Videoconferencing-as-a-Service for African NRENs

Making it happen

UbuntuNet Connect, Entebbe, Uganda, November 2016
The offer

• TENET has a VC system based on Vidyo that can be shared with the UA community
• It is available now
• Cost sharing means good value
• Wholly software based system
• Works with rooms, laptops/desktops, mobile and web
• Integrates existing H.323/SIP systems
What is Vidyo?

- High quality – up to 5K and 60fps on suitable hardware
- Adapts well to fluctuating network conditions
- End points do the encode/decode/composition of images
- Support for H.323/SIP endpoints via transcoding Gateway
- Directory integration
- Replay, Recording and Streaming
- Cross platform OS support
  - Windows, MacOS and Linux
  - iOS and Android
- High quality content sharing
- Used by CERN and SKA
AVC - Single Layer vs. SVC - Multi-Layer

Single Layer (AVC)

Multi-layer (SVC)

Enhancement Layer

Base Layer

Significant Impact

Minor or No Impact

Source: Vidyo
The Vidyo Landscape
Vidyo Endpoints (Personal)

- Desktop and Laptop
  - Clients for MacOS, Windows (XP – 10) and Linux
  - Up to 1080p30 encode and UHD 4K (3840x2160) Decode on suitable hardware (i7)
  - Show up to 8 participants and content on separate screen
  - Automatic Echo Suppression
- Invite unlimited guests
- Calendar integration
- Mobile
  - Android and iOS
- Web (for guests)
  - Small one-time plugin download currently
  - Native SVC based WebRTC coming soon
Vidyo endpoints (Rooms)

- Existing H.323/SIP Endpoints
  - Polycom, Lifesize, Cisco, etc.
- VidyoRooms
  - Vidyo badged CODECs
  - VidyoRoom SE – bring your own (i7) PC
  - Off the shelf cameras, audio equipment, etc.
  - Will run up to X2 5K screens or X4 Full HD (1080p) screens
  - Calendar integration (Exchange & Google)
TENET Vidyo Setup - November 2016
Extending the service

- KENET have deployed a VidyoRouter and VidyoGateway
- ZAMREN have deployed VidyoRouter
- Connected to TENET’s VidyoPortal in Cape Town
- Traffic between Kenyan sites stays in Kenya, & between Zambian sites stays in Zambia
- Only needed a VM instance with capability to run these components
- Has worked well in practice with some large meetings and no reports of instability or difficulties in connecting
- Kenyan and Zambian users also have access to TENET Replay server in Cape Town for recording and streaming
  - Option to deploy Replay server locally (runs under virtualisation)
Benefits

• (Private) Cloud like shared service
  – One pool of licenses shared across multiple users and countries
  – Resilience
  – Extensibility
    • Start small, grow the infrastructure as needed

• Not “rip & replace” – existing H.323 estate can continue to participate

• Reach out to partners and collaborators world-wide

• A ready made service!

• Support and training
Costs

• Initially share of TENET’s “Hosted lines” licence:
  – $10,000 per year

• Additional support for locally deployed infrastructure
  – $2,000 for three years per Router/Gateway

• Room systems (if required)
  – Double screen trolley system
    • $5,000 to $6,000 each depending on shipping/customs
  – “Boardroom” type setups
    • $9,000 - $10,000 depending on requirements and shipping
Why Vidyo

• Vidyo scores where need is for quality and stability
  – Quality video and audio (up to 5K Video)
  – Very high quality data-sharing
    • Engineering and medical applications
• Integration of desktop and mobile with room systems
• Stability under fluctuating network conditions
• Flexibility
• Scalability
Connecting to Mombassa

Link up between academic in Cape Town, Heads of Institutions in Kenya and the University of Nairobi
Thank you

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