Intergovernmental Ledger
Digital Verification Platform

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Simplified Trade Agenda

• **Simplified Trade Agenda**
  – Simpler, more efficient and digitised trade system for business

• **Role of ABF**
  – Leading Australia’s customs and border modernisation efforts
Paperless Trading

• High cost of trade in Australia
• Persistent paper-based trade documents
• Why?
  – Because regulators need confidence of integrity
• Digitisation has challenges
  – Tamper proof, identity linked, verifiable, interoperable, secure, cost effective
• Opportunity for digitalisation – COVID-19
Trading Eco-System

Loading Port
- Departures schedule
- Loading plan
- CTO receipt
- Warehouse

Shipping notice
- Packing slip
- Commercial Invoice
- Exporter/Seller/consignor

Commercial Services & Multi-modal Transport
- Inspector
- SPL
- Consignment Note
- Cover Note
- Bill of lading
- Airway bill
- Road CMR
- Bank
- Letter of credit
- Import declaration

Commercial Services & Multi-modal Transport
- Ocean carrier
- Air carrier
- Land carrier

Unloading Port
- Arrival schedule
- Unloading plan
- Underbond movement
- Warehouse/bonded store

Trade Procedures
- Goods

Transport Procedures
- Consignments

Financial Procedures
- Payments

Regulatory Procedures
- Rules

Other Authorities
- Certificate of Origin
- Chamber of commerce
- Export permit
- Export declaration

Exporting Country
- Export Customs
- Transit Customs
- Import Customs

Transit Country
- Import declaration
- Cargo report

Importing Country
- Import permit
- Inspection certificate
- Authorised body

Other Authorities
- Sales Tax
- Import permit
- Authorised body
Intergovernmental Ledger (IGL)

• **Digital verification platform**
  – Trade documents

• **Technology**
  – Verifiable credentials
  – Blockchain
  – OpenAttestation

• **Benefits**
  – Privacy, Security and Trust
  – No hassle for partner countries
  – Easy to Scale
  – Interoperability
Verification: Mobile Camera

QR-coded Certificate of Origin

Verification: IGL Portal

ABF Verifier: ABF-hosted domain
What does IGL do?

- Provides a ‘proof of issuer’ for trade documents (unique QR code)
- Release to trading eco-system
- Provides Verification – hosted by ABF domain – layer of trust - to authenticate the document.

ABF IGL

QR code

Commercial Users
Australia-Singapore Trial

- **Australia-Singapore Digital Economy Agreement**
- **Proof of concept Trial**
  - Singapore Customs and Singapore Infocomm Media Development Authority
  - Test IGL digital verification framework
- **Trial scope**
  - Certificates of origin under Asean-Australia-New Zealand FTA and Singapore-Australia Free Trade Agreement.
- **Participants**
  - Issuers: Australian Chamber of Commerce and Industry and Australian Industry Group
  - Commercial users: Rio Tinto, ANZ, DBS Bank and Standard Chartered
  - Regulatory authority: Singapore Customs
Intergovernmental Ledger
How it works

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W3C Verifiable Credentials

Issuer – Issues the verifiable credential

Holder – Holds the verifiable credential

Verifier – Verifies the claims

VC Data Model
- Metadata
- Claims
- Proof
Open Attestation / CoO

1. Exporter
   - Create CoO
   - Commercial business system
     - For trade documentation
2. Authorised body
   - Validate CoO
   - CoO data
3. Issue Open Attestation
4. AU/ABF IGL Node
   - Notarize
5. Automated verification
6. Issue Open Attestation
7. Any 3rd party
   - Internationally verifiable CoO
8. Digitally verifiable CoO
9. Manual verification
10. Regulator business system
    - Extract structured data
11. Ethereum Public ledger

Visit
lgl.trade_np.cp1.abf.gov.au
Example CoO

Australian Border Force
Why Verifiable Credentials?

- Tamper proof: Impossible to change without invalidating the document.
- Identity linked: Strongly linked to the identity of issuer and subject (e.g., trader).
- Revocable: Revoked documents will show as invalid even after issue.
- Redactable: Holder can redact private or commercially sensitive data.
- Verifiable: By any supply chain party even if unknown to the issuer.
- Automatable: High volume verifiers can automate verification & ingest full data.
- Compatible: With 500 year-old paper-centric supply chain processes.
- Interoperable: With millions of independent issuers & verifiers, even across ledgers.
- Legal: Meets all legal constraints (e.g., UN/CITRAL & GDPR).
- Secure: From all plausible attack vectors & cyber compliant.
- Private: The holder owns the data – no central data store or arbiter of trust.
- Cost effective: No central infrastructure needed, transaction costs arbitrarily low.
- Flexible: Although often DLT based, they can work without DLTs (with limitations).
Why Blockchain?

Verifiable Credentials do not need blockchain technology to work. But there are some advantages in using a high integrity public permissionless ledger such as Ethereum

- **Notary (non-repudiation)**: An issuer cannot claim that a VC was not issued because the hash of the VC was recorded in a public ledger when it was created. Perhaps less of an issue for very high integrity issuers like regulators.
- **De-coupling**: Issuer does not need to maintain high availability infrastructure for verification.
- **Single source of truth**: If/when there are 1000’s of different issuers and verifiers then there is still only one place / protocol for verification.