cView

A digital standard

Towards a digital bureaucracy

In this issue

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Towards a digital bureaucracy

Public authorities' work procedures are alike. That's called bureaucracy.

It is commonly known that public authorities regard themselves as being different to each other. That's why they choose individual IT systems. However, this entails great costs and operational challenges as developing large, new IT systems often go awry – both in the public and the private sector. Additionally, maintenance and further development of individual solutions often mean significant costs and risks.

The private sector has taken the consquence of this a long time ago. IT providers have specialized and offer a great number of continually improved, sector-specific stadard solutions while the public sector still develops and maintain custom-made special solutions.

Naturally, public procurers aim to reduce costs and minimize difficulties, and the desire to buy standard solutions and to reuse when possible exists. But why haven't they succeeded when it comes to IT? It may be due to two main causes: a historical self-understanding and a lack of competition between authorities.

When a public authority with great puchasing power regards itself as unique, the sector involuntarily maintains a market in which customers want individual solutions.

The public sector itself, then, dictates a market development which leaves providers with no incentive to create sector-wide solutions. Additionally, there is no competition between public authorities.

The competition between private companies creates fertile soil for innovation and new products, including better and cheaper standard systems which provide the customers with competitive advantages and which can be used across the sector.

cBrain's standard system F2 challenges the status quo of public sector. Today more than 50 authorities base their work on F2, a 100% standard system designed and built for public administration. This is unique, in Denmark as well as internationally. F2 became a success, because cBrain in 2005 was given the opportunity of developing a new digital platform with several authorities in parallel. Based on the unique collaboration with the Ministry of Social Affairs and the Ministry of Ecclesiastical Affairs, the design originated with the public authorities' work procedures and organisational structures, and evolved into a production system for the ministries.
The project revealed that the work procedures of public authorities were, in essence, alike. That's called bureaucracy. But it also became clear that even though bureaucracy prevails, the transition from paper-based to digital bureaucracy has far reaching consequences.

cBrain's model, method and F2 software encourage the conversion of analogue bureaucracy to a digital bureaucracy, which has proven a successful approach to digitisation. It is also a demanding approach, however: it requires mainly that management is involved, but the organisation is also required to have an overview of its business processes. One of cBrain's mantras are, "keep your end goal in mind from the start". This applies to our model, method and software. If the goal is unclear, a successful digitisation is impossible. When cBrain configures mission critical systems, the majority of the process happens on a whiteboard, in interaction with the process owners. Only when a diagram of the process has been written from start to finish, the configuration of the software begins. This is followed by an iterative testing procedure with the users which is done only when the end goal stated in the initial phase has been reached.

F2 in International House, Municipality of Copenhagen

Since International House implemented F2, international citizens can apply online for everything regarding their stay in Denmark. This reduces the physical waiting time needed to see a case worker. This waiting time has been reduced from 90 to 15 minutes.

In addition to reducing waiting time for citizens, F2 also provides internal benefits. Employees now have an overview of incoming data and documents, enabling them to process applications faster. The International House management has gotten a dashboard providing an overview of incoming cases from which to perform quality assurance. They are also able to view a case's data and status in real-time.

F2 in the Danish State Administration

Since implementing F2 in the Danish State Administration, time spent on internal administration of the divorce process has been reduced by 50%. This is thanks to the use of checklists for case processes and through the introduction of a self-service solution for citizens.

The fee for divorce has been reduced from 900 DKK to 420 DKK. The Danish State Administration won a Digitisation Award in 2017. The yearly cost reduction after implementing F2 is an estimated 12-14 million DKK, and employee satisfaction has increased greatly. When a couple file for divorce, if both parts agree, the divorce can be completed online in a short amount of time. If the couple disagree, the check list approach helps solve variations and complex cases in a quick and streamlined manner. Complex cases may entail disagreements in relation to children. In these cases, physical meetings and legal counsel may be necessary.

Case work in F2 allows for a faster allocation of complex processes to relevant personnel. Simple processes may, as a rule, be automated. In certain instances, process times have been reduced from five days to five minutes without involving the back office.

More of the same won't get us there. Rethink your approach.

Denmark is number 1 in digitisation according to surveys conducted by EU, UN and OECD. This is an encouraging result, but it also calls for reflection on the practice.

Denmark didn't achieve this position out of nowhere. cBrain produces standard software built for government based on a deep understanding of the nature of both democracy and bureaucracy. But software alone won't get us there; it's necessary to rethink the approach to achieve the desired results. In combination, these two factors can be leveraged for decisive results.

Four years ago Per Tejs Knudsen and Ejvind Jørgensen, two of the driving forces behind the "Denmark 3.0" think tank, initiated a project to discover which competencies a manager needs in the digital age. This led to the book "Ledelse i d-land – om ledelse på tærsklen til det digitale samfund" ("Management in d-land – On management on the threshold to a digital society").

The book presents a model comprised of four dimensions and six competencies. One of these competencies is approach, the focal point of this article. Approach calls for reflection for many managers, and still more acknowledge that what brought us to where we are today isn't the solution for tomorrow.

Time is a decisive parameter, and the world demands fast solutions. Solutions that hit the mark, that is. Solutions that yield results. Solutions that aren't cast in stone, but can be utilised continuously so their efficiency can be confirmed. Digitisation is perceived as a minefield; it must be approached with care. Risks cannot be completely eliminated, but can they be minimised without impacting the end result? As the future remains unpredictable, flexibility is important. How can we up- or downgrade yet remain financially responsible?

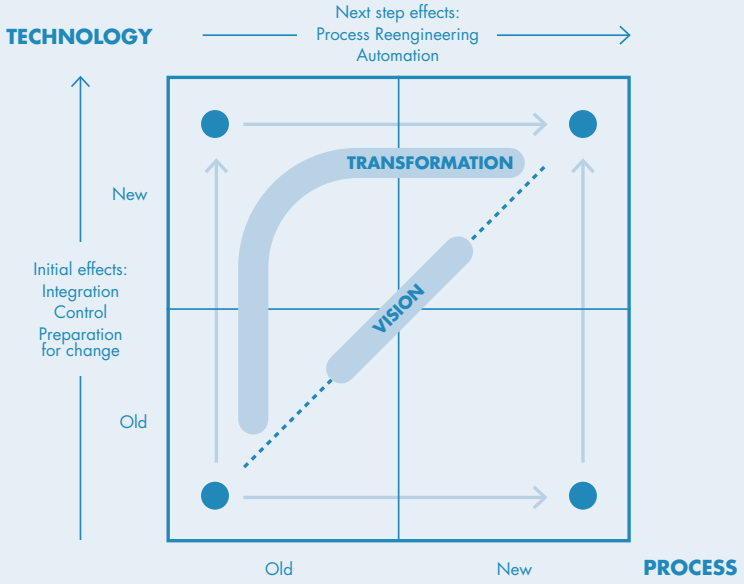
Agility has become a key concept, and agile development a trend. But development takes time. Is it possible to steer towards your end goal faster yet steadier?

Agile implementation is cBrain's answer to the digital dilemma and is elaborated below. cBrain has built a standard production system for the public sector based on a deep understanding of the nature of bureaucracy and its atomic components: F2 is built for government. With approximately 300.000 hours spent on development, there is proof that F2 can support ministries, government agencies, municipalities and professional organisations – not only in Denmark, but also in Berlin, Bristol, Liverpool, Washington and Dubai.

The point of departure for many public organisations is, as shown on the model to the right, to leave their old processes and old technology behind in favour of new processes and new technology. Experience shows, however, that this isn't easy. In fact, it usually doesn't work. The reason? People aren't capable of imagining new processes and new technology simultaneously – the change is too great. Even when a requirements specification for a new solution is made, it becomes evident that there is no agreement on the nature of the current work processes. Does that matter? Yes! If there is no agreement on the current work processes, how valid can the requirements specification be? It often becomes an abstraction with a vast uncertainty factor – because the starting point is unclear and uncertain.

In cBrain, we turn this upside down. Instead of the old approach that begins with changing processes, users get a new production platform on which they can recognize their old processes and roles. The difference from before is that everything on the new plaform is integrated and tidied up. This fosters a readiness in relation to changes, because it is now possible to speak of concrete solutions instead of abstractions. The users are able to see and quickly understand how a soluton would work, as it is based on a known technology frame and a model of how best-practice digital bureaucracy looks.

Based on this approach, cBrain takes one business process at a time and onboards an optimised and often automated F2 version through the process layer which, apart from a "process engine", contains self-service and an extensive and well-documented integration layer (REST API). This helps users, including managers, to understand the implications. The onboarding of processes happen through configuration instead of coding, so results are achieved much faster. Users can see whether a change yields the necessary effect. This also means that



the solution can be changed and optimised quickly. As a consequence, the users drive the development, not the provider or external consultants. The users assume ownership and advocate for changes. This often yields a dramatic effect. We call it the "jiu jitsu principle", or the art of using the organisation's own momentum to create progress and change. The model has been named "the banana model" because of the shape of the transformation that takes place. The vision in the classic model usually remains a vision, while the implementation of the banana model happens gradually with tangible results each month. The implementation is directed by the users' tractive force and management's estimation of where it will create the greatest results. F2 being a cloud solution adds additional agility and flexibility. Upgrades are minor undertakings. cBrain releases a new version every six months and since F2 is 100% standard, it's easy to benefit from new functionality and new modules.

It's the same software running everywhere: from the Ministry of the State of Denmark to the Danish Business Authority, from the Municipality of Rudersdal to the Government of Greenland, from Liverpool City to a vast administration in Berlin. It is possible to acquire F2 with an SKI 02.19 framework contract, from which the burden of public procurement is exempt. This means starting sooner. The current record is starting four days after the first enquiry regarding a contract. In combination with the cloud and subscription model this means that the solution may be up- and downgraded. You pay for what you use, and only when you use it. Together with the proof of concept that becomes apparent during the process, this ensures a lower risk for the public organisation.

From paper to mission critical systems using standard software

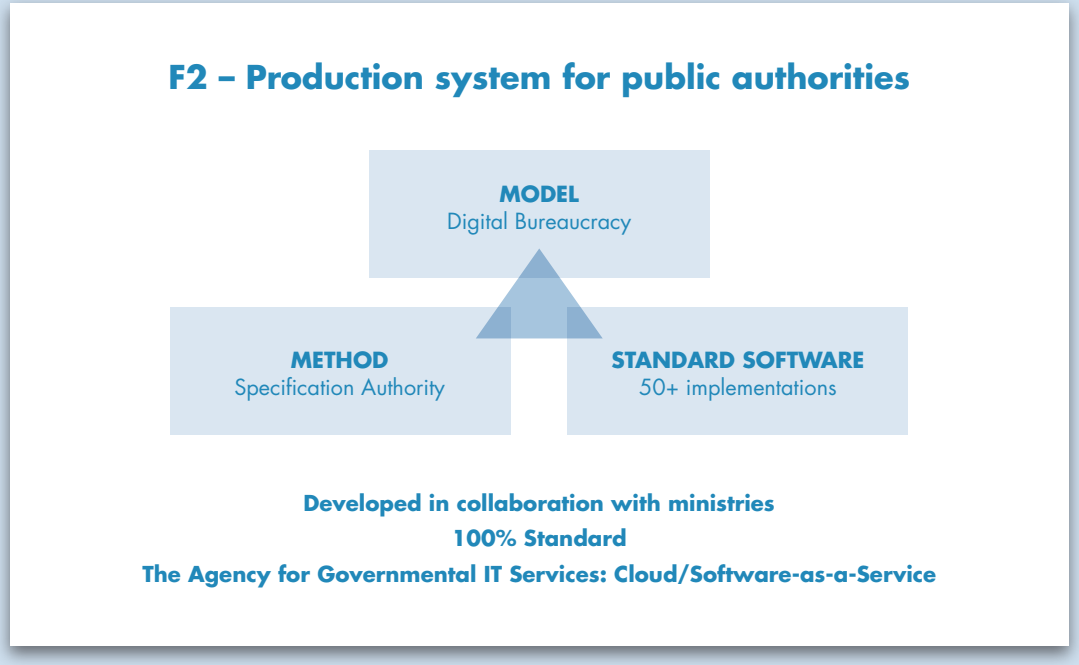
cBrain has developed a model and a method to support mission critical processes directly in the F2 standard software. In fact, they invite a whole new approach to designing and supporting mission critical systems digitally.

The digital bureaucracy

cBrain's approach to working with public authorities is based on digital bureaucracy. As a rule, the work of public authorities is based on the ideal type of bureaucracy named and described by Max Weber in the early 20th century. Today the public sector is undergoing a transformation in which the production system itself, the classic paper-based bureaucracy, is being reimagined and replaced by what cBrain refers to as the digital bureaucracy: an ideal model for the production system of future bureaucracies, in which work is performed with transparency, fairness and efficiency – and without the use of paper. Based on the digitisation experience gained from close collaborations with departments, government agencies and municipalities, cBrain has developed a best-practice model for digital bureaucracy. Simultaneously, cBrain has developed a design method which supports each step of a concrete solution based on the model, along with the F2 standard software which is built so that the concrete solution can be configured directly therein.

The model

The model for digital bureaucracy is based on the production; an authority is perceived as a production unit, whose task is to manage and deliver one or more services on behalf of society. These services are often referred to as the authority's "products". The digital bureaucracy is the authority's internal means of production which are meant to support and ensure that tasks are managed with transparency, fairness and efficiency. The production is governed by the "single case principle" and divided into



different case types, each corresponding to one of the authority's services/products. The digital bureaucracy is described using processes and resources that support the management and delivery of the services for which the authority is responsible.

The digital bureaucracy is comprised of five dimensions: services, responsibility, procedure, organisation and data. Services are the authority's reason for existing: they are the services which the authority delivers to society. Responsibility and procedure describe the authority's work in the form of case processes, in which the allocation of responsibility governs the progress of the case while procedure governs the case's ruling. Organisation and data describe the authority's resources: organisation describes its employees and hierarchy of units and teams, while data describes its structure and the contents of its knowledge and documentation.

Each of the five dimensions consists of a number of basic components. For example, services are made up of several case types, responsibility may include several case guides and steps, and procedure may include checklists with phases and tasks. The digital bureaucracy model is generic because it defines the concepts and components, i.e. the building blocks, which are used to describe a given authority. Using this model's components and the design method it is possible to describe the digital bureaucracy for an authority.

The method

Many IT projects fail because their goal is unclear, which makes the undertaking too complex. The cBrain model and method helps avoid excessive complexity since there is a model for configuring the mission critical processes. The model helps create an overview through its five dimensions. cBrain's method help organise the mission critical processes in cooperation with the user, so they can be implemented in the F2 standard software. The method makes use of concepts such as case types, which organize the design of mission critical processes.

"Business as usual"

Perhaps contrary to expectation, the method invites customers to conduct "business as usual". When cBrain configures a mission critical process, its success depends on close collaboration with the customer, which often means the case managers. Thorough dialogue and decisive leadership are both important in this process as it quickly becomes evident that several ways of solving a task exist.

The solution is designed step by step through a number of workshops. The first step is to divide each of the selected services into one or more case types. For each case type the dimensions of responsibility, procedure, data and organisation are designed and described in that order using the component model. The users involved in the process are invited to explain their current work procedures.

This often reveals that there are several different ways of working, but it's also possible to agree on how to describe the most efficient work procedure. The workshop is conducted with the help of a whiteboard and old-fashioned paper and pencil. When it's over, the process has been mapped out based on the "business as usual" motto. Often users will ask, "Why are we actually doing it like that?", and this leads to the users themselves streamlining the procedure.

Configuration in F2

After the initial workshop cBrain's F2 consultants outline a model of the process on paper. The model for the mission critical process is then scrutinised in another workshop with the customer. Often there are changes, and new questions have appeared in the meantime. When the model is finally approved, the actual configuration of the process in the F2 standard system begins. The configuration can be thought of as a library with case types with information attached regarding the other four dimensions: case flow, procedure, data and organisation. All data is stored in the central F2 database and can be presented as management information, e.g. via dashboards. Both employees and citizens work with shared data online allowing for the option of advanced self-service functions.

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Authorities, municipalities and other institutions

Agency for Digitisation
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The Evangelical Lutheran Church - The Deaneries
Active Patient Support - Across Four Regions
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Unions, unemployment funds and organisations

Danish Union of Teachers
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DJØF - Union for Graduates in Social Sciences, Business and Law
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Danish Association of Pharmaconomists
The Danish National Union of Upper Secondary School Teachers
Danish Diet and Nutrition Association
Danish Medical Association
The Social Democratic Party of Denmark

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