

Telecom Functional Groups & Business Processes

Functional Groups

Telco Functional Groups



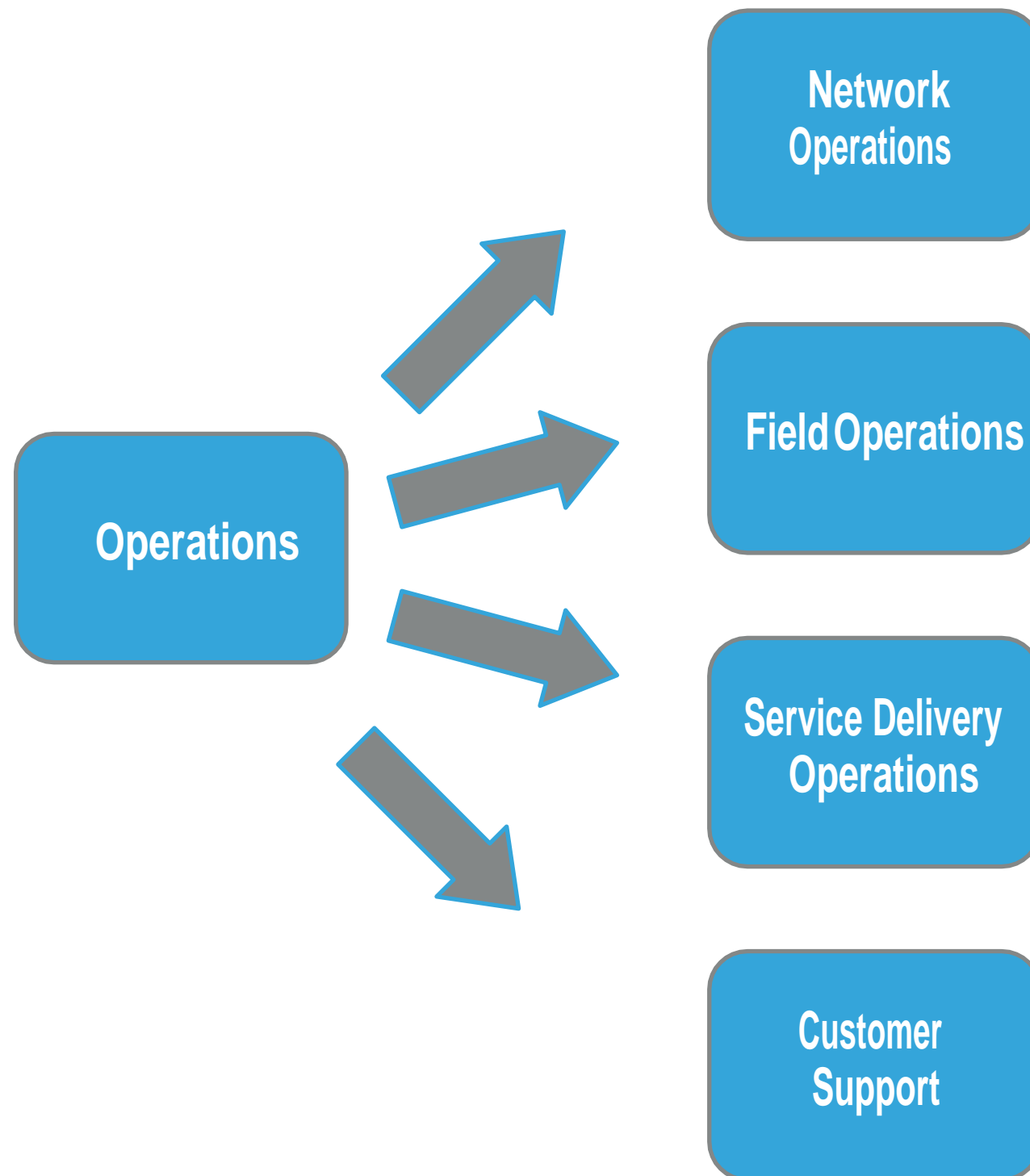
Network Planning

- ▶ Selection of Network Equipment Vendors
- ▶ Collaborating with Standard Bodies and Open Source Communities
- ▶ Evaluation of new technologies
- ▶ Owning the network roadmap and network architecture / strategy
- ▶ Capacity Planning for the Network



- ▶ Designing the Network
- ▶ Testing and Validation of Network Equipment
- ▶ Integration and Testing of Multi-vendor network equipment
- ▶ Installation and Commissioning of Network
- ▶ Configuration of Network Equipment
- ▶ Configuration of Network Services
- ▶ Integration of Virtual Network Functions with Orchestrators
- ▶ Collaborate with IT teams to build tools to simplify the configuration of network elements, tools to track the installation / commissioning processes and tools to maintain the Network Inventory.

Operations



Network Operations

- ▶ Monitoring the network for faults
- ▶ Pro-actively avoiding faults through periodic maintenance
- ▶ Network Performance Measurement
- ▶ Fault Isolation and Alarm Correlation
- ▶ Network Surveillance
- ▶ Network Security Management
- ▶ Collaborate with IT teams to build tools to automate the monitoring / surveillance of the network

Field Operations

- ▶ Field Operations team is responsible for installing / commissioning equipment at the customer facility and turning-on the service for the customer
- ▶ IT BSS/OSS suite has software that take care of “dispatch” of technicians to customer location – for turning-on new services or for resolving issues related to existing services.
- ▶ Field Operations team typically carry tablets / mobile devices – loaded with software for configuring, managing and troubleshooting issues on the devices deployed at the customer premise. Such software is developed by IT teams.

Service Delivery Operations

- ▶ Service Delivery team includes a team of service designers, service provisioners.
- ▶ Service Designers design the network service for the customer. For example, design includes the list of network functions required to deliver a service
- ▶ Service Provisioners are responsible for provisioning customer services and updating inventory in the inventory management system

Customer Support

- ▶ Customer support teams are responsible for providing ticketing and phone support. These teams operate out of call centers, across different geographies.
- ▶ Customer Support teams get calls from customers directly or from field support technicians.
- ▶ Customer Support teams have access to the backend of the IT systems. They use advanced tools to resolve customer issues. However, if they are not able to resolve issues on their own, they reach out to IT for troubleshooting / solving problems.
- ▶ IT teams continuously work on developing self-serve tools for customers, so that the dependency with customer support teams can be minimized.

Product Management

- ▶ Responsible for rolling out new products and services on top of the network
- ▶ Owns Product Roadmap (features & timelines)
- ▶ Competitive analysis
- ▶ Market analysis – Total Addressable Market (TAM) assessment
- ▶ Understanding Customer needs / requirements
- ▶ Collaborate with other groups such as Network Planning, Network Engineering, Network Operations and IT to operationalize new products and services

Information Technology (IT)

- ▶ Develop OSS applications and tools that help Network Planning, Network Engineering and Network Operations teams.
- ▶ Develop BSS applications and tools that help business teams (product management, sales/accounts teams, marketing teams) and customers.
- ▶ Reduce manual work in all forms through automation
- ▶ Collaborate with Product Management to rollout new products and services.
- ▶ Collaborate with Operations teams to minimize manual work
- ▶ Collaborate with Field Support teams to develop applications that take care of workforce management, installation / commissioning of devices in the field and service activation.
- ▶ Network IT includes application developers, testers and support personnel. Support teams monitor the IT test and production environments, where the IT applications are hosted.

IT – OSS & BSS Functions

- ▶ Planning tools
- ▶ Engineering tools
- ▶ Provisioning applications
- ▶ Inventory Management applications
- ▶ Field Force applications
- ▶ Surveillance applications
- ▶ Order Management
- ▶ Products / Catalog Management
- ▶ Billing / Promotions / Discounts Management
- ▶ Salesforce / CRM applications
- ▶ Partner Management

Chief Information Security Officer (CISO) group

- ▶ Responsible for ALL Information Security programs in the organization
- ▶ Periodically rollout security related guidelines and processes
- ▶ Collaborate with IT teams on proactively identifying and fixing security gaps in the IT applications / tools.
- ▶ Periodically performs security audits to ensure that there are no vulnerabilities
- ▶ Educate and spread the awareness on security to employees

Marketing

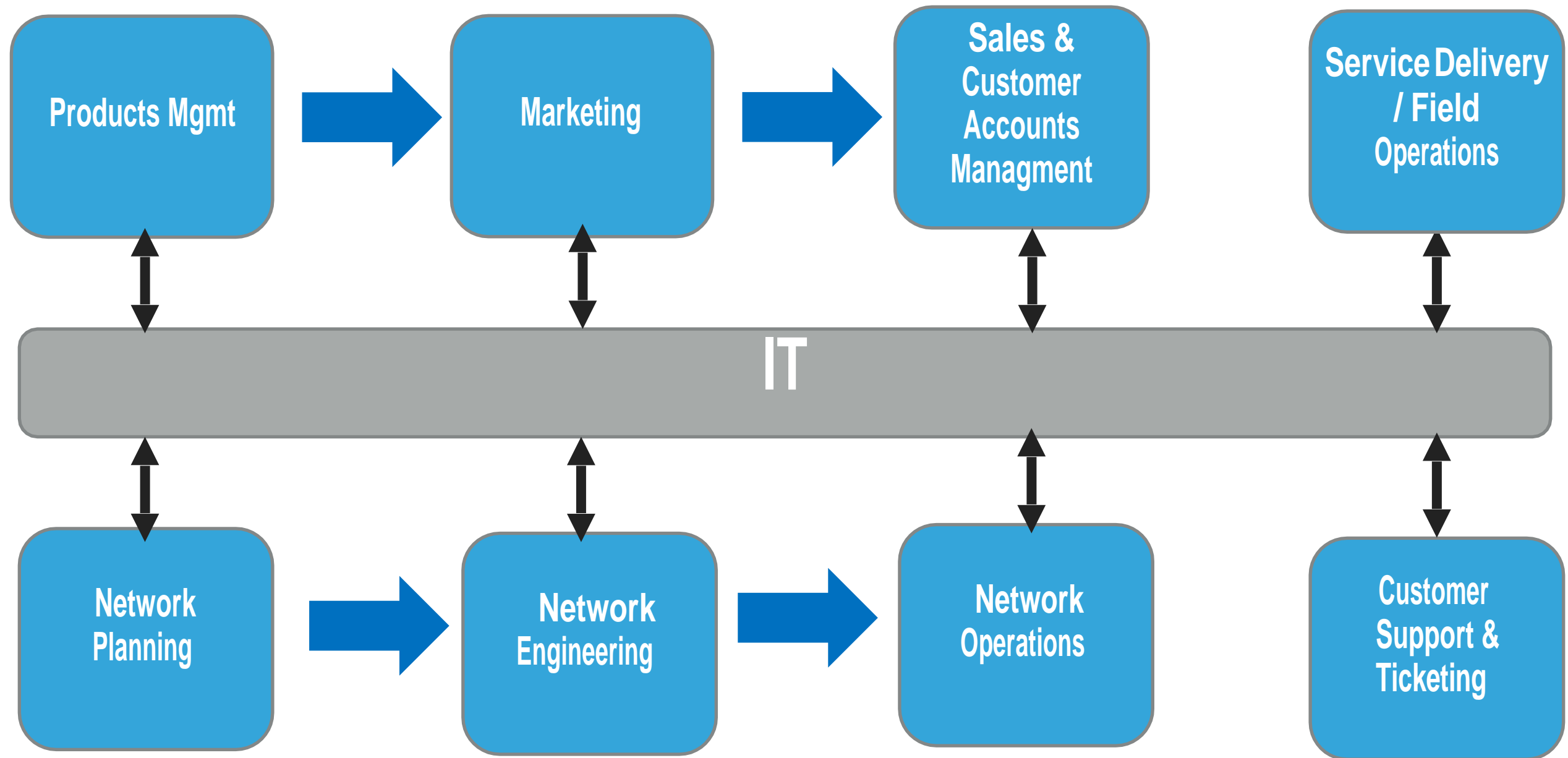
- ▶ Promote new products and services with customers
- ▶ Develop collateral such as white papers, solution briefs and demos
- ▶ Rollout periodic offers and discounts on Products / Services
- ▶ Collaborate with IT teams to turn-on discounts / offers for select existing customers

Sales & Accounts Management

- ▶ Owns customer relationship
- ▶ Responsible for generating revenue
- ▶ Collaborates with Product Management team to conceptualise and rollout new products and decide on product pricing.
- ▶ Collaborates with IT teams to remove impediments in turning-on services for “key” customers.
- ▶ Collaborates with Marketing Teams to rollout promotions / discounts to meet quarterly revenue targets

Business Process Flow

Business Process Flow



Understanding the Business Process Flow

Business Process Flow – 5G Rollout(1)

- ▶ Network Planning team comes up with the roadmap for 5G rollouts.

For example,

“5G should be rolled out in the next 5 years across the country, with 95% coverage”

Business Process Flow – 5G Rollout(2)

- ▶ Network Planning team identifies vendors to be build the 5G network (based on trials / evaluations).

For example,

“Samsung is selected for 5G Radio and Ericsson is selected for 5G Core, based on features and performance”

Business Process Flow – 5G Rollout (3)

- ▶ Network Engineering plans for equipment purchase based on the capacity needs.

For example,

“To deploy 5G in a San Francisco, we have to build towers in 10 locations, for which we would need 10 units of the Radio equipment”

Business Process Flow – 5G Rollout(4)

- ▶ Network Engineering plans the geographies / exact locations where the towers and core network equipment will have to be deployed.

For example,

“In order to receive the best coverage, six 5G towers will be rolled out in Downtown San Francisco and four 5G towers will be rolled out in the residential communities”

Business Process Flow – 5G Rollout (5)

- ▶ IT teams are engaged for building engineering tools.

For example,

“Engineering Tools to capture the network inventory (radio equipment, towers, racks, cabinets etc.), planning tools (to detect radio interferences, to optimize the tower deployments)”

Business Process Flow – 5G Rollout (6)

- ▶ Sales & Product Management teams identify business opportunities – and come up with products / services to be rolled out on top of the network.

For example,

“We have decided to rollout 5G Fixed Wireless Services for Home and 5G for Mobile phones, this year.”

Business Process Flow – 5G Rollout(7)

- ▶ IT Teams are engaged to upgrade the BSS/OSS software to support the new products and services.

For example,

“BSS will be enhanced to support new data plans, new voice plans and new 5G capable mobile devices. OSS will be enhanced to provision services in the 5G radio and 5G core network equipment”

Business Process Flow – 5G Rollout(8)

- ▶ Marketing teams come up with plans to promote the offerings. They also identify geographies to roll out the offer.

For example,

“As part of the initial launch, customers from San Francisco will get free 5G services for the first 3 months”

Business Process Flow – 5G Rollout(9)

- ▶ IT Teams are involved to upgrade the BSS/OSS to support the new offers / discounts.

For example,

“BSS will have the capability to provide a discount of 20% to the first 100 customers signing up for 5G based Fixed Wireless Service”

Business Process Flow – 5G Rollout (10)

- ▶ Network Operations teams are trained on the new network infrastructure to support the new network. Network Operations teams identify scenarios that will have to be supported by the OSS.

For example,

“Need mechanisms to identify 5G radio tower failure, need mechanisms to identify performance bottleneck in the 5G core network, need mechanisms to automatically reset a 5G radionode”

Business Process Flow – 5G Rollout(11)

- ▶ Network Operations teams collaborate with IT teams to come up with tools & applications to simplify and automate the monitoring and management of the network.

For example,

“Tools for monitoring the health of the network through probes & tools for displaying faulty nodes across the network/country in a map”

Business Process Flow – 5G Rollout (12)

- ▶ Network Operations teams collaborate with IT teams to come up with tools & applications to simplify and automate the monitoring and management of the network.

For example,

“Tools for monitoring the health of the network through probes & tools for displaying faulty nodes across the network/country in a map”

Business Process Flow – 5G Rollout (13)

- ▶ Sales / Account Management Teams sell the new 5G products to customers. They come back with a customer order.

For example,

“A large enterprise wants to build a Private Wireless Network using 5G.”

Business Process Flow – 5G Rollout (14)

- ▶ Service Delivery team does the pre-provisioning of services for the customer and updates the inventory using the tools developed by IT.

For example,

“Service Delivery teams pre-provisions the user accounts, configures customer’s service and updates inventory in the backend, based on the customer’s plans”

Business Process Flow – 5G Rollout (15)

- ▶ Field Operations - Dispatch team initiates the shipment of the Customer Premise Equipment (CPE) to the customer.

“Dispatch systems initiate the shipment of CPE device(s) to the customer’s address”

Business Process Flow – 5G Rollout (16)

- ▶ Field Operations team begins the installation of the required devices at customer premise.

For example,

“Field Technician does the installation / commissioning and configuration of the CPE at the customer premise.”

Business Process Flow – 5G Rollout (17)

- ▶ Field Technician reaches out to customer support team, when he runs into issues, while activating the service for the customer.

For example,

“If service activation fails, Field Technician calls Customer Support. Customer Support Team use the backend IT tools to activate the service for the customer”

Business Process Flow – 5G Rollout (18)

- ▶ Security is fundamental and hence, CISO team collaborates with all teams to continuously rollout new guidelines, potential security risks and performs audits.

For example,

“Run Nessus tools or Blackduck to identify / fix potential vulnerabilities in the software, before rolling them out in the production network. You cannot have more than 0 critical, 10 major and 20 minor security vulnerabilities in any product / application that you roll out in the production network.”

Thank You