New Ways to Analyze
CICS Transaction and Statistics Data

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IntelliMagic

Availability Intelligence

Getting More out of the 110 Data

- The CICS SMF data contains what is needed to:
  1. <u>Quickly understand</u> and solve almost any problem
     - If you can do it post-mortem, you can do it near-real-time
  2. <u>Proactively avoid</u> many common problems
     - If you can do it post-mortem, you can do it predictively

- Why is it so hard?
  - Volume and Complexity of the data
  - Fast access to the historical data, and flexible ways to view it
  - Lack of time from domain experts
  - Interpretation vs. Measurement
    - what are good and bad values for all the metrics/areas?
  - Silos of expertise and lack of visibility across areas
  - …

Modernized Analytics for 110 SMF Data

- Top capabilities to more quickly understand and avoid problems

  1. Augment the human team with machine decisions for force-multiplication
     - Health Insights to rate the most important metrics
     - Change Detection to highlight statistical anomalies

  2. Live access to near-real-time SMF metrics
     - click-to-query, click-to-compare; click-to-customize

  3. Common user interface across infrastructure areas, Shared dashboards for focus areas

- Examples shown with IntelliMagic Vision

Analyzing
CICS SMF Data

CICS SMF Data

- CICS Statistics (SMF 110.2)
  - Data on shared resources within regions
  - Types include Transaction Manager, Storage Manager, Dispatcher, File Control

- CICS Transactions (SMF 110.1)
  - Transaction level data
  - Approx. 400 fields, including approx. 100 timing "buckets"

Agenda

- Leveraging Assessments of Key CICS Statistics Metrics

- Analyzing CICS Statistics Metrics

- Analyzing CICS Transaction Timing Metrics

- Analyzing Other CICS Transaction Metrics
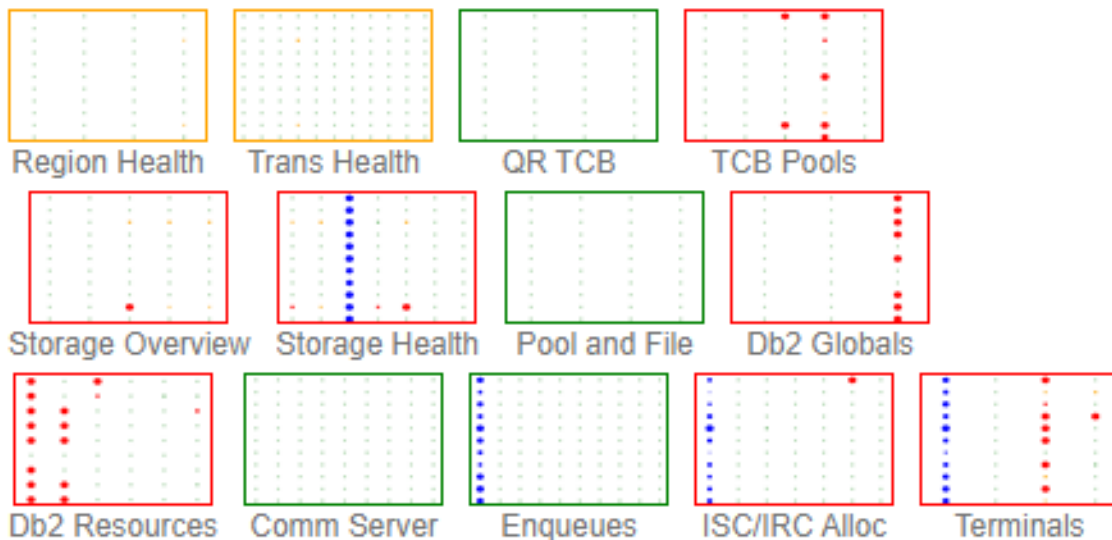
- Integrating CICS with Other Types of SMF Data

Leveraging Assessments of Key CICS Statistics Metrics

CICS Statistics Health Assessments

Views direct your attention to potential issues

- 70+ metrics assessed for health
- Summarized by "CICS Group", drilldowns by region, resources

Previews report set CICS

Region Health   Trans Health   QR TCB   TCB Pools

Storage Overview   Storage Health   Pool and File   Db2 Globals

Db2 Resources   Comm Server   Enqueues   ISC/IRC Alloc   Terminals

Examples include:

- Times at MAXTASK
- Times at TCLASS Limit
- Times Short on Storage
- Storage Violations
- Max QR TCB % Busy
- Waits for VSAM File or LSR Pool Strings
- DB2ENTRY Thread Waits

Analyzing
CICS Statistics Metrics

Analyzing CICS Transaction Timing Metrics

Transaction Response Time Concepts

- 100 timing "buckets" grouped into high level categories

- (1) Response time = Dispatch time + Suspend time

- (2) Suspend time = Wait for first dispatch + I/O wait time + Other wait time + Uncaptured wait time

- (3) Resource Manager Interface (RMI) times
  - Suspend time and elapsed time metrics

Analyzing Other
CICS Transaction Metrics

Other CICS Transaction Metrics

- Web Services
- Data Requests
- File Requests
- Journals
- Program Load
- Storage Usage
- Temp Storage

- BMS
- BTS
- Channel Containers
- CICS General
- Document Handling
- FEPI Requests

- RMI Requests
- Sockets
- Syncpoints
- Tasks
- Terminal Activity
- User Fields

Integrating CICS with Other Types of SMF Data

Integrated Perspective into CICS Performance

- 70 – CPU at system level
- 72.3 – CPU at service class level
  - WLM performance indices
  - Key transaction metrics
- 101 – Db2 Accounting view of CICS transactions
- 116 – MQ Accounting view of CICS transactions

Integrating WLM (72.3) and CICS Transaction Data (110.1)

Summary

New Ways to Analyze CICS SMF Data

❖ Proactive identification of potential availability and performance risks

❖ Common interface into data types across disciplines (instead of siloed tooling) promotes collaboration

❖ 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

Recent Poll Results

1 of 1. Which capabilities could enhance your current analysis of CICS SMF data? (Select all that apply)

Multiple choice with multiple answers

64.29% Proactively identify potential risks to availability

60.71% Common interface across data types for collaboration

35.71% Dynamic navigation to explore data based on current view

64.29% Context sensitive drill downs to focus on subset of data

78.57% Customized dynamic dashboards shared across teams
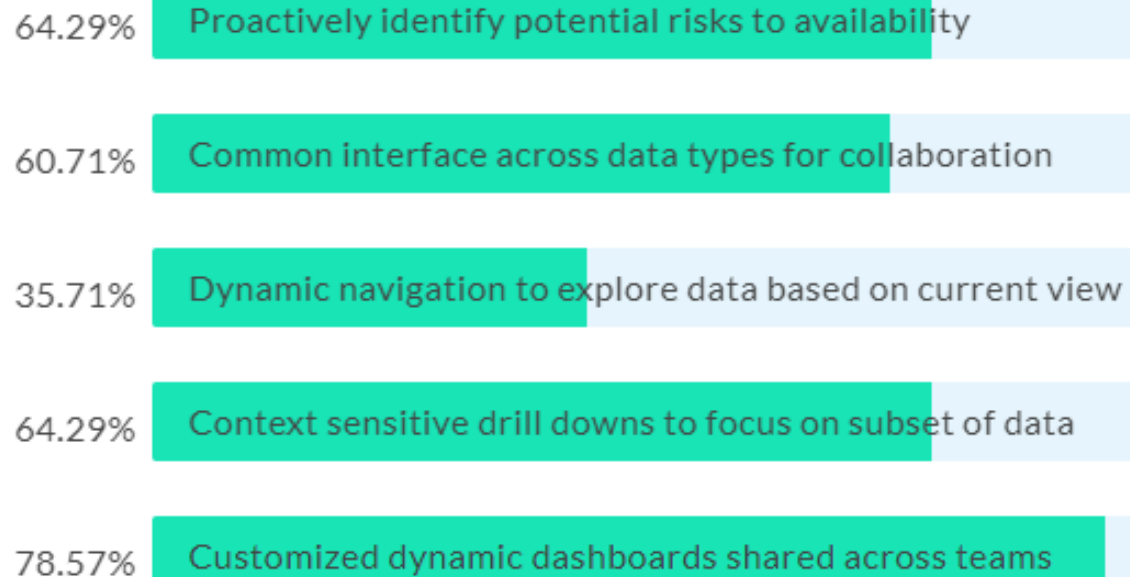
Modernized SMF Analytics via Cloud Delivery

IT Infrastructure

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

IntelliMagic Cloud

NRT Data Collection

RMF & SMF and other Data Sources

Validate, Correlate, Normalize the Data

Machine Assessment Decisions

Web Server

Database

Query

Extract

Firewall

Firewall

Customer IT Team

IntelliMagic Services

IntelliMagic Vision Web Reporter
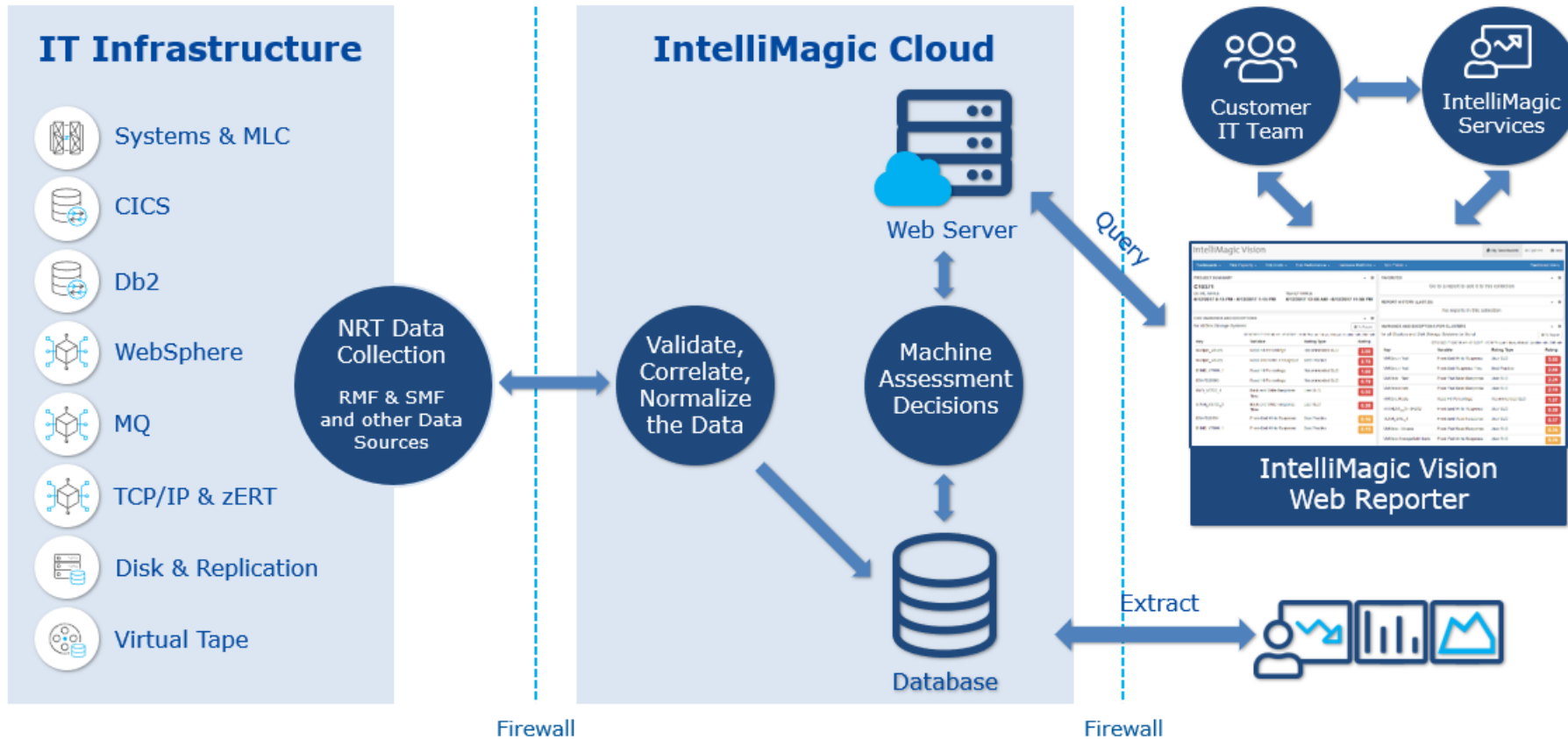
Product Infrastructure

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

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 zAcademy Webinars

Jan 25 – **Ways to Achieve Mainframe Cost Savings**

Thank you for attending!

Video excerpts of many aspects of analyzing
CICS Statistics and Transactions data can be found here

For additional information, please contact
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