

# Re: Interplanetary communications protocols

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**Date:** 01/20/05

Date: Thu, 20 Jan 2005 00:21:38 -0800

To: sci-space-tech@moderators.isc.org

Ami Silberman wrote:

>  
> *"Henry Spencer" <henry@spsystems.net> wrote in message*  
> *news:IAIuML.C7s@spsystems.net...*  
> > *In article <1105902023.240764.257410@z14g2000cwz.googlegroups.com>,*  
> > *<dave.harper@gmail.com> wrote:*  
> > > *I was wondering what communications protocols have been used in the*  
> > > *past with probes traveling beyond the earth-moon system?*  
> >  
> > *The CCSDS protocols <<http://www.ccsds.org>> are essentially universal in*  
> > *deep-space missions, although there is some interest (mostly outside the*  
> > *traditional deep-space organizations) in TCP/IP as an alternative.*  
> > --  
> > *"Think outside the box -- the box isn't our friend." | Henry Spencer*  
> > -- *George Herbert |*  
> *henry@spsystems.net*  
> *Blech! I once assigned my Operating System class an assignment to look at*  
> *changes that would need to be made to TCP/IP to be used over interplanetary*  
> *distances. It makes a radio network look pretty awful. A cursory glance at*  
> *"Next-Generation Space Internet: Prototype Implementation" from the ccsds*  
> *site leads me to believe that the authors propose to use TCP/IP for*  
> *communication among and to/from a constellation of NEO satellites.*  
> *(Currently there are applications that do use a modified TCP/IP over*  
> *satcom.) Fundamentally, it isn't much different in concept that running it*  
> *over a radio net -- you have less bandwidth than in the wired world, and*  
> *much longer end-to-end delays.*  
>  
> *I don't see the point, however, for deep space missions. TCP/IP adds a lot*  
> *of overhead, mostly to manage routing and reliable delivery. Deep space*