To: CUE Board of Directors, Conference Planning Committee
From: CUE Leadership
Date: April 30, 2014
Subject: Conference Internet Issues

Given the catastrophic failure experienced with regards to the network provided for attendees, presenters, exhibitors, volunteers and staff, CUE felt it was important to provide an explanation and share its plan to move forward with vastly improved service moving forward.

BACKGROUND

Here's some quick background for the purposes of understanding the history of this event's network configuration. Since CUE first offered wifi to our attendees, there have always been issues. The first several years that it was provided (2006-2012), it was provided by the Convention Center, Renaissance (previously Wyndham) and Hilton Hotels network contractor (SWANK, and later, PSAV). The issues varied over the years, and failures were caused by a number of different issues, mostly poor equipment, bad placement of APs, insufficient bandwidth, a poorly configured network, and overall, a weak infrastructure.

In 2012, the CUE staff, with full support of the Board of Directors, decided to leverage the CUE reserve and purchase our own network equipment. Further, we directed our AV/Media/IT contractor at the time, Cross Communications, to expand staff to support the configuration, set up and support on our own terms moving forward. All told, the cost of purchasing and configuring this infrastructure approached $200,000 over the two years of its implementation. In addition, we doubled bandwidth from 100 Mbps to 200 Mbps for the event.

In 2013, this equipment functioned quite well, with only one major failure due to hotel or convention center staff interference with our equipment during the first day of the event. Once this was identified and corrected, we had only minimal issues, mostly related to bandwidth limitations during peak times and rogue (mi-fi, personal hotspot-style) networks.

In 2014, the failure was so catastrophic that CUE hired two consultants to review the event's network configuration, logs and wifi layout after the event. We also solicited our standard post-event reports from our contractors.

As a result of these reports, it was clear that CUE's IT contractor failed to correctly configure the networking and sonic wall equipment, provide trained personnel, and respond to issues in a timely fashion. The contractor also failed to provide realtime remote and onsite oversight to the network. Nearly all vendors that ordered Internet at their booths requested a refund, which was granted in all instances.

We also experienced an attack on our equipment which resulted in a crashed DHCP server. Much staff time was spent addressing this issue (by rebuilding the server), which further took away from the team's ability to address the poor configuration issues. Failing to have a backup of this server was also a noted oversight. Lack of redundancy throughout the system was also noted as another fail point.

Placement of access points was also not done correctly, in some cases, resulting in overlap and conflicting signals. A newly-designed 'heat-map' has already been designed to improve placement, coverage and remove conflicting signals.

Further, the audio set-up for the newly expanded general session stage was insufficient for the size of the room, resulting in poor audio for all three keynotes, and in some cases, muddled audio for the front rows. Streaming sessions to overflow rooms worked consistently, as did recording of ITM *Live!* sessions.

2015 AND BEYOND
CUE has been working with several experts, including CUE's own volunteer Network Task Force to prepare an Request for Proposals to solicit bids on the work for Internet, AV and Media services to be provided at CUE Conference events. This will be the first time in 22 years that CUE has sought a new proposal for these services, and regardless of who is chosen, the work ahead will be difficult as we select new providers for these mission-critical issues.

Working with a consultant, CUE has already implemented the use of 'heat-mapping' planning software to model the wireless environment at the conference. Further, we will be hiring a Network Communications consulting firm to work as our representative, advisor and expert on site.

CUE staff will work with the Palm Springs Convention Center, Renaissance and Hilton Hotels, and PSAV to manage infrastructure and bandwidth upgrades at all three facilities prior to our event in March 2015.

Further, we will set up improved internal and external communication to better handle any issues that do arise at future events. We will set up a swift communication method to get information to all key stakeholders (including attendees) immediately. We will ramp up pre-event communication to speakers, exhibitors and attendees.