

**REQUEST FOR ACTION (RFA)**

<b>1. Review Type</b> USA SN Gateway System Requirements Review		<b>2. RFA No.</b> 12	<b>3. Review Date</b> 11/16/09
<b>4. Title</b> Data Recording			
<b>5. Action</b> Define the requirement for recording the raw data. Describe if the legacy systems at WSC record such data and where.			
<b>Reference</b> Page 100			
<b>6. Originator/Organization/Telephone No./E-mail</b> Madeline Butler, 6-4806, madeline.j.butler@nasa.gov			
<b>7. Assigned To/Organization/Telephone No./E-mail</b> Jose Ramirez, SGT-MSES, 301-352-4806, jramirez@sgt-inc.com			<b>Due Date</b>
<b>8. Response</b> In order to support multiple missions and maintain current services, the SN Gateway will record frame aligned data with the option of recording data through loss of frame lock and uncorrectable Reed-Solomon Errors (is R-S is enabled). The SN Gateway can record either this type of Raw data, or only synchronized corrected frames, but not both in a simultaneous fashion. In order to support both simultaneously, the SN Gateway would require twice the number of return ports, significantly increasing costs.  Please see attached for further information			
<b>9. Response By/Organization/Telephone No./E-mail</b> Jose Ramirez, SGT-MSES, 301-352-4806, jramirez@sgt-inc.com			<b>Date Prepared</b>
<b>10. Originator Contacted</b>	<input checked="" type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b>	<b>Date</b>
<b>11. Disposition</b>	<input type="checkbox"/> <b>Open</b>	<input type="checkbox"/> <b>Deferred</b>	<input type="checkbox"/> <b>Closed</b> <input type="checkbox"/> <b>Withdrawn</b>
<b>12. Comments</b>			
<b>13. Approval</b>			
		<u>3-8-2010</u>	
Harry Shaw – USA Review Board Chair		Date	



# Support for simultaneous raw and frame synchronized, error corrected data



- For efficient, robust, and consistent performance, most vendor implementations use hardware (ASIC or FPGAs) to perform Frame Synchronization, PN decode or de-randomization, Reed Solomon (R/S) decode
- This processing hardware transfers the data stream through a DMA process, streaming the data to the drive
- In order to simultaneously record raw and unprocessed data, two channels would be required.
- The SN Gateway supports the capability to record either
- Raw data can be forwarded to the user, however the user would need to perform the frame synchronization, PN decode, and R/S otherwise the data would not be useable or readable

