## Hughes Announces JUPITER System Enhancements for Highest Possible Performance and Efficiency in Satellite Broadband Implementation

May 1, 2019

Latest system release for company's flagship technology helps network operators meet exploding demand for connectivity with higher throughput and greater efficiency

WASHINGTON, May 1, 2019 /PRNewswire/ -- SATELLITE 2019, Booth 1100 -- <u>Hughes Network Systems. LLC</u> (HUGHES), the global leader in broadband satellite networks and services, today announced enhancements to its JUPITER<sup>TM</sup> System, the company's next generation very small aperture terminal (VSAT) platform for broadband services over both high-throughput and conventional satellites. The Hughes JUPITER System enables operators to achieve the highest possible performance and efficiency for satellite broadband, with enhancements including: support for up to 300 Mbps of throughput; 16,000 TCP sessions; a newly designed, cost-effective Ka-band radio employing higher order modulation for the return channel; reduced inroute channel spacing; and Layer 2 protocol support.



"Our latest enhancements to the JUPITER System again raise the bar for satellite broadband network performance and efficiency," said Dave Rehbehn, vice president, International Division at Hughes. "Hughes continuous investment in the JUPITER System – the world's most widely deployed High Throughput Satellite platform – validates our leadership in the marketplace as a partner of choice by network operators offering the widest range of broadband applications, from Community Wi-Fi, to cellular backhaul, to aero and maritime connectivity."

Designed with advanced DVB-S2X, terminals in the JUPITER family now support 300 Mbps of throughput plus acceleration of 16,000 TCP sessions – ideal for applications with many simultaneous users, whether for fixed cellular backhaul and Community Wi-Fi Hotspot solutions, or for mobility services on an airplane or ship. Employing an integrated linear Ka-band radio, the JUPITER System supports both 8PSK and 16APSK higher order modulation schemes, delivering more bits per hertz, which combined with reduced spacing of the return channel yields higher bandwidth efficiency and lower service cost for operators. Additional new features include Layer 2 support, enabling operators to seamlessly integrate satellite and terrestrial offerings, plus support for mobility roaming among JUPITER-equipped operators offering aero and maritime services.

For more information about the JUPITER System, please visit: https://www.hughes.com/technologies/broadband-satellite-systems/jupiter-system

## Hughes at SATELLITE 2019: Connecting People, Enterprises and Things

Hughes will exhibit at SATELLITE 2019 on May 6-9 at the Walter E. Washington Convention Center in Washington, D.C., showcasing how consumers, businesses, governments and communities around the world benefit from the connected experiences enabled by Hughes technologies and services, today...and tomorrowSee Hughes executives at SATELLITE 2019 for unique perspective on connecting people, enterprises and things – including GEO HTS and LEO systems; community Wi-Fi and cellular backhaul solutions; M2M, AI and IoT networks; aero and maritime connectivity; MilSatCom and more. For further information, please visit <a href="https://www.hughes.com/sat19">www.hughes.com/sat19</a>

## **About Hughes Network Systems**

Hughes Network Systems, LLC (HUGHES) is the global leader in broadband satellite technology and services for home and office. Its flagship high-speed satellite Internet service is HughesNet®, the world's largest satellite network with over 1.3 million residential and business customers across the Americas. For large enterprises and governments, the company's HughesON™ managed network services provide complete connectivity solutions employing an optimized mix of satellite and terrestrial technologies. The JUPITER™ System is the world's most widely deployed High-Throughput Satellite (HTS) platform, operating on more than 20 satellites by leading service providers, delivering a wide range of broadband enterprise, mobility and cellular backhaul applications. To date, Hughes has shipped more than 7 million terminals of all types to customers in over 100 countries, representing approximately 50 percent market share, and its technology is powering broadband services to aircraft around the world.

Headquartered outside Washington, D.C., in Germantown, Maryland, USA, Hughes operates sales and support offices worldwide, and is a wholly owned subsidiary of EchoStar Corporation (NASDAQ: SATS), a premier global provider of satellite operations. For additional information about Hughes, please visit <a href="www.hughes.com">www.hughes.com</a> and follow <a href="www.hughes.com">@ HughesConnects</a> on Twitter.

## About EchoStar

EchoStar Corporation (NASDAQ: SATS) is a premier global provider of satellite communication solutions. Headquartered in Englewood, Colo., and

conducting business around the globe, EchoStar is a pioneer in secure communications technologies through its Hughes Network Systems and EchoStar Satellite Services business segments. For more information, visit <a href="mailto:echostar.com">echostar.com</a>. Follow <a href="mailto:ech

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