Video Services Forum, Inc.
News Letter

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This is the third issue of the semi-annual Video Services Forum News Letter. The VSF feels that it is important to keep you informed about what is going on within the VSF since the VSF is **your** organization. As we realize that your time is valuable, we have kept this News Letter deliberately brief.

VSF Officers & Board Members:

During the 1Q of every year, the membership of the VSF elects new members to half of the seats on its Board of Directors for two-year terms:

Director	Company	Term Expires
Jeff Carpenter	Artel Video Systems	2005
Pierre Costa	SBC Technology Resources, Inc.	2005
John Dale	C-COR	2005
Gregory Davey	Bell Canada	2006
Richard Friedel	Fox Digital	2005
Roger Hatcher	State of Georgia	2005
Derek Smith	Vyvx	2006
Kerry Wheeles	Leitch Technology	2006

The following VSF Officers continue to serve out their two-year terms, which run through February 2005:

President	Brendan Smith	Aastra Video
Vice President	Steve Storozum	Level 3 Communications
Secretary/Treasurer	Amanda Pappas	SBC/SNET

Administrative and Technical Staff:

Brad Gilmer – Gilmer and Associates is the VSF Executive Director
Barbara Main – Assistant Director
Bob Ruhl – VSF Operations Manager

VSF Current Member List:

Artel Video Systems
Aastra Digital Video
Bell Canada
Broadwing Communications, Inc.
CBC/Radio-Canada
C-COR
DIRECTV
Fox Digital
fSona Communications
IneoQuest Technologies, Inc.
Intelsat
IPITEK
Leitch Technologies
Level 3 Communications, LLC
Miranda Media Networks
Network Electronics
Path 1
Pathfire, Inc.
PixCells Communications, Inc.
Renovo Software
SBC Communications, Inc.
SkyStream Networks
State of Georgia
System Resources, Carl Ostrom, Principal
TANDBERG Television
Telecom Product Consulting, Wes Simpson, Principal
UPC Technology
Verizon Communications, Inc.
Video Products Group, Inc.
VideoTele.com, A Division of Tut Systems
Vyvx

Meetings and Conferences:

The **June VSF Meeting Series** was held in Los Angeles, CA on June 7-9, 2004 and was hosted by Fox Digital. This meeting was very successful due to the quality of presentations, participant interaction and the great meeting facility and hospitality provided by Fox Digital. Over 90 people attended this meeting.

The **October VSF Meeting Series** will be held October 4, 5 and 6 (1/2 day) in Tulsa, OK and will be hosted by **Vyvx**. For additional information on the meeting location, preferred hotel and registration please visit:
http://www.videoservicesforum.org/Meetings/index.htm.

The **VidTrans05** annual conference and exhibit will be held January 30, 2005 through Wednesday, February 2, 2005 in Atlanta, GA. The Video Services Forum (VSF) and the Society of Motion Picture and Television Engineers (SMPTE) are working together to stage this combined conference and exhibition. The conference is titled "VidTrans and Advanced Motion Imaging 2005 Joint Conference, sponsored by the VSF and SMPTE". As soon as we have more details on the joint conference, we will share them with you.

VSF Activity Groups:

VSF Activity Groups (AGs) supply input and expertise to various industry standards bodies on behalf of the VSF.   These are some of the topics that VSF activity groups have addressed to date.

Ironworks – Documenting functional and performance requirements for the transport of digital video over terrestrial networks.

Professional Real Time Video/Audio Over IP Network Infrastructure– Investigating high quality/contribution video over IP infrastructure.   (See detailed activity group description on page 3)

Mid-Span Meet (MSM) – Enabling Video Service Providers to interconnect "mid-span" with each other

Dual 270 over ATM OC-12 – Specifies how 270Mbps video signals can be packaged into an OC-12 ATM stream

Video over IP – Discussing key issues of relevance to transporting real-time video signals across IP-based networks

Video Quality Metrics – Investigating quality metrics and measurement techniques for digital video signals

GR338 – Converting metrics that carriers use when specifying analog video signals into open standards

Management Information Base (MIB) for Simple Network Management Protocol (SNMP)-Based Network Management Systems – Develop a consensus of what MIB structure might be used for video network management.

To learn more about these AGs please visit **http://www.videoservicesforum.org/about/index.htm**.

Additional details on **Professional Real Time Video/Audio Over IP Network Infrastructure**

IP based packet networks offer service providers and ultimately end-users the opportunity to combine voice, real time professional video/audio and data applications onto a single network. To this end, the current standards for quality of service appear to be inadequate for handling professional real time video/audio applications.

The focus of this VSF activity group is to either make recommendations for new video/audio quality of service standards or modify existing standards to provide the necessary capability to transport professional real time video/audio.

With the help of the Ironworks end users group a professional real time video service was defined with a rather large range of possible bit rates and compression types. For instance the content could range from uncompressed to MPEG2, MPEG4, Windows Media 9 or another compression format with bit rates from1 – 400Mb. This is quite different from the widely deployed TV-1 analog video services.

The Video IP group looked at current metrics for packet network performance and how those parameters would impact video performance. The group came to the conclusion that due to the wide range of video bit rates, compression formats and scene content that it was impossible to directly correlate current network metrics with video performance. The video impairment caused by network degradation would not be predictable and deterministic. The only alternative would be to specify a level of network performance that would preclude any network degradation and therefore any video degradation, however this would be impractical to implement. The goal of determining video quality of service levels over these packet networks appeared to be most challenging.

Following the lead of the Pro-MPEG Forum in its Code of Practice # 3 and IETF RFC 3357 the Video IP group determined that a superior methodology would be to utilize techniques like forward error correction at the video/audio interface to match network performance degradation with video/audio recovery capability. Provided that the network degradation never exceeds a pre-determined level during its availability period, the video/audio interface could be provisioned with the appropriate FEC so that video/audio would always be recovered without loss. This appears to be a much more deterministic method for handling video/audio on a packet network.

In order to correlate network performance to forward error correction, two new metrics have become the keys to network performance. These are the maximum number of consecutive lost packets (IETF RFC 3357 loss period) and the minimum number of correctly transmitted packets before the next occurrence (IETF RFC 3357 loss distance).

The main objective of the team's effort going forward is to get a document to the Alliance for Telecommunications Industry Solutions (ATIS) Network Performance, Reliability and Quality of Service Committee formerly T1A1. To that end the team is working on a draft recommendation document to present at the ATIS October meeting

In this draft document a new class of service for professional video including loss distance and loss period metrics (from IETF RFC 3357) as well as some additional details on availability will be presented. The expectation is that this recommendation will ultimately be included in the revised ITU Y.1541 Networks Performance Objectives for IP Based Services document.

ATIS meets at the Venetian Hotel in Las Vegas on October 11 – 15. The draft recommendation will be presented at that meeting.

Additionally at VidTrans 2005 the Real Time Video IP group will be organizing a demonstration of professional real time IP video transport over IP network utilizing metrics and recommendations made in the draft document.

VidTrans 2005 will be held in Atlanta Georgia January 30 through February 2.   .

Well, that's it for now. If there is any topic that you would like to see covered in the next issue of the News Letter, please contact Bob Ruhl at bob.ruhl@comcast.net.