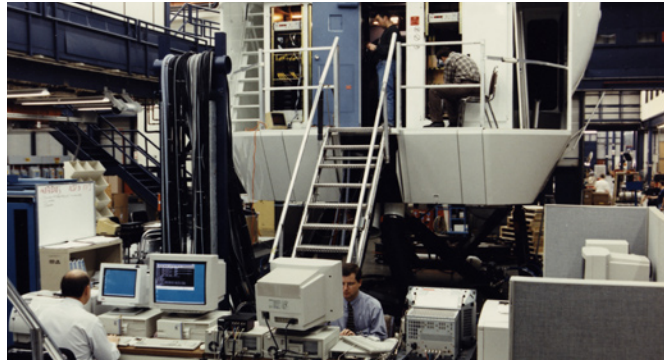


Update Services Airbus A320

CAE's update services team has a highly developed specialty in designing, integrating, testing, deploying and maintaining software and hardware solutions for Airbus flight simulation products. This focus on Airbus ensures a continuous evolution of reliable solutions representing both lifecycle cost savings and improved training quality for operators of Airbus flight simulators.

CAE update service offerings for the A320 cover a wide range of solutions, from a simple flight management system to a complete Airbus standard update, which includes new software, hardware and aircraft equipment. When applicable, CAE's simulator updates meet qualification standards established by the International Civil Aviation Organization (ICAO) and will comply with Federal Aviation Administration (FAA) AC-140B; JAR STD 1A amendment 3 and FAA CFR Part 60.



Airbus STD update in progress

Features

- Airbus standard software evolution from first generation or aircraft tail-specific from standard 1.1 through to standard 1.5 updates are offered from one configuration to another within this range of standards.
- Software electronic flight control system (sEFCS) update with the Airbus software package.
- Retarget display management computer (DMC) solution versus aircraft DMC.
- Use of CAE simulated flight warning computer (FWC) using Airbus data package.
- Electric motion and flight controls.
- The following updates are available, starting from Airbus standard 1.3.2:
 - Electronic instrumentation system (EIS II) liquid crystal display (LCD) based displays.
 - Cockpit door surveillance system (CDSS).
 - ITAR-compliant simulator specific ISIS unit from Thales Avionics.



Instructor operator station (IOS) update completed



Cockpit harmonization to match aircraft configuration



Specifications

Airbus standard update to 1.3.2 (EIS1) includes:

- EIS1 analog CRT display units (DU).
- Cockpit and avionics changes to FCU, MCDU, ADIRU, RMP, Clock, CDSS, ISIS and relevant VU panels compliant with Airbus standard 1.3.2.
- Host update.
- Re-host flight management guidance computer (FMGC) Honeywell Pegasus.
- FWC update, CAE simulation based on Airbus data package (DP).
- sEFCS update using Airbus simulation software.
- Flight augmentation computer (FAC) update (FAC simulation to standard CR121).
- Air traffic services unit (ATSU) optional.

Airbus standard update to 1.3.2 (EIS2) includes:

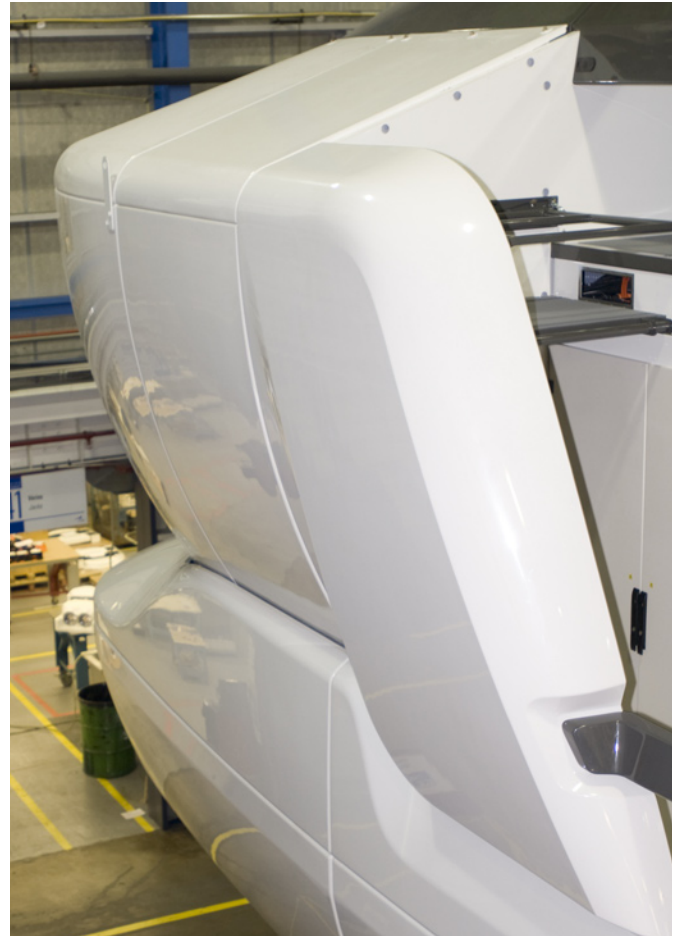
- Airbus standard update to 1.3.2 (EIS1) with the addition of
 - EIS2 liquid colour display units (LCDU).
 - Retarget DMC solution versus aircraft DMC.

Airbus standard update from 1.3.2 to 1.4 includes:

- Cockpit and avionics changes to FCU, RMP ACP, ADIRU, DDRMI, EGPWS (stimulated) weather radar (WXR) control panel and relevant VU panels compliant with Airbus standard 1.4.
- Host update consisting of Intel based commercial-off-the-shelf (COTS) PC with Linux Enterprise operating system.
- Re-host FMGC Honeywell Pegasus (P1C11 CFM). Several PPM cards are replaced by COTS PC based FMGC re-host.
- Alternate Thales-Smiths FMGC (S2C11 CFM or S2I9 IAE) optional.
- sEFCS update to revision L91 Airbus simulation on Intel based COTS PC.
- Flight augmentation computer (FAC) update (FAC simulation).

Airbus standard update from 1.4 to 1.5 includes:

- Cockpit and avionics changes to ISIS, Traffic alert and collision avoidance system (TCAS) and relevant VU panels compliant with Airbus standard 1.5.
- Re-host FMGC Honeywell Pegasus (P1110 IAE).
- Alternate Thales-Smiths FMGC (CFM S3C11 or IAE S3I9) optional.
- FWC update to standard H2/F2 consisting of CAE simulation based on Airbus DP.
- Full authority digital engine control (FADEC) updates for CFM to version 5BL or for IAE to version SCN18.
- Air traffic services unit (ATSU) update optional.
- EIS2 DMC update to revision S4-2.



Customer benefits

Airbus updates designed by CAE improve maintainability, cost-effectiveness and training fidelity while introducing state-of-the-art technology. For added confidence and reliability, CAE validates and tests each software load in the laboratory prior to deployment on the full-flight simulator

In addition, selecting CAE for Airbus updates includes access to valued tools such as "Simulator Executive" (SIMex-Plus) which provides:

- Alternate load modules.
- History of changes.
- Automatic building of simulator modules.



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