Specifying Service Catalog – a Case Study

Nikola Horvat, Matija Jurman, Renata Mekovec

Faculty of Organization and Informatics

University of Zagreb

Pavlinska 2, 42000 Varaždin, Croatia

{nhorvat00, mjurman, renata.mekovec}@foi.hr

Abstract. *Defining and implementing a good IT management is basic requirement for every business that introduce ICT in their business processes. ITIL, as one of the best practice frameworks focused on integration of business and IT, help organizations to create, support, deliver, and manage high quality services. In ITIL v3 service catalog management is promoted to special process where information of the IT services availability, their details, and status, are produced, documented and maintained.*
In order to better understand key elements that service catalog encompass or should encompass this article presents results of comparative analysis of six different service catalog documents.

Keywords. Service catalog, ITIL, service lifecycle

1 Introduction

Managing IT services is a very difficult task. Many organizations are already depending on information technology, as well as its services, and therefore proper management and support of these services is required.

There are several good practice frameworks to create an effective IT service management system. An effective service management system enables service providers with the ability to carry out their core business of offering services that deliver value to customers. The value of the service perceived by the customer depends on how well service ensures outcomes that customers want to achieve [2].

Nowadays, ITIL (The IT Infrastructure Library) is best known and most widely accepted guidance for IT service management. There are numerous companies world-wide that have adopted ITIL, some of them are Microsoft, HP, IBM, Sony, Disney, Boeing, Toyota ect. Companies that use ITIL are of all industry types and sizes.

One of the first information that company presents to their customer is a list of services that company is able to provide. This list of services, with specific detailed description is named service catalog. In ITIL v3 one whole process is focused on management of this service catalog. Consequently, the purpose of service catalog management is to provide information about all of the agreed services, and ensure that it is accurate, and available to those who are approved to access it.

The focus of this article is on process of service catalog creation. Article presents overview of various service catalog templates and examples. Furthermore, it sets a specific elements that one good service catalog should include. Six various service documents are analysed according identified elements.

There are several justifiable reasons to perform the described investigation: (1) results of analysis will help companies to better understand relevance of service catalog production and maintenance, (2) nowadays, in every day more and more competitive market place, companies should take any opportunity to improve their status and attract new customers, (3) current customers will value all improvements presented by business if they are effecting their satisfaction.

In first part of article ITIL v3 overview is presented with emphasis on service strategy and service design phase of service lifecycle. Then, various service catalog perspectives are introduced, and several service catalog examples and templates are demonstrated. Second part of article presents identification of specific elements that should be presented in service catalog. Thereafter, results of performed comparative analysis of six service catalog are described. End of the article presents conclusions and related directions in the field.

2 ITIL v3 overview

In order to support the management of IT services, different standards and methodologies have been developed. One of widely accepted standard for IT service management is IT Infrastructure Library, also known as ITIL.

ITIL represent a framework that describes best practice for IT service management. It is a practical approach to the identification, planning, delivery

and support of IT services to the business. According to ITIL v3 IT service management is term that considers the entire lifecycle of a service, starting from strategy through design and transition to operation use, and continual improvement of service. Five service lifecycle phases according to ITIL v3 are: (1) *service strategy* – design, development and implementation of service management as a business strategic asset; (2) *service design* – design of new or changed service for implementation in live environment; (3) *service transition* – plan and manage the resources and capacity that are required for building, testing and deployment of service into production; (4) *service operations* – coordination of activities and processes required to deliver service according to agreed levels to users; (5) *continual service improvement* – continually re-align services to changing business needs, and consequently identifying and implementing improvements to services.

ITIL framework outlines the consistent repeatable processes that give business opportunity to increase their efficiency and effectiveness, as well as the ability to improve service (that they are providing). The value of ITIL can be seen in the improvement of the interface (and communication) between the business and IT service providers, internal as well as external [15]. The main benefits of ITIL are as follows [1]:

1. *Alignment with business needs* – IT can understand the business needs (current and future) and recommend offerings that can meet them,
2. *Negotiated achievable service levels* – realistic service levels are agreed in order to deliver required value at the acceptable costs,
3. *Predictable, consistent process* – with the usage of predictable processes that are consistently used it is easier to meet business requirements as the customer expectations,
4. *Efficiency in service delivery* – well defined and documented processes and efficiency metrics influence on the optimization of delivery tasks,
5. *Measurable, improvable services and processes* – measurable processes can be better adjusted and improved,
6. *A common language* – set of basic terms are defined in order to enable comparison and single terminology.

Ref [4] presents a current state of ITIL by performing analyse and review of studies that investigated ITIL adoption and benefits delivered from ITIL. Author proposed grouping of identified benefits using a service-specific scorecard. This service specific scorecard is organized in four quadrants: (1) efficiency, (2) effectiveness, (3) quality/reliability and (4) customer value. Author presents benefits of ITIL, identified based on investigation of 28 studies. Three benefits were best

ranked: (1) customer satisfaction, (2) cost control and (3) faster response and resolution.

2.1 Service strategy

Customers are not buying products or services; they are actually buying the satisfaction of their needs. Therefore service must be perceived by the customer to deliver sufficient value. Service value can be described using two components: (1) service utility and (2) service warranty. Service utility is referring to what customer gets (outcomes supported or constraints removed). Service warranty is referring to how the service is delivered [2]. Figure 1 presents service value components.
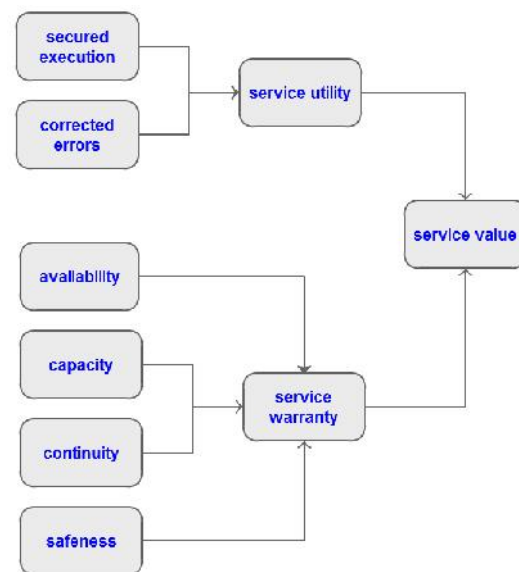

Figure 1. Service value components,
designed according description in [2]

In service strategy phase of service lifecycle some basic questions are to be answered: (1) who are the IT customers, (2) what kind of service are required in order to meet customers' needs and (3) which IT capabilities and resources are essential to develop and deliver these requirements (services to be delivered) [1].

According to Double diamond model (proposed by design council) [3] every design process can be divided in four phases. The included phases are: (1) discover, (2) define, (3) develop, and (4) deliver. The discover phase is focused on gathering information about problems, opportunities and about users' needs and developing start ideas. In the define phase ideas resulted from first phase are analyzed and reduced in small set of problems/opportunities. The develop phase includes development and testing of service concepts. In the deliver phase the final service concept is tested, finalized and launched.

2.2 Service design

Service design is continuous process that encompasses translation of ideas into reality, into tangible products or services. This phase provides that services (new or changed) are designed effectively to meet customers needs and expectations [1].

2.3 Service portfolio management

The service portfolio introduces information about the commitments and investments of particular business (provider). It includes Service Catalog, Service Pipeline and Retired Service. Service Catalog encompasses all services that are active, services that are currently provided to the customers. This part of Service portfolio is visible to the customers. The Service Pipeline includes all services that are under construction or development for a specific market. Pipeline encompasses information valuable for future growth of service. Retired Services are services that are phased out [8]. Figure 2 presents relationship between service portfolio management and service catalog management.
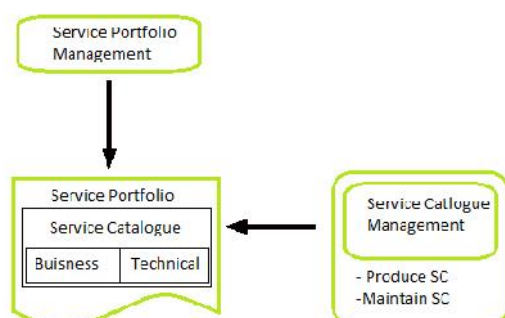
Figure 2. Service portfolio management and
service catalog management;
designed according description in [2]

   The main purpose of service portfolio management is to create, manage and improve a service portfolio. Service portfolio management is aiming to achieve following goals [10]:
   1. Documentation of every service that is planned or operated by the provider,
   2. In order to achieve that necessary information for service delivery and support are provided (and documented) every new service runs through standardised set of activities and procedures,
   3. Consistency in reviewing every service and their design package (regular intervals),

   4. Every service is included in Continual Service Improvement process,
   5. Service catalog is created, updated and managed based on information provided by a service portfolio.

3 Service catalog definitions

One of the indicators of poor IT service management is that there is no service catalog. Service catalog is defined in ITIL service design, and it is a list of services, a database or structured document, that organization provides to its customers or, more rarely to its employees. The service catalog is the only part of the ITIL Service Portfolio published to customers, and is used to support the advertisement, sale and delivery of IT services. It provides a central source of information on the IT services delivered to the customers by the service provider organization, ensuring that everyone can view an accurate, consistent picture of the IT services that are available, and those that will be available in near future. Figure 3 and 4 presented two different examples of representation of service catalog (graphical view[1] and database view).
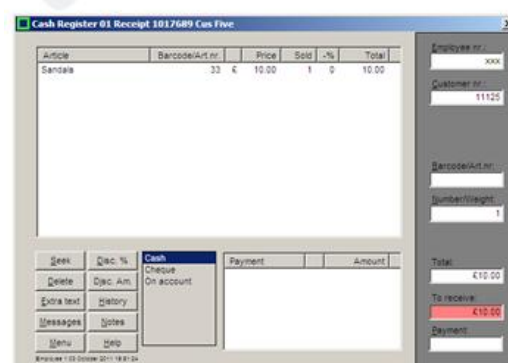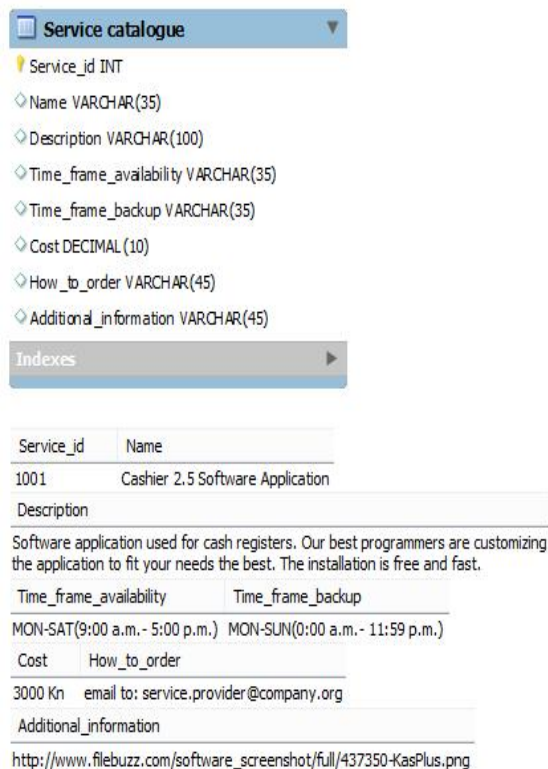

Figure 3. Graphical view (example) of
service catalog

---

[1] Picture presented with description in Figure 3 is downloaded from http://www.filebuzz.com/ software_screenshot/full/437350-KasPlus.png, May 3rd, 2013.

Figure 4. Database view (example) of service catalog

Each service in catalog is mostly defined by its name, description, time frame (availability), backup, cost, how to order or buy the service, and optionally some additional information.

When creating a service, people are usually starting by creating its name. *Name* has to be short, descriptive and understandable to common users. If the service catalog is built to be online, it has to contain the most important keywords.

A service *description* is a brief explanation of how business is fulfilling the service and what role the customer has in it. It can also contain the additional extra products and services that customer get for buying the original service.

Time frame is a set of period which covers the availability of the service. It can range from seconds to centuries, but mostly it is defined by the range of hours per day, and range of days per week. It can also contain exceptions such as holydays.

Backup is also time frame that covers the frequency of service backup availability. By the term backup we refer to the assurance, validation, or guarantee that what was backed up is recoverable from the provider whenever it is critical or required.

Service cost is the value of money that costumer has to exchange for the desired service. It can also include quantity discount, or any other type of discount.

There are few ways *to order or buy* the service. The most common ones are by email, telephone, web application, or in the retail store.

Additional information can be an extended description with more details and information about the service. It can also contain pictures that are demonstrating the appearance of the service.

There are three types or views of IT service catalogs: (1) for a business customer, (2) for the end user, and (3) an IT view [13].

Business customer type of catalog is for customers who are looking for information about a service, its value and price. This type of customer is usually looking at bigger projects and long-term spending. The customer works closely with IT to customize a spending plan and forecast future needs.

The end user type of catalog view features icons with the following information: On what services are available? How to order them? When they will be delivered?

IT type of catalog provides more technical information on the security, disaster recovery and access control information surrounding the service offerings.

4 Methods and various templates for service catalog development

When we talk about methods for service catalog development it is important to stress that there is no unique definition what elements service catalog should include. There are several different templates available online that one can use when preparing list of services presented in service catalog. In order to identify basic service catalog elements we describe a few service catalog examples.

According to CNET.com – Service Catalog [14] good service catalog must contain: (1) Service Name; (2) Description; (3) Support Contact; (4) Responsible Manager; (5) Users; (6) Detailed Specifications; (7) Inputs; (8) Outputs; (9) Default, Optional & Excluded Items; (10) Service Hours; (11) Performance Standards; (12) Customer Procedures for starting, changing, or ending service; and (13) Charges (if applicable).

In addition, according to Purple Griffon Consultancy – Generic *Service Catalog template* [12] good service catalog must contain: (1) Service Name; (2) Service Description; (3) Service Type; (4) Supporting Services; (5) Business Owner(s); (6) Business Unit(s); (7) Service Owner(s); (8) Business Impact; (9) Business Priority; (10) Service Level Agreement; (11) Service Hours; (12) Business Contacts; (13) Escalation Contacts; (14) Service Reports; (15) Service Reviews; and (16) Security Rating.

Again, according to NITC_Service_Catalog [11] good service catalog must contain: (1) Service

Name; (2) Service Description; (3) What is Included; (4) Additional Information; (5) Cost Saving tips; (6) Service Level Metrics.

According to [5] good service catalog must contain: (1) Purpose; (2) Scope; (3) Definitions, (4) Acronyms, and Abbreviations; (5) References; (6) Overview; (7) Business Units; (8) Categorization of Services; and (8) List of services.

The main purpose of study presented by [6] was to determine how wide the adoption of ITIL v3 was. The survey included 500 respondents, mostly from UK and USA. One interesting question was used in survey: "Have you implemented a service catalog?" Results shows that 37% of respondents have already implemented a service catalog and 41% were developing one currently. Service catalog is document that is result of agreement between service provider and customer, so it encompasses definition and description of provided services. There are some basic elements that are suggested to be included in service catalog [7]:

1. Service name
2. Service description
3. Availability
4. Target availability
5. Backup
6. Service owner
7. Service Representative
8. Service Criticality.

The good service catalog must be able to [9]:

- Communicate and manage service level commitments through pricing and Service Level Agreement (SLA) metrics,
- Set appropriate expectations through effective service names and descriptions,
- Streamline the ordering process through auto-fill forms,
- Facilitate order completion through specific forms,
- Support efficient searching through categories keywords and icons.

5 Case study

Case study presented is this article is composed of two parts. First part of case study is aiming to identify basic element that a good service catalog should encompass in order to fulfil his purpose. In second part of study the analysis of six service catalogs is described.

Based on comparison of service catalog templates (described in previous section of article) we identified eleven elements that service catalog should include:

1. Service name,
2. Description – purpose of service, a basic description of what the service does, and what the deliverables and outcomes are,

3. Additional information – description of what are prerequisite to use service or detailed information on specific terms of communication between provider and customer,
4. List of services – what service(s) are included, specification what customer is receiving,
5. Service category/type – category or type of service that is provided (according established well known categorisation structure or proposed by service provider),
6. Service owner – a service owner is responsible for managing more services throughout their entire lifecycle,
7. Service Level Agreement - is an agreement between an service provider and a customer that describes the service, documents service level targets, and specifies the responsibilities of the service provider and the customer,
8. Cost saving tips – recommendation to the customers on what are the best ways and terms to use service,
9. Supporting services – supporting service is an service that is not directly used by the business, but is required by the service provider to deliver customer-facing services (for example a backup service).
10. Service hours – measure of service availability,
11. Detailed specification.

Second part of case study presents result of service catalog creation and definition process performed by six virtual firms. Undergraduate students at the Faculty of organization and informatics Varaždin (fifth semester of study) was given task to start a firm that will be focused on providing IT services. Each virtual firm was employing 5-6 students. Students were encouraged to choose firm name, create their own services and to pick specific market place. Each virtual firm should decide what kind of experts they need for their business and what exactly they can do. One of the activities that they were obligated to perform was creation of service catalog.

First, students were introduced with purpose and goals of service catalog. Thereafter, they were invited to investigate various examples of defined service catalogs published online. Finally, they should describe and document they own services in service catalog. Table 1 presents results of comparative analysis of service catalogs created by six virtual firms according eleven elements of service catalog (identified in first part of study).

Results of analysis presented in this article demonstrate that all analysed service catalogs include information about service name, description, list of services, and detailed specification.

Table 1. Results of analysis of service catalogs according identified elements

	Service Name	Description	Additional inform.	List of services	Service Category	Service Owner	Service Level Agreement (SLA)	Cost Saving tips	Supporting services	Service Hours	Detailed Specifications
Team01	✓	✓	−	✓	✓	−	−	✓	−	✓	✓
Team02	✓	✓	−	✓	−	✓	−	−	−	✓	✓
Team03	✓	✓	✓	✓	−	−	−	−	−	✓	✓
Team04	✓	✓	✓	✓	✓	−	✓	✓	−	−	✓
Team05	✓	✓	✓	✓	−	−	−	−	−	✓	✓
Team06	✓	✓	✓	✓	−	−	✓	−	−	✓	✓

Furthermore, supporting services of core service are not presented in any service catalog. Additional information are presented by four firms, and service categorisation only by two (of six). Only two service catalogs are defining who the service owner is. Furthermore, only two service catalog categorise every service, and two service catalogs presents connection between service catalog and terms defined in service level agreement.

Considering presented results it can be concluded that, when creating service catalog virtual firms, were only focused on customer view (view of an end user) of service catalog. General information about services are presented, but more details are missing.

6   Conclusion

In practice the service catalog is becoming an essential element for a successful IT service management. The service catalog is used to [9]:

- manage the service lifecycle (this include service definition, configuration, continuous improvement and termination),
- market available services to the business – tow IT can meet service demands stated by bussines,
- manage service requests from end users.

Although, the main purpose of service catalog is to provide information about available services, the main question that should be answered even before the service catalog process begins is "For whom is the service catalog created?". The service catalog does not exist for itself, but it exists to support and enable a variety of processes and activities required in organization.

Therefore, service catalog should not be focused only on one user (catalog view) but should be integrated document that supports variety of views and purposes.

Inspired by success stories many organizations are rushing to create service catalogs. Many organizations will succeed, however this process is not simple. Some of them will certainly fail to achieve the full potential of a service catalog.

The case study presented in this article is describing first step in creating service catalog. In order to avoid common mistakes in a process of catalog creation we recommend to first identify elements that service catalog should encompass. We recommend eleven service catalog elements, but this number can be expanded or reduced depending on service catalog view that will be met.

References

[1] Arraj, V. ITIL: the basis. White paper. May 2010, http://www.best-management-practice.com/gempdf/ITIL_The_Basics.pdf, downloaded: May 3rd, 2013.

[2] Cartlidge, A; Hann, A; Rudd, C; Macfarlane, I; Windebank, J; Rance, S. *The IT Infrastructure Library v3, An introductory overview of ITIL, version 1.0*. edited by Cartlidge, A; Lillycrop, M. The UK Chapter of the itSMF, 2007.

[3] Design Council, The design process, ttp://www.designcouncil.org.uk/designprocess, downloaded: May 3rd, 2013.

[4] England, R. Review of recent ITIL studies, http://www.best-management-practice.com/gempdf/Review_ITIL_Studies_White_Paper_Nov11.pdf, downloaded: May 3rd, 2013.

[5] FAST ITIL Templates, ITIL service catalog, http://www.fastitiltemplates.com/service-design/service-catalog.html, downloaded: May 3rd, 2013.

[6] Hornbill, ITIL: State of the national survey, http://www.hornbill.com/campaigns/itil-state/_files/ITIL-State-of-the-Nation-Survey.pdf, downloaded: May 3rd, 2013.

[7] ITILnews.com, Service Design – Service Catalog Management, http://www.itilnews.com/index.php?categoryid=3&subcategoryid=89, downloaded: May 3rd, 2013.

[8] ITILnews.com, Service Strategy – Service Portfolio Management, http://www.itilnews.com/What_is_Service_Portfolio_Management_from_an_ITIL_perspective.html, downloaded: May 3rd, 2013.

[9] itSMF International, The IT service management forum, IT service management global best practices, collector's edition, http://c.ymcdn.com/sites/www.itsmfusa.org/resource/resmgr/Sponsor_White_Papers/2009_7_5_Service_catalog.pdf, downloaded: May 3rd, 2013.

[10] Munich Institute for IT service management, Service Portfolio Management, http://www.mitsm.de/itil-wiki/process-descriptions-english/service-portfolio-management, downloaded: May 3rd, 2013.

[11] National information technology center, Service catalog, version 3.0, http://www.ocio.usda.gov/sites/default/files/docs/2012/NITC_Service_Catalog.pdf, downloaded: May 3rd, 2013.

[12] Purple Griffon Consultancy, Generic Service Catalog, http://www.purplegriffonconsultancy.com/resources/itil-service-catalogue-template.php, downloaded: May 3rd, 2013.

[13] SearchCIO.com, FAQ: Implementing an IT service catalog, http://searchcio.techtarget.com/feature/FAQ-Implementing-an-IT-service-catalog, downloaded: May 3rd, 2013.

[14] Ward, J. How to build service catalog, CNET Networks, http://www.google.hr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0CE0QFjAD&url=http%3A%2F%2Fi.i.com.com%2Fcnwk.1d%2Fi%2Ftr%2Fdownloads%2Fmanager%2Fresource_doc%2Fservice.catalog.doc&ei=HFWHUaWHGIrUsgbs3oDIDg&usg=AFQjCNHvt5hc2Dfzo4Qf1n1IuOPh1vQbTg&sig2=MmBbsbaJDORbMmKOTPV9-g&bvm=bv.45960087,d.Yms&cad=rja, downloaded: May 3rd, 2013.

[15] Wegmann, A; Regev, G; Garret, G-A; Marechal, F. Specifying services for ITIL service management. *The International Workshop on Service-Oriented Computing Consequences for Engineering Requirements (SOCCER'08) in the 16th IEEE International Requirements Engineering Conference (RE'08)*, pages 8-14, Barcleona, September 08-12, 2008