

# Control-M and Kubernetes

Orchestrating business application workflows with zero Kubernetes administration

## Audience

This document is intended for anyone familiar with the use of Control-M and has an interest in managing workflows that run partially or entirely in a Kubernetes environment.

Our Use Case manages the execution of business applications. Using out-of-the-box and custom integrations, Control-M supports any application that exposes an automation interface via Command Line Interface, SOAP or RESTful Web Services. This document describes one implementation in which a Control-M job type created via Application Integrator, uses the kubectl cli, to manage Kubernetes jobs.

If there are specific requirements in your environment that you don't find addressed in this document, please engage with your BMC Software contact. It is almost certain that additional options are available to offer a solution that will meet your needs.

## Additional information

For more about the subject presented here visit the links below:

[Kubernetes](#)

[General Control-M Documentation](#)

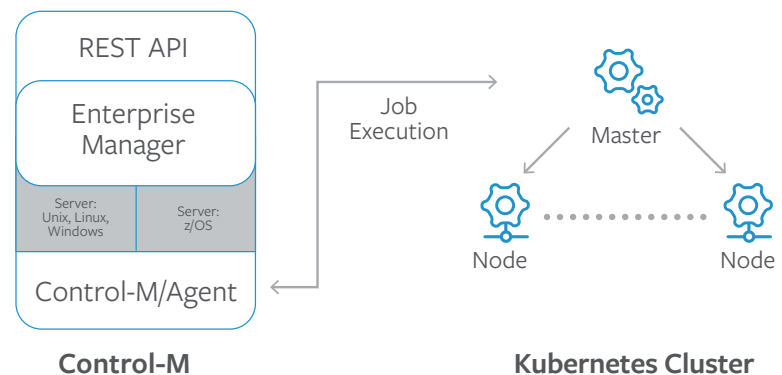
[Control-M Automation API](#)

## INTRODUCTION

Kubernetes (referred to as K8S for short) is a leading distributed computing platform for both traditional and cloud-native workloads. This document is part of a series, describing various implementations of Control-M for managing Kubernetes workload.

The introduction to this series can be found here: [Control-M and Kubernetes: Introduction](#).

## RUNNING WORKLOAD



## Solution Architecture

### Components

This implementation uses a conventional installation of a Control-M agent that has no dependencies or relationship to the Kubernetes cluster and uses a Control-M Application Integrator job type.

Please note that several alternative approaches to the one described in this document are possible, including writing your own code to invoke kubectl or the Kubernetes API.

This example uses the following components:

- A Control-M/Agent running on Linux or Windows
- An installation of Application Integrator that can deploy a job type to the above agent
- Ability and authority to execute kubectl cli on the selected machine on which the Control-M agent is running.

## Implementation

1. Install or choose a Control-M agent. Can be any agent that meets all the requirements below (kubectl and AI).
2. Configure kubectl on Agent machine. [Official documentation is available here](#) and a simpler but unofficial [example can be found here](#).
3. Write YAML for Kubernetes JOBs. The documentation and a sample is [available here](#).
4. Deploy an Application integrator (AI) job type. See [this example](#). Additional information about Application Integrator is [available from BMC here](#).
5. Create a connection profile for the newly deployed job type via Control-M Configuration Manager or via Automation API.
6. Build and run jobs graphically or via JSON and Automation API as you would any other Control-M jobs.

## ADDITIONAL READING

This document provides a high-level overview of the topics you may wish to consider when deploying Control-M agent to a K8S cluster. Detailed documents including specific best practices are under construction. This section will be updated with links as those documents become available.

## CONCLUSION

### Benefits

This implementation enables organizations to leverage their existing staff and operational best practices for managing Kubernetes workloads with Control-M while eliminating any maintenance burdens.

The configuration provides full independence for the two solutions. Either Kubernetes or Control-M can be upgraded, patched or maintained with zero impact to the other tool.

No knowledge of Kubernetes is required for IT Ops and K8S admins and engineers can use YAML and native K8S objects

Control-M meets operational production standards while providing advanced capabilities easily consumed by Dev, Ops and lines-of-business alike, including:

- End-to-end workflow connectivity – any application, any data source, and all your critical systems of record, mainframe to cloud
- SLA management with intelligent predictive analytics
- Auditing for compliance and governance
- Logs and output capture and management
- Proven stability with thousands of companies scaling from 10s to millions of jobs with zero downtime.

## FOR ADDITIONAL INFORMATION ON CONTROL-M

 [Visit our web page](#)

