

# SARKK – Comprehensive Digital Archive Services for Finnish Municipalities

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## Abstract

*The aim of SARKK project is to produce comprehensive and cost-effective archive services (SARKK service) for Finnish municipalities. The main focus is in digital archive services, but also in later phase of the project physical archive services are provided. Digital archive services are provided by using SaaS model (Software as a Service), so any investments by customers are needed.*

*We hope that through the project organizations understanding about the role of archiving function in organizations information management increases. Digital archiving services creates wide possibilities e.g. for developing eServices for citizens. First services produced are Terminal Archive Services and after that project continues developing Active Archive Services. Integrations in client systems used by municipalities are made continuously through the service life cycle, and these integrations are commercialized as separate products.*

*Service contracts are made between service provider and customer. Contract includes service descriptions, responsibilities for both parties and service levels. Support services are also described. Business model enables providing archive services to those organizations in municipality sector, which are customer-owners of service provider, i.e. own shares of the provider company.*

## Operational Environment of SARKK Project

Mikkeli, a middle sized city in eastern Finland, has a strong expertise in planning and organizing digital archive services. Well organized co-operation between several organizations providing different archive services, common strategy and jointly coordinated projects are aiming for the same goal: to provide comprehensive and first class services in the area of eServices, archiving and digitization services. This expertise consortium is called Digitalmikkeli, and one of the projects what is under the consortium is SARKK project – Digital Archive Services for Finnish municipalities.

SARKK project is governed by Etelä-Savon tietohallinto Oy (ESTH). The company operates in eastern Finland, and it provides a wide variety of ICT services for municipalities and municipal federations in the area. Customers are also owners of the company, so operation is non-profit based, enabling regionally unite information systems and functional processes.

The aim of SARKK project is to provide comprehensive digital archive services for all municipalities and municipal federations in Finland. The amount of potential customers is

approximately 400, including the municipal federations. To serve a customer base in this scale, it is crucial to be premised in reliability, continuous availability and scalability. Special attention must also be pointed to access management, which has to be able to solve different types of regulations, use cases and identity and entitlement solutions in client systems.

Strategic stakeholders of SARKK project are also National Archives of Finland, Finnish Ministry of Finance and different eServices and solutions provided by public administration, in which SARKK services need to be combined, to form a watertight and unite service portfolio for all parties.

## Digital Archiving Currently in Finnish Municipalities

Present situation in the field of digital archiving in local government is varying, depending mostly from the resources available for developing the function. Crucial resources are of course time and money and also the knowledge in the area of digital archiving is needed. The main challenge however seems to be to get the management and business process owners understand the importance of the archiving function. This result in inadequate support and lack of co-operation in creating requirements for electronic archiving, e.g. process descriptions and file plan.

Archiving should be seen as a way of managing business critical information. At present both management and business process owners often seems to think that archiving is something that happens somewhere in the background and partly underground. The purpose of the archiving function and especially understanding of which documents needs to be archived and the legislation behind those requirements are inadequate understood.

Setting the role and importance of archiving in a whole new level can be done by emphasizing the functions role in information management, throughout the organization and all of its processes. And when the importance to digital archiving needs to be justified, both functional and economic benefits through improved availability are easy to find. In addition, administration should consider the possibilities to develop eService portfolio for citizens and also note the value of the archived information for management information systems (MIS). Avoiding the costs is also one of the main benefits: Building an own digital archiving system is easily a major cost and a challenge to manage – joining to a ready SaaS service can be considered a much riskless possibility.

## Managing the Project

The total duration of the project is four years and the impact of employment is overall approximately 15-20 persons.

Project proceeds in different phases: 1) Terminal Archive 2) Active Archive 3) Archive Hotel. First two phases are focused mainly developing the information system for archiving. The third phase completes the service delivery by taking over also the municipalities' physical archives and providing information and digitization services.

Project consists of several subprojects; the main subprojects are Technology project and Archive Service project. The technology project is divided furthermore to IAM project and several integration projects. To manage a project this complex, strict management, rapid decision-making and agreed change management process are necessity. The main stakeholders are committed to the project from the start: Customer needs are evaluated and the pilot customers are part of developing and testing the services. The system provider is an integral part of the project organization and the supplier contracts are made with special care.

Services developed in the project expand gradually. Integration projects produce together with client application providers new SARKK-integrations, which enables information (document and metadata) transfer through message interface to SARKK service. First integrations are made to case management systems. Information is transferred to SARKK service when the case is closed and the related documents are ready (Terminal Archive). In the integration roadmap the following integrations are possibly map and GIS systems and systems used by central government.

Also common solutions provided by the Finnish public sector and their usability for SARKK service is going to be investigated in the definition phase. Possible services provided by the public sector are e.g. payment and authentication services, eAccount service, eService platforms and service bus.

## Overview of Services

SARKK service center is going to provide preservation services for both long term preservation and permanent storage needs. Increasingly large amount of business and function critical information is nowadays born digital information and it is essential to provide centralized services for this critical mass. Service portfolio must be comprehensive enough, to encourage and enable a municipality to take the actions needed. Main functions of SARKK service are familiar from the OAIS reference model.

### Digital Archive Services

In the first phase SARKK service center is going to provide digital terminal archive services. At the first phase (Terminal Archive) documents and metadata are transferred, when the case related is closed and documents are ready. Figure 1 shows the submission process from client application to SARKK service.

In addition to submission function, SARKK service offers finding aids for consumers. Consumer queries can be conducted either straight from client application or using a special interface. Result sets based on descriptive information can also be limited further, to progress finding the right information. The created result also respects the user rights, so that it shows information only from those descriptive records that consumer is allowed to. Delivery Information Packages are delivered to customer based on the request submitted.

## Submitting the Information from Case Management System to SARKK Service

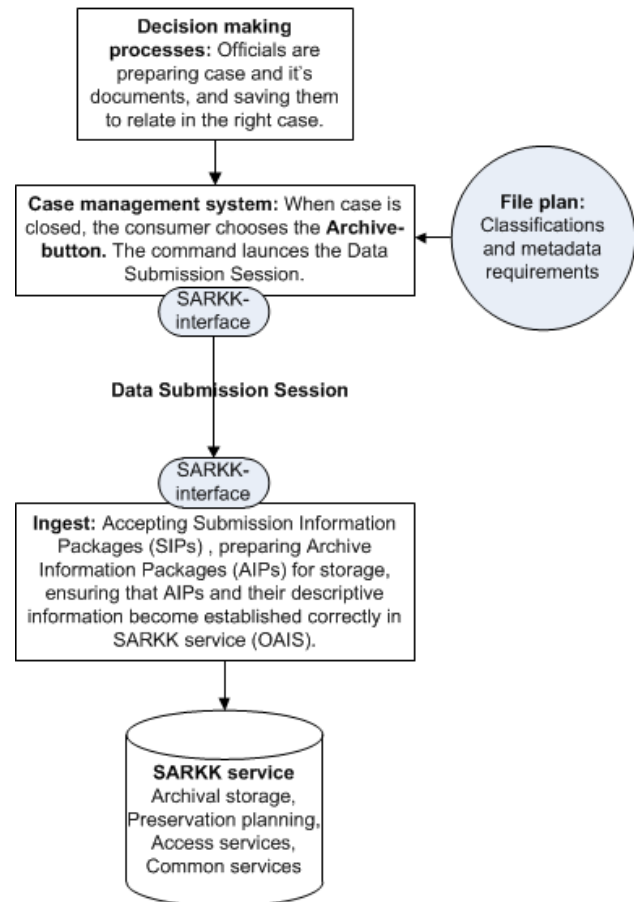


Figure 1. Submitting the information from case management system to SARKK service.

The ownership of the information preserved remains in the customer organization. This means, that SARKK service must offer several administration functions to manage the information. These functions are mostly approval functions, e.g. disposal of obsolete information has to be approved beforehand by the customer. Also preservation operations need approval.

Special attention has been addressed to comprehensive reporting properties. For SARKK service's administrative personnel reporting functions include information about contracts and services used by customers and technical reports. Also different information security related reports can be generated, e.g. possible misuse attempts towards the service. Customers can form reports about their information preserved (e.g. amount of information preserved in SARKK service) and also statistics about the operations (e.g. searches made for confidential information in a specified period). Reports can presented in chart or graph formats and are compatible with commonly used office applications.

Reporting rights are given only to those consumers that customer organization selects, usually for archivist.

As mentioned in paragraph above, some of the administration functions must be approved by the customer beforehand, because of the ownership of the information is not transferred to service provider. In addition some other administration functions are partly assigned to customer's responsibilities, like administrating the user rights. This needs some restricted user rights to SARKK service's directory services and possible integrations between customers and SARKK service's directories.

Managing the availability in a long term, the preservation strategies and techniques must be taken care of. The provenance information and the native document must be taken care of and also ensure that information remains independently understandable through all the migration phases and cycles. In my opinion non-reversible transformations should be avoided in this type of service and also emulation functions should be used only if the need is compulsory because of the risks, complexities and costs producing these services. SARKK service must also be completely and quickly endorsable to other platform and service provider, if needed. Customer's information preserved must also be transferable to other service provider, in case of contract termination.

Access management, high availability needs and information security needs are also thoroughly defined in requirement specifications.

For customers, SARKK service offers several possibilities to submit, search and retrieve information preserved. These operations can be made straight from client application using special adapters (SARKK interface) made to both systems interfaces. This is the quickest way e.g. submitting the information because the message interface is used. Customer's file plan can be part of the client application (like in case management systems, see Figure 1) or an external service. The File plan controls collecting document's metadata, through the life cycle of documents in their active phase.

For citizens and their information needs, SARKK service offers a special user interface, CitizenSARKK. In the first phase citizens are allowed only for search and retrieval of public information, in the later phase authentication mechanisms to search and retrieve citizen specific information are pursued. Also payment methods are needed. In Figure 2 the structure of SARKK service is presented.

Active archive services are pursued in the second phase of SARKK project, but specifications especially between the roles of SARKK service and client systems has to be more specific.

Moreover in the later phases of the project, derived AIPs are pursued as well as cross-organizational utilization of archived information.

### **Archive Hotel**

In the third phase of the project the service portfolio is expanding to include also physical archive services. This covers also information services and digitization services. The aim is to support the customer to transfer their archives; this often means preparing the documents and folders for transfer. Possible actions which need to be taken are e.g. organizing the material, listings and descriptions.

Archive hotel also offers preservation services for special material, like floppy disks and cd roms, microfilms, smallfilms, photographs, negatives and audio tapes.

Information services cover all the ordinary operations, like archiving the material, searching the information based on requests and disposing the obsolete information. Digitization services mainly concentrate in paper documents, which are after digitization prepared and submitted to SARKK service.

### **Service Contracts and Business Model**

The main idea is that customers are acquiring services – not an IT project. Functional benefits and cost savings must be verifiable and countable and the quality of services provable. Service contract made with customer include e.g. service descriptions, responsibilities, service levels and sanctions, charging practices and of course common terms & conditions.

ESTH is an ICT company and the form of business is limited company (Ltd). Company is owned by its customers which are both municipalities and municipal federations. ESTH is allowed to sell services for their customers; the amount of customer-owners is currently 11. This of course is nowhere near enough, but the ownership of ESTH is changing in spring 2011. A nationwide ICT company, owned also by the municipalities and municipal federations is now acquiring ESTH as a subsidiary. And because the new parent company has more than 100 customer-owners and the amount is increasing quickly, these owners become also he potential customers to SARKK service. So ESTH as a subsidiary is producing the services and parent company is selling the services to customers as a part of their service portfolio. This structure needs to be kept to customer as clear as possible, for example in support services (like service desk), there is a single point of contact to customer and that is ESTH. ESTH's service desk then escalates the service request to suppliers, if needed.

SARKK services are charged monthly, based on municipality's population or turnover of municipal federation. Monthly fee is fixed, so that the amount of information preserved in service has no effects for payments. However, the service has properties for event or amount based charging, but they are taken in use only if necessary.

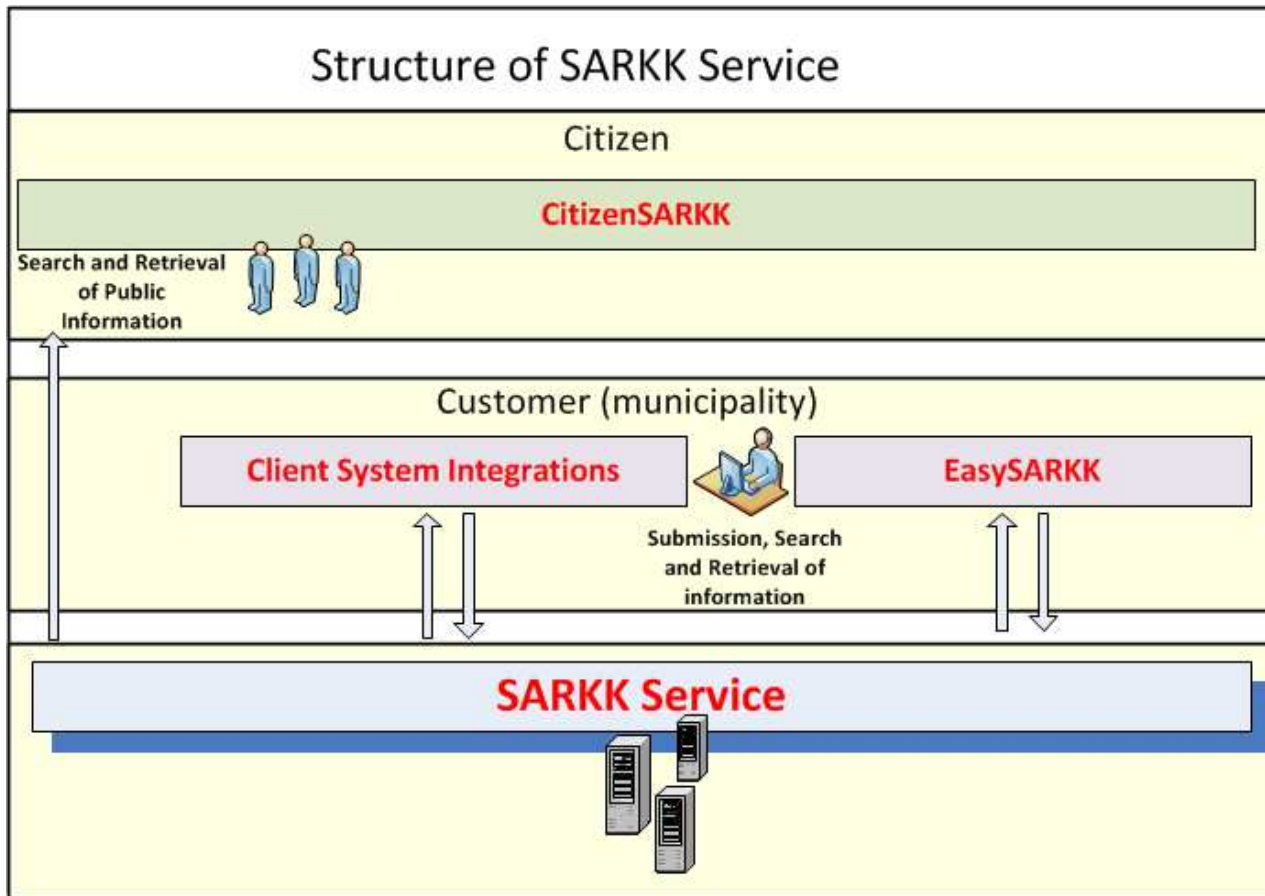


Figure 2. Structure of SARKK service.

## Conclusions

SARKK service center is going to provide both digital and physical archiving services in a content and in a way, that anyone hasn't done before in Finnish municipality sector. We believe, that comprehensive and cost-effective service structure and clearly service based way of producing archive services is helping management the see the big picture of managing information and in this way also understand the importance of long term preservation and availability of information.

The possibilities of exploiting the information preserved in information system are endless. Process and service development and the whole of organizing functions and information streams can be seen in a different way. And why municipalities should keep doing everything by self and mostly manually, while surrounding world is totally eServices?

## Author Biography

*Katariina Ryhänen is working as a Project Manager in ICT company called Etelä-Savon tietohallinto Oy (ESTH). She started her career in Software Company called Basware, as an Interface Specialist. Later she has been working for the public sector: at first in National Board of Patents and Registration of Finland and after that in National Board of Customs as a system manager. Ryhänen has a Master of Science degree in Information System Science (Jyväskylä University).*