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# ITU Arab Regional Workshop on Mobile Roaming: National & International Practices

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Roaming Service in Sudan – improvement & Challenges

Zain , MTN & Sudani



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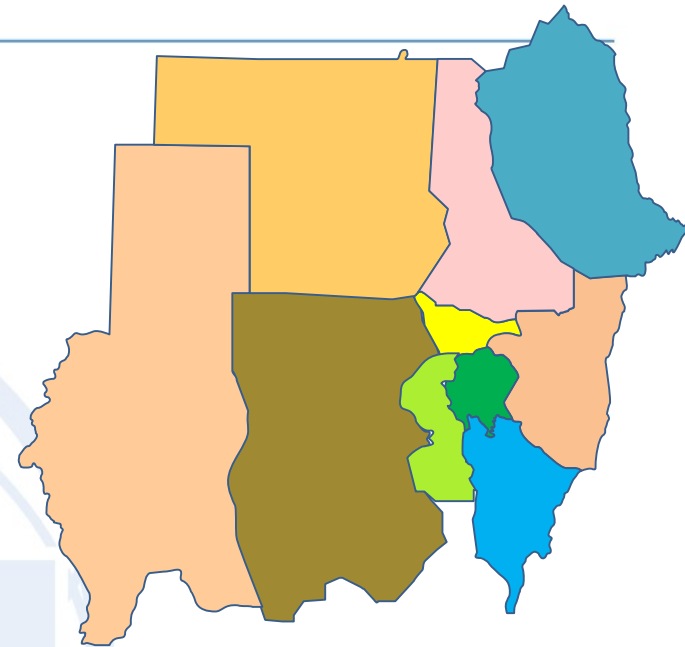
## Content

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- Telecom History in Sudan
- Mobile History in Sudan – Establishment
- Roaming Service Establishment - History in Sudan
- Roaming Challenges in Sudan
- Recommendations

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## Telecom History in Sudan



- Sudan had telecommunication services as early as 1897. All of the organizations established to deliver telecommunications services were government-owned.

## Providers:



Operator/service provider	Date of license	Technology	Subscribers
<a href="#">Zain Sudan</a>	14 August 1996	3.5G (GSM and WCDMA)	12,000,000+
<a href="#">MTN Sudan</a>	25 October 2003	3G+ (GSM)	1,788,237
<a href="#">Sudani One</a>	2 February 2006	3.75G (CDMA)	3,000,000
Canar Telecommunications	April 2005	3G (CDMA)	unknown

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## Mobily History in Sudan - Establishment



- Zain Sudan (formerly Mobitel) is the pioneer of GSM services in Sudan, being the first to offer mobile operations back in February 1997. It was previously a joint venture between the Sudanese Telephone Company Ltd and several private shareholders until 2006.

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# Roaming Service In Sudan



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## Zain Sudan

- First operator launched roaming service in Sudan since 1999.
- Zain launched 3G for Roaming in 2009,
- Zain Sudan coverage expanded to include 467 GSM- voice live operators , 366 GPRS and over 100 prepaid roaming live operators,
- Zain NRTRDE Complaint operator, has over 300 live partners.

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## MTN Sudan

- MTN launched GSM –voice in 2005 and 3G started in 2010,
- Now MTN has GSM 328 live operators,
- Prepaid roaming service enable in 2005 and now has reached to 96 live partners.
- GPRS 2006 – 156 live operators.
- NRTRDE started in 2011 and now 215 live agreement



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## Sudatel Sudan -Sudani

- Sudani started based on dual IMSI solution base with Vodafone HUB 2009 connecting 300+ after the migration from CDMA into GSM network.
- Due to some technical challenges with dual IMSI solution roaming service were disconnected then remain direct agreement only with the top destinations.
- To expandable roaming coverage Sudani joint MACH L2O hub and start having direct agreement over the world.
- Now the coverage in 90+ countries 172 operator 40 prepaid roaming partnerships and 44 GPRS roaming.
- NRTRDE launched and start signing with Top destination.

# Roaming Challenges in Sudan

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- Sanction and payment complications represent the biggest challenge to all operators in Sudan .
- Maintaining the profitability due to aggressive IOT deals , sometimes the operators are demanding very aggressive rates and even the higher volume in return not justifying the profitability gaps .

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## Anti-Steering & WiFi:



- Anti-Steering tools are not only adding dissatisfaction from the customer's perspective ,but also represent problematic situation in terms of meeting the committed volume for discount deals .
- Increasing competitive threats from OTT (over-the-top) players and WiFi.
- Roaming Hub connectivity using dual IMSI solution .
- Unusual method of charging such as in GPRS service (charge per PDP session ) as well as call initial set up fees .

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## Roaming Fraud :



- Roaming Fraud is the use of a wireless operator's services (away from the home country) with no intention to pay for calls made. It was take up to three days (now 4 hours) for the home network to receive call detail records (CDRs) which provides an opportunity for the **fraud** to occur and can lead to significant losses.

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## QoS:

- The quality of the services , many times the disruption or degradation of roaming services goes unnoticed for a long time, resulting in loss of revenue, as roamers tend not to call customer care promptly. Inbound roamers, on encountering a problem, would rather move to another available network, as they have choice and no loyalty to any visited network, causing instant churn. Outbound roamers may not report back, as they are in a foreign country and report only after arrival to their home network .

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## LTE Roaming:



- LTE Roaming requires operators to support a complex technology with a number of frequency bands, protocols, interfaces, and network elements , The operators also need to put new LTE roaming agreements in place with other mobile operators. Where GPRS roaming worked through individual operators having relationships and dedicated links with other specific partners, LTE needs new commercial agreements and technical connections to support the new IP signaling infrastructure .

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# Continue ...

- Roaming Hub connectivity using dual IMSI solution .
- Unusual method of charging such as in GPRS service (charge per PDP session ) as well as call initial set up fees .



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## Recommendations:

- As we mentioned above roaming service in Sudan has a lot of challenges and need different solutions to improve/ enhance the service to be more profitable and to keep pace with international operators over the world;
- Therefore, there are some recommendation we will list them down.



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## Peer connection between roaming hubs:



To extended the roaming coverage easily and quickly as this is the first purpose to open connectivity solution per connection between hubs will expand the coverage for operators and this is the main important item in roaming.

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## Regulated IOT top destination:



As we all know most important item affecting the customer usage and experience the roaming fees; as roaming service is a luxury service and it's very expensive due to it's different cost effecting it (roaming partners' IOT, interconnection cost, signaling , currency exchange, etc.) Sudan needs to have with in Middle East (we need ITU and GSMA support in this),

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## National Roaming:



- National roaming refers to an agreement among operators to use each other's networks to provide services in geographic areas where they have no coverage. Such arrangements effectively multiply any one carrier's ability to cover the entire country, without actually having to deploy infrastructure everywhere.

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## Sanctions and Payment Issues:

Sanctions on Sudan been big barrier for all organization and companies when they need to exchange forging currency;

to solve this payment issue we are suggesting ex. Adding annex in AA13 (roaming agreement) mentioning new methodology for direct payment solution considering Sudan situation for roaming partners from the beginning.

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## QoS SLA :

- To maintain and organize relation and business flow between operators and avoid any blockage and misunderstanding;

Applying QoS Service Level Agreement between operators to will enhance roaming service quality and mandate this to provide superior experience to customers in visited networks;

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## LTE & OTT Services:



All world now moving to VoIP services – OTT services and this defiantly will affect telecom operators and drop int'l and roaming revenue.

To benefit from OTT services, operators have to launch LTE roaming ASAP then offering an attractive offers (bundles and data packages) to encourage customers to use LTE roaming.



**THANK YOU**

Open Discussion