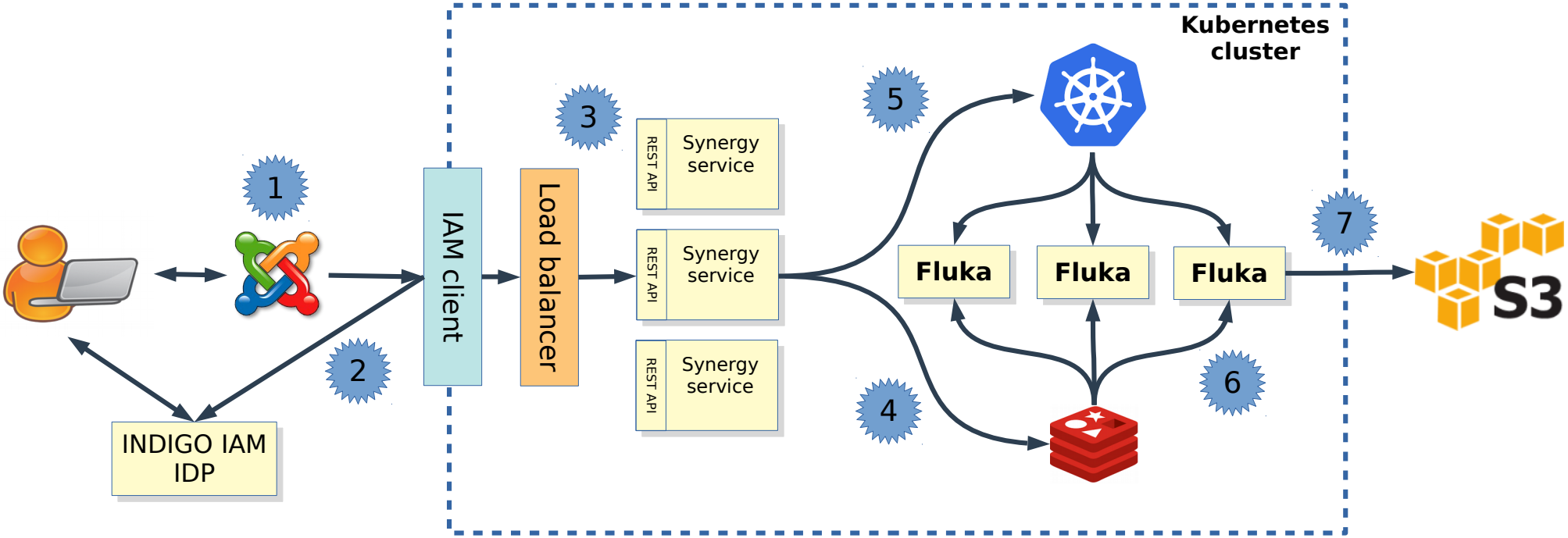
Architecture

1) A user submits a job
2) Security: AuthN / AuthZ (INDIGO IAM)
3) LB forwards the job to Synergy (3 replicas in HA)
4) Synergy validates the user job request, creates a new queue in Redis and inserts the task parameters
5) Synergy creates a new parallel job (Fluka or Geant4) in Kubernetes
6) Each task takes parameters from the queue and populates its template
7) The output files produced by the task execution are stored into a S3 storage cluster



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Architecture: security

- Security based on INDIGO IAM (Identity and Access Management)
  - OpenId Connect (OIDC)
- Kubernetes supports several AuthN technologies (OIDC, saml, etc)
  - Just configuration (NOT code)
- AuthZ based on Kubernetes RBAC (Role-Based Access Control)
  - local policies

Status

- Synergy core service: no changes are required
- New 2 Synergy plugins required: RedisManager and K8SManager
  - development ongoing: 70% done
- Fluka template generator implemented in Python: ready
- Geant4 template generator: Enrico support required
- S3 storage fully supported by Kubernetes, not yet tested
- Joomla! based Web portal:
  - Installed the selected template
  - layout to be defined
  - good images and text not available
  - INDIGO IAM AuthN not supported: ad hoc plugin must be developed

Questions?