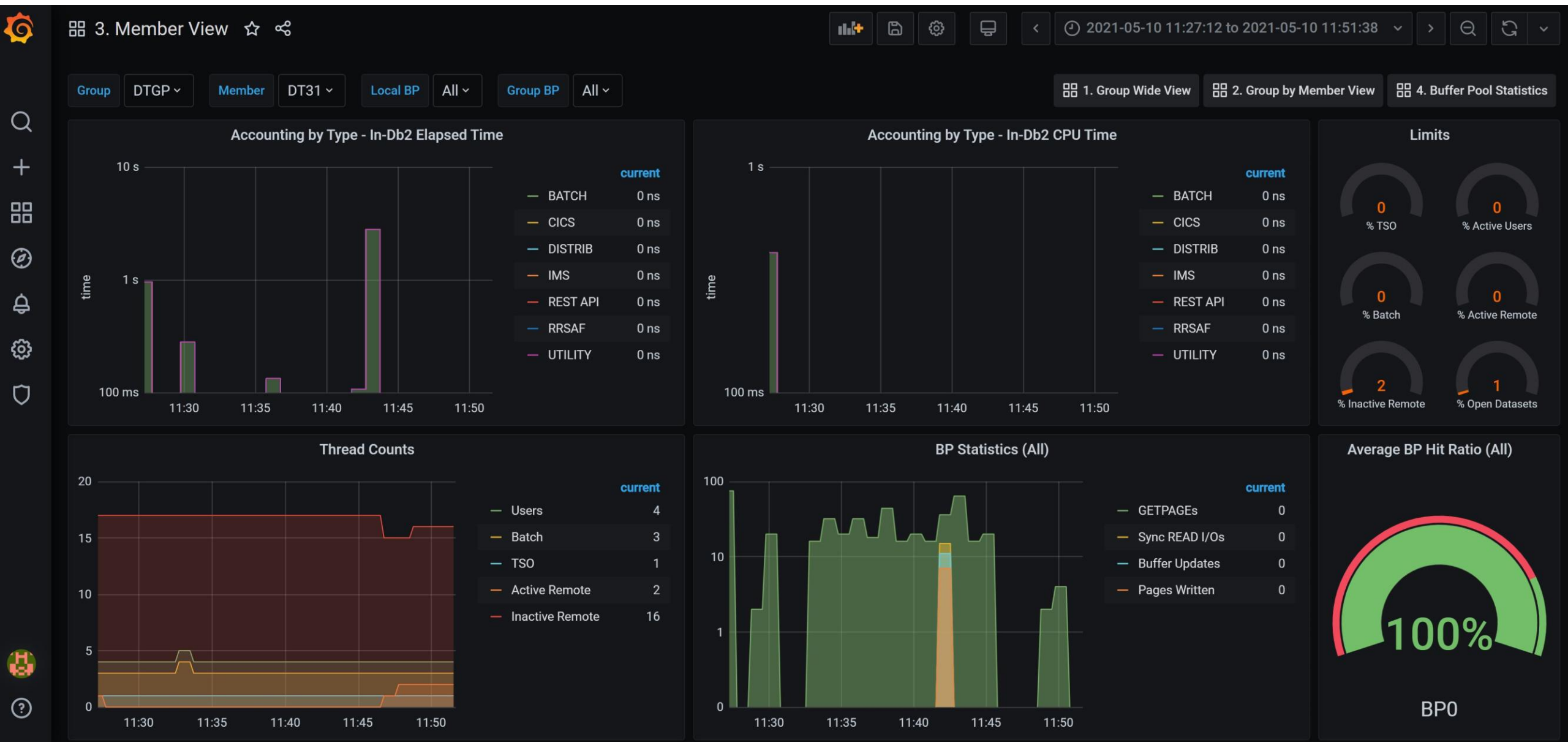


Db2 Common	12 kB
Stmt Cache	26 MB

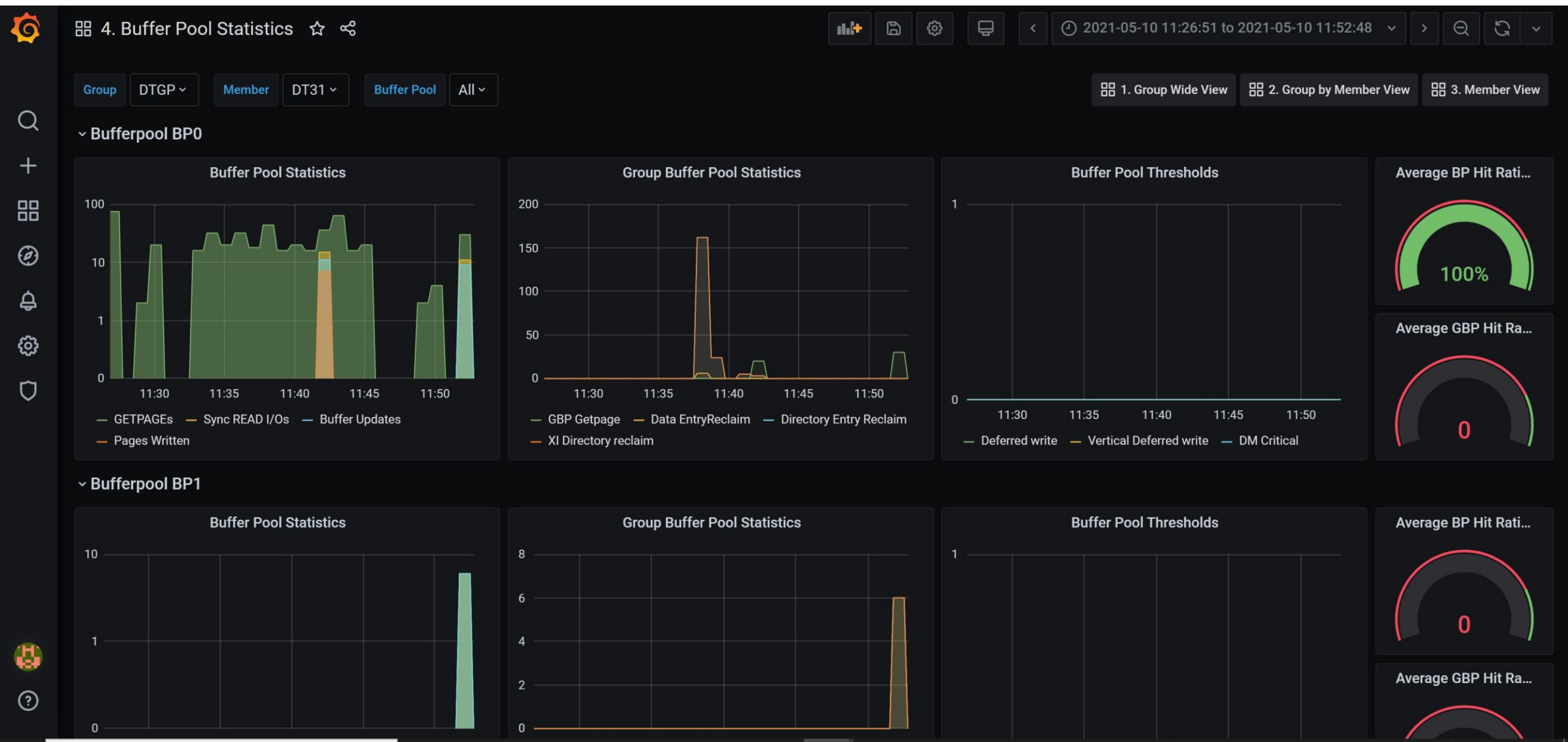


GBP8K0

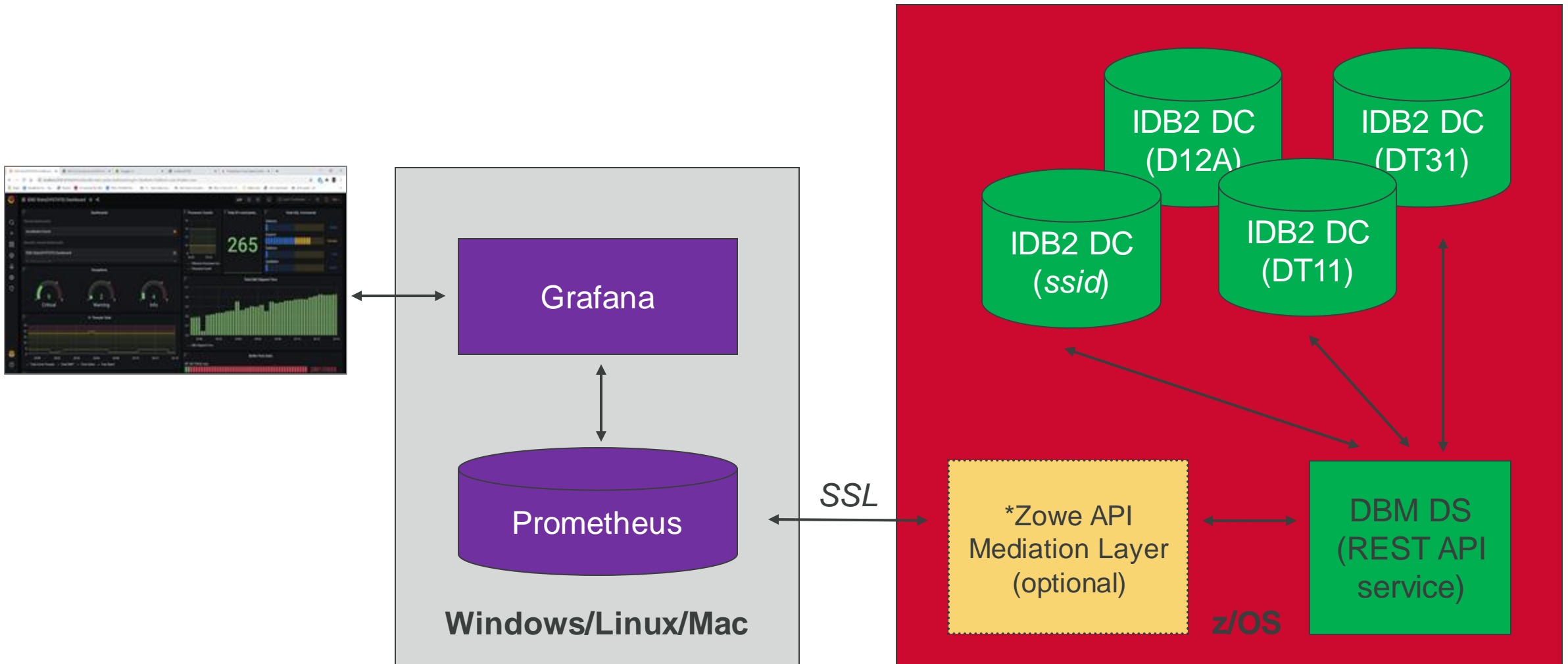
# Sample dashboard: idb2\_grafana\_mv\_v1.0.json



# Sample dashboard: idb2\_grafana\_bp\_v1.0.json



# Architecture Diagram





# DBM DS : New REST API endpoint /idb2/prometheus/generic

usilca32.lvn.broadcom.net:25502/dbm/swagger-ui.html#/

Apps DB2 Data Server Pa... Precision Wolken DB2 Perf Tools - Wiki MOI DBM DS IBM DB2 Vendor Pr... Db2 AHA MFD PM Db2 12 CD Zowe scr

PUT

/api/v1/idb2/generic

Returns the result of a given DS\* request with provided Xnet parameters (serviceability endpoint)

GET

/api/v1/idb2/plots

Returns short-term time series of critical Db2 subsystem metrics

GET

/api/v1/idb2/prometheus/generic

Returns the result of a given DS\* request in the Prometheus exposition format

GET

/api/v1/idb2/request

Lists requests that are running on a data collector

POST

/api/v1/idb2/request

Starts a request

GET

/api/v1/idb2/request/{token}

Lists requests for a given token

POST

/api/v1/idb2/request/{token}

Pauses or resumes a request

# /idb2/prometheus/generic sample output (DSAISTD)

```
← → ↻ 🏠 🔒 usilca32.lvn.broadcom.net:25502/dbm/api/v1/idb2/prometheus/generic?delta=true&function=DSAISTDB&ssid=D12A
Apps DB2 Data Server Pa... Precision Wolken DB2 Perf Tools - Wiki MOI DBM DS IBM DB2 Vendor Pr... Db2
# HELP BP_GETPAGE N/A
# TYPE BP_GETPAGE gauge
BP_GETPAGE{index="BP0",ssid="D12A",group="D12A",function="DSAISTDB"} 13275.0
# HELP BP_GETPAGE N/A
# TYPE BP_GETPAGE gauge
BP_GETPAGE{index="BP2",ssid="D12A",group="D12A",function="DSAISTDB"} 0.0
# HELP BP_GETPAGE N/A
# TYPE BP_GETPAGE gauge
BP_GETPAGE{index="BP3",ssid="D12A",group="D12A",function="DSAISTDB"} 0.0
# HELP BP_GETPAGE N/A
# TYPE BP_GETPAGE gauge
BP_GETPAGE{index="BP7",ssid="D12A",group="D12A",function="DSAISTDB"} 0.0
# HELP BP_GETPAGE N/A
```

Metric name

Repeating  
group label

Db2  
subsystem  
label

Datasharing  
group  
label

Data feed  
request  
label


Numeric  
value



# Function: New data feed IQL requests

For the **list** of available metrics, refer to the related archive table documentation

CA SYSDVIEW® PERFORMANCE  
MANAGEMENT OPTION FOR DB2 20

 Version 20.0 ▾ English ▾ Search this product 🔍

Archive Tables

Subsystem Archive Tables

SUBSYSTEM\_DAILY Table

SUBSYS\_ACCEL\_DAILY Table

SUBSYS\_BP\_DAILY Table

SUBSYS\_GBP\_DAILY Table

SUBSYS\_DDF\_DAILY Table

SUBSYSTEM\_DETAIL Table

SUBSYS\_ACCEL\_DETAIL Table

SUBSYS\_BP\_DETAIL Table

SUBSYS\_GBP\_DETAIL Table

SUBSYS\_DDF\_DETAIL Table

SUBSYS\_STORAGE\_DETAIL Table

SUBSYS\_STORAGE\_AS\_DETAIL Table

Columns with (001) STATS1 IQL Field Names

The following table lists the Db2 column name in the SUBSYSTEM\_DETAIL table with the corresponding (001) STATS1 IQL field name:

Db2 Column Name	Characteristics	STATS1 IQL Field Name
MSTR_TCB	DEC(15, 6)	JS-TIMER(1)
MSTR_SRB	DEC(15, 6)	NON-PREEMPT-SRB(1)
MSTR_SRB_PREEMPT	DEC(15, 6)	PREEMPT-SRB-TIMER(1)
MSTR_ZIIP	DEC(15, 0)	PREEMPT-SRB-ZIIP(1)
DBM1_TCB	DEC(15, 6)	JS-TIMER(2)
DBM1_SRB	DEC(15, 6)	NON-PREEMPT-SRB(2)
DBM1_SRB_PREEMPT	DEC(15, 6)	PREEMPT-SRB-TIMER(2)
DBM1_ZIIP	DEC(15, 0)	PREEMPT-SRB-ZIIP(2)

Function	Metrics reference
-----	-----
DSAISTD	SUBSYSTEM_DETAIL
DSAISTDX	SUBSYSTEM_DETAIL EXTRA
DSAISTDA	SUBSYS_ACCEL_DETAIL
DSAISTDB	SUBSYS_BP_DETAIL
DSAISTDG	SUBSYS_GBP_DETAIL
DSAISTDD	SUBSYS_DDF_DETAIL
DSAIED	SUBSYS_STORAGE_DETAIL
DSAIEDA	SUBSYS_STORAGE_AS_DETAIL
DAISACD	SUBSYS_ACCT_BY_CONN_DETAIL

# Configure Prometheus: idb2\_prometheus.yml

```
global:
  scrape_interval: 1m
  scrape_timeout: 30s
  external_labels:
    monitor: 'sysview-for-db2'
```

Data scraping interval, must be 1 minute

```
scrape_configs:
- job_name: 'DT31'
  scheme: https
  basic_auth:
    username: trode05
    password_file: trode05.txt
  metrics_path: "/dbm/api/v1/idb2/prometheus/generic"
  params:
    ssid: ['DT31']
    delta: ['true']
    function: ['DSAISTD,DSAISTDX,DSAISTDA,DSAISTDB,DSAISTDD,DSAISTDG,DSAIED,DSAIEDA,DSAISACD']
  static_configs:
    - targets: ['usilca32.lvn.broadcom.net:25502']

- job_name: 'DT11'
```

Scraping target, name must be unique in the configuration

MF Login and file with the password

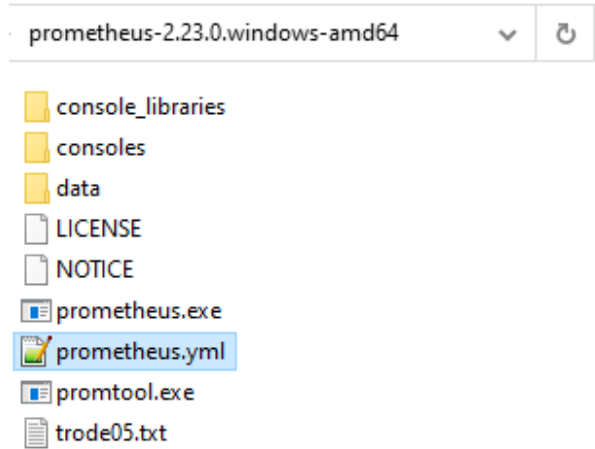
DBM DS data endpoint

Data as 1 minute deltas

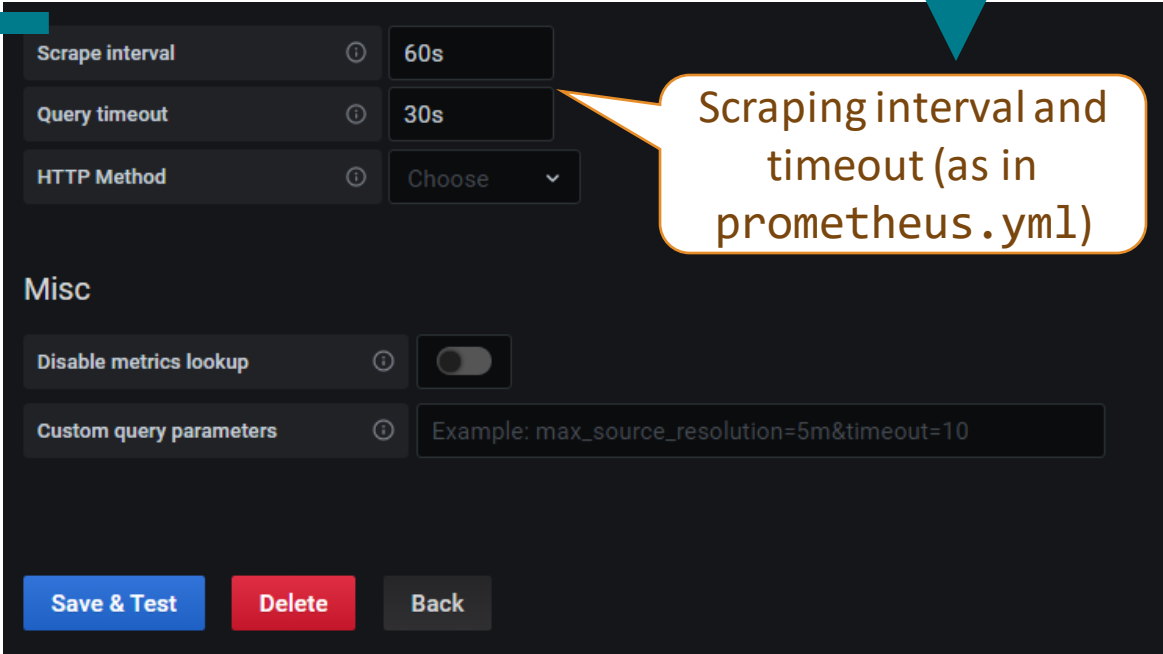
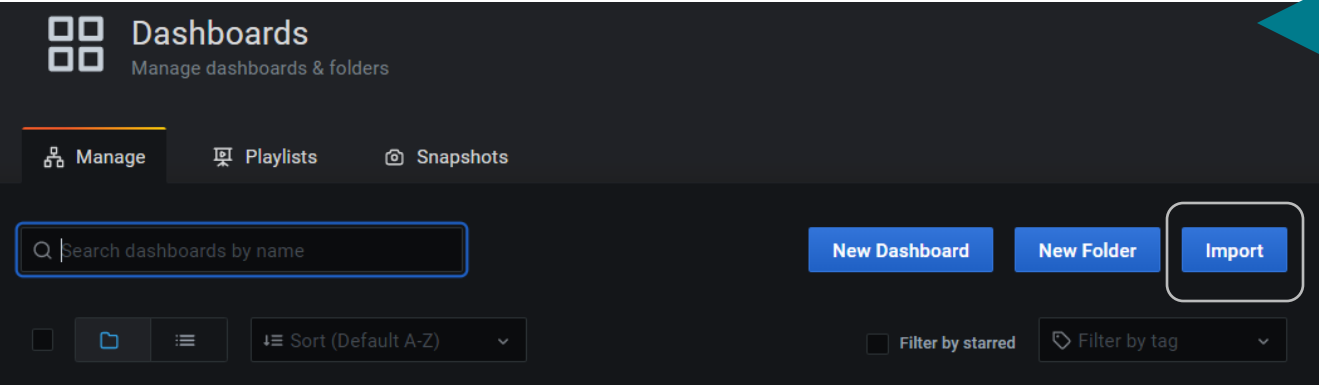
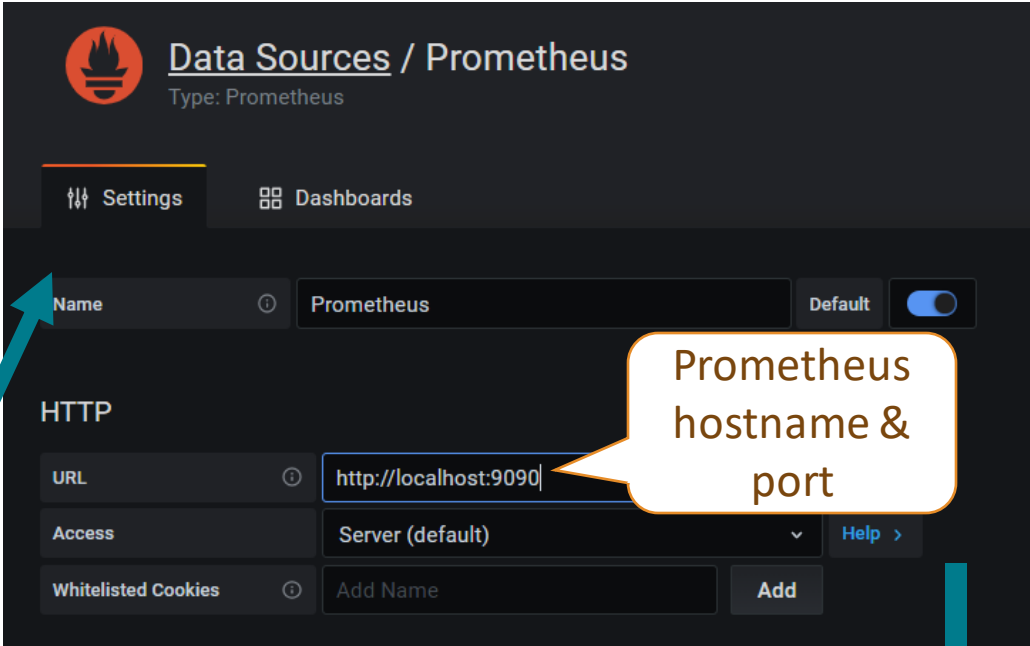
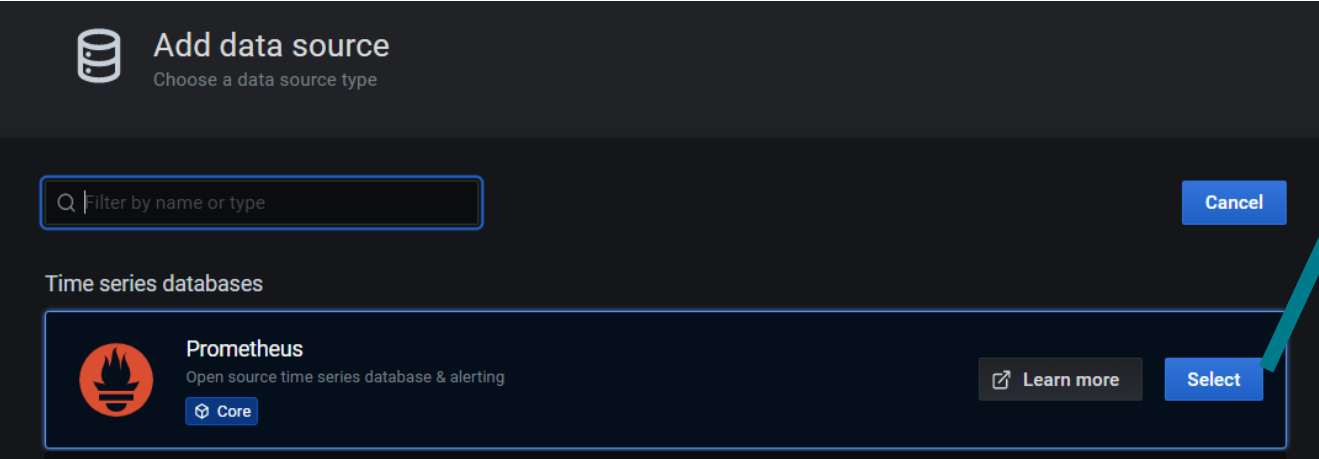
SYSVIEW for Db2 instance (defined as agent or ssid parms)

List of data feeding requests

Host name and port of DBM DS instance



# Configure Grafana



# Deliverables

## **SYSVIEW for Db2 PTF: LU01166**

- 9 new data feeding IQL requests (DSA\*)

## **DBM DS PTF: **Keep an eye on the upcoming community post.****

- New REST API /idb2/prometheus/generic endpoint
- 04 Sample Grafana dashboards (that you can customize or build on)
  - idb2\_grafana\_gm\_v1.0.json — Group by Member View
  - idb2\_grafana\_gw\_v1.0.json — Group-Wide View
  - idb2\_grafana\_mv\_v1.0.json — Member View
  - idb2\_grafana\_bp\_v1.0.json — Buffer Pool Statistics
- Sample Prometheus configuration (idb2\_prometheus.yml)

## **Documentation:**

- Available [here](#).

# Please Provide Feedback...

**PTF:** Watch for a community post coming up with details, once packaging is complete.

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# CA SYSVIEW for Db2 for z/OS: Archive Tables Update

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# Archive Tables Update

The following archive tables are updated to include new Db2 12 statistics such as new Db2 command counts, remote location details, FTB usage, Db2 accelerator version 7, zHyperlink details, and new Db2 zParms:

- SUBSYSTEM\_DAILY and SUBSYSTEM\_DETAIL
- APPLICATION\_DAILY and APPLICATION\_DETAIL
- SUBSYS\_DDF\_DAILY and SUBSYS\_DDF\_DETAIL
- SUBSYS\_BP\_DAILY and SUBSYS\_BP\_DETAIL
- SUBSYS\_GBP\_DAILY and SUBSYS\_GBP\_DETAIL
- SUBSYS\_ACCEL\_DAILY and SUBSYS\_ACCEL\_DETAIL
- SUBSYS\_ACCEL\_DAILY and SUBSYS\_ACCEL\_DETAIL
- SUBSYS\_SQL\_DETAIL\_DYNAMIC\_ACCEL
- SUBSYS\_SQL\_DETAIL\_STATIC\_ACCEL
- SUBSYS\_ZPARMS

# Archive Tables Update

The following two new archive tables were introduced to store accounting data aggregated by the connection type. These data come from IFCID 369 data.

Users can leverage this information to monitor the overall application activity and tune workload appropriately:

- SUBSYS\_ACCT\_BY\_CONN\_DETAIL
- SUBSYS\_ACCT\_BY\_CONN\_DAILY



# Please Provide Feedback...

PTF: LU01030

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# CA SYSVIEW for Db2 for z/OS: New IRML statistics and global contention counts – IFCID 2

**Rabah Beggar**

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# New IRLM statistics and global contention counts – IFCID 2

CA SYSVIEW for DB2 added support for the new IRLM statistics and global contention counts as provided in the IFCID 2 trace record:

- ACTIVE-LATCH — Number of active IRLM control block latch contentions
- GLOBAL-DEADLOCK — Number of global deadlocks
- LOCAL-CONT — Number of local resource contentions
- GLOBAL-CONT — Number of global resource contentions
- CONT-GRANTED — Number of visits to the contention exit in which IRLM granted access
- CONT-FALSE — Number of visits to the contention exit in which IRLM did not grant access due to a false contention
- PLOCK-EXIT — Number of visits to the plock exit
- NOTIFY-EXIT — Number of visits to the notify exit

All dependent IQL reports have been updated (real-time, history and batch). Related archive tables will be updated in future.

_ 1 Locks 2 Global Locks 3 Latches 4 Secondary Latches / IRLM				
R/SYSLOCKS		Locks - Accum		Row 1/18
				Accum
TIMEOUTS AND DEADLOCKS			REQUESTS	FAILURES
Timeouts	0	Claim	8952122	5
Deadlocks	0	Drain	1057	41
LOCK ESCALATION			REQUESTS	
Shared	0	Lock	1113708	
Exclusive	3	Unlock	1303038	
		Query	0	
SUSPENSIONS		Change	32263	
Latch	6641	Other	4	
Lock	120			
Other	18273			
Total	25034			
CONTENTIONS				
Local	148			
Latch	1741			
Granted	449			

_ 1 Locks 2 Global Locks 3 Latches 4 Secondary Latches / IRLM				
R/SYSGLOCK		Global Locks - Accum		Row 1/17
				<u>Accum</u>
CONTENTIONS		REQUESTS	PROPAGATIONS	
False this LPAR	3574	Lock	49140	937877
SYNC->ASync Conv	3432	Change	1523	14763
IRLM	1575	Unlock	46812	933165
XES	307	Denied	0	N/A
XES Sync Lk Fail	0	Resource	N/A	50
Global Contentions	877	NEGOTIATIONS		
False Contentions	3574	Pageset or Partion	703	
Global Deadlocks	0	Page	0	
ENGINES		Other	101	
Max Available	500	Change Requests Issued	782	
Unavailable	0			
NOTIFYs				
Sent	19245			
Received	23184			

_ 1 Locks 2 Global Locks 3 Latches 4 Secondary Latches / IRLM			
R/LACONT2 Secondary Latch Contentions / IRLM - Accu			Row 1/18
			<u>Accum</u>
Latch Contentions		IRLM	
Main - Main held		3869	Abends Retried 0
Main - Non-zero use count		1014	Abends Non-retryable 0
Secondary - Main held		6381	Local Deadlocks 0
Generic		13	Timeout RLBs purged 0
Resource		0	
Notify Ctrl Blk - NOTIFY		25	COMPAT Queue Elements
	Resource	WorkUnit	QE Generated 124
	Hash Table	Hash Table	Use Count for QE 0
LOCK	337	0	Exits Counts
UNLOCK	84	0	Suspend 31577
CHANGE	3	0	Resume 31577
COMPAT	0	0	Status 0
QUERY FAST	0	0	Deadlock 0
ASYN LOCK	5	0	Timeout 0
SYNC	N/A	0	Notify 23184
NOTIFY	0	N/A	P-lock 804

05/07/21 03:44:25  
REQUEST: BTSTASM2  
FIRST RECORD 04/30/21 09:57:00  
DE  
LAST RECORD 05/04/

SUMMARY OF DB2 DATABASE ADDRESS SPACE STATISTICS

SUBSYS: DT11 GROUP: DSNDTGP MBR: DT11 LOCATION: DTGPPTIB  
EDM POOL STATISTICS

POOL	MAX PAGES	FULL FAIL	REQUESTS	LOADS	PCT LOADS	1234567890
SKEL	N/A	0				
SKCT	116		21089	47	0.2	
SKPT	3135		574150	209	0.0	
SKPT STEAL	3251					
DBD	3701	0	716944	4134	0.6	
DBD STEAL	3569					
STMT	7471	0	400377	42274	10.6  =	

PLAN/PACKAGE/XPROC STATISTICS (MAX)

PLAN ATB STORAGE	75776
PLAN BTB STORAGE	0
PACKAGE ATB STORAGE	565504
PACKAGE BTB STORAGE	0
SHR STATIC STMT PGS	1564K
XPROC REQUESTS	181

SQL STATEMENT CACHE STATISTICS

NUMBER OF STATEMENTS	850
"NOT-FOUND" RECS LOCATED	824760
"NOT-FOUND" RECS ADDED	866
"NOT-FOUND" RECS REMOVED	0
EDM FULL FAILURES	0
ATB FULL FAILURES	0

LOCK MANAGER STATISTICS

DEADLOCKS	0
TIMEOUTS	0
LOCK ESCAL SHR	0
LOCK ESCAL EXC	137
SUSPENDS LOCK	965
SUSPENDS LATCH	8032
SUSPENDS OTHER	138013
LOCK CALLS	43360189
UNLOCK CALLS	3411770
LOCK QUERIES	123
LOCK CHANGES	512619
IRLM OTHER CALLS	0
CLAIM REQUESTS	46189291
CLAIM FAILURES	10
DRAIN REQUESTS	22598
DRAIN FAILURES	41
LOCAL CONTENTIONS	1990
LATCHES	4607
GRANTED CONTENTIONS	1651

LIST PREFETCH STATISTICS

REQUEST: BTSTASM2								
FIRST RECORD 04/30/21 09:57:00						LAST RECORD		
SUMMARY OF DB2 DATABASE ADDRESS SPACE STATISTICS								
ROUTINES			STOR-PROC			UDF		
EXECUTIONS			91			0		
ABENDS			0			0		
TIMEOUTS			0			0		
REJECTS			0			0		
DYNAMIC PREPARE								
STMT FOUND IN CACHE			303960					
STMT NOT FOUND IN CACHE			89459					
IMPLICIT PREPARE PERFORM			0					
PREPARE AVOIDED			0					
STMTS DISCARDED:MAXKEEPD			0					
STMTS PURGED: DEP OBJECT			32278					
PREP RESTRICTED INDX PEND			0					
CONCENT. LIT. STMTS PARSE			6958					
CONCENT. LITERAL REPLACED			6958					
CONCENT. LIT. STMTS FOUND			6928					
CONCENT. LIT. REUSE FAIL			15					
GLOBAL LOCKS								
CONTENTIONS						REQUESTS PROPAGATIONS		
FALSE THIS LPAR			10983			LOCK 663414 24100264		
SYNC->ASYNC CONV			10609			CHANGE 13955 166612		
IRLM			8461			UNLOCK 636296 6855411		
XES			1276			DENIED 0 N/A		
XES SYNC LK FAIL			0			RESOURCE N/A 182		
GLOBAL			3909					
FALSE			10983			ENGINES		
GLOBAL DEADLOCKS			0			MAX AVAILABLE 282000		
						UNAVAILABLE 0		
NEGOTIATIONS								
PGSET OR PART			3276			NOTIFYs		
PAGE			296			SENT 138040		
OTHER			1657			RECEIVED 212012		
CHG REQ ISSUED			4015					
SERVICE CONTROLLER STATISTICS								



REQUEST: BTSTASM2

FIRST RECORD 04/30/21 09:57:00

LAST RECORD 05

## SUMMARY OF DB2 DATABASE ADDRESS SPACE STATISTICS

SQL DML	AVERAGE	TOTALS	SQL DCL	TOTALS	SQL DDL	CREATE	DROP	ALTER	SECONDARY LATCH CONTENTIONS
SELECT	16.2	9125	LOCK TABLE	382	TABLE	863	403	223	MAIN - MAIN HELD 0
INSERT	1397.4	788121	GRANT	26	INDEX	860	19	6	MAIN - NON-ZERO USE COUNT 1030
UPDATE	159.2	89782	REVOKE	0	TABLESPACE	531	35	25	SECONDARY - MAIN HELD 6093
DELETE	19.1	10795	SET SQLID	442	STO GROUP	23	36	0	GENERIC 101
MERGE	0.5	294	SET H VAR	225	DATABASE	235	154	0	RESOURCE 0
TRUNCATE	0.0	20	SET DEGREE	0	SYNONYM	0	0	0	NOTIFY CTRL BLK - NOTIFY 106
PREPARE	407.4	229785	CONNECT 1	0	VIEW	0	0	0	
CALLS	0.2	91	CONNECT 2	7	ALIAS	0	0	0	HASH TABLES RESOURCE WORKUNIT
DESCRIBE	24.6	13857	RELEASE	0	PACKAGE	0	0	0	LOCK 2180 11
DESC TBL	0.0	0	SET CONNEC	0	GBL TMP TBL	0	0	0	UNLOCK 262 60
OPEN	448.1	252745	SET RULES	68	AUX TABLE	97	0	0	CHANGE 7 0
CLOSE	392.9	221588	ASSOC LOC	69	TRIGGER	0	0	0	COMPAT 1 0
FETCH	2245.9	1266675	ALLOC CSR	69	FUNCTION	0	0	0	QUERY FAST 6 0
			HOLD LOC	0	PROCEDURE	0	0	0	ASYNC LOCK 25 0
			FREE LOC	0	DISTINCT	0	0	0	SYNC N/A 0
			SET PATH	0	SEQUENCES	21	21	0	NOTIFY 0 N/A
			SET PREC	0	JAR	0	0	0	
					CONTEXT	0	0	0	IRLM
					ROLE	0	0	0	ABENDS RETRIED 0
					MASK	0	0	0	ABENDS NON-RETRYABLE 0
					VARIABLE	0	0	0	LOCAL DEADLOCKS 0
									TIMEOUT RLBS PURGED 0
					DCL GBL TMP	33			
					RENAME TBL	0			COMPAT QUEUE ELEMENTS
					RENAME IDX	0			QE GENERATED 1708
					REFRESH TBL	0			USE COUNT FOR QE 0
					XFER OWNRS	0			
					COMMENT	765			EXITS COUNTS
					LABEL ON	0			SUSPEND 168104
									RESUME 168102
									STATUS 2
									DEADLOCK 0
									TIMEOUT 1
									NOTIFY 212010
									P-LOCK 5229

# Please Provide Feedback...

PTF: LU01175

**Rabah Beggar**  
rabah.beggar@broadcom.com





# MTC-DBM UI: New embedded Hyperlinks and Breadcrumbs

**Srinivas Adupa**

[Srinivas.Adupa@Broadcom.com](mailto:Srinivas.Adupa@Broadcom.com)

# Problem statement:

## Opening reports takes time

At the moment, opening any report takes 3 clicks:

- Select row (1<sup>st</sup> click)
- Clicking Action button (2<sup>nd</sup> click)
- Select action (3<sup>rd</sup> click)

# Solution: Hyperlinks

## Highlights:

- Single click on hyperlinked object name
- **Performance**
- **Admin**

# Performance: opening PACKAGES report from PLAN

ca MTC - DBM for Db2 for z/OS

usilca31.lvn.broadcom.net:8787/mtc-dbm/app/plans?environment=QA@CA31.LVN.BROADCOM.NET:8800&system=CA31&ssid=D11A

Apps Software Portal MTC DBM 8787 Official 7474 Rally Personal Customer Insights.x... F104774: Template... Ghost team

ca Mainframe Team Center Database Management for Db2 for z/OS

Administration Performance

SSID D11A Environment QA@CA31.LVN.BROADCOM.NET:8800 Group Name OFF

Select performance category Category PLANS

Specify interval range Current Interval Historical Interval Begin Date/Time Interval Begin End Date/Time Current Date/Time View Range Auto Collapse

PLANS (D11A)

Actions Totals

View associated packages View associated dynamic SQL

Click 2

Click 3

Click 1

	INDB2_CPU	SQL	GETPAGE	SYNCREAD	SPFETCH	DYNPFETCH	PFPAGES	PAGEUPDT		
<input type="checkbox"/> DISTSERV	1.80	1.72	00:01.215584	00:00.914584	2,338	32,244	4	0	284	0
<input type="checkbox"/> RAPBD200	0.00	0.00	00:00.000711	00:00.000676	6	6	0	0	0	0
<input type="checkbox"/> RAPBD18B	0.00	0.00	00:00.000405	00:00.000327	3	3	0	0	0	0
<input checked="" type="checkbox"/> RAPBQ18B	0.00	0.00	00:00.000320	00:00.000319	3	3	0	0	0	0
<input type="checkbox"/> RAPBR171	0.00	0.00	00:00.000336	00:00.000310	3	3	0	0	0	0
<input type="checkbox"/> RAPBQ190	0.00	0.00	00:00.000273	00:00.000245	3	3	0	0	0	0
<input type="checkbox"/> RAPBP190	0.00	0.00	00:00.000251	00:00.000238	3	3	0	0	0	0
<input type="checkbox"/> PLCAI17	0.00	0.00	00:00.000216	00:00.000211	3	1	0	0	0	0

Active Filters: None

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# Problem statement: Output

MTC - DBM for Db2 for z/OS

usilca31.lvn.broadcom.net:8787/mtc-dbm/app/plans/DISTSERV/packages/SYSLH200/NULLID/5359534C564C3031/%20/PKGE/sqlStatements?environment=QA@CA31.LVN.BROA...

AppsSoftware PortalMTC DBM8787Official7474RallyPersonalCustomer Insights...F104774: Template...Ghost team

Mainframe Team Center  
Database Management for Db2 for z/OS

AdministrationPerformance

Select Db2 subsystem

SSID: D11A

Environment: QA@CA31.LVN.BROADCOM.NET:8800

Use Group Name OFF

Select performance category

Category: SQL STATEMENTS

Specify interval range

☒ Current Interval ☐ Historical Interval

Begin Date/Time: Interval Begin

End Date/Time: Current Date/Time

View Range

☐ Auto Collapse

SSID: D11A / PLANS: DISTSERV / PACKAGES: SYSLH200 / SQL STATEMENTS

SQL STATEMENTS (D11A)

ActionsTotalsAverage

	SQL_CALL	SECT	STMT	STYPE	TIMEPCT	CPUPCT	INDB2_TIME	INDB2_CPU	GETPAGE	SYNCREAD	SPFETCH	DYNPFETCH	
<input type="checkbox"/>	INSERT	1	1	232	14.10	23.01	00:00.004810	00:00.004820	287	1	0		C
<input type="checkbox"/>	OPEN	2	2	3	15.52	16.02	00:00.005291	00:00.003356	64	2	0		C
<input type="checkbox"/>	OPEN	5	5	3	12.09	10.94	00:00.004124	00:00.002293	52	2	0		C
<input type="checkbox"/>	COMMIT	2	2	310	12.59	7.28	00:00.004293	00:00.001525	0	0	0		C
<input type="checkbox"/>	PREPARE	2	2	14	4.03	7.01	00:00.001375	00:00.001469	0	0	0		C
<input type="checkbox"/>	UPDATE	2	2	234	3.68	6.37	00:00.001256	00:00.001336	30	0	0		C
<input type="checkbox"/>	UPDATE	3	3	234	2.99	5.98	00:00.001021	00:00.001253	30	0	0		C
<input type="checkbox"/>	PREPARE	1	1	14	2.71	5.83	00:00.000926	00:00.001223	0	0	0		C
<input type="checkbox"/>	PREPARE	5	5	14	2.72	5.08	00:00.000930	00:00.001064	0	0	0		C

Active Filters: None

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# Performance: Screenshot 2 (Single click)

ca MTC - DBM for Db2 for z/OS

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Apps Software Portal MTC DBM 8787 Official 7474 Rally Personal Customer Insights.x... F104774: Template... Ghost team

ca Mainframe Team Center Database Management for Db2 for z/OS

Administration Performance

Select Db2 subsystem

SSID: D11A

Environment: QA@CA31.LVN.BROADCOM.NET:8800

Use Group Name OFF

Select performance category

Category: PLANS

Specify interval range

Current Interval Historical Interval

Begin Date/Time: Interval Begin

End Date/Time: Current Date/Time

View Range

Auto Collapse

PLANS (D11A)

Actions

Totals Average

Active Filters: None

PLANNAME	TIMEPCT	CPUPCT	INDB2_TIME	INDB2_CPU	SQL	GETPAGE	SYNCREAD	SPFETCH	DYNPFETCH	PFPAGES	PAGEUPDT
<input type="checkbox"/> <a href="#">DISTSERV</a>	100.00	100.00	00:00.014446	00:00.006659	60	98	4	0	0	0	0

1 rows shown

javascript:void(0);

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# Admin: Lets open a Table Details report

MTC - DBM for Db2 for z/OS

Not secure | usilca31.lvn.broadcom.net:8787/mtc-dbm/app/adminReport?environment=QA@CA31.LVN.BROADCOM.NET:8800&ssid=D11A&objectType=TB&objectAbbreviation=TB&obje...

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Mainframe Team Center  
Database Management for Db2 for z/OS

Administration Performance

Select Db2 subsystem

SSID: D11A

Environment: QA@CA31.LVN.BROADCOM.NET:8800

Use Group Name OFF

Select object type

Common Db2 All Db2 CA Admin

SG DB TS TB IX VW

SV AL TG UF PR SQ

Specify filtering criteria

Object Name: \*

Object Creator/Schema: SYSIBM

List Objects

Auto Collapse

SQL STATEMENTS (D11A) TB LIST (D11A)

Actions

Active Filters: None

	NAME	CREATOR	DBNAME	TSNAME	TYPE	COLCOUNT	CARDF	DBID	OBID	CLUSTERTYPE	EDPROC	VALPROC	PCTPAGES	PARENTS	CHILDEI
<input type="checkbox"/>	ADMIN_TASKS	SYSIBM	DSNADMDB	DSNADMTS	T	2	-1.0E0	262	15					-1	0
<input type="checkbox"/>	ADMIN_TASKS_HIST	SYSIBM	DSNADMDB	DSNADMTH	T	4	-1.0E0	262	16					-1	0
<input type="checkbox"/>	BIN_REC_INPUT	SYSIBM	DSNDB06	SYSTSTAB	G	2	-1.0E0	6	0					-1	0
<input type="checkbox"/>	BIN_REC_OUTPUT	SYSIBM	DSNDB06	SYSTSTAB	G	2	-1.0E0	6	0					-1	0
<input type="checkbox"/>	BUFFERPOOL_STATUS	SYSIBM	DSNDB06	SYSTSTAB	G	19	-1.0E0	6	0					-1	0
<input type="checkbox"/>	DATA_SHARING_GROUP	SYSIBM	DSNDB06	SYSTSTAB	G	10	-1.0E0	6	0					-1	0
<input type="checkbox"/>	DB2_CMD_OUTPUT	SYSIBM	DSNDB06	SYSTSTAB	G	2	-1.0E0	6	0					-1	0
<input type="checkbox"/>	DB2_SYSPARM	SYSIBM	DSNDB06	SYSTSTAB	G	8	-1.0E0	6	0					-1	0
<input type="checkbox"/>	DB2_THREAD_STATUS	SYSIBM	DSNDB06	SYSTSTAB	G	21	-1.0E0	6	0					-1	0

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# Admin:

ca MTC - DBM for Db2 for z/OS

Not secure | usilca31.lvn.broadcom.net:8787/mtc-dbm/app/detailReport?environment=QA@CA31.LVN.BROADCOM.NET:8800&ssid=D11A&objectType=DB2&objectAbbreviation=TB&objec...

Apps Software Portal MTC DBM 8787 Official 7474 Rally Personal Customer Insights.x... F104774: Template... Ghost team

ca Mainframe Team Center Database Management for Db2 for z/OS

Administration Performance

Select Db2 subsystem

SSID: D11A

Environment: QA@CA31.LVN.BROADCOM.NET:8800

Use Group Name OFF

Select object type

Common Db2 All Db2 CA Admin

SG DB TS TB IX VW

SY AL TG UF PR SQ

Specify filtering criteria

Object Name: ADMIN\_TASKS

Object Creator/Schema: SYSIBM

List Objects

Auto Collapse

SSID: D11A / TABLE: SYSIBM.ADMIN\_TASKS / TB DETAILS

SQL STATEMENTS (D11A)

TB DETAIL (D11A)

Name	Creator	Type	Database	Tablespace
ADMIN_TASKS	SYSIBM	Regular	DSNADMDB	DSNADMTS

Owner: SYSIBM

Owner Type

Created By: TERJO03

Table Type: T

Created Timestamp: 2013-05-15 11:30:56.404592

Altered Timestamp: 2013-05-15 11:30:56.404592

Status

Table Status

Data Capture

Link as Parent: 0

Links as Child: 0

Table Label

Number of Synonyms: 0

Comment on Table

SPACEF: -1.0E0

Version: 0

Split Rows

Average Row Length: -1

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Type here to search

2:09 PM 5/8/2021

# Admin: Hyperlinks and Breadcrumbs

MTC - DBM for Db2 for z/OS

Not secure | usilca31.lvn.broadcom.net:8787/mtc-dbm/app/adminReport?environment=QA@CA31.LVN.BROADCOM.NET:8800&ssid=D11A&objectType=DB2&objectAbbreviation=TS&obje...

AppsSoftware PortalMTC DBM8787Official7474RallyPersonalCustomer Insights...F104774: Template...Ghost team

ca technologiesMainframe Team CenterDatabase Management for Db2 for z/OS

adusr01

AdministrationPerformance

Select Db2 subsystem

SSID: D11AEnvironment: QA@CA31.LVN.BROADCOM.NET:8800Use Group Name: OFF

Select object type

Common Db2All Db2CA Admin

SGDBTSITBVW

SYALTGTGUFPRSQ

Specify filtering criteria

Object Name: DSNADMTSObject Creator/Schema: \*Database Name: DSNADMDB

List ObjectsAuto Collapse

SSID: D11A / TABLE: SYSIBM.ADMIN\_TASKS / TABLESPACE: DSNADMDB.DSNADMTS

SQL STATEMENTS (D11A)TS LIST (D11A)

Actions

	NAME	CREATOR	DBNAME	PARTITIONS	TYPE	IMPLICIT	NTABLES	NACTIVEF	DBID	OBID	PSID	BPOOL	SEGSIZE	DSSIZE	LOCKRULE	ERASERULE	CLC
<input type="checkbox"/>	DSNADMTS	TERJO03	DSNADMDB	0		N	1	-1.0E0	262	3	4	BP8K0	32	0	A	N	

Active Filters: None

1 rows shown

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# Please Provide Feedback...

PTF: Coming Soon

**Srinivas Adupa**  
srinivas.adupa@broadcom.com





In Closing...

# When is the next Community Update call?

The 2<sup>nd</sup> Monday of each month

Our next call will be Monday June 14<sup>th</sup>, 2021

## Did you miss last months call?

The replay is available [here](#).

# CA Db2 Tools 20.0 Validation Project

<https://validate.broadcom.com/key/DB2Tools200>

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## Broadcom MSD Presence



WE 9 10:30AM

## 3 VSP Sessions

**Db2 T&D**  
 TU 8 1:45PM

**DevOps**  
 WE 9 12:45PM

**RESTART**  
 TH 10 2:25PM

## 9 Technical Sessions

Track	Title/Speaker	Date	Time (EDT)
z/OS	A Very Untraditional Approach Implementing Schema Changes! Steen Rasmussen	Tue, June 8	Session 4 11:25 AM
Developers	-805 Explained, Emil Kotrc	Tue, June 8	Session 6 2:55 PM
Developers	The Joy of Joins, Emil Kotrc	Wed, June 9	Session 9 1:45 PM
z/OS	Encryption of Db2 for z/OS Data "at Rest" using Key Label, Manik Kainth	Wed, June 9	Session 10 3:55 PM
z/OS	Virtual Indexes Explained, Rysard Stepien	Thu, June 10	Session 13 3:55 PM
z/OS	Bridging the Gap Between Db2 and Enterprise Metrics and Data Science, Kevin Harrison	Fri, June 11	Session 17 3:00 PM
Track	Title/Speaker		
z/OS	What Db2 Can Do, I Can Do Too: First Steps Towards AI, Toine Michielse		
z/OS	What New Modern Programming Languages You Can Use with Db2 and How, Petr Plavjanik		
Developers	Anomalize This, Javier Estrada Benavides		



**Peds**  
 DevOps  
 AIOPs  
 Security  
 Infrastructure  
 MainframeFlix

<https://mainframe.broadcom.com/idug-virtual-db2-tech-conference-2021>



# Broadcom Feature Sessions

Db2 z/OS Tools Trends & Directions: DevOps, AIOps, Data Protection  
Chris Crone, Tuesday, Jun 8, 1:45PM EDT

**Keynote: MainframeFlix for Your Education Fix**  
**Greg Lotko, Wednesday, Jun 9, 10:30AM EDT**

How Broadcom is Bringing the z/OS Db2 DBA Into DevOps  
Denis Tronin, Toine Michielse, Wednesday, Jun 9, 12:45PM EDT

Beyond Concurrency: Broadcom's Solution for Restartable z/OS Batch Applications  
Julia Carter, Robert Andresen, Thursday, Jun 10, 2:25PM EDT

Women in Technology, featuring Tracey Malloy  
Friday, Jun 11, x:xx EDT

# Keynote


Wednesday, June 9

10:30 AM EDT

BROADCOM KEYNOTE ADDRESS

**Mainframe Flix for your Education Fix**

Attend this keynote session to have some fun and discover new ways to amplify the value of your mainframe investment while also making your day-to-day life working with Db2 for z/OS easier. Get a sneak peek of binge-worthy sessions available through the IDUG NA conference Expo portal and what will sure to be the most talked-about mainframe education of the season.



**Greg Lotko**  
Senior Vice President and General Manager, Mainframe Software Division

# Broadcom Technical Sessions

Track	Title/Speaker	Date	Time (EDT)
z/OS	A Very Untraditional Approach Implementing Schema Changes! Steen Rasmussen	Tue, June 8	Session 4 11:25 AM
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# On-Demand Sessions

Track	Title/Speaker
z/OS	What Db2 Can Do, I Can Do Too: First Steps Tow ards AI, Toine Michielse
z/OS	What New Modern Programming Languages You Can Use w ith Db2 and How , Petr Plavjanik
Developers	Anomalize This, Javier Estrada Benavides



# Thank You