



NGS

National Grid Service



Overview – recently deployed middleware on the NGS

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Overview

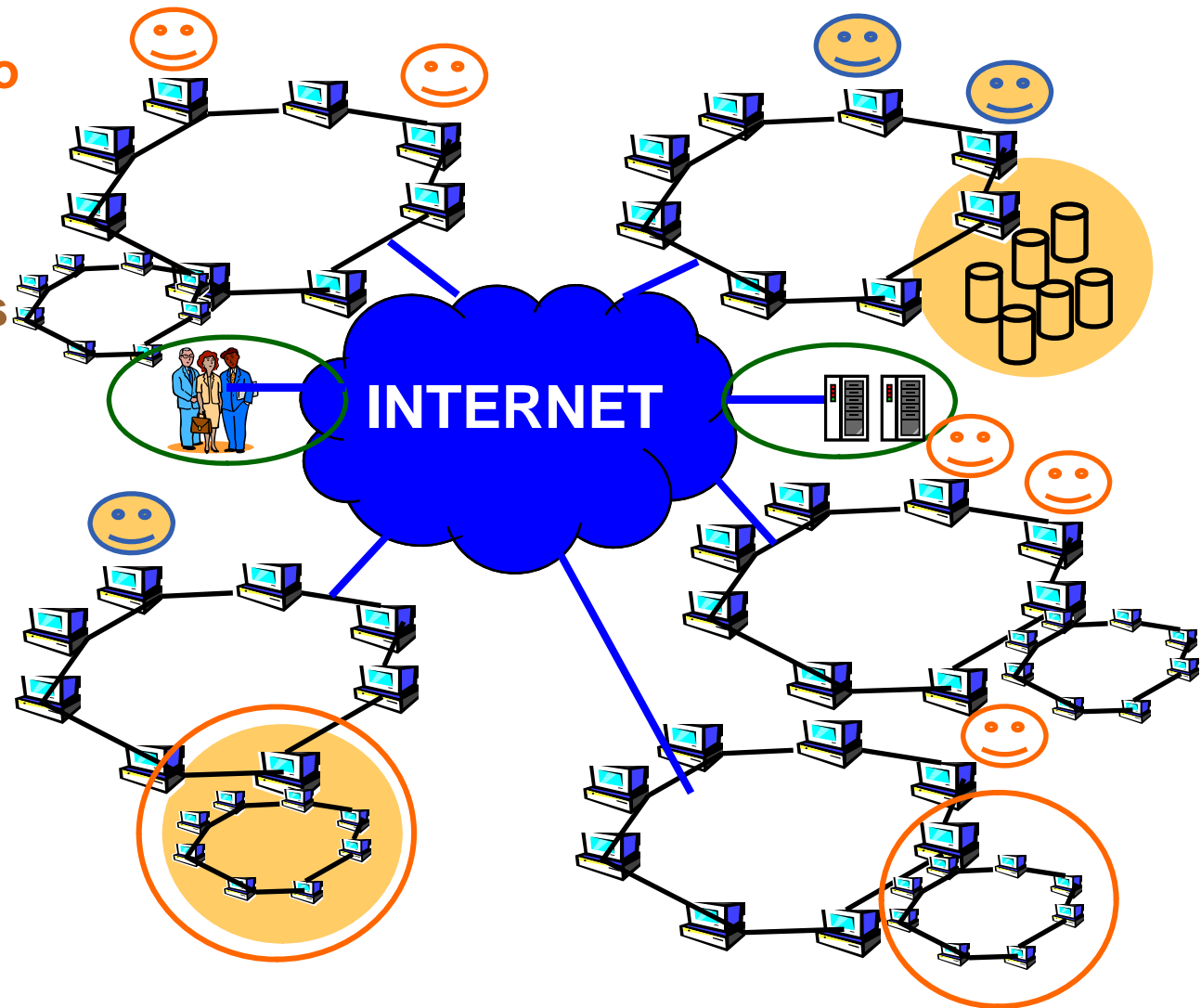
- Reminder of concepts
- Recent deployments: motivation and summary
 - VOMS: Basis for authorisation for research communities
 - GSIssh - Java - easier access
 - Higher level tools, built on current Globus tools, for:
 - Job execution - how to run / monitor/ retrieve output
 - Application deployment – how your applications can be made available to others

AA and Grids

- Centrality in a grid of Authorisation and Authentication
 - “Virtual computing across administrative domains”
 - Resources share same basis of AuthZ and AuthN
- Grids support one or more Virtual Organisations
- Communicate your identity using (proxy) X.509
- When you use the NGS you are by default in the VO
ngs.ac.uk

Typical current grid

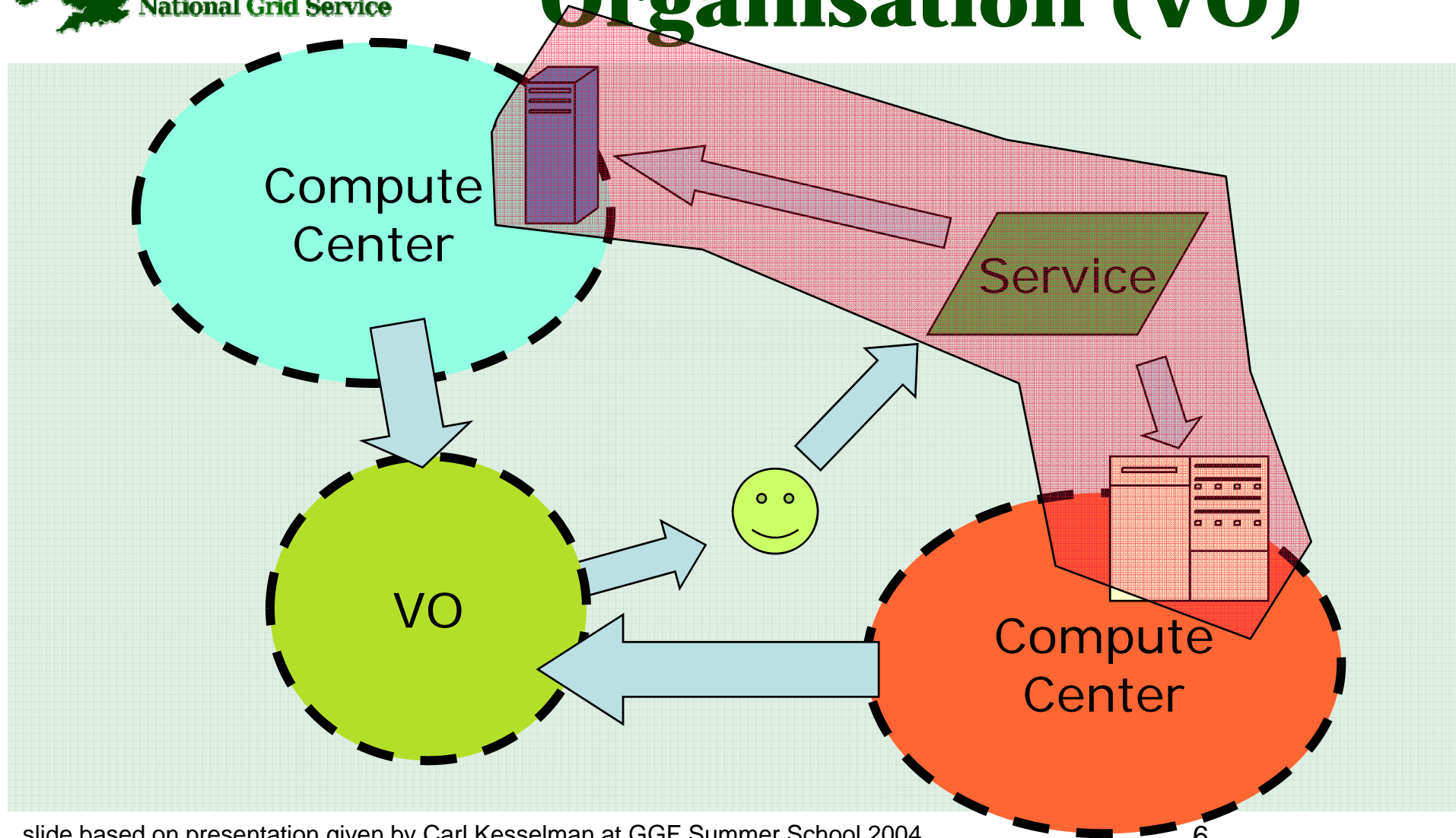
- **Virtual organisations negotiate with sites to agree access to resources**
- **Grid middleware runs on each shared resource to provide**
 - Data services
 - Computation services
 - Single sign-on
- **Distributed services (both people and middleware) enable the grid**



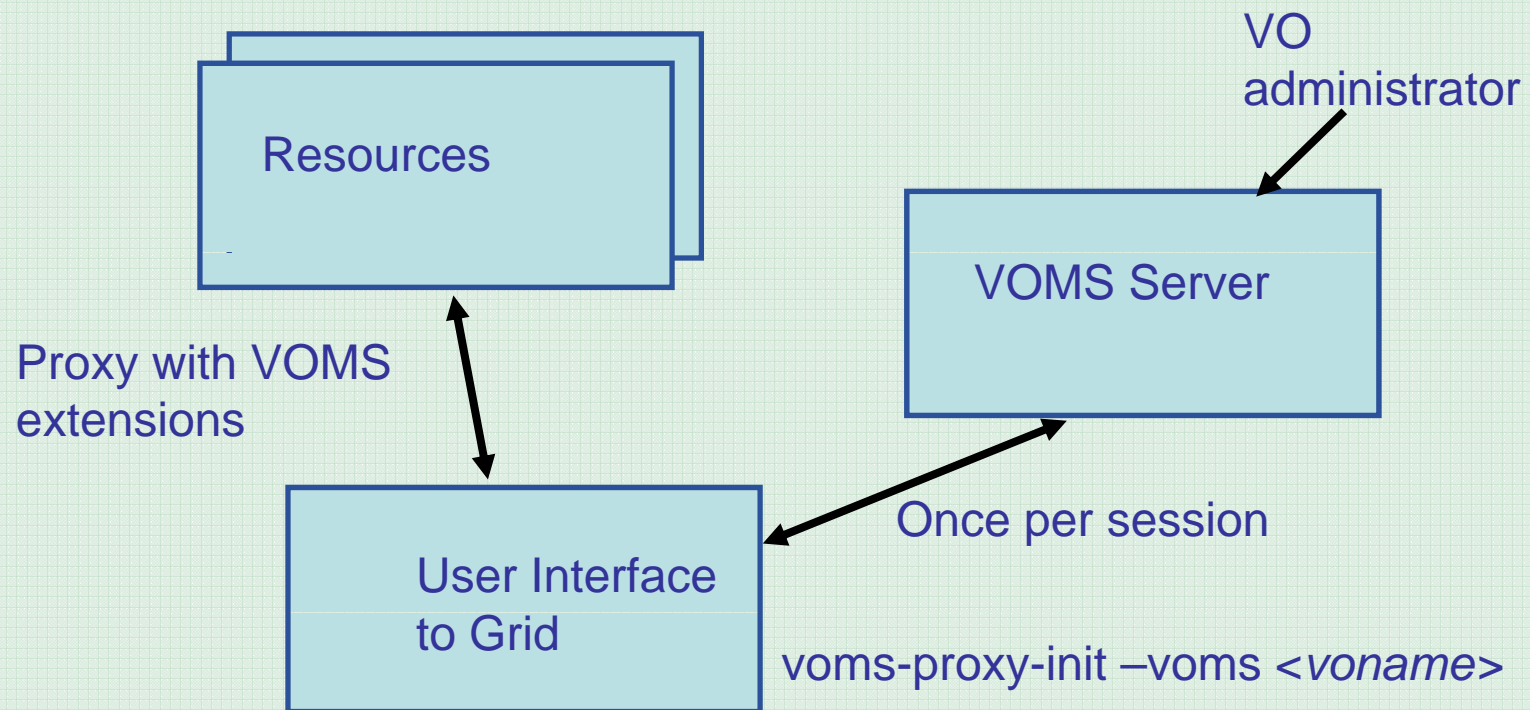
NGS and VOs

- NGS is deploying VOMS
 - Virtual Organisation Membership Service
- Why?
 - To improve support for research projects as VOs
 - While maintaining current support for individuals
- How?
 - Each VO will negotiate access to resources on NGS
 - Improve scalability of operations– VOs manage their own memberships
 - Service providers can use VO membership in authorisation decisions

The Role of the Virtual Organisation (VO)



VOMS



Groups and roles

- A VO can contain multiple groups
 - Grid services can then give different rights to each group
 - E.g. Different groups of experimentalists
 - Groups can be nested
- VO can have roles
 - Assume role for specific purposes - when user chooses
 - E,g. system admin
- voms-proxy-init (instead of grid-proxy-init)
 - Proxy certificate carries the additional attributes

Use of VOMS credentials

- Services providers will be able to:
 - Continue as now to use your identity from the proxy certificate:
 - Map each person to an account / set of rights....
 - Map VO membership to a set of rights
 - Map group memberships to set of rights
 - Map roles to set of rights
- It is up to the service provider
 - and subject to the NGS Service Level Agreements also!
 - Procedures under development

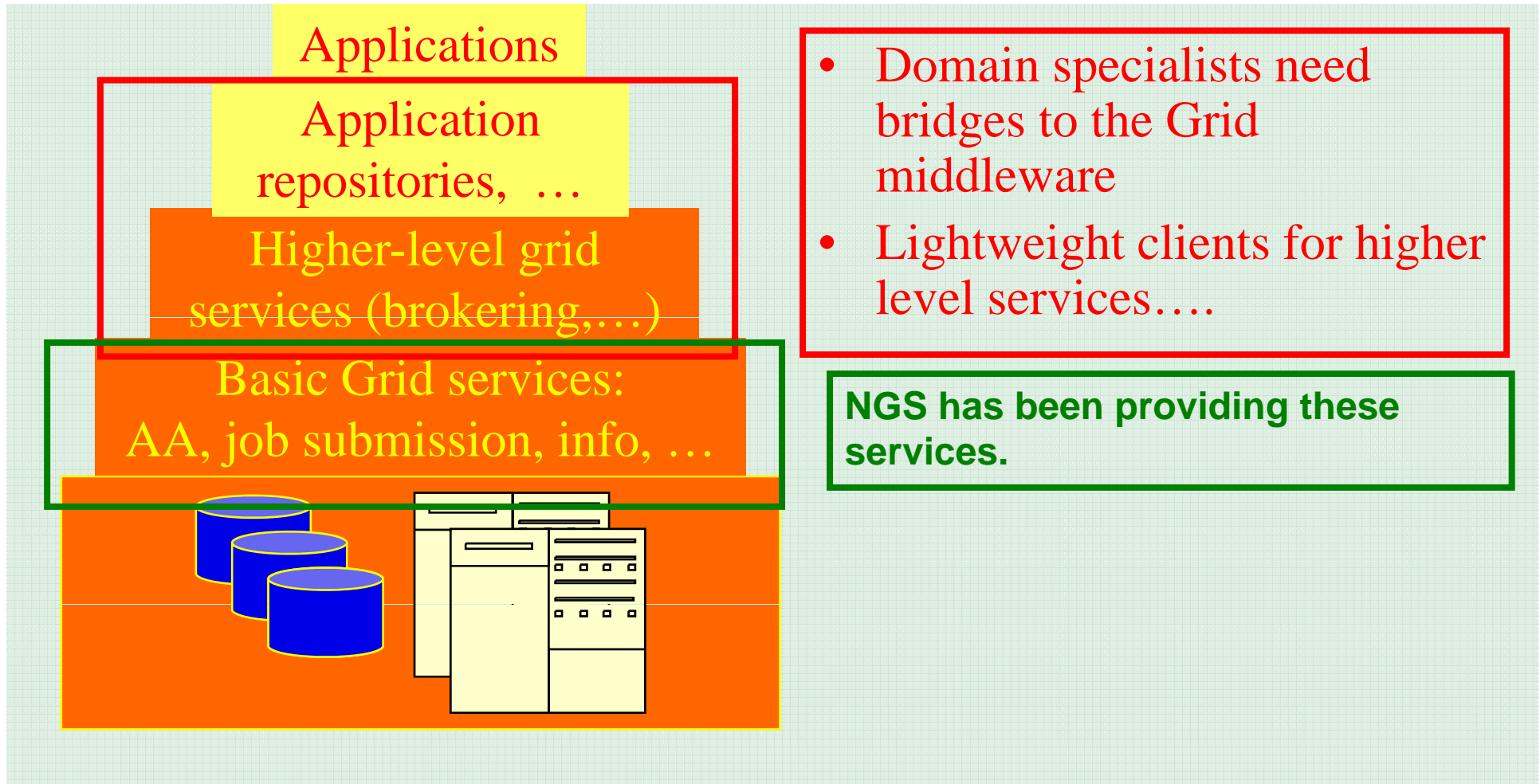
VOMS Summary

- VOMS allows VOs to manage membership, groups, roles, and express these in extensions in the proxy certificates
- It is a basis (no more!) for authorisation
 - Service providers choose if or how to use VOMS credentials (in accord with Grid policy)
- Current state of VOMS on NGS:
 - Early days!
 - VOMS server running
 - Available for service providers

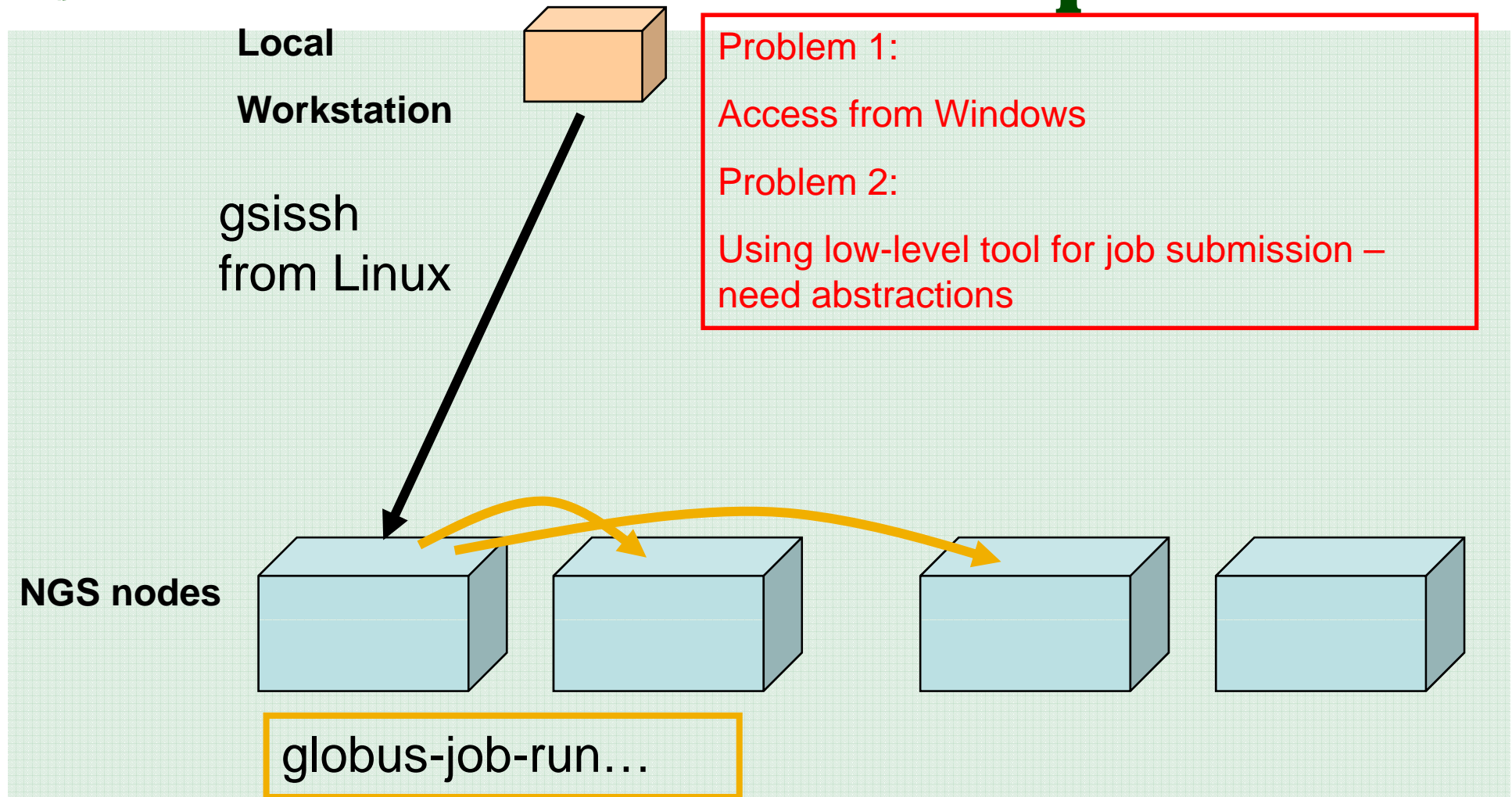
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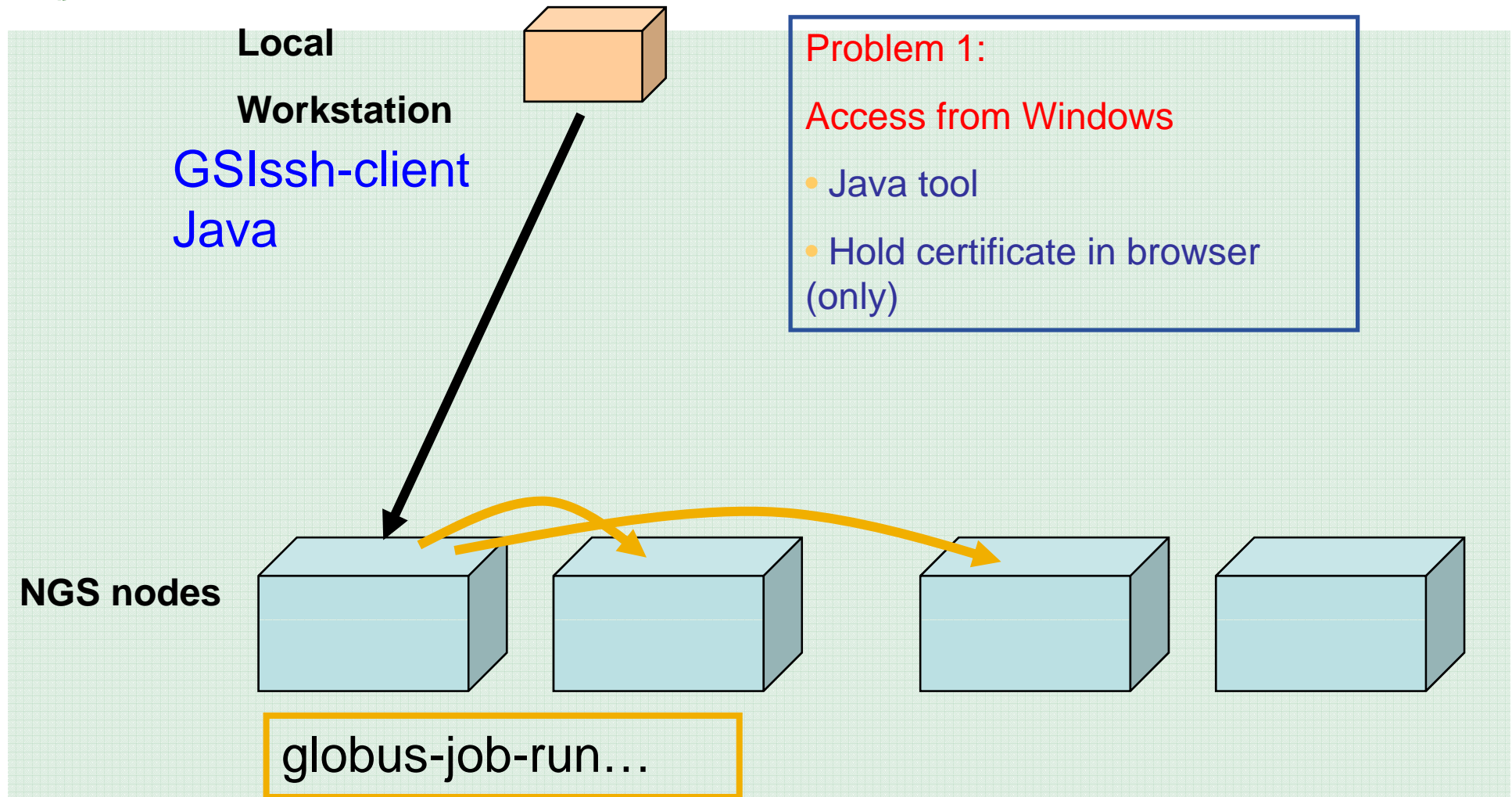
Using Grids for research communities



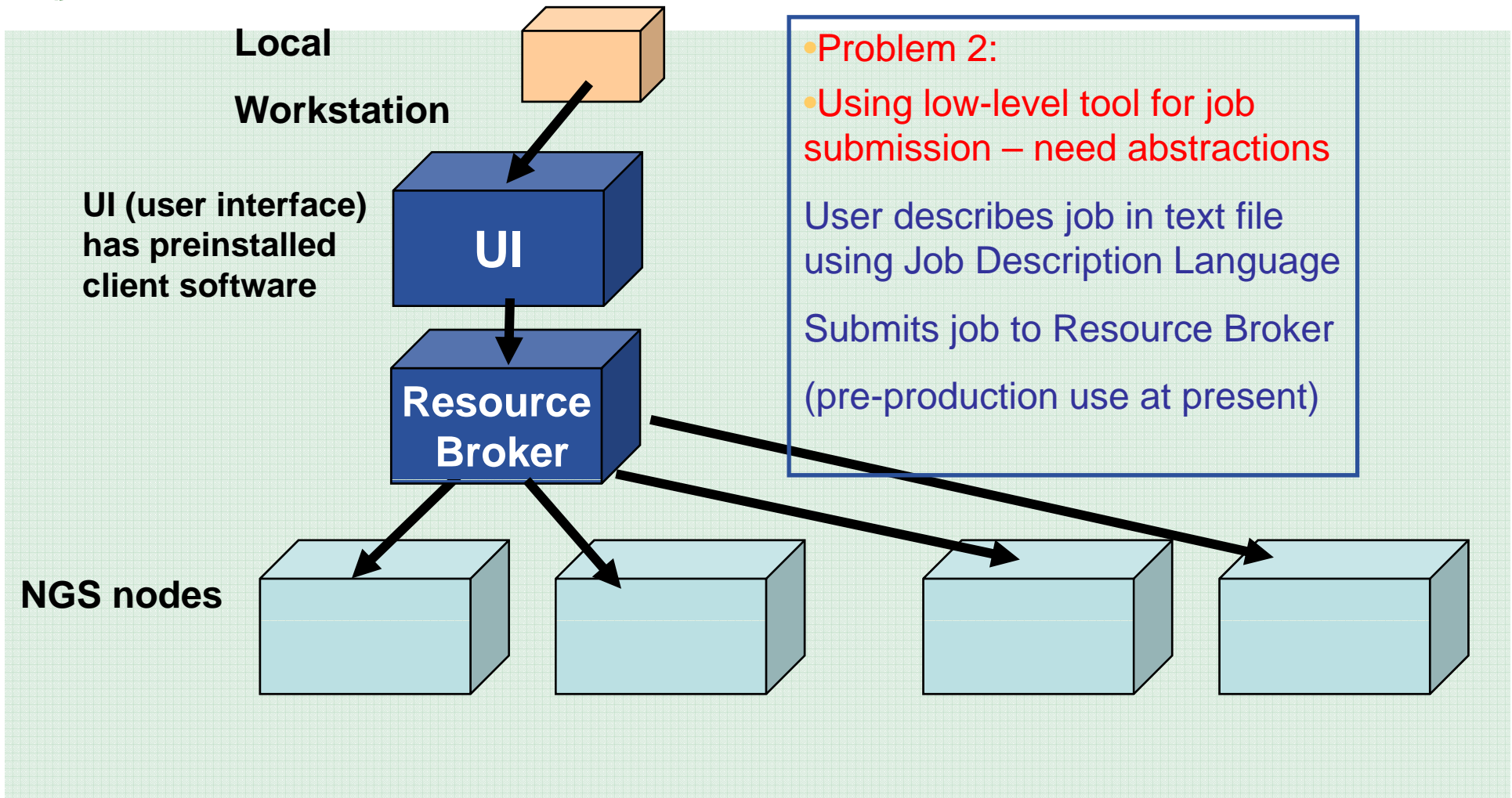
NGS access and Job submission – pre 2007



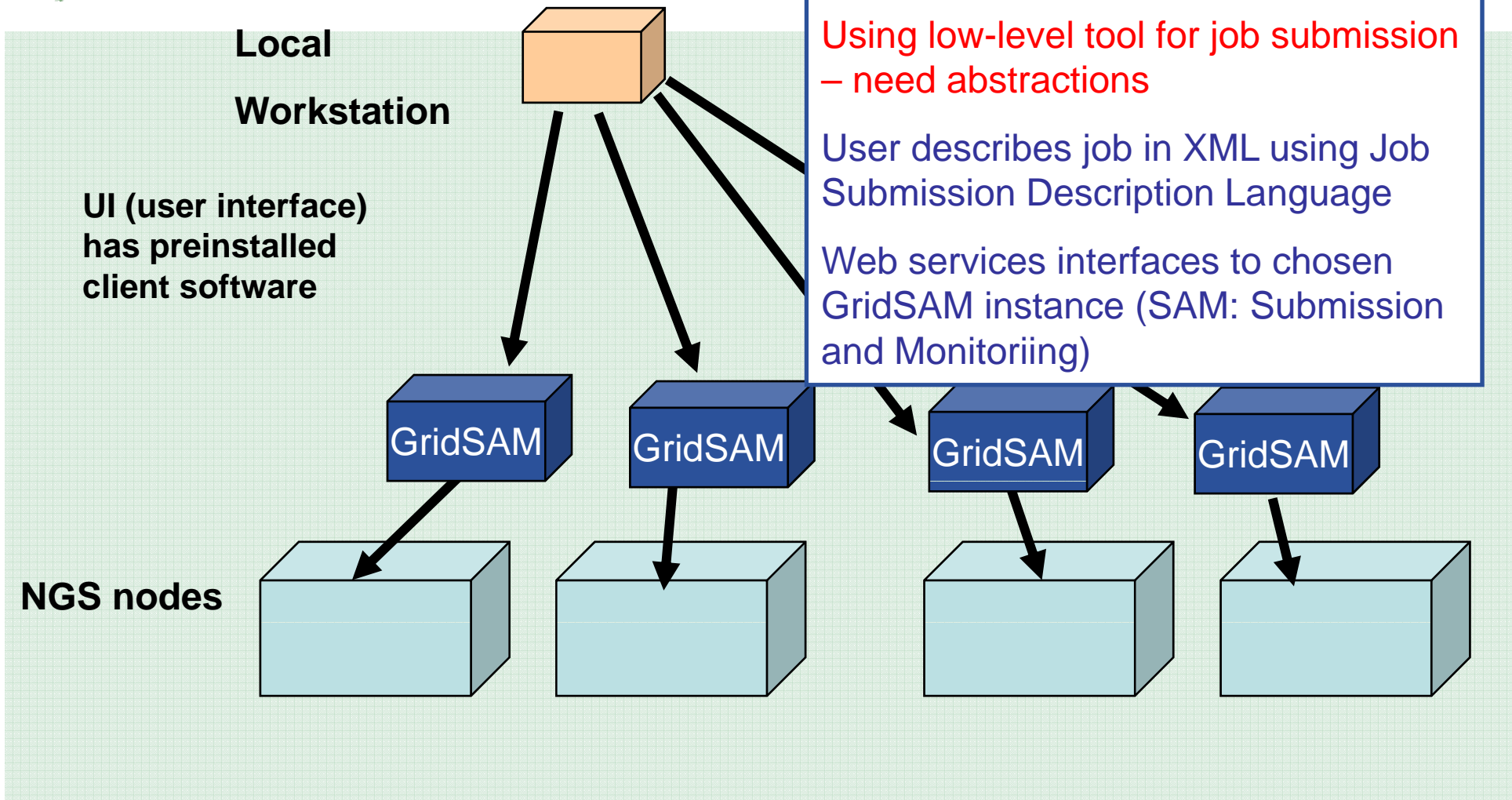
GSIsssh-client



Resource Broker



GridSAM



Summary

