Non – Functional Requirements

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Non-Functional Requirements

- Paving the way towards the “Future of the Internet” vision poses a number of requirements including Non-Functional ones: Quality of Service, Usability, Mobility, Interoperability, Scalability...
- The way ahead is to combine and interrelate NFRs across the complete business-IT-network stack (reliability and predictability from telecoms with flexibility and openness of the internet).
- Taking into consideration
  - Consumers may also be providers of information / services
  - Consumers’ behaviour influences non-functional system properties
- New business models will emerge
  - Adaptable QoS schemes (including properties ranging from security, integrity and availability to performance and timeliness).
Quality of Service

- QoS Guarantees will eventually determine the value of a service
  - Future internet services / interactive applications will have stringent timing and performance needs...
- The key point is and will continue to be the “Performance Guarantee” involving:
  - timed execution management, synchronized communication under various load conditions, satisfaction of other QoS constraints
  - trade-offs between them.
- QoS aspects of the services and the network have to be dealt in a unified way.
- We should NOT forget the cases of “end-to-end QoS Provision” across a federation of providers.
Since new business models and new value chains will continue to emerge, the main question is: “How to assure QoS via SLAs in this dynamic, ever-changing environment?”

- SLA negotiations should be based on knowledge of the QoS level that each provider is able to offer given current commitments and non-QoS assured workload.
- QoS should be reflected at various levels in the value chain, including the ability to translate high-level business objectives to low-level resource provisioning policies.
- SLAs should be assigned both, across the value chain but also across the business-IT stack within a service provider.
Consumer-centric

- **Survey**
  - Redesigning for **usability**, the average improvement in KPIs was 83%.

- **We have to take into account** “**Consumer-centric**” QoS properties, such as:
  - Quality of Experience (QoE)
  - Fidelity (refers to the measurement of the output’s quality)
  - Transparency about the relationship between QoS and costs.

- **Concluding...**
  - The final success of any attempt regarding the “Internet of Services” will primarily depend on its **real adopters**: the end users - whose main demand refers to the offered level of quality.
Thank you!

Further Information:

IRMOS Project: http://www.irmosproject.eu

SLA@SOI Project: http://www.sla-at.soi.eu

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