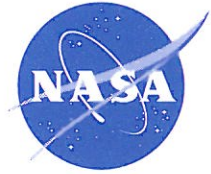


National Aeronautics and
Space Administration

Headquarters

Washington, DC 20546-0001



July 22, 2015

Reply to Attn of:

HEOMD, Advanced Exploration Systems

Prof. Vassilis Tsaoussidis
Department of Electrical and Computer Engineering
Democritus University of Thrace
Office 1, Building A
Panepistimioupolis Kimmeria
Xanthi 67100, Greece

Dear Dr. Tsaoussidis:

This letter is simply to thank you and your Space Internetworking Center (SPICE) team for the valuable contributions you have made to the Interplanetary Overlay Network (ION) system, NASA's open-source implementation of the Delay-Tolerant Networking (DTN) architecture, over the past few years. SPICE team members:

- contributed software to the Delay-Tolerant Payload Conditioning module of ION, which helps to optimize end-to-end data exchange over a DTN-based network;
- contributed software to the Bundle Streaming Service framework and protocol, which enable the practical streaming of audio and video over a DTN-based network;
- developed techniques for bundle delivery time estimation that will become increasingly important with growth in the scope and complexity of the Solar System Internet;
- helped to optimize the utilization of network resources by "contact graph routing" algorithms.

These improvements to ION will become especially useful as NASA proceeds with the planned deployment of ION gateway nodes on the International Space Station later this year, serving the communication needs of both operational systems and science investigation payloads. The SPICE team can be justly proud of their role in increasing the Space Station's ability to sustain international cooperation in vital space science.

Best regards,

A handwritten signature in black ink, appearing to read "Jason Crusan".

Jason Crusan
Director, Advanced Exploration Systems
Human Exploration and Operations Mission Directorate