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**BrightSign Teams with Elemental Technologies, RED Digital Cinema and Zixi at NAB to Showcase Over-the-Top 4K Broadcasting**

Industry Heavyweights Create Solution to Enable Secure, Reliable 4K Video  
Broadcasting of Live Events

LOS GATOS, CA – (April 8, 2015) – BrightSign, LLC®, the global market leader in digital signage players, today announced at the NAB Show (April 11-16 at the Las Vegas Convention Center) its collaboration with broadcast industry leaders to deliver proof-of-concept for Over-the-Top (OTT) distribution of live events broadcast in 4K. Elemental Technologies (booth SU2724), RED Digital Cinema (booth SL1517) and Zixi (booth SU10802) partnered with BrightSign to enable end-to-end 4K distribution over IP to deliver 4K content from any live venue to virtually any destination. OTT is utilized by a growing number of low-cost service providers to deliver video content directly to viewers, creating the direct relationship with viewers that's becoming commonplace as on-demand viewing continues to displace traditional broadcast distribution.

The solution demonstrated at the NAB Show highlights the power of OTT – including acquisition, transcode, distribution over IP, decode and display of a 4K live stream. Source input is captured in 4K using an EPIC RED DRAGON and the RED 4K Broadcast Module, which then feeds an Elemental 1RU encoder capable of real-time 4Kp60 HEVC video processing. The resulting content is wrapped in the Zixi Transport Protocol by the Zixi Feeder running on the same Elemental system. Zixi then transports the content over a standard Internet connection, protecting the stream and managing packet loss and jitter,

delivering the file to the Zixi Broadcaster. The stream is then distributed to multiple destinations, each equipped with a BrightSign 4K media player built on top of Broadcom's BCM7444 media gateway SoC. The BrightSign 4K players with embedded Zixi Receiver software accept the 4K content and then decode and send the content to 4K displays via HDMI 2.0 preserving native 4K resolution and 60 frames-per-second playback.

The workflow described above will be demonstrated in the RED Digital Cinema booth in the South Hall at the Las Vegas Convention Center. It constitutes an end-to-end 4K distribution solution over IP capable of delivering live 4K content captured at any type of live event – concerts, keynote speeches, sporting events, lectures, exhibitions – to multiple endpoints simultaneously. The security and reliability of such a solution offers a proven OTT distribution model to broadcasters and program providers, as well as commercial establishments such as bars, hotels, restaurants and other venues.

BrightSign's 4K media players will be featured prominently and behind the scenes at many exhibitor booths at NAB Show. In particular, RED Digital Cinema will feature striking 4K footage from capture to endpoint, starting with the EPIC DRAGON camera and delivered via Zixi to BrightSign's 4K players displaying the content on the booth's 4K screens. Elemental will also feature BrightSign's 4K players in its booth. Zixi will feature BrightSign's 4K and HD players at the Zixi booth.

For more information about the BrightSign 4K media players used in OTT broadcasting, visit: <http://brightsign.biz/digital-signage-products/4k-product-line/overview/>.

### **About BrightSign**

BrightSign LLC, the global market leader in digital signage media players, is headquartered in Los Gatos, California, with offices in Europe and Asia. BrightSign manufactures media players, and provides free software and networking solutions for the commercial digital signage market worldwide, serving all vertical segments of the digital signage marketplace. From entry-level BrightSign LS players to BrightSign 4K players offering state-of-the-art technology and unsurpassed performance, BrightSign's products are known for their signature reliability, affordability, ease-of-use, and market-leading technology. For more

information, visit [www.brightsign.biz](http://www.brightsign.biz). Follow BrightSign at <http://twitter.com/brightsign> and <http://www.facebook.com/BrightSignLLC>.

### **About Elemental**

Elemental Technologies is the leading supplier of software-defined video solutions for multiscreen content delivery. Founded in 2006 and headquartered in Portland, Oregon, the company pioneered the use of software-based video processing to distribute video over IP networks. Solutions from Elemental provide the flexibility, scalability and performance required to deliver high quality video via turnkey, cloud-based and virtualized deployment models. Powering video experiences for more than 600 leading media franchises worldwide, Elemental helps pay TV operators, content programmers, broadcasters and enterprise customers bring video to any screen, anytime – all at once. The company has offices in the United States, the United Kingdom, France, Hong Kong, Singapore, Japan, China, Russia, India and Brazil. To learn more, please visit [www.elementaltechnologies.com](http://www.elementaltechnologies.com) and follow [@elementaltech](https://twitter.com/elementaltech) on Twitter.

### **About Zixi**

Zixi is revolutionizing contribution, management, production, distribution and consumption of studio-quality video on the Internet. By enabling broadcast news, live sports, service providers, enterprises and video equipment manufacturers to use unmanaged IP networks like the Internet for reliable content delivery to any device, any time anywhere. Zixi's proven, unique transport software eliminates the problems in transporting video that are inherent in IP networks and delivers video of unprecedented quality with no stutter, packet loss or frame-freeze regardless of network conditions. Customers using Zixi to enhance their users' experiences include NASDAQ OMX, the Ultimate Fighting Championship (UFC), Stryker and News Corp. Zixi is privately held and based in Waltham, MA. To Learn more please visit [www.zixi.com](http://www.zixi.com)

### **About Red Digital Cinema**

In 2006, RED Digital Cinema began a revolution with the 4K RED ONE® digital camera. By 2008, the camera that changed cinema also began to change the world of stills. The same

camera being used to shoot features like "The Hobbit" trilogy and "Gone Girl" - as well as the Emmy-winning "House of Cards" - was being used to shoot covers for magazines such as "Vogue". In 2014, RED began providing a broadcast solution allowing streaming, live 4K while recording 6K R3D RAW masters. Visit [WWW.RED.COM](http://WWW.RED.COM) for more information.

### **About Broadcom**

Broadcom Corporation (NASDAQ: BRCM), a FORTUNE 500® company, is a global leader and innovator in semiconductor solutions for wired and wireless communications. Broadcom® products seamlessly deliver voice, video, data and multimedia connectivity in the home, office and mobile environments. With one of the industry's broadest portfolio of state-of-the-art system-on-a-chip solutions, Broadcom is changing the world by Connecting everything®. For more information, go to [www.broadcom.com](http://www.broadcom.com).

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