

**Commercial Customs Operations Advisory
Committee
Government Issue Paper
Next Generation Facilitation Subcommittee
ACE 2.0 Working Group**

December 2024



**U.S. Customs and
Border Protection**



Pub# 3920-1124

Office of Trade / Trade Transformation Office
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Action Required: Informational

Background:

- Automated Commercial Environment (ACE) 2.0 is U.S. Customs and Border Protection's (CBP) plan to modernize ACE by adding needed new functionality and capabilities to implement the next generation of business processes that the 21st Century Customs Framework (21CCF) envisions.
 - ACE is the commercial trade processing system that provides a single, centralized way to connect CBP, the international trade community, and partner government agencies.
 - The 21CCF is CBP's initiative to address current and future trade challenges and modernization barriers through legislation in a comprehensive manner – this is the first such effort since 1993.
- ACE 2.0 is intended to close capability gaps associated with trade facilitation, systems integration and data sharing, supply chain transparency, trade enforcement management, and anomalous trade detection.
- ACE 2.0 advancements will:
 - Increase supply chain visibility and accountability as products come to the U.S. border.
 - Facilitate faster government responses with earlier cargo determinations.
- CBP is promoting global interoperability standards to lay ACE 2.0 groundwork.
 - Interoperability enables different systems and technologies to communicate. Interoperability standards are written rules that guide software development to enable different systems to connect and exchange data.
 - Investing in global interoperability standards will provide businesses with the flexibility to choose the most efficient way to exchange data with CBP and potentially any system in the world.
 - We expect that broad implementation of these standards will help future-proof CBP and the private sector as new technologies emerge.
- CBP is pursuing two global interoperability standards – verifiable credentials and decentralized identifiers – which, when used in unison, provide CBP with digital twins, or virtual representations that describe what the item is, where it is located geographically, and who controls it.
- CBP and the DHS Science and Technology Directorate's Silicon Valley Innovation Program are testing global interoperability standards in these five sectors: steel, pipeline oil, e-commerce, food safety, and natural gas.
- CBP's first test in August 2023 evaluated the trade benefits of verifiable credentials and decentralized identifiers. Overall, the results support CBP's ability to:
 - Secure confidential trade information storage and transmission.
 - Provide simultaneous access, validation, and record updates.
 - Enable continuous supply chain traceability across a network of entities and locations.

Issue:

- CBP is working to identify and secure sources of funding so development of ACE 2.0 capabilities can begin in Fiscal Year 2026.
- Global interoperability standards will enable a variety of systems to participate in supply chain activities without forcing the industry to adopt a single technology.

Current Status:

- CBP and Department of Homeland Security's Silicon Valley Innovation Program testing completed in November 2024 engaged partner government agencies and data standards groups in the e-commerce, food safety, and natural gas sectors.
- This testing:
 - Focused on analyzing pre-arrival data and building transparent supply chains by developing digital twins.
 - Tested the ability to verify the origin of credentials and issue credentials.
 - Tested the ability to transmit data to partner government agencies.
 - Tested "provisional messaging" in the single-window system, which may provide trade members (e.g., brokers and importers) early indications of their freight statuses.

Next Steps:

- In 2025, CBP anticipates international testing will occur and will include three technical demonstrations of data exchange between CBP and select foreign customs authorities to confirm the agency can issue and exchange information globally:
 - Global Government-to-Government Exchange Network – An automated framework based on traceable presentations, global interoperability standards, and immutable ledger technology that allows trade data exchange among Authorized Economic Operator (AEO) partners.
 - Global AEO Customs Trade Partnership Against Terrorism Credential – Exchange Customs Trade Partnership Against Terrorism / AEO credentials between countries to prove CBP can issue and exchange credentials in a globally interoperable manner.
 - My Export is Your Import – Countries' exchange of bill data to verify exported goods.
- In 2025 and 2026, CBP will conduct limited production pilots that will serve as the bridge between the technology demonstrations and broad ACE 2.0 implementation, which is expected to begin no sooner than 2026.

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Date: November 5, 2024