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Author: Mr. Jason Andrews  
United States, jandrews@andrews-space.com

Mr. Curt Blake  
Spaceflight Inc., United States, curt@spaceflightservices.com  
Ms. Melissa Wuerl  
Andrews Space, United States, mwuerl@andrews-space.com

SPACEFLIGHT SECONDARY PAYLOAD SYSTEM (SSPS) AND SHERPA TUG – ENABLING  
SYSTEMS FOR THE LAUNCH OF SECONDARY AND HOSTED PAYLOADS

**Abstract**

Since the termination of the Falcon 1 program the opportunities for access to space for small spacecraft have been limited. Spaceflight Inc. (Spaceflight) is addressing this market need by providing commercial launch services for secondary and hosted payloads using its Spaceflight Secondary Payload System (SSPS) and SHERPA in-space tug. The SSPS is a system designed to transport up to 1,500 kg of secondary and hosted payloads to space using the excess capacity on Medium and Intermediate class commercial launch vehicles. The SSPS can accommodate up to five 300 kg spacecraft, or many smaller spacecraft, on each of its five ports and operates independent from the primary launch vehicle to simplify payload and mission integration. SHERPA is an in-space tug that builds upon the capabilities of the SSPS by incorporating propulsion and power generation subsystems to create a free-flying tug dedicated to maneuvering to place secondary and hosted payloads in an optimal orbit. Spaceflight has manifested the SSPS on a Falcon 9 flight in late 2012 and the SHERPA on flights in 2013, 2014 and 2015. This paper and presentation will outline the payload capabilities of both the SSPS and SHERPA, with specific detail on the payload interfaces, the available payload volume, predicted environments and expected launch integration flow.