

Opinions of the National Audit Office

Interoperability in government ICT contracts

There has been continuous growth in the role of ICT service contracts and software procurement and they will become increasingly important as society is becoming more digitalised. In the future, the authorities will be required to work in cooperation to develop more and more services based on information and communication technology. The Act on Information Management Governance in Public Administration (634/2011) lays down the interoperability of information systems as an objective for authorities. Interoperability is expected to generate savings in the long-term, as it eliminates overlapping solutions. Interoperability is also expected to increase the efficiency of information management, make it possible to develop processes in a cross-administrative manner and automate more processes, which in turn will minimise the administrative burden of citizens, companies and authorities.

Government contracts amount to 4 – 4.5 billion euros annually. ICT contracts account for approximately 580 million euros of this total each year. ICT contracts include external purchases and service contracts related to the development of information systems and electronic services, the value of which was 123.7 million euros in 2013.

The key question in the audit was whether the central government's ICT contracts and their life spans are managed in a way that will allow them to improve the interoperability of government information systems. The focus of the audit was on steering activities related to promoting the interoperability of information system procurement.

The Ministry of Finance, which is responsible for the overall steering of the central government information management and overall steering of contracting, and the Ministry of Employment and the Economy, which, within the scope of this audit, represented the ministry that implements the Act on Information Management Governance in Public Administration, were the instances audited. The effects of steering were audited in the Ministry of Employment and the Economy, as well as in four agencies in its administrative branch.

Combined effects of regulation steering that apply to information system procurement are not adequately considered

Information system contracts are managed by a number of different actors. The Ministry of Employment and the Economy steers the procurement practices of contracting authorities in accordance with the very detailed Act on Public Contracts. Compliance with the Act on Public Contracts in information system procurement requires special expertise. The Ministry of Finance Budget Department has strived to improve centralisation of procurement with regulation steering. At the beginning of 2015, this task was transferred to the ministry's Personnel and Governance Policy Department. The objective of the Ministry of Finance's JulkiICT function is to steer those agencies that carry out acquisitions in accordance with the Act on Information Management Governance in Public Administration to fit their information system purchases into shared enterprise architecture, although this is still incomplete and inadequate. So far, the steering methods used by the JulkiICT function have focused on information steering, but the aim has been to increase regulation steering.

The Ministry of Finance has made an effort to centralise basic information technology solutions and services by obligating agencies to use the services of Government ICT Centre Valtori, which has been specified as the service provider. The JulkiICT function has been responsible for the drafting of statutes related to Valtori. Equipment and services purchased in a

centralised manner that include a compulsory obligation of use set requirements for information systems that support agencies' core activities.

In addition to what is stated above, information system purchases are steered by statutes that specify different types of functional and information content requirements for them, such as the statutes concerning the field or the agency's activities. The Archives Act and the Act on Electronic Services and Communications in the Public Sector also set requirements for ICT procurement.

When initiating an information system purchase, a contracting authority must deal with a great number of issues in order to ensure that it acts in accordance with all the statutes and other obligations set by steering actors. The National Audit Office is of the view that all the various statutes that apply to information system purchases have made the procurement process difficult, rigid and slow, although the swiftly developing ICT industry necessitates an agile and flexible approach. Simultaneous compliance with a large number of statutes in a quickly changing operating environment means that the authorities responsible for the contracts must rely on a broad range of special expertise.

Quality of information steering varies

Enterprise architecture work, which is of key importance to promoting interoperability, has been steered primarily by means of information steering. Information steering has not always been of a sufficiently high standard so that it could have been able to effectively steer adoption of the enterprise architecture method. There is an abundance of different instructions, recommendations, frameworks and architectures that the Ministry of Finance has drawn up in connection to the enterprise architecture work. The materials vary in structure and are not centrally accessible. The terminology used in the materials is open to interpretation. The language used in the materials and the manner in which the information is presented are very difficult to understand and seem only to be intended for technical experts. Moreover, the recommendations and instructions related to the enterprise architecture work have not been integrated into existing management and planning processes and structures.

Although the Ministry of Finance has to some extent monitored the impacts of the information steering methods that it has used in the enterprise architecture work, monitoring has not been systematic or comprehensive as the focus has been on a small number of measures. Only a few corrective measures have been taken. In monitoring, the focus has not been on the results related to the content of the enterprise architecture work. Nothing has been done to tackle the core reasons of the problems. The Ministry of Finance has recognised the need for more regulation steering, and its aim is to issue the decrees provided for by the Act on Information Management Governance in Public Administration by the end of 2015.

Under the Act on Information Management Governance in Public Administration, ministries must request a statement from the Ministry of Finance concerning their information system contracts, when an information management contract is at least 5 million euros in size or the contract is of broad operational importance. The Ministry of Finance has developed a separate assessment framework for this purpose and created a procedure for issuing statements. In October 2014, only 13 organisations had requested a statement from the Ministry of Finance, although the procedure for issuing statements was already adopted in 2011. The number is much smaller than expected. The Ministry of Finance is of the view that a separate decree is needed to increase the number of requests for statement. However, based on observations by the National Audit Office of Finland the statement procedure has failed to improve interoperability of information systems. Instead of working to develop the procedure to better promote interoperability, the Ministry of Finance drafted a decree, which was enacted by a Government decision on 1 January 2015.

It is the view of the National Audit Office of Finland that not enough attention has been given to the problems related to the quality of information steering and the correction of these problems. If these problems related to the quality of information steering are not addressed and the necessary corrective measures are not implemented, they will be transferred into legislation. Improving the quality of information steering could help to improve the interoperability of information systems as the need to draw up new legislation would decrease.

ICT contracts are too separate from the development of activities

The development of information systems should be seen as development of activities. However, it was noted in the audit that under the current steering, information systems are a support function that is clearly distinct from other activities. Therefore, the opportunities opened up by information and communication technology for the innovative redesign of activities that result in productivity improvements are left unutilised. The concept of enterprise architecture laid down in the Act on Information Management Governance in Public Administration as the steering tool for information management includes the perspective of developing business (business architecture), but the enterprise architecture work does not give adequate consideration to this viewpoint. By naming the JulkICT function the sole instance responsible for enterprise architecture steering, the Ministry of Finance set enterprise architecture as a tool for information management, although from the perspective of desired objectives it should be the tool for strategic business management.

It is problematic from the perspective of the enterprise architecture work that in the information steering of the JulkICT function, the emphasis is on the JHS recommendation system (Public Administration Recommendations), which has established itself as the recommended information management system. This system is too technical from the perspective of persons responsible for developing activities. The technical language used in the JHS recommendations will make dialogue between ICT and activities even more difficult. Thus, the JHS system seems like a separate entity from the perspective of developing other activities.

Information system purchases by agencies also show how separated the activities and the development of information system are from each other. Instead of making broad use of the opportunities provided by information and communication technology, many information system projects still focus on supporting current operating processes. Agencies strive to appoint broadly based contracting teams, but the role of persons responsible for the activities and their development is often too small. Instead, information system contracts emphasise the need to comply with the Act on Public Contracts.

Utilisation of information and communication technology and the opportunities afforded by this were not visible as actual concrete objectives in the performance agreements concluded in the administrative branch of the Ministry of Employment and the Economy. Likewise, the strategy has not been used as a steering method in an effective manner, as it has been difficult to combine the policies and principles concerning information management with the objectives for activities. At the same time, monitoring of strategies has not been on a systematic basis.

Current inconsistencies in the management of ICT contracts and software property include risks

Contract management is not steered centrally, as each agency has organised it in its own manner. Contracts are often managed as part of records management. Administration makes limited use of manually updated and maintained Excel worksheets that are tied to their creator and that are utilised in an effort to form an overall picture of the agency's information system contracts. One major weakness has been the identification and management of how contracts are

related to and dependent on one another. Supply chains have become more complex. It was also noted in the audit that applications are currently purchased in a wide variety of ways. Instead of purchasing applications, some agencies may only buy application development work (contract workers) or buy an application as a service offered online.

The contractual terms for public administration IT contracts (JIT 2007) are nearly always used as part of information system contracts. The actual contracts usually differ to some extent from the conditions set out in the general contractual terms. For example, the Ministry of Employment and the Economy has for many years negotiated broader intellectual property rights for itself as the ordering party than what is laid down in the JIT 2007 terms and conditions. In order to be able to utilise contractual terms to one's benefit, one must have expertise in contractual law, which not all agencies possess on an in-house basis. The National Audit Office of Finland is of the view that contracting authorities must ensure that they have access to expertise in contractual law when making acquisitions and be aware of what impacts contracts involving intellectual property rights have on the development and promotion of interoperability.

The JIT 2007 terms and conditions were in the process of being updated as this audit was taking place, but the updates via the JHS system have not been effective. The process has been a long one, and the contribution of public sector representatives insufficient. The Ministry of Finance's work to reform of contractual terms has been poorly managed. Keeping the JIT contractual terms separate from the General Terms of Public Procurement in Supply Contracts (JYSE) is not practical in all respects, as the JYSE terms are sometimes also applied to information system purchases. From the perspective of contracting authorities, a new uniform set of terms should be drawn up for public administration contracts.

More attention has been given to licence management for commercial firmware than to the management of other software property. Audits performed by software suppliers and the additional costs arising from negligence observed in these have spurred public administration to organise appropriate management of licenses. License management should be made even more effective. There are numerous methods and products for this purpose. Valtori is expected to further integrate and harmonise this activity.

There are no uniform practices for software components based on open source code licenses or customised software. The interoperability portal (yhteentoimivuu.fi) developed by the Ministry of Finance has not become the place for distribution of software components. The yhteentoimivuu.fi portal will be closed down in 2015, and it will be replaced by the avoindata.fi portal, the purpose of which is to promote the openness of data.

Purchases and contract management form an increasingly complicated entity in many agencies. The practices related to these may be tied to the creator of the material. The National Audit Office is of the view that agencies have not adequately prepared for these risks.

A more comprehensive vision is needed for promoting interoperability

The description of the public administration's enterprise architecture consists of models that illustrate both its structure and management, and descriptions of the activities, information, systems and technology of the public administration. The latter part (the enterprise architecture of public administration) was so fragmented and limited that it could be considered non-existent. Therefore, the ministries do not have the required overall picture for steering of interoperability. The sector-specific architecture work is still incomplete in many ways. The results of the enterprise architecture work are as of yet modest in relation to the amount of work performed. In many agencies, the positioning of enterprise architecture work into information management has led to a situation where no enterprise architecture work has been carried out or where only the existing activities have been described.

The interoperability of public administration information systems has been set as one of the objectives for each agency's information system contracts. As total enterprise architecture descriptions, shared solutions and other interoperability descriptions for public administration are lacking, agencies focus on their own system entities instead of the overall picture. The interoperability issues of information systems are often only examined as integration requirements and interface definitions between an agency's internal systems. Although cross-agency crossroads have also been defined, their connections to strategic plans are not always clear. Without a comprehensive vision, there is no way to identify the interfaces that are necessary for the overall picture. As these are missing, this leads to a continuing cycle of developing overlapping information systems and silo mentality.

In order to be able to provide a better perspective for central government ICT projects currently underway or in their planning stages, the Ministry of Finance has purchased a uniform solution for the central government's ICT project portfolio. However, the image given by the project portfolio is only indicative. The information in the project portfolio is not reliable or comparable, as the solution relies heavily on the manual processing of data and the used terminology is in great part open to interpretation. The information is not necessarily comprehensive, as the scope in which different ministries have adopted the project portfolio varies. The project portfolio cannot currently help in identifying whether different projects involve overlapping development work, as the viewing rights are specific to agencies or administrative branches.

The project portfolio system only includes information on projects. This will not help in forming a picture of what information systems the state owns or uses, the types of terms and conditions that apply to them or the value of completed purchases. The overall view of information system entities and the contracts involved is completely lacking.

Recommendations by the National Audit Office

The greatest obstacle to interoperability is not related to contracts, but to an inadequate view of one's own activities and systems as part of a broader state and public administration entity.

Based on the audit the National Audit Office makes the following recommendations:

1. The Ministry of Finance must improve the quality of information steering related to its enterprise architecture work, so that the problems related to current guidelines are not transferred into legislation and must only rely on regulation steering when other steering methods are not an option.
2. The Ministry of Finance must ensure that the JulkICT function is not the sole instance responsible for promoting interoperability and for enterprise architecture work. The Ministry of Finance must improve cooperation between its departments (JulkICT, Budget Department and Personnel and Governance Policy Department) and other ministries, so that the development of the business architecture of public administration can be steered effectively.
3. The Ministry of Finance must propose a reform of the JHS system, so that its recommendations would give better consideration to the perspective of those persons responsible for the development of activities.
4. The Ministry of Finance must systematically develop the acquisitions portfolio, which has already been adopted, and must also consider the development of a system and contracts

portfolio, so that public administration would have a sufficiently comprehensive overall picture for the promotion of interoperability.

5. The Ministry of Finance must draw the ministries attention to the risks involved in its agencies' and institutions' contract management. Information steering should be the primary method used.

These recommendations were discussed in greater detail with the audited units during the audit.