



DIRECTORATE OF ICT

# THE ICT SERVICE FABRIC

# THE SERVICE FABRIC

It refers to the foundational network on which all enterprise services, applications and solutions use to interact and communicate with each other.

## 1) ARCHITECTURE

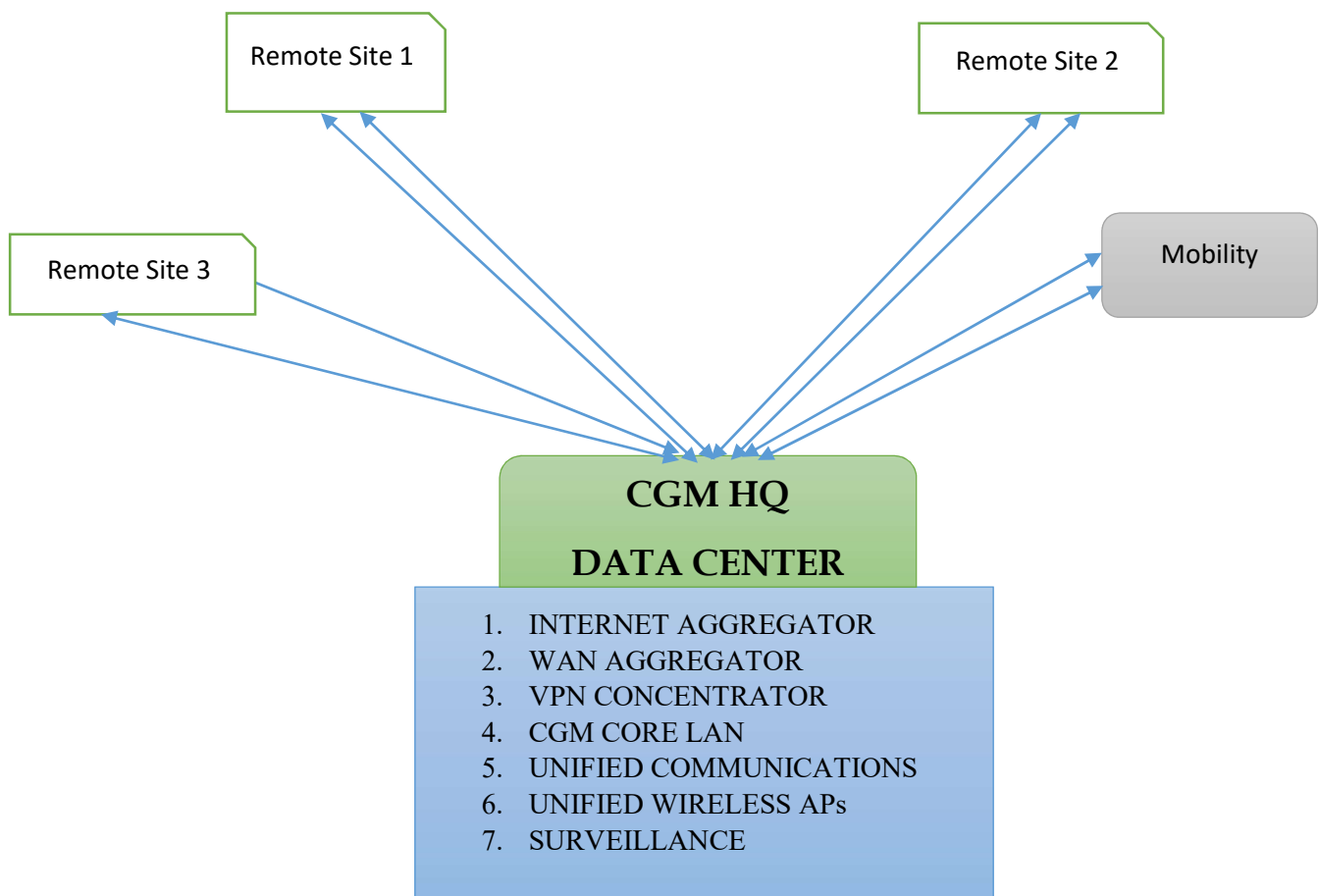
Components;

1. WAN/LAN
2. Security
3. Mobility
4. Unified communications

Architecture Considerations

1. Unified Threat Management, active monitoring, Traffic shaping and Management
2. Internet aggregator
3. WAN aggregator
4. VPN concentrator
5. Unified Wireless network

LOGICAL COUNTY SERVICE ARCHITECTURE



Remote sites include all county offices, hospitals and parastatals.

## 2) DESIGN

Quality attributes;

1. 97% reliability and resilience.
2. Full duplex interoperability
3. Support all traffic
4. Single point security, monitoring and support
5. Independent functional LANs to form an MPLS for high performance
6. Full network segmentation
7. Ease of deployment

Design Considerations;

1. All remote sites range from Large to Extra small buildings
2. The sites link back to resilient core (Headquarters) via OFC and backup microwave.
3. The Core is located at the County Data Center.

Data Center Specifications;

1. Concurrent maintainability with redundant capacity for the data center elements
2. Ability to scale up
3. Meet a minimum of TIA 942 Specifications - Tier II standards

Tier Level	Effect on System Design
Tier II (Tier 1 + Redundant capacity components)	<ul style="list-style-type: none"><li>✓ Redundancy in power and cooling systems</li><li>✓ Generator backup</li><li>✓ Able to sustain 24 hour power outage</li><li>✓ Formal data room separate from other areas</li><li>✓ Annual downtime of 22.0 hours</li><li>✓ Less susceptible to disruption from both planned and unplanned activity</li></ul>

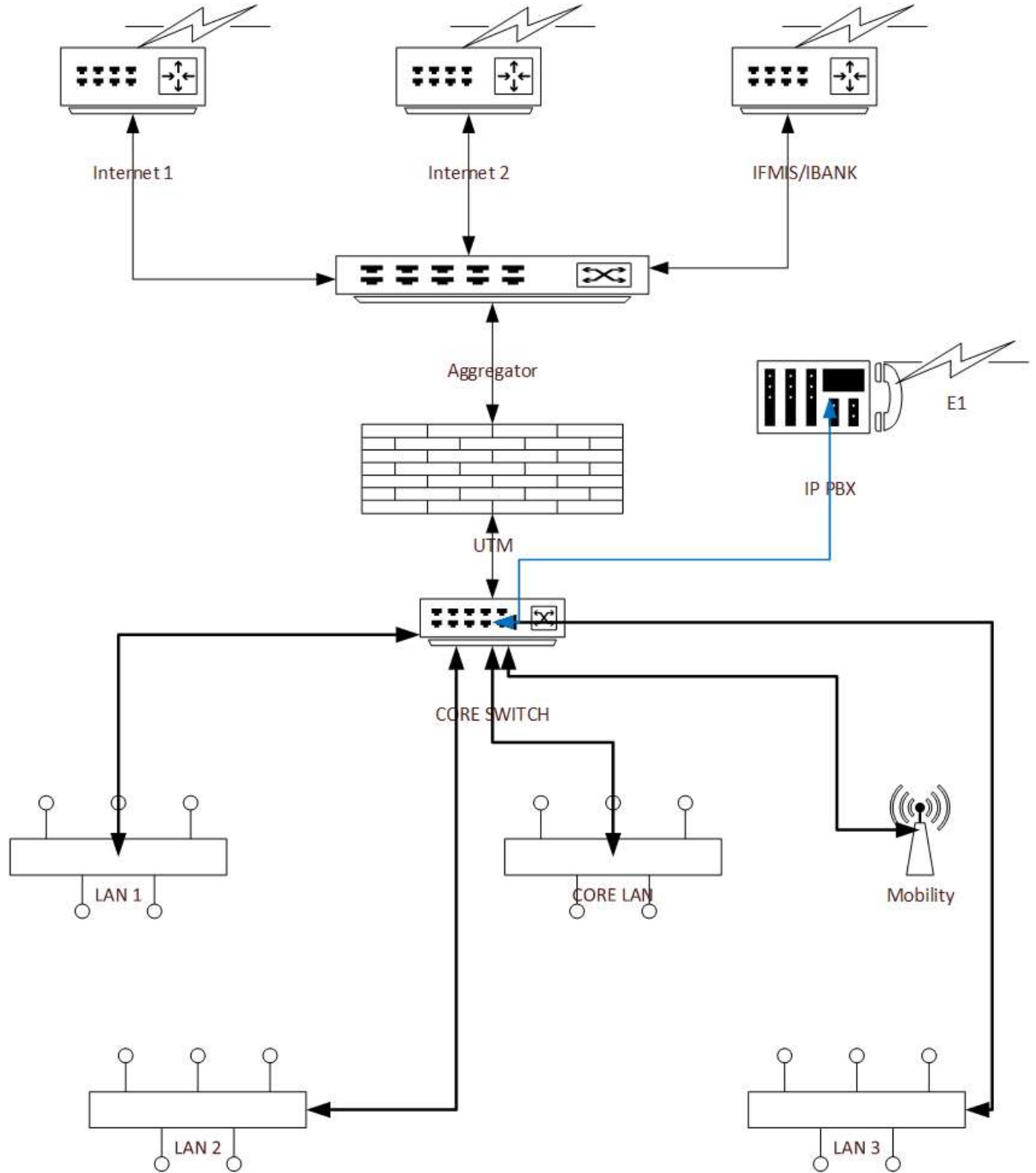
Typical Devices;

Phones, cameras, displays, laptops, desktops, mobile phones, and personal devices (iPod, MP3, etc). Half of all the devices are expected to connect to the network using 802.11 ABGN wireless access.

Mobility;

All users on internet accessing county services have their devices setup to access through VPN.

LOGICAL COUNTY SERVICE DESIGN – L2



**CORE INFRASTRUCTURE QOS;**

1. Backbone OFC.
2. All traffic (Data, Voice, Video).
3. Unified threat full subscription.
4. Full power backup – Green power preferred.
5. Server racks and applications management.
6. Traffic shaping and management.

**SECURITY;**

1. UTM full subscriptions – Firewall, content filters, application filters, antivirus.
2. Enterprise antivirus protection.
3. Software, systems and applications security policy conformance.

**APPROVALS**

<b>Document Title</b>	<b>ICT SERVICE FABRIC DOCUMENT</b>
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