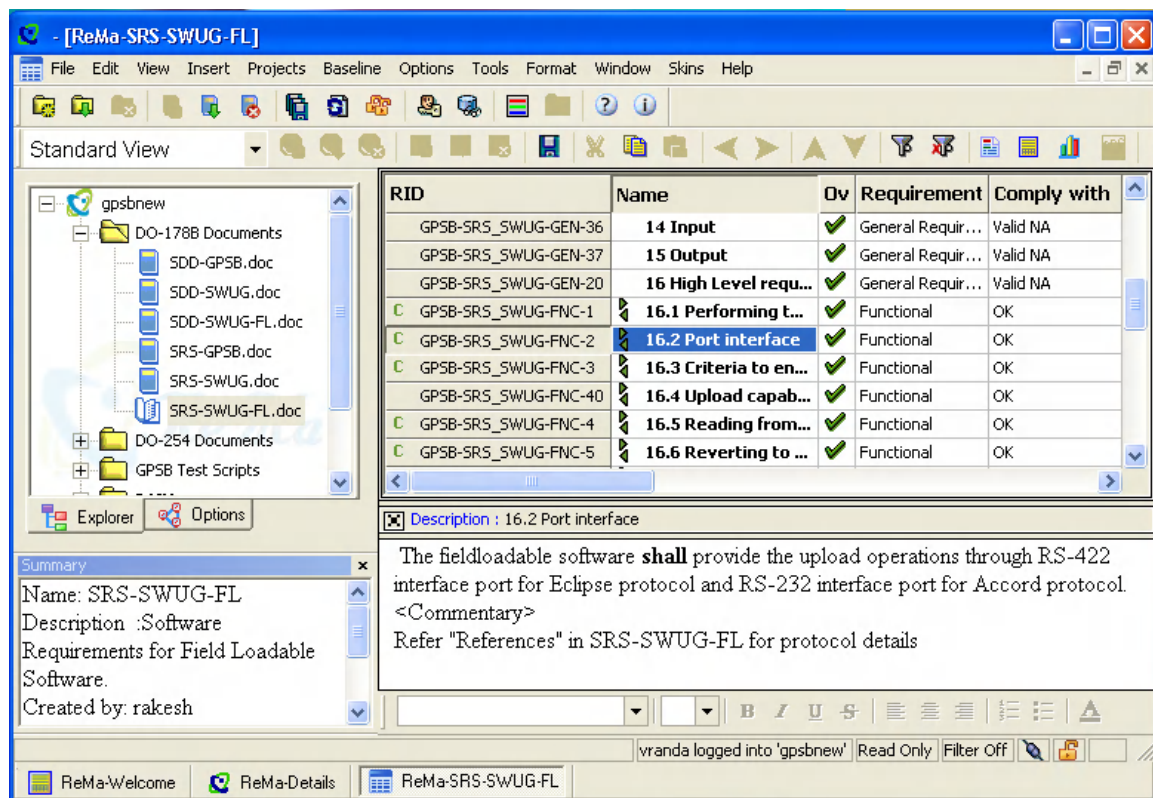


ReMa to the Rescue

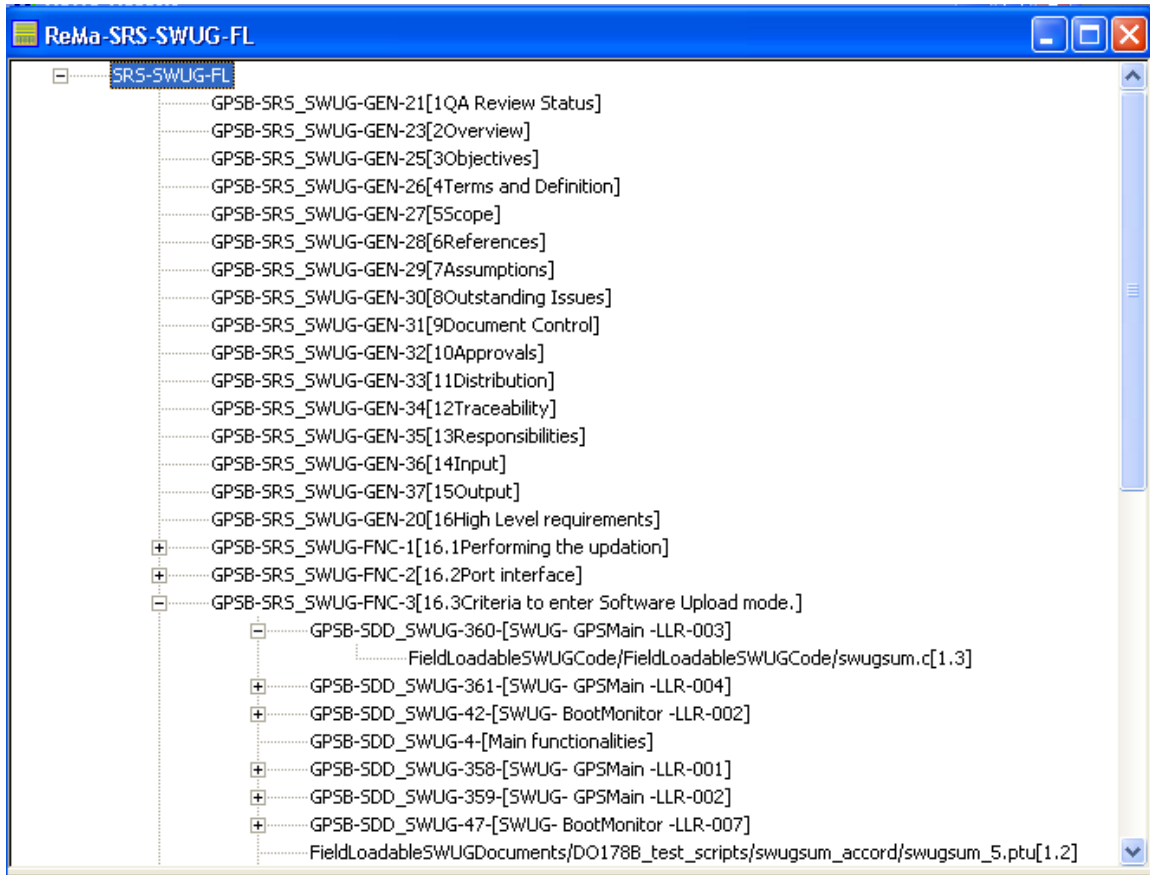
ReMa is a Requirements Management software tool developed at Accord, which was used to manage the design and requirements of NexNav.

The NexNav software and the programmable FPGA were developed for Level B criticality where every design, requirement, and configuration management objective of DO-178B and DO-254 had to be satisfied. The GNSS group managed the requirements and the Software group performed the verification activities within the framework of the tool. ReMa provided an ideal environment to show evidence of independence between development and verification, which is one of the fundamental requirements of Level B systems. ReMa provided the interface that helped different teams to work seamlessly.

The process started with the collection of requirement specifications for the system. ReMa provides a folder and subfolder like structure for organizing different requirement specification documents as shown in the figure below. Each of these documents can have different set of users with their access permissions defined. ReMa's elegant user-interface makes it easy for team members to add, update, and maintain requirements simultaneously.



The requirements were classified into hardware and software requirements. The traceability feature of ReMa helped in maintaining the links between all the high-level and related low-level requirements down to the source code where these requirements were implemented. The traceability matrix generated by ReMa is very elegant and helps in tracing a requirement from its highest level down to the source code as shown in the figure below.



ReMa has incorporated many features that meet the stringent rules for requirements testing and verification that DO-178B has laid out. The checklists for requirement verification can be integrated within the framework of ReMa obviating the need for maintaining additional review records. ReMa maintains a history of all the comments given for a requirement, the changes that a requirement goes through and the person responsible for the changes. This helped in getting all the reviews and updates done at a centralized place while achieving the objective of independence.

Another important feature of ReMa is its ability to interface with the Version Control System (CVS). After every review and update cycle, the requirements were baselined and checked into CVS from ReMa. The baselined version of source code checked into CVS can be associated with the corresponding requirements in ReMa. This helped in a big way during the audits from our DER. Our auditor could trace every requirement from system level to the source code using the traceability matrix generated by ReMa.

In short, ReMa has been instrumental in the TSO certification of NexNav.

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Write to her at [feedback at ReMa](#)