QoS Evaluator

BigDataStack Software Component developed by Atos

Description

The QoS Evaluator is part of the Triple Monitoring & QoS Evaluation subsystem of the Data-Driven Infrastructure Management capability of BigDataStack. The component takes an agreement between the service provider and the application developer, describing the expected level of performance of the application as well as the platform services provided by BigDataStack. The service level is described in terms of Service Level Objectives (SLOs). An SLO specifies a constraint on Non-Functional Requirements. An SLO may also describe a business penalty to apply in case of violation. The QoS component will be responsible for managing and evaluating SLOs as well as notifying third parties when any of them is not fulfilled.

Features

The purpose of the component is to evaluate and ensure a set of QoS attributes (SLOs) at different layers of the system architecture: applications, data services (e.g., storage, processing) and infrastructure (e.g., networking, computing and storage). The QoS Evaluator receives the metrics collected by the monitoring framework and checks them individually or aggregated. The aggregation of metrics enables the specification of complex SLOs (Service Level Objectives) for elaborated conditions or constraints, such as establishing a relation between SLOs at different levels, such as establishing a relation between the response time of the application (application-level metric) and the storage capacity of the system (infrastructure level metric).

QoS Evaluator

Areas of Application

QoS in Cloud Computing and QoS in Big Data Analytics.

Market trends & opportunities

Its open-source nature gives the QoS Evaluator the possibility to be adapted and used by developers in many different fit-for-purpose scenarios and solutions.

Advanced monitoring and alerting systems such as Intelligent Alerts are tightly tied to the proprietary Instrumental monitoring solution (vendor lock-in) and can't be distributed not used separately.

Advanced monitoring and alerting systems such as Anturis Alerting, allows for rules are quite simple, based on thresholds, in comparison to the complex logic than being specified in QoS Evaluator rules."

Customer benefits

Developers who want to add QoS evaluation capability to Big Data software applications and systems.

Technological novelty

QoS Evaluator let you create complex conditions integrating not only different variables and thresholds but context variables or conditions (including those reflecting business aspects).

QoS Evaluator provides an API to create and manage the lifecycle of QoS agreements, including the specification of their lifespan and/or conditions for activation, deactivation and deprecation.

Also, penalization information related to the violation may be attached and computed (i.e. economic costs).

TRL level: 8

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