

z/IRIS

EXPANDING z/OS MONITORING HORIZONS

UNLOCK MAINFRAME PERFORMANCE DATA

Mainframe performance data contains valuable information relevant to the overall performance of your business applications. However, most mainframe customers analyze mainframe application, subsystem and system performance separate from the relevant distributed systems that impact the workloads.

The handful of end-to-end monitoring tools that include mainframe technology support, typically focus on the enterprise mainframe market, meaning they are quite costly. When the IT budget does suffice, the features offered by these E2E platforms can be limited and often fall short of the various application teams' and DevOps' requirements.

Many mainframe team leads and managers say that their mainframe professionals often spend a considerable amount of time analyzing potential performance issues because DevOps teams cannot access the relevant information themselves during root cause analysis.

With z/IRIS, any monitoring tool or big-data application can access and process a mainframe performance data, namely SMF records. This enables mainframe-inclusive monitoring and helps mainframe customers maximize the business value of their SMF data.

KEY FEATURES



zIIP Eligible

z/IRIS z/OS applications can run on zIIP processors, meaning z/OS CPUs are free to service business application workloads



Near Real-Time (NRT)

SMF data is sourced and processed NRT, ensuring the data is available when and where NRT processing is required and useful



Integrable

The z/IRIS plug-in architecture seamlessly integrates into applications, tools and products that run outside the mainframe



Pure JDBC Workloads

z/IRIS can correlate traces from workloads like JDBC where no Transaction Manager orchestrates access to mainframe data

Architecture Overview

z/IRIS is composed of one or more z/IRIS z/OS Clients, and one or more z/IRIS Linux Servers.

The z/OS client is a sleek IBM Java application that has the ability to run on zIIP processors(though not required). Running z/OS clients on zIIPs ensures that the z/OS clients do not impact MSU chargeback. The z/OS client accesses SMF data through the IBM SMF in-memory resources and APIs, keeping the installation, configuration and maintenance quick and simple.

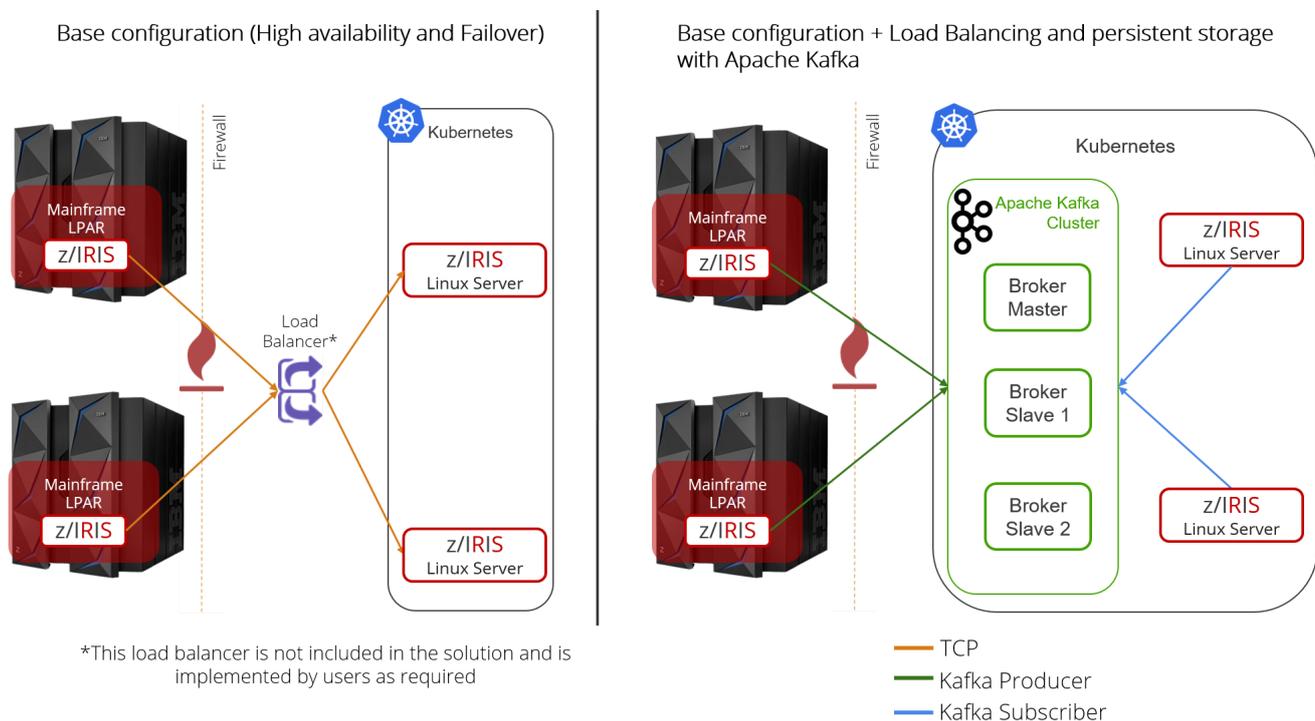


FIGURE 1: z/IRIS HIGH-LEVEL DESIGN

The z/IRIS Linux Server (aka IronTap) utilizes Apache Kafka and Kubernetes which, when used in combination, provides high-availability and fail-over capabilities for continuous delivery of SMF records as well as data retention options. IronTap is responsible for SMF data formatting and normalization as well as integrating mainframe performance data into 3rd party tools and solutions, e.g. APM tools. APM Integration is most often achieved through custom trace data and alerting APIs.

Increasing the business value of your SMF data, the Apache Kafka topic used by z/IRIS is open to 3rd party tools that provide custom Apache Kafka subscription and consumption. Users can also implement their own Kafka consumers which subscribe to the z/IRIS SMF topic for access to live SMF data.

SMF RECORD FORMATTING

Naming standards, numeric values and trace fields are built into z/IRIS so that SMF records transferred to 3rd party tools are processed similarly to other existing traces within the platform.

A popular format for mainframe performance traces (SMF records) through z/IRIS is JSON, as most 3rd party tools use JSON for custom trace functionality through Rest APIs. Alternate formats can be applied depending on the requirements of the 3rd party software solution or tool.

POPULAR USE CASES

DISTRIBUTED DB2 FOR Z/OS TRACE STREAMING

Pure TCP-based JDBC access to **Db2 on z/OS** databases is increasing within mainframe environments. This is primarily due to the ability to access Db2 database data without requiring transaction managers or queuing systems, thereby improving time to market of your business applications.

z/IRIS can merge mainframe performance data for Db2 workloads on z/OS created by JDBC client applications with traces created by Java APM agents or simply forward this data onto big-data analytics systems.

z/IRIS gives you access to valuable key performance indicators, including JDBC response times, deadlock details and CPU costs related to your business applications. Equipped with this valuable data, your DevOps teams can quickly identify applications involved in deadlocks. Your application or analytics teams can also identify which requests are more expensive and could thus be improved.

NRT metrics create or enrich dashboards and expand alerting processes to include mainframe systems that will empower your DevOps to assist mainframe teams with performance monitoring.

APM INTEGRATION

z/IRIS integration could be of interest to you if you currently have a monitoring tool in place and you believe integrating mainframe performance data could drastically increase its business value and improve problem and root cause analysis. You would also benefit if you are an APM provider looking to expand your platform to provide mainframe-inclusive monitoring. z/IRIS uses custom trace interfaces provided by APM platforms and utilizes any data enrichment capabilities provided by these platforms.

Adding mainframe performance data gives application development teams a view of the impact of their requests on the mainframe and enables them to adapt their development to make better use of mainframe resources.

Once integration has been built into z/IRIS for an APM tool, the APM provider has the option to join our Technology Partnership Program and take advantage of ongoing z/IRIS development and services and continuously improve their mainframe support in the process.

SHARED SMF KAFKA CLUSTER

To increase the business value of your SMF data, the Apache Kafka topic used by z/IRIS is open to subscription by 3rd party Apache Kafka consumer tools. This reduces complexity and resources required to process mainframe performance data outside the mainframe.

Users can implement their own Apache Kafka consumer that subscribes to the SMF topic and accesses SMF data for in-house processing.

Mainframe customers can access their SMF data on-the-fly and integrate SMF data into most modern tools, applications and in-house processes.

TECHNOLOGY PARTNERSHIP PROGRAM

The z/IRIS Technology Partnership Program provides the following benefits to our partners:

- Officially supported z/IRIS integration for partner platforms which includes the active forwarding of mainframe performance traces according to partner requirements
- Continuous integration for z/IRIS development
- Access to mainstorconcept professional services and support

A commitment free consultation is available to discuss your how mainframe performance data can boost your user experience.

System Requirements

LINUX SERVER

Hardware

- Quad Core Processor (2,5 GHz) x86_64 compatible*
- 5GB RAM*
- 10GB Storage*

Software

- Ubuntu 16.04, Debian 7**
- Open JDK Version 8**

z/OS CLIENT

Storage

- 2000KB zFS Mounted Files System***

Software

- z/OS 2.1 onwards
- IBM Java SDK v8 64 bit
- SMF Logstream Mode
- TCP/IP must be active

**configuration requirements for processing of up to 10 000 SMF Records/s*

***Recommended Linux Distributions and Java version*

****per designated LPAR*