Hardware and Software Requirements

RightITnow ECM (Event Correlation Manager) is designed to work on a variety of hardware and software setups, reflecting the different needs of our customers. This document outlines the basic requirements and recommended best practices for deploying ECM in a production environment.

Hardware Requirements

Hardware requirements can vary between deployments, depending on the volume of alerts being processed and the amount of data persisted to the database. Generally ECM can run off a single production-grade server. The following are the standard recommended specifications for running ECM in production:

- → **CPU:** Dual quad-core processors (8 cores)
- → **Memory:** 64GB DDR3 ECC Registered
- → **Hardisk:** 128GB+ SSD for the ECM application, 1TB+ SSD for the database (see sections below about database and disk space requirements)
- → **RAID:** RAID configurations are recommended where/if applicable
- → **Network:** 1Gbit/s Ethernet connection

For smaller-scale deployments or development/UAT servers, these specifications can be scaled down considerably. A dual-core CPU with 8GB of RAM and 256GB HDD would suffice.

Software Requirements

The ECM application is developed in Java and thus a variety of operating systems are supported. Linux-based setups are recommended due to the nature of the product.

Operating Systems (64-bit)

- → Red Hat Enterprise Linux 6 or later
- → CentOS 6 or later
- → Ubuntu 14.04 LTS or later
- → Microsoft Windows 7/8/10 or Microsoft Windows Server 2008/2012/2016
- → Mac OS X 10.6 (Snow Leopard) or later

Software (64-bit where possible)

- → Oracle JRE/JDK 8 or Oracle JDK 11 LTS or OpenJDK 11
- → MySQL Server 5.6 or 5.7 (see Database Setup)

Database Setup

The ECM database can be setup on the same server as the ECM application, or on a separate server on the same local network. You can also run ECM in a clustered environment (MySQL Cluster), and Amazon Aurora. It is important to avoid high latencies between separate servers as this will have a noticeable effect on performance and reduce the event-processing rate of the application. The default settings that MySQL ships with should suffice, however the following setting(s) can be changed beforehand which can avoid certain known issues:

→ change the **innodb_lock_wait_timeout** from 50 to 300

Further optimizations to the database can be done – it is recommended to follow MySQL best practices and to read their optimization guide:

→ http://dev.mysql.com/doc/refman/5.7/en/optimization.html

In MySQL 5.7, the following SQL modes are enabled by default, but are not supported by ECM. Therefore, these SQL modes should be disabled:

→ ONLY_FULL_GROUP_BY, NO_ZERO_IN_DATE, NO_ZERO_DATE

ECM has been verified to run correctly with these SQL modes enabled:

→ STRICT_TRANS_TABLES, ERROR_FOR_DIVISION_BY_ZERO, NO_AUTO_CREATE_USER, NO_ENGINE_SUBSTITUTION

Clustered Database Requirements

In addition to the requirements mentioned in this section, the following server configuration is required:

→ Gigabit network with low latencies

→ MySQL 5.7 with NDB 7.5.5 or above

→ "NDBCLUSTER" as the cluster engine name

Disk Space Requirements

The amount of disk space required by ECM typically depends on the number of alerts that is to be persisted to the database. The majority of disk space is taken up by the database. An approximate guide is 10mb per 1,000 alerts/month i.e. if 30,000 alerts are processed every month, database size would increase by 300MB monthly.

The **purge utility** in ECM is designed to restrict the volume of alerts, events and other data being persisted in ECM by routinely cleaning up old and expired data. It is highly advisable to configure the purging in the initial stages of setting up ECM.

Failover and High-Availability

Although failover and HA scenarios vary widely from customer to customer, a typical setup consists of a dual-server configuration (hot and cold standby), load balancers and MySQL replication if using MySQL Server, or a MySQL Cluster which has built-in redundancy.

MySQL Cluster HA RightITnow Architecture