EGI-Engage

grnet

srce

cnrs

ARGO

http://argoeu.github.io

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ARGO Service Monitoring

A Flexible & Scalable Framework

- **Status**, **availability** and **reliability** of services
- Provides **multiple reports** using **customer defined profiles** (e.g. for management, operations etc)
- Modular design enables **integration with external systems** (such as CMDBs, Service Catalogs etc)
- Can take into account **custom factors** during the report generation (e.g. the importance of a service endpoint, scheduled or unscheduled downtimes)
- Based on **open source** components

Status, Availability & Reliability

ARGO Service Monitoring

Status. Service Monitoring

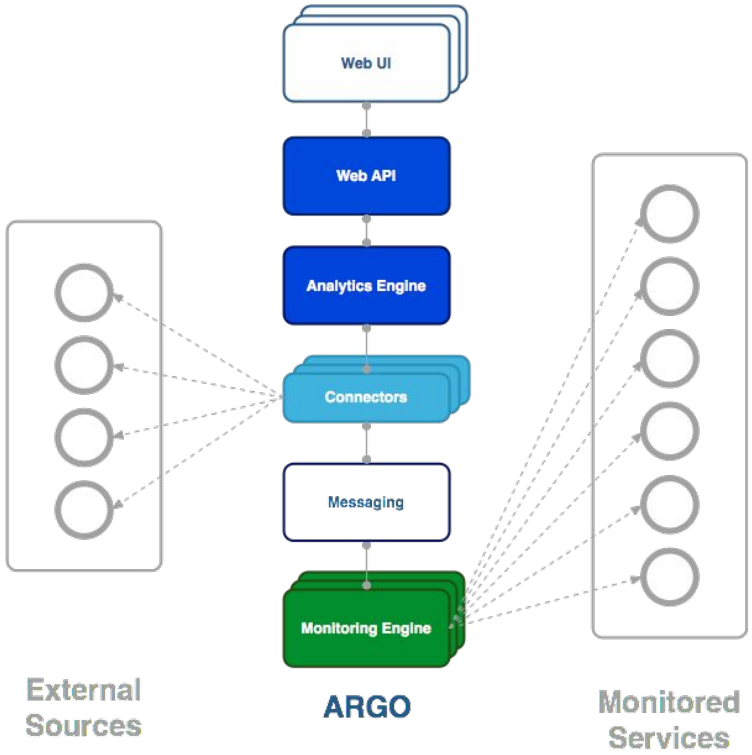
For status monitoring, ARGO relies on Nagios.

All probes developed for ARGO follow the Nagios conventions and can run on any stock Nagios box.

ARGO provides an **optional set of addons** for the stock Nagios that provide features such as auto-configuration from external information sources, publishing results to a an external messaging service etc

Modular Architecture

ARGO Service Monitoring



ARGO Components. Modular Architecture

At its core, ARGO uses a **flexible** monitoring engine (Nagios), a **powerful** analytics engine and a **high performance** web API.

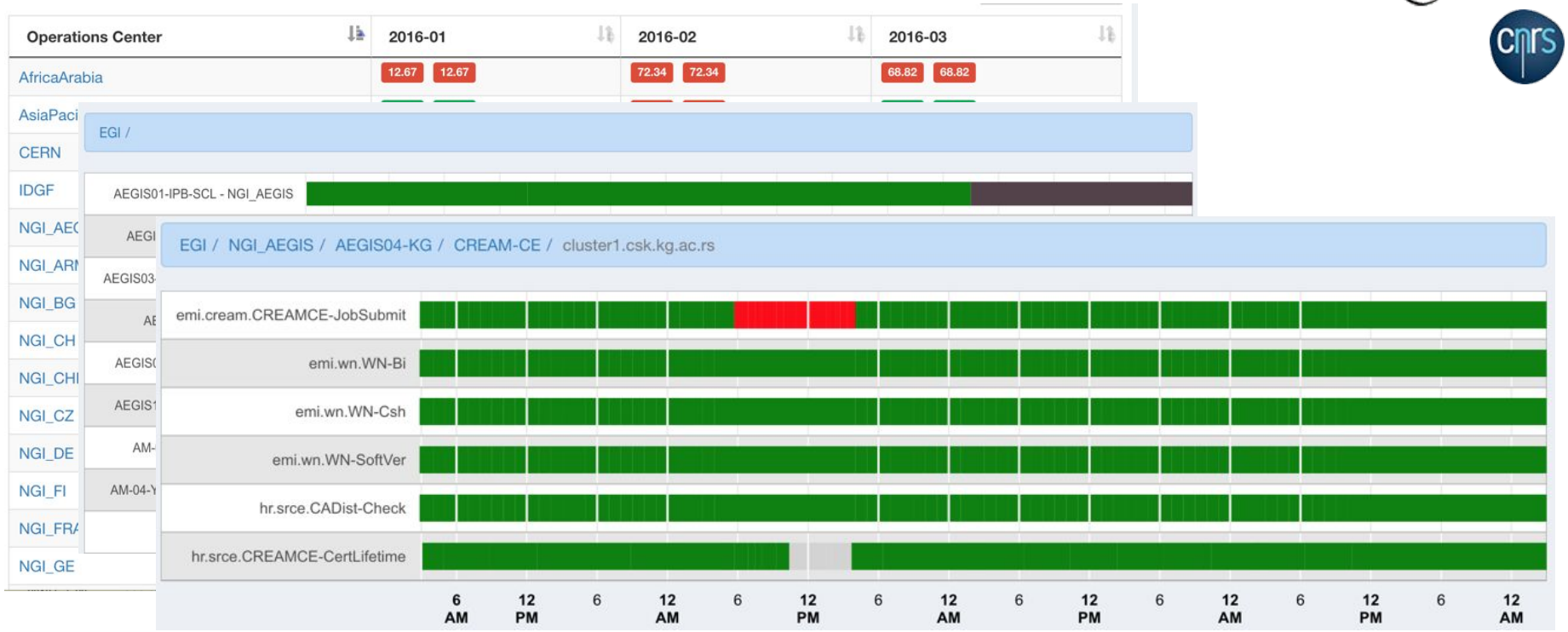
Through the use of **custom connectors**, ARGO can connect to multiple external **Configuration Management Databases** and **Service Catalogs**.

NGI View

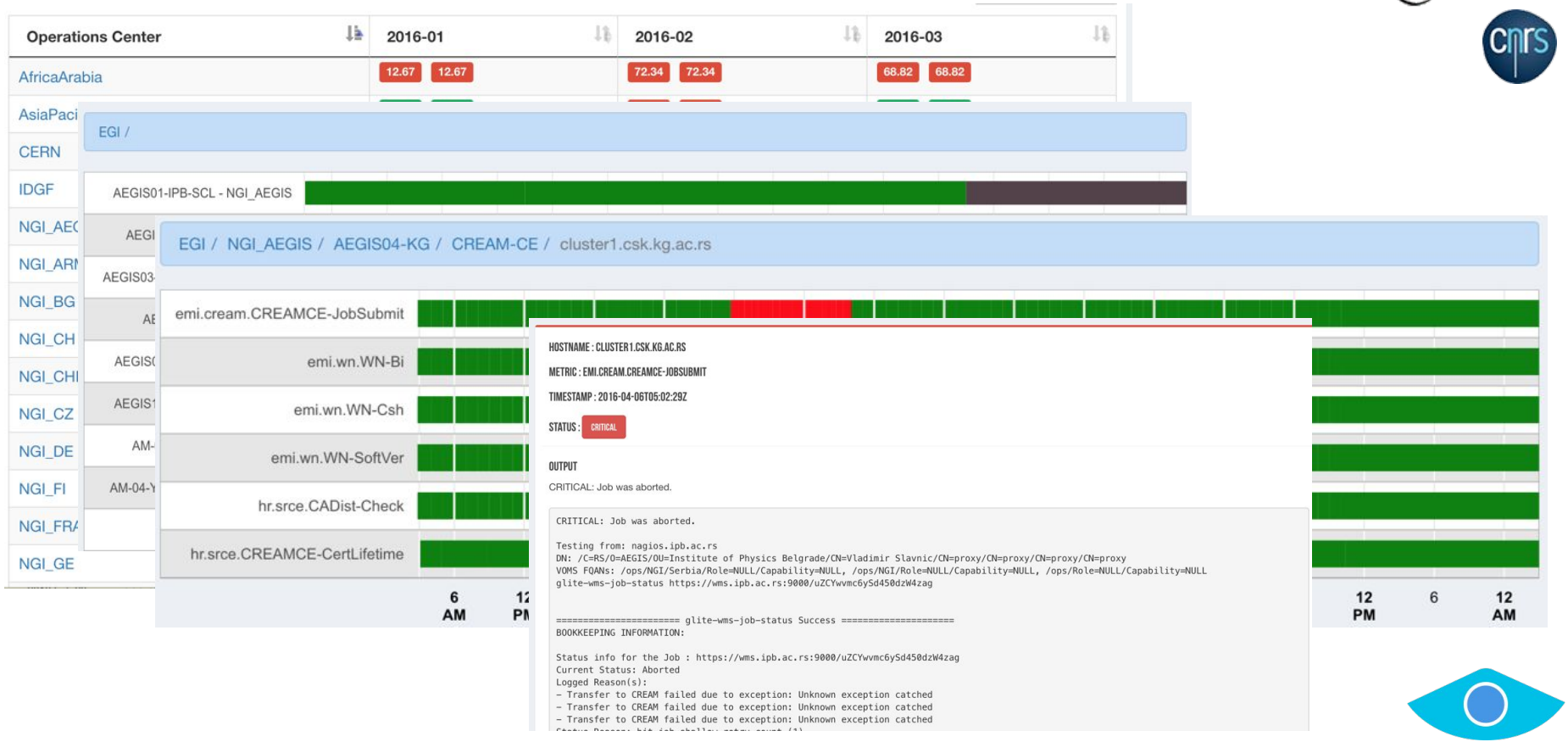
Operations Center	2016-01		2016-02		2016-03	
AfricaArabia	12.67	12.67	72.34	72.34	68.82	68.82
AsiaPacific	89.90	90.87	79.16	79.89	91.69	91.69
CERN	100.00	100.00	88.89	88.89	59.59	59.59
IDGF	100.00	100.00	100.00	100.00	100.00	100.00
NGI_AEGIS	99.32	99.57	99.55	99.55	99.98	99.98
NGI_ARMGRID	77.43	77.43	73.88	73.88	81.25	81.25
NGI_BG	92.30	92.30	89.46	89.46	95.97	95.97
NGI_CH	90.90	92.39	98.76	99.96	36.41	36.55
NGI_CHINA	91.11	91.66	99.68	100.00	98.37	98.80
NGI_CZ	91.48	91.58	96.66	96.92	97.73	97.73
NGI_DE	91.18	91.88	88.42	88.77	92.83	93.20
NGI_FI	99.93	99.93	57.03	57.03	88.01	88.01
NGI_FRANCE	98.09	98.16	99.02	99.33	98.64	99.40
NGI_GE	92.73	92.73	79.03	79.03	84.58	84.58

Site status view

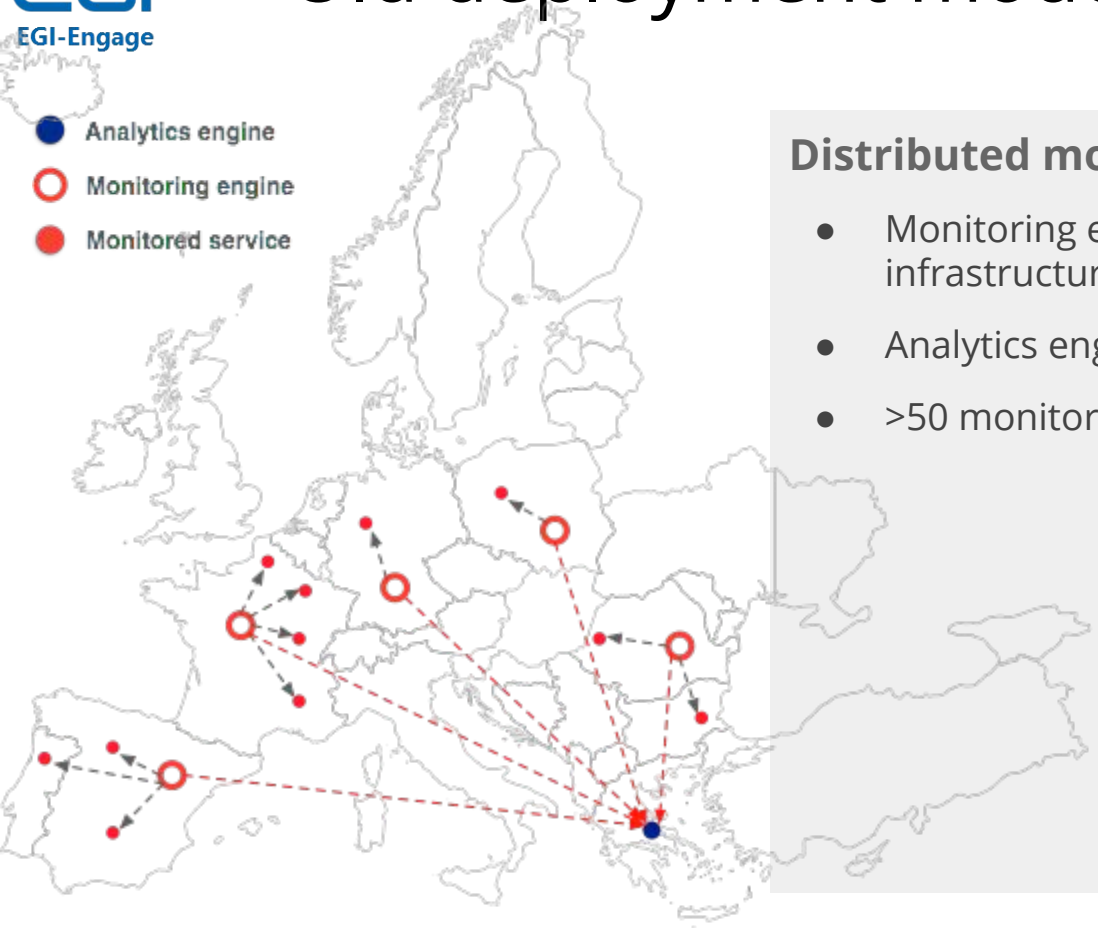
Metric results view



Raw metric result view



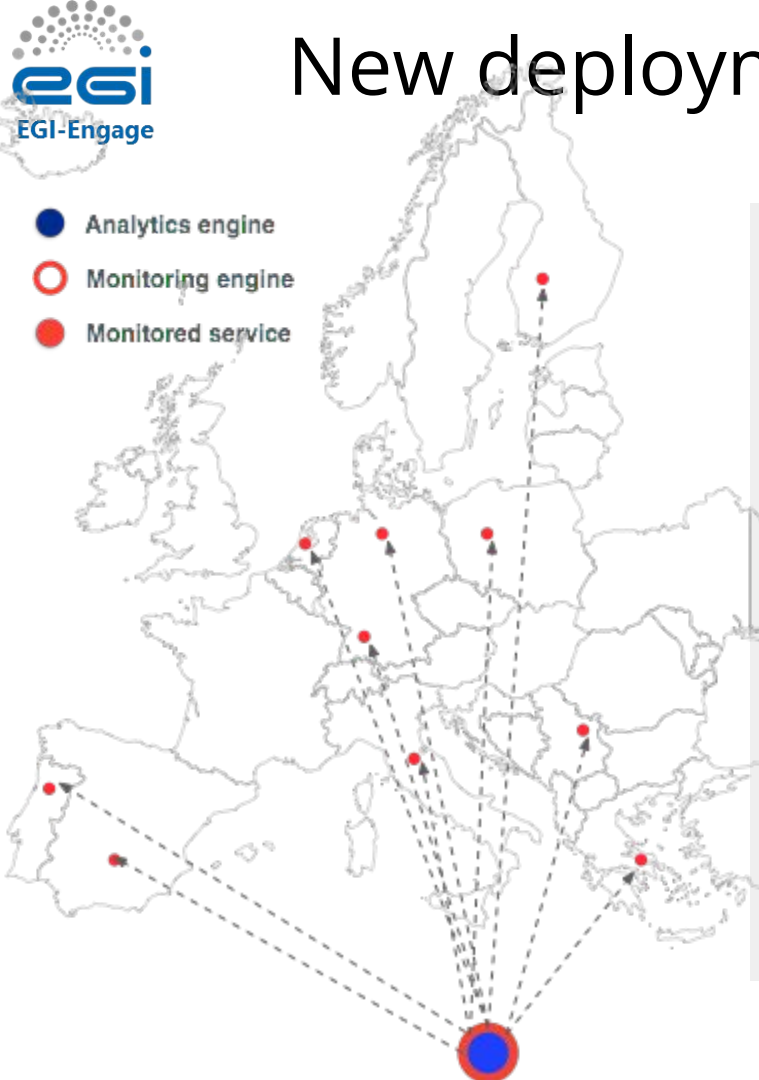
Old deployment models



Distributed model with central reporting

- Monitoring engines were distributed across the infrastructure.
- Analytics engine was deployed centrally
- >50 monitoring engines were deployed at NGIs

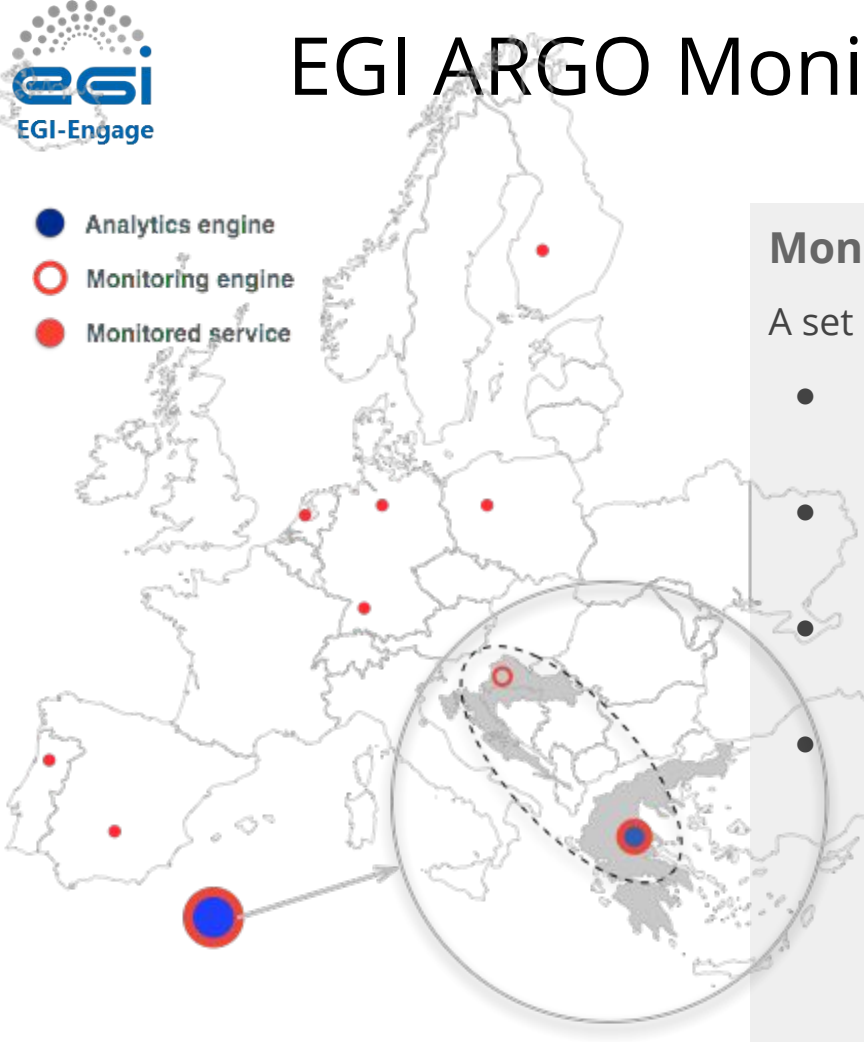
New deployment model



Centralized Model

- Monitoring and analytics engine deployed centrally
- From >50 installations of the monitoring engine, down to 1*
- Benefits:
  - Significant reduction of required operational effort
  - Significantly shorter deployment cycles
  - Better availability and performance *
  - Minimize risk of human error

EGI ARGO Monitoring as a Service



Monitoring as a Service

A set up that ensures high availability (HA)

- Two geographically separate Monitoring Engine deployment (GRNET & SRCE)
- Each Monitoring Engine deployment is monitoring the whole infrastructure
- Two sets of monitoring results aggregated at the analytics analytics layer
- Latest version of the ARGO Compute Engine fully supports overlapping monitoring results
  - Higher frequency of results
  - Ability to exclude monitoring results based on the monitoring engine

ARGO Service Monitoring

New developments

- **Service for managing probes**
  - Extension of the POEM service
  - Authorized users will be able to upload and manage monitoring probes from a web based services
  - Faster management/deployment of new probes
  - Versioning
  - Built-in testing environment before a new probe goes to production
  - Design document: https://goo.gl/P7h7qt
  - Pre-release: 2016Q3 / First release: 2016Q4

ARGO Service Monitoring

New developments

- **Real-time status results**
  - Introduction of a Streaming Layer in the ARGO Compute Engine
  - Status results are going to be processed and published as they arrive
  - Pre-release: 2016Q3 / First release: 2016Q4

ARGO Service Monitoring

New developments

- **Overhaul of the notification system**
  - Utilize the new streaming layer to move notifications from the Monitoring Engines to the Compute Engine
  - Pre-release: 2016Q4 / First-release: 2017Q1

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Thank you
Questions?