January's Feature Article

Offender Digital Services: Views on Cyber Security and the Government Digitalisation challenge in Finland

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The government of Prime Minister Juha Sipilä in Finland has issued an assignment to all government agencies to participate in the Digitalization challenge 2015. "Digitalisation is about reforming the ways of working, digitalising internal processes and providing electronic services. It is a new way of understanding how information technology can be used to change one's own way of action, even radically. User orientation is essential for digitalisation. … According to the Vision 2025, Finland has by then made a productivity leap in public services and the private sector by grasping the opportunities offered by digitalisation, dismantling unnecessary regulation and cutting red tape." [1] The Sipilä Digitalization Challenge 2015 doesn't specifically mention cyber security and information security as those topics have been developed independently for considerable length of time within the government. Information security is in the core of the development. The European Union includes cyber security in its Europe 2020 Initiative within the Digital Society track. "Securing network and information systems in the EU are essential to ensure prosperity and to keep the online economy running." [2]

At the same time, Criminal Sanctions Agency needs to build new capabilities, foundations of cyber security in offender management and tools to carry out its visions about future prisons as thriving communities that organize themselves around services rather than walls, doors and windows. Some of the services have been recognized to be digital services. Building the activities around services has been deemed essential in creating self-supporting and self-organizing communities within the walls and the Finnish correctional system. The Finnish Criminal Sanctions system is very much part of international online economy.

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[1] The Digitalization Challenge 2015, Ministry of Finance,
http://vm.fi/digitalisaatio?p_p_id=56_INSTANCE_SSKDNE5ODInk&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_56_INSTANCE_SSKDNE5ODInk_languageId=en_US
[2] Digital Agenda for Europe, European Commission, https://ec.europa.eu/digital-agenda/en/cybersecurity

Ongoing Digital Services Initiatives

Criminal Sanctions Agency has four main initiatives during 2015 and 2019 that enhance its position as digital services provider and supports its target in building communities and functions around digital services in future prisons. All of these initiatives are meant to support forming new kinds of communities and environments in the prisons and support the offenders' return to the free society as capable citizens. These aspirations tie together development of the digital services, supporting ICT systems development and the future prison.

Criminal Sanctions Agency is going to issue prepaid payment cards to all offenders in open and closed prisons nationwide. This requires both payment card ICT system and payment card implementation and changes in supporting ICT systems needed to pay the offender benefits in addition to legislative changes that will make it possible for offenders in closed prisons to have means of payment in their possession. This prisoner payment card initiative will make it possible to support the offenders to interact with the electronic payment services of the society outside of the prison network.

Criminal Sanctions Agency shall make it possible for offenders in open and closed facilities to pay with the prepaid payment card using the renewed cash register system and point of sale devices.

In 2016 the secure data network and digital communications services for the offenders will be built to all closed and open facilities of Criminal Sanctions Agency. The main purpose of the Offender network is to allow the offenders to use public digital services that they as any other citizens need e.g. to study or apply for social benefits or care for their family. The digital communications cover personal email and messaging services. In the CSA the digital services have rehabilitating role as it can be expected of the offender to learn gradually take control over their own lives. As part of this initiative of Offenders' digital services the common nationwide service structure needed by the offices and prisons to provide for digital services and other services the offenders' will be using in the new Hämeenlinna prison in four years' time. These common services include management of data networks computing devices. Payment card system, cash register system and educational environments to mention few rely on managed data networks and devices.

Hämeenlinna Prison, taking the challenge

The new Hämeenlinna prison planning has commenced already. Hämeenlinna prisons renewal will be ready in four years' time according to current plans. Hämeenlinna prison has been planned functionally to work as community. The declining appropriation and need to cut costs were some of the factors that led CSA to this vision. This lead to creating a vision of new kind of prison and new kind of approach on using the facilities best possible way to reach the targets and follow the mission of CSA.

During the first planning phase the service map has been created. The purpose of the map is to help the prison to identify what kind of 3rd party services and 3rd party service providers the institution

needs to be able to provide those digital services needed by the offenders. During the service mapping it was also identified that the 3rd party service providers are dependent on a layers of ICT services provided by the prison. *Picture 1* describes on high level the service chains in the future prison of Hämeenlinna. Some of the services are marked with yellow Information mark. These services are examples of services dependent on centralized payment terminal and prepaid payment card services. These centralized services are offered by the Central Administration of CSA to the prisons and the 3rd party partners who in turn make the digital Offender Services possible.
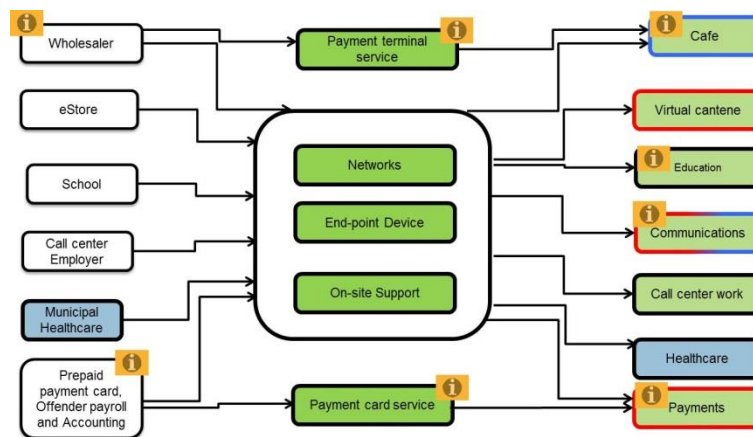
Picture 1. Initial digital service mapping of the new Hämeenlinna prison.

Let's have a closer look at what the making of Hämeenlinna vision will require in practice. At the leftmost corner of *picture 1* there is a set of services called "Prepaid cards, Offender payroll and Accounting". This set of ICT services are provided by the central administration of CSA. If we look at the 2016 roadmap of IT development projects at *picture 2*, we can see that these supporting functions in a small box actually constitute of five different parallel or consequent developments that are essential both in maintaining corporate economy of CSA and building the offender digital services.
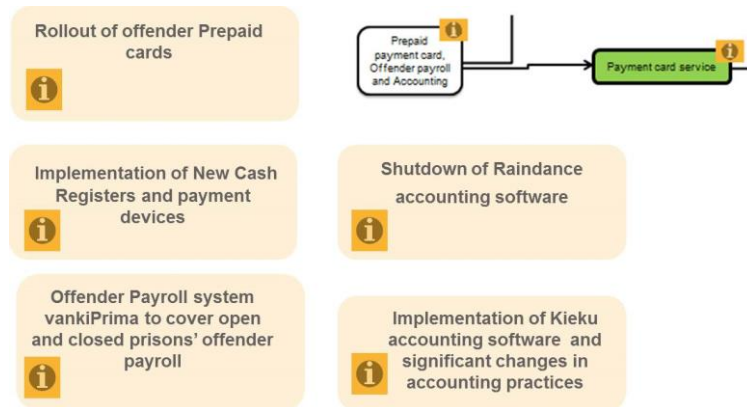
Picture 2. How to answer the digitalization challenge? The 2016 initiatives of CSA to realise the new Hämeenlinna prison Offender services within next 4 years.

What is the link between cyber security and digitalisation in CSA?

The aim of 2016 ICT initiatives is to implement the centralized payment and ICT services nationwide to root the Offender Digital Services in CSA. Previously there hasn't been nationwide digital communications and services for offenders apart from the prison payphone system. It is noteworthy at this point that there us connection with enterprise level financial services like the government's Kieku accounting IT system that is being used by all Offices and Agencies in the Ministry of Justice.

There have been two domains of security in Criminal Sanctions Agency. The other one is quite traditional enterprise security run by Ministry of Justice and it is meant to serve the officials as employees and the administrative IT systems they use. The other one is traditional penitentiary security in offender management where there is no information security management as it is being understood in the domain of cyber security.

There seems to be a gap between setting the security models of offender management and the ICT systems. Digital services are sometimes seen as easy and uncontrollable tool and risk of re-offending is seen imminent. Information Security Incident reports on offender driven information security incidents are not being analysed for statistics. But if we consider for a moment one of the threat factors in corporate information security, the employees or insiders, one must ask oneself if it is in fact so that even in corporations the threats sometimes come from inside. It is possibly true that the systems must be resilient enough to be able to take whatever it is the users might bring about in computer systems and networks. It is quite possible that the computer systems and network must be more like cyber range and less like corporate local area network.

The worlds of controlled use of digital communications and services and the offender management don't seem meet in the minds of those who work with the offenders in particular in the prisons. The offender management is very often about human behaviour and that aspect isn't a stranger even in corporate enterprise environments. This in turn raises the question of technical surveillance imposed

on offender communications on communication systems as well as on raw data while in transit. A cyber security strategy would bring the traditional view on security in the facilities and IT systems security needed together.

Cyber security can be defined so that it looks into security beyond ICT systems security by taking into account the political, economic, social, technological, legal and environmental aspects. This approach fits well in CSA because these aspects are all strongly present in everyday functions of the Agency. Cyber security is as often defined as "the collection of tools, policies, security concepts, security safeguards, guidelines, risk management approaches, actions, training, best practices, assurance and technologies that can be used to protect the cyber environment and organization and user's assets. Organization and user's assets include connected computing devices, personnel, infrastructure, applications, services, telecommunications systems, and the totality of transmitted and/or stored information in the cyber environment." [3] Creation of Criminal Sanctions Agency Information Security Management System through ISMS programme would be the 4th needed initiative.

Signs of future

Finally, it seems that the mode of using digital services in prisons and community sentence offices seem to remain as to that of 1990's. Use of digital services seems to be bound to a physical place and device instead of device and user as in free society. We are accustomed to run our banking with our smart phone wherever. Oddly enough there is one group of users within the clients of Criminal Sanctions Agency who actually already interact with CSA in the device and user bound mode. Those users are the clients serving the monitoring sentence. The offenders serving monitoring sentence are equipped with a wearable tag and communications device that they must carry with them at all times so that they can contact CSA and vice versa and that CSA is able to locate the offender.

The monitoring tags are developing rapidly and there might be other solutions out there that could allow Criminal Sanctions Agency to change the ways the clients interact with their surroundings. This might eventually change the way future functions are organised, in which spots the personnel is needed or how the buildings are built. It is hard to predict future but it seems that there would be possibilities to even further develop using of devices like monitoring tag as device for communicating and digital encounters within Criminal Sanctions Agency. As with all technological changes, the security controls develop, too. Beyond the ICT systems security, it is important to take into account the political, economic, social, technological, legal and environmental changes as well when building security and privacy of the offender digital services.

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[3] Definition of Cyber Security, ITU (2015), http://www.itu.int/en/ITU-T/studygroups/com17/Pages/cybersecurity.aspx