Ghana Telecommunications Company Limited

NGN Migration: Scenario and Strategy

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AGENDA

➢ Network Architecture: Where we are today

➢ Network Architecture: Where do we want to go?

➢ Why Telcos Should Care About NGN

➢ Ghana Telecom's Migration Strategy

➢ TODAY:

SINGLE-SERVICE

VERTICAL NETWORKS

➢ PSTN

➢ PLMN (GSM)

➢ ATM

➢ IP/MPLS

For legacy equipment, the intelligence for service delivery was linked rigidly to the hardware for call connection.

One Network Per Service - Challenges

- ➤ High CAPEX
- ➤ High OPEX
  - Different subsets of technicians per technology.
  - Different stock of spare parts per vendor.
  - Different support contracts per equipment type.

- ➤ Variations in enhanced facility features.
  - Pass Word usage between NEAX and FETEX
  - Some features unavailable on certain switches.
- ➤ Customer Dissatisfaction

➢ TELEX EXCHANGE

➢ MARINE COMMUNICATONS

➢ HDX 10 (PSTN)

TELEX

➢ Telex services introduced in 1961 using step by step Strowger Switch.

➢ Strowger switch replaced by ELTEX in 1982.

➢ Telex services were stopped and hardware sold as scrap in 2004.

MARINE COMMUNICATIONS

➢ Ghana Telecom provided Marine Vessel to Land Communications using HF technology.

➢ With the availability of IMMARSAT services on ships, marine communications traffic virtually disappeared.

➢ Equipment built for this particular service was rendered useless. Retrain and redeploy staff.
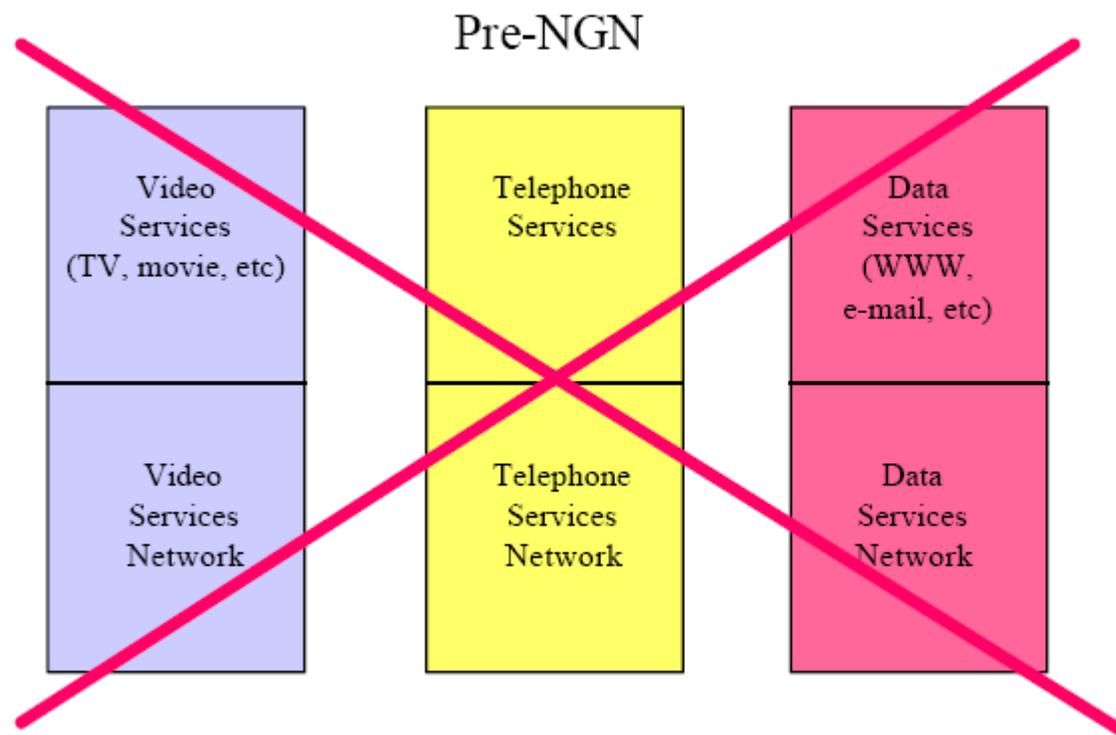
DECOUPLE THE SERVICE INTELLIGENCE FROM THE HARDWARE PROVIDING CALL CONNECTION AND TRANSPORT.

➢TOMORROW:

MULTI-SERVICE

INTEGRATED NETWORK

The NGN Paradigm Shift
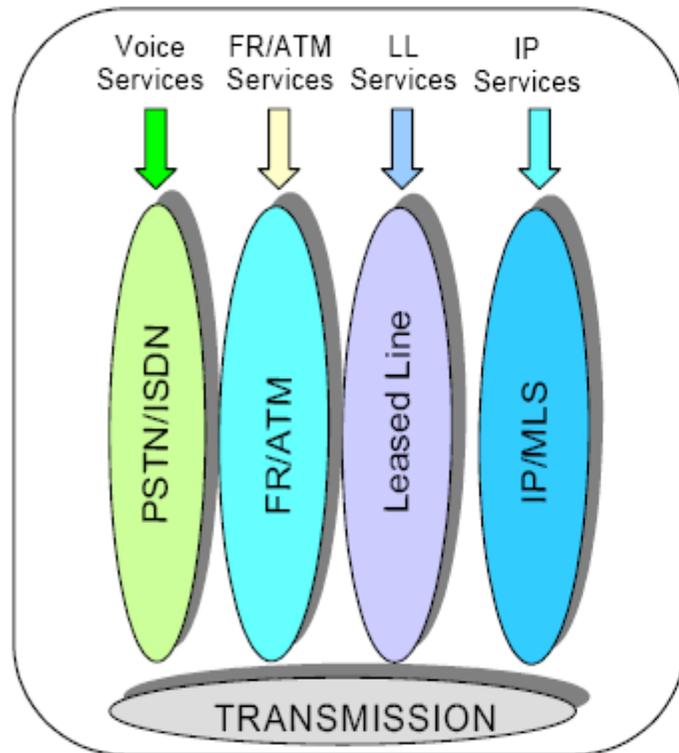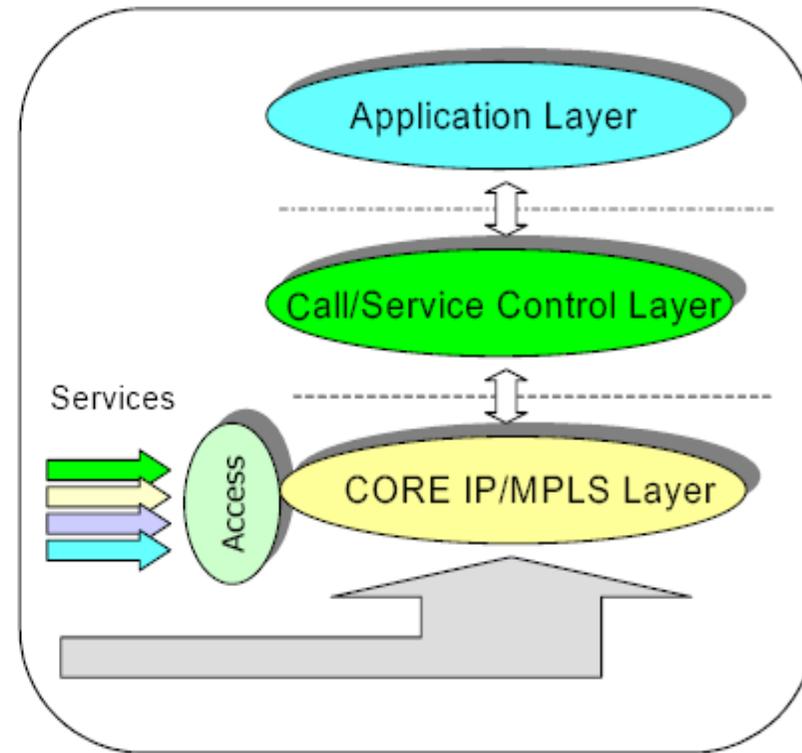
What's New: Horizontally-integrated Network

Video Services (TV, movie, etc)

Data Services (WWW, e-mail, etc)

Telephone Services

NGN Services

Point to point, Point to multipoint, Multipoint to multipoint

NGN Transport

Point to point, Point to multipoint, Multipoint to multipoint

ITU-T Recommendation Y.2011

ITU-T Workshop on NGN (jointly organized with IETF)
Geneva, 1-2 May 2005

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Value Proposition for NGN Architecture. (Why Should Telcos Care about NGN?)

In the new millennium business success for public network operators requires finding new ways to add value to their transport services..

Value Proposition for NGN Architecture. (Why Should Telcos Care about NGN?)

➢ Enabler of cost effective support for new suite of sophisticated services.

➢ Cost reduction by eliminating service specific proprietary solutions.

**Value Proposition for NGN Architecture.
(Why Should Telcos Care about NGN?)**

➢ Reduce time to market and life cycle costs of offering new Services.

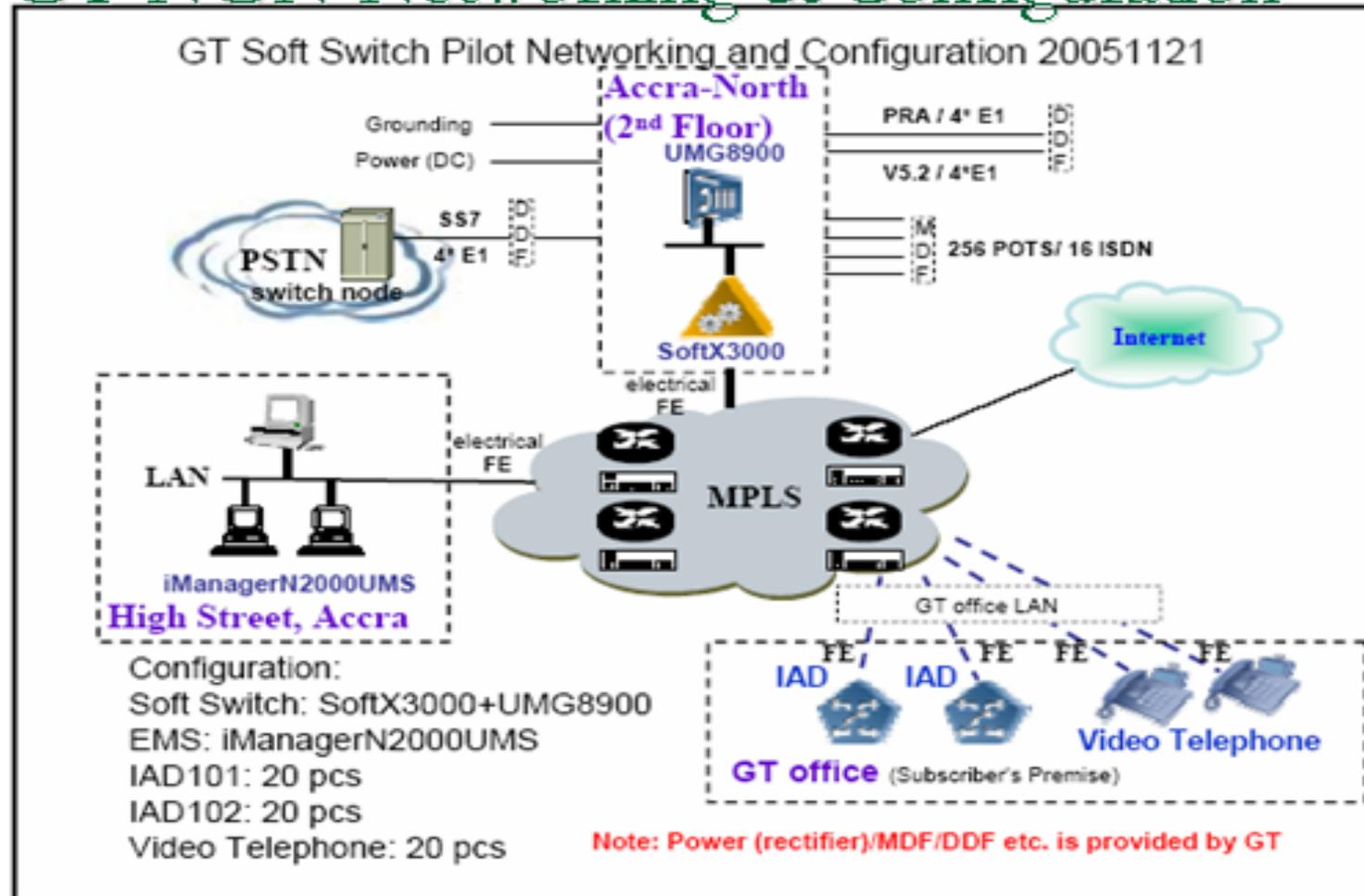➢ Enable Telcos to deploy advanced services and thereby remain competitive

➢The Overall Strategy is a Gradual Replacement of old equipment as they come to the end of their useful lives.

➢Introduction of Network Elements with Open Interfaces & Compatible with NGN Architecture.

➢Eg. nHLR, IPTV
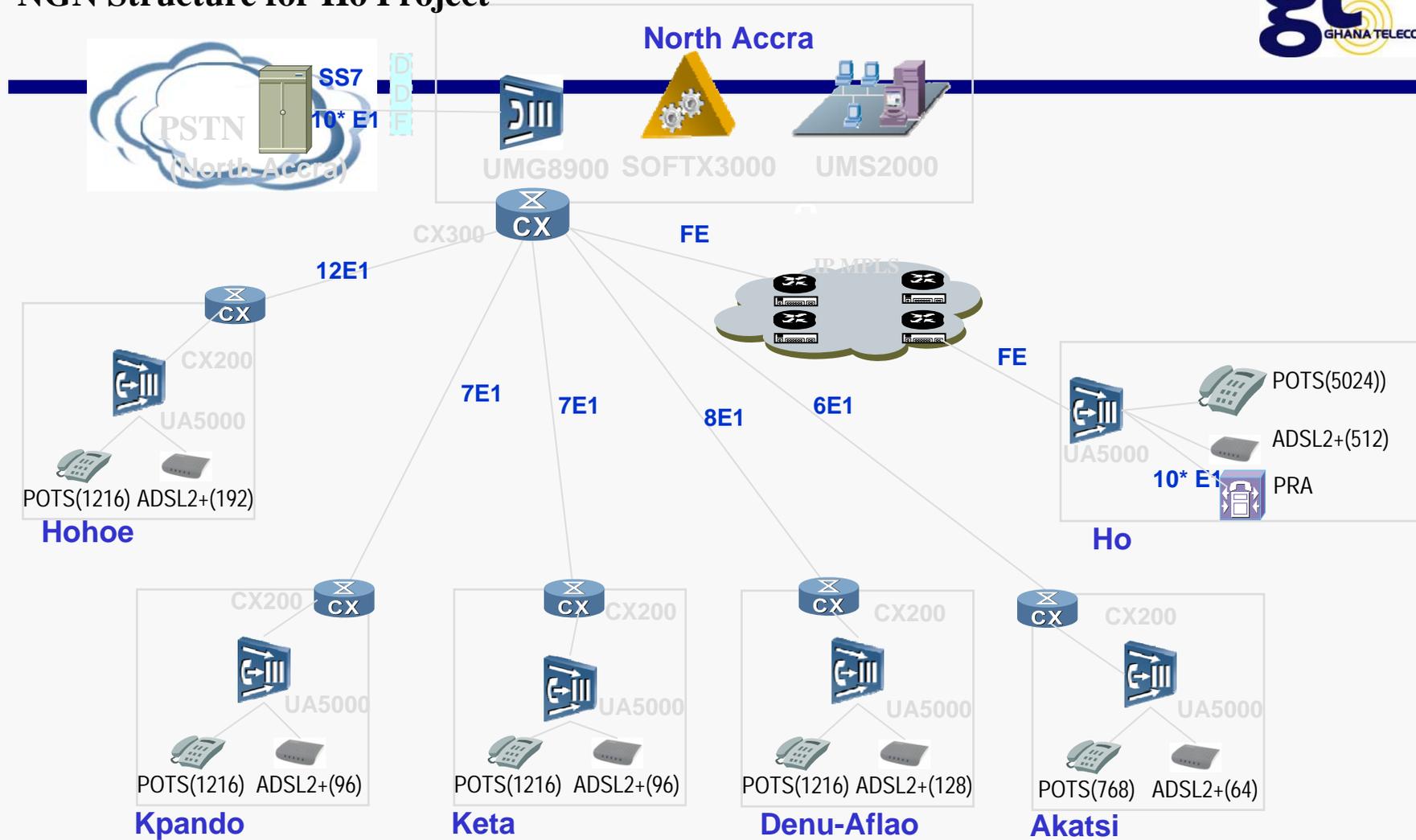
Pilot for NGN Migration @ Ghana Telecom

Replacement of Old Switches

➢ Small Capacity PSTN Switches are being replaced by NGN-ready Multi Service Access Nodes.

➢ Network Extension to new areas will be done by NGN access devices (MSANs and IPDSLAM) with the capability to deliver Triple Play Services.

NGN Structure for Ho Project

North Accra

SS7

10* E1

DDF

PSTN (North Accra)

UMG8900 SOFTX3000 UMS2000

CX300 — CX

FE

IP MPLS

12E1

CX200 — CX

UA5000

POTS(1216) ADSL2+(192)

Hohoe

7E1   **7E1**   **8E1**   **6E1**

FE

UA5000

POTS(5024))

ADSL2+(512)

10* E1   PRA

Ho

CX200 — CX

UA5000

POTS(1216) ADSL2+(96)

Kpando

CX200 — CX

UA5000

POTS(1216) ADSL2+(96)

Keta

CX200 — CX

UA5000

POTS(1216) ADSL2+(128)

Denu-Aflao

CX200 — CX

UA5000

POTS(768) ADSL2+(64)

Akatsi

Note: The transmission bandwidth is based on the assumption that the average bandwidth for each ADSL2+ subscriber is 1M

gt GHANA TELECOM

Mobile Expansion

➢ The next phase of the Mobile expansion will be done using softswitch technology

➢ Fibre in the Metro will be deployed to make the access NGN-ready.

Upgrade of IPMPLS Core

➢ The existing IP/MPLS core will be upgraded for higher capacity and reliability.

➢ Metro Ethernet will be constructed in Accra to aggregate IP traffic.

THANK YOU!!!