Federated IT service management system & service portfolio

Recommendations and framework for the SKA Regional Centers and the European Science Data Centre

Outline

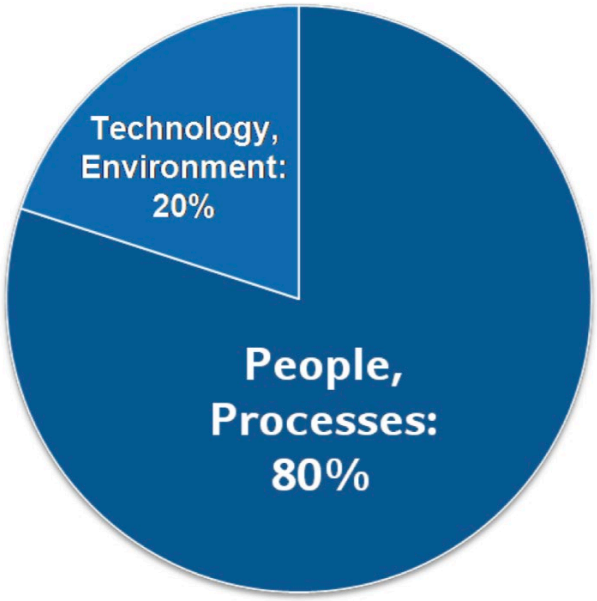
- Defining IT Service Management
- Considerations for federated IT Service Management
- Federated service portfolio and management
- Some examples of core IT Service Management Tools
- Take home messages

What is IT service management and why is it relevant for research?

DEFINING IT SERVICE MANAGEMENT

IT Service Management

- Why IT service management (ITSM)?
  - About 80% of all IT services outages originate from "people and process issues"
  - Duration of outages and impact **largely depend on non-technical factors**
- IT service management
  - Defines, establishes and maintains service management **processes** through assigned **roles** and responsibilities
  - Focuses on the provision of high quality IT services that **meet customers' and users' expectations**

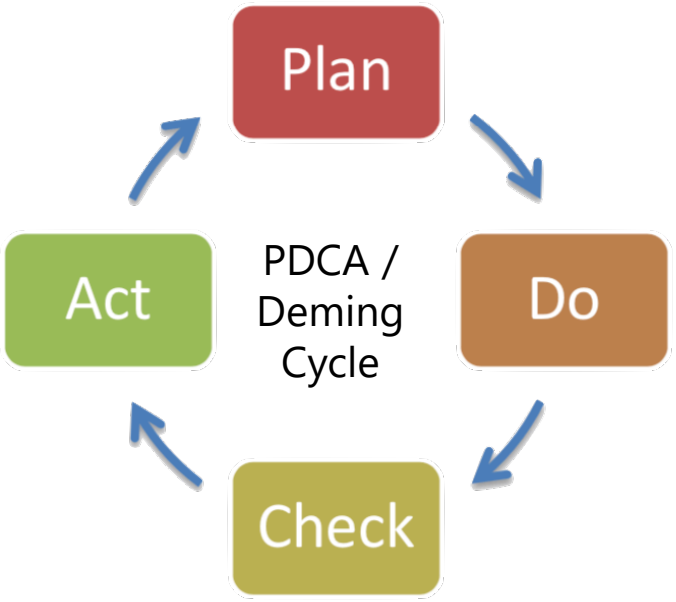


Reasons for service outages [Gartner]

Continuous service improvement

- ITSM aims to effectively **manage** the control and **continuous improvement** of processes, products and services
- ITSM **defines processes** that enables an organisation to:
  - Define and maintain **a service portfolio and service catalogue**
  - Define and agree on **Service and Operational Level Agreements**
  - Specify **reports** and ensure reports are produced according to agreements
  - **Maintain** a sufficient level of **availability**, **capacity**, **security** and **control** for all services and service components

Key principle: continuous improvement of services through an iterative process.



IT Service Management… in Research

- Shift in expected results
  - FP7 → **H2020** = Publications → **Services**
  - **Focus on Sustainability!**
  - Major cultural shift
- Increased customer expectations
  - Commoditization of digital services
  - XaaS (Anything as a Service) now commonplace
- Skills, experience and knowledge gap
  - Limited to **no formal training** in how to professionally plan, deliver, operate and control IT services

Recommended Standard for the SKA Regional Centers

CONSIDERATIONS FOR FEDERATED IT SERVICE MANAGEMENT

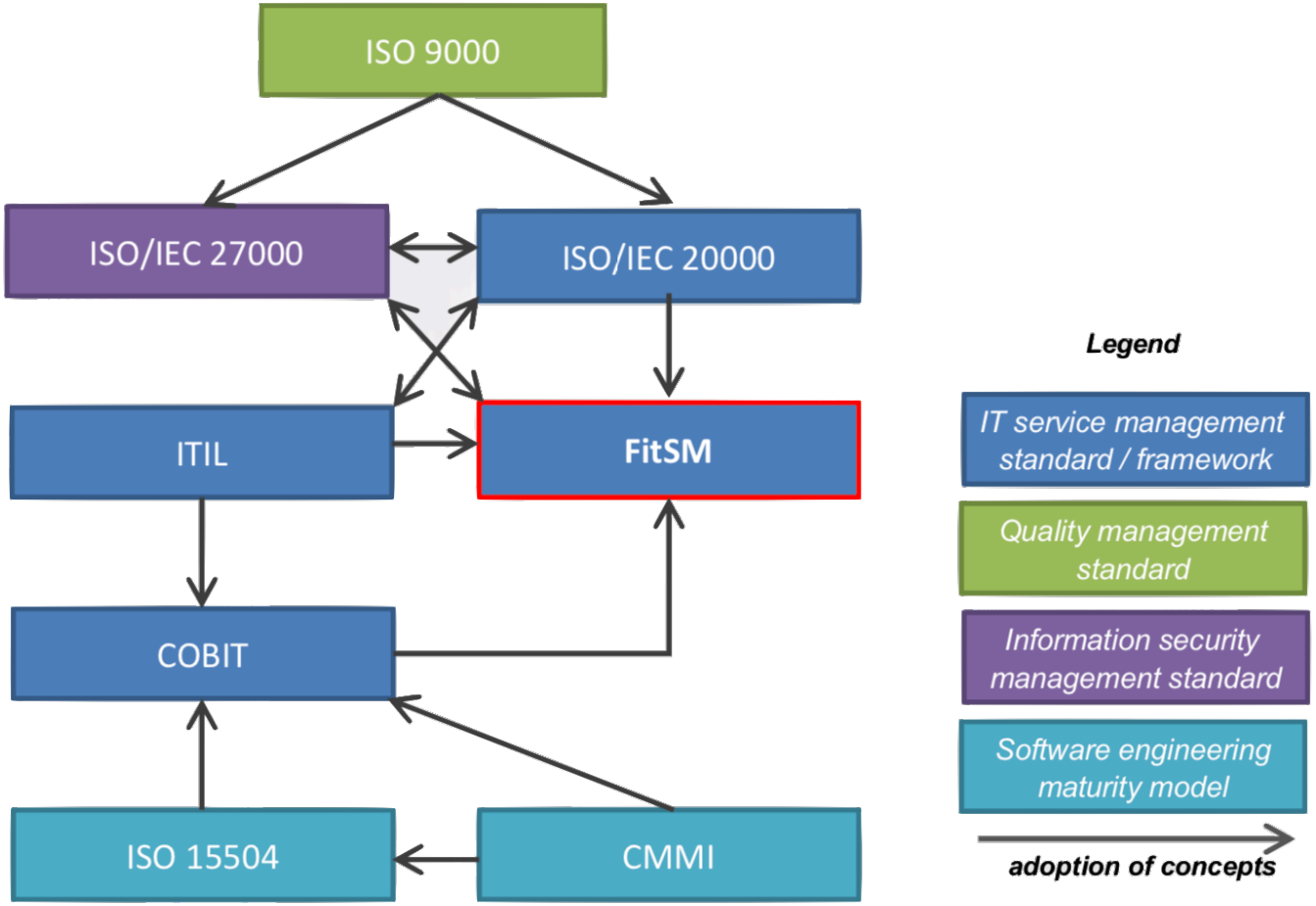
Federated network of SKA Regional Centers

- Traditional IT service management practices assume **single control over all service management processes** with one organisation acting as the service provider.
- In a federated ESDC participating **organisations autonomously manage and provide services**.
- Traditional ITSM guidelines and standards **do not address the collaborative approaches** needed for federated service management

Lightweight, federated IT service management standard

- Standards family for lightweight IT service management
- Suitable for IT service providers of any type and scale
  - **Established itself as the ITSM language for Federated Service Management.**
- Widely adopted in the research communities, public institutions, **federations and e-Infrastructures** and EC-funded projects.
- FitSM freely available under the Creative Commons licenses

Related standards and frameworks



Implementing FitSM: a 7-step approach

1. Define the rationale and **scope** for implementing service management and get top management commitment and support
2. Identify/assign **roles** and **responsibilities** for planning/implementation
3. Ensure **training** and **awareness**
4. Perform an initial organization **maturity assessment**
5. Define a service management **plan** with overall goals and milestones
6. Start **defining** polices, activities and procedures for each process
7. Re-assess progress through formal **reviews** or audits (e.g. annually)

Before adopting and implementing a Service Management System standard, it is important that a Service Portfolio that reflects the SKA's management strategy, is agreed upon.

FEDERATED SERVICE PORTFOLIO AND MANAGEMENT

Defining a Service Portfolio

- A **Service Portfolio** is a list of **all services** offered, including services…
  - … under development
  - … in production (live)
  - … no longer in production (discontinued)
- The Service Portfolio is the basis for all services → **important to maintain a consistent portfolio**
- Customers only "see" live, production ready, services → the **Service Catalogue**

Service Portfolio Management (SPM)

- Service Portfolio Management defines and maintains the Service Portfolio
  - **Takes into consideration** the demands and requirements of the **customers**
  - **Defines the specifications** of new or improved services
  - **Ensures** that the service provider has the **right mix of services** to meet current and future business / research plans
- For the federated ESDC of the SKA, the Service Portfolio must **provide services to users** in a way which combines many different computing resources but presents these **in a harmonized way** to each user or user group.
- (Some of the) Core functional specifications of the services:
  - **Validate** users' requests for **data access**
  - **Keep accounts** of computing and storage resources for each user or user group
  - **Minimize data movement** between sites

SPM considerations for SKA

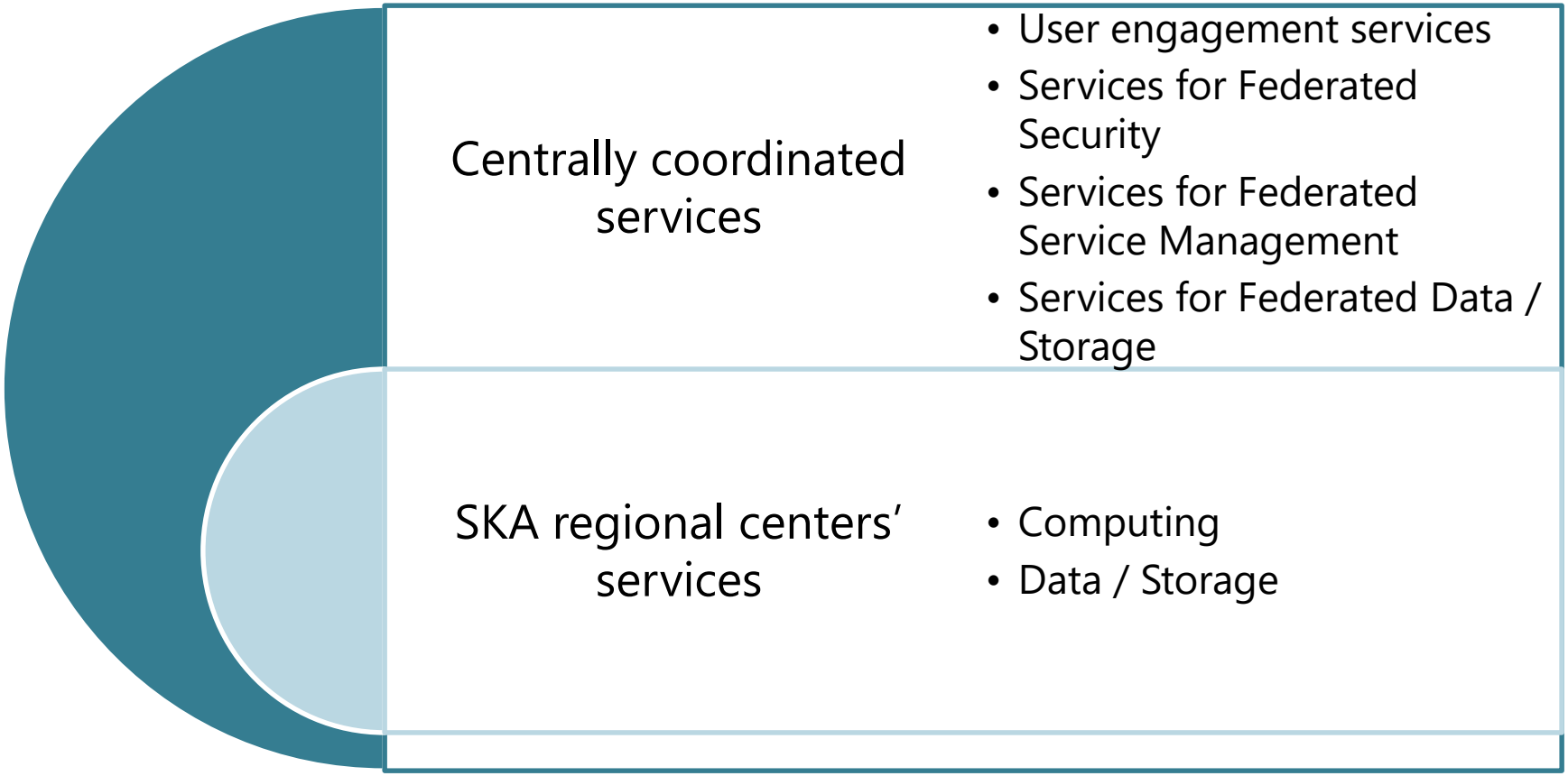
Assumptions

- Multiple distributed SRCs
- Managed separately
- Common interfaces for interoperability
- Central services enable collaboration and ease of use

Two Scenarios

1. Tight integration
   - Users interact with central services via e.g. a portal
   - ESDC coordination hidden from users, despite federated service provisioning
2. Loose integration
   - Users interact directly with relevant ESDCs

Suggested Service Portfolio



SOME EXAMPLES OF CORE IT SERVICE MANAGEMENT TOOLS

Category	Example
Marketplace and order management tools	• European Open Science Cloud Marketplace: https://marketplace.eosc-portal.eu/
Service Portfolio Management tools	• GRNET's AGORA tool: https://grnet.github.io/agora-sp/

Catalogues, Applications Stores and Software repositories	• Build your own community catalogue: https://github.com/eInfraCentral/docs
	  • https://einfracentral.eu/basic-page/einfracentral-catalogue
	  • https://catalogue.eosc-portal.eu
	• Applications Database: https://appdb.egi.eu/
	• GitHub / GitLab

Integrated operations support systems	• Operations Portal: http://operations-portal.egi.eu/ • Configuration Management Database: https://goc.egi.eu/portal/

Accounting and Monitoring Tools	• Accouting Repository and Portal:
	  • https://apel.github.io/
	  • https://accounting.egi.eu/
	• Monitoring: http://argoeu.github.io/overview/
	  • http://argo.egi.eu/
	  • http://avail.eudat.eu/

Helpdesk services and tools	• xGUS: https://helpdesk.eosc-hub.eu/

More details in…

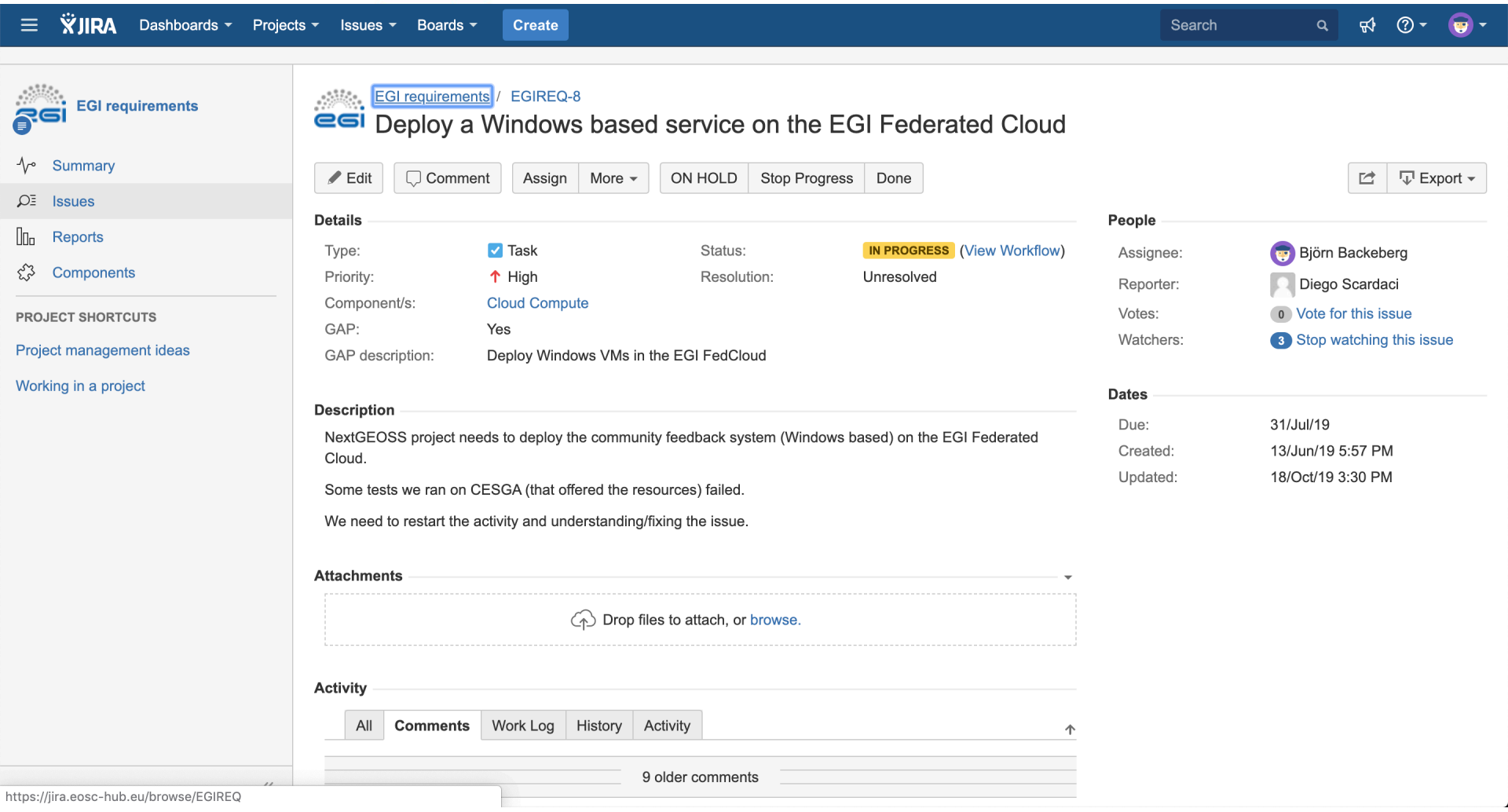
D6.2 A proposed framework for designing and implementing a Service Portfolio for the European Science Data Center and the SKA

D6.4 Federated Service Management Recommendations for the SKA Regional Centres

Take home messages

- Agree on a **Service Portfolio** that **reflects** the **SKA's management strategy**.
- An **effective IT Service Management System** will help ensure the **delivery of professional services** that meet customer needs.
- **Build on existing software, tools, systems, standards and frameworks from across disciplines**
- **Ensure interoperability and alignment** with existing federated computing and research infrastructures.

EGI ITSMS example



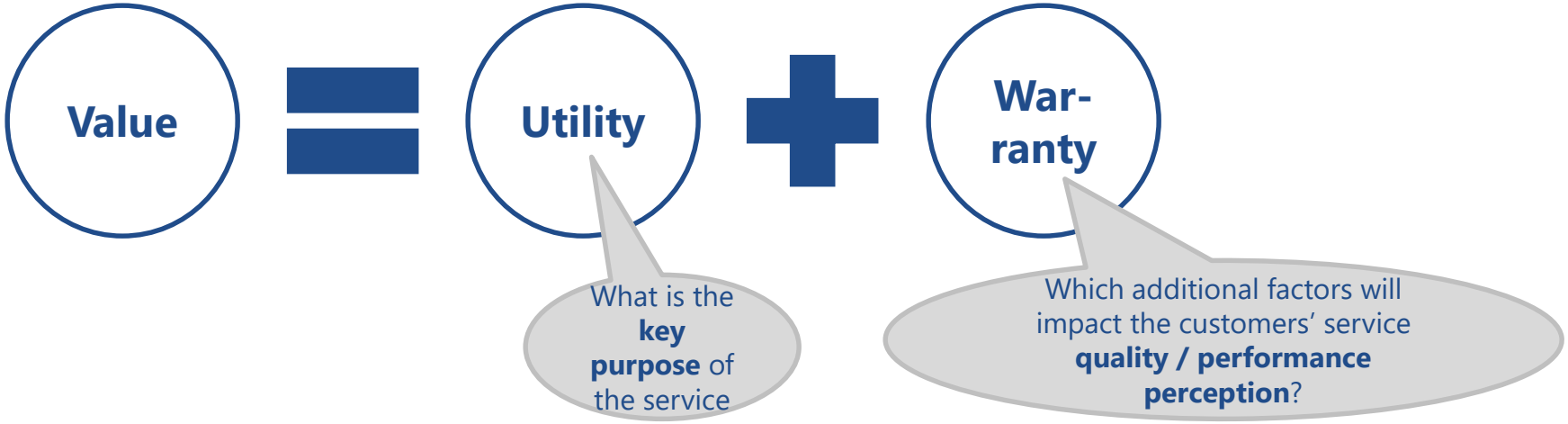
Questions?

THANK YOU FOR YOUR ATTENTION!

BACKUP SLIDES

Service and Value

- A Service is…
  - … a means of delivering **value** to customers
  - … by supporting them in **achieving** their **goals**
  - … and can be provided **on its own**
- From a customer perspective



Centralised vs less centralised processes

Centralised processes	Less centralised processes
Service Portfolio Management	Incident and Service Request Management
Service Level Management	Information Security Management
Service Reporting Management	Change Management
Service Availability and Continuity Management	Release and Deployment Management
Customer Relationship Management	
Supplier and Federation Member Relationship Management	
Continuous Service Improvement	