

# Sudan and .sd



# Internet Experience

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**Innovation and**

Sudan Intern

**Excellence**

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## Internet in Sudan

- **Historical Background**

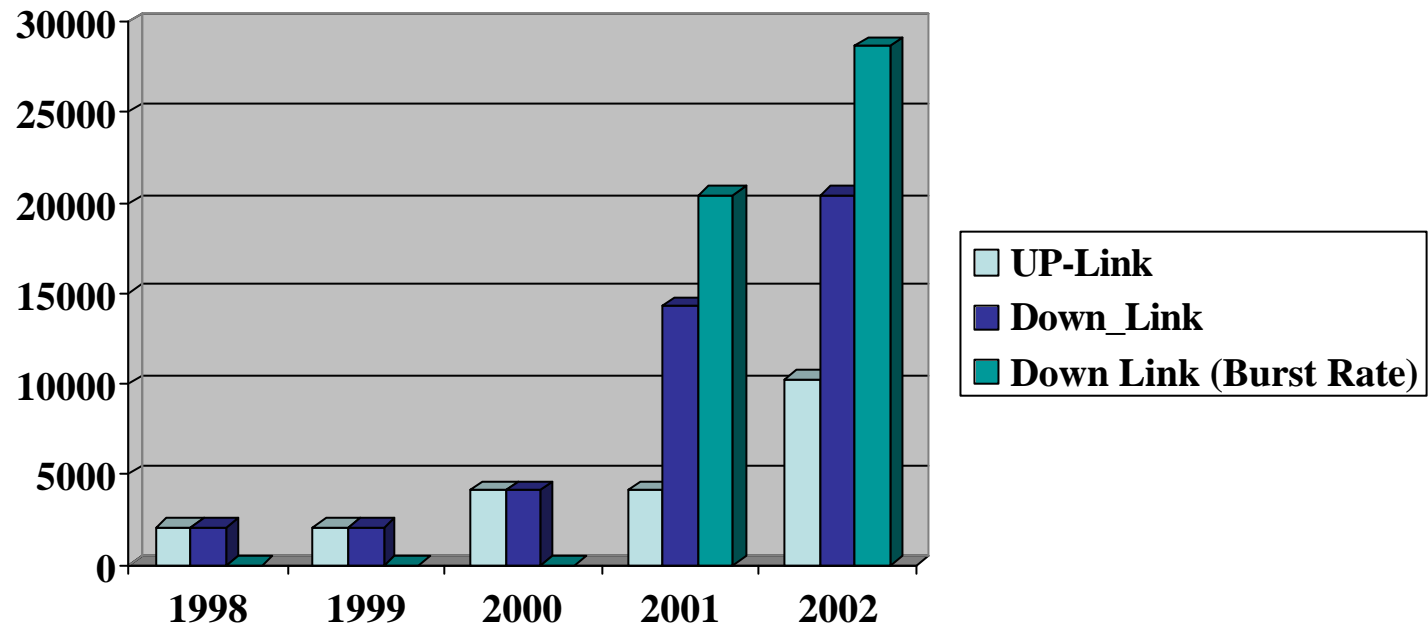
- In 1996, Internet was introduced in Sudan by the Sudan Internet Services Co. Ltd. [Sudanet]. With 128Kbps Bandwidth capacity.
- In early 1998, the Sudan Telecom Co. Ltd. [Sudatel] introduced it's Internet Service in the country as a value added service to it's basic fixed telephony services. With 265Kbps Bandwidth capacity.
- In June 1998, an agreement was reached between Sudatel an Sudanet. By this agreement, Sudanet becomes the only ISP in Sudan.
- In Nov 1999, Sudatel became the only PoP in Sudan with 2Mbps form EMIX. Sudatel opened it's Internet service provisioning to other potential service providers, the enterprise and universities sectors using it's existing datacommunication infrastructure.

# Internet in Sudan

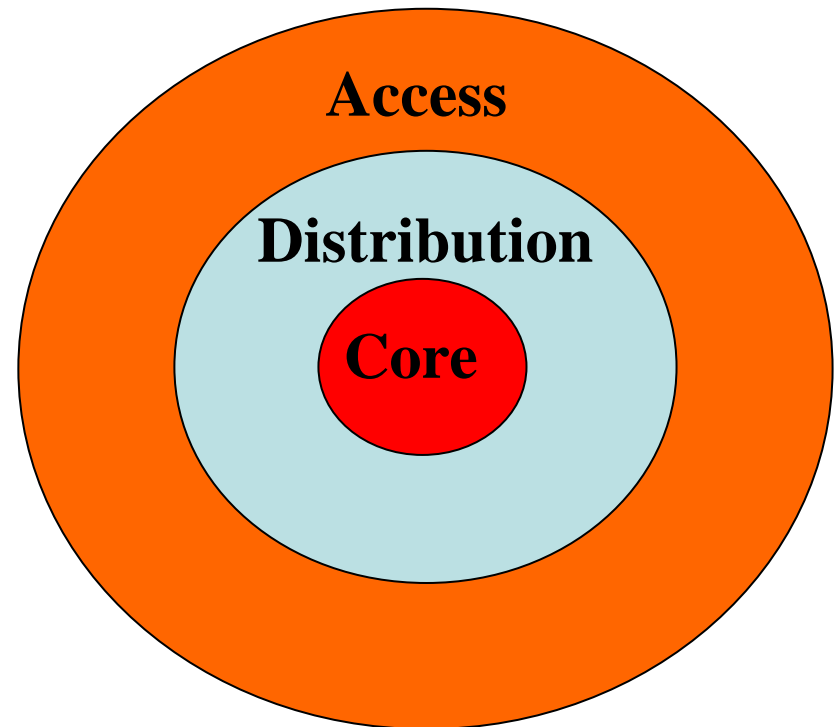
- **Current Status**
  - **The number of current Internet users in Sudan is ????**
  - **The Current Number of Internet Service Customers is:**
    - Enterprise and ISPs: 3
    - Universities and Large business: 5
    - Medium business: 5
    - Small business: 32
  - **Current Bandwidth:**
    - 10 Mbps Uplinks (Satellite links)
    - 6 Mbps Downlinks (Satellite links)
    - 14 Mbps Down Link burstable to 14 28Mbps (DVB Links)
  - **Free Internet Access Policy**
    - To play a role in the development and awareness development process, Sudan adopted free internet policy since late 2002.

# Internet in Sudan

The following chart illustrates the increment of the bandwidth versus years

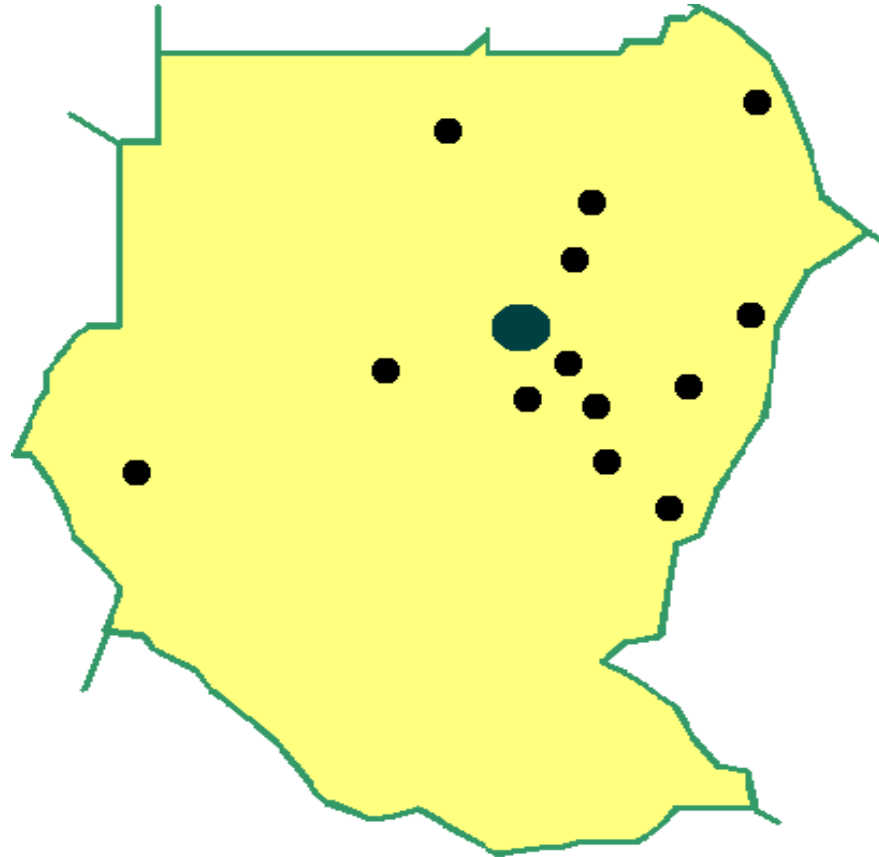


- **Existing data network Infrastructure.**
  - Our network infrastructure could mainly be divided into three main layers, **Core, Distribution & Access.**
  - **Technologies used at each layer are:**
    - **Core:**
      - SDH (n x E1 )
    - **Distribution**
      - Frame Relay& X.25
      - E1's
    - **Access:**
      - Frame Relay
      - E1's
      - HDLC
      - Fibre Optics



# Internet in Sudan

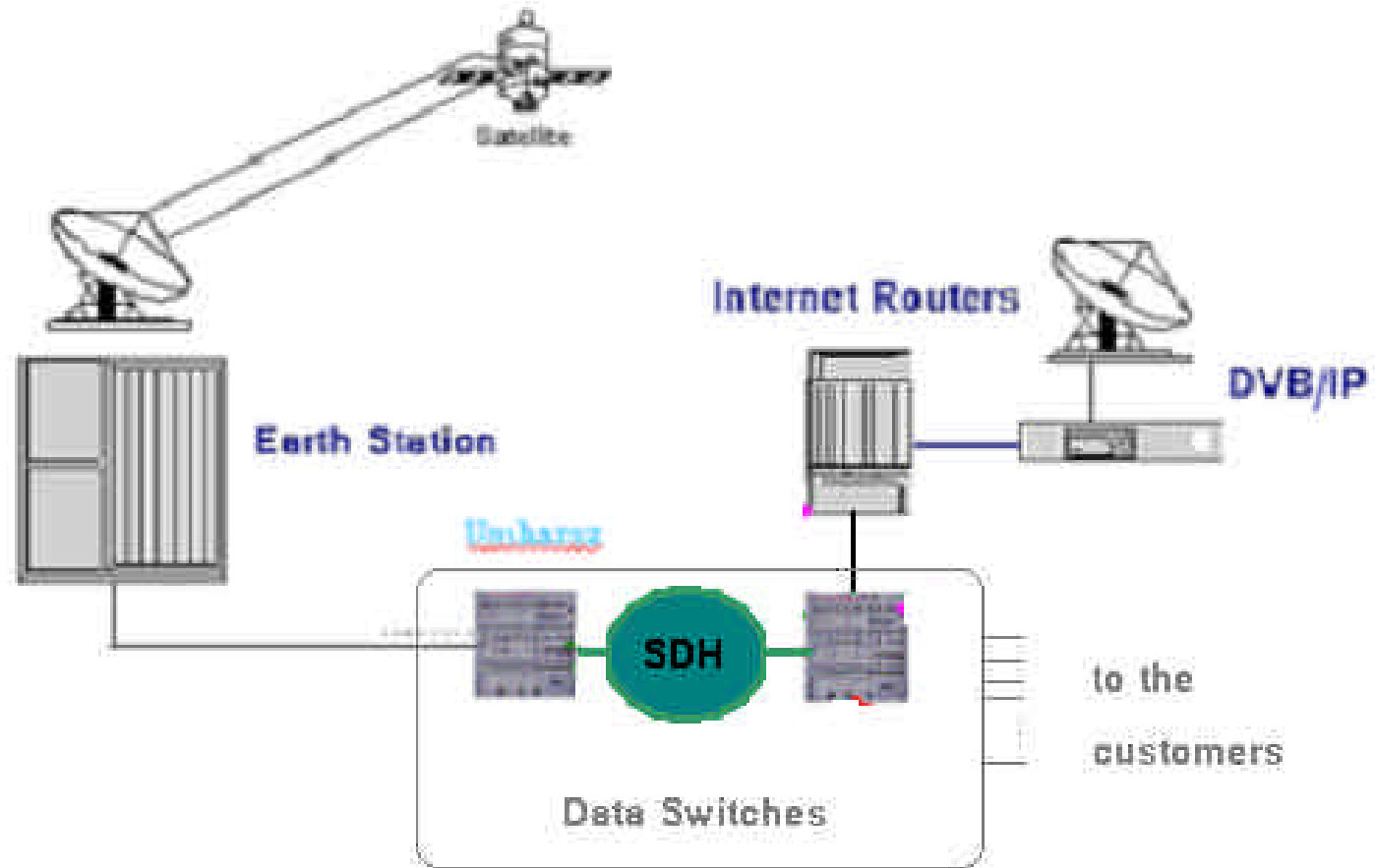
- **The existing data network distribution in the country is as follows:**
  - 14 cities in Sudan.
  - 18 Switches in the Khartoum capital city



# Internet in Sudan

## – The Current Internet Connectivity Scenario.

- Sattelite Links,
- SDH Network,
- Frame Relay Network,
- DVB/IP, ... Etc.



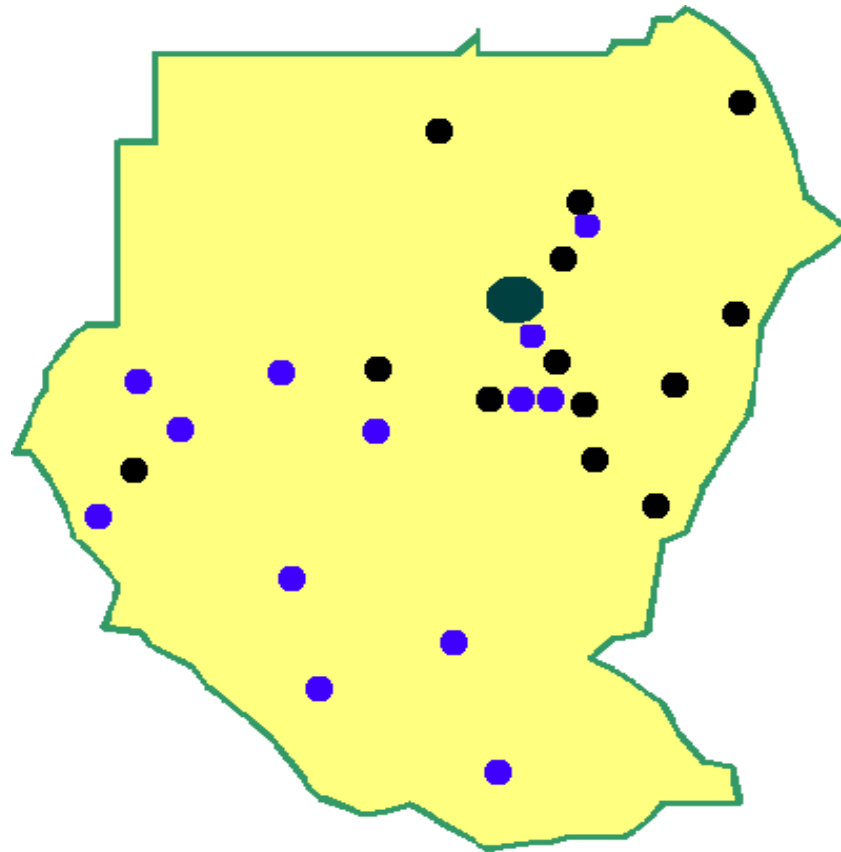


- **Future Plans**
  - **Internet Bandwidth (2003):**
    - **First Quarter:**
      - 20 Mbps uplink
      - 60 Mbps Down link
    - **Second Quarter:**
      - adding new capacities after the establishment of the connection with FLAG through the Port Sudan-Jeddah Submarine fibre link.
  - **Technologies:**
    - **Core:**
      - SDH
      - **ATM**
    - **Distribution**
      - Frame Relay& X.25
      - E1'
    - **Access:**
      - Frame Relay
      - E1's
      - HDLC
      - Fibre Optics
      - **xDSL**

# Internet in Sudan

– **The Planned Internet Access distribution throughout country is as follows:**

- Internet Access will be available in 13 new cities throughout the country.
- Capacity will be increased in the four major cities in the capital by the introduction on **ATM** core data service



## The .sd Experience

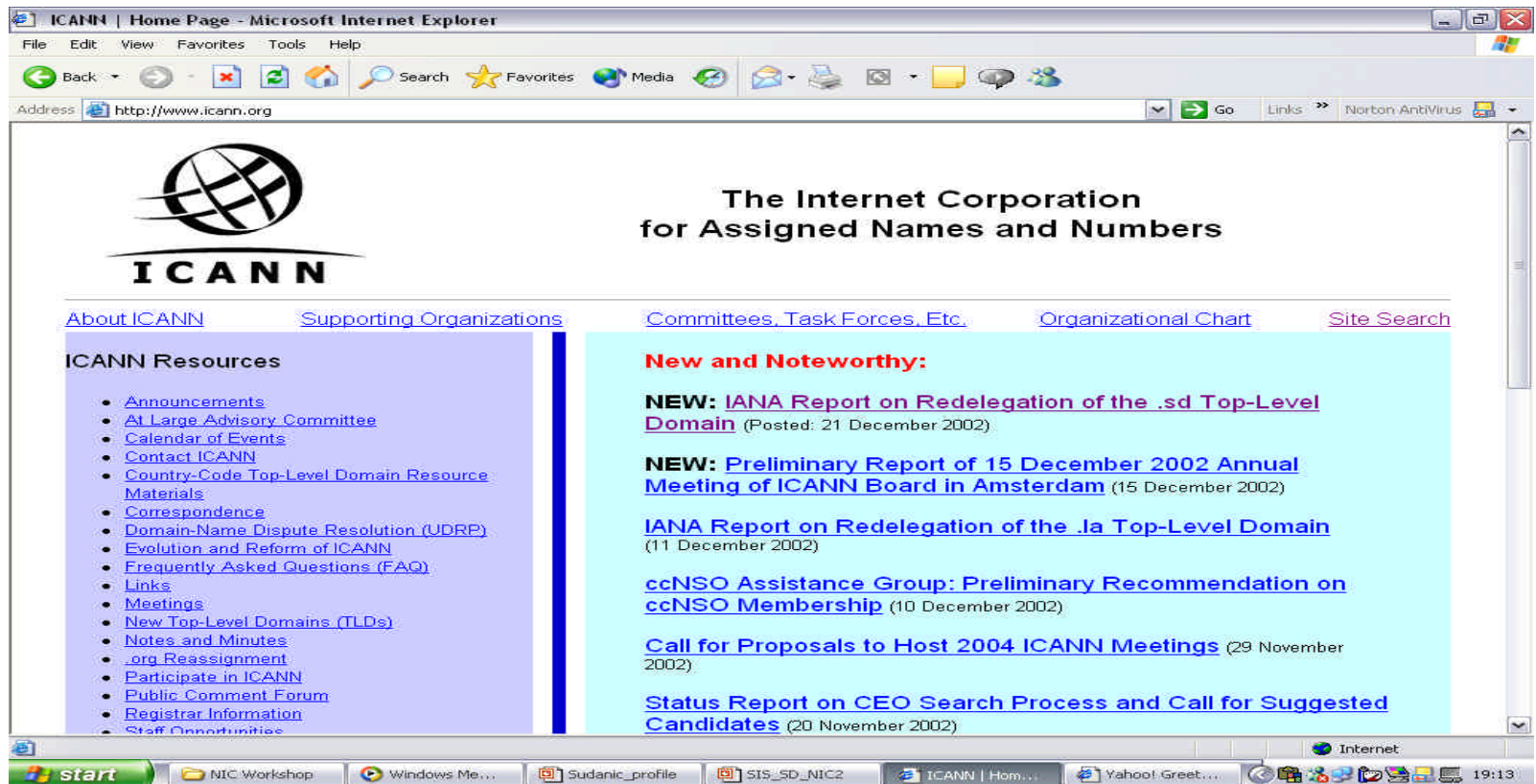
- **Historical Background**

- In **1996**, the responsibility of .sd was delegated to Sudanese private company called Sudan On-Line, which was operated by a Sudanese citizen located at the United States.
- The domain was inactive since its delegation. Partially due to the lack of internet service and community then, and partly due to the presence of the operator in a foreign country away from the local Internet community.
- As the Internet service became more and more common to ordinary people, universities, enterprises and as the level of awareness increased, both, within the local community and the different government bodies and authorities. Number of bodies started showing interest in acquiring the .sd operations responsibilities, some for the good, some for the evil !
- Early 2001, a non-profit, non-government a technical professional body was formed. Called Sudan Internet Society [SiS].

- **Historical Background (continued)**
  - The main objectives of SiS was to increase the Local Internet awareness, help develop policies, Internet technologies and suggest some regulations with respect to the Internet usage in the country.
  - This organization was supported by all telecom operators, ISP's, the regulatory, the government, as well as the local community.
  - SiS made re-establishing the .sd services one of it's strategic objectives.
  - Early 2002, SiS started contacts with ICANN as a first step towards a request for the .sd management re-delegation.
  - The first meeting between SiS and the ICANN management was held in Tunisia during a conference that was held in Tunisia in April 2002.
  - The correspondence between SiS and ICANN continued form then until July 2002 in order to prepare all the required documents and prove the local community as well as the government support, the technical proficiency to operate the .sd ccTLD.

- **Historical Background (continued)**

- A re-delegation template was submitted in August 2002.
- The second meeting between SiS and the ICANN management was held in Shanghai during the ICANN Shanghai meeting, where an MoU was signed.
- The .sd was re-delegated by ICANN, IANA to SiS operation in Dec 2002.



- **The Government Role**

- Initially the government was not very much aware of the importance, of the .sd ccTLD.
- As the internet awareness started growing within the local community, the government started realizing it's role towards the technology revolution that is taking place in the country in particular and the region in general.
- The Sudan Internet Society, was able to gain the government support as a .sd operator, and hence, one of the SiS staregic objectives was to keep the government as well as the local internet community aware of all the local and International developments in the Internet Area.
- The government is fully represented in the .gov.sd name space reservation and allocation through the National Information Center, which is it IT body Sudan Ministry Council.
- The local government does not try to impose any restrictions that hamper the technical revolution within the country, instead it opened the market for private sector competition with the supervision of an independent regulatory body (i.e. NTC).

- **The Current Status**

- SiS started the .sd operation in 15<sup>th</sup> Jan 2003.
- 3 Name servers exist for the .sd TLD, the primary and a secondary name servers exists currently at the Sudatel premises and makes use of the IT Dept infrastructure of the company. The third name server is at the RIPE-NCC.
- The .sd name space is being structured as follows:
  - **com.sd:**  
Dedicated only for entities that provide commercial services with valid Commercial Registrations from Ministry of Commerce (MOC) or any equivalent documents. Also, registered trade names and marks with MOC can be registered as domain names under com.sd.
  - **edu.sd:**  
Dedicated only for educational and training institutions, e.g., universities, training institutes, etc., with valid licenses from official government offices.
  - **sch.sd:**  
Dedicated only for Kindergartens, elementary schools, secondary schools, and high schools with valid licenses from Ministry of Education or from General Presidency for Girls Education.
  - **med.sd:**  
Dedicated only for entities that provides health services such as hospitals, medical clinics, pharmacies, etc., with valid licenses from Ministry of Health.

# The .sd Experience

- **gov.sd:**  
Dedicated only for Governmental entities including ministries, authorities and government organizations.
  - **net.sd:**  
Dedicated only for entities that provide Internet-related services, e.g., ISPs, web hosting, portal sites, etc.
  - **org.sd:**  
Dedicated only for non-profit organizations including societies, charities, clubs and public organizations.
- The rules and regulations of the registration , dispute resolution process are finalized and are going through the final review process.
  - The registration service has not started yet, but number of registration requests were received.
  - The registration service will be available for all registrants inside the country for the ease of the payment process. Another solution will need to be found for overseas registrants because of the lack of e-payment facilities due to the US restrictions imposed on Sudan.
  - All government organizations will have registration under the .gov.sd through a government body called **National Information Center [NIC]**



## SiS Role in the Sudanese Internet Revolution

- **The Vision**

To lead and support the Sudanese community in making best use of the Internet contributing to Sudan's socio-economic development and growth

- **The Mission**

The Internet Society of Sudan is dedicated to identifying and surfacing the potential effective and efficient applications of the Internet throughout the Sudanese community. It is to provide support and information on all Internet related-issues in Sudan to enable individuals, businesses, professionals, and organizations achieve their goals more effectively

- **The Reason**

Due to the rapid growth of Internet services in Sudan, an increasing need for a forefront, supportive body emerged.

The Society is to serve the Sudanese community and provide leadership in addressing key issues about the roles and uses of Internet

- **Social Awareness**

- Increase awareness and hold technical, socio-developmental seminars and conferences on the applications and areas of use of the Internet to serve the development of the Sudanese society and the private sector's role in Sudan.
- Provide Internet services to increase awareness about Sudan's culture, civilization, and services in different fields such as Tourism, Art, Science, Economy, trade, and others.
- Increase awareness of Internet usage and applications throughout the Sudanese governorates.

- **Professional Development**

- Encourage and develop national competence by holding contests in various application areas.
- Encourage and establish training centers for skills development.
- Encourage the establishment of specialized libraries for information and knowledge exchange.
- Support content building on the Internet especially in Arabic.





- **International Relationships**

- Encourage the society's members to participate in conferences and workshops.
- Support communication and coordination between the society and the national and international institutions and associations.
- Promote the goals of the society on an international level.

# Thank You

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