**Development of a Live-Streaming-Server System
for a Multi Camera System with Software-Based Video Director**

Case Study

Summary

1   Executive Summary

After a successful launch of the E-CLIC LivingLab planet MID, several events had taken place in this environment. To enhance the working environment and opportunities for both, education and events, the development of a live-streaming-server system for a multi camera system is planned.

2   Problem Statement

Tasks and objectives

Based in the media theater of the LivingLab planet MID there are two room cameras. The camera signals are connected to a Creston media controller. At this point the selection and control of the cameras is carried out. Also, an image signal is made available and transmitted to a computer with an audio / video input card.
The main objective is to process the image and sound signals in a particular way in order to transfer a lifestream to the inter- and intranet. The encoding of the image signal should also fulfill the requirements for the display on smartphones and tablet PCs. The resulting files are documented and can be offered for later download.

Regarding the media transmission the highest possible compatibility with the streaming client is desired. Therefore, various streaming programs in consideration of cost, performance and compatibility should be tested and evaluated.

3   Implementation

Following the fundamental development, an expansion phase is planned. At this level the system should handle up to four cameras plus the projector screen. To realize this advanced system a special software should be used. BoinxTV is a software for directing in broadcast studios, focused on monitoring and control capabilities (BoinxTV [www.boinx.com], Wirecast [www.telestream.net]).

Technically, the hardware must be expanded to include a 4-fold input card and the software of the media control has to be upgraded.

4   Conclusion

Steps of development

- Selection, testing and installation of a live-streaming software, taking account of compatibility, cost and performance

- Selection, testing and installation of an encoding software that meets the specifications and requirements for mobile devices, like smartphones and tablet PCs

- Selection and installation software for a computer-based video director for up to five HD input signals

- Storage and download the streaming file