MAQTA
TECHNOLOGIES

JUL Solution Design - Draft

Key challenges

Governments might lack the capability to standardize documents and procedures among various agencies & to establish new protocols for implementing & managing a single window (SW) system. Existing frameworks for inter-agency information sharing at the national level may be absent. Insufficient ICT capacity can hinder the effective deployment of the SW system, complicating the integration of border agencies & the smooth exchange of data.

Current Single Window Environment Maturity

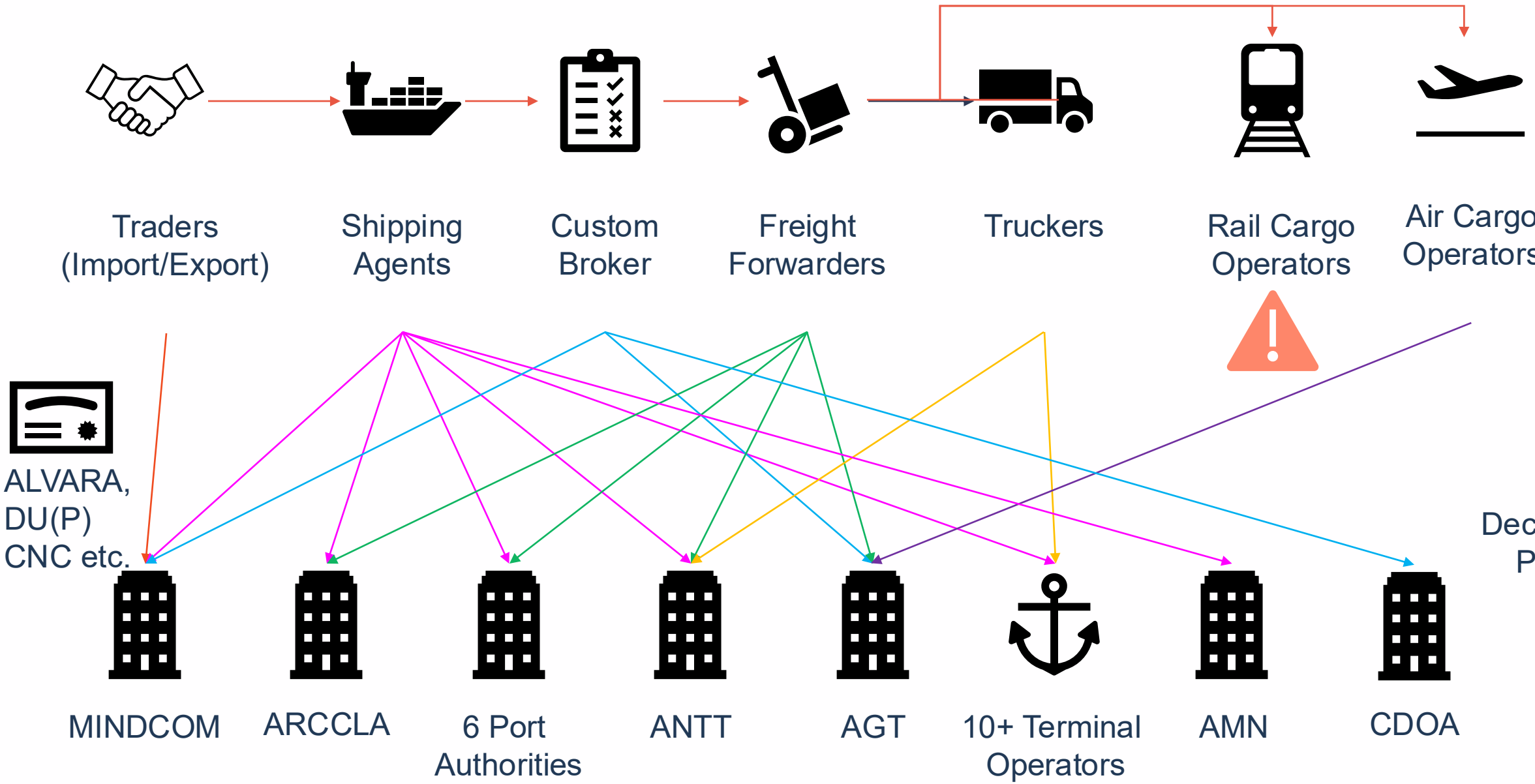
Early stages of implementation:

1. JUP in-progress,
2. ASYCUDA in-progress
3. JUL to start

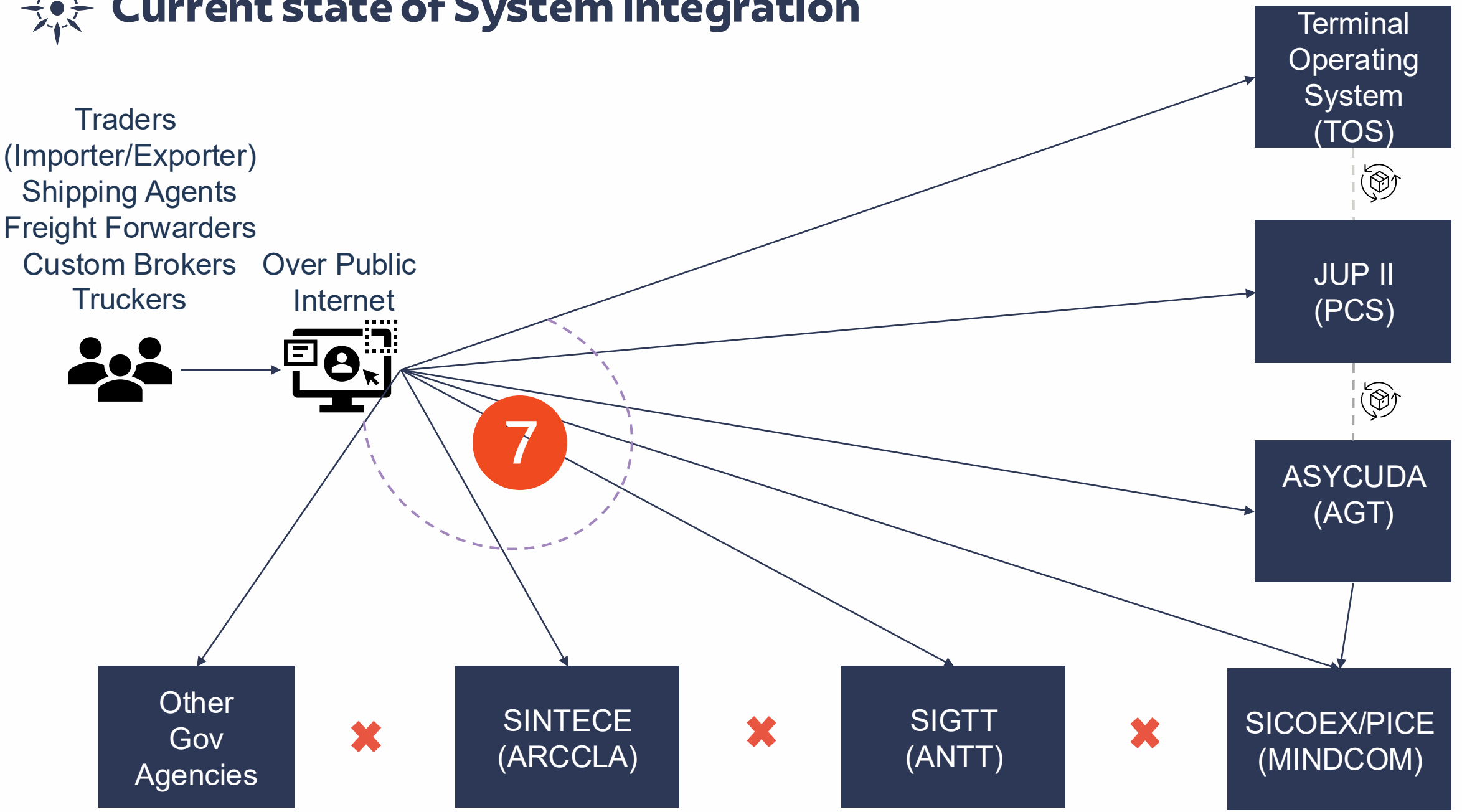
How to build a SW - UN/CEFACT Recommendation no .33

1. JUL Technical Working Group consisting of ARCCLA, Port Authority, MINDCOM, AGT
2. JUL Technical Working Group engaging with private/public Agencies / Associations
3. Sample BPA and UMM for JUL will be documented using Swim Lane diagrams
4. JUL will use WCO Data Model, UN/EDIFACT, IATA Cargo-XML, and IMO FAL
5. JUL will have 3 Phased implementation
6. JUL will use best practices in ICT, Change Management, Communication & Continuous Improvement
7. JUL will have an Interoperable architect

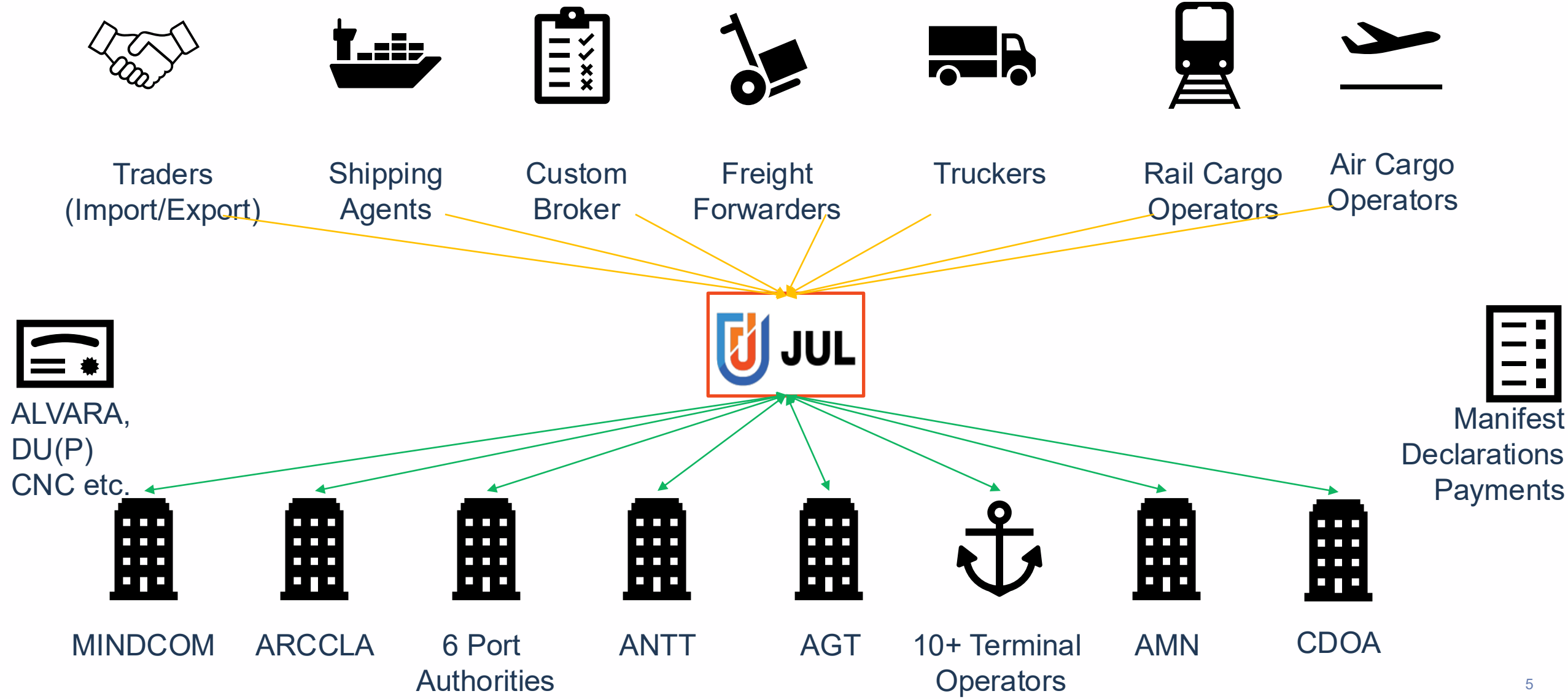
Current State of Integration



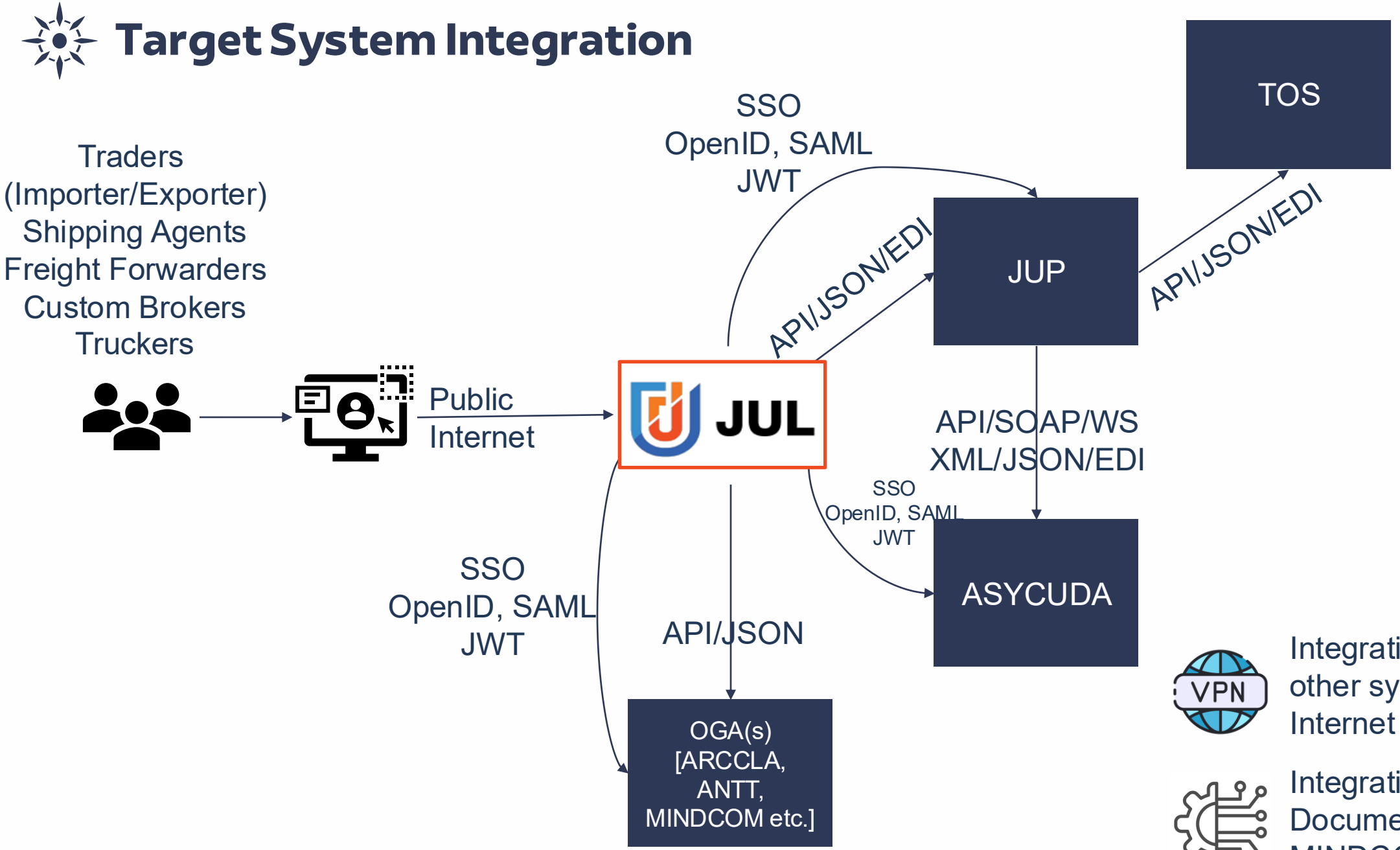
Current state of System Integration



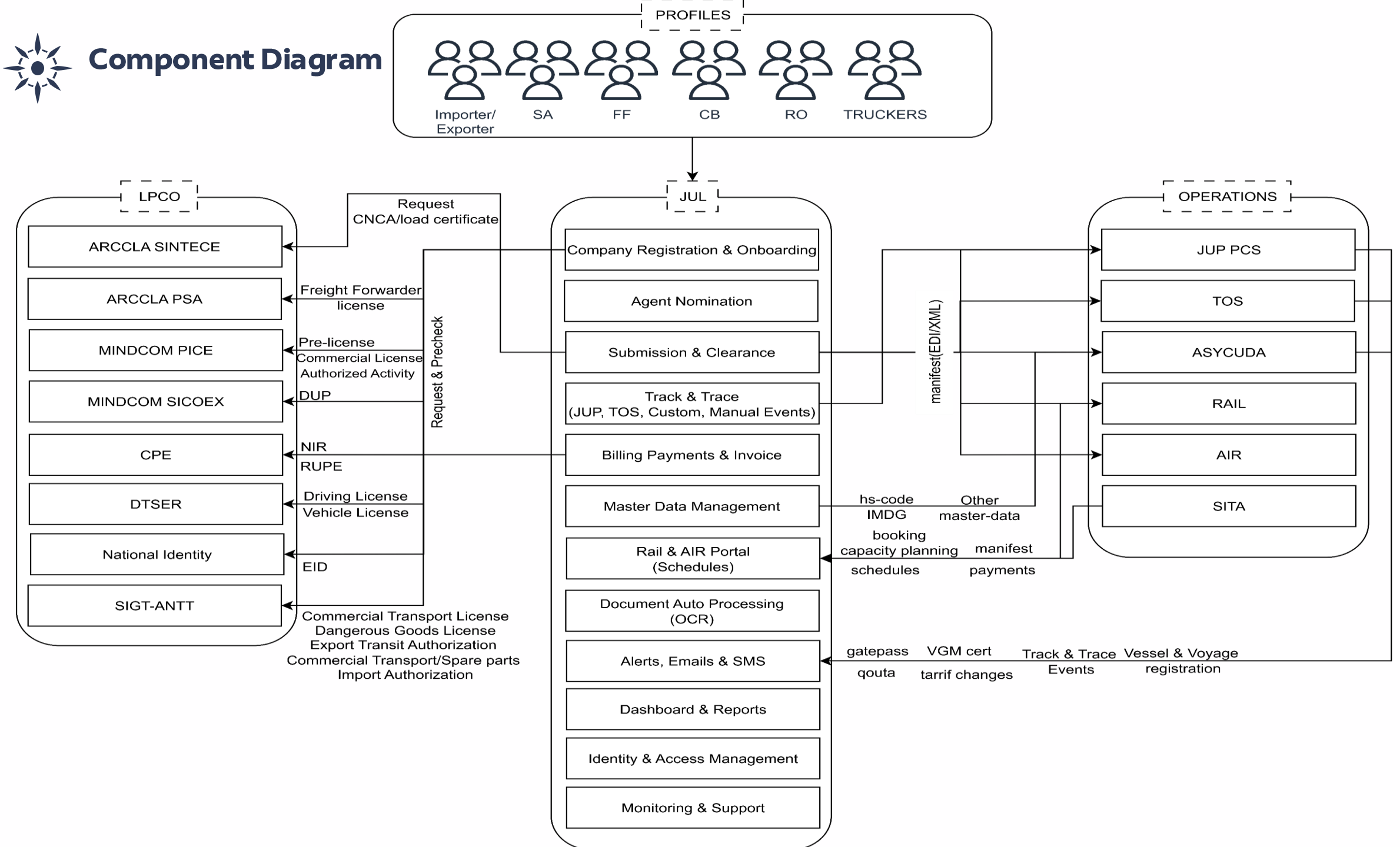
Target State of Integration



Target System Integration



Component Diagram



JUL Profiles Phase 1

JUL will enable these profiles to have a streamlined and digitized interactions among various government agencies, logistic providers and traders, ensuring efficient, transparent and complaint trade operations.

Import Exporter

Primary Role & Key Functions

Submit trade documents, licenses, and declarations.

Import/export license application, shipment status, customs documents.

Shipping Agent

Primary Role & Key Functions

Represents vessel operators and carriers at ports. (AANA)

Vessel arrival notice, manifest submission, berth requests, FAL forms, EDI cargo data.

Freight Forwarder

Primary Role & Key Functions

Consolidate shipments, manage logistics across modes.(ATLA)

House Bill of Lading, cargo tracking, customs pre-declarations.

Custom Broker

Primary Role & Key Functions

Submit customs declarations, duty payments, and clearance docs. (CDOA)

Customs declaration, tariff lookup, duty assessment.

Rail Operator

Primary Role & Key Functions

Manage inland cargo movement.

Train schedules, wagon manifest, gate-in/out reporting.

Trucker

Primary Role & Key Functions

Handle cargo delivery, port gate movements

Gate passes, cargo pickup/drop-off notifications.

JUL Operator

Primary Role & Key Functions

JUL System Administrator & Support

Provide Support & Guidance on JUL to all stakeholders

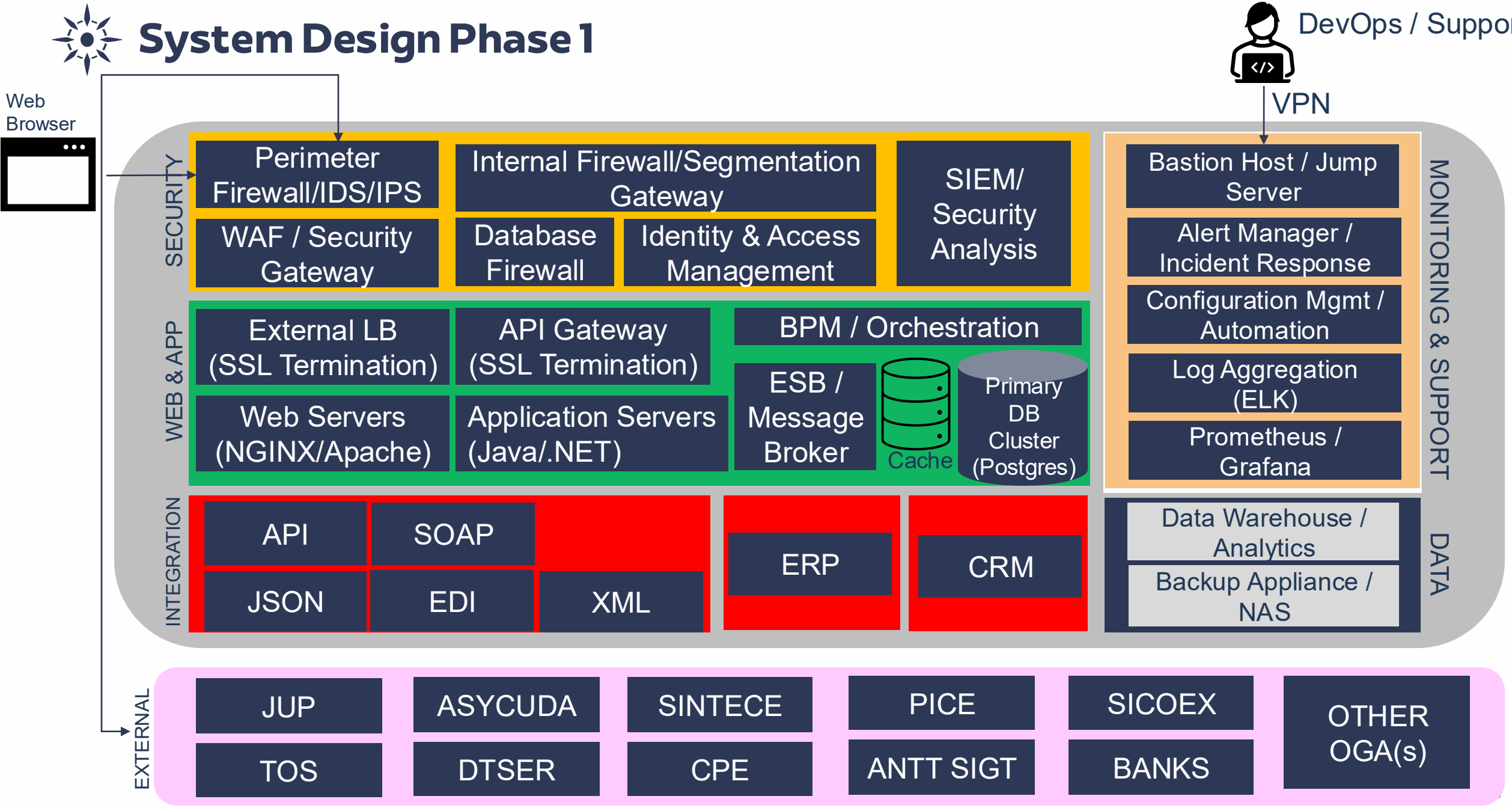
JUL Modules Phase 1

The modules scoped for phase 1 will ensure the JUL web portal provides multi-language support and implement a state-machine architecture ensuring one time submission of data going through multiple integration state changes. It will also allow incremental data update and amendment.

- Company Registration & Onboarding
- License & Permits
- Agent Nomination
- Track & Trace
- Billing, Payments & Invoice
- Master Data Management
  (HS-CODE, IMDG)
- Dashboards & Reports
- Rail Portal
  (Schedules, Tarrifs, Payments)
- Alerts
  (Ministry Qoutas, Tarrif Changes)
- Identity & Access Management
- Monitoring & Support

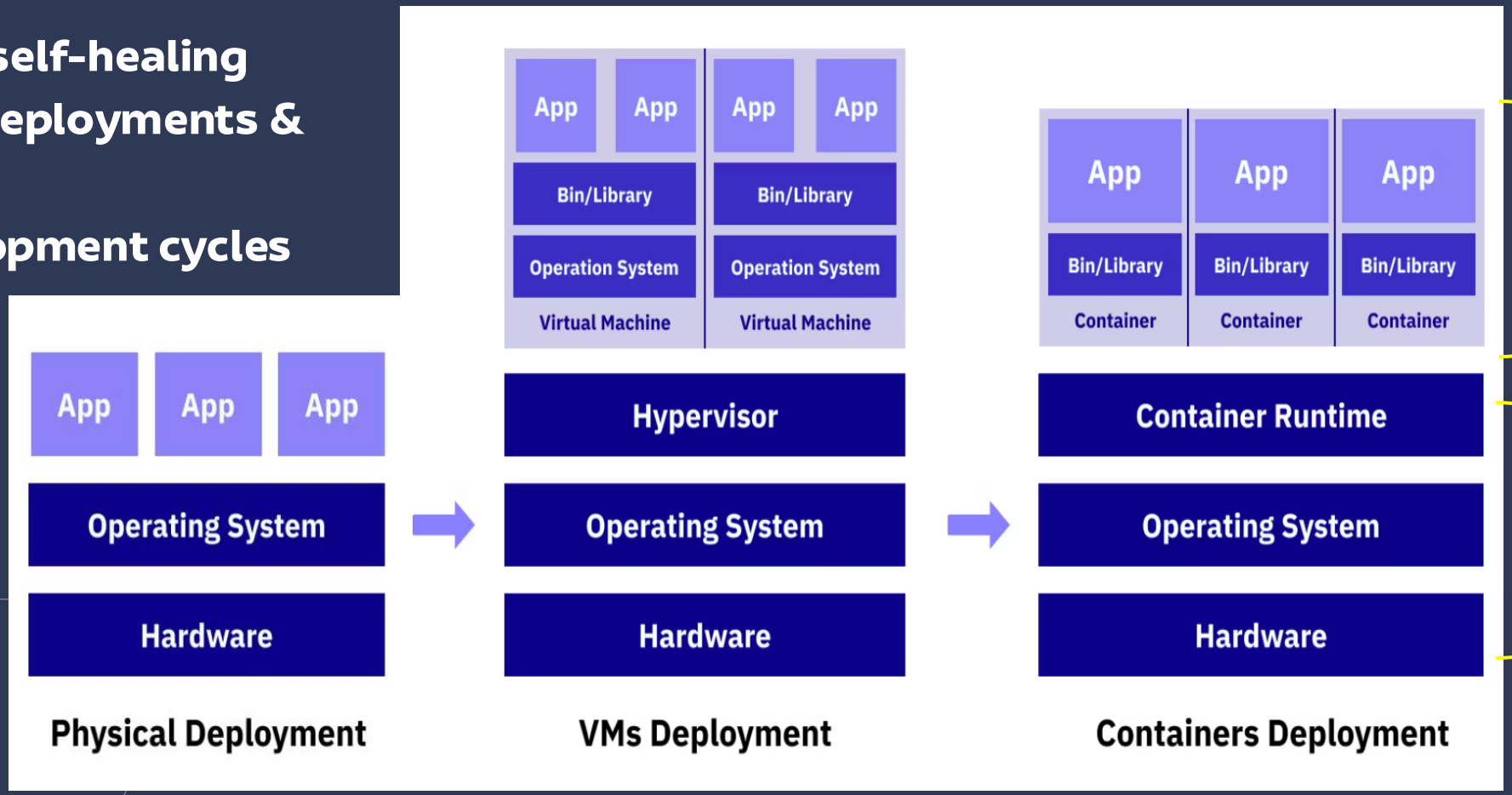
JUL Integrations Phase 1

System Design Phase 1



Why Kubernetes ?

- ✓ Portability
- ✓ Scalability
- ✓ Resilience & self-healing
- ✓ Automated deployments & Rollbacks
- ✓ Faster development cycles
- ✓ Resource optimization
- ✓ Extensibility
- ✓ Security



On-prem Release Management

DevOps

Azure DevOps

VPN

On-Prem Kubernetes Container Registry

Developer

DEV (Cloud)

SIT (Cloud)

UAT (on-prem)

PROD (on-prem)

QA

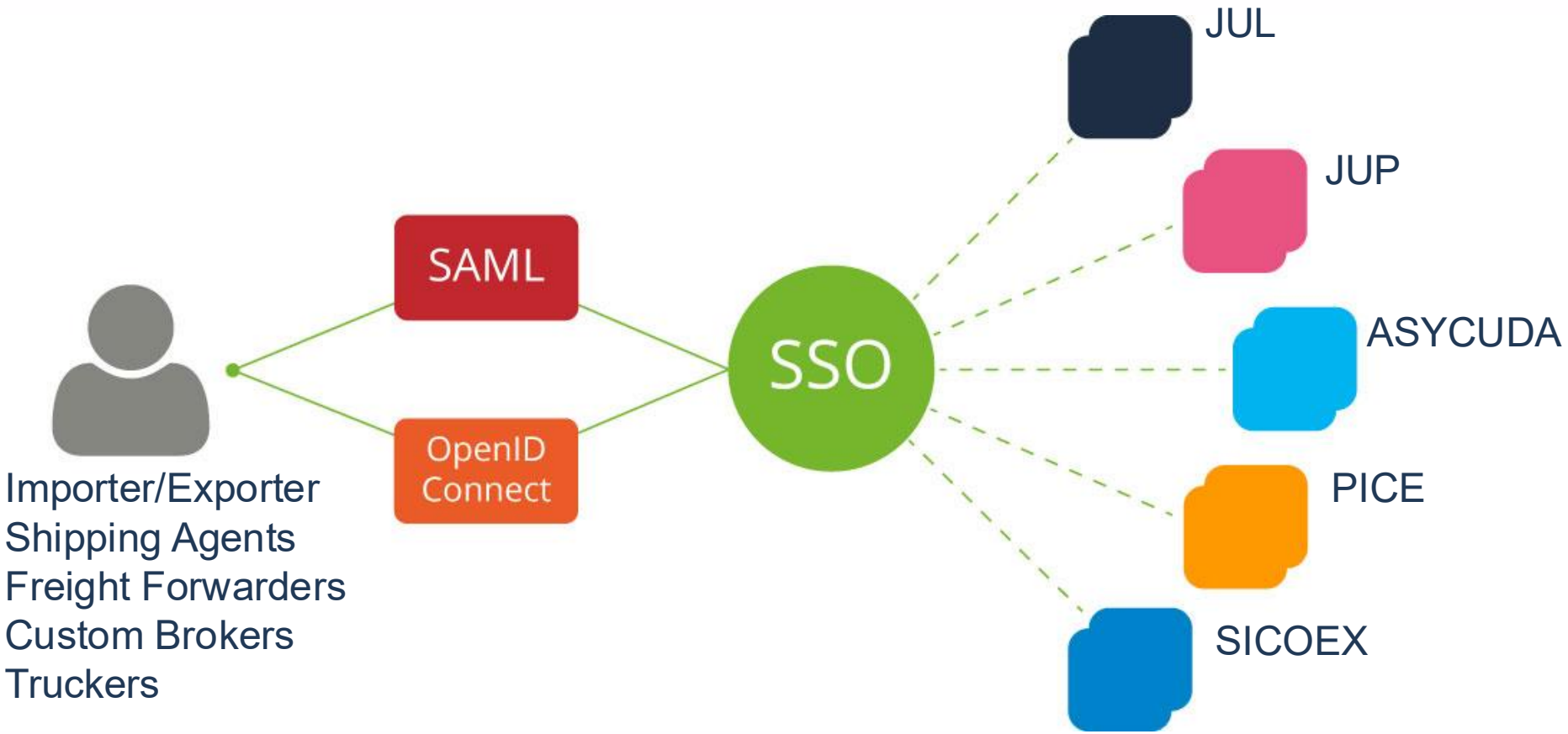
QA (Cloud)

ARCCLA
Agência Reguladora de Certificação de Carga e Logística de Angola

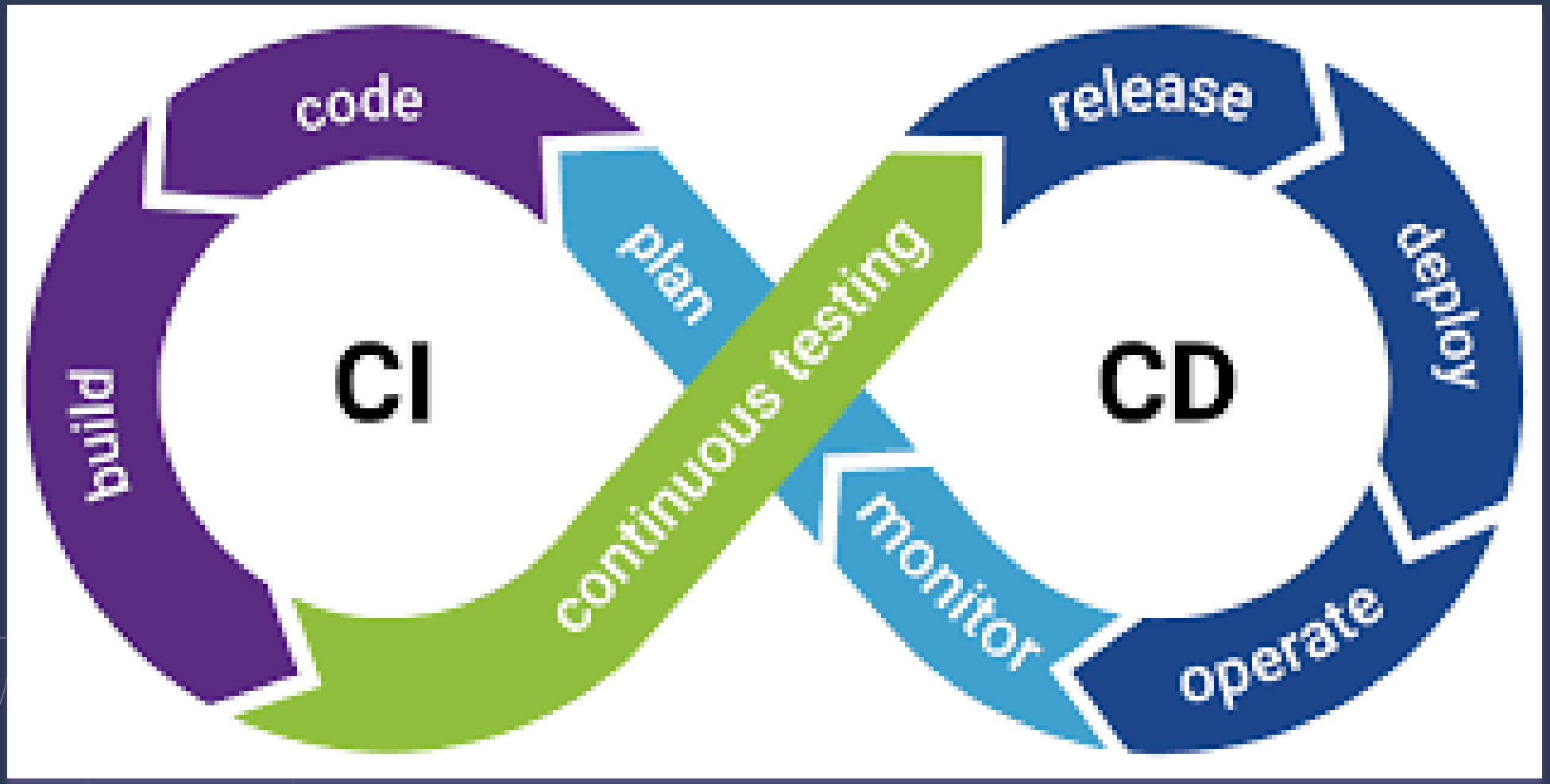
CLOUD

ON-PREM

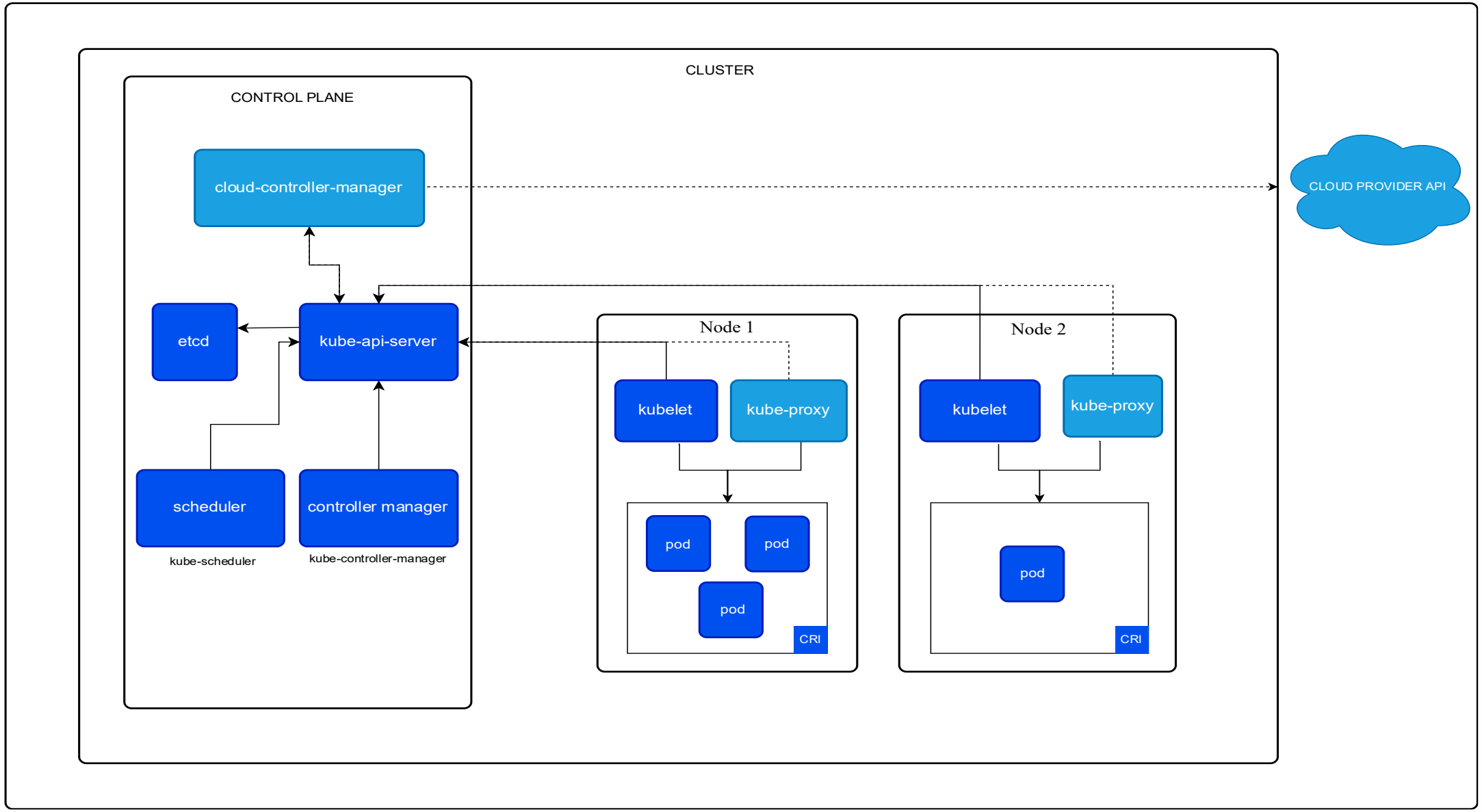
Single Sign On



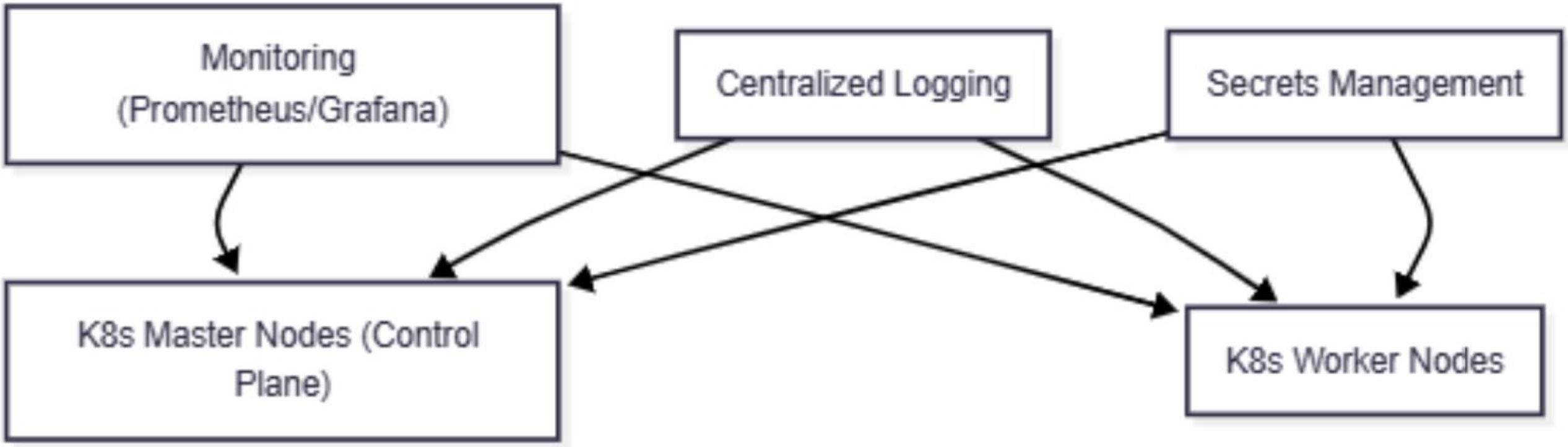
CICD


code
plan
build
CI
continuous testing
release
deploy
CD
monitor
operate

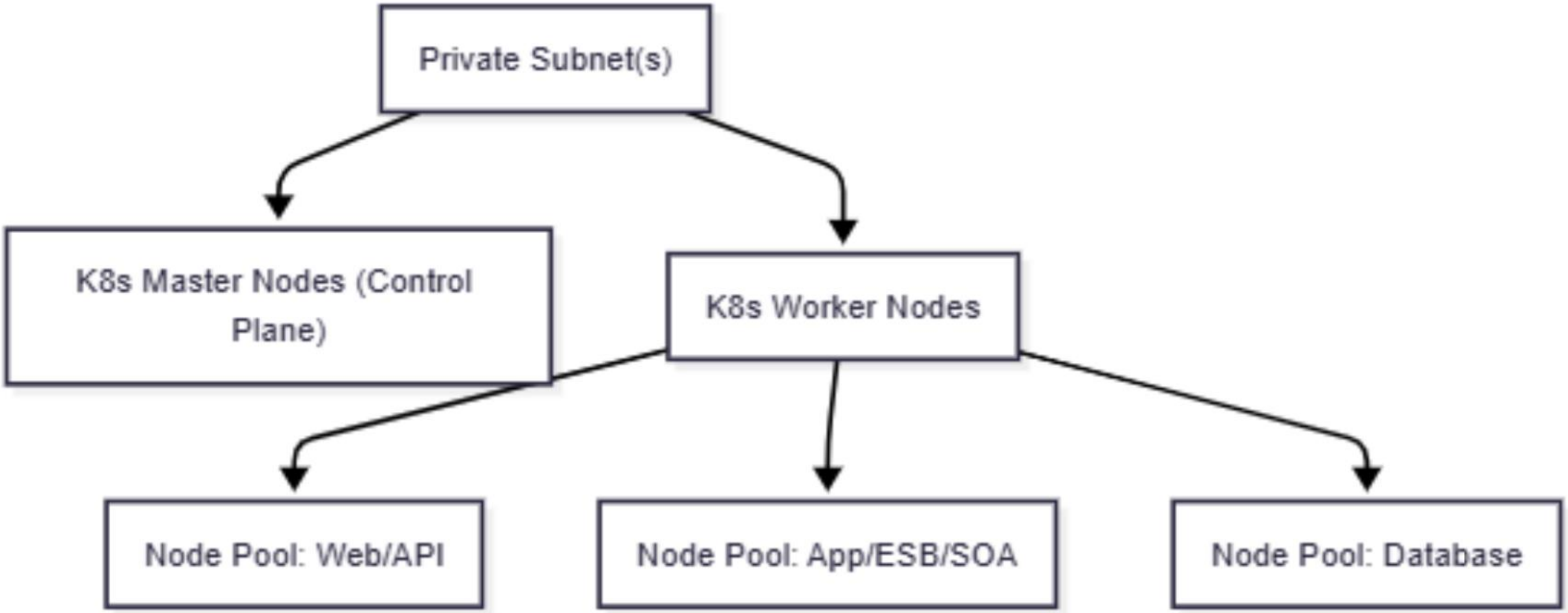
Typical On-prem Kubernetes(K8) Cluster



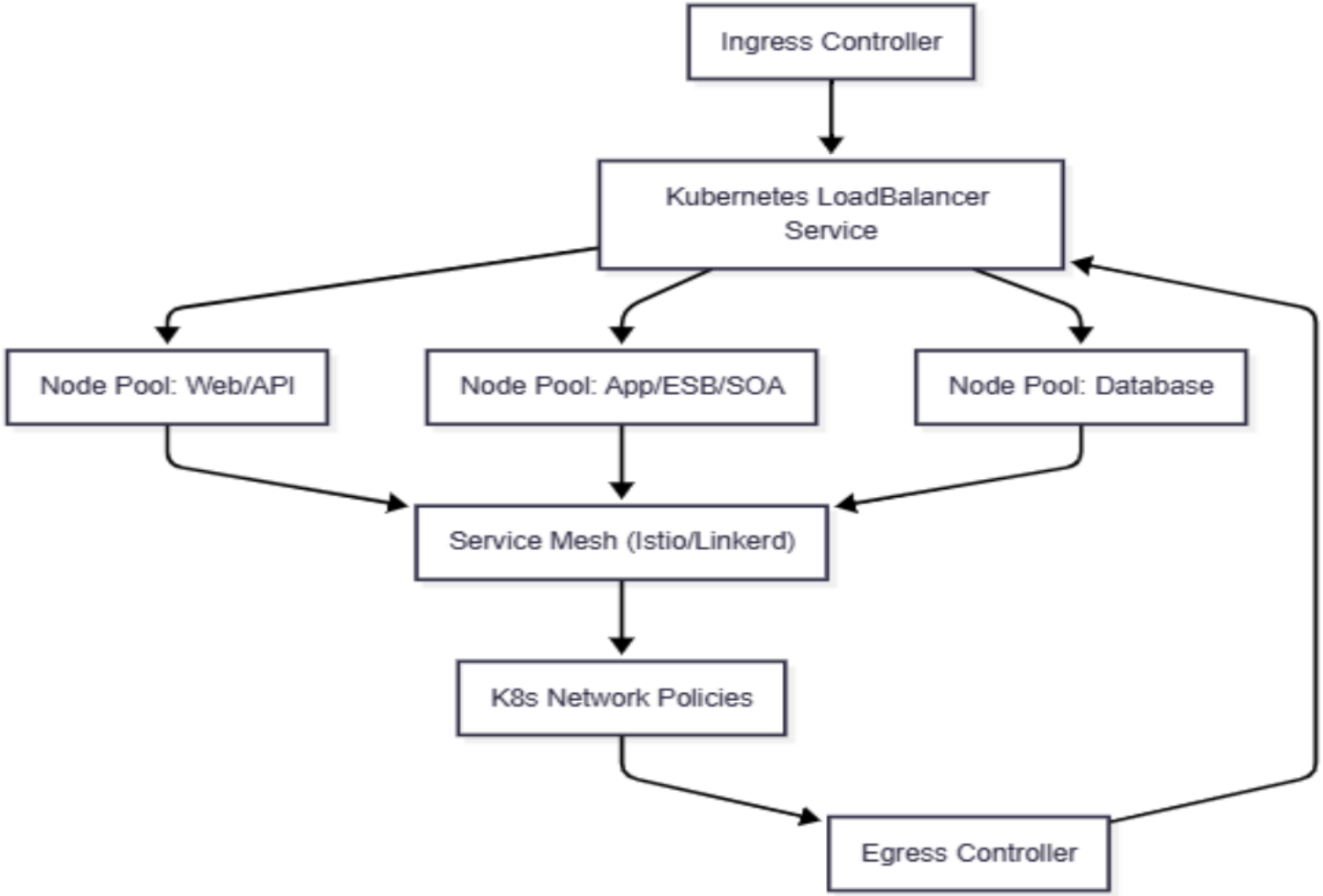
On-prem cluster management



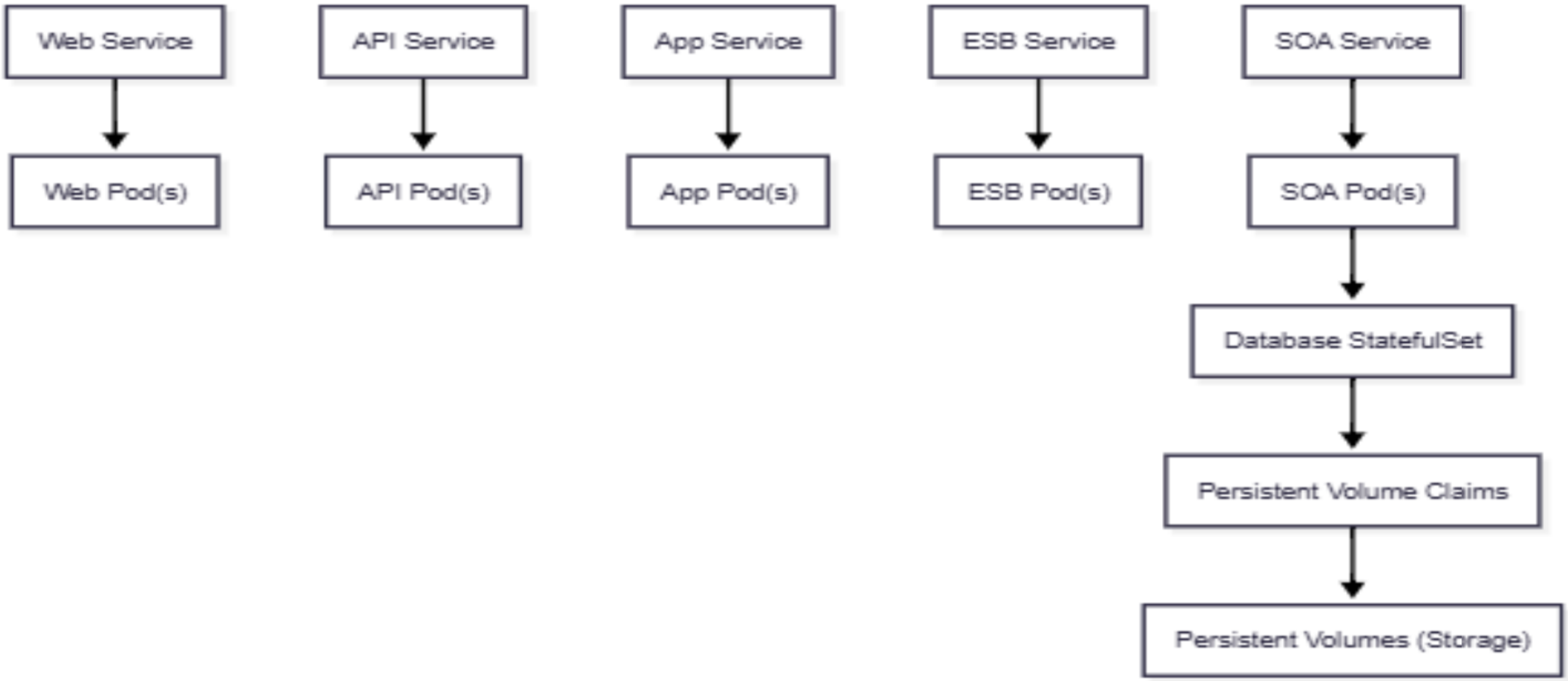
On-prem cluster node pool



On-prem cluster network management



On-prem app deployment management



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Thank you

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