VMware Cloud Director extension for Data Solutions 1.2

Frequently Asked Questions (FAQ)

General Information

Q. What is the VMware Cloud Director extension for VMware Data Solutions?
A. VMware Cloud Director extension for Data Solutions is a plug-in for VMware Cloud Director (VCD) that enables cloud providers to deliver the VMware Data Solution portfolio of services: on-demand messaging, SQL, and NoSQL data services at a massive scale on their multitenant environment.

Q. How do I start using the VMware Cloud Director extension for VMware Data Solutions?
A. Download the plugin from the VMware Customer Connect portal. Version 1.0 brings you the following capabilities: on-demand messaging through RabbitMQ, and version 1.1 brings you database software support for MySQL and PostgreSQL. While version 1.2 brings in MongoDB Community and Enterprise services.

Billing and Metering

Q. What are the commercial terms to use the VMware Cloud Director extension for VMware Data Solutions?
A. The extension comes with no additional cost. It is a free-to-use plugin. However, the providers are charged for consuming VMware Data Solutions (RMQ/SQL) on a per-core basis. Refer to the latest VMware Partner Connect Product Usage Guide (PUG) (Requires Partner Connect Login) for more details on VMware Data Solutions pricing. MongoDB Community is free of charge service, while the MongoDB Enterprise requires license obtained from MongoDB. VMware does not charge MongoDB Enterprise usage as of now.

Q. Do I have to license the entire Tanzu Kubernetes Grid cluster if I want to use Data Solutions?
A. No, you will only need to license the containers where the data services run, and you will only pay for the used CPU cores by the deployed services per container.

Q. Do I have to license the management cluster of the Tanzu Kubernetes Grid for using Data Solutions?
A. No. For Data Solutions, you only need to license the container where the data service is deployed.

Q. Do I have to license the entire worker on which the container with the data solution runs?
A. No, you just need to license the container where the data service is deployed.

Q. Do I have to license the whole container where the data service is deployed?
A. Yes. You need a Data Solutions license if the service is activated and deployed in a container in a Tanzu Kubernetes Grid cluster.

Licensing

Q. How can I license a Data Solutions service?
A. To start deploying RabbitMQ, VMware SQL with MySQL and VMware SQL with PostgreSQL services provided through the Data Solutions extension, you need to add licenses for them in the Commerce Portal. To do so, log in to the Commerce Portal and under a Contract ID, click One-off Orders. Click New Order and then select the license which to be added to your contract. For MongoDB Enterprise edition, you need to obtain your license directly from MongoDB. After that, you can use the MongoDB Enterprise for Kubernetes images in the Data Solution Extension. MongoDB Community is free of charge and does not require a license.
Q. How is the usage of the deployed services calculated?
A. The usage for VMware SQL with MySQL and VMware SQL with PostgreSQL is calculated based on the used CPU cores for each container where the service runs. To calculate the usage of those services, identify all containers where they run. Determine the configured vCPUs for the container. Sum the count of configured vCPUs and convert it to Cores. For RabbitMQ, all configured Kubernetes vCPU Resource Limits for Containers with RabbitMQ Nodes must be identified for reporting. Containers with Kubernetes Operators do not need to be identified for reporting. Refer to the latest VMware Partner Connect PUG to learn more.

Q. How should I meter the usage of the data services?
A. There is no automatic metering of the Data Solutions Extension. You must manually calculate and report your data solutions service usage to the Commerce Portal. You can use VMware Chargeback to calculate the usage of your tenants or use the kubectl tool to identify the containers running the RabbitMQ and SQL services.

Q. How many points will be reported when I am using a VMware SQL with MySQL instance with a minimum deployment of 500 milliCores and hyperthreading enabled?
A. When hyperthreading is enabled, then the number of cores is half the vCPU cores. In this case, the CPU cores which will be reported are 500 milliCores/1000/2=0.25 cores. Then this number must be multiplied by the points for VMware SQL with MySQL per core. For example: 0.25 CPU cores X 98 ppts=24.5 points. Note: The VMware Commerce Portal will round the points to the nearest whole number. In our example, the reported points will be 25.

Q. Do I have to pay more when having a database instance with enabled High Availability (HA)?
A. Yes, SQL database replications are considered billable. What will be considered billable though depends on the type of recovery that you will perform. The general guidance for hot and cold disaster recovery can be found in this document. Information on enabling HA for VMware SQL with MySQL can be found here. How to use HA with VMware SQL with Postgres check here.

Operational

Q. What are the new features of VMware Cloud Director extension for VMware Data Solutions 1.2?
A. In this release, we provide provisioning of MongoDB Community and MongoDB Enterprise data services. We also provide automatic upgrade of the data solutions operator for Kubernetes. Kindly refer to the documentation page for more info.

Q. What operations can I perform with the VMware Cloud Director extension for VMware Data Solutions 1.2?
A. As a tenant administrator you can create, update, upgrade, rollback, and delete RabbitMQ, SQL and NoSQL data services to selected Tanzu Kubernetes clusters. You can also apply advanced settings for improving the performance and security of those services. As a provider administrator, you can publish the RabbitMQ, SQL and NoSQL data services to all or selected tenants, and you can also update the container registries which keep your services Docker images. As a tenant user, you will be able to configure a MongoDB Ops Manager for managing your MongoDB Enterprise instances and monitoring their health and performance.

Q. I am already using the VMware Cloud Director extension for VMware Data Solutions 1.1. How to upgrade to version 1.2?
A. This is a simple and straightforward process. Please follow the VMware Cloud Director extension for VMware Data Solutions 1.2 upgrade process to upgrade the extension from 1.1.

Q. I am hosting distributed applications with low latency and high throughput. Can I expect more services to serve those applications?
A. Yes, VMware is constantly working to support and service partner needs. Support for other highly scalable and reliable databases and cache services is on the roadmap.

Q. Can I monitor the provisioned data and messaging services?
A. Yes, the Data Solutions plug-in uses Grafana and Prometheus for data monitoring, alerting, and visualization. They must be installed on a Tanzu Kubernetes workload node. The detailed
steps can be found [here](#). MongoDB Enterprise also comes with Ops Manager that shows the performance of the deployed MongoDB Enterprise instances and sets alerts for them.

**Q. Is database backup possible with Data Solutions?**

**A.** It is not currently available through the Data Solutions user interface. It is available through the Kubernetes CLI. How to back up VMware SQL with MySQL database, check [here](#). Learn how to back up VMware SQL with PostgreSQL [here](#). The MongoDB Enterprise instances can also be backed up and restored with the MongoDB Ops Manager.

**Q. Can high availability for SQL/NoSQL services be configured in Data Solutions?**

**A.** Yes, while creating a SQL database you have the option to enable high availability for it in the Data Solutions user interface. Check out the High Availability information on VMware SQL with MySQL [here](#). Learn how to use HA with VMware SQL with PostgreSQL [here](#). While creating a MongoDB Community or Enterprise service, you can choose a template that deploys multiple replicas of the database to support high availability. Read more [here](#).

**Q. Does Data Solutions Extension has API that I can use for automation?**

**A.** Yes, Data Solutions Extension operations can be automated with the Cloud Director API, which uses Data Solutions defined entities to bound queries with. Defined entities are external resources that VMware Cloud Director can manage.

**Technical Requirements**

**Q. What are the requirements for using the VMware Cloud Director extension for VMware Data Solutions 1.2?**

**A.** The following products are needed for provisioning messaging and data services with the VMware Cloud Director extension for VMware Data Solutions 1.1 plug-in:

- VMware Cloud Director 10.4 and 10.5
- Container Service Extension 4.0 and 4.1
- Container Service Extension CPI
- Tanzu Kubernetes Grid Multi-cloud 1.5.4+, 1.6.1+
- Kubernetes 1.22.x+vmware.1
- VMware SQL with MySQL for Kubernetes 1.7 and 1.8
- VMware SQL with PostgreSQL for Kubernetes 2.0 and 2.1
- VMware RabbitMQ for Kubernetes 1.3 and 1.4
- MongoDB Community for Kubernetes 0.8.0
- MongoDB Enterprise for Kubernetes 1.20
- vSphere Cloud Provider Interface version 1.3.0 or later if using a load balancer with TLS for RabbitMQ

**Q. Do I need VMware Cloud Director Container Service Extension for using VMware Cloud Director extension for VMware Data Solutions 1.2?**

**A.** Yes, it is needed so that you can provision messaging and data services to your Tanzu Kubernetes clusters created through VMware Cloud Director Container Service Extension 4.0 or 4.1.

**Q. What is VMware Harbor Registry?**

**A.** VMware Harbor Registry is an enterprise-class registry server that stores and distributes container images. Harbor allows you to store and manage images for use with VMware Tanzu Kubernetes Grid Integrated Edition (TKGI). It is needed as a secure source for pulling the needed images for the operation of the extension, which are: the Data Solutions Operator, VMware SQL with MySQL, VMware SQL with PostgreSQL, RabbitMQ, MongoDB Community and MongoDB Enterprise.

**Q. How can I set up Data Solutions Extension?**

**A.** After installing the Data Solutions plug-in, you need to configure a Tanzu Container registry from where you will pull images of the Data Solutions operator and MySQL, PostgreSQL, and RabbitMQ. To do so, manually copy the path of the Data Solutions operator image from the VMware Harbor Registry to the internal Tanzu Container registry. Also, copy the paths of the images of the services to the local registry. Configure the registry credentials and repository addresses from the Data Solutions portal. For MongoDB Community and Enterprise, update the container registries that hold the respective MongoDB images after the installation of the Data Solutions Extension. Check [Managing Container Registries](#) to learn more.