ATOS SPAIN

Atos Spain (Atos)

Staff

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Publications

- Press Release CloudButton in Planetic https://www.planetic.es/content/cloudbutton-plataforma-serverless-para-anal%C3%ADtica-de-datos
- Press release (EN & SP) about latest project results to be published within ATOS media channels and National media
- Article in the BDVA August newsletter

Open source repositories

https://github.com/cloudbutton/sla-management

Dissemination activities

- Review of WP6 deliverables, including all diss. activities performed in the period.
- Contributions to the CloudButton joint paper
- Presentation of CloudButton within the Atos booth at the EBDVF (Y1 physical event, Y2 online event)

Exploitation Activities

- Summary of the individual exploitation plan for ATOS' assets included in the final deliverable and for the review presentation.
- Work on the validation methodology and mapping among technical and business tasks.
- Review of exploitation deliverable, including actions and assignments. Suggestion of methodologies to be used.
- Review ToC, comments and suggestions to exploitation deliverable.

- Presentation of SLA to GBUs as one of the most prominent research assets

Collaborations

- Joint publication with the rest of the consortium
- Collaboration with URV to integrate SLA and Lithops
- Collaboration with IBM to integrate PyWren within the project testbed
- Collaboration with UCs to deploy them on the project testbed
- Collabotation with URV to integrate and test SLA within Geospatial UC

Contributions to Cloudbutton project

- Testbed and Validation:
  - Updated contribution to D2.3 CloudButton Architecture Specs and Early Prototype.
  - Final tasks of installation of the Ceph cluster and integration with pywren-ibm-cloud as storage backend.
  - Installation of Metabolomics use case experiments on the testbed and all the resources needed.
  - Design and recording of a Video demonstrating the features of the testbed, to serve as an offline probe for the first review taking place on the 9th of September.
  - Tasks to recover from a disk failure (hardware failure) on our Master Cluster Node.
  - Tasks to adapt to a change in the public IP addresses assigned by our service provider (ITER).
  - Installation and test of the Geospatial usecase, that now is running in Knatives and IBM CF runtime environments from the testbed.
  - Installation of Pushgateway as a bridge to publish metrics in Prometheus. This is needed by several new features in our deployments.
  - Prometheus persistent storage with InfluxDB.
  - Installation of the new version of Lithops, compatible with monitoring, to be used by the cloudbutton-SLA.
  - Installation of Geospatial usecase, executing in different Lithops runtimes (IBM Functions, Knative and K8s) and storages (IBM COS and Ceph), both local and remote. Work in progress.
  - Update of the testbed documentation produced for the consortium and shared in the project repository.
  - Activation of several Grafana dashboards to supervise Linux state. This information will be of use for the classification of the system to predict violation of SLA.
  - Installation of the new Prometheus server with HA.
  - Configuration of public access to monitoring services (Prometheus, Pushgateway, Grafana), so that they can be accessed from any lithops runtime.
  - First steps for the integration of the Genomics usecase.

    - Definition of requirements for the final validation of the project.
    - Design two questionnaires to measure the enhancement in the use of the Cloudbutton toolkit: one for the members of the consortium in relation with the use cases, and a second one for the students that will participate in the Challenge.
    - Creation of two questionnaires to measure the enhancement in the use of the Cloudbutton toolkit: one for the members of the consortium in relation with the use cases, and a second one for the students that participated in the Challenge.
- Final integration of Geospatial in the testbed. Running with no errors in different runtimes and storages configurations.
- Maintenance activities.
- Contribution to T2.5, D2.5.
- Usability survey and results analysis, everything documented within D2.3.

WP3 Serverless Compute Engine for Big Data

- Updated contribution to deliverable D3.2 Serverless Compute Engine Design and Prototype.
- Design and recording of a Video demonstrating the SLA Capacities so far, to serve as an offline probe for the first review taking place on the 9th of September.
- Development of a new capability on the SLA manager to incorporate dynamic metric calculation, used in the supervision of k8s pod's time duration as a first step in the implementation of SLA time guarantees feature.
- Cloudbutton-SLA agreement assessment is enlarged with the possibility of defining functions to obtain some value to be used in the evaluation of the agreement guarantees in real time (this was static before).
- Continue the development of a new capability on the Cloudbutton-SLA to provide it with time guarantee capabilities.
- Integration of Cloudbutton-SLA and Lithops so that the duration of a function can be supervised, and the SLA can inform Lithops about any function that is taking too long.
- Cloudbutton-SLA stores a metric into Prometheus anytime a violation is produced, so that this information, together with the context defined by other Prometheus metrics, is kept stored and can be used to infer some data.
- Integration of cloud button-SLA and Lithops. Two SLA's are supervised: a time guarantee in function execution and a guarantee of initiation for all functions.
- Update SLA agreement template to use templates.
- Update of the SLA config file to use more parameters.
- Analysis to define the state of the system in terms of correlation of significative Prometheus metrics.
- Improvements in the integration of cloudbutton-SLA and Lithops. The two supervised conditions (tooLong and notStarted) are now function-independent and customizable.
- Dockerization of cloudbutton-SLA.
- Ease access to cloudbutton-SLA API with Swagger.
- Include customization on constraints, to limit the configuration to the thresholds that each constraint supervises, instead of having to know the JSON agreement.

- Definition of a new constraint to identify the total cost of a workload and send a violation when a threshold is achieved. Tests with synthetic data (working on integration with real data).
- Rabbit format of the message of violation too Costly defined.
- Integration with Lithops.
- Grafana Panels to supervise cost of execution of an experiment
- Contribution to T3.3, D3.3.
- Rabbit format of the message of violations “too Costly”, “too Long” and “not Started” defined.
- Video recording of SLA functioning within the Geospatial UC.
- Preparation of the final review meeting (slides and videos).
- Presentation of results in the last F2F meeting.