Press Release
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Tixeo innovation: Pushing the limits of multipoint video conferencing

The release of Tixeo v7 comes with a whole new audio and video "stack" with many innovations, including the "SVC on Demand" (Scalable Video Coding on Demand) technology, pushing the limits of video conferencing.

"The Holy Grail of video conferencing": Smaller video streams for higher quality

In order to clearly understand the technological advancement of Tixeo, it is important to have a quick look at the two existing architectures for adaptive multipoint video conferencing.

- MCU (Multipoint Control Unit): This technology consists of mixing all the video streams received from the participants and sending the mixed video stream back to each of them. It has been used for ages by legacy video conferencing players (Polycom, Cisco, Lifesize, etc.). The H.264 AVC video codec is the most commonly used among these systems.
    - Pros:
        - Each participant receives only one video stream adapted to the network
    - Cons:
        - A high CPU usage (decoding, mixing and re-encoding), often requiring hardware acceleration
        - Low scalability
        - Introduces a delay in communication due to high processing load
        - Quality loss as a result of the decoding and re-encoding of the video streams

- Media relay server: Unlike the MCU, this technology (e.g. Vidyo) does not perform mixing, decoding and re-encoding on the server's side. As a result of the properties of the H.264 SVC (Scalable Video Coding) codec, the video streams can be adapted to the receiver's capacity. In fact, an SVC video stream contains multiple stacked layers, each representing a different level of quality. Each participant receives as many streams as there are participants in the meeting and not just one mixed stream with all the videos, as is the case with an "MCU".
    - Pros:
        - Low server-side CPU usage (simple video stream filtering)
        - No delay added to communication
        - A good adaptation of video streams to the network's capacity
        - Good scalability
        - No loss of quality due to a re-encoding of the video stream
    - Cons:
        - For the same video resolution, an H.264 SVC stream can use up to 20% more bandwidth than an H.264 AVC stream
        - The complexity of the H.264 SVC codec causes a higher CPU usage on the client's side

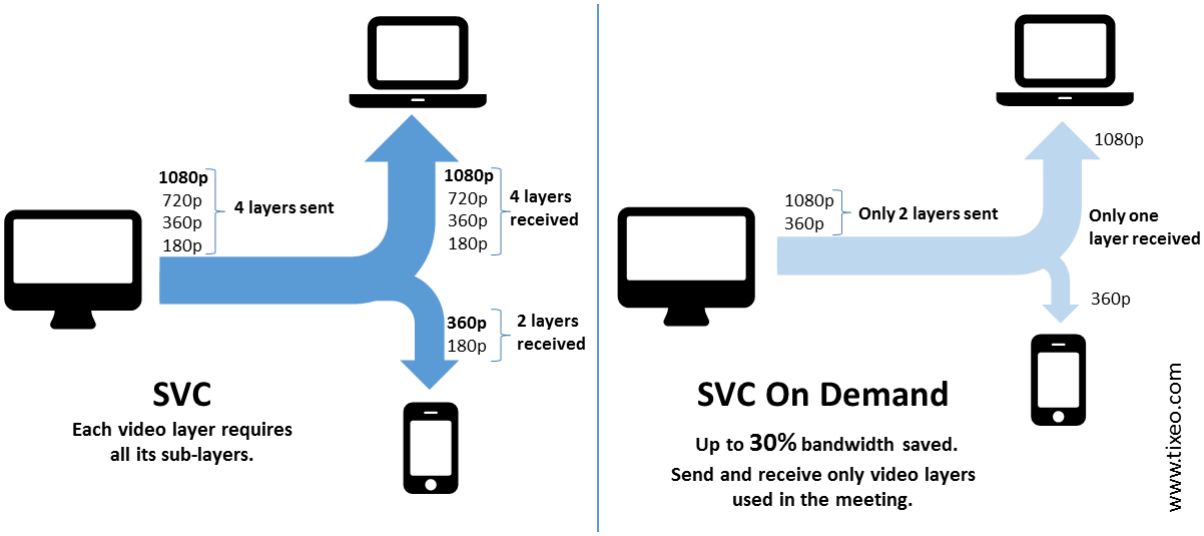
"SVC on Demand": 10-30% bandwidth saved

Tixeo's "SVC on Demand" (SVCoD) is a strange creature. It retains all the advantages of the media relay server architecture, but without the drawbacks. The innovation consists in taking the context of the meeting into account in the encoding strategy. Every client will encode the video stream according to each of the other participants, their network capacity, their equipment and their display resolution.

In fact, each participant simply sends the video layers needed in a meeting. Tixeo therefore removes any bandwidth overconsumption added by a classic SVC codec.

Consider the case of a call between an HD room, a desktop and a smartphone. With SVCoD, only two video "layers" are used, corresponding to the resolutions of the desktop and the smartphone.

The result is simply a higher image quality for a lower bandwidth usage.



Max motion

Related to its new SVCoD technology, Tixeo introduced "Max motion", a technology using the maximum frame rate provided by the camera at all times.
Tixeo favors maximum smoothness, whatever frame rate your camera supports 30, 60 frames per second or even more, even in the event of network slowdown.

New audio stack: Crystal-clear voice in all circumstances

As all the studies agree, good video quality is perceived only if the sound quality is perfect. This is why Tixeo has completely rewritten its audio stack. It now integrates the best audio codec currently available for communication over the Internet: OPUS. It allows a lower network usage while significantly increasing the quality, which will remain optimal whatever the type of sound (voice or music) sent.
This new "stack" also contains a more powerful echo canceller, ensuring meetings without any echo, no matter the conditions of use.

Always highly secured

It is important to remember that the confidentiality of shared information is secured by the encryption of streams. Tixeo's solution neither requires opening network ports (HTTPS Tunneling), nor changing the security policy of the company, unlike all known SIP or h.323 solutions. Traditional h.323 or SIP video conferencing solutions require opening many network ports, not only on the system itself, but also on your entire network infrastructure. This is a major risk as each open port is a potential malicious access point to your information.

About Tixeo

Tixeo has been an innovative HD web conferencing software company since 2003.

Its solutions allow anyone to set up on-line meetings, using both voice and video over IP, combined with a complete set of collaborative features such as document and file sharing, presence and ad-hoc meetings.

Not only are Tixeo's offers are available as Cloud-based Software as a Service (SaaS), with both monthly and yearly plans, but also as On-Premises licenses and Appliances.

Thousands of customers worldwide work with WorkSpace3D every day, from SMB to large corporations such as Nexter, DCI, Airbus / EADS, Raytheon, BNP Paribas, Conforama, Sogeti, and many more. Tixeo is well known for the reliability, security and ease-of-use of its solutions.

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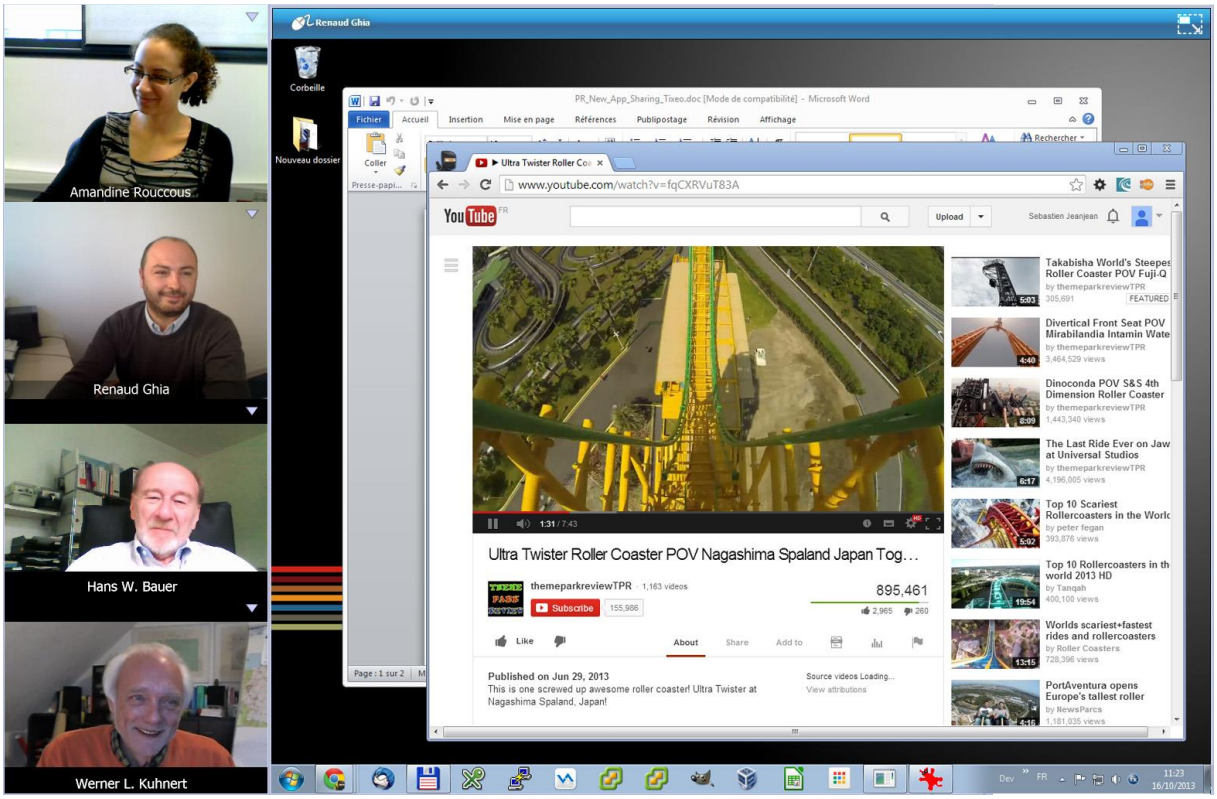
Video conferencing, web conferencing, SVC, SVC on Demand, SVCoD, H.264, MCU, media relay server

Images



Videos

http://www.youtube.com/watch?v=cpTCbrLt2vU&feature=share&list=UUASGTgfWoo3mRDrDf8HJTFw