Ghana Academic and Research Network (GARNET)

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Background

Ghana Academic and Research Network (GARNET)
Launched in 2006 AAU Meeting

- Original idea to get VCG to act as governing board
Challenges

- VCG did not sign MoU
  - Collective purchase of bandwidth
  - Sharing of research findings
  - Collaboration between researchers from different institutions

- Minimum human network between “member” institutions
Recent Activities

- IT managers met at University of Legon to start the human network despite the fact that VCs had not signed the MoU
- Meeting to elect interim executives
- IP Presence
  - garnet.edu.gh
  - forum@garnet.edu.gh
- Network Startup Resource Center (NSRC) donate HP4000 managed switches
Planned Activities

- Establish the Governance Structures of GARNET
- Ensure the registration of GARNET as a legal entity in accordance with the Laws of Ghana
- Establish GARNET Secretariat to manage the day-to-day activities of the Ghanaian National Research and Education Network (NREN)
- Expand membership of GARNET to include all other tertiary and research institutions
Planned Activities

- Topology of the physical connections of the various institutions in GARNET
  - Initiate discussions with VODAPONE on how the National Backbone may be used for the purpose of creating the physical network

- GARNET to become a Local Internet Registry (LIR), or at least get all members to subscribe to AfriNIC IPs.

- Initiate and run at least one workshop for Campus Network Administrators in collaboration with the Network Startup Resource Center (nsrc.org)
State of National Backbone Infrastructure

Source: National Communications Backbone Company 2008
Network Proposal One

UNIVERSITIES AND RESEARCH INSTITUTION NETWORK - GHANA

- GTU (GHANA TELECOMS UNIVERSITY)
- VVU (VALEY VIEW UNIVERSITY)
- CUC (CENTRAL UNIVERSITY COLLEGE)
- CUF (CATHOLIC UNIVERSITY FIA PRE)
- GTU (GHANA TELECOMS UNIVERSITY)
- UMT (UNIVERSITY OF MINES TARKWA)
- UCC (CATHOLIC UNIVERSITY FIA PRE)
- UGW (UG)
- UGW (UG)
- UGW (UG)
- UGW (UG)
- UGW (UG)

NATIONAL FIBRE BACK BONE NETWORK
Network Proposal Two
Key Network features:

- The use of BGP implementation (with OSPF as the IGP) for optimum routing among the various campus communities for the necessary inter-routing information.
- IP addressing to cater for the right number of hosts and subnets required by each institution and groups.
- Sufficient interconnection information
  - Setting up of exchange points for internal traffic
  - Peering with other RREN’s
- A clear defined routing policy will be enforced with the use of tagging and filtering at route redistribution points
- Additional Per-site filtering may be required for security on aggregator routers.
  - This will ensure only allowed specific routes or traffic is shared according to pre-arranged agreements with the participating institutions
Questions and Discussions
Thank You