New Generation of the OSG Accounting

GRACC Overview

- Next-generation OSG accounting service, based on open-source technology and compatible with Gratta.
- Consists of swappable, independent components:
  - Data Storage: Elasticsearch
  - Data Handling: Logstash data handling
  - Data Exchange: RabbitMQ
  - User Interface: Grafana
  - Analytic: Kibana
  - Data Collection: custom probes, including Gratta probes
- Reports are generated by custom scripts accessing Elasticsearch.

Requirements

- All historical summary data needs to be preserved.
- Generate daily summary:
  - job wall duration, cpu usage per site, VO, Project, DN (all role), user, role code for Batch and Payload resources.
- Transfer summary (size and wall duration) per storage site, VO, user, direction, exit code.
- Raw and logged usage of storage space per site and vo.
- Accepts input from existing Gratta probes.
- Ability to aggregate at different levels (site versus cluster versus CE) and rename site aggregation.
- Should be able to use WebUI to extract the accounting information.
- Continues to interface EGI and XSEDE accounting services and provides information in accordance with existing agreements.
- Allows new metrics to be reported and summarized.

Architecture

Deployed Components

- ES Cluster at Nebraska (IGC) on “Amvil” cloud
  - head node and 4 data nodes.
  - each node has 8 CPUs and 64GB of RAM.
  - 5 TB Ceph-backed network storage per node
  - Four data/master nodes, one “client” node running collector and agents
  - RabbitMQ at Indiana University (SOC)
  - Collector, Forwarder (at Fermilab)

WEB UI

- Uses Grafana’s dashboards to display batch, payload jobs and file transfer metrics.
- Provides means to create Kibana plots for savvy users.
- Integrated with the OSG Information Management Service (PIs, Science, Topology Information).

Statistics

- 1.1 billion documents in Elasticsearch.
- 3.5 TB current disk usage for summary & raw documents.
- 1 million new job records per day.

Planned Development

- Integration with WLCG and XSEDE Accounting.
- Summarization of Storage and Transfer records.
- Full integration with the OSG Information Management Service.
- Implementation of backup and restoration procedure.
- Generation of email reporting.
- Production: Spring of 2017.

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