

Edge Site

Red Hat Device Edge and Microshift

Edge Devices

Smart data devices that send messages

Device message data

Sensor data sent as MQTT messages to a message broker

Edge Message Broker

Multicast or Anycast message routing from smart devices

MQTT Acceptor

Send and recieve MQTT messages from smart devices

IoT Agent

Receives messages from Smart Devices and sends them to the context broker

Context Broker

NGSI-LD API for queries and updates for device entities and attribute values

AI/ML microservices

Custom data science logic for context data deployed to the edge to connect to the cloud

NoSQL Database

For storing service group, device, and entity data

CORE DATACENTER / PUBLIC CLOUD

Red Hat OpenShift Container Platform

Relational Database

For storing data scientist user preferences, simulations, and reports

Smart Device Operator

Orchestrates the deployment of applications in the cloud and the edge, and registers devices

Cluster Manager

For clustered microservices where pods share the workload (Kafka, Solr, Smart Village)

Message Streams

Message topics for event driven automation

Search Engine

For API storage that is fast, including: filtering, faceting, pivoting, pagination, on smart data

Data Science

Tools to support research and machine learning on smart device data

Access Control

RBAC and fine-grained permissions to resources

Reactive Microservices

Processing incoming device data, dashboards, reports, analytics, OpenAPI