

## Kiuru MSSP Release 5 Cassandra Logging Product Fact Sheet

v1.0

### Product Description

By default, logging in MSSP is done to the MSSP server's local file system. File system logging provides a relatively fast write and read location for logging and retrieval of logs by the MSSP. File system logging works fine in a single instance deployment, however, in a clustered environment, logging to a local MSSP server file creates a performance bottleneck and log browsing becomes cumbersome.

Cassandra Logging resolves the identified issues by providing a clustered database solution for logging in a clustered MSSP environment. Cassandra simplifies log browsing and removes the performance bottleneck caused by file system logging. It supports also better and robust MSSP performance in a clustered environment.

### Key Features

#### Decentralized

Every node in the Cassandra cluster has the same role, ensuring that there is no single point of failure. Log data is distributed across the cluster, and any node can service request.

#### Scalability

The Cassandra cluster size can be increased to include as many nodes as needed. Read and write throughput could be increased linearly with the addition of new nodes, without any downtime or interruption to logging operation.

#### Fault-tolerant

The implementation includes a number of clustered Cassandra nodes where log data is automatically replicated for fault-tolerance. In case of complete failure of the Cassandra cluster, the logging system falls back to MSSP server file system logging. On recovery of the Cassandra cluster, all locally logged data is pushed to the Cassandra cluster, ensuring that all log data is available within the Cassandra database.

The Cassandra cluster must be local to geo-redundant site, and each geo-redundant site must have its own Cassandra cluster.

#### Performance

The MSSP is able to complete more transactions per second when log writing is not a bottleneck. Cassandra provides faster write times for the MSSP compared with local file system logging. On average, Cassandra logging provides 20 to 40 percent performance improvement for the MSSP cluster.

#### Lightweight

Cassandra does not require specialized or high-end servers for the cluster. Cheap off-the-shelf devices could be used for hosting the Cassandra nodes. It require minimum (RAM) memory for smooth performance.

#### Log browsing

The logging service uses the Cassandra Query Language (CQL) which is a simple interface for accessing the Cassandra service. By using this interface you can browse MSSP logs regardless of which MSSP the traffic actually went through.

There exist also various freely available third-party web based clients for accessing Cassandra.

Kiuru log extractor uses Cassandra Query interface and Cassandra log browsing works just like the local file browsing. By using Kiuru log extractor you can browse MSSP logs securely and remotely.

### Technical Features

Operating System: Centos 7  
Database: Apache Cassandra  
Java platform: Oracle Java 8  
CQL shell: Python 2.7

### About Methics

Methics Ltd is a privately held company, which has developed PKI and wireless PKI products for application providers and operators and built unique security and performance testing tools for operators. The company focuses on security applications and digitizing customer relationship, processes and customer interaction. Kiuru is a registered trademark of Methics Ltd. in Finland and other countries.

