International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

MENOS in Media Applications Sudan News Agency as Case Study

Zynab Abdelgader Adlan[1], Dr. Amin Babiker[2]

Department of Communication Engineering, Al-Neelain University

Abstract: ***Multimedia Exchange Network Over Satellite (MENOS) network is operated by the Arab States Broadcasting Union (ASBU) which allows certified build their own Virtual Private Network (VPN) for their own secure operation independent from the other users of the network. This paper explain why Sudan News Agency (SUNA) used MENOS network***

Keywords: MENOS, QoS, VCM (Variable Coding Modulation)

1. Introduction

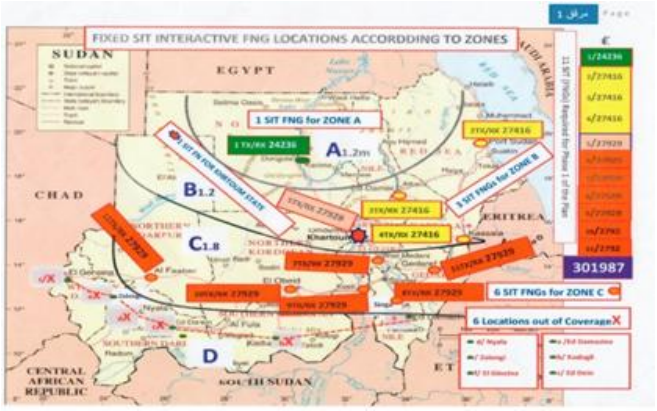
The planned SUNA network is described as being operated as subnet of the ASBU Multimedia Exchange Network Over Satellite (MENOS).

The MENOS concept provides a lot of interesting from which the SUNA network also will benefit. The MENO network is very efficient, highly flexible and scalable network concept and architecture that results from the rather unique combination of field-proven satellite broadband system on one hand and the most advanced technologies in the field of transmission. Content exchange and network operation on the other hand. The core of the IP networking system is based on Newtec's 2WaySat product, a large scale satellite IP broadband network compliant with the DVB-RCS standard and equipped with advanced Quality of Service (QoS) mechanisms. This core system is extended with single Channel Per Carrier (SCPC) capacity using DVB-S2 compatible Variable Coding Modulation (VCM) transmission technology, for the high quality video contribution services. The flexibility of MENOS architecture allows the definition and the development of multitude of application-oriented sub-network or Virtual Private Networks (VPN), all benefit from the economy of scale and efficiency of a large network managed by a single operator.

2. Sudan Geographical Situation

The Sudanese territory is very vast. The total surface of Sudan is approximately 1.881million square kms.

The country is divided into 16 provinces which are organized in national federation. These provinces have a degree of autonomy in certain area amongst which the distribution of radio and TV programs to their respective provinces. Due to the vastness of territory, the territory is covered by satellite KU-band Arabsat 5B (Badr5) for the North and Central Sudan and by C-band over Arabsat 2B (Badr2) for Southern and Western Sudan.



Due to the political evolution in the country over the past years enormous efforts are being made in infrastructure areas such as highways and telecommunication, especially, towards the south and the south-west of country. The new infrastructure projects will provide a better connectivity of the people with the Centre of country. National news and country's political decisions will be made available towards a larger part of the population as news gathering from the remote regions will arrive in Centre of country. The telecom infrastructure will thus the improve the national coherence.

Satellite network provide an efficient fast and cost effective way of provide the latest technologies in communication. Satellite networks allow also covering vast Geographical areas and providing network connectivity to these areas.

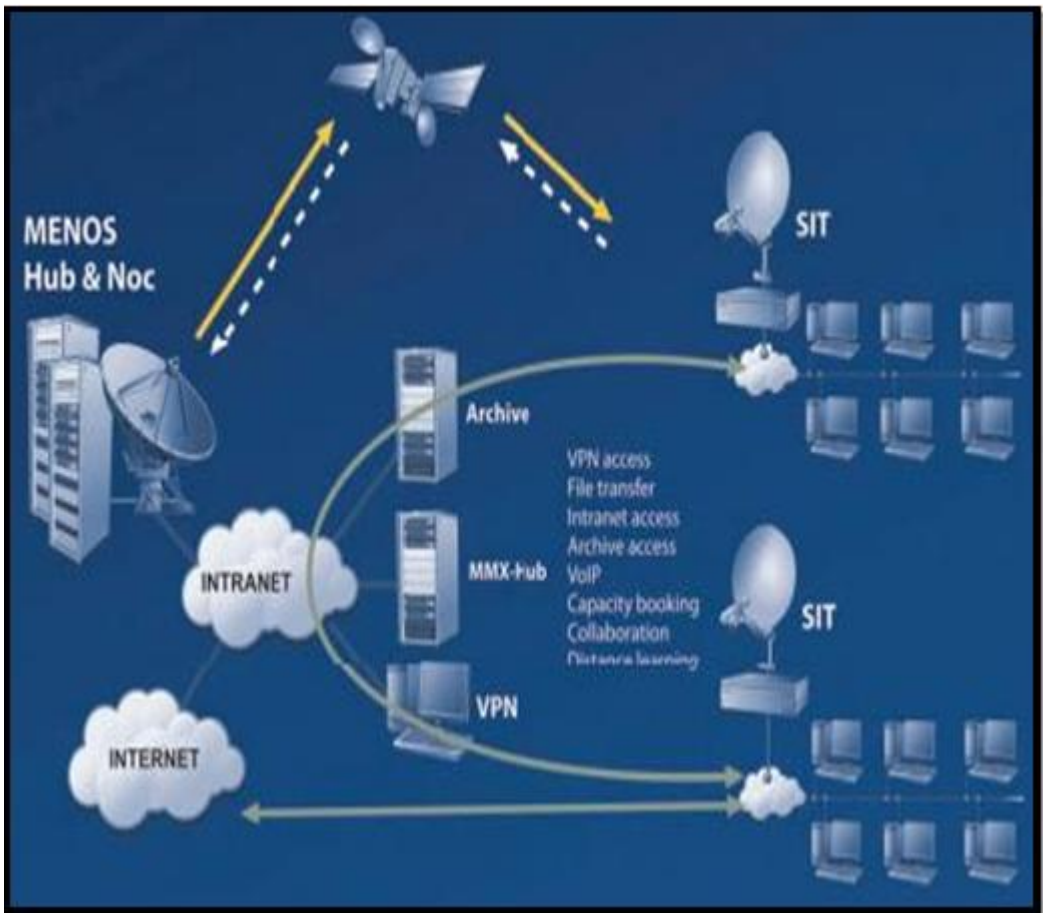
People in remote areas can now have access to telecommunication services such as voice and data (e.g. internet) that are considered as the basic services, next other services.

3. Suna Service Requirements

Suna is requiring a network for exchange of news data. The news content is gathered from journalist and editors located in about 160 news Centre distributed over the country.

SUNA is looking to offer the following services to the user of its network:-

- File transfer.
- Voice communication between the different SUNA-site using
- VoIPTechnology as a closed user group.
- Digital satellite news gathering using mobile terminals for radio and TV content.
- Video contribution/distribution.
- Audio contribution/distribution
- Store and forward.
- Intranet.
- Internet Access
- Multicasting of audio and video.
- Archive of audio and video content.
- VPN or subnets.
- Video /audio teleconferencing.
- Distance training and learning on national and regional basis using concepts "Train the Trainers" and individual and classical courses.



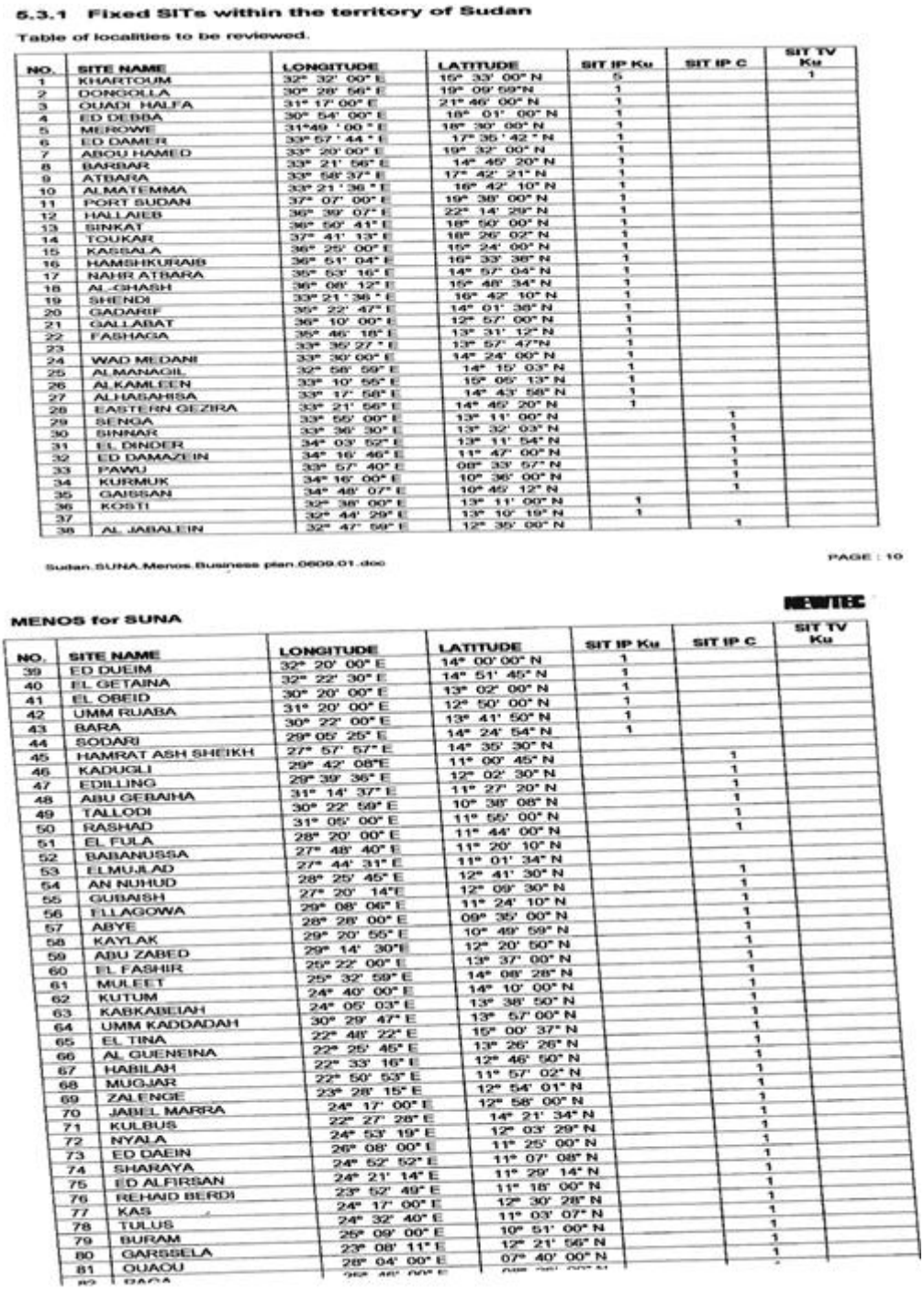
4. MENOS ASBU Network

The MENOS network is a broadband IP access on which an extensive of value added services is being developed. The available vas-set will allow network operators to offer attractive and efficient services to their customer base. Due to the use of IP-technology and advanced security mechanisms, the MENOS-ASBU network will allow the partitioning of the one physical network into multiple individual logical networks totally independent from one other. These individual networks are called Virtual Private Networks (VPN). THE MENOS-ASBU networks can thus be considered as a multiple service provider network.

MENOS FNG is also based on open standards, such as DVB-S2 and MPEG-4 AVC SD. The rapid rate of development of MPEG-4 AVC equipment ensures that quality for a given bit rate will continue to improve, making it a very competitive and future-proof environment for broadcasters investment. Other mobile satellite system FNG solutions are based on unilateral (point-to-point) contributions from the news reporters to the news room of the individual news agency or broadcaster. Any further redistribution of this content is managed at the discretion of the receiver, and this can introduce unacceptable delays and costs for transmitting breaking news events. By contrast, MENOS supports a unique capability of multilateral live FNG: The contributing flyaway FNG can choose to multicast the live content to a selected list of MENOS TV and FNG receivers, gaining the capability to simultaneously contribute live to multiple news rooms. His network excellently sited to host the SUNA network for their current and future services

5. MENOS-DSNG

Suna is planning to operate 4 SIT-DSNGsTV within its network (Digital Satellite News Gathering).



5.3.1 Fixed SITs within the territory of Sudan

Table of localities to be reviewed.

NO.	SITE NAME	LONGITUDE	LATITUDE	SIT IP Ku	SIT IP C	SIT TV Ku
1	KHARTOUM	32° 32' 00" E	15° 33' 00" N	5		1
2	DONGOLLA	30° 28' 56" E	19° 09' 59"N	1		
3	OUADI HALFA	31° 17' 00" E	21° 46' 00" N	1		
4	ED DEBBA	30° 54' 00" E	18° 01' 00" N	1		
5	MEROWE	31°49 ' 00 " E	18° 30' 00" N	1		
6	ED DAMER	33° 57 ' 44 " E	17° 35 ' 42 " N	1		
7	ABOU HAMED	33° 20' 00" E	19° 32' 00" N	1		
8	BARBAR	33° 21' 56" E	14° 46' 20" N	1		
9	ATBARA	33° 58' 37" E	17° 42' 21" N	1		
10	ALMATEMMA	33° 21 ' 36 " E	16° 42' 10" N	1		
11	PORT SUDAN	37° 07' 00" E	19° 38' 00" N	1		
12	HALLAIEB	36° 39' 07" E	22° 14' 28" N	1		
13	SINKAT	36° 50' 41" E	18° 50' 00" N	1		
14	TOUKAR	37° 41' 13" E	18° 26' 02" N	1		
15	KASSALA	36° 25' 00" E	15° 24' 00" N	1		
16	HAMSHKURAIB	36° 51' 04" E	16° 33' 38" N	1		
17	NAHR ATBARA	35° 53' 16" E	14° 57' 04" N	1		
18	AL-GHASH	36° 08' 12" E	15° 48' 34" N	1		
19	SHENDI	33° 21 ' 36 " E	16° 42' 10" N	1		
20	GADARIF	35° 22' 47" E	14° 01' 38" N	1		
21	GALLABAT	36° 10' 00" E	12° 57' 00" N	1		
22	FASHAGA	35° 46' 18" E	13° 31' 12" N	1		
23		33° 35' 27 " E	13° 57' 47"N	1		
24	WAD MEDANI	33° 30' 00" E	14° 24' 00" N	1		
25	ALMANAGIL	32° 58' 59" E	14° 15' 03" N	1		
26	ALKAMLEEN	33° 10' 55" E	15° 06' 13" N	1		
27	ALHASAHISA	33° 17' 58" E	14° 43' 58" N	1		
28	EASTERN GEZIRA	33° 21' 56" E	14° 46' 20" N	1		
29	SENGA	33° 55' 00" E	13° 11' 00" N		1	
30	SINNAR	33° 36' 30" E	13° 32' 03" N		1	
31	EL DINDER	34° 03' 52" E	13° 11' 54" N		1	
32	ED DAMAZEIN	34° 16' 46" E	11° 47' 00" N		1	
33	PAWU	33° 57' 40" E	08° 33' 57" N		1	
34	KURMUK	34° 16' 00" E	10° 36' 00" N		1	
35	GAISSAN	34° 48' 07" E	10° 45' 12" N		1	
36	KOSTI	32° 38' 00" E	13° 11' 00" N	1		
37		32° 44' 29" E	13° 10' 19" N	1		
38	AL JABALEIN	32° 47' 59" E	12° 35' 00" N		1	

Sudan SUNA Menos Business plan.0609.01.doc PAGE : 10

MENOS for SUNA NEWTEC

NO.	SITE NAME	LONGITUDE	LATITUDE	SIT IP Ku	SIT IP C	SIT TV Ku
39	ED DUEIM	32° 20' 00" E	14° 00' 00" N	1		
40	EL GETAINA	32° 22' 30" E	14° 51' 45" N	1		
41	EL OBEID	30° 20' 00" E	13° 02' 00" N	1		
42	UMM RUABA	31° 20' 00" E	12° 50' 00" N	1		
43	BARA	30° 22' 00" E	13° 41' 50" N	1		
44	SODARI	29° 05' 25" E	14° 24' 54" N	1		
45	HAMRAT ASH SHEIKH	27° 57' 57" E	14° 35' 30" N			
46	KADUGLI	29° 42' 08"E	11° 00' 45" N		1	
47	EDILLING	29° 39' 36" E	12° 02' 30" N		1	
48	ABU GEBAIHA	31° 14' 37" E	11° 27' 20" N		1	
49	TALLODI	30° 22' 59" E	10° 38' 08" N		1	
50	RASHAD	31° 05' 00" E	11° 55' 00" N		1	
51	EL FULA	28° 20' 00" E	11° 44' 00" N		1	
52	BABANUSSA	27° 48' 40" E	11° 20' 10" N			
53	ELMUJLAD	27° 44' 31" E	11° 01' 34" N			
54	AN NUHUD	28° 25' 45" E	12° 41' 30" N		1	
55	GUBAISH	27° 20' 14"E	12° 09' 30" N		1	
56	ILLAGOWA	29° 08' 06" E	11° 24' 10" N		1	
57	ABYE	28° 28' 00" E	09° 35' 00" N		1	
58	KAYLAK	29° 20' 55" E	10° 49' 59" N		1	
59	ABU ZABED	29° 14' 30"E	12° 20' 50" N		1	
60	EL FASHIR	25° 22' 00" E	13° 37' 00" N		1	
61	MULEET	25° 32' 59" E	14° 08' 28" N		1	
62	KUTUM	24° 40' 00" E	14° 10' 00" N		1	
63	KABKABEIAH	24° 05' 03" E	13° 38' 50" N		1	
64	UMM KADDADAH	30° 29' 47" E	13° 57' 00" N		1	
65	EL TINA	22° 48' 22" E	15° 00' 37" N		1	
66	AL GUENEINA	22° 25' 45" E	13° 26' 26" N		1	
67	HABILAH	22° 33' 16" E	12° 46' 50" N		1	
68	MUGJAR	22° 50' 53" E	11° 57' 02" N		1	
69	ZALENGE	23° 28' 15" E	12° 54' 01" N		1	
70	JABEL MARRA	24° 17' 00" E	12° 58' 00" N		1	
71	KULBUS	22° 27' 28" E	14° 21' 34" N		1	
72	NYALA	24° 53' 19" E	12° 03' 29" N		1	
73	ED DAEIN	26° 08' 00" E	11° 25' 00" N		1	
74	SHARAYA	24° 52' 52" E	11° 07' 08" N		1	
75	ED ALFIRSAN	24° 21' 14" E	11° 29' 14" N		1	
76	REHAID BERDI	23° 52' 49" E	11° 18' 00" N		1	
77	KAS	24° 17' 00" E	12° 30' 28" N		1	
78	TULUS	24° 32' 40" E	11° 03' 07" N		1	
79	BURAM	25° 09' 00" E	10° 51' 00" N		1	
80	GARSSELA	23° 08' 11" E	12° 21' 56" N		1	
81	OUAOU	28° 04' 00" E	07° 40' 00" N		1	

Table (1) of localities to be reviewed

Suna is planning to operate 4 SIT-DSNGsTV within its network (Digital Satellite News Gathering).

6. Dissection

There are several reasons prevented the optimization of the project. The most important hard currency savings of the country's problems and the economic blockade imposed on it. Add to the instability of the electrical supply sometimes in some states terminal

This is require the provision of an electric generator station

7. Conclusion

The solution to cover country like Sudan with its previous details to make full connectivity is MENOS technology.

The MENOS network allows SUNA to have its own satellite network without having to invest in satellite capacity and HUB equipment

References

[1] satellite.tmcnet.com
[2] acronyms.thefreedictionary.com
[3] www.newtec.eu
[4] www.newtec.eu/frontend
[5] www.asbu.net
[6] Sudan News Agency (SUNA)
[7] www.artes.esa.int