beta systems

JobZ

Workload Automation in Kubernetes – Beta JobZ Cloud Connector as a bridge for modern IT automation

The Challenge of Modern Enterprise IT

Today's IT landscapes are more heterogeneous than ever before: z/OS mainframes, Unix/Linux servers, Windows systems, SAP R/3 and S/4HANA platforms, as well as cloud and container environments must be operated, controlled, and monitored in parallel. Classic workload automation systems (WLA) such as **IBM Workload Scheduler (IWS/IzWS)** have established themselves over decades as the backbone of company-wide process automation and ensure the error-free execution of millions of jobs per year. But with the proliferation of **container technologies,** especially **Kubernetes**, these established systems are reaching their limits: workloads are fragmented, logs and return codes are scattered, and unified control across platform boundaries is difficult.

This is where the Beta JobZ Cloud Connector comes in: It extends existing automation systems, integrates Kubernetes workloads into existing workflows, and ensures that all jobs – whether on mainframe, on-premises systems, or in cloud environments – remain centrally controlled, monitored, and traceable.

Beta Systems – Pioneer of Platform-Independent Automation

Beta Systems has established itself as a leading provider of workload automation over the years.
With solutions such as JobZ and the Cloud Connector, the company modernizes classic mainframe automation and at the same time offers a s**eamless bridge to modern cloud** and **container technologies.** This is a stable and forward-looking step on the way to fully platform-independent automation systems.

Workload Automation – Central Business Task

Workload automation is more than just job scheduling: it ensures that business processes run smoothly. In larger companies, hundreds of millions of individual activities are carried out via WLA per year, and the reliability of these processes is mission-critical. IWS, for example, centralizes job definitions, orchestrates dependencies, and manages execution times across platforms. Without this centralized control, enterprise IT would be vulnerable to errors, inconsistencies, and downtime.

Containerization is fundamentally changing the requirements for WLA. Containers are **stateless,** scalable, and dynamic – features that offer flexibility, but also create new challenges for automation.

Containerization and Kubernetes – New Requirements

Containerization is now standard in corporate IT. According to a study by techconsult (2024), around 80% of companies are using container technologies or are planning to do so. **Kubernetes** is the dominant platform for container orchestration, offering services such as Ingress for controlling HTTP/HTTPS communication in clusters. But while Kubernetes is dynamic and scalable, it lacks a simple connection to existing central scheduler systems.

The central question is: How do job commands get from a mainframe-based scheduler like IWS to a Kubernetes worker pod, how are job definitions transferred, logs reported back and processes kept consistent?

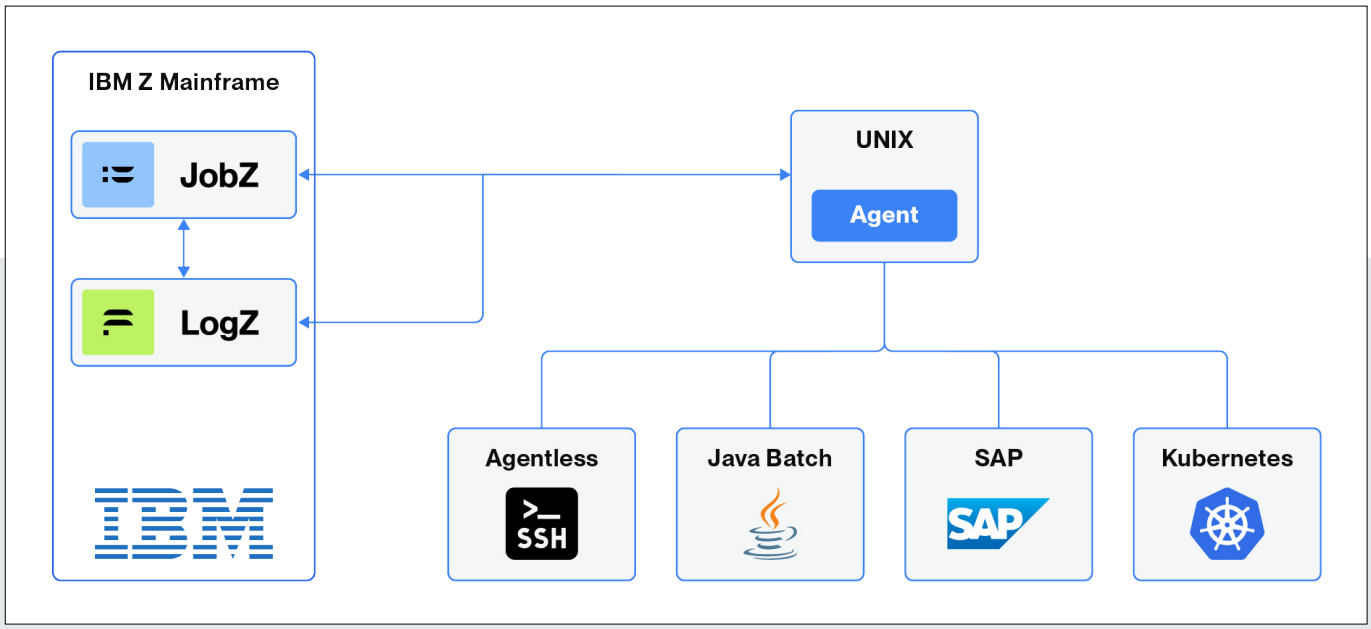

Figure 1 – Cloud Connector as a bridge for modern IT automation

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Beta JobZ Cloud Connector – the Bridging Technology

The **Cloud Connector** acts as a bridge between established WLA systems and modern Kubernetes environments. It enables:

- **Central Control:** Jobs from IWS or JobZ are executed in Kubernetes pods without changing the existing automation logic.
- **Centralized Confirmations:** Return codes, logs and generated files are collected and made available to the scheduler and LogZ.
- **Agentless Remote Execution:** No additional software agents required on target systems, reducing effort and security risks.
- **Cloud and Platform Independence:** Works on on-premises systems and all common cloud environments.
- **Kubernetes-native Integration:** Leverage best practices, sidecars for log collection, mount persistent volumes, Git-based job definitions.

This ensures that workflows remain **stable, traceable,** and **audit-proof**, even when containers are dynamically created or scaled.

Technical Implementation in Detail

1. **Ingress & APIs**
   The Cloud Connector uses Kubernetes Ingress to send jobs from the central scheduler to the worker nodes. This creates standardized, secure access without manual firewall unlocks.
2. **Stateless Container & Job Definitions**
   Jobs are not hard-wired into container images. Instead, they are deployed via persistent volumes or loaded directly from a Git repository . This enables versioning, traceability and simple updates.
3. **Dynamic Runtime Parameters**
   Variables and resources of the environment can be included in the job definition at runtime. This allows workflows to be flexibly adapted to changing cluster conditions.
4. **Sidecars for Logging and Monitoring**
   Sidecar containers capture logs, return codes and other output data and forward them back to the central scheduler via API/Ingress. This keeps the execution traceable and all downstream jobs can be controlled correctly.
5. **Git-based Versioning**
   Developers can create, test, and version jobs in their familiar environment without affecting the central automation infrastructure. This ensures a consistent pipeline from development to test to production.

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Praxisnutzen und Mehrwert

By integrating Kubernetes workloads with core scheduler systems, organizations benefit from:

- **Unified process automation** across all platforms
- **Reduce fragmentation** and manual consolidation
- **Centralized Monitoring & Reporting** with LogZ and Return Codes
- **Simplify security management** with agentless execution
- **Scalable cloud integration** without customization or platform switching
- **Audit-proof, stable workflows** thanks to Git-based job definitions

In short, the Cloud Connector combines classic stability with modern flexibility without companies having to replace their established systems.

The Cloud Connector provides an efficient balance between automation effort and achievable performance. It integrates cleanly with existing schedulers, centralized monitoring, and platform-independent execution.

Outlook – the Path to the Future of IT Automation

Digitalization is accelerating the trend toward cloud, containers, and dynamic IT environments. Organizations that **integrate workload automation across all platforms** ensure stability, visibility, and efficiency. The **Beta JobZ Cloud Connector** enables exactly this: **end-to-end control, consistent logs, audit-proof workflows and flexible Kubernetes integration.** Companies remain in control, reduce risks and create the basis for future automation strategies.

Take advantage of the opportunity to automate your corporate IT in a **consistent, flexible** and **future-proof** way. Contact Beta Systems for a **live demo** and learn how the **Cloud Connector** takes your workload automation to the next level.

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