

IMA for space : status and perspectives

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This presentation aims at giving an overview the current status and potential perspectives, including the open points, for space applications of the Integrated Modular Avionics (IMA) concept developed by the aeronautic industry. At first, a status will be made on the current of the on-board data-handling system for the space applications, in particular the way CNES pushed the concept of platform and the way it has been spread by industry for non-CNES programs (ESA, commercial). Then it will demonstrated to which extend the IMA concept is not yet directly applicable in the context of the space domain : technical, organisational and specific other space domain constraints will be detailed. In the last part, it will presented how and which of the concepts inherited from IMA are considered relevant for space. In particular the various technical fields have been explored and will be presented in various area such as ARINC 653 standards, software standard architectures, methods, associated tools. The organisational problems and associated business model will also be considered. For each area the open questions have been raised, waiting for answers from the aeronautic world. Based on those preliminary studies, a working plan could be sketched. However the lack of visibility on the real technical issues behind the IMA and still missing answers to our questions (mainly for industrial property reasons and competition between BOEING and AIRBUS) will dramatically decrease the spin-in process efficiency...