

## INVENTION DISCLOSURE

### 1. Invention Title.

#### **Method and apparatus for providing Integrated Interactive Group Services over Cable Networks**

### 2. Invention Summary.

This invention discloses a way for people in a user selected community to interact over a cable network. Numerous applications can be built on top of this framework.

### 3. Invention Description.

- a. **Describe the invention in detail and/or attach a description, drawing(s) and/or diagram(s), if available. Please include flow charts for descriptions of software processes, and block diagrams for descriptions of hardware systems. Include the description/attachments in electronic form if possible.**

Gaming, video & audio conferencing, instant messaging, and TV sharing applications are becoming more popular. These services are made more useful by presence information, which is an indicator of a person's availability to communicate over a variety of different mediums such as text, voice or video.

The central mechanism that enables our framework is a Universal Integration and Translation Gateway that resides on the MSO network. The Gateway will access user profile information to co-ordinate communication between different users. It will also negotiate capability information with each end-user device. It can accept MPEG video, PSTN audio, IP-based audio and video telephony, instant messaging, html, and other similar inputs. The content could be received from broadband access devices, the Internet, the Public Switched Telephony Network, the MSO's broadcast video and Video on Demand infrastructure, or similar access networks. The Gateway will translate and format the content for the user into a format that meets the user's device capabilities, whether it is a set top box, Internet-connected PC, mobile phone, or other such device.

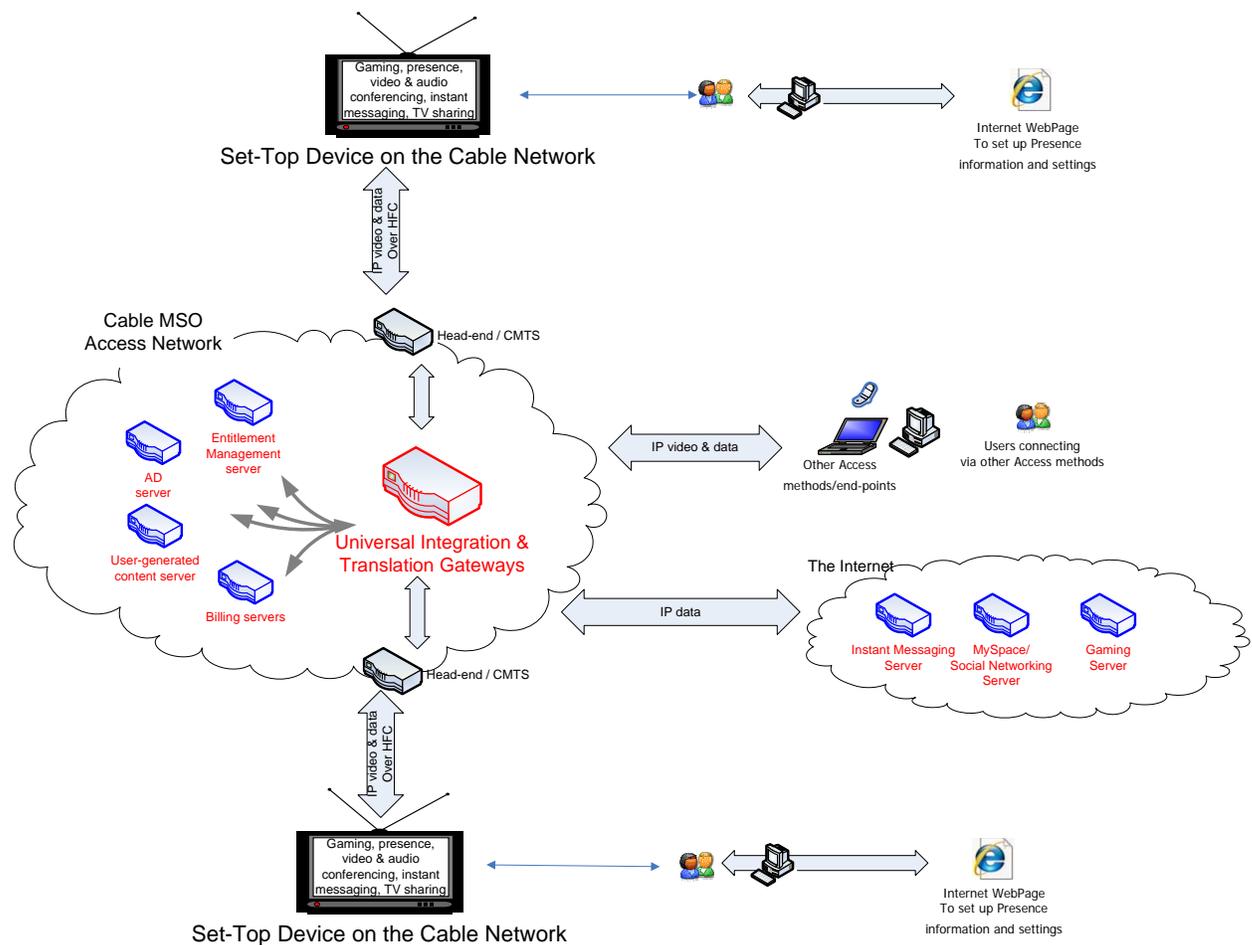
This invention establishes a framework for combining multiple applications and providing these services to users over a variety of devices (e.g. set-top box, PC, or mobile phone) and media (e.g. HFC, the Internet, and the PSTN). This framework enables integration and translation of different services and connects users across different platforms through one or more Gateways. In addition, the framework provides a mechanism for connecting the Gateway with entitlement management servers, ad servers and billing servers to offer operators control over such services and opportunities to generate revenue. Furthermore, it allows the Gateway to connect to a user-

generated content server to provide users with a richer experience and to a web portal server containing user preferences.

Users connect to the web portal server and input their user preferences and associate their devices with their user profile. Users also set up a 'buddy list' on the server of other users that they plan to communicate with.

An example of this invention is videoconferencing between users on different platforms. One user connects to the system using an IP-based videoconferencing system over H.323. Another user does not have a videoconferencing system, but does have access to a TV with a cable set-top box and a home telephone. When the first user wants to establish a session with the second, the user checks presence information to make sure that the second user is connected to the network, then initiates the session. The first user sends audio and video information over IP to the gateway. The gateway translates the video stream into MPEG and transmits it over the HFC plant to the second user's TV. It also directs the audio stream to the user's telephone. Since the second user does not have a video camera, a live video feed is not sent back to the first user, but a still picture from the second user's profile is transmitted, instead. Audio from the second user's telephone is also translated by the gateway into an IP stream for transmission to the first user. This concept could be extended for multiparty communications, as the video stream from the "transmitter" could be broadcast or multicast over the HFC plant and viewed by multiple users.

This Gateway could also be used for text chat (including text-to-speech and speech-to-text conversions), TV sharing, still photo sharing, gaming, and other applications using a similar mechanism. It also allows users to simultaneously combine multiple services, for example, text-based instant messaging with TV sharing so that viewers can share comments on TV content while watching it in different locations.



**b. Why was the invention developed? What problem(s) does the invention solve? How is it better?**

This was developed as part of a brainstorming session on video & data technology convergence. This system improves the use of experience of the popular communication services and uniquely combines them with television viewing to make a very integrated communication system.

**c. Briefly outline the potential commercial value and customers of the invention.**

Cable operators and other network providers can combine these services and offer integrated packages. Such services can be used to increase the attractiveness of “triple play” or “quadruple play” bundles to consumers by integrating disparate service offerings, and will enable MSOs to use their existing cable plants to offer new services. By allowing users to build a community on top of existing cable offerings, operators can also enhance customer loyalty.

This system could also be used in a business environment for videoconferencing or similar applications.

- 4. HOW is your invention different from existing products, processes, systems?  
Please list the closest publication(s), product(s), method(s), patent(s), etc. to your invention. For each item, how is your invention different?**

**Messaging method and apparatus**

**Application number:** 11/172,721

**Publication number:** US 2006/0168054 A1

**Filing date:** Jun 30, 2005

**U.S. Classification** 709206000

**Integration of video telephony with chat and instant messaging**

**Patent number:** 6677976

**Systems and methods for interfacing with a user in instant messaging**

**Patent number:** 6983305

**Multimedia telecommunications network and service**

**Patent number:** 5689553

The ideas listed above mostly describe systems for instant messaging applications and also combine it with video telephony chat.

Our idea is different from those above because it is an integrated system which includes TV sharing, audio/video conferencing, and also presence functionality. It combines these features together and provides a new powerful communication service which is not present in any of the other ideas. Also this invention brings this platform to cable customers via set-top boxes and also has provisions to connect with other users over the internet.