Infrastructure requirements

The following server requirements and Hardware Security Module (HSM) requirements are only relevant for licensed clients.

Server requirements

To operate a minimum, High Availability (HA) instance of Tritium® requires the following components:

- 2 Tritium key servers
- 2 Tritium core API servers
- 2 Tritium transaction processors, if open loop card
- 1 Tritium batch job
- 2 Tritium reporting workers
- 3 Cassandra DB servers
- HA MySQL/MariaDB DB service, either Amazon Web Services (AWS) Relational Database Service (RDS) instance, or self-managed with MariaDB and MaxScale

The servers in the above list marked `Tritium` run Episode Six (E6) software. The others run provided software from third-party vendors.

> A list of licenses that E6 holds for any third-party software can be found in the distribution's `conf/licenses` directory.

The servers other than DB servers can all have 4 GB RAM, which is sufficient to run Tritium. For low volumes, they can use servers with two vCPUs and scale up as needed. The key servers do not need to grow with business volume, as they are always lightly loaded. Other servers grow with the business.

Tritium application servers do not experience a growth in memory demands with increased workload. The typical cloud scaling model includes horizontal scaling through adding servers rather than increasing the capacity of existing servers to scale vertically. Periods of high demand, including peak business hours, can be handled through the temporary addition of servers, as needed.

Use RHEL 7 or CentOS 7 Linux for these servers. Tritium is written in pure Java and requires a Java 8 runtime environment on the application servers. If using RHEL Linux, you can use RedHat's version of OpenJDK 8.

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A separate subnet hosts web servers that are used to serve static content for the Tritium Control Console customer service tool. These web servers also operate reverse proxies that allow controlled access from external systems into the API services.

Software dependencies

The whole E6 Tritium system is written in Java and has no dependencies on the application servers, other than a Java 8 runtime environment.

The database used for online transactional processing (OLTP) purposes is MySQL-compatible, and uses active/standby failover for availability. The database used for reporting purposes is Cassandra, which uses a multi-master configuration for availability. The servers all run on RedHat 7.

For more information about infrastructure requirements, see Infrastructure requirements.

Deployment

Tritium software is delivered as a `TGZ` or `ZIP` archive that contains all the libraries, configuration files, and startup scripts necessary to deploy and operate the software. This software delivery is a secure mechanism by which E6 conveys the software archives to clients.

Either E6 is granted access to upload files to a secure server hosted by the client using either **SFTP** or **HTTPS**, or, by mutual agreement, E6 operates a secure file delivery server within its own environment that the client has been granted access to.

The software can be deployed to any Java Virtual Machine (JVM) version 8 or later. It is also tested to deploy and run in Kubernetes containers.

Related documentation

Infrastructure requirements