

Standardized Spacecraft Onboard Interfaces

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Abstract—The Consultative Committee for Space Data Systems (CCSDS) is an international organization of national space agencies that is organized to promote the interchange of space related information. CCSDS is branching out to provide new standards to enhanced reuse of spacecraft equipment and software onboard of a spacecraft. This effort is know as Spacecraft Onboard Interface (SOIF). SOIF expects that these standards will be well used within the space community, and that they will be based on the well-known Internet protocols. This paper will provide a description of the SOIF work by reviewing this work with three orthogonal views. The Services View describes the data communications services that are provided to the users. The Interoperability view provides a description to users on how SOIF can be used to exchange data and messages between different elements attached to the spacecraft data buss. And finally, the Protocol view, describes the protocols and services that are to be implemented in order to provide the users with the advantages of the SOIF architecture. The paper will then continue with a more detailed discussion of the communications services that will be available to users. This discussion is important in that it presents the SOIF from the perspective of the future user. This paper will give the reader an excellent introduction to the work of the international SOIF team.