New on-premise Architecture for Stibo Systems STEP from July 1st 2024.

Introduction

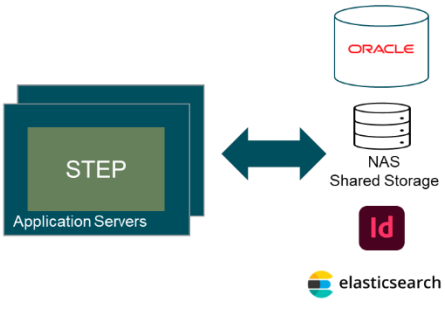
Stibo Systems has a strategy focused on delivering a superior Software as a Service (SaaS) service, which leads to changes in our overall architecture to introduce more and more containerized microservices in our STEP MDM Platform. These changes cannot be deployed on-premise or in a private cloud without changes to the deployment architecture. To allow our on-premise customers to continue to upgrade the STEP platform, we will from the release in mid-2024 (Release version 2024.2) need to change the way that our software is deployed on-premise. We will be re-platforming the STEP application to align with containerized microservices deployment architecture. Upgrades to 2024.2 and subsequent releases will require a new deployment architecture where the current application server architecture is replaced by a containerized architecture - just as in SaaS. This in turn requires extra hardware due to an overhead in running the SaaS architecture on-premise. Application operations like starting and stopping the application will be similar in complexity to today - but different.

This document outlines the differences and similarities in the new architecture. We provide this information at an early stage in development, so customers can prepare for the change, including budgeting for extra hardware. This early stage also means that we can only provide high level information as of now – more details will come later.

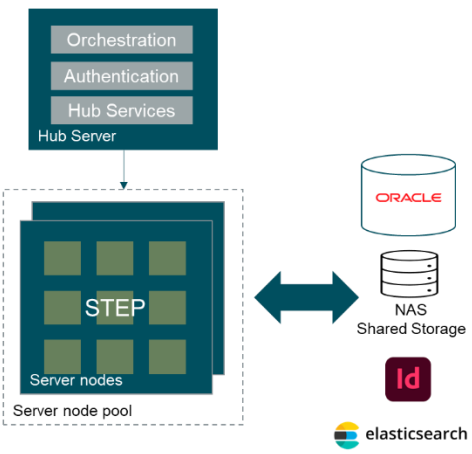
Overview of architecture change

The picture below shows the current architecture next to the architecture from release 2024.2, which will be released approximately July 1st 2024.

Current Architecture



Architecture from STEP Release 2024.2



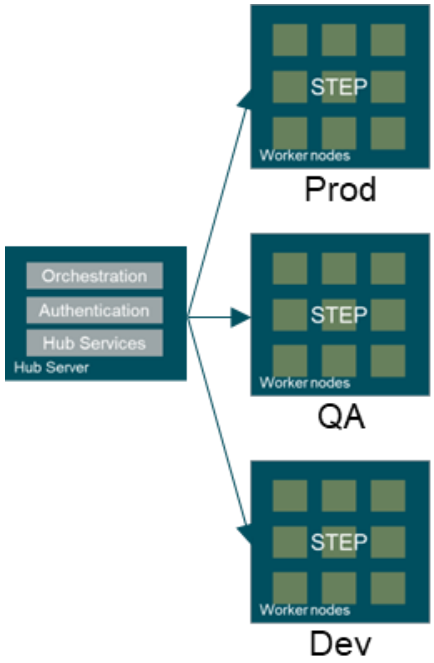
In the current architecture, STEP is deployed on one or more application servers that connect to servers running the Oracle database and possibly Adobe InDesign and Elasticsearch.

The Oracle server as well as InDesign and Elasticsearch servers remain the same in the new architecture.

The main change in the new architecture is that STEP will be deployed as a number of microservices deployed in containers hosted on one or more server nodes. These server nodes will be installed as empty worker nodes ready to run containerized microservices. The microservices are managed by an Orchestration service running on a new Hub Server. The Hub server will consolidate key services shared by all STEP environments and their worker nodes like the Authentication service as well as several other services. The Authentication server will handle federated authentication with e.g. Active Directory.

As can be seen, the new architecture requires an extra server, the Hub Server. However, since there is a memory overhead in running microservices, the server for running STEP will also need more memory than the servers currently used for running the STEP application – estimated up to 64 GB more.

The Hub Server may be shared between multiple STEP environments as illustrated below:



Below is a summary of the modified hardware specifications:

Server	Specification	Comments
Hub Server	64 GB RAM, 16 vCPU's, 1 TB SSD Local Disk	New Server. Can be shared across environments
STEP Servers	Same as current application server but with 64 GB extra RAM	RAM needs to be added to every STEP server across all environments. Alternatively, servers can be replaced with new ones. If servers are already very large and have excess capacity, then it may be possible to use existing servers.

To provide an idea of the increase in cost, here is an example related to server types in Microsoft Azure (US East, monthly pricing with 3-year reservation):

Servers	Current	Future
Production App Server	2 x 16vCPU/64 GB (D16dsv5) = USD 602	2 x 16 vCPU/128GB (E16dsv5) = USD 784
QA App Server	1 x 4vCPU/32 GB (E4dsv5) = USD 98	1 x 16vCPU/128 GB (E16dsv5) = USD 392
Dev App Server	1 x 4vCPU/32 GB (E4dsv5) = USD 98	1 x 16vCPU/128 GB (E16dsv5) = USD 392
Hub Server	N/A	1 x 16vCPU/64 GB (D16dsv5) = USD 301
Monthly Total	USD 798	USD 1869

Note that database and other servers are not included since they won't change. All servers are still running Oracle/RedHat Linux.

Operational changes

Day to day operations of Oracle, InDesign and Elasticsearch will remain the same as today.

Operations related to the STEP application (start, stop, patch, upgrade) will be of similar complexity as today, but the procedures will change.

Sensors in the STEP application will remain available for external monitoring as today.

Federated authentication will need to be reconfigured to be routed through the authentication server deployed on the Hub Server.

More detailed information will be provided later.

Upgrade Process

The upgrade to 2024.2 and subsequent releases will involve the following at a high level:

1. Purchase and install new servers plus networking according to Stibo's recommendation
2. Install new STEP software provided by Stibo Systems on Hub Server and Worker nodes configured to point to existing Oracle database, InDesign and Elasticsearch servers.
3. Stop old servers
4. Start new servers from Hub Server
5. Repoint monitoring to new STEP server
6. Reconfigure federated authentication

To upgrade to the 2024.2+ version, you will engage with Stibo Systems through a Statement of Work (~35 hours per STEP environment) where our Services teams will provide an Infrastructure Recommendation, install the needed microservices and STEP Application, perform health checks, and support you through the migration and upgrade process. Please reach out to your Account Manager for more information.