

Luminate Logistics

SaaS and On-Premise Enablement Strategy

Innovative solutions for the
Next Era of Opportunities



Business and Technology Landscape

Brands, manufacturers and logistics service providers are embracing direct-to-consumer models to drive loyalty while retailers are branching out to push home-grown labels to consumers. How can logistics operations morph from inside-out, efficiency-focused to a model that is outside-in and centered around the customer experience? Excellent logistics operations are becoming an asset leveraged to compete and win in terms of delivering superior customer experience - product availability, pickup or delivery expectations, convenience and cost.

Customer expectations around the speed of click-to-deliver motions will drive significant changes in supply chain network footprints, where the inventory is held, how the fulfillment and delivery happen while keeping the focus on cash flows, fulfillment costs.

A major shift is businesses becoming comfortable in tapping into networks and platform business models to procure space, resources, and freight capacity on an as-needed-basis instead of capital and resource heavy long-term investments. Many see the trend of humans and machines working together in seamless and fluid ways where the best resource is chosen for the task at hand as operational conditions change.

New technologies (such as AI, blockchains, hyperscale computing, augmented reality, digital twins, virtual reality, etc.) in cloud delivery models are allowing customers to rethink operations and business processes in new and unexpected ways. These innovations are helping enterprises achieve end-to-end visibility and foresight into variability that will impact sales and operations planning, as well as sourcing and logistics.

Historically logistics systems have been sequential, rules-centric – monolithic, rigid and difficult to maneuver as business landscape and operational conditions change. AI and machine learning are now playing a huge role where systems of the future sense, learn, adapt and either provide recommendations or take action both in terms of workflow changes as well as day-to-day operational decisions. Sudden demand spikes, precipitous demand drops, supply disruptions, production line shutdowns and other events can be better managed by early prediction and real-time responsiveness.

BY's Product Strategy is driven by these macro forces, key industry and technology trends. Blue Yonder, as a recognized market leader is committed to providing the most innovative and cost-effective end-to-end execution solutions to drive flexible, ultra-efficient, and even autonomous operations throughout the distribution networks.



Blue Yonder Luminate Platform Strategy and Microsoft Azure Choice:

Blue Yonder's product strategy is rooted in building in industry's first true and open supply chain platform – Luminate – to create a thriving ecosystem of supply chain solutions with products from Blue Yonder, customers and partners co-existing in seamless ways through micro-services facilitated by APIs and a canonical data model.

Microsoft Azure has been chosen as the cloud platform to underpin BY's Luminate Platform strategy. This decision has been made after careful consideration and based on key considerations:

- a) Global scale and presence
- b) Adoption by customers for large global solution deployments
- c) Strong alignment to bring joint value proposition to enterprise customers

It is critical to note that while Luminate Platform and SaaS offerings will be solely offered on Microsoft Azure from focus, delivery efficiency and sustainable cost model perspective, the architecture and technology choices are made to be cloud platform agnostic to maintain necessary independence and mitigate vendor lock-in concerns.

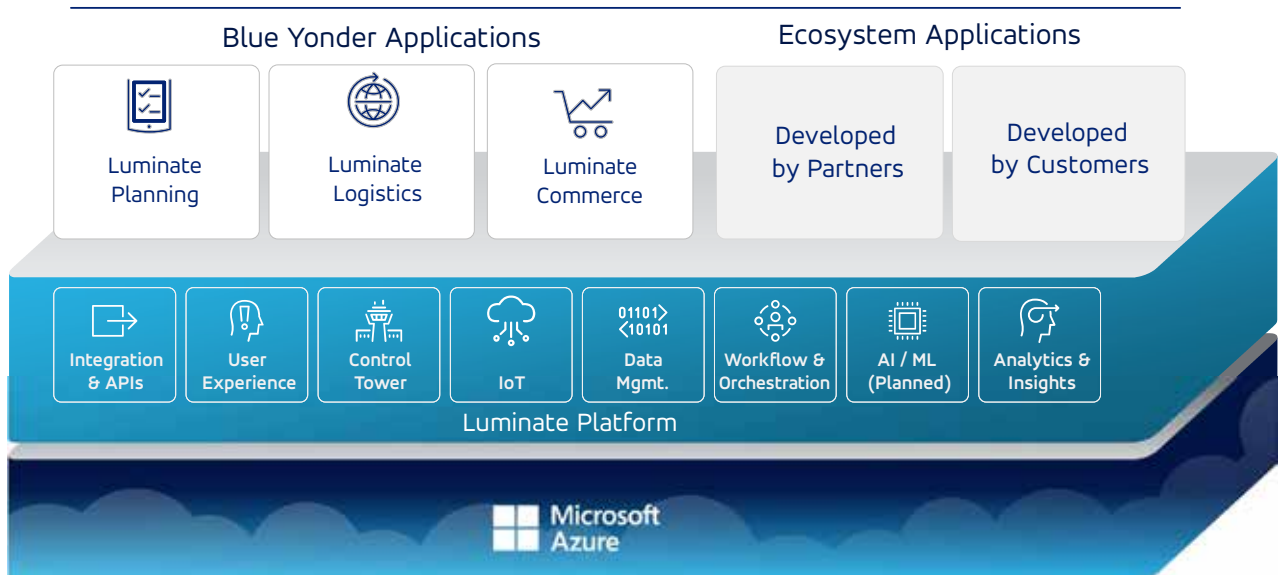
Logistics Product Strategy:

Blue Yonder's logistics solutions have matured over the last 25 years to have market leading capabilities and 1000+ enterprise customers we are privileged to serve. It is critical to continue to use that capability maturity and customer community as the bedrock of future investments while deploying modern technology innovations to deliver the next generation of solutions for logistics of the future. We have adopted the following core tenets to guide our product strategy:

- a) Utilize continuing advances in cloud computing
- b) Faster innovation
- c) Provide choices to customers
- d) Enable current BY customers to protect their investments
- e) Deliver superior experience

Blue Yonder Luminate Platform

One Data | One Experience | One Ecosystem



With all of the above as the context, our Logistics product strategy can be summarized as follows:

- a) Continue investments into core on-premise (on-prem) products for existing customers based on priorities determined by interest from Customer Special Interest Groups (SIG)
- b) Offer logistics capabilities in Cloud-based SaaS model by cloud-enabling and by adopting Luminate platform capabilities
- c) Build net new innovations as cloud native SaaS solutions which can be adopted by on-prem customers in a hybrid model

We will now elaborate further on each of these strategic themes:

On-prem Product Strategy for core products:

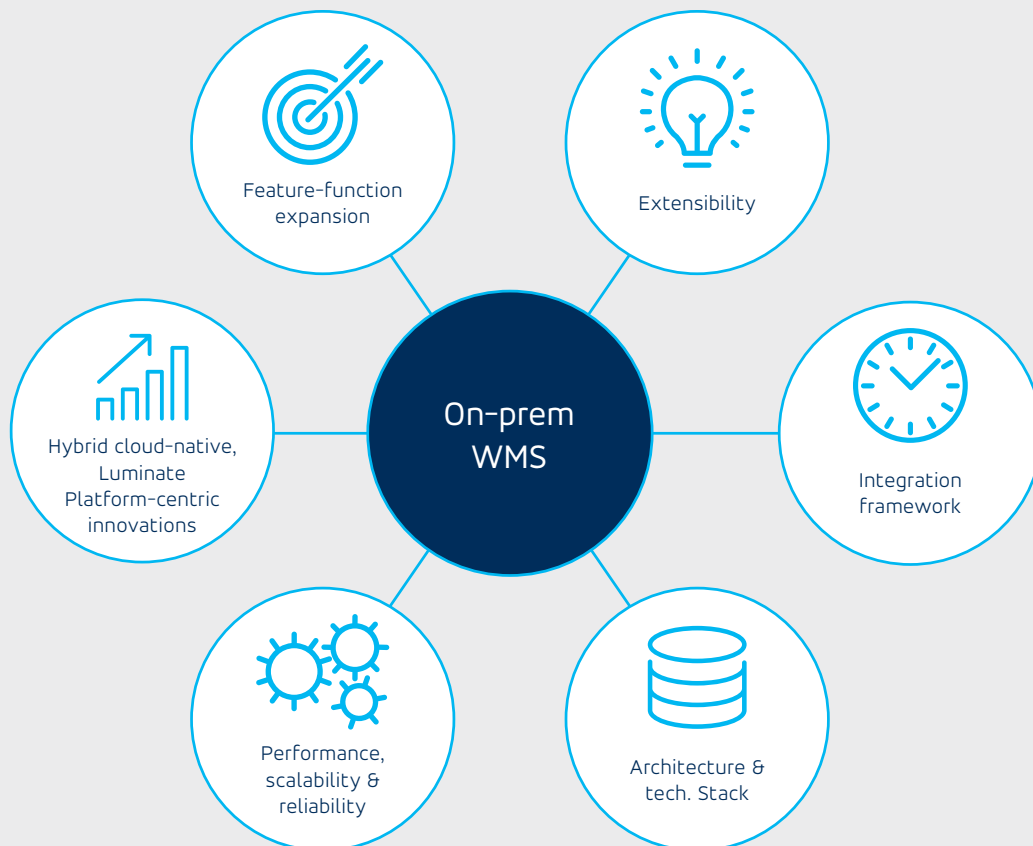
We realize that long-tenured customers have made significant investments into their on-prem deployments. Over the years, customers have utilized on-prem product architecture, its

extensibility capabilities and integration framework to build expansive solutions catering to their specific business needs. It is also critical that we provide ways for these customers to access Blue Yonder's cloud-native innovations as they choose to remain in an on-prem deployment model.

Blue Yonder recognizes that customers' investments to-date in on-prem solutions and the importance of providing a choice for customers as to when and how they would draw benefits from BY's SaaS investments in commercially viable ways while protecting their on-prem investments.

We intend to continue to make needed investments in on-prem products based on continuing needs of our customers expressed through customer SIGs.

Areas of critical interest from a customer perspective with regards to their on-prem deployments can be represented as below:



Now, we summarize our product investment and roadmap approach for each of these areas:

Feature Function Expansion: On-prem existing Core functionality expansion and refining will continue to happen via periodic major and minor releases, as prioritized customer SIGs.

Access to Cloud-native Innovations: As new innovations are envisioned utilizing Luminate platform capabilities, they will be built, to the extent it is practical and technically feasible, so that on-prem customers can access them in a hybrid model of customers' on-prem deployments connecting to Luminate platform. Examples: Warehouse Tasking, Resource Orchestration, Robotics Hub, Digital Fulfillment etc.

Performance, Scalability and Reliability: On-prem product will go through product performance, scalability and reliability (PSR) testing prior to releases to ensure optimal performance and stability.

Extensibility: On-prem product architecture (MOCA in the case of WMS) will continue to remain the core of the on-prem product to protect customer investments of building extensions and internal capabilities. In addition, BY will continue to create public APIs for various components of WMS to better enable customers to build their own apps and extensions.

Integration Framework: On-prem customers will have the choice to either use the new BY Connect/ MuleSoft approach or the existing WMS integration framework (Integrator).

Architecture and Tech. Stack: On-prem product architecture and technology stack will continue to be updated to ensure on-prem deployments will run on latest and supported versions of 3rd-party layered products.



SaaS Product Strategy for core products

As enterprise customers increasingly embrace the adoption of SaaS solutions and as Blue Yonder's competitive landscape becomes increasingly SaaS-centric, it is imperative for Blue Yonder to invest in offering logistics capabilities in a SaaS model. Blue Yonder intends to do so by cloud-enabling core logistics products and by utilizing Luminate platform and cloud-based innovations.

Core product SaaS strategy is guided by the north-star of 'providing customers with a frictionless SaaS experience that Blue Yonder can deliver with scalable and sustainable operational excellence'. SaaS enablement investments into core products can be summarized as follows:

SaaS Customer Experience

- Provide new value faster by keeping customers more current
- Mobile, web and voice clients that provide a rich user experience
- Public APIs enabling connectivity and integration
- Low code, upgrade safe extensibility – APIs, mobile, web, labels, reports
- Always on – no restarts for config changes, problem resolution
- Analytics, archiving, reporting

SaaS Operational Excellence

- Automated provisioning of new environments
- Push button zero downtime updates of existing environments
- Sustainable cost model, benchmarking and blueprinting
- Elasticity via independently deployable services
- Platform adoption – API Gateway, IAM, Data Platform
- Monitoring and diagnostics
- Improved quality gates – faster automated testing, PSR
- Remove need for VPN, Citrix – clients, cloud printing, MHE integration

Continuous SaaS Delivery

CI/CD DevOps (org, culture)
Automated testing / validation
Feature toggles to opt-in features

Service Levels (SLAs)

DR/HR.Archiving
WAN infrastructure connectivity
Performance / Scalability / Elasticity

SaaS Architecture

Microservice, Reasonably Sized Services
Containerization and Orchestration
Data Isolation / Tenancy

Extensibility

Portal (UI)
APIs
Customer Extension
Frameworks

Security & Audit

Infrastructure Security
Application Security
Tenant data segregation

BY Platform Services

Identity Management, APIs Exposure
Integration, Data Management
Mobile and RF Services

SaaS Operational Excellence

Culture, Org. & Processes
Infrastructure & Deployment Design
E2E Observability & Predictions

Blue Yonder's SaaS investments in technology and operations tools are to ensure that customers can consume our applications as nimbly as possible. For Blue Yonder customers, SaaS benefits include:

- **Scalability:** Scale on demand with no need to manage infrastructure and licenses.
- **Reduced costs:** There is no upgrades, no infrastructure upkeep or maintenance and reduced overhead and resources.
- **Faster time to innovation:** Agility to deliver innovation and value to the business and access to the latest innovation.
- **Security & compliance:** SaaS vendors manage the security and compliance required for software and hardware.
- **Access & flexibility:** Ability to provide employees to work anywhere and also better accessibility and ability to drive adoption.



New Cloud-native SaaS Logistics Innovations (accessible in a hybrid model for on-prem customers)

In addition to investments into on-prem and SaaS offerings of core products, Blue Yonder plans to build net new logistics innovations to be offered as cloud-native SaaS services. These services will be accessible to on-prem customers in a hybrid model. Few examples of such services already built and generally available to customers are:

- **Warehouse Tasking:** is a service that improves warehouse efficiency through warehouse task priority optimization using machine learning algorithms.
- **Resource Orchestration:** is a set services that facilitates holistic task assignment across human and robots, intelligent tour building for the resources and optimized resource capacity utilization.
- **Robotics Hub:** is a service that enables accelerated onboarding of multiple robotic vendors in a warehouse. Significantly brings down integration complexity between the WMS and bot vendors.

Conclusion

Blue Yonder enables our customers to adopt innovations at their own pace based on their operational and IT strategy, along 3 paths: on-prem, SaaS, or hybrid, as discussed above. Blue Yonder's product and architecture strategy is to deliver superior experience and faster innovations while protecting customers' investment.



About Blue Yonder

At Blue Yonder, we're fearless leaders. We're the leading provider of end-to-end, integrated retail and supply chain planning and execution solutions for more than 4,000 customers worldwide. Our unique solutions empower our clients to achieve more by optimizing costs, increasing revenue and reducing time to value so they can always deliver on their customer promises.

Fulfill your potential with Blue Yonder

[Learn more at blueyonder.com](https://blueyonder.com)



blueyonder.com

Copyright © 2020, Blue Yonder Group, Inc. All rights reserved. Blue Yonder is a Registered Trademark of Blue Yonder Group, Inc. All other company and product names may be Trademarks, Registered Trademarks or Service Marks of the companies with which they are associated. Blue Yonder reserves the right at any time and without notice to change these materials or any of the functions, features or specifications of any of the software described herein. Blue Yonder shall have no warranty obligation with respect to these materials or the software described herein, except as approved in Blue Yonder's Software License Agreement with an authorized licensee. 04.07.2020

