Enhanced Analysis Through Integrating CICS and Other Types of SMF Data

Virtual CICS User Group – January 23, 2024
Todd Havekost – Senior Performance Consultant

Integrating CICS & Other Types of SMF Data

Integrating CICS & Other Types of SMF Data

- With WLM goal data (72.3)

- CICS / Db2 / MQ topology views

- With Db2 accounting data (101)

- With MQ accounting data (116)

- With z/OS Connect data (123)

Enhanced Capabilities for Analyzing SMF Data

- Proactive identification of potential risks to availability and performance

- <u>Common intuitive interface into data types across disciplines promotes collaborative analysis and expedites learning</u>

- Dynamic navigation to explore data based on current view (instead of static reports)

- Context sensitive drill downs to quickly focus on desired subset of data (even with massive data volumes)

- Shared customized dynamic dashboards provide common views across organization

With WLM Service Class
Goal Data (72.3)

WLM PERFORMANCE INDEX [RATING: 0.00]

For Workload 'CICS', for Goal Type 'Percentile Response Time Goal', for Servi...   Full report ⊙

Single day 7/2/2021
Interest group IGT, All sysplexes, All shifts, Interval Measurement

TRANSACTION RESPONSE

for all CICS Transactions by CICS Transaction ID with filter on Transaction Re...   Full report ⊙

Single day 7/2/2021
Interest group IGT, All sysplexes, All shifts, Interval Measurement

CICS TRANSACTION VOLUMES

for all CICS Transactions by CICS Transaction ID with filter on Transaction Re...   Full report ⊙

Single day 7/2/2021
Interest group IGT, All sysplexes, All shifts, Interval Measurement

CICS TRANSACTIONS (TOP 20)

for all CICS Transactions by CICS Transaction ID with filter on System ID   Full report ⊙

Custom 7/2/2021 6:45 PM - 7/2/2021 7:15 PM
Interest group IGT, All sysplexes, All shifts, Interval Measurement

CICS Transaction Rate

With CICS / Db2 / MQ
Subsystem Topology Views

So You Don't Think You're An Architect?

So You Probably Aren't An Architect But The Role You Can Play Is Very Valuable

For You

- Understand what's really going on

- Especially valuable to real systems architects

- Keep up to date view of the estate

- Inform your own capacity and performance role

- Contribute to resilience discussions
 - Your job could become "Capacity, Resilience, Architecture, Performance"

For Me

- Personally, dabbling in architecture keeps me interested
  - Not that Performance and Capacity are boring
  - It just provides another angle

- Gives me another way to find patterns among customers

- Enables me to collaborate with other disciplines
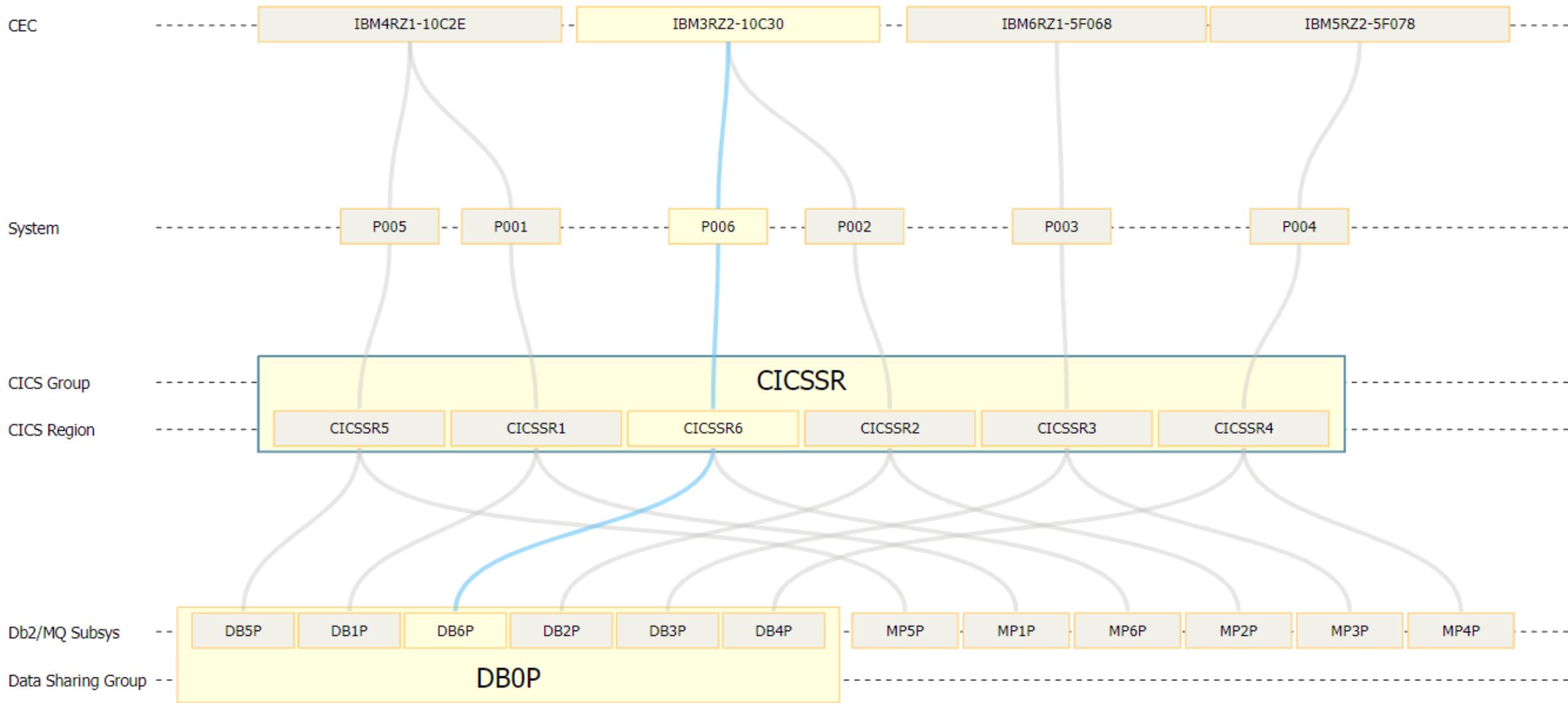
Martin Packer, IBM,
GSE UK Nov. 2023

Complexity

- I'm seeing increasingly complex estates

  - Hundreds of CICS regions
  - Scores of Db2 subsystems
  - Dozens of MQ queue managers
  - Ever more diverse DDF work
  - Newer functions such as zCX, CTG, z/OS Connect

- Keeping track of it is really tough
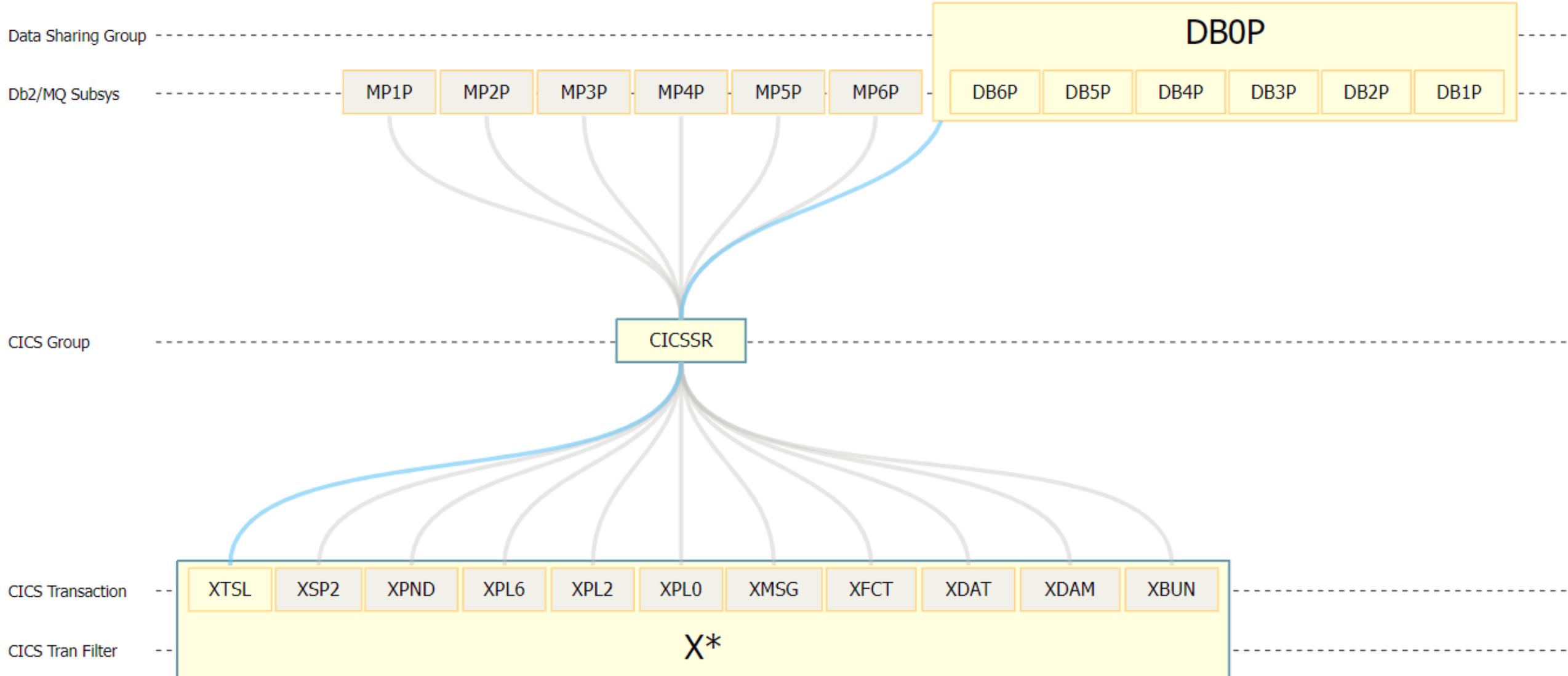 - Actually true for smaller estates
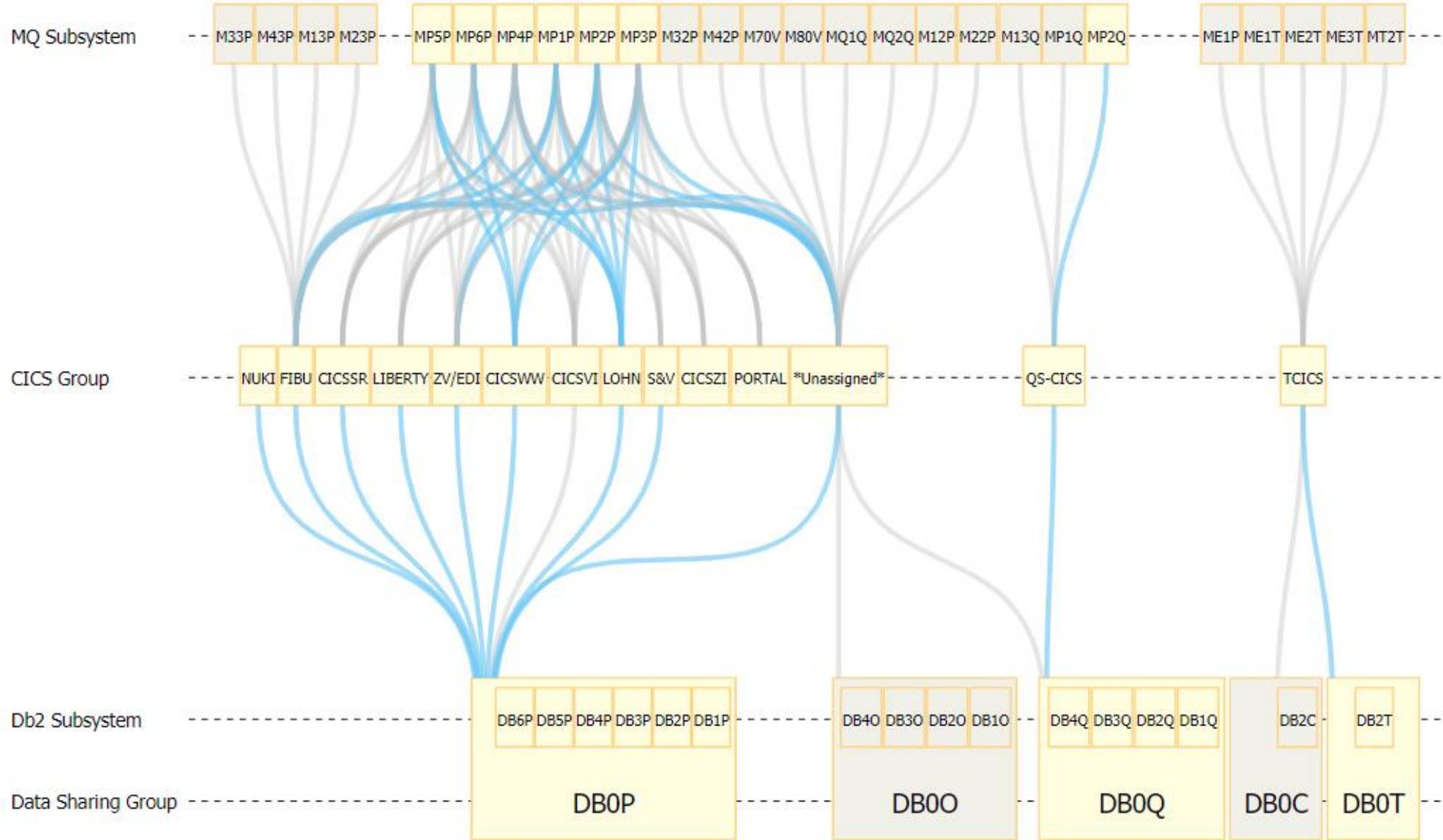
Subsystem Topology
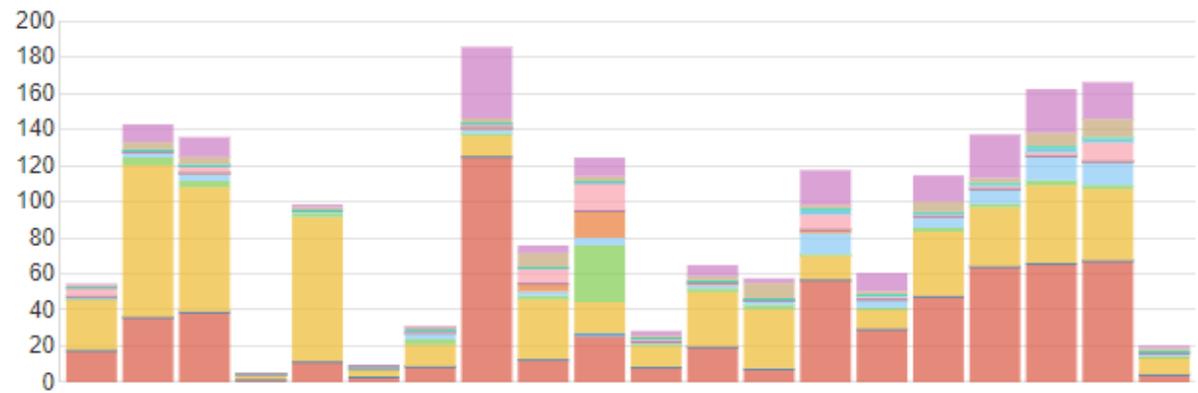
Tran/Subsystem Topology

With Db2 Accounting Data (101)

DB2 TRANSACTION RESPONSE TIME (TOP 20)

For Connection Type 'CICS Call Attach' by Correlation Name   Full report ⊙

Single day 7/1/2021
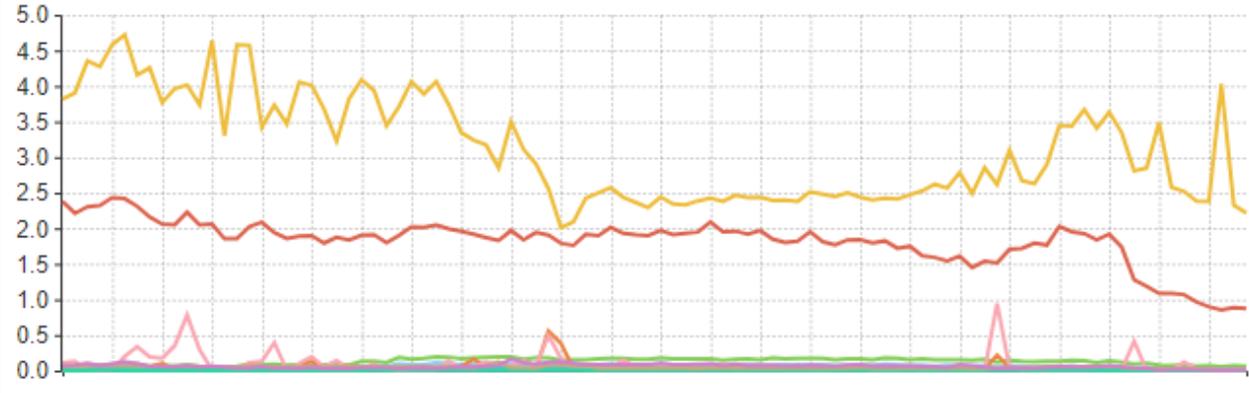Interest group IGT, All sysplexes, All shifts, Interval Measurement

DB2 TRANSACTION RESPONSE TIME

For Connection Type 'CICS Call Attach', for Correlation Name 'DWWI'   Full report ⊙

Single day 7/1/2021
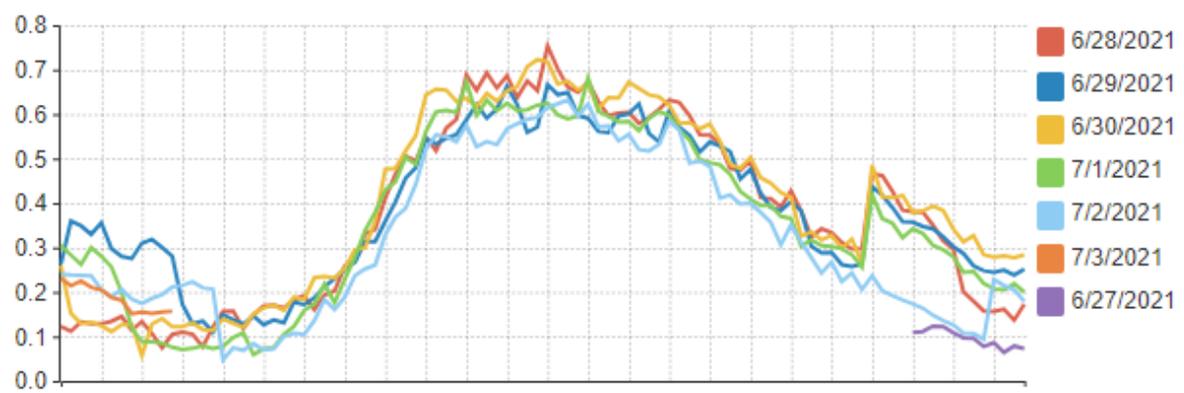Interest group IGT, All sysplexes, All shifts, Interval Measurement

DB2 CLASS 2 CP PROCESSORS USED

For Plan Name 'GY7BP1G' by Date with filter on Connection Type   Full report ⊙

All data 6/27/2021 12:00 AM - 7/3/2021 2:59 AM
Interest group IGT, All sysplexes, All shifts, Interval Measurement

Legend:
- 6/28/2021
- 6/29/2021
- 6/30/2021
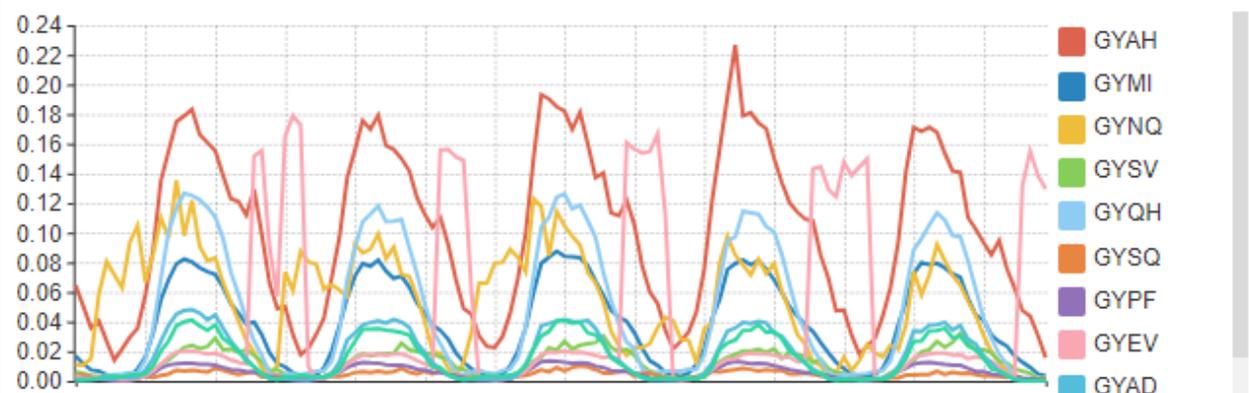- 7/1/2021
- 7/2/2021
- 7/3/2021
- 6/27/2021

DB2 CLASS 2 CP PROCESSORS USED (TOP 10)

For Plan Name 'GY7BP1G' by Correlation Name with filter on Connection Type   Full report ⊙

All data 6/27/2021 12:00 AM - 7/3/2021 2:59 AM
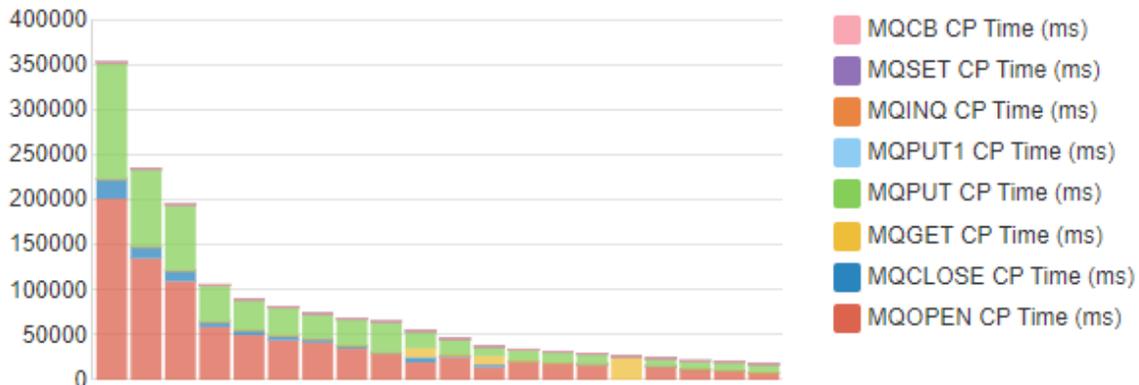Interest group IGT, All sysplexes, All shifts, Interval Hour

Legend:
- GYAH
- GYMI
- GYNQ
- GYSV
- GYQH
- GYSQ
- GYPF
- GYEV
- GYAD

With MQ Accounting Data (116)

MQ COMMAND CP USAGE (TOP 20)

For Connection Type 'CICS' by CICS Transaction ID

Full report ➡

Single day 7/2/2021
Interest group **IGT**, **All sysplexes**, **All shifts**, Interval **Measurement**

Legend:
- MQCB CP Time (ms)
- MQSET CP Time (ms)
- MQINQ CP Time (ms)
- MQPUT1 CP Time (ms)
- MQPUT CP Time (ms)
- MQGET CP Time (ms)
- MQCLOSE CP Time (ms)
- MQOPEN CP Time (ms)

MQ COMMANDS PER SECOND (TOP 20)

For Connection Type 'CICS' by Connection Name

Full report ➡

Single day 7/2/2021
Interest group **IGT**, **All sysplexes**, **All shifts**, Interval **Measurement**

Legend:
- MQCB Calls (requests/s)
- MQSET Calls (requests/s)
- MQINQ Calls (requests/s)
- MQPUT1 Calls (requests/s)
- MQPUT Calls (requests/s)
- MQGET Calls (requests/s)
- MQCLOSE Calls (requests/s)
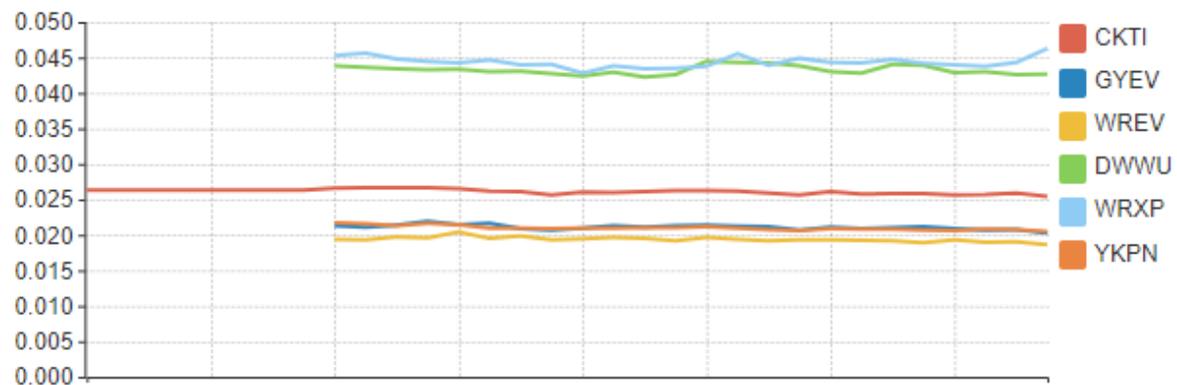- MQOPEN Calls (requests/s)

MQGET AVERAGE CP USAGE (TOP 6)

For Connection Type 'CICS' by CICS Transaction ID

Full report ➡

Single day 7/2/2021
Interest group **IGT**, **All sysplexes**, **All shifts**, Interval **Measurement**
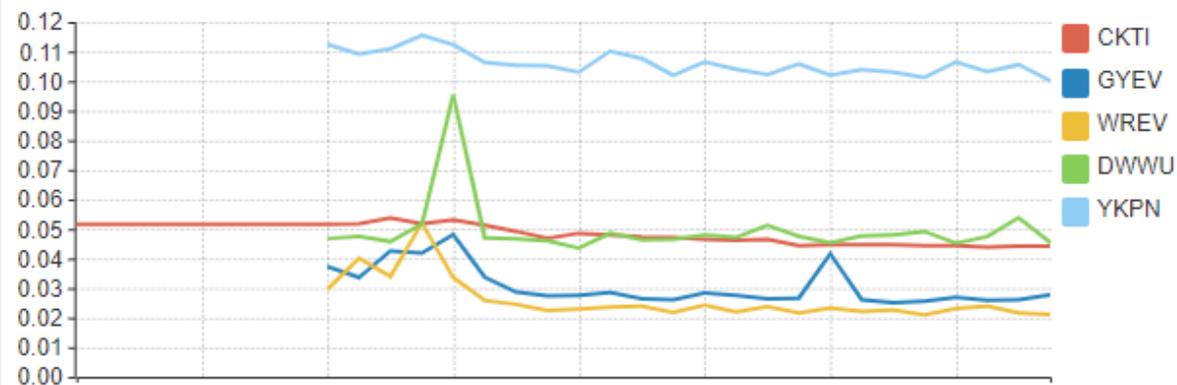

Legend:
- CKTI
- GYEV
- WREV
- DWWU
- WRXP
- YKPN

MQGET AVERAGE ELAPSED TIME (TOP 5)

For Connection Type 'CICS' by CICS Transaction ID

Full report ➡

Single day 7/2/2021
Interest group **IGT**, **All sysplexes**, **All shifts**, Interval **Measurement**

Legend:
- CKTI
- GYEV
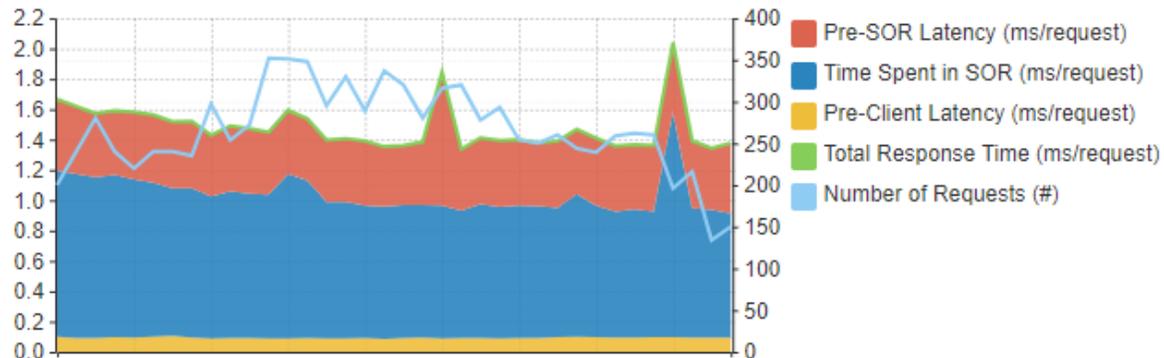- WREV
- DWWU
- YKPN

With z/OS Connect Data (123)

API Provider Metrics (123.1)
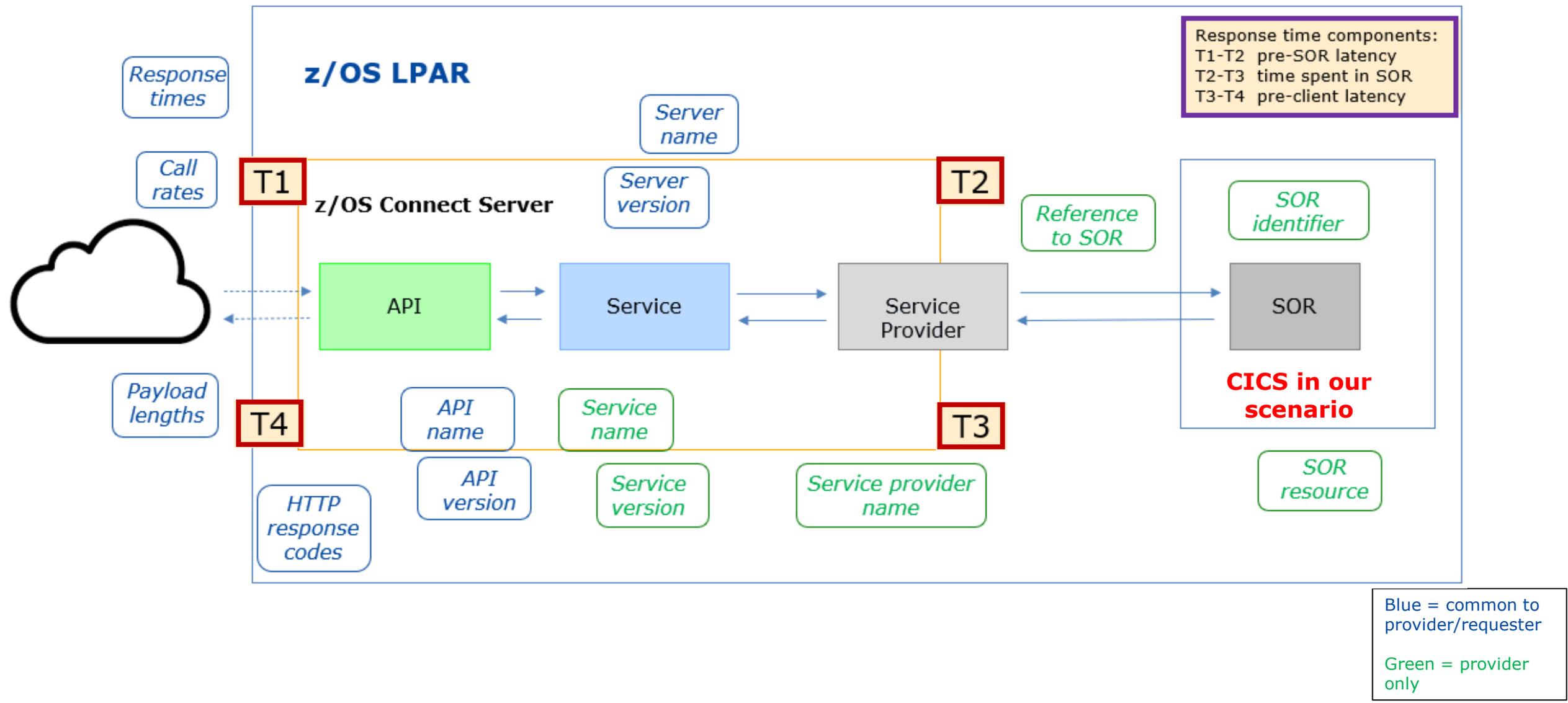
RESPONSE TIME COMPONENTS

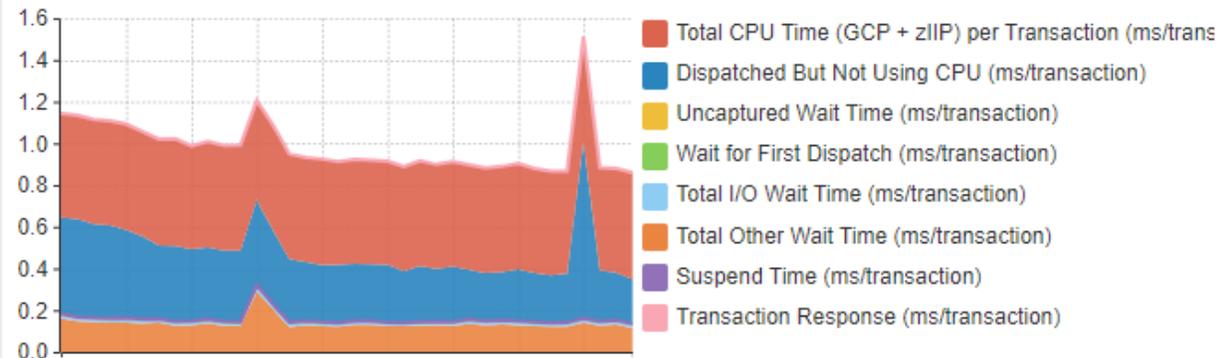For API Name 'SCOF-PMT-MAM-INQUIRY-API-V1', for Service Provider Na...   Edit ✎ | Full report ➤

Single day 9/22/2023
Interest group IGT, All sysplexes, day, Interval Measurement

- Pre-SOR Latency (ms/request)
- Time Spent in SOR (ms/request)
- Pre-Client Latency (ms/request)
- Total Response Time (ms/request)
- Number of Requests (#)

TRANSACTION RESPONSE TIME

For Generic Applid 'A01CIC70', for CICS Transaction ID 'CSMI'   Edit ✎ | Full report ➤

Single day 9/22/2023
Interest group IGT, All sysplexes, day, Interval Measurement

- Total CPU Time (GCP + zIIP) per Transaction (ms/trans
- Dispatched But Not Using CPU (ms/transaction)
- Uncaptured Wait Time (ms/transaction)
- Wait for First Dispatch (ms/transaction)
- Total I/O Wait Time (ms/transaction)
- Total Other Wait Time (ms/transaction)
- Suspend Time (ms/transaction)
- Transaction Response (ms/transaction)

USING CPU WHILE DISPATCHED [RATING: 3.00]

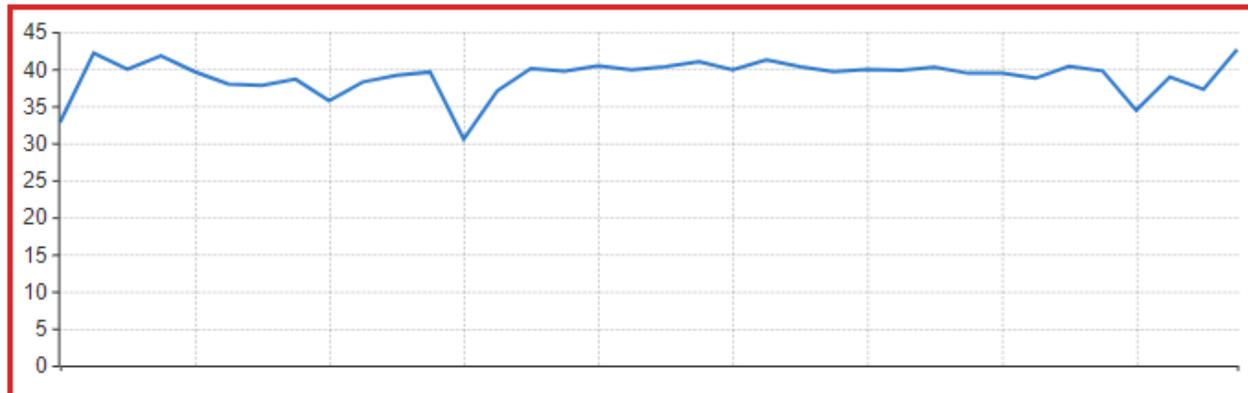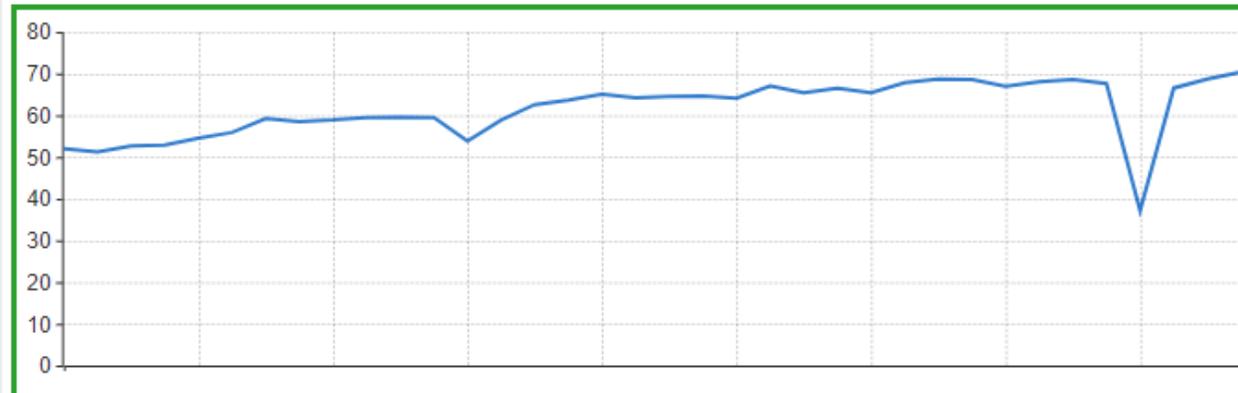For Generic Applid 'A01CIC70'   Edit ✎ | Full report ➤

Single day 9/22/2023
Interest group IGT, All sysplexes, day, Interval Measurement

USING CPU WHILE DISPATCHED [RATING: 0.00]

For Generic Applid 'A01CIC70', for CICS Transaction ID 'CSMI'   Edit ✎ | Full report ➤

Single day 9/22/2023
Interest group IGT, All sysplexes, day, Interval Measurement

Resources

Additional CICS Resources

CICS Statistics Videos

- Assessing CICS Storage Health
- Assessing CICS Transaction & Enqueue Health
- CICS Transaction Class Metrics
- CICS TCB Dispatcher Metrics – Part 1
- CICS TCB Dispatcher Metrics – Part 2 (T8 TCBs)

CICS Transactions Videos

- CICS Timing Metrics – Overview
- Transaction Response Time Analysis
- Timing Analysis by High-Level Components
- Response Time Analysis Scenario 1 Values Differing by System ID
- Integrating WLM Performance Index and CICS Transaction Analysis
- CICS Web Services Metrics
- Overview of Non-timing Transaction Metrics

Upcoming Events and Webinars

February 22   **Mainframe Roundtable #3: the SYSPROGS –**
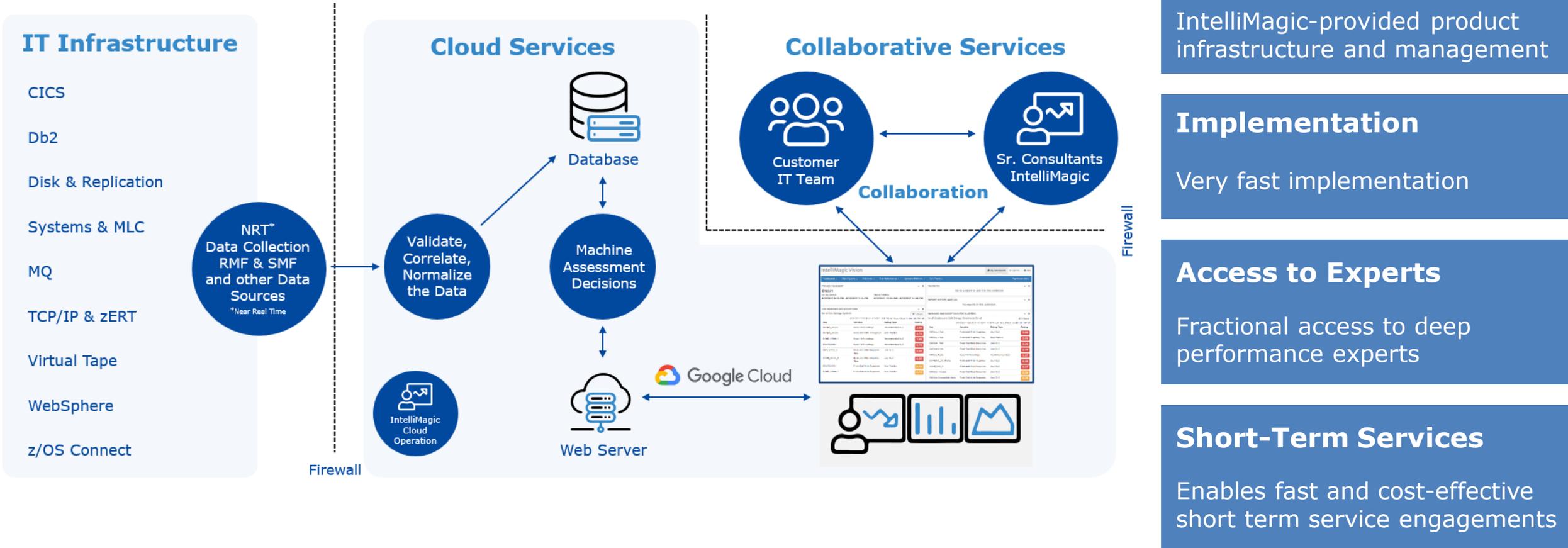
John Baker, Facilitator

March 4-7   **SHARE Orlando**

March 21   **Should There Be a Sub-Capacity Processor Model in Your Future?** –

Frank Kyne & Todd Havekost

IntelliMagic Cloud: Focus + Access to Experts

IT Infrastructure

- CICS
- Db2
- Disk & Replication
- Systems & MLC
- MQ
- TCP/IP & zERT
- Virtual Tape
- WebSphere
- z/OS Connect

NRT*
Data Collection
RMF & SMF
and other Data
Sources
*Near Real Time

Firewall

Cloud Services

Database

Validate, Correlate, Normalize the Data

Machine Assessment Decisions

IntelliMagic Cloud Operation

Web Server

Google Cloud

Collaborative Services

Customer IT Team

Sr. Consultants IntelliMagic

Collaboration

Firewall

Product Infrastructure

IntelliMagic-provided product infrastructure and management

Implementation

Very fast implementation

Access to Experts

Fractional access to deep performance experts

Short-Term Services

Enables fast and cost-effective short term service engagements

Questions?

Thank you for attending!

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Availability Intelligence