



TRANSPORTATION BLUEPRINT

Objective

To achieve digital transformation, the transportation industry must shift its IT infrastructure from siloed and fixed to dynamic and distributed. Re-architecting IT infrastructures to enable global collaboration models results in the following benefits:

- Upstream — Rapid innovation leveraging a global, competitive ecosystem.
- Midstream — Real-time instrumentation for optimal fabrication adjustments; storage with visibility across the entire logistics chain.
- Downstream — Just-in-time inventories and rapid feedback that integrates data from marketing, sales and support.

Design Principles

Global location coverage — Ability to place secure control points near customers, employees and partners for responsiveness and compliance.

Interconnection and ecosystems — Greatest choice in networks, clouds, partners and ecosystems with dynamic exchange options.

Integration and control — Leverage proximity and low latency to privately integrate physical and virtual services from a marketplace of leading options.

Enterprise

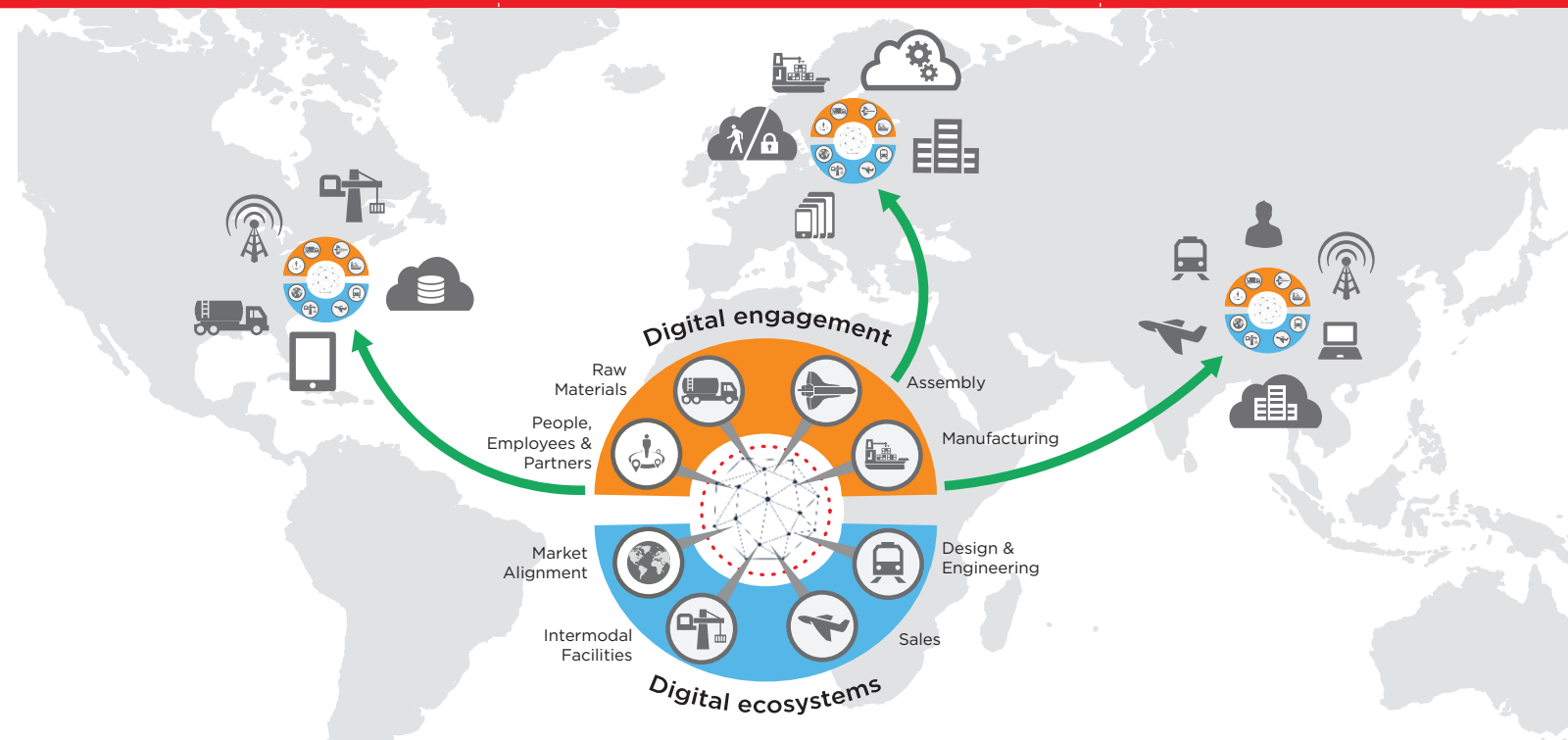
In addition to delivering goods and services, transportation firms facing disruptive new entrants must deliver a superior customer experience. Streamlined logistics and innovative ecosystem alliances help them do so.

Provider

Service providers enable new digital platforms and information exchanges by deploying transportation company services at the digital edge in a highly scalable, pay-as-you-go model.

Managed Services

MSPs provide architectural, program management, deployment and strategic guidance to transportation firms re-architecting supply chains and integrating IoT, cloud, data and mobile/wireless services.



Capabilities

- Rich user experience — Ecosystem participants receive real-time updates.
- Interconnected supply chain — Dynamic infrastructure provides end-to-end visibility.
- Scalable capacity — Transportation firms can scale up for peak periods.
- Global insights — Fast and efficient use of data enables valuable analysis and timely action.

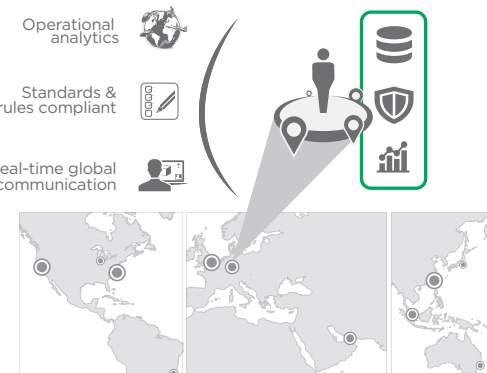
Benefits

- Enhanced customer experience.
- Global integration across the entire value chain.
- Partner ecosystem dynamically connected.
- Faster innovation.
- Accelerated product development and integration.
- Enhanced prediction capabilities.
- Simplified global connectivity.
- Streamlined processes.

PLAYBOOK STRATEGY

1ST Differentiate the User Experience

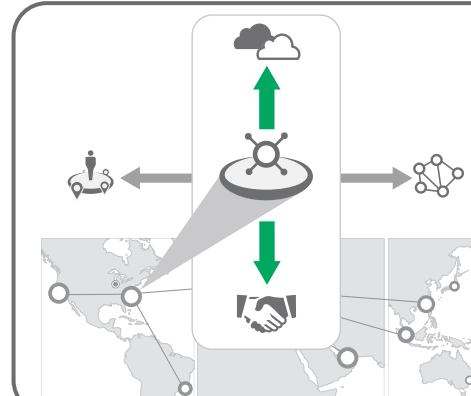
Build a differentiated experience through interconnection. Deliver consistent and cost-effective performance through a strategic global presence adjacent to ecosystem participants. Customize fleet services while maintaining a strategic global presence with proximity to customers, partners and things.



- Establish business capabilities in a secure, localized presence.
- Tailor services based on local needs and tailor delivery to an array of channels.
- Leverage proximity to participants for better performance and efficiency.

2ND De-Risk the Business

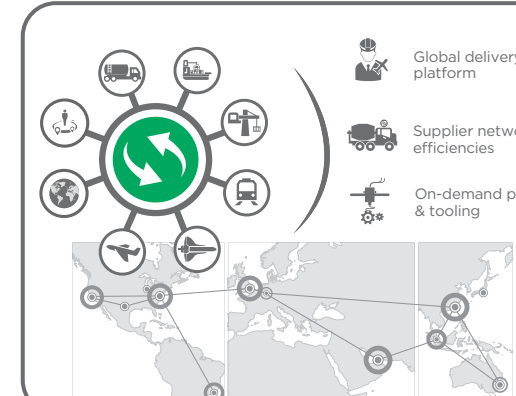
Reduce business risk with an interconnection platform. Simplify and standardize governance on a single global platform while leveraging a marketplace of providers and partners for strategic alliances. Easily test new markets and models with minimal commitment or capital outlay.



- Standardize connection to cloud partners through aggregation and exchange points.
- Simplify business partner engagement models, enabling dynamic growth.
- Apply policy enforcement controls as collaboration and innovation grow.

3RD Scale Through Ecosystems

Scale through interconnected ecosystems. Locally harvest, process and exchange fleet and inventory data. Provide timely intelligence to customers and supply chain partners. Expand the value chain with partners and data to achieve digital-ready logistics.



- Harvest and process data where it is generated for real-time intelligence.
- Dynamically adapt value chain based on client and user requirements.
- Scale delivery leveraging ecosystem access across all points of presence.



Differentiate the User Experience



Problem

Transportation firms face new digital challenges. They must optimize their business processes using real-time, end-to-end data exchange throughout their supply chains to deliver greater customer satisfaction.



Solution

Transportation companies must streamline their supply chains and increase collaboration and data-sharing. To do so requires new digital capabilities and IT architectures. Business processes can be optimized with partner, real-time logistics and customer data globally across the value chain. This approach simplifies collaboration with partners for greater process efficiency and scales resources on demand. Myriad sensor data sources are captured, aggregated and scrubbed, then leveraged for sale through data exchanges.



Constraints

1. Centralized, siloed and fixed IT business processes limit end-to-end visibility for ecosystem participants.
2. Real-time collaboration, data collection and analysis from fleet business processing systems and IoT sensors is inhibited.
3. Security and compliance in a collaborative, data-sharing, distributed, mobile- and cloud-enabled environment is complex, difficult to achieve and risk-prone.



Steps

1. Establish and distribute a secure, localized presence— Choose metros where transportation companies can benefit from access to a large variety of secure, densely interconnected clouds, networks, partners and customers.
2. Deliver strategic logistical services locally — Migrate services and business processes to distributed locations adjacent to strategic logistical partners.
3. Customize insights and tailor delivery — Collect and analyze data according to local business processing needs.
4. Adapt delivery to dynamic fleets and services — Scale delivery to meet the dynamic nature of traveling fleets and devices.
5. Distribute services across the supply chain — Allow services and data to be discovered and exchanged end-to-end with business process partners as needed to enhance services.



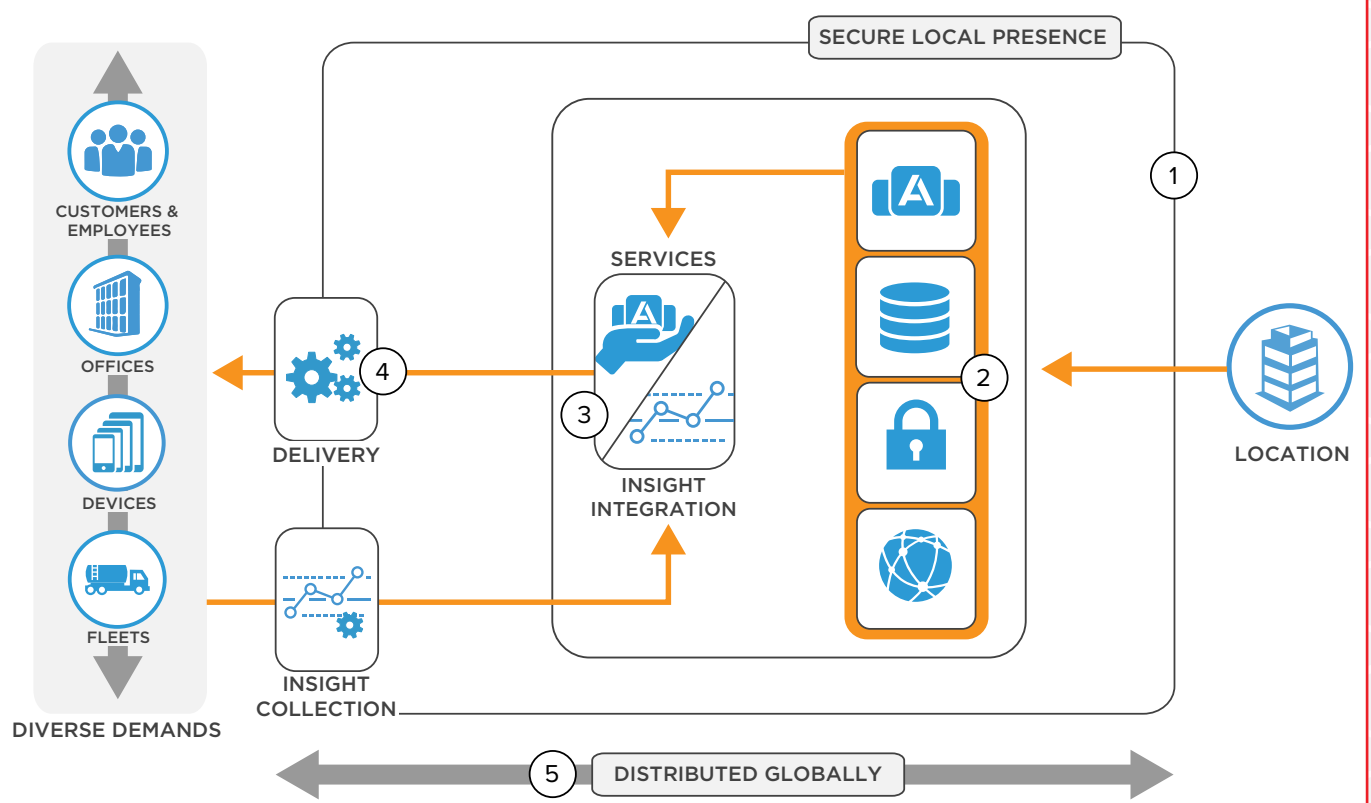
Forces

- Transportation firms are pressured to provide greater end-to-end logistics visibility.
- Enhanced customer experiences are an important differentiator.
- Sensor data enables fleet management optimization and preventative maintenance.
- A new asset-sharing market is emerging.
- Usage data across the value chain is now a signature of successful companies.



Outcomes

- Leverage APIs via interconnection to quickly establish and manage business process governance.
- Support multiple devices, formats and service extensions.
- Scale service delivery to consumers anywhere, anytime.
- Securely share business process data from IoT sensors and other sources with supply chain partners.
- Reduce costs via virtual “one-to-many” cloud connections.
- Simplify the introduction of new clouds and services.

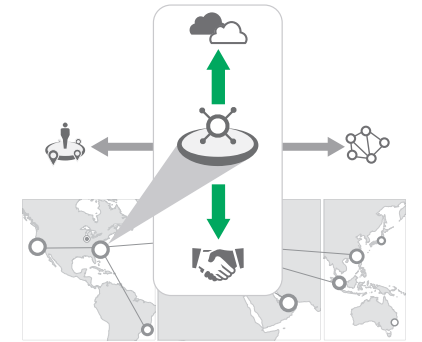


**Problem**

Integration within traditional IT infrastructures is inherently complex, costly and insecure. The integration of clouds and rigid cost structures create inefficiencies, while complex partner integration discourages innovation.

**Solution**

Transportation companies can minimize risk across their supply chains while increasing collaboration and data-sharing by adopting new digital strategies and IT architectures. They can optimize business processes using global, real-time partner logistics and customer data across the value chain. This approach simplifies partner collaboration, enabling greater process efficiency and scaling resources on demand. Myriad sensors capture, aggregate and scrub data, then offer it for sale through data exchanges.

**Constraints**

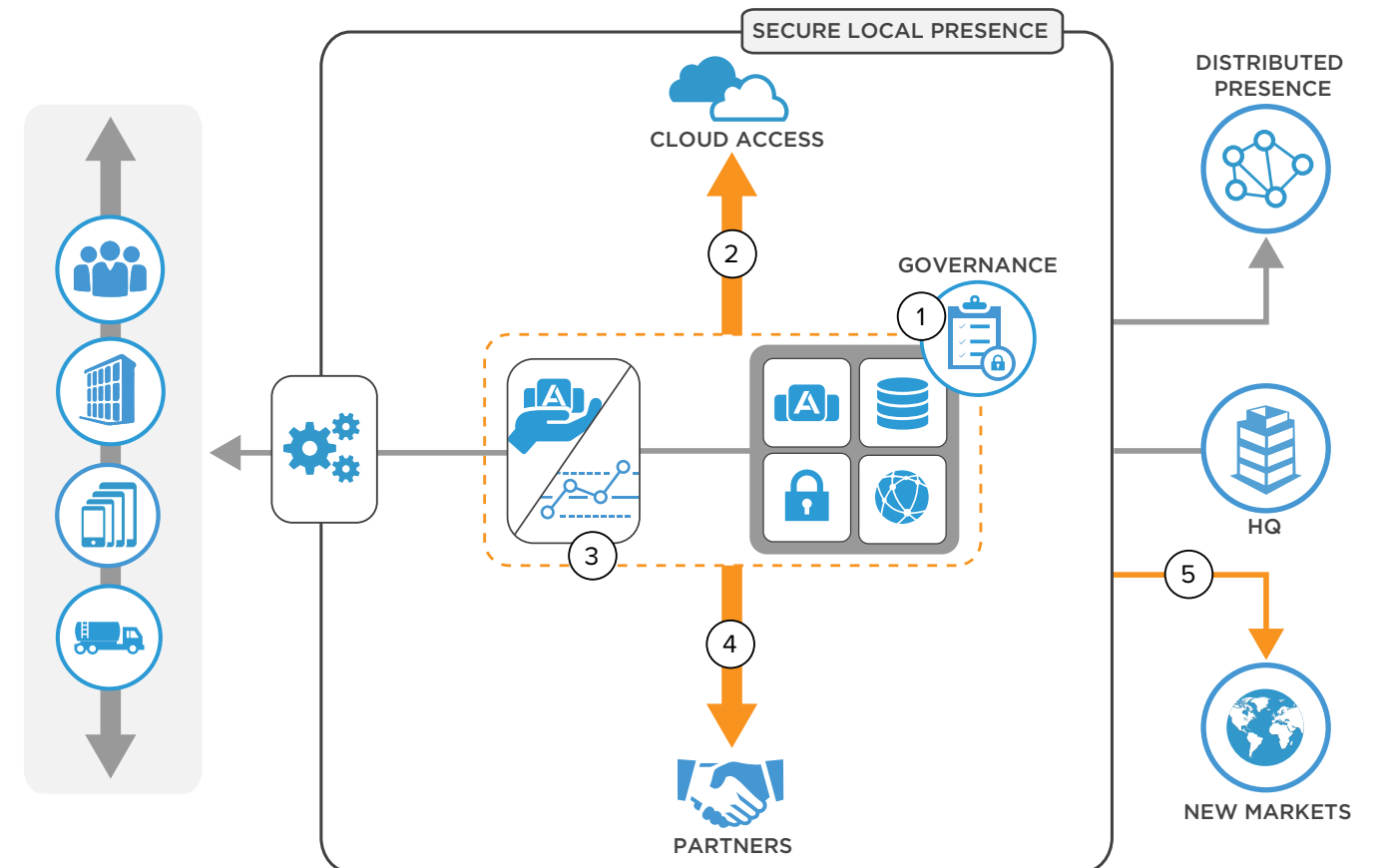
1. Legacy IT, cloud-connected business process architectures are complex and expensive to maintain and operate.
2. Cloud services and associated business solutions can't be fully exploited because they are incorporated into existing IT architectures.
3. IoT data and business analytics tends to be managed centrally, causing delayed insight production and suggested actions.
4. Transportation firms struggle to meet customer needs due to a lack of agility and limited data insights.

**Forces**

- Transportation companies require real-time automation and data-driven insights to deliver value-added, outcome-based solutions and services.
- Transportation ecosystem partners demand rapid delivery of expanded service offerings along with streamlined logistics
- Reduced processing time for automated tasks challenges time-based revenue models, ultimately creating negative pressure on margins and profits.
- Industry leaders are investing in analytics and augmented intelligence to improve efficiency and lower costs, creating competitive urgency.

**Steps**

1. Standardize IT governance — Simplify business architecture within specific locales for consistent fleet and data management.
2. Digital business policy management — Enable new business policies including SaaS-based API management, message gateways and distributed transaction and workflow managers to integrate flows dynamically.
3. Aggregate data for compliance — Turn data into actionable insights with real-time, SaaS-based analytics integrated to accept alerts from rules-based complex event processors.
4. Dynamic partner engagement — Integrate business processes with partners when and where needed without long-term commitments.
5. New market and model innovation — Use distributed workflow and business architectures to establish secure, multiparty data exchange flows that create revenue.

**Outcomes**

- Quick and easy deployment of business infrastructures that scale fleet resources and improve business continuity.
- Real-time collaboration with business partners.
- Streamlined transportation business processes for agile and efficient logistics and supply chain operations.
- Integrated customer portals for end-to-end visibility across the supply chain.
- Secure, multiparty data exchange transactions that create new revenue models.
- Cross-partner analytic models where IoT data is stored, enabling real-time, actionable insights.

**Problem**

The transportation industry is being disrupted. Traditional barriers to entry are becoming liabilities. Alliances and partnerships can shift value quickly, with little warning. Value-chain partners must continually reevaluate whom to partner with, monitor the changing competitive landscape and dynamically meet local needs while scaling globally.

**Solution**

Transportation companies must increase flexibility to meet local demands while analyzing and anticipating global trends. Deep business learning can be implemented and trained to use transactions, IoT insights and workflows to identify trends and threats. Business workflow and application managers can quickly integrate third-party offerings as they are programmatically discovered. Mobile services and analytic engines provide predictive instrumentation for optimal operational planning.

**Constraints**

1. Inconsistent and fragmented customer engagement.
2. Concerns over the cost of enhancing services to keep up with competitors.
3. Siloed business processing prevents rapid time-to-market responses.
4. Lack of innovation, efficiency and asset sharing reduce profitability and ROI.
5. Inability to properly leverage collected data and use it when and where needed.

**Steps**

1. Harvest real-time data — Implement advanced analytics to inform local and global business resource-scaling policies. Automate application and business process management while scaling bandwidth, compute, security, analytics and data storage.
2. Omnichannel insight delivery — Collect data for business insights and delivered to the most appropriate channel.
3. Continually adapt partner networks — Distribute newly composed application services that use third-party business offerings. Integrate outputs with distributed transaction and workflow managers as needed.
4. Introduce new revenue models — Use Equinix Marketplace to programmatically discover and publish new revenue and service offerings.
5. Predictive maintenance and instrumentation — Deploy distributed sensor technologies to predict maintenance issues and optimize fleets and machines.

**Forces**

- The emergence of 3D printing will force new ways to consider supply chain logistics.
- As urbanization intensifies, new strategies must be used to find optimal logistics.
- Factory and warehouse inventory strategies will force new, real-time fulfillment processes that require end-to-end visibility.
- Value chains must be re-architected for real-time fulfillment bidding.
- Urban transportation will become more complex as drones and automated, connected vehicles are optimized.

**Outcomes**

- Aggregate data sources for optimal operations support.
- Create insights from data for revenue opportunities.
- Adapt to local needs.

