



Enabling Grids for E-scienceE

Network Services Development

K. Kavoussanakis

www.eu-egee.org



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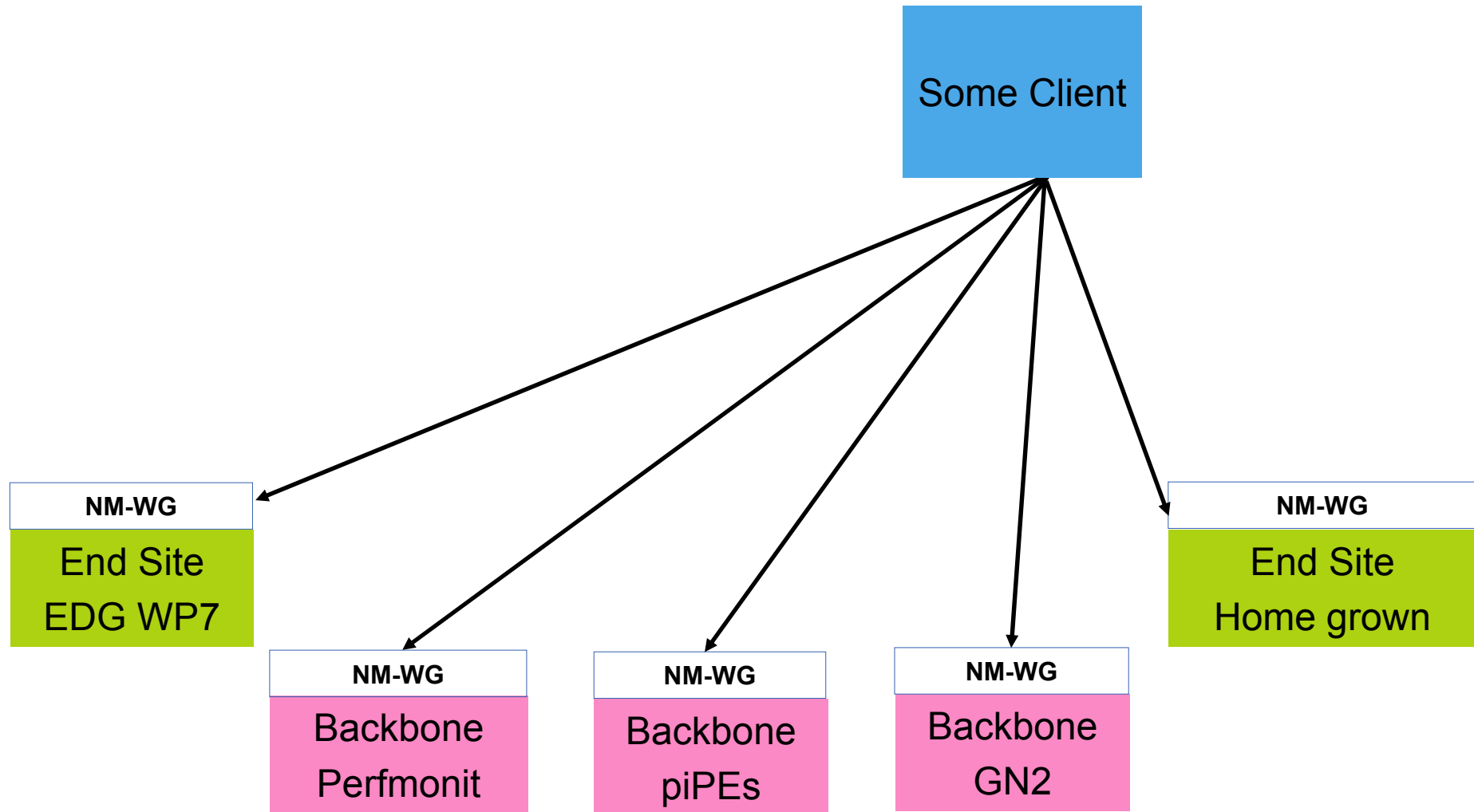
- **Goals of JRA4 (again)**
- **Response to review comments**
- **15-month plan and deliverables/milestones**
- **Collaboration with SA2**

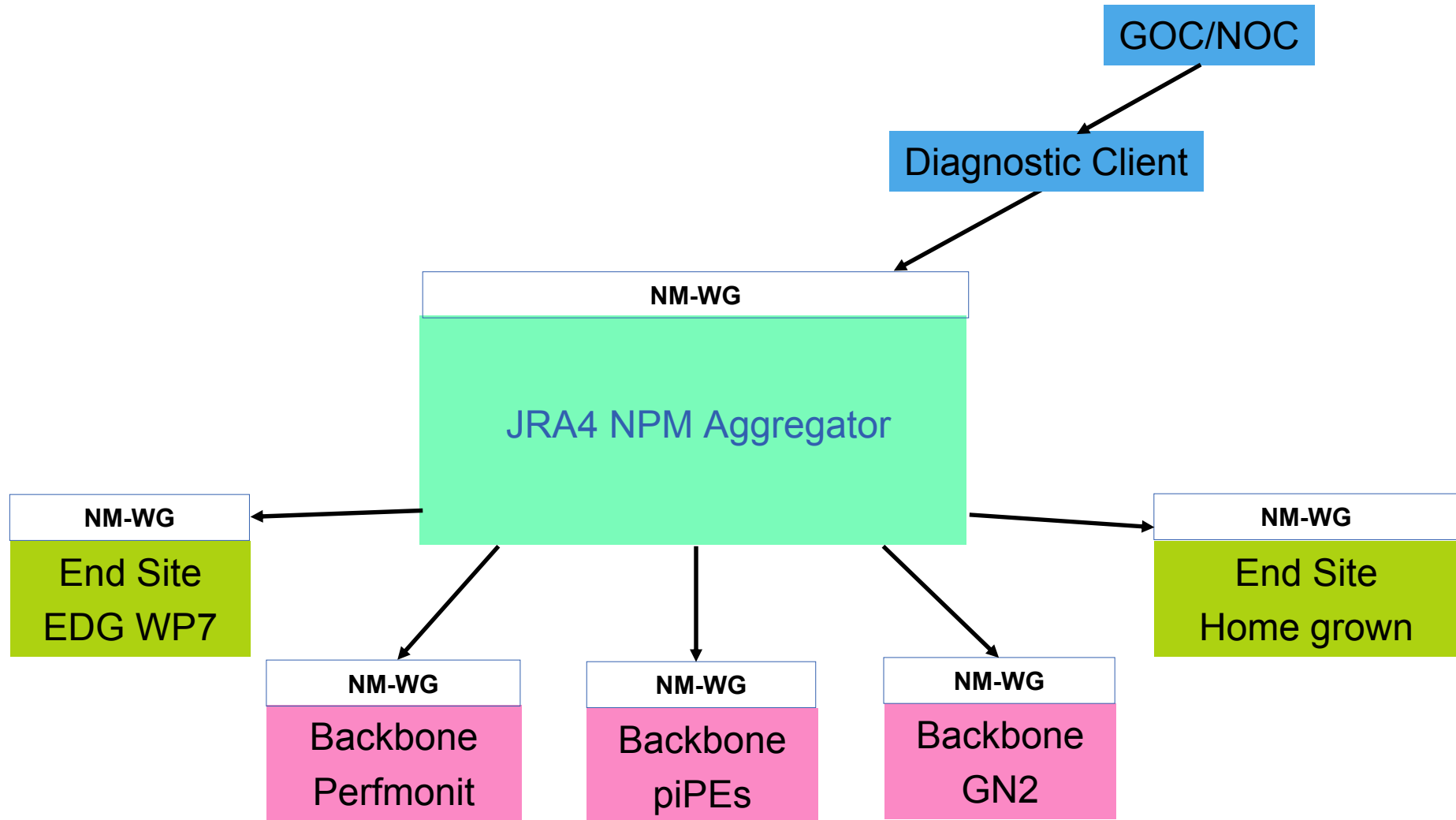
- **Network Performance Monitoring:**
 - Provide GOCs with network information for diagnostic and monitoring purposes
 - Standardise publishing of NPM info from **existing** end-to-end and also backbone tools
 - Skeleton presentational diagnostic tool also in the frame
 - Publish info into (assumed existing) GIS for middleware

- **BAR:**
 - Produce a Differentiated Services implementation, based on IP Premium

- **BAR in particular and the whole of JRA4 (and SA2) sets up a “better than best-effort” interface with GEANT**

- *Clarify how NPM required interoperability and interfacing among many different standards and monitoring tools will be ensured and more importantly maintained as the infrastructure evolves*
- **Want to achieve interoperability? Then use a standard.**
 - Network Monitoring GGF Working Group (NM-WG)
- **Requirement imposed is not to homogenise tools across EGEE fabric (impossible and undesirable), but rather to identify a common denominator for the publication of the results.**





- *“How can we measure the impact of JRA4 networking advances on the applications?”*
- **NPM publishes to GIS for Workload and Data Management Middleware use**
 - Contributes to efficient running of applications on EGEE Grid
- **NPM makes available to NOCs/GOCs necessary information to diagnose network performance issues**
 - Indirectly helping address network-related, day-to-day concerns of the applications
- **BAR developing system to automate IP Premium reservation**
 - Useful to Biomed applications requiring visualisations
 - Due PM21; hope applications will find it useful
 - SA for EGEE-2?

- **PM12 MJRA4.3 “*Prototype tool*”**
- **PM18 MJRA4.6 “*Specification of monitoring and diagnostic tools; revision of NPM metrics*”**
- **PM21 DJRA4.5 “*Service to supply NPM to middleware*”**
- **PM24 DJRA4.7 “*Report on NPM in EGEE*”**

- **PM12:** *“Prototype tool to access NP metrics from a limited set of measurement points”*
- **Building on DJRA4.2.**
- **Targets:**
 - Priority on deployment
 - Need to replace all UCL WP7-entities with CNRS counterparts
 - Need to improve on it and attempt to increase the number of sites
 - Aggregation/merging the research and development topic
 - Security the other area to address and improve
 - Give an NPM demo at GGF
 - Discovery and middleware interactions in the background
 - Exception handling piggybacked/incidental

- **PM18: “Specification of monitoring and diagnostic tools; revision of NPM metrics”**
- **Deliver a tool, together with the design for it.**
- **What could it do?**
 - Expose selected metrics
 - Expose trouble tickets
 - Attempt to “script” the actions a Network Operator would take to diagnose a network fault
- **WP7 deployment a parallel activity**
 - Only possible via SA1/LCG

- **We need to identify a set of users so as to extract requirements on the Security and UI fronts and certainly on metrics.**
 - We have expertise within the group from GARR and DFN, and also from DANTE and CNRS, which we should exploit anyway.
 - Plan for security forwarded to JRA3 for comments

- **It would be *impressive* if our tool was used by the 5 EGEE Core Infrastructure Centres (CIC)**
 - <http://egee-sa1.web.cern.ch/egee-sa1/Organisation.htm>
 - Meeting later today to see if possible
 - Certainly very ambitious

- **Due PM21 (3 months after Diagnostic Tool) and a *Deliverable* rather than a Milestone.**
 - PM21 is also *December*

- ***Service to supply network performance information to resource brokering middleware***
 - Note “Service”; deployment is assumed
 - When written, GIS from JRA1 also assumed but not the case

- **It requires significant interactions with JRA1/SA1, which have started but can really pursue from April onwards**
 - Data Replication and Workload Management group
 - EGEE Conference session

- **Different architecture and perhaps North security model from Diagnostic Tool**
 - Overlapping modules?

- **PM15 MJRA4.4 “*Prototype implementation of BAR service at specific network ingress points using static network configuration*”**
- **PM15 MJRA4.5 “*Specification of end-to-end BAR system*”**
- **PM18 MJRA4.7 “*Dynamic reconfiguration of key ingress points in response to reservations*”**
- **PM21 DJRA4.4 “*Implementation of single-domain BAR service in the network core (GEANT and NRENs)*”**

- **PM15: “*Prototype implementation of BAR service at specific network ingress points using static network configuration*”**
 - “Specific network ingress points” means we select a few that have the underlying capability to support BAR (limited options)
 - “Static network configuration” means it takes 2 days for the request to be satisfied at network level (hand configuration)
 - Prototype underway

- **Natural progression to include one then two last miles**
 - Last miles impose additional administrative burden and software that comes with it

- **Non-functional prototype completed Feb 2005**

- **PM15 (also): “*Specification of end-to-end BAR system*”**
- **Design document, including (pilot) deployment plans and potentially use cases**
- **Note that users are not mentioned anywhere so far**

- **PM18: “*Dynamic reconfiguration of key ingress points in response to reservations*”**
- **GEANT will not be doing dynamic reconfiguration**
- **Interpret this as:**
 - Packet marking
 - Static local equipment configuration (LNSAP)

- **PM21: “Implementation of single-domain BAR service in the network core (GEANT and NRENs)”**
 - Fixing and hardening of MJRA4.7

- **SA2 is setting up SLAs between EGEE and network**
 - Once agreed they will need policing
 - Need JRA4 NPM to monitor SLAs
- **JRA4 setting up BAR pilot**
 - Needs a small selection of backbone and end-sites for demonstration
 - Collaboration with SA2 for SLAs, particularly static/dynamic bandwidth allocation to EGEE
- **Two groups working together on harmonising terminology and setting up SLAs**