

Investigation Teams kick-off meeting Area 3 (Topic#7)

Brussels, 20-21 October 2008

- Foundation-level services
 - generic functionality, close to physical infrastructure
- Rich ICT Infrastructure
 - Network connectivity
 - Storage
 - Processing
 - Execution environments for:
 - Software components
 - Virtual machines
 - Software appliances (databases, application servers,...)
 - Desktop/application virtualisation(?)
- Flexible response to user requirements
 - Adaptive, high degree of automation

- Definition of Infrastructure Services
 - Services: therefore following NEXOF architecture
 - What range of services do we need to consider?
 - Attractive to users (useful and valuable)
 - ...and providers (deployable and manageable)
 - Execution of components or sets of components
 - Specialised features or optimisations
 - high bandwidth
 - high transaction rates
 - low response time (latency)

- Set of services – baseline for NEXOF
 - Minimal Infrastructure – profiles?
- Functional characteristics
 - What does a service do?
- Non-functional characteristics
 - How does the service behave?
 - availability, performance, security, management interfaces, transaction support

- Main concern is describing services
 - Common characteristics
 - Sufficient to support comparison
 - Range of implementation styles
 - “users” will have widely varying technical awareness
 - Metrics for non-functional properties
 - measurement methodologies and units
 - basis for comparable SLA terms
 - Requirements for information models

- Open... understanding scope is a goal
- Some examples exist already
 - Amazon EC2, S3, SQS, ...
 - Google App Engine
 - Clouds from HP/Intel/Yahoo!, IBM, Sun, Microsoft, ...
- Investigation team members
 - 11 position papers received
- Need to accommodate all

- CSC – IT Center for Science Ltd (Finland)
 - Providers of research infrastructure
 - Workflow environments, Web Services, Web based environments, Analysis and simulation software, compute, network and storage services, Scalability, security and reliability
- IBBT – Ghent University (Belgium)
 - scalable personal communication and media-rich service deployments
 - extend XML resource description schemes
 - virtual machines and network infrastructural resources
 - expose low-level resources to higher-level (overlay) management nodes

- SAMPAS (Turkey)
 - Storage, Processing (computation), Network, Operating System, Security services, Monitoring, SaaS, Performance tuning services, Business Intelligence of Infrastructure
 - Projects in Aml, eGov, Intelligent City, GIS
- SLA@SOI (Intel, BeSC, XLAB and SAP)
 - External:
 - Deployment, Provisioning, Management
 - Internal:
 - Infrastructure SLA Provisioning and Negotiation
 - Resource Allocation and Management
 - Infrastructure Reporting

- W von Stuermer, Group DCA Inc (USA)
 - infrastructure services concerned with determination of marketable trading value of other services (services exchange market scenario)
 - definition of Patterns that enable analysis of the metrics necessary to determine market value and aid in the trading of services
- TU Chemnitz (Germany)
 - WebComposition research programme
 - DataGrid service
 - Identity services
 - Policy and security in federations

- TU Clausthal (Germany)
 - BelAml Project
 - Home care, Food control scenarios
 - Dynaptive component model
- University of Milan
 - Skills in metrics definition and creation
 - Process modelling, monitoring as a service

- **RESERVOIR**
 - (Combined position paper with QoS topic (to be split))
 - Virtual Execution Environments, Service Manifests
 - Deploy/provision, monitor/enforce SLA compliance
 - Non-functional characteristics and migration
- **SOCRADES/SODA**
 - Mainly focused on Scalability topic
 - Devices: autonomous, cooperating units
 - Cross-layer interworking based on services

- Telematica Instituut
 - Projects on context-aware mobile networks and ambient intelligent communication
 - Infrastructure support for context sharing

- Not trying to design a single, uniform infrastructure
- Focus on interoperability
 - Many implementation styles possible
 - Consistent framework to accommodate all
- Aiming for some concrete specifications