

PAN-AFRICAN E-NETWORK

A India and PAN African countries Initiative

A brief summary



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PAN-AFRICAN e-Network: A brief summary

His Excellency the President of India Dr. A.P.J. Abdul Kalam, during the inaugural session of the PAN-African Parliament held at Johannesburg on 16th September 2004, proposed in his talk a programme to connect all the 53 nations of the African Union by a Satellite and Fiber Optic Network that would provide effective communication and connectivity among the Nations. The proposed network would connect 53 PAN African countries and its heads of state primarily provide Tele-medicine, Tele-education, Internet and Voice-Over IP Services and also is scalable and supports e-governance, e-commerce, infotainment, resource mapping and meteorological services.

PAN-AFRICAN NETWORK

53 PAN-African countries are to be connected as a one network through Satellite, Fiber optics and Wireless links for providing electronic and knowledge connectivity to the African nations based on the connectivity mission with in the announced budget of US \$50 Million for its installation, initial operation and maintenance for 5 years.

The network will connect 5 universities, 53 learning centers, 10 Super Speciality Hospitals and 53 Remote Hospitals in the 53 PAN-African countries. There will be 2 universities from India and 3 universities from Africa; 3 Super Specialty Hospitals from India and the rest 7 of them will be from Africa. It also provides network connectivity through Voice-Over IP, video conference and internet connectivity to the Heads of State of all the 53 countries.

The PAN African network covering 53 countries will be VSAT based star network with 116 + 53 VSAT terminals equally distributed over all the countries and a Hub located in one of the countries. India has already set up Telemedicine and Tele-education hubs at Bangalore and Ahmedabad respectively. It is

proposed to link the HUB of PAN African network with the Hubs of Telemedicine and Tele-education in India through under-sea cables.

The network will primarily provide tele-education, tele-medicine, Internet and videoconferencing services and support e-governance, e-commerce, infotainment; resource mapping and meteorological services Connectivity.

Heads of States Network: It is proposed to provide Videoconferencing, Voice-Over Internet Protocol (VOIP) phone and Internet services. Using the videoconferencing and VOIP facilities the Presidents of all the 53 PAN-African countries will have a ready access to their counterparts through this network and can use this facility to work on tasks together.

Every President Palace/Office of all the 53 countries will be provided with a VSAT that connects to the PAN-African Network HUB. The VSAT will be interfaced with a multimedia computer, a videoconferencing system and a VOIP phone. The target bandwidth for videoconferencing is around 384 kbps, which includes audio and video as well as control signaling. For videoconferencing the bandwidth requirement will be symmetrical and generally the bandwidth used in one direction will be at 384 kbps. In the network it is planned to provide 4 simultaneous point-to-point videoconferencing sessions at a time. H.323 standard compliant system will be used in order to derive the advantage of IP network where all the video, voice, data and control signals flow in a single network. This network is scalable through Broad Band and Wireless connectivity to reach out to other locations, if required.

Tele-Medicine: The Tele-medicine connectivity enables the 10 super specialty hospitals to provide specialty services to 53 remote hospitals that are fully equipped with the medical equipments such as EGC, Ultra Scan, and Echo machine in each location. Tele-medicine hardware, camera, Software to manage the patients, store and forward the medical records and analyze, digitally signed

prescription and advice to the remote patients as an integrated package. Data centre to manage and maintain the records, storage and backup facility, and retrieval mechanism for the medical facilities needs to be provided at the each super specialty hospitals. It is proposed that out of 53 Remote Hospitals, 53 are fixed terminals and 10 are mobile terminals.

Tele-Education: The tele-education set up, apart from establishing the communication infrastructure also includes setting up the 5 tele-education studio's with post production setup, Non-linear editing facility at each of the universities and the appropriate Data centres for providing the services including the initial storage, backup facility and one centralized HUB, Data centre and Control station including a portal comprising of the universal tele-education delivery system software which incorporates the e-learning, content management and digital library solutions for each university as an integrated package. Teachers can interact with the selected students in a sequence and also simultaneously collaborate with them using the collaborative tools; return IP link should provide audio, video and data connectivity to the university studio and enables the students to have a live interaction. The network will have the flexibility that an expert teacher would be able to give lecture even from a learning center (Remote Terminal). Each remote location will be able to access the Internet through the VSAT connectivity by providing the Internet connectivity at the HUB. All the five studios are controlled and managed by the central hub for management, scheduling, broadcasting, review learning process etc.

Similar kind of tele-education system setup will support the 10 Super Specialty Hospitals to provide the Continuing Medical Education (CME), training of doctors and paramedical staffs in the 53 remote locations.

The network would be such that it not only connects the 116 terminals delivering the envisaged services, but also be capable of scaling it up to extend

the network to the other locations through adding more VSATs as well as broadband, wireless connectivities.

Establishment of PAN-African Network

PAN-African network will be established with the tele-education, tele-medicine and VVIP Network connectivity as described above, maintained and managed with in the period of 3 years; handholding training will be imparted to the users and handover by the end of 3 years since its roll out for usage. Establishment in one year, one-year warranty and the last year AMC – it covers the total 3-year period.

The PAN-African network will be established in a record time with in a year as a turn-key solution and ensures that it is a sustainable solution by providing the education and health care services from India, so that PAN-African countries will be able to accommodate with their own services after the 3 years duration in a seamless manner.

Pre-requisites from African countries

The Universities and Super Specialty Hospitals with essential expertise and infrastructure (Institutions) on education and healthcare needs to be identified and the type of services, scheduling, execution and monitoring to be carried out. Indian Institutions are to make the programme running regularly till the PAN-African countries are able to own themselves by substituting their own services.

African countries to identify the following:

1. 3 universities, 7 super specialty hospitals to provide education and health care services through this network and its connected Data centre, studio facility, infrastructure etc., and the services to be provided are to be identified.

2. 116 locations in 53 countries each for tele- education and tele-medicine remote locations, building, room, infrastructure facilities to be identified.
3. 53 locations in the VVIP rooms where the Heads of State network components will be established.

Conclusion

A detailed project proposal on PAN-AFRICAN Network has been submitted to Prof. Konare, Chairman, AU Commission, African union by the Government of India on MAY 2005. AU has then constituted the Technical Committee comprising of 21 originations from Africa including ATU, ITU, AVU, NEPAD, RASCOM, URTNA, UEMOA, INTIF, PAPU, ECCAS, IGAD, CONESSA, ADB, CTO etc., for technical review and suggestion to African Union during 20-22 JUL 2005. The technical committee has formed two working groups called technical working group, strategy and services working group. These two working group had a detailed deliberations for 3 days. India has represented with the officials and professionals from Ministry of External Affairs, President's Office, ISRO, TCIL, IGNOU for the technical clarification. Based on the detailed deliberations, Technical committee constituted by AU has recommended the project for its adoption and implementation and requested the Govt. of India to extend the support for 5 years instead of 3 years. In its recommendation to AU, the committee observed that Government of India has provided a great proposal which is in line with the mission and objectives of the African Union and provides tremendous potential for achieving the MDG (Millennium Development Goals) through the use of innovative ICT. The Indian government has assured the technical committee that this is an open, flexible project with the option to utilize the Indian content or for each state to utilize its own content or customize accordingly. This is paramount in ensuring independence and adequate security features built into the network. AU needs to sensitize the private sector and the African Diaspora to the opportunities for participation in this project i.e. the system should be extended to include Africans in the Diaspora to tap into

doctors, lectures and nurses as well as provide for an intra Africa exchange of knowledge and skills. It also requested India to define a clear and comprehensive capacity building strategy for all three services proposed (content developers, training of trainers and users) to ensure a smooth and seamless transfer of knowledge and technology.

The MOU between India and AU will be signed before the start of the project in OCT 2005. Both India and AU is working out the modalities for the MOU to kick start the project soon. India's contribution for the promotion of African connectivity and the value added services in the knowledge domain in the education, healthcare, e-governance, agriculture will certainly help in capacity building activities of the African Union. Hence India is a partner to the African Union Millennium Development Goals and continues to work for the promotion of development and share its best of its experience to the developing nations of the world.