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## **HARMAN and VMware Partner to Accelerate IoT Adoption for Enterprises Through Convergence of IT and Operational Technology**

*HARMAN's gateways and sensors, edge analytics and OTA technology combined with VMware's end-to-end IT operational management and edge solutions to enable simplified, scalable and secure enterprise-class IoT*

BARCELONA, Spain--(BUSINESS WIRE)-- **MOBILE WORLD CONGRESS**--At Mobile World Congress 2017, [HARMAN](#) (NYSE: HAR), the premier connected technologies company for the automotive, consumer and enterprise markets, and VMware (NYSE: VMW), a global leader in cloud infrastructure and business mobility, today announced a collaboration to deliver simplified and specialized Internet of Things (IoT) solutions for enterprise customers in industrial, retail, building management, automotive and energy efficiency industries. By integrating HARMAN's portfolio of over-the-air (OTA) software updates, sensors, gateways and analytics services into VMware's IoT solution, the partnership will help deploy, secure, manage and monitor IoT infrastructure at enterprise scale to streamline industry-specific IoT use cases.

The Internet of Things is here today and companies globally are already investing in, and seeing ROI from IoT. IDC predicts that the worldwide Internet of Things market spend will grow to \$1.29 trillion in 2020 with a compound annual growth rate (CAGR) of 15.6% and the installed base of IoT endpoints will grow from 12.1 billion at the end of 2015 to more than 30 billion in 2020 (Doc # US42082716)<sup>(1)</sup>. As companies race to implement IoT strategies, they will require complete solutions that focus on specific market segment requirements. IT and operational teams will also have to address massive scaling and management requirements to deliver maximum value and the best possible experience.

This new collaboration between HARMAN and VMware will help Communications Service Providers (CSPs) add new offerings and expand revenue streams that will further enhance the IoT user experience and the delivery of innovative services. HARMAN's OTA update solutions paired with the VMware vCloud® NFV™ platform and end-to-end IoT operational management solution is designed to deliver a fully elastic and optimized network infrastructure that allows operators to expand their services into new markets as they transform network architectures towards 5G. The combined solution will enable CSP's to provision and launch innovative services through a fully virtualized mobile core network such as prioritized connectivity such as emergency calling, communication and video conferencing and infotainment with high-definition quality, leveraging simplified operations management, policy control, and self-provisioning.

"As industries ramp up efforts to adopt IoT, this one-of-a-kind offering allows enterprises across all verticals to benefit from simplified solutions that elevate their services to a more sophisticated and innovative degree," said Sanjay Dhawan, president, HARMAN Connected Services. "HARMAN and VMware's complementary IoT offering will change the landscape for non-traditional technology companies, providing them with new growth opportunities that will set them apart from their competitors."

In addition to supporting new telecom services and automotive enterprises, HARMAN and VMware's combined IoT offering is designed to help the following vertical markets achieve their innovation objectives quicker and more effectively:

- 1 Retail - Understand in-store shopper behavior, determine the efficacy of store displays, enhance floor navigation paths, monetize hot zones with personalized coupons and optimize inventory
- 1 Industrial - enable factory automation and management, including predictive maintenance using vibration sensor analytics
- 1 Smart Buildings - optimize energy usage, space utilization, and meeting room occupancy with higher real estate ROI and enhanced occupant comfort
- 1 Automotive - simplify the update and monitoring of automotive end points using Harman OTA and VMware's IoT management platform solution

"While businesses look to adopt IoT into their organizations and offerings, the efficient management and security that IT brings is necessary for IoT to reach enterprise grade and scale," said Mimi Spier, vice president and head of business development, GTM strategy and marketing for IoT at VMware. "Through our collaboration with HARMAN, we are working to

bridge the gap between operational technology (OT) and information technology (IT), helping companies across many industries maximize the full potential of IoT through seamless integration with their IT infrastructure."

## **HARMAN and VMware Demonstrate Connected Car Solutions**

At Mobile World Congress at HARMAN stand K30, Hall 2, HARMAN, VMware and Athonet will showcase a live connected car IoT scenario. Elements of Athonet's click-to-deploy "softwarized" mobile core are disaggregated (Control/User Plane) and deployed in real-time with VMware vCloud NFV™ to allow high performance LTE services to be delivered to the dashboard of a car running a video entertainment hub framework. This allows for the local breakout of video and other communications for local edge computing requirements and can deliver the highly secure, ultra-low latency required by high-bandwidth applications. HARMAN IoT solutions bring connectivity, digital content, emergency services and policy control to the connected car.

### **About VMware**

VMware, a global leader in cloud infrastructure and business mobility, helps customers accelerate their digital transformation. VMware enables enterprises to master a software-defined approach to business and IT with VMware Cross-Cloud Architecture™ and solutions for the data center, mobility, and security. With 2016 revenue of \$7.09 billion, VMware is headquartered in Palo Alto, CA and has over 500,000 customers and 75,000 partners worldwide.

### **About HARMAN**

HARMAN ([harman.com](http://harman.com)) designs and engineers connected products and solutions for automakers, consumers, and enterprises worldwide, including connected car systems, audio and visual products, enterprise automation solutions; and connected services. With leading brands including AKG®, Harman Kardon®, Infinity®, JBL®, Lexicon®, Mark Levinson® and Revel®, HARMAN is admired by audiophiles, musicians and the entertainment venues where they perform around the world. More than 25 million automobiles on the road today are equipped with HARMAN audio and connected car systems. The Company's software services power billions of mobile devices and systems that are connected, integrated and secure across all platforms, from work and home to car and mobile. HARMAN has a workforce of approximately 30,000 people across the Americas, Europe, and Asia and reported sales of \$7.2 billion during the 12 months ended December 31, 2016. The Company's shares are traded on the New York Stock Exchange under the symbol NYSE: HAR.

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IDC [Worldwide Internet of Things Forecast Update, 2016-2020: December 2016](#), Doc # US42082716

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