LYNX SOFTWARE TECHNOLOGIES

NIST National Institute of Standards and Technology

FAA Awarded DO-178B/C Reusable Software Component RSC

SECURITY AND SAFETY CERTIFICATIONS

Certification of software to DO-178B/C and EUROCAE/ED-12B has traditionally demanded many years of effort.This can result in considerable costs and time-to-market penalties. LynxOS-178 forms a central role in Lynx-solutions for safety critical designs. Customers who deploy LynxOS-178 - the only FAA-approved Reusable Software Component (RSC) OS - can reduce certification uncertanties for both schedule and cost through the selection of Lynx-provided artifact packages, offering the potential to save thousands of engineer-hours over the course of a certification project.

When the LYNX MOSA.ic framework is configured for LynxOS-178 as a guest, customers can reuse existing certifications for DO-178C (via AC 20-148), with a reduced requirement to certify only new guests. The table below lists safety certifications for LynxOS-178 as well as LynxSecure® security certifications by date:

YEAR	SOFTWARE	CERTIFICATION	ARCHITECTURE
2003	VMOS/LynxOS-178	DO-178B DAL A	**PPC**
2006	LynxOS-178 2.0	DO-178B DAL A FAA Reusable Software Component (RSC)	**PPC**
2011	LynxOS-178 Version 2.2.2	DO-178B DAL A FAA Reusable Software Component (RSC)	**PPC**
2016	LynxSecure 5.3.1	NIST 800-53	**Intel**
2020	LynxSecure	Critical module analysis as a precursor to larger ISO26262 artifact package	**Arm**
2020	LynxOS-178	FACE 3.0 Compliance (Safety-Extended)	**N/A**
2020	LynxOS-178 Version 2.2.4	DO-178C DAL A, FAA Reusable Software Component (RSC)	**PPC**
2021-2025	ROADMAP* [Details can be shared under NDA]	Multiple planned certifications	**Arm, Intel, PPC**

OPEN STANDARDS SUPPORT

POSIX ARINC FACE Future Airborne Capability Environment

FULL POSIX CONFORMANCE

POSIX conformance assures code portability between systems and is mandated for an increasing number of commercial applications and government contracts. LynxOS-178 is natively POSIX. Applications call the LynxOS-178 kernel and its libraries directly using the POSIX APIs. There are no wrapper layers hiding proprietary APIs or adding overhead to the POSIX APIs. This is intentional, as LynxOS-178 was written from day one to be a POSIX operating system with the highest levels of performance and determinism available

FUTURE AIRBORNE CAPABILTIES ENVIRONMENT (FACE™) 3.0

The FACE standard facilitates common approaches for using open standards with avionics systems. FACE-certified products help lower implementation costs, accelerate time-to-field for new capabilities, promote design reuse, and ease portability of applications. Lynx is a long-term member of the FACE consortium and has ensured LynxOS-178 compliance with all iterations of the technical specification on an ongoing basis. LynxOS-178 support for Intel®, Arm® and PowerPC® architectures enables FACE applications to be used across multiple platforms. This March, Lynx announced updated APIs that meet FACE 3.0 specifications, with full conformance certification planned for the end of 2020.

ARINC-653

LynxOS-178 conforms to the ARINC 653-1 Application Executive Software (APEX) Interface defined by the ARINC 653-1 standard and provides multiple system service groups in accordance with the ARINC 653-1 standard: For additional details on ARINC conformance (as well as POSIX and FACE conformance), please see the LynxOS-178 datasheet or visit **www.lynx.com/products/lynxos-178-do-178c-certifiable-rtos**

*As of September 2020. To see additional planned certifications in our roadmap, NDA is required.

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SOFTWARE TECHNOLOGIES

SELECT FIELDED SYSTEMS AND DESIGN WINS

Systems deployed in high-threat environments such as fighter jets, unmanned aerial vehicles (UAVs), stealth ocean vessels, military transport vehicles, and helicopters—all classes of systems running on Lynx software—require the highest levels of security, safety, and reliability. But as systems grow increasingly complex, so too grows the difficulty in delivering adaptable, deterministic, open solutions at sustainable lifetime costs. That is why the world's leading providers of software systems to military and government end users have increasingly trusted Lynx; because of our proven record of delivering innovative platform solutions that meet project requirements while reducing project costs and cutting time to market. Below is a select list of fielded systems and design wins for advanced commercial and military avionic systems.

CUSTOMER	PLATFORM	SUBSYSTEM
AIRBUS	A320, A330, A340, A380	Cabin Management Services
AVIDYNE	Entegra Release 9	Integrated Flight Deck
BAE	Harrier GR9	Cockpit Displays
BOEING	767, 777, CH-47F, KC-135, MH-47	Common Avionics Architecture System (CAAS)
BOEING INSITU	Open-2 Payload for Integrator UAS; ScanEagle 2	Insitu Common Architecture
BOMBARDIER	Challenger 300	Communications, Navigation and Surveillance
CESSNA	CJ1, CJ2, CJ4	Future Air Navigation System (FANS)
CIRRUS	SR 20/22	Integrated Flight Deck
EADS	CN-235	Galileo European GPS Network
ECLIPSE	Eclipse 500	Global Air Traffic Management (GATM)
EMBRAER	VLJ	Integrated Avionics System (RCI Pro Line 21)
GENERAL ATOMICS (GA- ASI)	Gray Eagle Extended Range (GE-ER) UAS	Undisclosed
GULFSTREAM	G-150	Integrated Flight Information System
JSF	F-35 Lightning II Joint Strike Fighter	Joint Surveillance and Target Attack Radar System (JSTARS)
L-3	F-35 Lightning II Joint Strike Fighter	Panoramic Cockpit Display (PCD)
LEONARDO (+SUBS)	MK-41 (Westland); AW-149 (AgustaWestland); Sky-Y UAV (Alenia Aermacchi)	Undisclosed; Display; Base Station
LOCKHEED MARTIN	C-130, P-3 Orion	Link 16 Data Link
MCDONNELL DOUGLAS	AH-6, MH-6	Mission Computer, Common Avionics Architecture System (CAAS)
NORTHROP GRUMMAN	C-2A, E2-C, E-8, UH-60V	System Interface Unit
SAAB	Gripen E	Mission Computer
SIKORSKY	CH-53E, HH-60J, MH-53E, MH-60, S-70B, VH-60, UH-60M	Panoramic Cockpit Display Electronic Unit (PCD-EU)
THALES	A400M	MWS-PE