



## First blog in the series: Architectural concepts for the digital telco

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Reflecting on some recent customer interactions and results of [CGI Client Global Insights interviews](#), I've concluded digitization is still top priority on the agenda for telecom clients. This inspired me to write a blog series on this topic as expert of the digital telco. I will share key architectural concepts that are foundational for a successful transition towards a digital telecom operator.

These architectural concepts have been inspired by Jeanne Ross of [MIT](#) who has conducted research on digital transformation and published a book '[Designed for Digital](#)' about the cornerstones for redesigning 'old' companies for digital success.

The cornerstones are:

1. Shared customer insights
2. Operational backbone
3. Digital platform
4. Accountability framework
5. External developer platform

In this blog series I shall address these cornerstones and make them telecom-specific, starting with the operational backbone, which I've dubbed the 'digital operations backbone'. Because, in my view, improving on the shared customer insights cornerstone are also a result of effective implementation of the other four, I will save that topic for last.

### Digital operations backbone

The basis for a digital network operator is an operational backbone that has been integrated and fully digitized. Digitization is the process wherein existing functional silos are removed to build one integrated platform. This implies having open integration possibilities to enable harmonization of processes, data and technology - a prerequisite for achieve optimal operational efficiency and improved service quality.

In order to come to a digital operations backbone I would like to introduce below three concepts,

#### Concept of one

The concept of one is a harmonization concept where is looked at the organization and determine which operational building blocks are essential. Then is determined where there are duplications of functions. The concept of one basically prescribes to have only one of each building block across the enterprise. It does not dictate that there may only be one instance of each but there is for example, only one logical core network, one logical access network, one SIEM or other components that are needed in telco operations.

#### Concept of data driven

The concept of data driven is a process concept. In contrary to what most think, the focus here is more on the 'driven' than on the 'data' component of this concept. People working in organizations are triggered by all kinds of events. Events signaling that things are going wrong, such as a hardware or software failure, or things going right like a new order delivery that you have been waiting for. Working in a large company telecom operators are surrounded by all kinds of events so the question are all these signals handled in the high demanding world we live in? The answer is filtering through algorithm-based automation. An operator needs to be capable to drive it's processes on meaningful events rather than on manual monitoring and intervention.



The key lies in applying methodologies such as process mining and value stream mapping to understand what processes need to be automated and which activities should become data driven. When automating processes for order processes, for instance, principles such as “frictionless customer experience” also become relevant which I shall discuss in a next article. Once aware what needs to be automated the automation strategy becomes clear. As CGI we have our Intelligent Automation framework that helps to quickly transform your first value chains to automated and data driven value streams, for instance in provisioning and service assurance.

### **Concept of the digital twin**

The concept of the digital twin is complementary to the concept of data driven. [The digital twin](#) as we see it within CGI is both an architectural frame to guide our thinking, as well as an actual digital and real-time representation of operational networks, systems, services and customers. A digital twin is a necessity for any company that wants to become truly data driven. The digital twin for a network operator holds a real-time snapshot of what assets are currently active and the configurations, shows relation towards a service and which customers use this service. This allows for a wide variety of telecom processes to be supported better through these integrated and real-time insights, such as service assurance processes, customer experience management but also tactical and even strategic capacity planning by predictive analytics and simulation.

### **Simulations & visualization**

So, next to event handling that can be done for all service assurance processes the digital twin can also be used to do simulations of processes. This means that potential risks and impacts can be determined through running virtual scenarios, without having to do it in real life. This is an ideal way to determine value chain impact or determine stakeholders who need to be involved when implementing changes.

### **Learn more about architectural concepts?**

I'm really passionate about these architectural concepts and would love to hear your feedback on this article. Please reach out to me if you would like to learn more about our approach for putting these concepts in to practice. The next blog shall be on the digital platform.