



# **Argus EES Lessons learned and beyond**

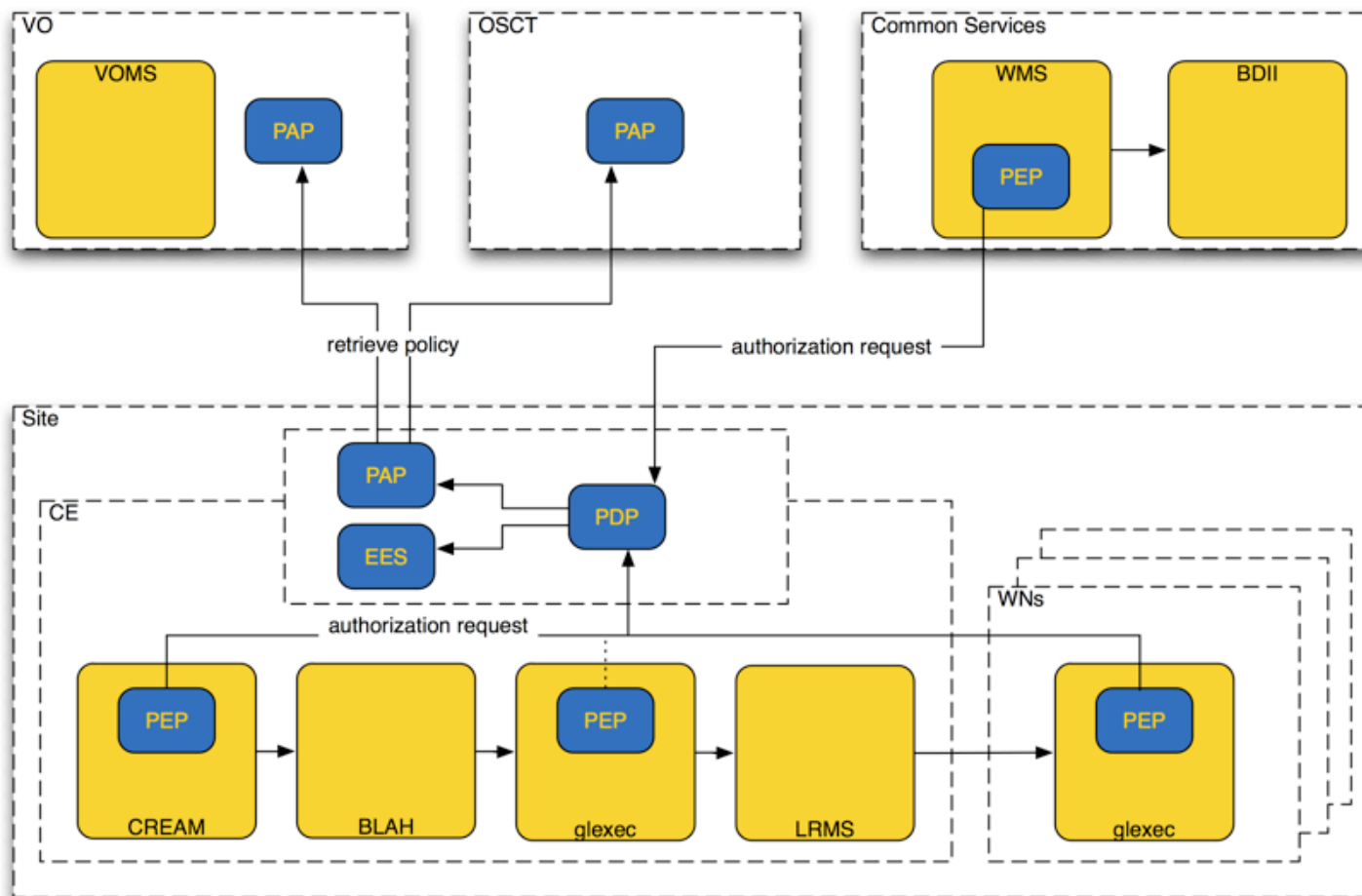
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# Outline

- What is Argus and the EES
- What do we have/need
- Prototype
- Open issues

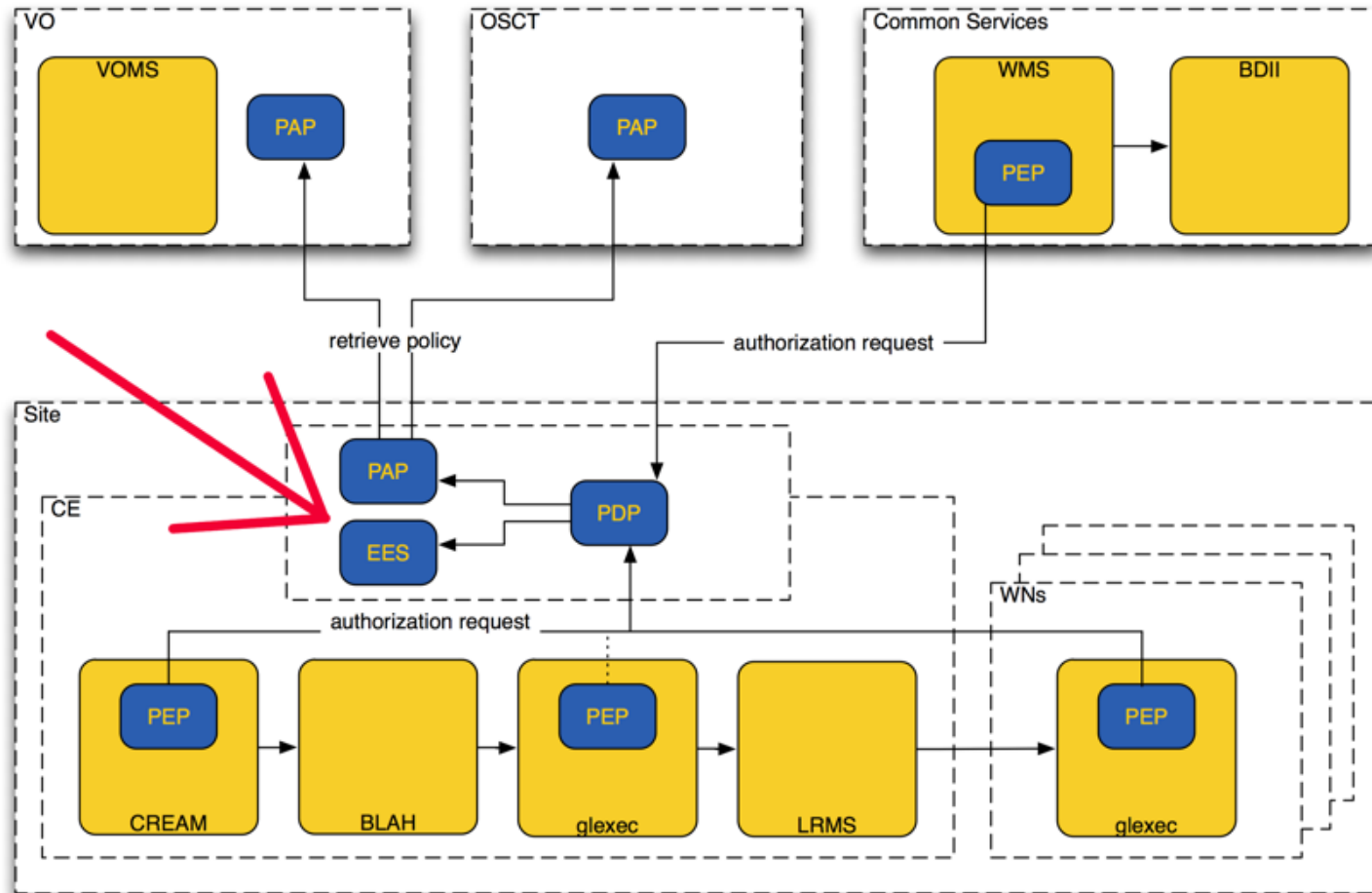
# What is Argus?

- Authorization Service
- XACML policy engine



# What is the Argus EES?

- Execution Environment Service
- Back-end service for Argus

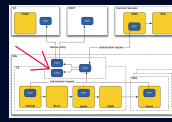


# What is the Argus EES?



- Connects primarily into the Argus PEPd service
- Exposes a SAML2-XACML2 interface
- Implements a pluggable framework (in C)
  - The plugins can be executed in a state machine
  - The plugins have access to the XACML requests/response messages
- The EES can interact with other service or the OS
  
- Ideally suited to interact with the Virtual Management systems

# Argus EES: What do we have?



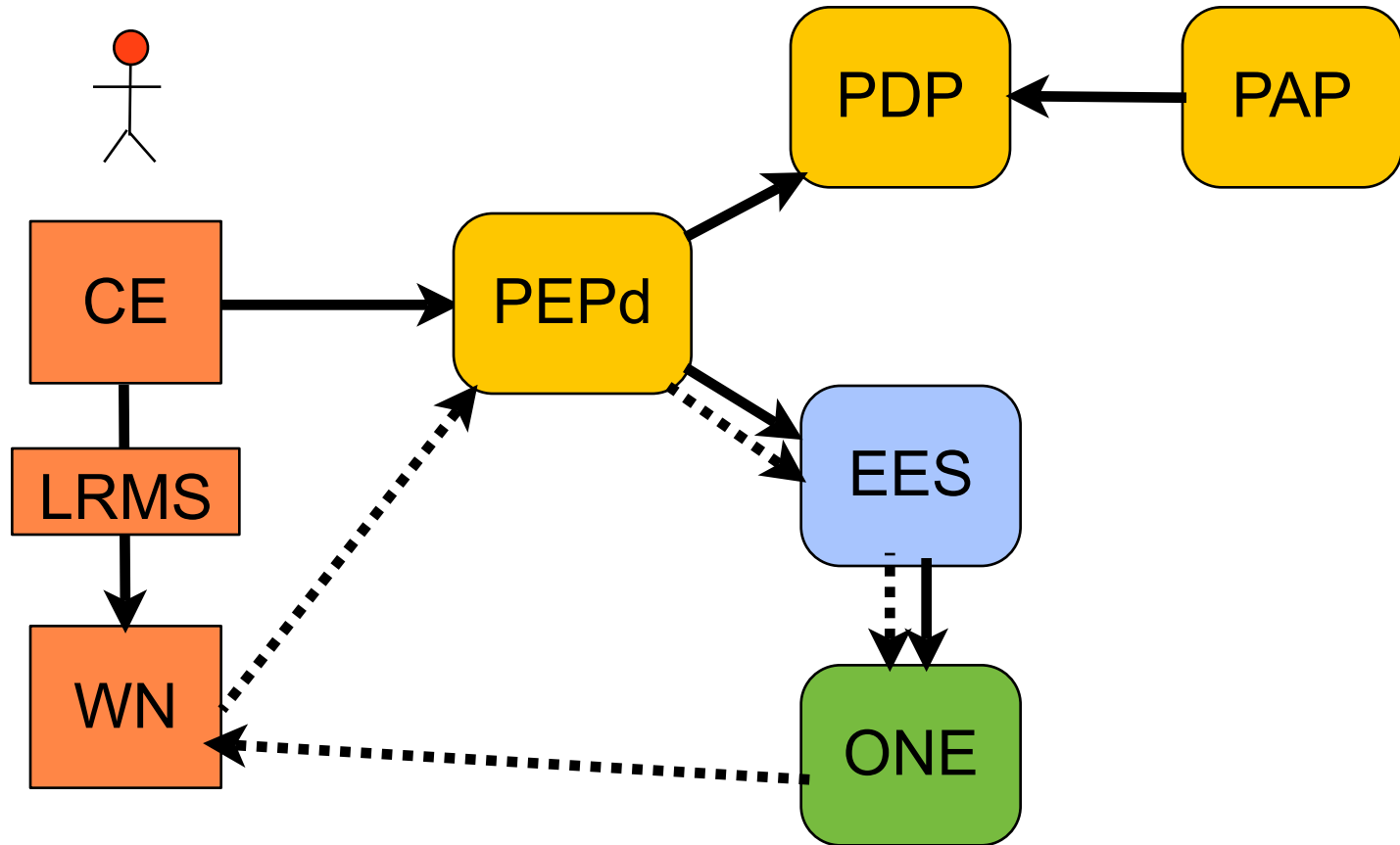
- Core EES service:
  - standard compliant SAML2-XACML2
  - stand-alone service
- PEPd obligation handler (plugin to PEPd)
- Basic plugins:
  - Open Nebula 1.x (prototype, more later)
  - Classic Grid-mapfile plugin (XACML aware)
- Released in EMI-1

# Argus EES: What do we need?



- Open Nebula 2 plugin
- XACML profile for Virtualization
  - Specific sets of attributes and obligations
- Network topology plugins
  - GVRP (Generic VLAN Registration Protocol) support
  - Bandwidth / QoS
- HEPiX specific solutions:
  - Select the right endorsed Virtual image for User X, with VOMS credentials Y, on resource (type) Z
  
- Above all: feedback

# Argus EES: Prototype ONE





# Argus: Open Cloud Issues

- The flexibility of Argus requires (strict) profiling to be effective across PaaS/IaaS implementations
- Implementing new use cases unique to Cloud computing:
  - Users can customize their (HPC) cloud
  - Sharing a cloud(let) with other users: dynamic collaborations
- Argus-EES could also enable the following use-cases:
  - Exposing mountable volumes to virtual machines
  - Possibly even play a role in cloud bursting
- Follow the federated identity developments wrt Cloud implementations

# Conclusions

- The EES can launch virtual machines using the Argus policy engine
  - Gains: global banning
- The EES can extend the functionality of Argus, doing the dirty work
- Site policies can constrain type of VM deployment
- Fine grained authorization is often neglected in virtualization solutions



# Thank you

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