Bandwidth management and optimisation open source tools and solution workshop

Email management and far side handling and processing – small/medium solutions

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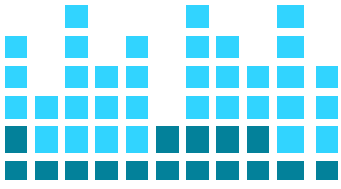
Objective

- Outline what AfriConnect have found useful in protecting bandwidth in thin pipe VSAT sites



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3

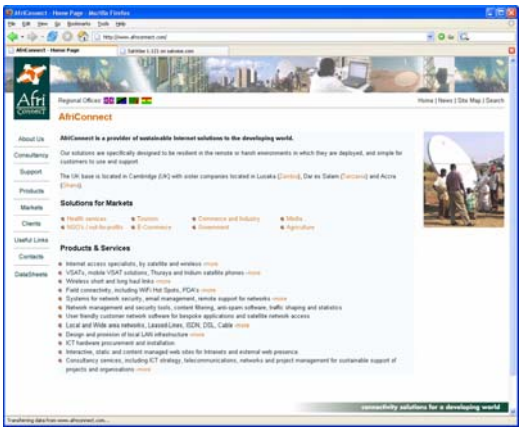
But firstly… AfriConnect

- Based in Cambridge, UK
  - UK parent company founded in 1996
  - Sister companies in Zambia, Tanzania, Kenya and Ghana
  - Engineers and consultants around Africa and the rest of the world.
- Examples AfriConnect Projects
  - Common Market for Eastern and Southern Africa (COMESA)
  - World Bank
  - Zambian Social Recovery Programme
  - Institut Pasteur world-wide connectivity
  - College of Medicine, Malawi
  - US National Library of Medicine - MIMCom Project
  - iConnect – NLOS for Zambia

4

AfriConnect

- Offer a range of Internet connectivity services to Africa and developing countries
- Specialise in providing a complete package
- Independent of any supplier, so could source best / lowest cost options for connectivity and all associated hardware / software



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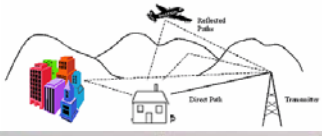
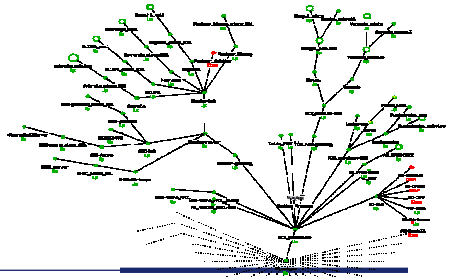
5

Network monitoring



- Full ISP in Zambia
  - iConnect
- Institut Pasteur Directors Worldview
- VSAT Clients



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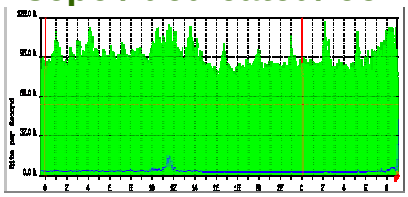
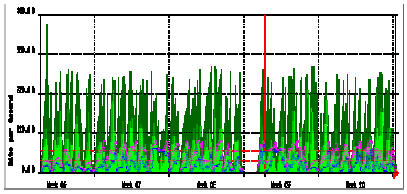
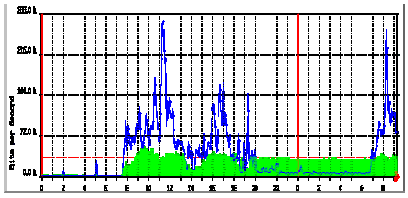
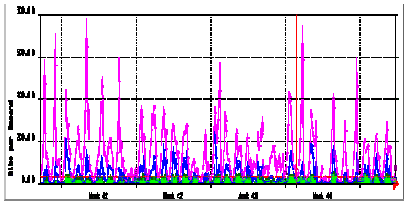
6

Unmanaged > manageable
scpc / dedicated/ contended > TDMA / burst









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7

AfriHost Internet Backbone based servers - far side scrubbing

- Commercial Bit-Defender Based Front Filter
  - Drops virus mails
    - 99% are forged addresses
  - Subject and Header Flags for SPAM
- Postfix Mail Servers
  - Whitelisted clients allowed else drop
  - Multiple DNSRBL black-lists, including local zone
  - Poor protocol (lack of HELO etc.), Non FQDN, no MX/A record, etc domains rejected
  - PostGrey Listing with 600 second retry
  - SpamAssassin Header Flags with score of 5 triggers Subject SPAM modification

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8

Uplink

- Internet based mail relay
  - Protects from outgoing viruses
  - Moves delivery problems into high bandwidth territory
    - Trojan/virus mail targets
    - Destination domain on thin/unreliable link
- Ensure larger outgoing mails are sent out of prime time
- Use Dansguardian / Squid to protect bandwidth as well as inappropriate content

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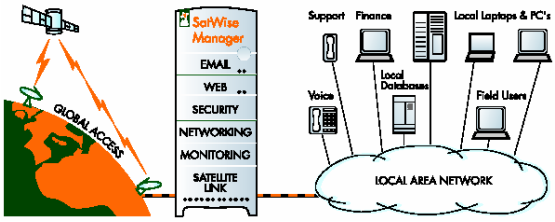
9

Protect the downstream site (proxy/dns/mail/filters)

SatWise:

- Provides total 'Internet in a box' end solution
- Fully manageable by local staff of whatever capability
- Remote management as required.



10

Filtering Results

- Between 10 and 25% of mail was virus
- 20% of mail was Spam from new sources
  - Option to drop/quarantine and not forward
- 30-40% of mail was SPAM from known sources
  - Just dropped
- Incidence of wildfire viruses dropped to a tenth – now solely carry-ins

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11

Innovation in bandwidth – web scrubbing

- Working with AidWorld Cambridge to deliver usable web pages that minimise web traffic
- Used via proxy for ad infested sites
  - Hotmail
  - Yahoo
  - Google
  - etc

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Optimising and managing bandwidth in African Universities

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