



# PHARMACEUTICAL BLUEPRINT

## Objective

Pharmaceutical companies can meet patient demands for outcome-based offerings by re-architecting infrastructure on a distributed interconnection platform that provides:

- Flexible business models — Adopt new technologies and integrate partner ecosystems to deliver high-quality customer experiences.
- Security and compliance — Standardize information governance across a global delivery platform.
- Global scalability — Extend reach to new devices and markets.

## Design Principles

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

Interconnection and ecosystems — Choose 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

Pharmaceutical companies can integrate digital solutions and ecosystems to extend reach, accelerate innovation and create new business models.

### Provider

Network, SaaS, content and other providers enable new platform capabilities and information exchanges by deploying services that support highly scalable, pay-per-use business models.

### Managed Services

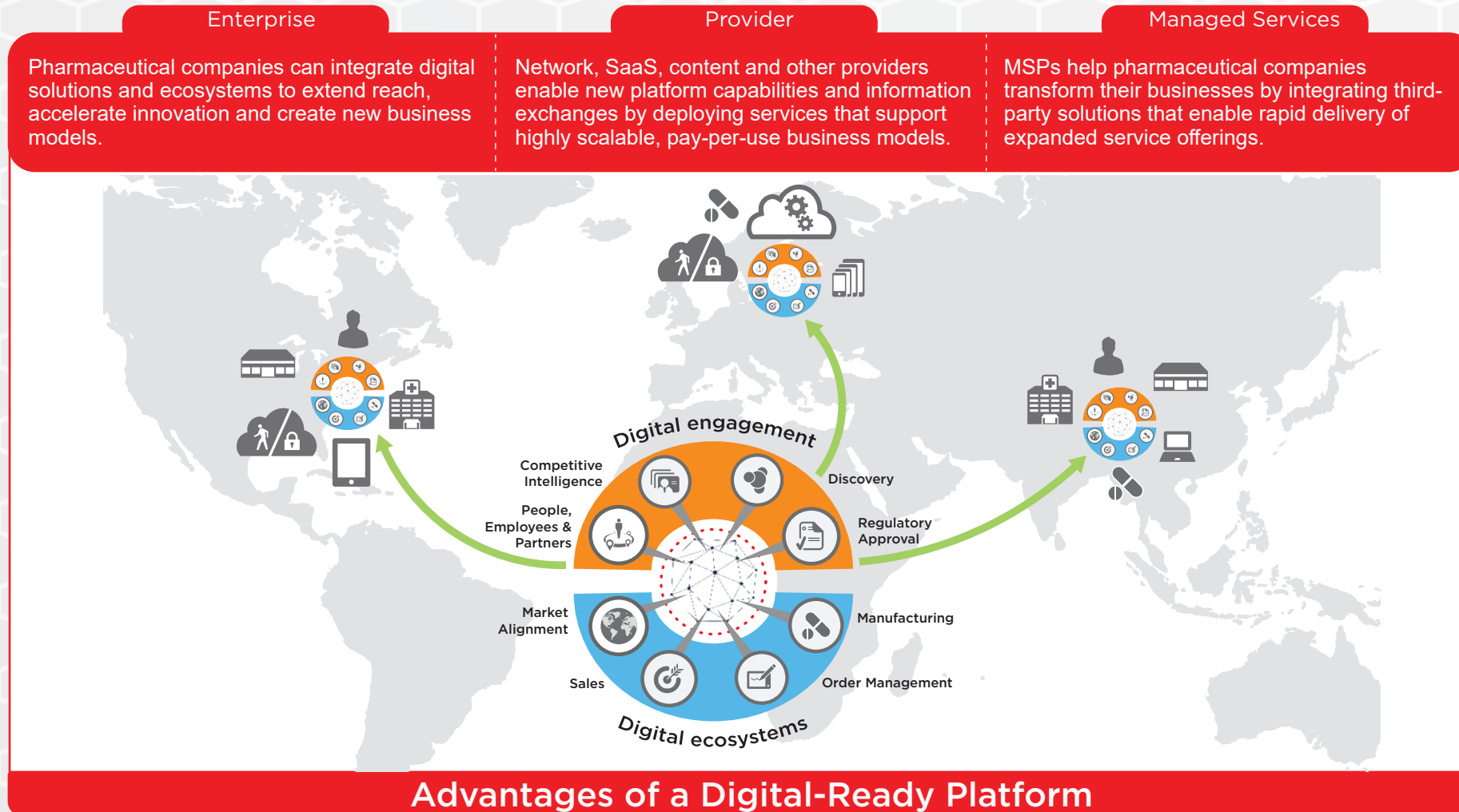
MSPs help pharmaceutical companies transform their businesses by integrating third-party solutions that enable rapid delivery of expanded service offerings.

## Capabilities

- High-quality experiences — Distributed points of exchange connect customers, clouds and data.
- Geographic scalability — Interconnection securely reaches markets, customers and employees.
- Market alignment — Progressive partnerships with market innovators accelerate product development.
- Customer care — Localized data repositories support rapid, relevant insight into customer needs.

## Benefits

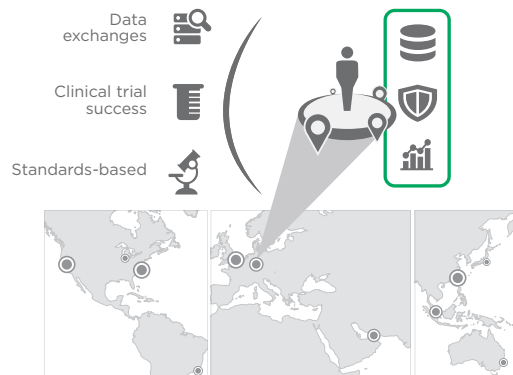
- Offer customized, outcome-based medicine.
- Deliver cost-effective tailored services around the clock.
- Maintain a strategic global presence near customers.
- Standardize IT compliance and reduce business risk on a single, global platform.
- Gain rapid, relevant insight into customer needs.
- Place timely data at the fingertips of patients, partners and employees.



## PLAYBOOK STRATEGY

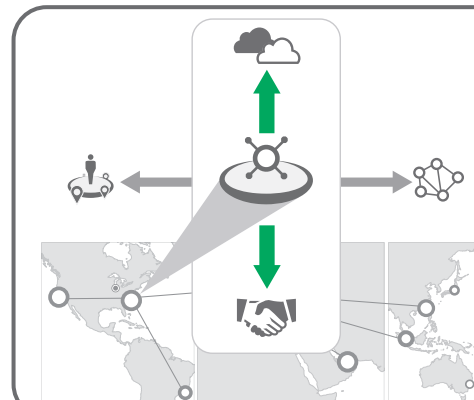
### 1ST Differentiate the User Experience

Build a differentiated experience through interconnection. Deliver consistent and cost-effective performance through a strategic global presence adjacent to ecosystem participants. Extend reach globally while improving user experience and information access.



### 2ND De-Risk the Business

Reduce business risk with an interconnection platform. Simplify and standardize on a single, global platform that enables consistent IT policies and enforces compliance. Enhance collaboration and streamline innovation.



### 3RD Scale Through Ecosystems

Scale through interconnected insights and ecosystems. Locally harvest, process and exchange data for timely intelligence. Expand the value chain with partners and data to build value-added offerings and create superior outcomes for ecosystem participants.





# Differentiate the User Experience



## Problem

Patients demand better experiences and predictable, positive outcomes. Real-time interactions, instant feedback and proactive analysis can't be met by traditional IT infrastructures.



## Solution

Pharmaceutical companies are transforming their IT infrastructures from traditional and centralized to geographically distributed. By establishing a presence in metro areas characterized by dense clusters of networks, clouds, partners and customers, these companies are maximizing global collaboration and transforming business models to deliver patient services locally. A local presence reduces latency and complexity, allowing patient services to be customized based on local insights and delivery tailored to customers, users and devices.



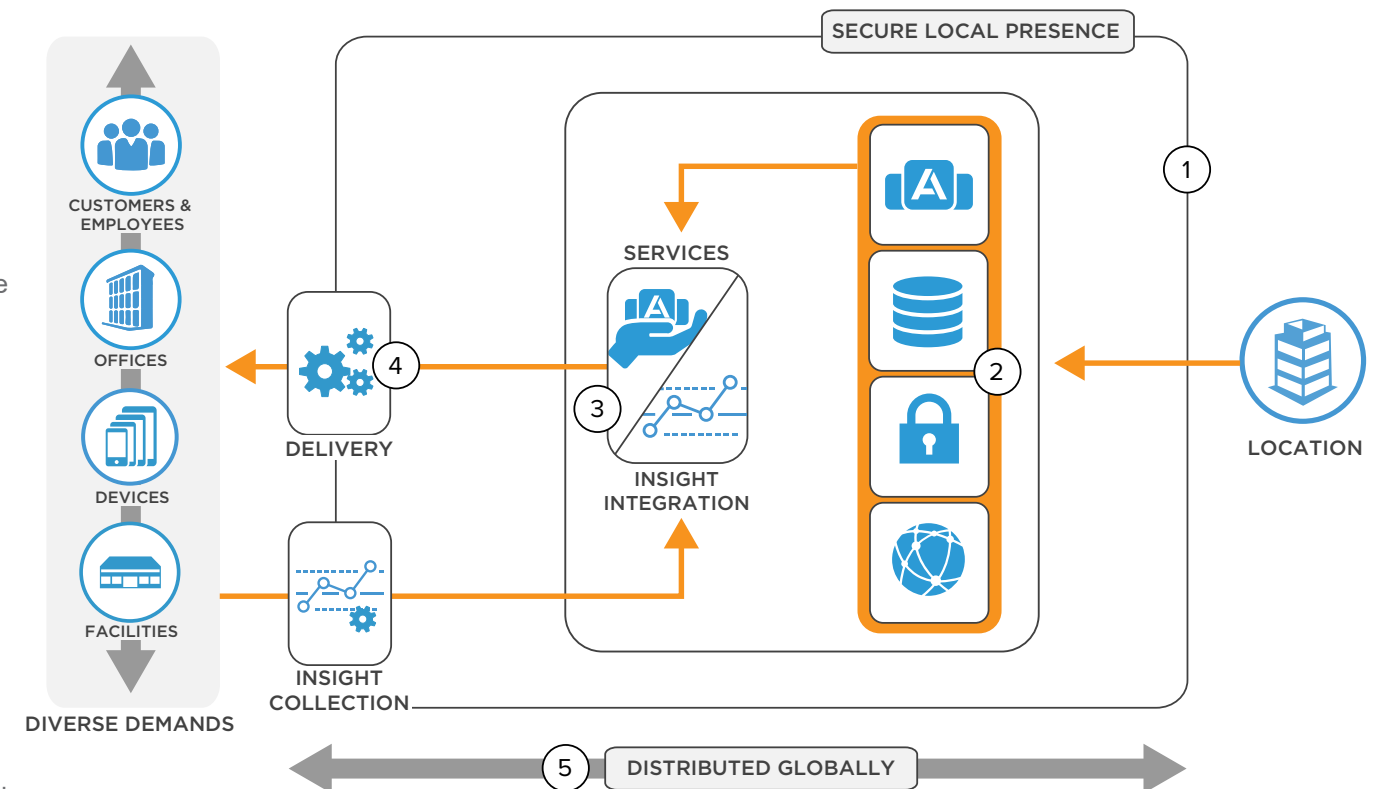
## Constraints

1. Lack of patient insight impedes the ability to understand and meet needs.
2. Poor geographic reach to patients, doctors and partners limits markets.
3. Traditional IT infrastructures can't keep pace with changing demands.



## Steps

1. Establish and distribute a secure localized presence — Choose metros with dense populations of customers and users that will benefit from customized services tailored for local delivery.
2. Deliver outcome-based medicine locally — Extend business and service capabilities for local digital engagement. This reduces latency for better performance and efficiency.
3. Customize services and tailor delivery with local insights — Leverage locally generated insights to customize offerings to patients and augment tools for users and partners.
4. Adapt delivery to dynamic users across devices — Scale delivery to meet dynamic patient and user requirements surrounding each local presence.
5. Distribute services across patients, partners and employees — Expand delivery for business services across all points of presence leveraging locally generated insights.



## Forces

- Pharmaceutical revenue growth is declining.
- Revenue growth is impacted by shifting price controls, increased regulations, greater patient choice and payer-controlled pricing.
- Growing focus on positive and predictable patient outcomes changes production priorities.



## Outcomes

- Improve user experience with local points of presence and enhance performance with reduced latency.
- Accelerate end-to-end solution delivery with direct interconnections between partners, clouds and patients.
- Leverage local insights to understand and respond to customer behaviors.



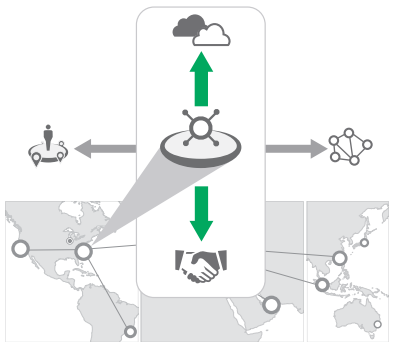
## Problem

Changing regulations are negatively impacting revenue growth, while traditional, fixed and siloed infrastructures inhibit responsiveness to the market.



## Solution

Pharmaceutical companies are reducing business risk with a single, global platform that enables consistent IT policies and enforces compliance, while enhancing collaboration and innovation. These companies are turning to emerging digital technology and greater collaboration to accelerate new business models, increase revenues and meet patient expectations for digital, outcome-based experiences.



## Constraints

1. Cloud-connected legacy IT architectures are complex and difficult to maintain and operate in a globally compliant manner.
2. A lack of dynamic data capture and analysis increases the complexity of global compliance evaluation and issue remediation.
3. Stringent data security and privacy requirements from legacy infrastructures delay time to market for solutions and services and increase operational risk.



## Steps

1. Standardize IT governance — Reduce business architecture complexity for effective and secure collaboration in a distributed environment.
2. Enforce consistent digital business policies — Proactively enforce policies for customers, users, devices and data to meet regulatory requirements at local and regional levels.
3. Aggregate data for compliance — Gain a holistic view of the global adherence to business rules and regulatory requirements.
4. Enable dynamic partner engagement — Integrate business processes with ecosystem partners to accelerate innovation and quickly deliver new service offerings.
5. Innovate offerings and test new markets — Quickly test new business models and markets with no need for capital-intensive infrastructure investments.



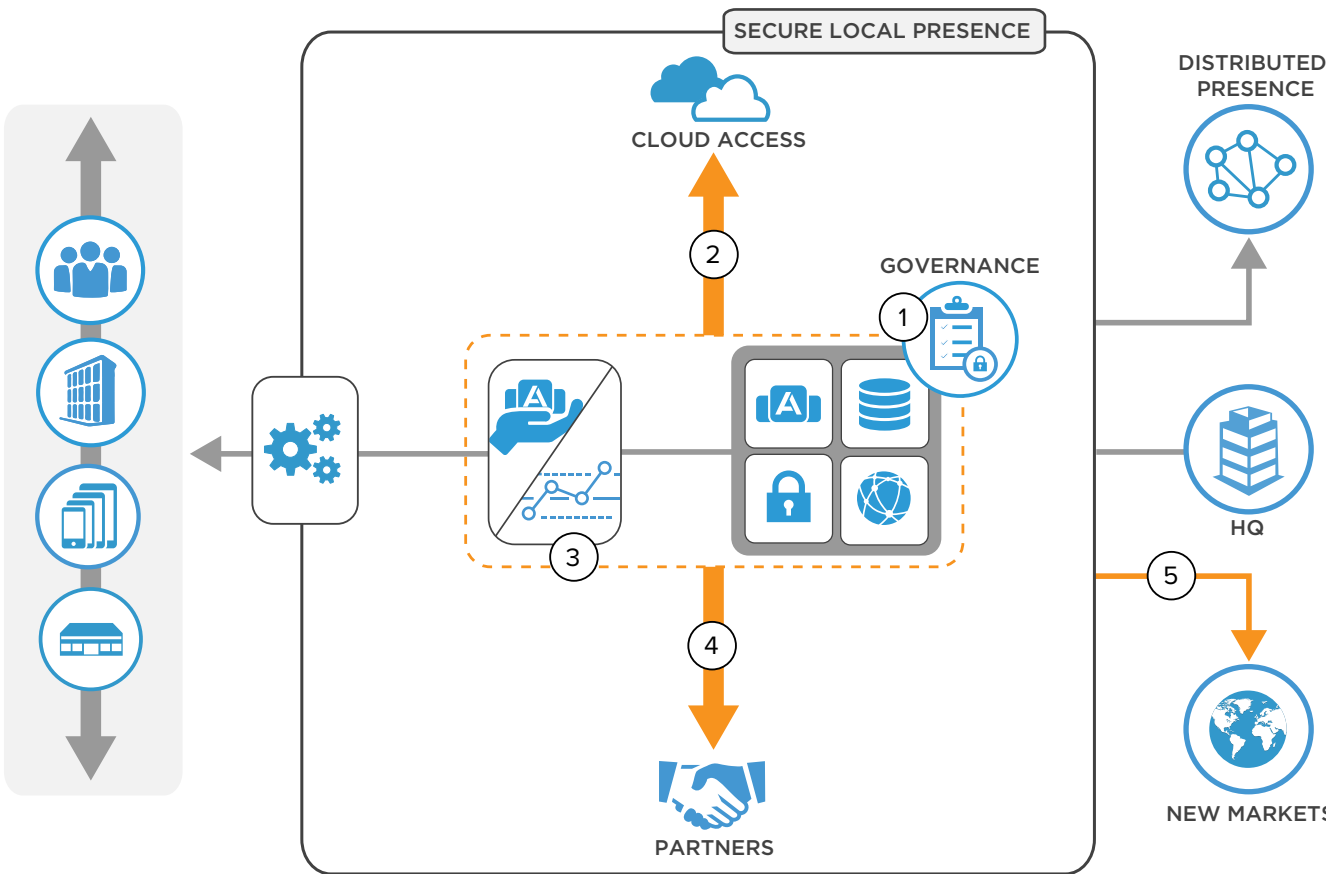
## Forces

- Partner engagement is creating innovative offerings across new markets.
- Evolving compliance and privacy regulations strain traditional business architectures.
- Patient demand for innovative, outcome-based solutions requires the rapid integration of partners and technologies.



## Outcomes

- Simplify regulatory compliance with standardized IT policies and global visibility of audit data.
- Streamline business processes by integrating business partners through interconnection.
- Accelerate innovation by testing new markets and solutions without the need for significant capital investment.







Problem

Traditional IT business architectures are slow or unable to adopt new technologies required to meet rising patient and customer demands for real-time, outcome-based experiences.



Solution

Pharmaceutical companies are able to continually change their business models across industries to remain relevant thought leaders as disruptors enter the market. Pharmaceutical companies are uniquely positioned to help their customers achieve digital transformation; however, they must simultaneously fend off disruptors of their value proposition. To achieve this balance, they must hone their ability to change business models through strategic, possibly transactional, partnerships. They can leverage ecosystems to find new financial services and use deep learning analytics to streamline delivery of highly personalized experiences.



Constraints

1. Traditional technology infrastructure hinders drug development, clinical trials and FDA approvals.
2. Current technology prevents insight development on patient preferences.
3. Engaging with partners requires technical capabilities not found in traditional IT infrastructures.



Steps

1. Harvest real-time patient and market data — Collect, process and move data between locations quickly to take advantage of timely information to support personalized customer experiences.
2. Deliver omnichannel insights — Turn data into business insights that can be delivered to the most appropriate channel.
3. Dynamically adapt partner value chain — Easily onboard and offboard partners and providers to support innovative offerings that meet customer needs.
4. Innovate holistic offerings with partners — Transform from scattered, transaction-based interactions to insight-driven, customized and personal experiences.



Forces

- Leading pharmaceutical companies are engaging with partners to create innovative new offerings.
- Patient needs and expectations are changing rapidly.
- Aggregating services and content from multiple partners is driving new innovation.
- Customers are willing to trust new entrants to the pharmaceutical marketplace.



Outcomes

- Improve decision-making with real-time insights collected and processed near the source.
- Enhance user engagement regardless of the interaction channel.
- Speed time to market by simplifying the process to engage with new partners.

