

EDS for complex hardware units, what is needed and how do we generate them efficiently?

The classical way of passing interface information has been through pdf-documents. A typical ICD document for an OBC is around 100 pages plus 20 pages of connector information plus an interface drawing with mechanical and thermal details. An RTU ICD is typically around 75 pages plus 50 pages of connector information plus interface drawing. Parts of the ICDs are generated manually and other parts, mainly the connector lists, are generated automatically. The manual generation is quite labour intensive for the first ICD of a new product as it is required to have electrical schematics for all interfaces in the ICD. When the ICD exists it is rather easy to update it for new customers that require minor project adaptations.

Primes are now starting to require electronic data sheets in xml format, mainly for standardised information like mass, thermal data and connector information to avoid interpretation errors when manually translating the equipment supplier pdf-documents. These Electronic Data Sheets in xml format typically contain 15-20 different sheets and today these sheets are filled manually by the equipment supplier due to the lack of a standardised format. Errors occur during this manual process, mainly due to lack of understanding what is needed and where. Thus the problem boils down to where the manual translation process is most reliable, at the prime or at the equipment supplier.

If a standardised EDS format was agreed, it would be worth creating tools that fill the EDS automatically from the design data base and to have the tools validated. For a complex unit like an OBC it is however still difficult to provide interface data like reconfiguration sequences and other FDIR mechanisms interface data in a standardised format. Do we still need to generate interface drawings with actual interface data instead of just stating the interface type and relying on the interface specification as is done in the EDS today?