Cloud Logistics

Ideal for complex, volatile environments, cloud computing enables a variety of new ‘logistics-as-a-service’ (LaaaS)-based business models. Logistics providers can activate and deactivate customizable, modular cloud services on demand using a pay-per-use approach. This allows highly scalable service and management capabilities without requiring the traditional development, setup, and maintenance costs of own IT infrastructure.

KEY DEVELOPMENTS & IMPLICATIONS
In recent years, logistics providers have begun to embrace cloud logistics as it enables rapid, efficient, and flexible access to IT services for innovative supply chain solutions. Already today, more than 50% of logistics providers use cloud-based services and a further 20% are planning to do so in the near future. Looking ahead, open and web-based APIs will form the basis of modular on-demand cloud logistics services, replacing outdated, legacy communication systems (such as EDIs). Furthermore, edge computing will continuously enhance cloud logistics by utilizing computing power close to the data, drastically reducing bandwidth requirements.

Modular cloud logistics platforms offer open, web-based access to a choice of flexible, configurable on-demand logistics-related IT services that can be easily integrated into supply chain processes. Cloud-based transport management systems can assimilate orders, billing, and track-and-trace services in one combined platform. Pay-per-use models enable small and medium-sized logistics providers as well as larger companies to react more flexibly to market volatility, paying only for the services they actually need and use, instead of having to invest in a fixed-capacity IT infrastructure. Companies using cloud-based solutions can budget for this as operating expenditure.

Cloud-powered global supply chains virtualize information and material flows by moving all supply chain processes into cloud. With complex and fragmented global supply chains, logistics providers often have to deal with a variety of transactions taking place between multiple parties, using different warehouse and transport management systems. Cloud allows for the coordination and orchestration of this information into one integrated view, making it a key enabler of a virtual ‘control tower’, providing 360-degree management dashboards. Furthermore, cloud gives companies more precise control over their global inventory levels and the location of shipments and assets. Ultimately, this paves the way for sophisticated supergrid logistics networks.

KEY OPPORTUNITIES
- Agile, flexible, and elastic business models enabled by high on-demand scalability of IT services
- Improved ability to control supply chain processes through digitized processes and easily shared real-time data
- Increased price transparency for users of LaaaS software through pay-per-use or renting models
- Integration of services in central platforms using open APIs

KEY CHALLENGES
- Data migration and security issues need to be verified (e.g., maintaining control of sensitive data)
- Compatibility and integration of modular cloud services into supply chain management systems remains a challenge
- Performance concerns such as latency triggered by increased data volumes and real-time requirements

Spotlight: Transport Management System from the Cloud – Freightly

- Real-time, cloud-based logistics and transport management system (TMS) that makes logistics services affordable, especially for small and medium-sized companies
- Service covers all logistics processes from procurement and shipping to billing and has cross-device availability with views and dashboards tailored to the user

Source: Freightly