

## SERVICE SPECIFICATION / NETWORKS AND WIRELESS

# Network core, routing, switching and segmentation

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Switching, routing, VLANs, address plans, security policy, uplinks, PoE, management access, configuration backups, and recovery, designed together.

### Intended outcome

**Current physical and logical diagrams, a VLAN and policy matrix, validated configurations, tested allowed and blocked paths, and recovery access.**

### Service scope

Switching moves frames within network segments; routing moves traffic between networks; security policy controls allowed paths. VLANs create logical separation but are not a complete security control without correctly enforced routing, filtering, identity and management boundaries.

Core design starts with applications, users, devices, data flows and consequences. Hardware throughput matters, but so do port media, uplinks, power budgets, configuration ownership, observability and a recoverable change process.

### How the system fits together

|                             |                                                                  |
|-----------------------------|------------------------------------------------------------------|
| <b>01 Edge networks</b>     | Users, guests, cameras, voice, servers, IoT and OT zones         |
| <b>02 Access switching</b>  | Ports, PoE, VLAN assignment and local uplinks                    |
| <b>03 Core/routing</b>      | Inter-zone paths, upstream routing and failure domains           |
| <b>04 Policy/management</b> | Filtering, identity, logging, administration and recovery access |

### Typical project triggers

- Guest, camera, user and operational devices share one flat network
- Core equipment is at port or throughput limits
- Network diagrams do not match current configuration
- A failure or change affects more systems than expected



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# Delivery and acceptance

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The final project scope identifies quantities, locations, dependencies, and the evidence required at each delivery stage.

### 01 Discover flows

Inventory users, devices, services, providers, management paths and required communications.

**Acceptance evidence: Asset/data-flow map and dependency register**

### 02 Design zones and capacity

Define subnets, VLANs, routing, policies, uplinks, failure domains and management access.

**Acceptance evidence: Logical design, addressing plan and policy matrix**

### 03 Stage and change

Build configurations, validate dependencies and execute within a controlled migration window.

**Acceptance evidence: Reviewed configuration, change log and rollback checkpoint**

### 04 Validate and hand off

Test allowed/denied paths, performance, failover where scoped and management recovery.

**Acceptance evidence: Test matrix, configuration backup and final diagrams**

### Handover deliverables

- Physical and logical network diagrams
- Addressing, VLAN and policy matrix
- Port/uplink and capacity schedule
- Validated configuration backup
- Allowed/denied path and failover test record

Closeout: GHT and the customer review the agreed evidence, record unresolved exceptions and owners, and confirm acceptance against the signed project scope.



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# Planning and scope boundaries

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### Customer and site inputs

- Device, user, application and data-flow inventory
- Provider, WAN, server and cloud dependencies
- Port, media, PoE and throughput demand
- Security zones and permitted communications
- Availability, maintenance and recovery requirements

### Constraints and coordination

- Legacy device and protocol behavior
- Shared provider, power and physical-path dependencies
- Maintenance windows and remote-access continuity
- Throughput impact of security inspection and logging

### Commercial scope and responsibilities

This specification describes the service framework. The signed statement of work defines included equipment, quantities, software licenses, integrations, access windows, schedule, pricing, warranty, and support coverage. Additional construction, electrical work, recurring subscriptions, and ongoing support require an explicit line item.

The customer appoints an acceptance owner and provides authorized access, required site information, and decisions. GHT records assumptions, coordinates assigned work, and submits changes for agreement before expanding the scope.

### Technical references

Cybersecurity and Infrastructure Security Agency — Enhanced Visibility and Hardening Guidance for Communications Infrastructure | Source review: 2026-08-20

IEEE 802.3 Working Group — IEEE 802.3 Ethernet | Source review: 2026-08-20

Telecommunications Industry Association — TIA-568: Commercial Building Telecommunications Cabling Standards | Source review: 2026-08-20

BICSI — Telecommunications Distribution Methods Manual | Source review: 2026-08-20

Service guide and project discussion | Source review: 2026-09-06