Video Everywhere
HTE Infokom Oct. 2014 – Kecskemet, Hungary
Slashing Costs of Professional Live Video Delivery

Providing High quality video over any unmanaged public networks

VideoFlow Technology: OFF
Quality is Annoying

VideoFlow Technology: ON
Quality is Outstanding
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High Quality – Low Cost</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Network Independent</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Easy Connection</td>
<td></td>
</tr>
</tbody>
</table>
Video streams pass many different access networks, each having its own unique behavior (jitter, bit rate fluctuations, Packet loss)

- **MPLS** – Perceived as a reliable network but...
  - Bandwidth can fluctuate due to resource sharing

- **DSL** – Unreliable and unmanaged link for live video
  - 5% packet loss due to physical connection

- **VSAT** – Unreliable link
  - Sensitive to weather conditions
  - Jitter can reach 2 sec

- **Internet** – Unreliable and unmanaged
  - Sensitive to usage
  - Average jitter is 250 msec but can peak 650 msec
  - Average packet loss is 1% but can peak 10% during busy hours
VideoFlow Products

Build your Internet Video Delivery Network with VideoFlow’s DVP

**DVP Protector**  
Video Creation Site

**DVP Sentinel**  
Video Receiving Site

**DVP Fortress**  
Bi-Directional - Operates per stream as a Protector, a Sentinel, or Sentinel/Protector

**DVP10**  
- Up to 32 Mbps, 16 Streams, 16 Tunnels

**DVP100X**  
- Up to 300 Mbps, 80 Streams, 80 Tunnels

**DVP1000**  
- Up to 1 Gbps, 200 Streams, 200 Tunnels
Applications
Cutting Backup Costs – 24x7

- Both primary and backup leased lines are always active
- Primary is in use 99.999% of the time, backup only 0.001%, **Double** the OpEx
- Leveraging the Internet as backup dramatically cuts your backup cost
Live Content Contribution

- The Internet is perfect for multipoint-to-point architectures
  - Low-mid bit rate in the uplink
  - High bit rate in the downlink – perfect for aggregating contribution sources
- The cost of Live Content Delivery over the Internet is considerably lower than current solutions
Improving Field Reporting Teamwork – Fortress

- Bi-directional low delay, error free, high quality video feed
- Reporter feels as if they are part of the studio
Reducing the Uplink Cost – Fortress

- The Fortress in the Transit Network isolates the distribution network from the contribution network.
- Packet recovery requests sent by Sentinel are answered by the Fortress.
  - No additional overhead on the contribution uplinks due to distribution network.
  - Internet link cost is mainly derived by uplink speed → Lower cost links are required.
Must Have Features
The Need for Controlled Adaptive Rate (CAR)

VideoFlow CAR optimizes the video stream bit rate to the actual link capacity

- The video stream bit rate is determined by the link capacity
- The link capacity should be slightly higher than the video stream’s bit rate

- The link capacity varies in time and can cause a severe degradation to the video quality
- The challenge is to find the highest stream bit rate to fit in the new link capacity

- VideoFlow’s CAR senses the link’s capacity in real time
- It responds to any change by commanding the encoder to either reduce or increase the bit rate
Stream Monitoring in Real Time – ETR290

- Cuts the cost of network maintenance and support
- Reduces the time it takes to isolate a problem in the network
- Clearly indicates stream problems
Stream Monitoring – Unrecovered Packets

• Cuts the cost of network maintenance and support
• Straightforward indication on the network’s quality
• Clearly indicates network problems
High Availability

- Hitless failover with same source
- Near hitless failover with different sources - No single point of failure
- Failover is triggered by the stream status
- Output failover with stream duplication or load sharing
VideoFlow Internet Access – VIA
Video Aware Cloud Toolset
VIA CONNECT – Your Video, Your Way

- Cloud power toolset
- Designed for professional video delivery
- Open network – vendor independent
- Best quality of experience with CAR over extremely noisy access links
VIA CONNECT at a Glance

Easy to use, simple to grow

- Session Management
- Configuration & Connection
  - Schedule
  - Monetize
- Appliance/Plug-in at the edge
  - Single entity – Selectable mode of operation
  - Adopts to local application requirements including action cameras, DNG cameras, mobile devices, STBs and connected TVs
- Connects to value added services in the cloud for a complete eco system
  - Own core service
  - Complement services with partners
## Summary

### Rubout Live Video Delivery
- Recovers 100% of lost packets
- Eliminates excessive jitter
- Compensating for the link’s short-term bit rate fluctuations
- Low bandwidth overhead

### Quality Live Video Anywhere
- Optimizes video quality to the link’s available bit rate
- CAR - Controlling the encoder`s compression bit rate
- The lowest link latency (up to 500msec)

### Independence & high service availability
- Any Codec, any encoder/decoder, any network, any resolution.
- Box redundancy, link redundancy, dual PSUs

### Cost reduction of any C&D link
- Internet C&D versus dedicated leased lines
- KA band enabler versus KU or C bands
- Lowering backup links - Ensuring 24x7 services
- Service based pricing (cloud based delivery service)
Questions?

VideoFlow
seeing is believing

Niky Itzhaki
Sales, EMEA
Mobile: +972.54.9007769
n.itzhaki@video-flow.com

YAZOO systems

Distribution in Hungary
Zoltan Schäfer
Mobil: +36-70-280-5038
zoltan.schaefer@yazoo.hu