

# OpInt k8s cluster: status and plans



Panos Paparrigopoulos



# The OpInt K8S cluster

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- Kubernetes (K8S) is the leading deployment solution right now.
- It allows services to scale depending on usage, saving resources.
- A lot of services are already built around it: monitoring, alerts, cloud storage and others.
- CERN offers a k8s infrastructure based on Openstack.
- We decided to create a K8S cluster in a common space to deploy all OpInt applications.

# Why an Oplnt k8s cluster?

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- Having a common space to deploy our applications is in line with our cross-experiment goal.
- Inside a K8S cluster all the different services can securely communicate with each other.
- Things like authentication can be implemented once and used by the whole cluster.
- We want to make sure that whatever we do can be picked up by future collaborators and developed further . If we don't do it properly nobody will be able to maintain it.





# Cluster architecture

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- We want to start with something basic. We already have enough resources in the WLCG Openstack project so we can deploy the cluster there.
- Simple recommended architecture of 1 master and 2 minion nodes.
- Default 1-3 pods per service.
- Basic Prometheus-powered monitoring (overall and per service) is provided out of the box by CERN IT. We can create a new set of dashboards in the already existing WLCG Organization.
- Load balancing already provided by the cloud team and cloud storage according to our needs.

# Future Plans

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- The cluster will be created in the shared space.
- We will start with deploying the FTS log monitoring project that is developed for CMS.
  - A new shared monitoring dashboard is needed in order to open this tool to our whole collaboration.
- The OpInt FW is also already containerised. If we want to deploy it in k8s it would be a straightforward task.
- Any other project that is developed for OpInt will be deployed there.



**Questions?**

