VAPS XT-178

SIMPLIFY YOUR PATH TO DO-178B/C CERTIFICATION

A COTS OBJECT-ORIENTED DO-178B/C QUALIFIABLE HMI TOOL

PRESAGIS CERTIFICATION HISTORY

- Thales Avionics:
  Helicopter Projects

- Ultra Datel:
  Pilatus PC21

- ELBIT:
  Eurocopter Tiger

- BAE Systems:
  Eurofighter Typhoon

- Selex Galileo:
  Fast Jet Programmes

- BARCO:
  Eurocopter Super Puma

- GE Aviation
  Helicopter Projects

- EADS
  Aircraft Program

- BARCO
  Saras (Indian Aircraft)

- Lockheed Martin (Marietta)
  C5 Amp, C130J

- CMC Electronics
  Military Aircraft Program

VAPS XT-178 is a software tool suite for creating embedded display graphics for safety-critical avionics projects intended for RTCA DO-178B and DO-178C certification. VAPS XT-178 retains the core features of the popular object oriented VAPS XT HMI tool and adds features that allow the end user to claim credit towards their certification requirements. With VAPS XT-178, developers can leverage the certification guidance of the tool to save time throughout the entire project life cycle.

The DO-178B/C and ED-12B/C certification processes are labor intensive and time consuming. Traditionally, developers have relied on a combination of proprietary tools and hand-coding to implement their solutions. This approach can lead to high maintenance and customization costs, significantly reducing the benefits associated with hand-coding.

Another option is to use Commercial-Off-The-Shelf (COTS) tools to automate the certification process. Using a COTS approach, companies realize significant cost and time savings as they no longer bear the responsibility of maintaining standard-conformance for the tools. Additionally, development artifacts for a specific platform configuration can be re-used across multiple projects sharing that same configuration, leading to further reductions in development time and certification effort.

VAPS XT-178 is the first complete DO-178B/C qualifiable, object-oriented C++ avionics development tool which can be used for both ARINC 661 and non-ARINC 661 programs. Presagis has created and run over 80,000 tests to complete internal verification and validation. Users can leverage these test results to directly claim credit for low level requirements.

Image courtesy of Barco

PRE-LIVE THE FUTURE.

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VAPS XT-178 SIMPLIFIES DEVELOPMENT FROM START TO FINISH

CertMode Guides Certifiable HMI Development

Designing HMIs that meet certification requirements is a complex, resource-consuming task. Enabling CertMode in VAPS XT-178 allows only certifiable objects to be used during development. Users can customize one of the pre-defined, aviation-specific objects to create their HMI with little or no programming experience. Users can also create custom objects and benefit from the warnings and errors issued by CertMode when code deviates from a certifiable solution.

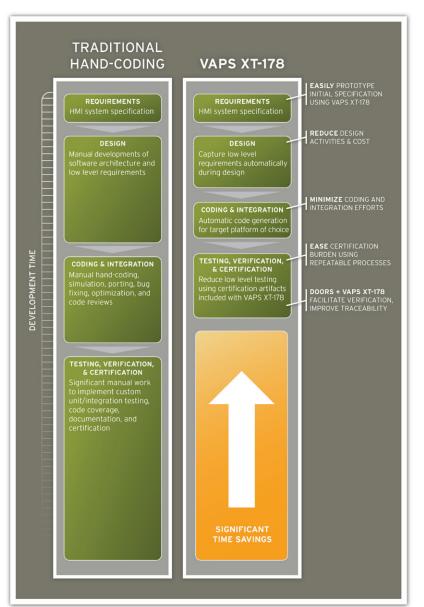**Automatic, Platform-Agnostic Code Generator**

The Automatic Code Generator, Code nGEN, generates platform agnostic C++ code from the applications designed in VAPS XT-178. With the click of a mouse button, the user can build standalone executables for either their windows-based test platform or for their final embedded target. The VAPS XT architecture includes a porting layer for easy retargeting to any embedded target configuration, eliminating the need to modify any HMI application files for maximum portability. Combined with CertMode and certifiable runtime libraries, this enables superior prototyping and testing turnaround.

CertKit Simplifies Tedious Development of Test Cases

CertKit pairs with CertMode and provides all the necessary certification artifacts in support of the customer's certification effort up to Level A. Users can claim certification credit for low-level requirements by leveraging over 80,000 test cases that were created and run by Presagis to complete internal verification and validation. A variable pricing model is available to provide the flexibility to accommodate various levels of certification.

ARINC 661 Support Fully Integrated

For projects requiring ARINC 661 compliance Presagis offers the VAPS XT 661 module, a fully integrated optional component of VAPS XT-178. Developing with the VAPS XT 661 module inside VAPS XT-178 allows for the creation of widgets that are both DO-178B/C certifiable as well as ARINC 661 compliant. Through new display modeling technology, the VAPS XT 661 module offers unprecedented flexibility and time savings for creating Widget Libraries and the Cockpit Display Systems (CDS).

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