

# Roles in a Data Center

Understand the organizational and operational structure that ensures efficiency and security in a Data Center

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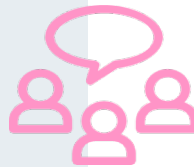
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01



Management and Strategy

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This area leads the global operation of the Data Center, defining its strategy, planning, budgeting, and regulatory compliance. It includes roles such as the Data Center Manager and Solutions Architect, who ensure the availability and efficiency of the environment through the coordination of technical teams, expansion planning, and design of scalable technology infrastructures. It is the brain aligning business needs with technical operations.

# Management and Strategy

## Data Center Manager

**Function:**

Responsible for the management, operation, and maintenance of the Data Center’s physical infrastructure, ensuring its availability, security, and efficiency.



- Defines the Data Center’s strategy.
- Oversees operations, coordinating IT, facilities, network, and security teams.
- Manages budgets.
- Ensures compliance with regulations.



- Reviews operational reports and resolves incidents.
- Coordinates with teams to ensure operability.
- Optimizes energy use.
- Plans expansions.
- Analyzes KPIs for decision-making.
- Meets with management and clients.



# Management and Strategy

## Data center Manager



- Works with Facility Manager, Network, and Executive team.
- Coordinates with logistics/security for equipment reception and storage.
- Works with the purchasing department on vendor and project management.
- Works with suppliers.



- Ticket management systems such as ServiceNow, Helix, etc.
- Excel
- DCiM, iTRACS, Schneider Electric, etc
- Monitoring systems such a BMS, DCE, etc
- Data and KPI analysis platforms such as: Excel, Tableau, Power BI, etc.



# Management and Strategy

## Solutions Architect

**Function:**

Designs and implements optimal technology infrastructures, aligning hardware, software, networks, and security with business needs.



- Designs scalable IT solutions.
- Evaluates new technologies.



- Designs and documents architectures.
- Tests system compatibility.



# Management and Strategy

## Solutions Architect



- Clients to define requirements.
- Technical teams for the logical deployment of solutions.
- Data center infrastructure department to host necessary equipment and manage incidents.



- BMC Helix, ServiceNow, Trello, Jira for asset and configuration management.
- AutoCAD, Excel, Visio for design.
- VMware, Hyper-V, AWS, Azure for administration.
- Nagios, Zabbix, PRTG, SolarWinds for infrastructure monitoring.
- Ansible, Terraform, Puppet for deployment automation and infrastructure as code (IaC) management.
- Kubernetes, Docker for container and microservices management.



02



Operation and Maintenance

This area ensures the continuous and safe operation of the Data Center’s physical infrastructure, including power, cooling, and technical support systems. It guarantees service availability through preventive and corrective maintenance, efficient energy management, and hands-on equipment intervention. It is the operational heart ensuring uninterrupted functioning.

Operation and Maintenance

Facility Manager

Function:

Responsible for managing, maintaining, and optimizing the physical infrastructure and support systems like cooling, energy, and security in IT rooms.



- Oversees all Data Center facilities
- Coordinates preventive and corrective maintenance.
- Manages facilities budgets.
- Ensures regulatory compliance.



- Review of critical equipment status reports.
- Coordination with technicians for inspections and maintenance.
- Supervision of energy usage and efficiency optimization.
- Incident coordination.



# Operation and Maintenance

## Facility Manager



- Works with the energy and climate team to ensure infrastructure stability and service.
- Coordinates with physical security to ensure controlled access.
- Coordinates with contractors for maintenance tasks.
- Works with suppliers.



- Ticket management systems such as ServiceNow, Helix, etc..
- Excel and CAD drawings
- Monitoring and BMS systems such as Johnson Controls, Honeywell, Schneider Electric, etc., to provide visibility into power and cooling infrastructure.



# Operation and Maintenance

## Energy Specialist

### Function:

Responsible for designing, implementing, and optimizing energy solutions to maintain power availability in white rooms, ensuring continuous operation.



- Management of power systems and electrical chain.
- Optimization of energy efficiency.
- Control and execution of scheduled maintenance.



- Maintenance, diagnosis, and repair of cooling and power systems.



# Operation and Maintenance

## Energy Specialist



- Coordinates with the Facility Manager and Infrastructure Technicians.
- Contractor companies.



- Ticket management systems such as ServiceNow, Helix, etc.
- Excel and CAD drawings.
- Monitoring and BMS systems such as Johnson Controls, Honeywell, Schneider Electric, etc., to provide visibility into the power and cooling infrastructure.
- GMAO system pfor maintenance control.
- Multimeters, analyzers, etc.



# Operation and Maintenance

## Cooling Specialist

### Function:

Responsible for designing, implementing, and optimizing cooling solutions to maintain ideal conditions in white rooms, ensuring the safe and continuous operation of the data center.



- Management of HVAC systems and precision cooling.
- Control and execution of scheduled maintenance.



- Monitoring of environmental conditions such as temperature and humidity in server rooms.
- Maintenance, diagnosis, and repair of cooling systems.



# Operation and Maintenance

## Cooling Specialist



- Coordinates with the Facility Manager and Infrastructure Technicians.
- Contractor companies.



- Ticket management systems such as ServiceNow, Helix, etc.
- Excel and CAD drawings.
- Monitoring and BMS systems such as Johnson Controls, Honeywell, Schneider Electric, etc., to provide visibility into the power and cooling infrastructure.
- GMAO system for maintenance control.
- Thermal analyzers, humidity and temperature sensors.



# Operation and Maintenance

## Physical IT Infrastructure Technician

### Function:

Responsible for installing, maintaining, and troubleshooting the physical components of the IT environment, ensuring the operability and security of the infrastructure.



- Installation and maintenance of IT hardware in racks.
- Inspection of cabling and racks.
- Diagnosis and repair of electrical or communication failures.



- Performs provisioning, decommissioning, and modification of IT assets in racks.
- Inspection of physical equipment and review of alerts.
- Support for network engineers and maintenance specialists.
- Verification of compliance with infrastructure regulations.





# Operation and Maintenance

## Physical IT Infrastructure Technician



- Collaborates with Cooling and/or Energy Specialists, network and connectivity teams, physical security, logistics, and warehouse.
- Reports to the Data Center Manager.
- Coordinates with suppliers.
- Communicates with clients and solutions architects.



- Ticket management systems such as ServiceNow, Helix, etc.
- CAD, Excel, Visio, etc.
- DCiM, iTRACS, Schneider Electric, etc
- AIM systems for intelligent cabling.



# 03



## Communications Area

This area is responsible for designing, implementing, and maintaining the network and virtualization infrastructures that enable connectivity, performance, and security in the Data Center. Its role is to ensure that all systems are interconnected and available, both for internal users and for services that rely on the IT environment. It serves as the nervous system of the Data Center, guaranteeing smooth and secure communication between all technological components.

# Communications Area

## Network Engineer

**Function:**

The professional responsible for designing, implementing, and managing communication infrastructures that ensure connectivity, performance, and security in IT environments.



- Design of network infrastructures.
- Maintenance of network infrastructures.
- Configuration of switches, routers, firewalls, gateways, IPS, etc



- Monitoring of network traffic and performance.
- Configuration and maintenance of VLANs, VPNs, subnets, etc.



# Communications Area

## Network Engineer



- Works with IT Infrastructure Technician and Data Center Manager.
- Coordinates with Solutions Architects.
- Also collaborates with Virtualization and Security teams.



- Ticket management systems such as ServiceNow, Helix, etc.
- CAD, Excel, Visio, etc.
- Cisco, HP IMC, Juniper, Arista, Fortinet, etc.
- Communication equipment consoles.



# Communications Area

## Services and Virtualization Administrator

**Function:**

Manages, configures, and optimizes virtualized environments, ensuring the performance, scalability, and availability of IT infrastructure resources.



- Design of network infrastructures.
- Maintenance of network infrastructures.
- Configuration of switches, routers, firewalls, gateways, IPS, etc.



- Monitoring of network traffic and performance.
- Configuration and maintenance of VLANs, VPNs, subnets, etc.



# Communications Area

## Services and Virtualization Administrator



- Coordinates with the Data Center Manager and IT infrastructure technicians.
- Works with Networking and Cybersecurity teams.



- Ticket management systems such as ServiceNow, Helix, etc.
- CAD, Excel, Visio, etc.
- VMware, Hyper-V, Open Stack, Kubernetes, AWS, Azure, etc.



# Communications Area

## Cybersecurity Analyst

**Function:**

Responsible for monitoring, identifying, and responding to incidents and vulnerabilities in the data center infrastructure, ensuring comprehensive protection of information and critical systems.



- Monitoring of cyber threats and attacks.
- Implementation of firewalls and SIEM systems.



- Review of security logs and alerts.
- Vulnerability analysis.



# Communications Area

## Cybersecurity Analyst



- Collaborates with Networking and Management



- Ticket management systems such as ServiceNow, Helix, etc.
- Excel, Visio, etc.
- Palo Alto Networks, FortiGate, SIEM (Splunk, IBM QRadar).
- Intrusion detection and prevention tools (IDS/IPS such as Snort or Suricata)
- Vulnerability scanners (e.g., Nessus or OpenVAS)
- AWS, Azure, etc.



# 04



## Physical Security Area

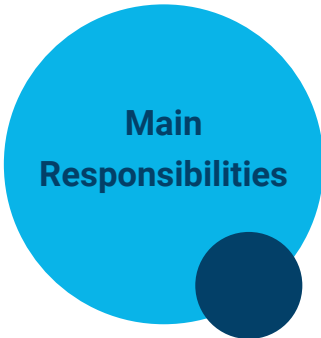
This area protects the integrity of the Data Center infrastructure through access controls, video surveillance, and physical security protocols. Its mission is to prevent intrusions, unauthorized access, and ensure that only authorized personnel can access critical areas. It serves as the shield of the Data Center, ensuring that everything occurring in the physical environment is monitored and safeguarded against external threats.

# Physical Security Area

## Physical Security Specialist

### Function:

Responsible for implementing and managing measures and protocols that protect the data center infrastructure, ensuring its integrity and controlled access.



- Access control to the Data Center and its data.
- Video surveillance.
- Management of security protocols.



- Access inspection and audits.
- Management of video surveillance and access control systems.



# Physical Security Area

## Physical Security Specialist



- Works with the Facility Manager and Cybersecurity.



- Ticket management systems such as ServiceNow, Helix, etc.
- Excel, CAD, etc.
- Biometric access control.
- CCTV (Axis, Bosch)



# 05



## Logistics and Warehouse Area

This area manages the flow of materials, equipment, and spare parts within the Data Center, ensuring their availability, traceability, and proper storage. It coordinates receptions, inventories, internal deliveries, and dispatches, optimizing time and space to keep operations running without interruptions. It acts as the circulatory system of the Data Center, ensuring that all material resources move with precision and efficiency.

# Logistics and Warehouse Area

## Inventory and Distribution Manager

**Function:**

Manages, controls, and moves the physical resources of the data center—a role often ambiguous, which integrates with access control and security, external suppliers, and the physical IT infrastructure technician.



- Management of the reception, storage, and distribution of equipment to pre-assembly warehouses.
- Pre-assembly of assets.
- Inventory control and stock updates.



- Reception of new equipment and verification of condition.
- Organization and classification within the Data Center warehouse.
- Coordination with technicians for the delivery of equipment as needed.



# Logistics and Warehouse Area

## Inventory and Distribution Manager



- Works with the Facility Manager, Network Engineers, Physical IT Infrastructure Technician, Physical Security, and Server teams.



- Ticket management systems such as ServiceNow, Helix, etc.
- Excel, etc.
- Inventory management systems (ServiceNow, NetSuite).
- RFID tagging and stock control databasesstock.

