AuthZ Interoperability: INFN view

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Outline

- Authorization in gLite
- A unified approach for AuthZ
- Authorization Interoperability and G-PBox standardization
- Conclusions

AuthZ in gLite

- **Non homogeneous:**
  - Practically every component has its own dedicated mechanism to deal with AuthZ issues:
    - DM components -> ACLs
    - CEs -> Pluggable authZ (gridmapfile, etc.)
    - RGMA -> None
    - WMS -> Whitelists
  - The only common thing is that (most) of them leverage VOMS groups and roles (FQANs).
    - However there is no common agreement on how FQANs should be used.
  - Means that for every component a new set of rules and a new set of configurations must be learnt.

AuthZ in gLite

- **Untraceable:**
  - It is difficult to trace the set of AuthZ decisions that regulates resource access
    - Who authorized (or *not* authorized) this job?
    - Where are the related policy configurations?
    - What that configuration means?

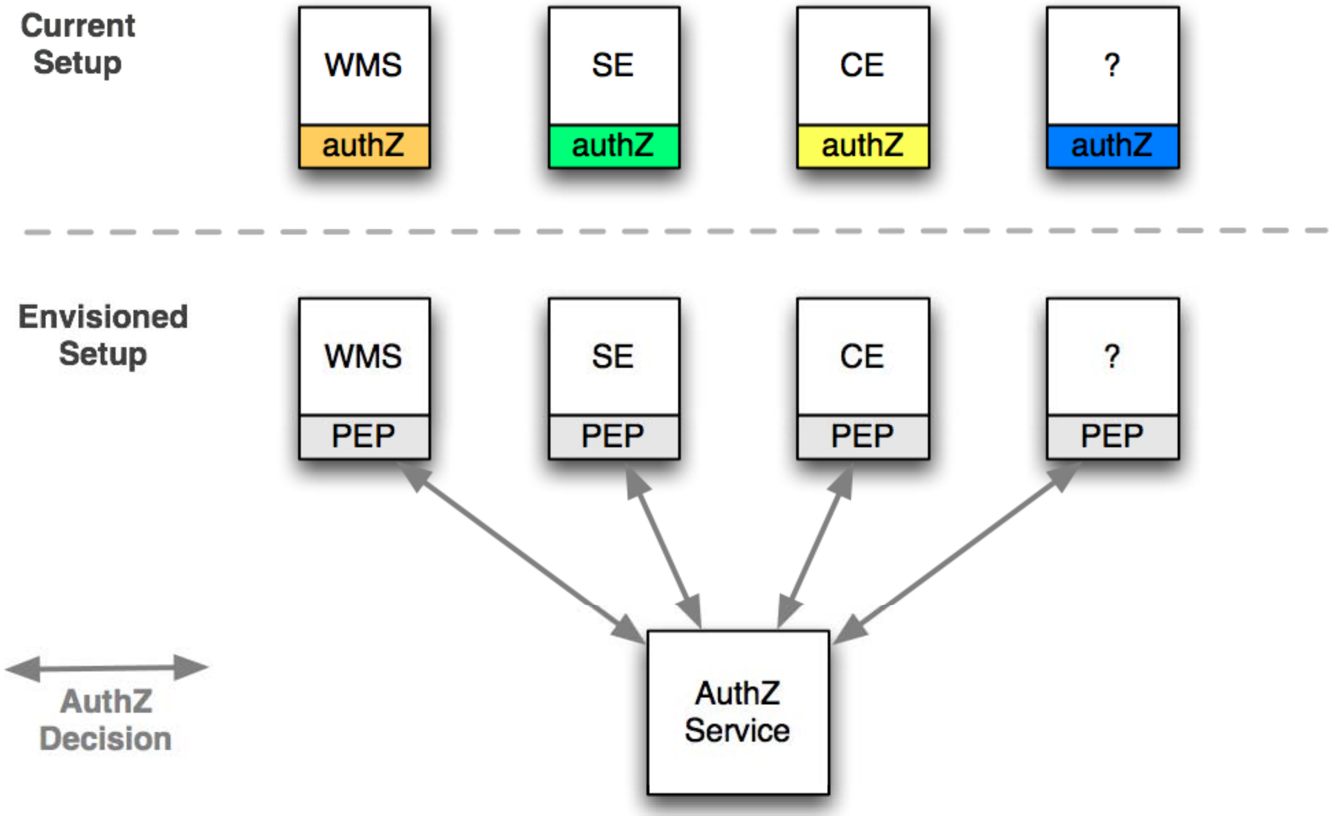
- **Uncoordinated:**
  - Different sites may only coordinate “by hand”:
    - Explicitly modifying their own policies to match grid mandated requirements
    - Time consuming and inherently fragile

A unified approach for AuthZ

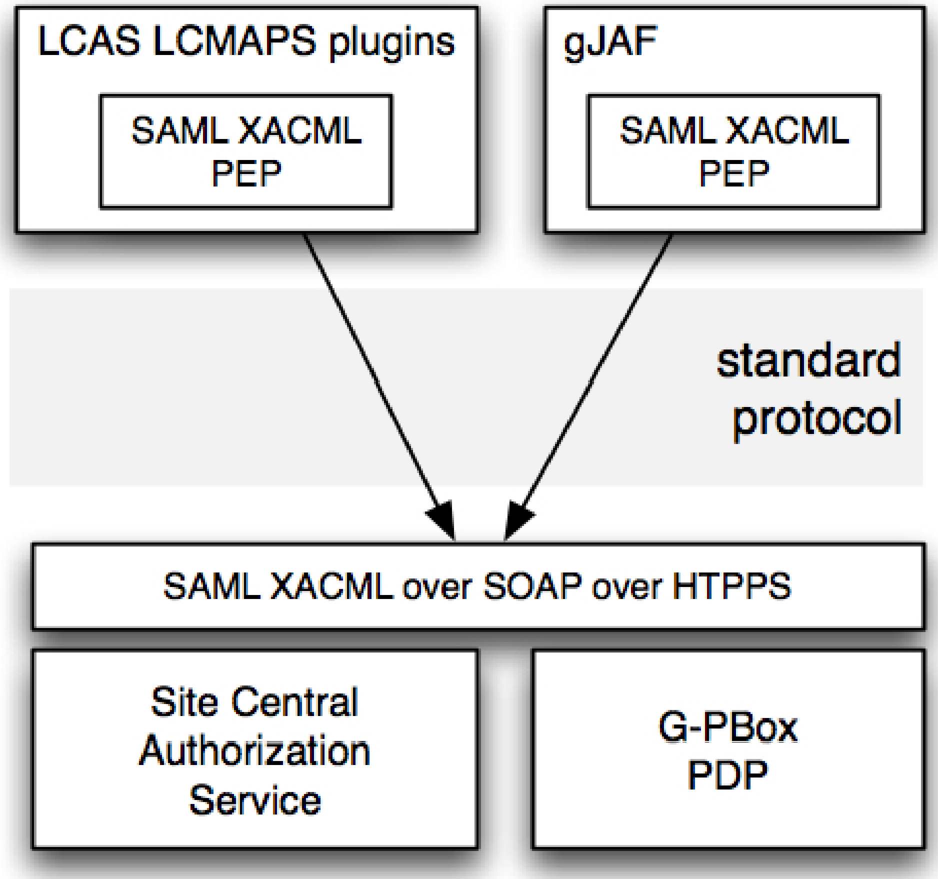
- **A unified approach for authorization would allow:**
  - Homogeneity
  - Tracebility
  - Manegability
- **A unified approach needs a policy language expressive enough to cover possible authorization scenarios:**
  - Computing element
  - Storage element
  - High-level services (e.g. WMS)
  - ...
- **---> XACML!**

A unified approach for AuthZ

- **A unified approach allows the use of a single tool to take authorization decisions for the different scenarios**



SAML-XACML communication layer



LCAS LCMAPS plugins

SAML XACML PEP

gJAF

SAML XACML PEP

standard protocol

SAML XACML over SOAP over HTPPS

Site Central Authorization Service

G-PBox PDP

Authorization interoperability

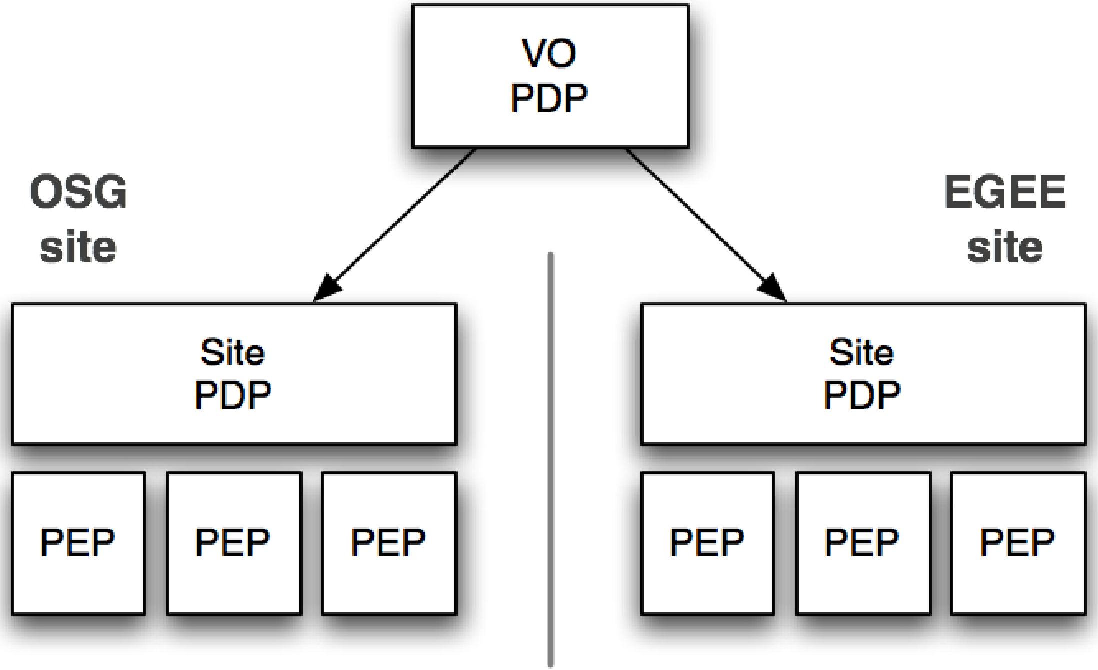
- **There is an ongoing effort for having interoperable authorization services among EGEE, OSG and GT**
- **For what concern the G-PBox team, the scope is wider**
  - Implementing an OGF specification to have interoperable authorization services
  - Reach agreements on what else is needed for OSG and EGEE to interoperate
    - Namespaces (Obligations, Attributes)
- **G-Pbox is going to implement the SAML V2.0 Profile for XACML as it will be agreed**
  - But we are analyzing the better way to blunt the WS overhead
    - There are requirements for calls to a PDP to be very fast

Authorization interoperability

- **Having a common implementation is not the main point, the interface is**
  - Developers should be free to choose whatever tool they like to implement a service
  - But we understand the urge under the common implementation, and we are helping on that
- **What's on the table right now?**
  - GT code (standard compliance and fragility issues)
  - OpenSAML 2 on its way out
    - We are using it in VOMS
  - It's XML we are talking about, there are plenty of tools one can use
  - G-Pbox already implements the XACML layer, we don't need the amount of work that other services need
    - We just need to add the SAML and WS layer

New Interoperability issues?

- **New issue:**
  - Coordination of policies among different Grids

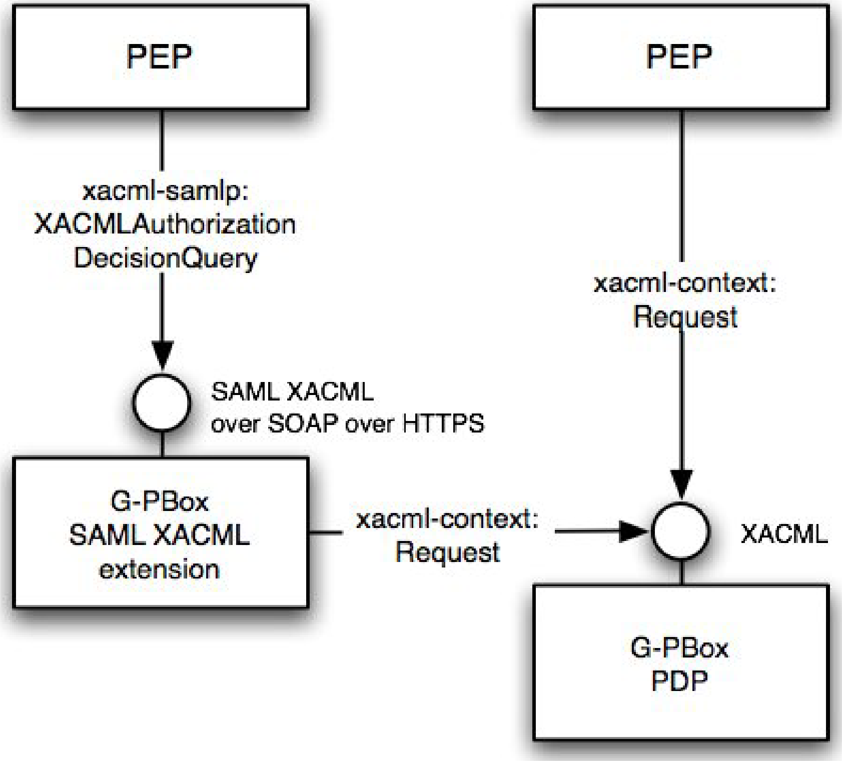


Conclusions

- **Are there other PDPs willing to use the XACML language to take authorization decisions?**
- **Are there other PDPs willing to devise new complex languages to define general purpose policies?**
- **Stand up now, because it would be duplicated work!**
- **Interoperability**
  - Policy coordination among different Grids
  - Performance analysis of the communication layer

G-PBox standardization efforts

- **We have implemented a solution that tries to overcome the above issues**
  - We have a service that unwraps requests and forward them
  - Deployed on Tomcat
  - Using XFire
    - Replaceable if another choice will be made
  - Current XACML interface still available
  - PEPs may choose what to put forward, interoperability or performance
    - Small difference on the client side, the core of the message is the same


PEP
xacml-samlp:
XACMLAuthorization
DecisionQuery
SAML XACML
over SOAP over HTTPS
G-PBox
SAML XACML
extension
xacml-context:
Request
PEP
xacml-context:
Request
XACML
G-PBox
PDP