AISI-Connect National ICT Profile
UGANDA (UG)

GENERAL DATA	ICT-INFRASTRUCTURE	ICT POLICIES
Capital: Kampala	**Fixed lines (K) '98:** 57	**Competition in local loop:** Duopoly
98 Population (M): 20.55	**97-98 % Fixed Line Growth:** 8.9	**Competition in telephone terminals:** Yes
Currency: UGS	**98 Mobile Lines (K):** 30	**Independent regulator:** Yes
Exch rate (/US$): 1750.0	**Mobile Line Growth (%):**	**Private Wireless Data allowed:** Yes
Currency Stability: 1.0	**Cities with Internet POPs:** 1	**Independent Internet VSAT Allowed:** No
97 GDP US$/person: 317.0	**Local Call National Internet:** No	**VSAT License Fees:**
97 Total GDP ($B): 6.3	**Dialup Internet subscribers:** 4000	**Satellite Phone access:** No
Local Stock Exchange: Yes	**International Bandwidth (Kbps):** 2048	**Universal Service Obligations:**
Personal Safety: 4	**Internet Hosts:** 139	**IAP License Fees ($/yr):**
Political Stability:	**Internet domains:** 151	**Private Phone Kiosks:** No
Tertiary ICT Students:	**Dialup Internet Cost 20hrs/mnth ($):** 109	**Public VOIP Allowed:** No
ICT Training seats:	**64K Local Internet link ($/mnth):**	**Business Ownership Rules:**
ISDN: No	**64K Internat Internet Link ($/mnth):** 4000	**Repatriation of Profits Rules:**
VPN Services: No	**Local phone call cost (US$/hr:** 2.93	**Restrictions on market entry:**
UNDP Human Devel Index: 158	**Monthly tel line rental ($/mnth):**	**Export Credit Guarantees:**
.	**Telephone waiting time/Wait List:**	.
.	**Internet Access Providers** 3	.
.	**Mobile Operators:** 2	.
.	**Fixed Line Telecom Operators:** 2	.

Key to table values All figures above in US Dollars ($)

ICT Profile:

Internet:

Uganda was one of the first countries in sub-Saharan Africa to obtain a full Internet connection. Private company **InfoMail**(IMUL) was the first supplier, establishing a VSAT-based service via an InterSputnik satellite to NSN in the US. Since then ISP has merged with the second ISP to start up - (**Starcom**), which is a venture of US-based Starlight Communications. The new company is called **InfoCom**. The IMUL link has been maintained, providing two redundant international links with a total of 1024 Kbps international bandwidth. Starcom's VSAT link connects via Norway.

Subsequently **Swift Uganda** established an ISP but in April 2000, **AfricaOnline** purchased the service.

A wireless ISP providing broadband line-of-site services via spread spectrum systems and HF radio-links for long-distance narrowband/email services was established in '97 by **BushNet**. The HF-radio service mainly supplies facilities to large development agencies with field operations in the region, esp in the Congo area.http://www.bushnet.net/

Most of the other ISPs are now providing wireless Internet connections for as little as $200/month. Together, the four active ISPs had some 4100 accounts at the start of 2000, which probably equates to around 25000 users. There are few individual users accessing the Internet from home in Uganda. Instead, the main user groups are the business sector, the universities and non-governmental organizations working in the country. The vast majority of these are in Kampala. There are no points of presence in other parts of the country, which means that users outside the capital must use expensive dial-up connections, which substantially increases the cost of Internet access.

One of the reasons the Internet has grown relatively rapidly in Uganda is because the government has liberalized the VSAT and wirelesss data market. There are no peering points in the country.

There are a number of web hosting organisations such as **Uganda Home Pages Ltd**. http://www.uganda.co.ug/

Charles Musisi is the domain administrator for the .ug top level domain. http://www.nic.ug/ / musisi@uol.co.ug

Telecommunications:

The independant regulator for the telecom sector is the **Uganda Communications Commission** (UCC) which also operates the **Fund for Rural Communications Development** (FRCD) which is likely to require telecom operators to provide 2.5% of their gross revenues for rural communications. Telecommunication operators also have an obligation to deliver telecommunication services to the Local County level by legislation. The UCC falls under the **Ministry of Works, Transport and Communications**.

The telecoms sector in Uganda has been extensively liberalised and in Feb 2000, a consortium led by German firm Detecon beat two rival groups to win a 51 percent stake in Uganda's state-owned telecommunications company. Detecon, which is partnered by Swiss-based Telcel and South Africa's Ikwezi group, put in a winning bid of $33.5 million to buy the majority holding in Uganda Telecommunications Ltd. (UTL).

There are two cellular networks in Uganda, operated by **CelTel**, and **Mobile Telephone Network** (MTN). MTN was awarded a Second Operators License (SNO) and is in the process of its network build-out. MTN South Africa holds 50% equity in the consortium which also includes Telia Overseas (AB), Investco Uganda (10%) and Tristar Investments (10%), from Rwanda. There are also five smaller operators providing cellular telephone, mobile radio communication, paging services, mobile trunked radio services and public phone, and leased line services.

MTN has about 40,000 GSM customers and Celtel has about 8000 GSM customers. As the SNO, MTN will be required to install between 60,000 and 90,000 fixed lines throughout the country.

With only 65 000 lines in the country, Uganda's fixed network is at a very low level of development. However a fibre-optic link between Kampala and Entebbe is now operational and the exchanges in Entebbe and Jinja have been recently digitised, improving the quality of connections considerably.

The UCC has commissioned studies on the technical issues and potential applications of the ISM band in Uganda. Since these frequencies are short range in distance, the study is being conducted within and around Kampala. UCC is proposing to issue licences for this band (1) to monitor and regulate activity in this band as its deployed here and (2) to raise some monies for itself as it is expected to be a self sustaining body.

Communications Costs:

BushNet: Radio equipment - $6,500, Installation & training - $ 1,000, Running costs: No extra charge if customer is polled only once a day, $200 per month if a customer chooses to be polled more than once a day, 30 US cents per Kbyte of data (Typical customer usage is currently at about $120 per month).

Infocom offer email for $30 per month, unlimited full Internet access for $50.

Local calls cost: Peak rate UgShs. 75/min ~ 5 US cents/min ~ US$ 2.93/hr, Off Peak UgShs. 45/min ~ 3 US cents/min ~ US$ 1.81/hr, Economy rate UgShs. 25/min ~ 1.5 US cents/min ~ US$ 0.86/hr, VAT inclusive. Telephone line rental costs 20 000 UgShs / month - 11.43USD

Electricity Supply
Load-shedding and power surges are common and can cause computers and other business equipment to have problems. Homes and businesses often have a generator.

National ICT Policy Activities:

Stake holders in ICT in Uganda are in the process of developing a National IT Policy to regulate and guide the evolution of ICT. It is presently developing a concept framework on which the policy consultation and development process will be based. The following areas are being focussed on: 1. Universal access (for all sectors of society) 2. Human resource development 3. Support for good governance 4. Promotion of Cultural heritage 5. Appropriate infrastructure development 6. Support for business development
Meddie Mayanja is the project officer, from the Nakaseke MCT Pilot Project
ugunesco@swiftuganda.com

Uganda is well known for its policies and institutional measures to create an environment that aim to increase rural participation in the development process. ICTs are widely perceived by many in government as important for the development of rural communities.

The IDRC's Acacia programme is focussing on Uganda as one of its priority countries and has begun implementing a number of telecentre and other initiatives. http://www.acacia.or.ug/

A Multipurpose Community Telecentre at Nakaseke in Luwero District, north of Kampala is being developed as a joint effort between the ITU, UNESCO, IDRC and the Uganda Government.

The **Uganda National Council of Science and Technology** (UNSCT) is the body responsible for supporting scientific and academic research. It is also the IDRC's Acacia national strategy executing agency and is in the process of executing a telecentre project with a community radio station at Kagadi in western Uganda with support from IDRC. Also involved are the **Medical Research Council**, NARO, and the **National Environment Management Authority** (NEMA).
uncst@starcom.co.ug

Makarere University and **Martyrs Catholic University** in Nkosi are the being assisted by the InfoDev fund's African Virtual University project. Makerere Alex Twino / twino@uol.co.ug / root@avumuk.ac.ug

A network of training institutions offer courses in areas of ICTs includes: Makerere University, **Uganda Management Institute**, the **East African School of Librarianship**, **Uganda Posts and Telecommunication Training Institute**, the **National College of Business Studies** and the **Management Training Advisory Centre.**

There is an active local chapter of the **Internet Society**, which was established in March '97 and launched at a general meeting in May by the Uganda's State Minister for Works, Transport and Communications, the Hon Sylvester Wanjuzi-Wasieba. Caroline Wieland connectu@starcom.co.ug

The **National Agriculture and Animal Production Research Institute** (NAARI) in Namulonge has an email connection via Bushnet's HF radio which is supported by USAID's AfricaLink project.

Other relevant institutions:

- Mbarara University of Science and Technology, Mbarara.
- Uganda Polytechnic

Organisational Activities in the ICT Sector:

Uganda Revenue Authority Taxation department of the national government
http://www.ura.go.ug/ urard@infocom.com

University of Makarere Operates a store and forward Internet service.
postmaster@mukla.gn.apc.org

Uganda Broadcasting Agency The Uganda Broadcasting Agency was formed in mid '99 and will run programmes to generate income. The proposals in the white paper provide for the setting up of district information and communications units, sub-county information and communication centres, libraries, archives, and documentation centres as well as the promotion of the use of local languages and traditional communication skills.

Uganda Communications Commission Independent regulator for the telecommunication sector
Mr Simon Bugaba

Celtel Cellular Uganda's first cellular mobile telephone provider, operating since 1995. Celtel has a customer base of about 20 000 with its coverage area of Mbarara in the west, through Entebbe and Kampala to Jinga and Iganga. Martin Lutalo Mpungu celmail@starcom.co.ug

Intercom Uganda Telecommunication consultancy services, supply, installation and maintenance of telephone systems (PABXs), wiring and accessories.

AfricaOnline Uganda Ugandan office of the African regional ISP, also with presence in Kenya, Tanzania, Zimbabwe, Swaziland, Ghana and Cote d'Ivoire. http://www.africaonline.co.ug/
mailto:info@africaonline.co.ug

Infocom Uganda's largest ISP with over 200 incoming lines. Formed through a merger of the two longstanding ISPs, Infomail (IMUL) and Starcom,a venture of US company Starlight Communications. The ISP has two independent satellite links with a total of 1024Kbps international bandwidth. Infocom recently introduced 'Metronet' a High Speed Data Network(HSDN) wireless connection, designed for corporate clients. http://www.infocom.co.ug/ hills@infocom.co.ug

Wilken Afsat Uganda Ugandan office of the Kenyan based regional ISP and telecoms service

provider. http://www.afsat.com/ fsatug@afsat.com

Compustat Uganda Computer equipment, software training and maintenance supplier.

Computer Point Turnkey systems provider and authorised dealer for Compaq, Microsoft, Epson, APC, Lucent, Fortune hotel management and Tally accounting and inventory management systems. Also provides corporate and private training in software applications, and has installations in Kenya and Rwanda as well. Anil Kuruvilla compoint@starcom.co.ug

Computers and Accessories Business applications and networking solutions provider using Solomon IV. compacc@swiftuganda.com

NFL Systems Computer sales, maintenance, networking, training, photocopying and secretarial services. Authorised reseller for Raystar UK. Semu Mukiibi Serunjogi nflsys@swiftuganda.com

Service and Computer Industries Solutions provider for automated teller machines, computers, retail solutions, structured cabling, networking, packaged and customised software, maintenance and troubleshooting. sales@scispi.imul.com

XEROX UGANDA LTD Agents for Xerox document management systems and photocopiers.

Agman-Era Computer support centre combining hardware and software training and equipment maintenance and repair. Distributor for Dell Computers in Uganda and PK Electronics in East Africa. nabeta.agmanera@imul.com

Cyber Networks Microsoft certified technical education centre also offering A+ hardware and software certification. admin@cyberkenya.com

AITEC Uganda Uganda office of the UK-based trade show and ICT magazine publisher http://www.aitec-africa.com/ aitec.uganda@infocom.co.ug

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Source:

AISI-Connect database - http://www2.sn.apc.org/africa Telecom/GDP stats source: ITU/World Bank. Internet hosts: Network Wizards

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