Next Generation Networks (NGN)

Architecture – Implementation – Impact on service offer

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Objectives of this presentation

- To bring to the attention of operators, the issue of NGN, and the commercial implications
- To stimulate consideration of these issues
- To prepare for future challenges

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PLAN OF THE PRESENTATION

I- NGN Network Architecture

II – Migration strategies

III – Impact on service offer

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NGN Network Architecture

I.1 – Preliminary

I.2 – Architecture of the present PSTN

I.3 – Evolution toward NGN networks

I.4 – Why NGN?

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NGN Network Architecture

- I.1 – Preliminary

Nowadays classical PSTN networks are being replaced by new ones called New Generation Networks (NGN)

This change will perhaps be on the same scale and have the same time frame as analogue network to digital network.

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NGN Network Architecture

- I.1 Preliminary

This change is neccessary because of the increase in new services (mobile, internet) and the needs of customers

This change is made possible because of the progress of technology.

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NGN Network Architecture

- Architecture of the present PSTN

The architecture of PSTN networks is made up of an access network (wire or radio) with a hierarchy of switches, and with transmission links.

To this network, another is joined, for data transmission.

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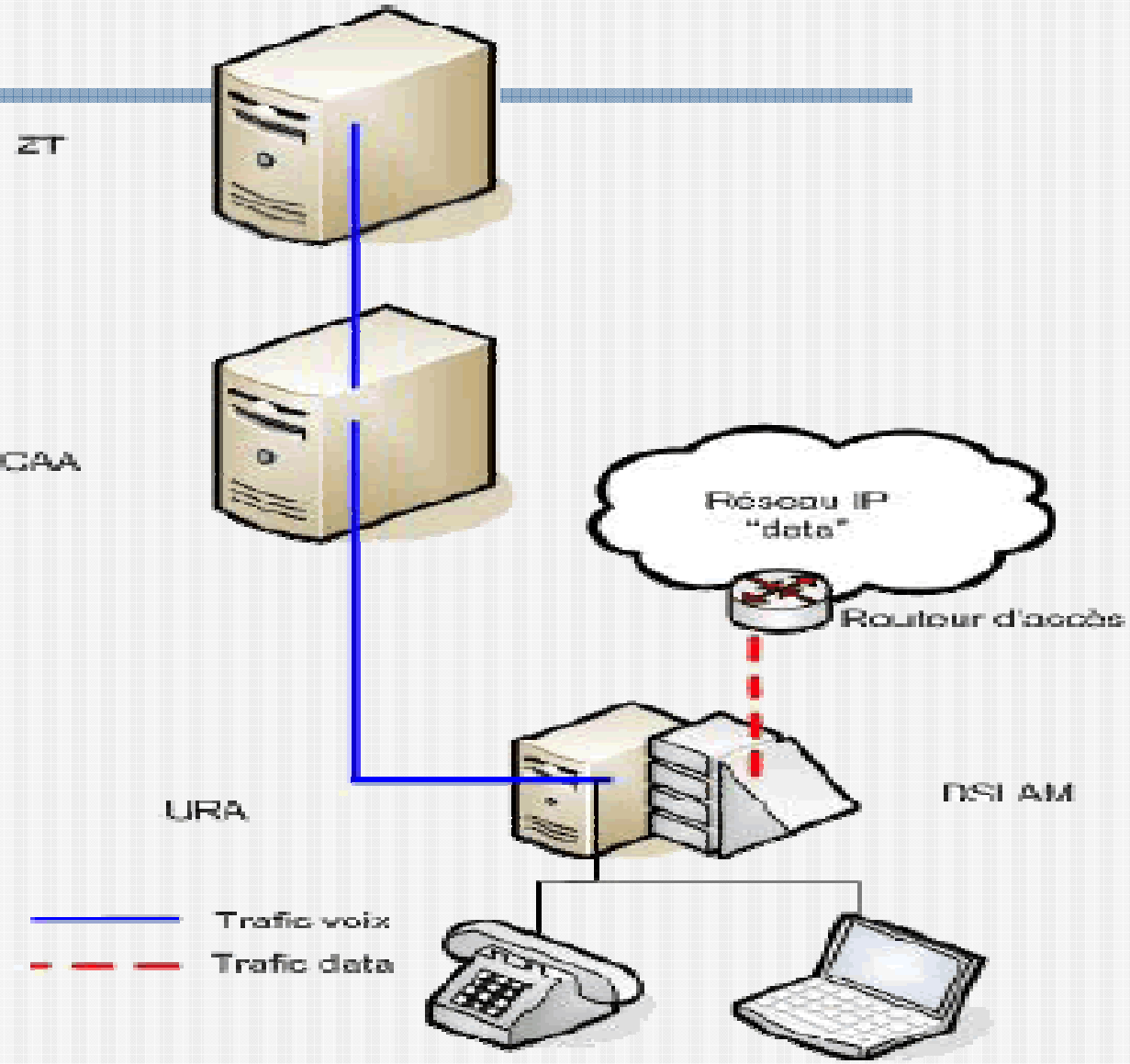
Present PSTN Architecture



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NGN Architecture

I.3 – Toward the NGN Network

A packet-based network able to provide telecommunication services and able to make use of multiple broadband, QoS-enabled transport technologies.

In NGN networks, service-related functions are independent from underlying transport-related technologies.

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NGN Architecture

I.3 - Progress towards NGN networks

It enables unfettered access for users to networks and to competing service providers and/or services of their choice.

It supports generalized mobility which will allow consistent and ubiquitous provision of services to users.

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NGN Architecture

I.3 - Progress towards NGN networks

An NGN network is a package network capable of assuring telecommunication services which use multiple transport technologies to broadband taking into account quality of services.

With NGN, the functions aligned to services are independent of technologies aligned to transport.

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NGN Architecture

I.3 - Progress towards NGN networks

It allows users free access to networks and services or service suppliers of their choice.

It takes care of generalised mobility which allows consistent supply at the same time as services to users.

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I.3 - Progress towards NGN networks

An NGN network can be seen as a unified network that takes into account all available networks capable of supplying all telecommunication services.

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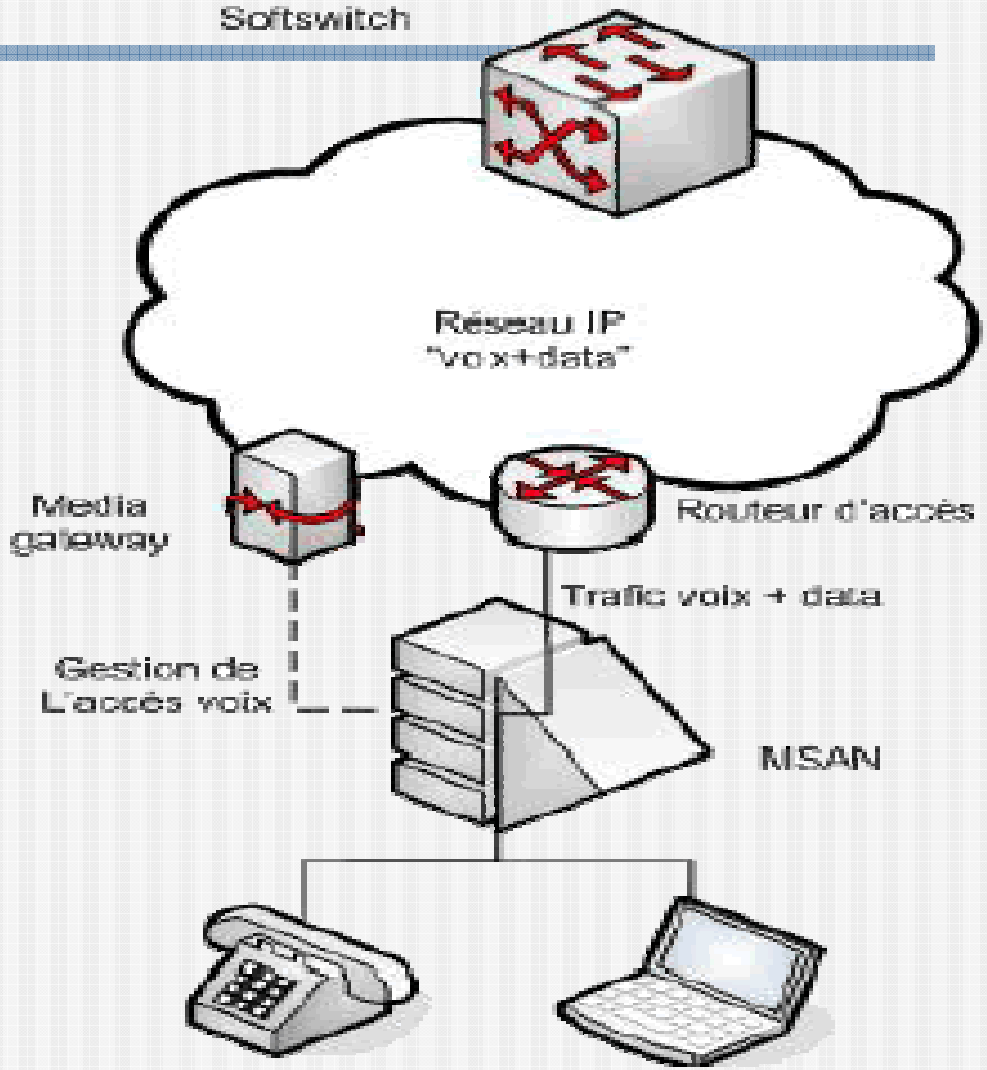
NGN Architecture



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Migration Towards NGN

- II.1 Migration strategies
- II.2 Some examples
- II.3 Possible Implementation in Africa

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Migration towards NGN

- II.1 Migration strategies depend on many factors :

Competition pressure

Level of the network

Customer needs

Finance of the company

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Migration towards NGN

- II.1 Migration strategies

Competition pressure

It can lead to migration in a quick and uniform way. The new NGN network is used to overtake the competitor.

We deal in this case with a network that is entirely IP.

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Migration towards NGN

- II.1 Migration strategies

Level of the network

Elements of the present network will, in the end, be replaced by NGN network elements and progessively, the present network will become NGN.

In this case, the migration will be gradual.

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Migration towards NGN

- II.1 Migration strategies

Customer needs

There will be a gradual migration to satisfy demand in accordance with the needs of customers.

The migration is gradual and can last for more than 20 years according to some specialists.

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Migration towards NGN

- II.1 Migration strategies

Finance of the company

This is a key factor of the migration. The economic profitability of the migration must be a determining element.

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Migration towards NGN

- II.2 Some examples

Two examples to illustrate the migration :

BT

Telecom Italia

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Migration towards NGN

- II.2 Some examples

BT

Champion of full IP migration in Europe by disinvestment in present networks.

£10 billion investment plan over five years.

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Migration towards NGN

- II.2 Some examples

BT

Move of about 30 million lines to the NGN network by the end of 2009.

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Migration Toward NGN

- II.2 Some examples

Telecom Italia

Start of the migration in 2004 with international and national transit switches.

It is estimated that in 2010 all the network will be NGN with the replacement of subscriber switches.

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Implementation in Africa

- II.3 Possible implementation in Africa

Many operators have undertaken the modernization of their telecommunication networks over the last few years.

Investments have not yet been profitable and equipment has not yet been amortized.

Next Generation Networks (NGN)

Implementation in Africa

- II.3 Possible implementation in Africa

A clear choice has to be made which takes into account the present evolution of the networks, the present infrastructure, the needs of the customers, and competition.

The migration towards NGN is not an obligation but a neccessity dictated by factors listed above.

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Implementation in Africa

The migration can be done in a gradual way, in three or four stages, according to the circumstances of each operator.

The first stage of the move can be done by the replacement of international and national transit switches in the operator's network.

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Implementation in Africa

The second stage will allow, for example, for the partial or total replacement of the suscriber's switches with routing autonomy.

At this stage of the migration one must deal with business zones which are towns or areas that represent an important part of income.

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Implementation in Africa

In these business zones the switches and access network will have priority in the migration.

The third stage will be the total migration of subscriber switches with routing autonomy.

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Implementation in Africa

The last stage will consist of migrating the access network to rural areas.

It will be done gradually according to the economic development of those areas.

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Impact on the service offer

III.1 – Advantages for customers

III.2 – Adjustment for operators

Next Generation Networks (NGN)
Impact on the service offer

- III.1 – Advantages for customers

They benefit from the commercial and technological evolution of the sector

The NGN make it possible for customers to have all types of service (voice, data and images) on the same support regardless of where they are.

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Impact on the service offer

- III.1 – Advantages for customers

There is the further benefit of a unified and simple offer, generally fixed fee.

They benefit from the general lowering of rates, they have a better knowledge of services and their prices.

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Impact on the service offer

- III.1 – Advantages for customers

They can be more demanding in terms of service offer, of quality of service, and of tariff offer.

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Impact on the service offer

III.2 – Adjustment for the operators

The service offer will change in every country. Revenues will come more and more from data that estimate content production.

More companies will enter the voice market (Reseller, MVNO, Cable Operators, content supplier).

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III.2 – Adjustment for the operators

Incumbent operators must adjust or they will risk facing grave difficulties.

Research on new types of revenue that will compensate for the drop in income related to voice will have to be undertaken as part of this adjustment.

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Impact on the service offer

- Conclusion

Profound changes will affect the telecommunication sector and incumbent operators in particular.

We must anticipate those changes so that we can benefit from them and remain leaders in the market.

Next Generation Networks (NGN)
Impact on the service offer

- Conclusion

This anticipation should include mastering of the migration towards NGN and scenarios for implementation for incumbent operators.

A better knowledge of offers to customers to guarantee revenus.

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THANKS FOR YOUR ATTENTION