



D3.2: Minimum requirements for service management in Federated e-Infrastructures

Deliverable

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Abstract

This document presents a minimal set of requirements for an effective service management system (SMS), including requirements and key activities for IT service management (ITSM) processes that provide enough structure for services to be well managed on the one hand, but few enough to have a realistic expectation they can be implemented beyond the FedSM client partners during the lifetime of the project on the other hand.

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1. Introduction

This document presents a minimal set of requirements for an effective service management system (SMS), including requirements and key activities for IT service management (ITSM) processes that provide enough structure for services to be well managed on the one hand, but few enough to have a realistic expectation they can be implemented beyond the FedSM client partners during the lifetime of the project on the other hand.

The international standard ISO/IEC 20000-1:2011 has been the basis for this Deliverable.

1.1. Structure of this document

Section 3 of this Deliverable lists the general minimum requirements for effective service management in Federated e-Infrastructures, independent from the specific service management processes to be implemented.

Section 4 provides an overview of the 12 most important service management processes, related requirements and suggested activities to be implemented as part of these processes that – in addition to the general requirements in section 3 – shall be defined and implemented to enable effective service management.

1.2. Applicability of the requirements

Both the requirements listed in section 3 and section 4 of this document shall be taken into account by a Federator as relevant criteria for implementing a service management system (SMS). However, depending on the Federator's business model, there will be different ways of actually fulfilling the requirements.

To evaluate the applicability of the requirements in more detail in a specific business model context is, among other things, subject to FedSM's future work.

1.3. Impact of this Deliverable on the FedSM work plan and future Deliverables

The minimum requirements specified here are important groundwork for the upcoming Deliverables D3.3 (First stage implementation plan for service management in Federated e-Infrastructures) and D5.1 (Process implementation and maturity baseline assessment frameworks). Further information will be given in the respective Deliverables and can be obtained from the FedSM work plan (Description of Work).

2. Important terms and concepts

For the purpose of this Deliverable, we refer to the terms and definitions given in ISO/IEC 20000-1:2011, Clause 3.

3. General requirements for a service management system

3.1. Top management responsibility

- Top management shall provide evidence of its commitment to planning, implementing, operating, monitoring, reviewing, and improving the service management system (SMS) and services

- Assign a management representative on senior management level
- Define and communicate goals
- Define a general service management policy
- Conduct management reviews at planned intervals
- The service management policy shall include:
 - A commitment to fulfill customer service requirements
 - A commitment to a service-oriented approach
 - A commitment to a process approach
 - A commitment to continual improvement
 - Overall service management goals

3.2. Documentation

- Documents, including records, shall be established and maintained to ensure effective planning, operation and control of the SMS. These documents shall include:
 - Service management scope statement
 - Service management policy
 - Service management plan (see below)
 - Service catalogue
 - Service level agreements (SLAs) and operational level agreements (OLAs)
 - Service management processes (process definitions) and procedures
 - Records of key activities performed
- Documents and records shall be controlled, including:
 - Creation and approval
 - Communication and distribution
 - Review
 - Change tracking

3.3. Defining the scope of service management

- The scope of the service management system (SMS) shall be defined.

3.4. Planning service management (PLAN)

- A service management plan shall be created, implemented and maintained.
- The service management plan shall at minimum include or reference:
 - Framework of roles and responsibilities
 - Framework of processes and process interfaces
 - Required technology (tools) to support the service management system
- Plans created for specific processes and procedures shall be aligned with the service management plan.

3.5. Implementing service management (DO)

- The service management plan shall be implemented.

3.6. Monitoring and reviewing service management (CHECK)

- Suitable methods for monitoring and measuring the SMS and the services shall be used. These methods shall include:
 - Measurements and key performance indicators (KPIs)



- Reviews and internal audits

3.7. Continually improving service management (ACT)

- Corrective actions shall be taken to eliminate the cause of identified nonconformities in order to prevent recurrence.
- Opportunities for improvement shall be identified and recorded according to a defined procedure.
- Opportunities for improvement shall be prioritized according to a defined procedure.
- Opportunities for improvement shall be evaluated and approved according to a defined procedure.
- Improvements shall be planned and implemented.

4. Process-specific requirements

4.1. Service Portfolio Management

4.1.1. Key requirements

- A service portfolio shall be maintained. All service shall be specified as part of the service portfolio.
- Design and transition of new or changed services shall be planned. Plans shall consider goals, acceptance criteria, timescales, responsibilities, new or changed technology, new or changed SLAs, testing and communication.

4.1.2. Proposed activities to be performed to meet the requirements

- Add (or remove) service to (from) the service portfolio
- Create and approve a service design package (SDP)

4.2. Service Level Management

4.2.1. Key requirements

- Services to be delivered shall be agreed with customers. SLAs shall include agreed service targets.
- A service catalogue shall be maintained.
- Services and SLAs shall be reviewed at planned intervals.
- Service performance shall be monitored against service targets.
- For supporting services or service components provided by Federation members, OLAs shall be agreed.

4.2.2. Proposed activities to be performed to meet the requirements

- Service catalogue-related:
 - Add service to service catalogue
 - Update service specification or remove service
- SLA-related:
 - Negotiate and sign SLA
 - Monitor SLA fulfillment
 - Evaluate and report on SLA fulfillment
 - Notify customer of SLA violation

- Update or resign SLA
- OLA-related:
 - Negotiate and sign OLA
 - Monitor OLA fulfillment
 - Evaluate and report on OLA fulfillment
 - Notify Federation member of OLA violation
 - Update or resign OLA

4.3. Service Reporting

4.3.1. Key requirements

- Service reports shall be specified and agreed with interested parties.
- The description of each service report shall include its identity, purpose, audience, frequency and content.
- Service reports shall be produced. Service reporting shall include performance against service targets, relevant information about significant events, workload characteristics and detected nonconformities.

4.3.2. Proposed activities to be performed to meet the requirements

- Define/specify a service report
- Produce and distribute service report
- Update a report specification or terminate a service report

4.4. Service Continuity & Availability Management

4.4.1. Key requirements

- Service continuity and availability requirements shall be identified taking into consideration SLAs.
- Service continuity and availability requirements shall include service response times and end to end availability of services.
- Service continuity and availability plans shall be created.

4.4.2. Proposed activities to be performed to meet the requirements

- Identify and record service continuity and availability requirements
- Create a service continuity plan
- Create a service availability plan
- Monitor service availability

4.5. Capacity Management

4.5.1. Key requirements

- Service capacity and performance requirements shall be identified taking into consideration SLAs.
- A capacity plan shall be created.
- Capacity planning shall consider human, technical, informational and financial resources.

4.5.2. Proposed activities to be performed to meet the requirements

- Identify and record capacity and performance requirements



- Create a capacity plan
- Monitor service capacity and performance

4.6. Information Security Management

4.6.1. Key requirements

- An information security policy shall be maintained.
- Physical, technical and organizational information security controls shall be implemented.
- Information security controls shall be reviewed at planned intervals.
- Information security incidents shall be managed with a priority appropriate to the information security risks.

4.6.2. Proposed activities to be performed to meet the requirements

- Define information security policies
- Identify and analyze information security risks
- Plan information security controls
- Implement and monitor information security controls
- Review information security controls
- Review information security policies
- Handle information security incidents

4.7. Customer Relationship Management

4.7.1. Key requirements

- Customers and other interested parties shall be identified.
- For each customer, a designated individual shall be responsible for managing the customer relationship and customer satisfaction.
- Communication mechanisms with customers shall be established.
- Service reviews with the customers shall be conducted at planned intervals.
- Service complaints from customers shall be managed.
- Customer satisfaction shall be managed.

4.7.2. Proposed activities to be performed to meet the requirements

- Identify and record customer
- Measure/evaluate customer satisfaction
- Perform customer service review
- Handle customer service complaint

4.8. Supplier Relationship Management

4.8.1. Key requirements

- Suppliers shall be identified.
- Communication mechanisms with suppliers shall be established.
- (Contractual) disputes with suppliers shall be managed.
- Supplier performance shall be monitored.

4.8.2. Proposed activities to be performed to meet the requirements

- Identify and record supplier

- Monitor supplier performance
- Handle dispute

4.9. Incident & Service Request Management

4.9.1. Key requirements

- All incidents shall be recorded according to a defined procedure.
- All incidents shall be classified according to a defined procedure.
- All incidents shall be prioritized according to a defined procedure, taking into account impact and urgency of the incidents.
- Escalation of incidents shall follow a defined procedure.
- Closure of incidents shall follow a defined procedure.
- Personnel involved in the incident and service request management process shall have access to relevant information including configuration and release information.
- Customers shall be kept informed of the progress of their reported incidents and service requests.
- There shall be a definition of a major incident. Major incidents shall be classified and managed according to a documented procedure.

4.9.2. Proposed activities to be performed to meet the requirements

- Record incident or service request
- Classify incident or service request
- Prioritize incident or service request
- Escalate incident or service request
- Resolve incident or service request
- Close incident or service request

4.10. Problem Management

4.10.1. Key requirements

- Problems shall be identified and recorded, based on analyzing trends on incidents.
- Where the root cause has been identified, but the problem has not been permanently resolved, actions shall be identified to reduce or eliminate the impact of the problem on the services.
- Known errors shall be recorded.
- Up-to-date information on known errors and problem resolutions shall be provided to the incident and service request management process.

4.10.2. Proposed activities to be performed to meet the requirements

- Identify problem
- Classify problem
- Prioritize problem
- Escalate problem
- Create known error record
- Resolve problem
- Close problem



4.11. Configuration Management

4.11.1. Key requirements

- There shall be a documented definition of each type of CI.
- The information recorded for each CI shall ensure effective control.
- CIs shall be uniquely identified and recorded in a CMDB.
- There shall be a documented procedure for recording, controlling and tracking versions of CIs.
- The records stored in the CMDB shall be audited at planned intervals.
- A configuration baseline of the affected CIs shall be taken before deployment of a release into the live environment.

4.11.2. Proposed activities to be performed to meet the requirements

- Create configuration record
- Update configuration record
- Audit configuration records

4.12. Change Management

4.12.1. Key requirements

- All changes shall be recorded according to a defined procedure.
- All changes shall be classified according to a defined procedure.
- All changes shall be assessed and approved according to a defined procedure.
- There shall be a documented procedure for managing emergency changes.
- Decisions on the acceptance of requests for change shall take into consideration the risks, the potential impacts to services and customers, service requirements, technical feasibility and financial impact.
- A schedule of change containing details of the approved changes and their proposed deployment dates shall be established and communicated to interested parties.
- The activities required to reverse or remedy an unsuccessful change shall be planned and, where possible, tested.

4.12.2. Proposed activities to be performed to meet the requirements

- Submit request for change (RFC)
- Classify RFC
- Evaluate RFC
- Approve change
- Update change schedule
- Coordinate change implementation
- Post change implementation review
- Update catalogue of standard changes

4.13. Release & Deployment Management

4.13.1. Key requirements

- A release policy shall be defined.

- The deployment of new or changed services and service components to the live environment shall be planned with customers and interested parties.
- Releases shall be built and tested prior to deployment.
- Acceptance criteria for the release shall be agreed with the customer and interested parties. The release shall be verified against the agreed acceptance criteria and approved before deployment.
- The activities required to reverse or remedy an unsuccessful deployment of a release shall be planned and, where possible, tested.
- The success or failure of releases shall be monitored and analyzed.

4.13.2. Proposed activities to be performed to meet the requirements

- Release-related:
 - Plan release
 - Build release
 - Test release
- Deployment-related:
 - Inform, educate and train users
 - Inform, educate and train support staff
 - Prepare live environment
 - Rollout
 - Review

Version History

Version	Date	Author	Change record
1.0	31.01.2013	T. Schaaf	Final version, compiled based on D3.2 Notepad in the FedSM internal Wiki, includes improvements after internal review
1.1	13.02.2013	T. Schaaf	Service portfolio management / design & transition of new changed services added