
Video Call Completion to Voice

How to effectively
terminate every
video call on a 3G
network

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Introduction

World's first commercial 3G network was launched by NTT DoCoMo in Japan back in 2001. Since then, 3G operators around the globe have been struggling to capitalize on their investment on 3G. Since the inception of 3G networks, operators focused on 2 areas for revenue generation from their 3G networks,

1. Mobile broadband
2. Video calling.

Video calling was a highly anticipated feature in the 3G networks. However, operators were left with wondering as to why video calling is not contributing enough revenue as expected. Therefore, one of the biggest challenges for a 3G operator is to improve the p2p video calling revenue on their 3G network.

Challenges in P2P Video Calling

It is imperative that any call originated on a network, regardless of whether its voice or a video call, need to be completed. The most straightforward and simplest way to make this happen is to answer every call received by the B party. This was really difficult in the case of 3G networks due to following reasons,

1. Receiver handset not supporting 3G or video calling

2. Receiver out of 3G coverage area
3. Poor 3G coverage
4. Interconnection problems between 3G operators, both local and foreign

In the history of telephony several call completion methods have been tried, viz,

1. Answering machines
2. Voicemail Platforms
3. Missed Call notification Services.

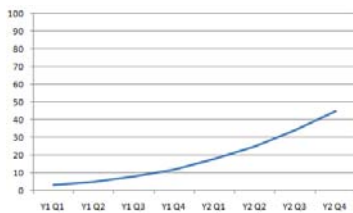
Video mail alone, is it enough?

With the advent of 3G video calling, video dimension was added to voicemail; hence, videomail is introduced. However, the fate of the video mail was similar to voicemail as it is not a popular service in some parts of the world such as Asia. Also, failure of videomail was attributed to another reason; most of the people who received video calls didn't even own a videomail box as they were never a 3G subscriber. Because of this reason, video calls just failed. This resulted in,

1. Dissatisfaction – due to incomplete video calls. Sometimes, it could be the first video call the 3G subscriber is making and failure of which results in an unhappy customer
2. Poor perception on video calling – customer loses confidence on video calling due to bad experience.
3. Revenue loss – Operator loses revenue as the calls are not completed.

Lots of market researches done by the operators and experts on the domain reveal that, for video calling to be succeeded in a 3G network it is essential to complete the video call in a more effective way than just at a videomail box.

It is important to identify the composition at different ages of a 3G network. Following graph shows the growth of 3G penetration in typical network,



As per the above, initially, 3G penetration is low. Therefore, in a typical network there would be more 2.XG handset owners than 3G users. This results in lots of 3G video calls failing.

An ideal solution to failed video calls would be to complete them as voice calls. Whenever a video caller tries to make a video call and if it fails, for, B party not having a 3G handset or not in a 3G coverage area, the 3G network can be smart to terminate that video call as a voice call.

Completing the Video call as a Voice call

A video call can be completed to a voice call in the following manner;

Typically, when a video call fails, network identifies it. Then it could take an action to complete it as a voice call. Before the call

completion decision is taken network should ideally,

1. Inform the video caller, or
2. Take the permission from the video caller,

to make a fall back on to voice. Once the decision is taken, network will initiate a second audio leg to B party and upon successful answer, both the legs will be patched up together. The calling party leg will be video while the called party leg would be audio. Network (or a node in the network) must have the intelligence and capability to handle the media conversion back and forth between video and audio call legs. Since the effective communication only happens on voice, video time slot in the video call leg will be available for other information display.

Little bit of advertising

Since users generally make video calls expecting some form of audio visual experience, it is important to fill this gap. This space can be utilized as an infotainment or advertising space which could potentially bring more revenue to the operator. From the caller's point of view, when the video call is fallen back to voice, he/she could easily verify the reason by talking to the other party. Thus, customer is not frustrated with a failed video call. Specially, this is a very effective and a simple solution. Voice call completion happens seamlessly without any interruptions. Caller is just notified.

A bundled solution

In certain situations, regions or with certain operators, it may be required that a failed video call is not always downgraded to voice. Such requirements should be dealt by offering a choice to the video caller. Choice can be in the form of a video menu. Caller can be given options to terminate the call in one of the following ways,

1. Complete with voice
2. Leave Videomail
3. Leave Video SMS

If the caller decides to proceed with videomail, similar to voicemail, a videomail is recorded and stored in the recipient's inbox. If the choice is a Video SMS, a video message is recorded and will be sent to recipient's video sms inbox. In an ideal situation, recipient of such messages should get notifications via their preferred methods (e.g. SMS, E-mail) and should be able to retrieve them by making a video call or logging into the video messaging portal.

It is difficult to find this type of complete video call completion solutions deployed with correct mix among the operators. Often it is found that Videomail or Video SMS is deployed but never attacking the real problem. Unfortunately, Video to Voice completion solutions are not common in the market due to the complexity of video/audio networking and call charging issues.

WaveNET's Video Call Completion Solution

WaveNET is a company specialized in 3G video calling based solutions for 3G operators. It carries lot of technical and industry experience in 3G video calling products. With extensive internal market researches and close discussions with 3G operators around the world, WaveNET identified the video call completion being one of the key factors in determining the success of P2P video calling.

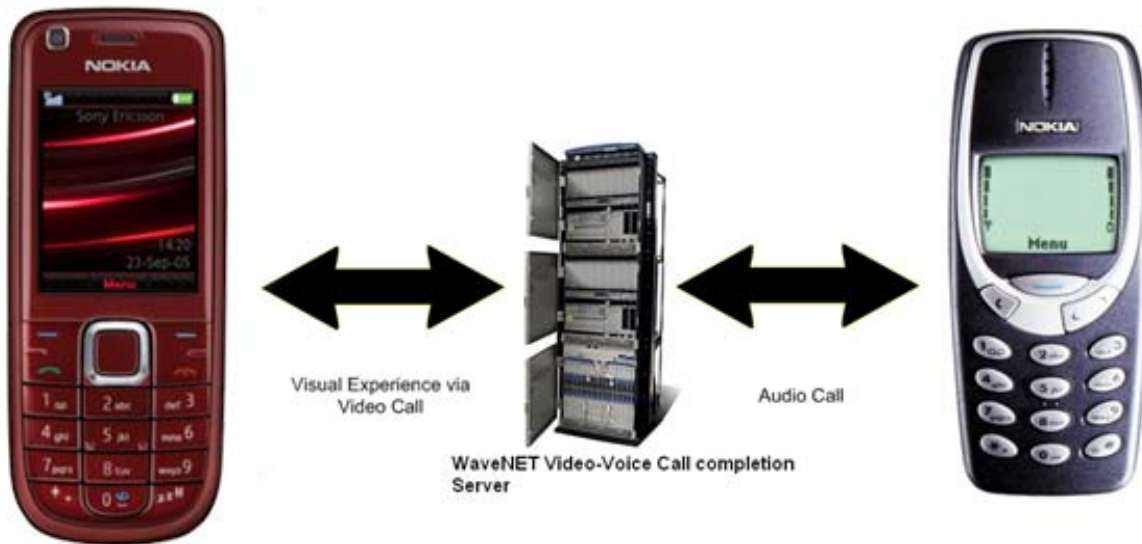
WaveNET's Video Call Completion solution includes the revolutionary **Video to Voice fall back feature**, which has been a complex and a technical challenge for many video vendors. Additionally it addresses the important issues highlighted above in this white paper. The solution from WaveNET can be deployed in different 3G network environments, such as follows,

Newly launched 3G network

WaveNET call completion solution can be deployed by directly connecting to 3G MSC/3G Media Gateway (via ISUP/ISDN-PRI and 3G-324M). Alternatively, WaveNET's 3G Video Gateway can be deployed initially and Call completion solution is deployed on top of Video Gateway.

3G Network with Video Gateway already in place

SIP with RTP is the interface to the Video gateway. Video call completion functions



exactly the same way as in the previous case.

3G Network with Video mail already in place

3G operator need not remove the current video mail system. WaveNET solution can co-exist with the 3rd party videomail solution thus saving on licensing costs for the operator.

WaveNET Video Call Completion Solution Highlights

- Call completion to,
 - Voice
 - Videomail/ Video SMS
- Video Caller visuals
 - Images
 - Videos
 - Banners
 - Ads
- Customized charging integration with the network
- Video mail features
- Comprehensive OAM module

About WavNET

WaveNET is a leading provider of premium mobile technology products and solutions. 3G video is one of the core expertise areas for

WaveNET. It has invested years of R&D effort on 3G related technologies and products. Its close working experience with 3G operators around the world has helped them to come up with innovative and exciting set of 3G products to the market.

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