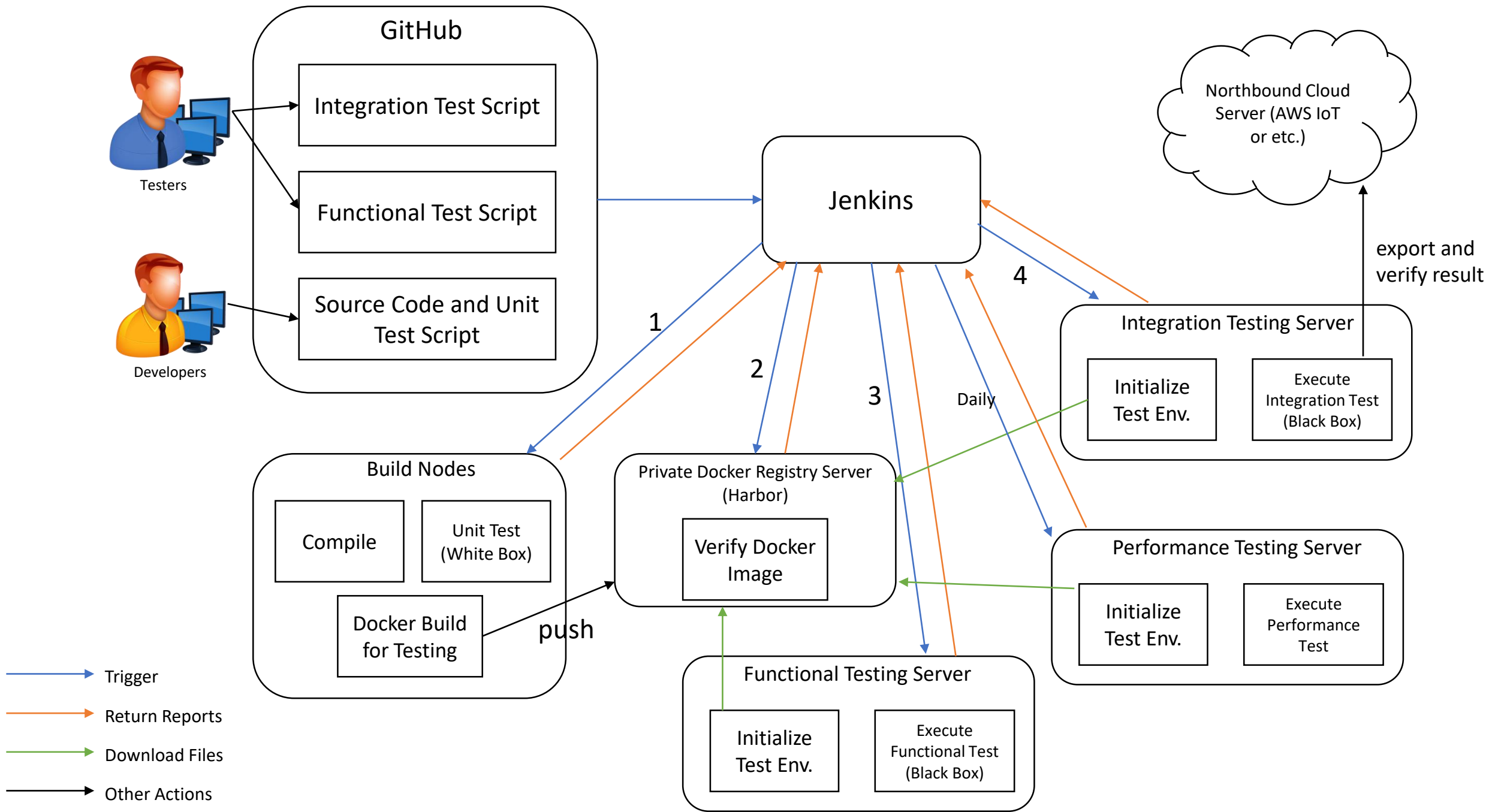


EdgeX Performance Testing Tools

2018-10-21

Testing Types

- **Functional Test**
 - The test script language should be independent of services.
 - Only run with minimum service dependencies, for example, running Virtual Device Service needs mongo, meta data, and core data.
 - Each time the functional test is executed, only the tests belonging to the modified service should be performed.
- **System Integration Test (SIT)**
 - The test script language should be independent of services.
 - All the services should be up and run.
 - Each time the integration test is executed, all the tests should be performed.
 - Test data is generated from virtual device or device simulator
 - The backend services contain AWS/Google Cloud/Azure and etc.
- **Performance Test**
 - Monitor CPU/Memory Usage
 - Monitor Device Request/Response time



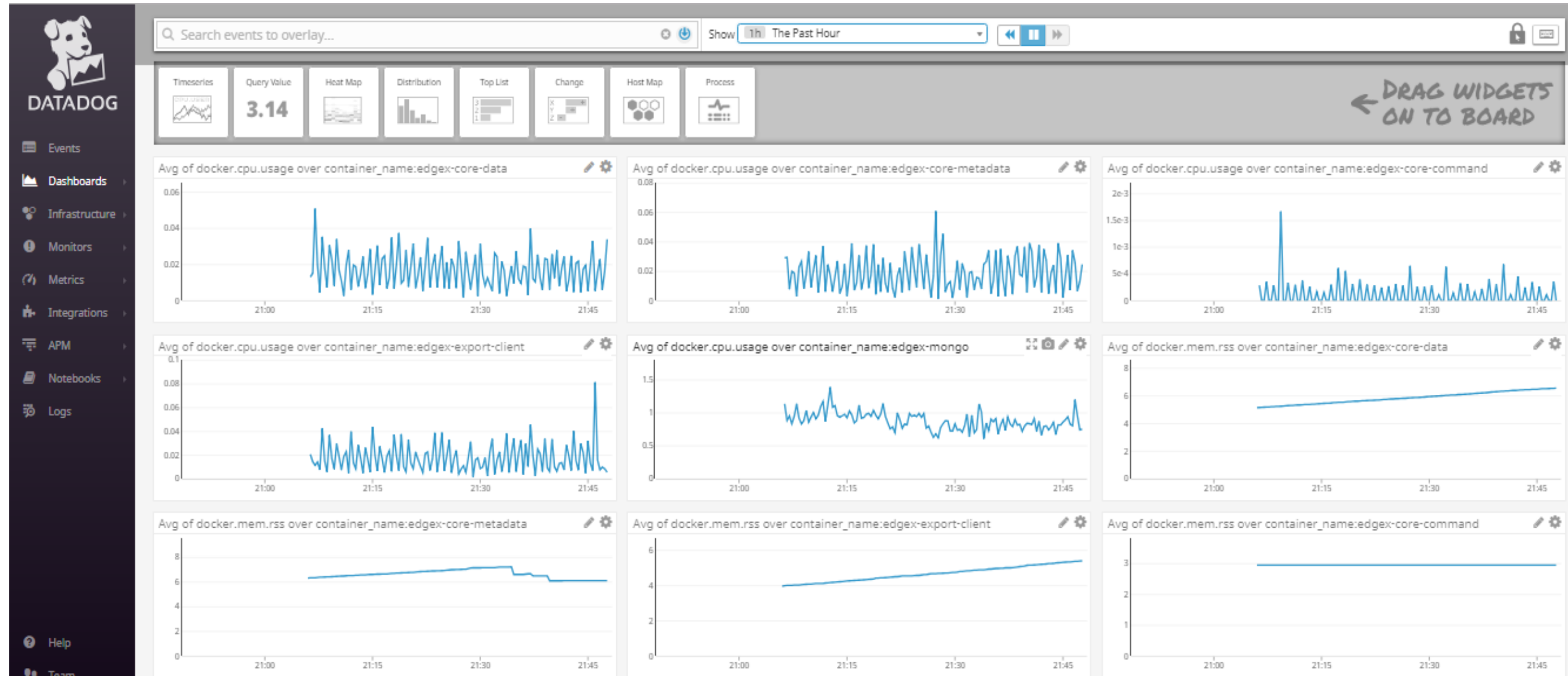
Testing Tools

- API/Load Testing
 - [JMeter](#) - load and performance testing with support for many different applications/server/protocol types
 - [Load Impact](#) – load testing tool that can be used with existing Postman REST API test collections
 - [Bender](#) – go-based API load testing tool, can be used with different applications/server/protocol types
- Monitoring & Reporting
 - [Telegraf](#) agent for collecting and reporting metrics, output plugins to send metrics to a variety of other datastores, services, and message queues, including InfluxDB (Influxdb + Grafana) also works with Graphite, OpenTSDB, Librato
 - [Datadog](#) – commercial monitoring tool, with many excellent features such as real-time dashboards and alerts

Telegraf + Influxdb + Grafana



DataDog



Monitor Tool

	DataDog	Telegraf + Influxdb + Grafana
Cost	\$15 Per host, per month*	Free
Run Env.	Cloud	Local
Use	Easy	Easy
Setup	Easy	More Complex
JMeter	Not supported	Supported

Backup Slide

What is Telegraf

- Telegraf is the Agent for Collecting and Reporting Metrics & Data
- Collect data from a wide variety of sources, e.g. system statistics, API calls, DB queries, and SNMP.
- It can send above metrics to a variety of datastores, e.g. Graphite, OpenTSDB, Datadog, Librato.
- Telegraf is maintained by InfluxData, the people behind InfluxDB. So it has **very** good support for writing data to InfluxDB.