

# Mobile Network Transformation

Why you should take a unified approach to resource management for your 5G transformation and how FNT can help make it happen

**3** G is the past, 4G is the present and 5G is the future. Regardless of where you are on the spectrum, you have work to do. IoT and the rise of edge computing make network transformation a requirement, not an option, in today's digital world.

For mobile operators, network transformation involves FTTA and C-RAN architecture upgrades. Operators must lay more fiber and connect it to antenna. They must pool resources in BBU pools and connect them to the core network. These are essential actions for handling the explosive quantity of data that will be transported over mobile networks to geographically dispersed users. To say modern networks are complex is an understatement.

The single most important thing a mobile operator can do to ensure a successful network transformation is to adopt a unified resource management approach. That means recognizing the synergy that exists between IT, data center and telecommunications resources and managing them accordingly. Aristotle hit the nail on the head when he said, "The whole is greater than the sum of its parts".

## FNT Command is a proven solution for managing hybrid resources

FNT Command is a standard software solution that is used worldwide to roll out, operate and manage telecommunications networks. Its integrated data model keeps accurate track of all resources – physical, logical and virtual – and integrates with key systems so the information is available to users throughout the organization. FNT Command's unique functionality enable this single source of truth to cross the boundaries of traditional functional silos and make it actionable.

## Easier planning of mobile rollouts

Mobile operators' primary concerns today are capacity and coverage. They must ensure enough bandwidth to enable the flow of data and reach users wherever they are located.

In the 5G future, today's huge enhancements in mobile broadband services will support a vast diversity of new devices and services and support an entirely new range of use cases. All these needs – both present and future – require many additional sites be brought online, configured and operated.

FNT Command's documentation functionality lets network planners know exactly what resources are available and provides detailed information about them. This is inclusive of physical, logical and virtual resources. And this is where the unified resource management approach becomes critical.

The physical resources are the passive infrastructure components (fiber, antenna) and the active components (mobile equipment, transport equipment). These are used throughout the network, but also in both core and edge data center sites and increasingly to host virtualized applications. The logical resources are the connectivity resources in fronthaul, backhaul and core network based on transport network equipment. The virtual resources are the VNF and the underlying virtual machines based on commodity hardware. All work in concert and span the telecommunications network, data centers – both core and edge – and IT network. These resources must be managed in unison for the network to function properly.

FNT Command makes it easy to plan and document new sites, extend networks and modify existing sites. Structured processes and automation reduce errors and increase efficiency. The same is true for managing the rollout process. FNT Command automatically creates work orders, sends them to the field for execution, checks inventory, and integrates with ERP systems to manage the purchasing process with suppliers. The process efficiencies FNT Command delivers results in substantial cost saving.

Those cost savings are amplified when you consider the increasing number of base stations operators will need. With 4G and especially 5G, there will be many new base station

sites with thousands of configuration parameters to process the massive amounts of information that is flowing. All these sites must ultimately link the end user to the core network, which will require thousands of configuration parameters. These new sites need radio units, antennas, towers, poles, rooftop sites, BBU equipment including space, power and cooling, fiber infrastructure and connectivity. Think hundreds if not thousands of configuration parameters per site, per technology. Using a hybrid resource management system such as FNT Command helps mitigate the cost of network expansion.

**Better operation of mobile networks**

In the world of 4 and 5G, networks will be a complex mix of traditional network technologies, passive fiber infrastructure, mobile technologies using C-RAN architecture and a virtualized mobile core and increasing virtualization of BBU functions in mobile RAN.

It's very important to have the configuration data in combination with physical, logical and virtual resource information to operate the mobile network. If there's a network or service issue, the operator needs access to all available information to analyze and remedy the situation. Network issues typically occur in parallel, so relationship and dependency information are critical. In order to manage the active transport network used in the fronthaul to provide the logical connectivity between BBUs and radio sites as well as between BBU pools and the core network through the backhaul, end-to-end visibility and the ability to see dependencies and impacts across all layers is critical. FNT delivers this visibility via its integrated data model.

Edge data centers are key components to a mobile network. They process data closer to the user to enhance the customer experience. They are becoming more prominent as the need for low latency applications intensifies. They must be managed carefully in terms of capacity and connectivity. Redundancy needs to be managed on both the logical and fiber layers. Edge data centers must also be carefully managed from a space, power and cooling perspective. Core connectivity between these geographically dispersed data centers must be rock solid. Any problems with an edge data center directly impacts the large volume of connected towers. As 4 and 5 G spreads, the huge core data center sites for the virtualized applications and services will be distributed across several core data center sites and edge data center sites.

**Lay the foundation today for your network of tomorrow**

Planning, rolling out and operating 4/5G networks is key to network transformation. FNT Command is ideally suited to this purpose. It manages resources from C-RAN / FTTA down to mobile core and holistically manages all network resources regardless of where they reside. Command enables network operators to manage virtual machines and systems in conjunction with traditional assets.

**To learn more about how FNT can assist your own mobile network transformation visit us at:**  
[networktransformation.fntsoftware.com](http://networktransformation.fntsoftware.com)

**FNT Mobile Network Solution**

A unified approach for managing hybrid resources



// when transparency matters.

