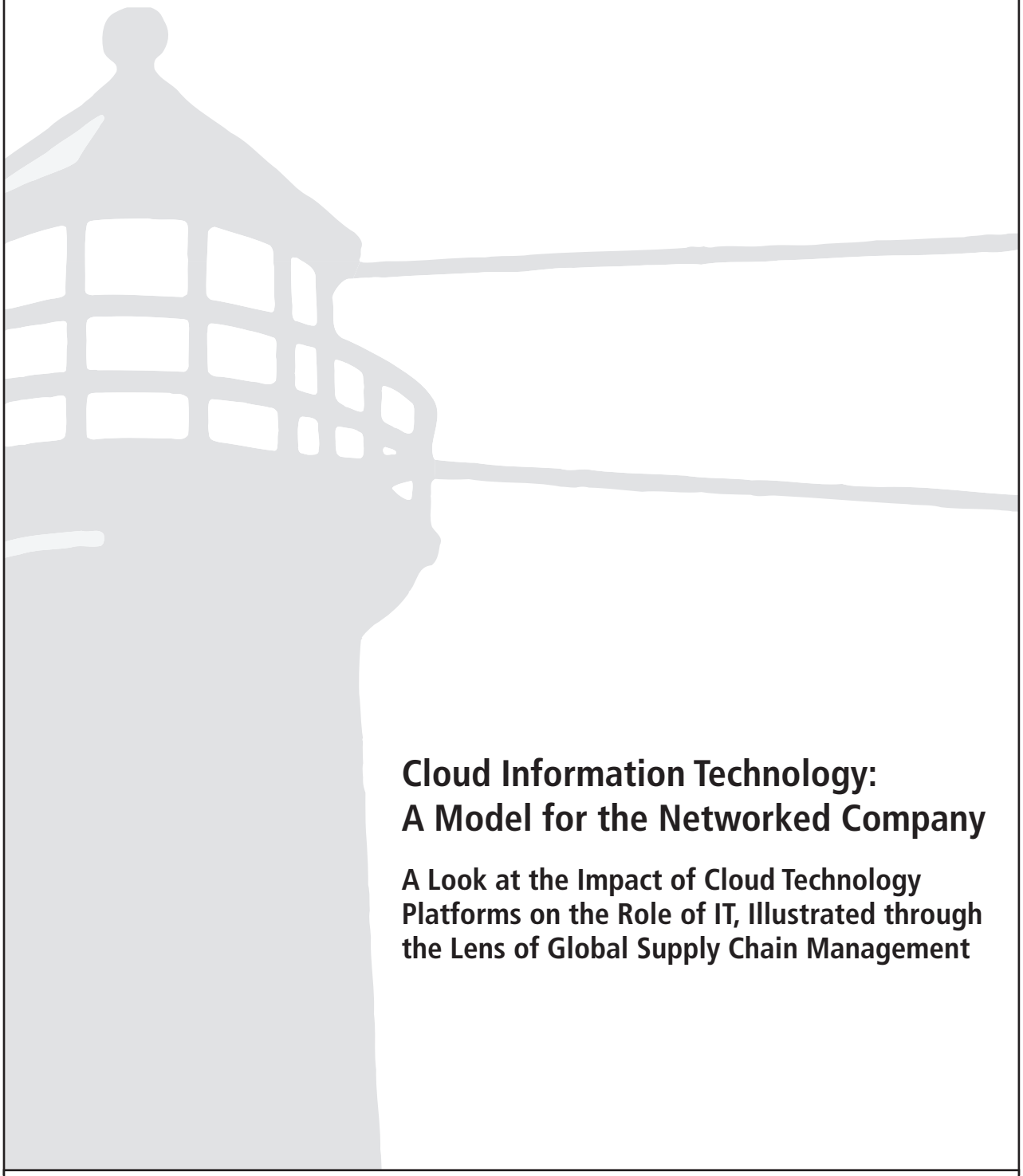


# Cloud Information Technology: A Model for the Networked Company

## A Look at the Impact of Cloud Technology Platforms on the Role of IT, Illustrated through the Lens of Global Supply Chain Management

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## Executive Summary

Technology is rapidly changing the way B2B interactions are carried out. One of the greatest breakthroughs is the emergence of affordable cloud technology platforms, which provides a benefit that no amount of investment in traditional software can obtain — the exponential effect a robust network of companies with a common goal has on the quality of the technology and its users. The outcome of adopting a cloud technology platform is impressive; a single source of truth from which to make vital decisions emerges.

The IT team of a company moving to cloud-based software must correspondingly adapt the structure of its department. The role of IT must become more strategic as the focus shifts from in-house system maintenance to the management and configuration of a network of the company's business partners. This is especially true in global trade and logistics, where many stakeholders play a part in moving a product along the stages of the supply chain.

The best cloud offerings in supply chain will not only provide a platform. They will include tools that the IT team can use to configure the software to meet their unique business needs, gain access to a community of partners, connect seamlessly to other systems, and analyze high quality data from a single information source.


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## The Collaborative Nature of Cloud Calls for New IT Structure

From the early days of computer networking and the mainstream adoption of legacy software for internal business management, the traditional IT department has delivered functionality within the four walls of the enterprise. Now, cloud-based platforms offer a collaborative space where all of a company's partners can access a single source of truth — resulting in the need for the IT team to manage a network of external participants. The availability of this new model puts IT departments in a position to redefine their roles within their organizations.

When a company adopts cloud software, much of the in-house work on maintenance, EDI integrations, and upgrades is no longer necessary. Instead, IT takes on a more strategic role: choosing the best technology vendors and monitoring their performance, managing suppliers and cloud integrations, and configuring systems to meet the needs of their business.

**TABLE 1:** The evolution of roles: The traditional IT team versus the cloud IT team

| Traditional IT Team | Cloud IT Team |
|---|---|
| Develops and maintains a huge amount of hardwired integration | Vets cloud technology vendors to ensure best integration practices are being followed |
| Manages a large capital expenditure for in-house hardware and upkeep | Manages monthly operating expenses to subscribe to a cloud solution |
| Pays for upgrades and maintenance on legacy ERP software | Is always on the most updated version of their cloud software; shares the costs of maintenance with all others on the network |
| Creates new point-to-point EDI connections for each new partner onboarding | Uses standard integration maps to quickly bring on new partners and standardize data exchange |
| Has each team member assigned to specific, minimally strategic, often reactive role | Plays a major part in business strategy |
| Writes customizations for ERP system to support the business's workflow processes | Uses highly configurable system to meet the demands of the business strategy |

As the structure of IT departments change, the role of the IT team will become more crucial than ever. They will need to manage, monitor, and maintain their cloud solutions and ensure that applications communicate properly with other major software investments. A perfect example of an industry being revolutionized by cloud technology lies in global supply chain management, a function that can no longer operate solely on data from inside the four walls of a company.


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## Global Supply Chain Management: Where Cloud IT Is Changing the Game

In supply chain and global commerce, cloud is creating opportunities for great improvements in efficiency. Organizations dealing with increasingly complex global supply chains are finding that the silo information model does not work. Today, supply chains involve a multitude of suppliers, manufacturers, carriers, 3PLs, and financial institutions that are essential to getting a product from origin and into a customer's hands. Each of these partners owns a portion of the data that drives the supply chain machine, and each has a stake in the successful delivery of goods to the final location.

Many companies are choosing to move to a cloud-based network in order to benefit from faster time-to-value and a single source of a supply chain truth. An IT department with thoughtful oversight, good communication with other departments, and a clear strategic path to successful cloud adoption can make substantial improvements to the supply chain — but in order for them to truly excel, their cloud solution will need to provide the right tools for users to get the most out of the platform.

A cloud supply chain platform should provide an assortment of tools that allow the IT department to fully benefit from their applications. They should include tools for configuration of the software, access to a greater community, integration with other systems, and analysis of the high quality data that lives in the cloud.

## How It Should Work: A Model for Cloud Supply Chain Management

### Configuring Cloud to Meet the Needs of the Company

A good cloud application is configurable to meet a company's unique needs. With cloud technology, the IT team no longer spends time writing custom solutions. They can focus on exercising control through setting up business rules and workflows, tailoring the application footprint, and adapting as the company's needs change and grow.

> IT should have access to tools that help them attain control and agility in a self-service environment — with cloud, they are responsible for making the application user friendly, correctly configured, and auditable.

With cloud, IT is responsible for setting up business logic. For example, IT professionals may configure their applications to allow for order exceptions, where business policies dictate how many orders a vendor can leave unfilled without alerting the appropriate manager.

Tools for standardizing data allow companies to map into master data. Users can assign codes to products and locations, eliminating redundancy and keeping data clean and reliable. They are able to configure event milestones that can later be used to measure carrier and vendor performance, as well as manage product codes and descriptions that will later be used for order management.

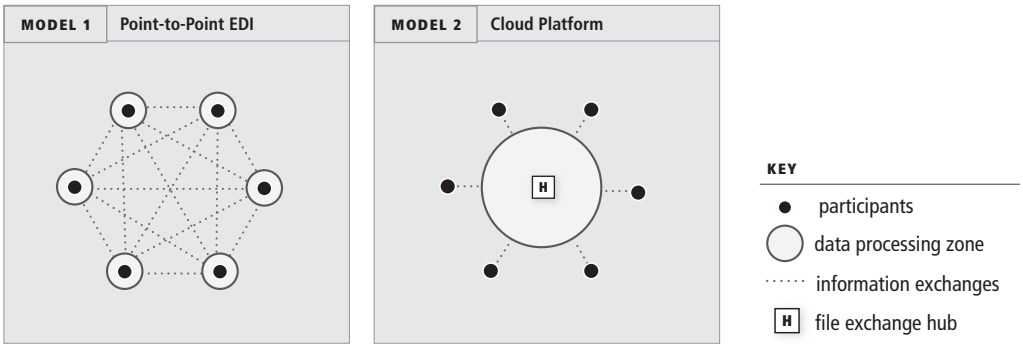
Once a company has configured its cloud offering to match its business strategy, the IT team can begin to capture value from the most game-changing quality of cloud technology — the power of a hyper-connected, collaborative network.


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## Using the Power of a Networked Community to Share Data

What makes true cloud so different from traditional point-to-point EDI integration is the strength of the networked community it provides. In supply chain, that community encompasses carriers, 3PLs, suppliers, and any other partner that comes in contact with global trade activity. By bringing all of these participants onto a preexisting network in the cloud, companies can gain end-to-end visibility.

**FIGURE 1:** When business logic lives in the cloud, all supply chain partners are on the same information page — they harness the power of the network to improve data quality across the board.




With legacy software, an organization must model interactions with its partners from scratch. With cloud, however, new partners can go live quickly and easily because of the established community of organizations already on the platform. All partners will automatically benefit from improvements in data quality practices, and all data is updated instantly, across the entire network of global trade and logistics participants.

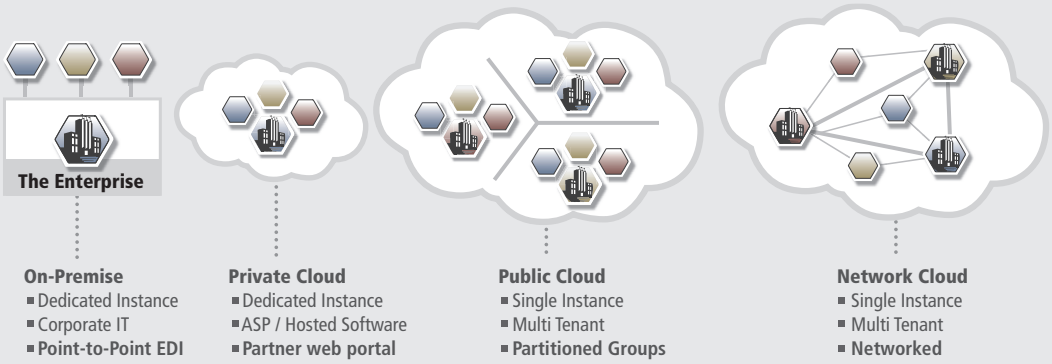
When onboarding new partners, IT professionals need a way to manage their presence in the community. They do this by controlling what data partners can see and which actions partners can take on their company's behalf. A good cloud platform includes tools that allow the IT team to feel comfortable and secure with the level of access each organization has, while allowing their company and its partners to make good supply chain decisions and communicate effectively across the platform.

Another aspect of managing the community is supplier management. A good cloud-based platform will offer IT professionals a way to mass-onboard new suppliers, monitor their performance against a baseline, and communicate quickly across the board.


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### Making Crucial Cloud Decisions

In the world of cloud, many IT departments are still figuring out which models work for them. Legacy providers are acquiring cloud, offering private and public cloud, getting into a lot of M&A action, and changing models as companies change what they're buying — this makes it even more important for IT to actively manage the network of participants[1]. They are going to have to intently monitor their vendors and decide what the right service is for the company, including differentiation between pure cloud and legacy software in disguise.



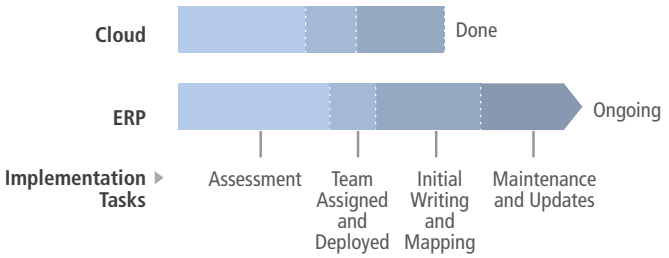

[1] Gartner Moving Beyond ERP with Multienterprise 2012

## Integrating with Partners and Applications

With legacy software, each partner in the supply chain is connected to each other through hardwired connections — and each integration takes an equal amount of time and resources as the last. When a data quality improvement is made for one connection, other partners are left unaware and unchanged.

Cloud brings about a radical breakthrough in tackling data and visibility voids by using shared, reusable integrations throughout the community. When a new organization joins a cloud platform, it is able to plug in to an existing community of partners and a reliable infrastructure more quickly than with a traditional ERP system. After the initial integration is complete, data on the global production, shipment, and selling of products can be normalized across the company's network of stakeholders.

**FIGURE 2:** ERP Timeline





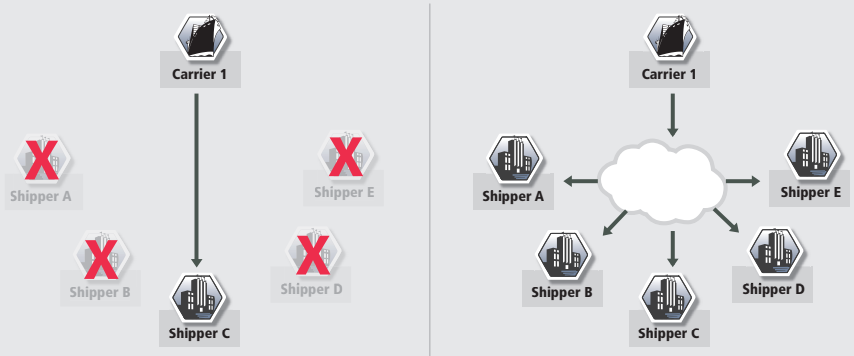
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Once an IT team has completed the cloud integration process, it can manage and monitor integration with its other software. A good platform gives IT tools to manage internal integrations with ERP systems and external integrations with other applications.

In this model, the IT department has access to web-service APIs that extend applications into the cloud. They are responsible for managing single-sign on capabilities for internal users and monitor partner-specific data flows on a visually clean, easy to interpret analytics dashboard. They also monitor data quality and report on partner performance based on selected KPIs.

**The Crowdsourcing Effect on Data Quality**

When data resides in the cloud, it is standardized across a single platform and an industry-wide community of partners. This completely revolutionizes the way improvements in a network are made; fixing a connection from one carrier to one shipper, for example, automatically improves the connection between each all of the other partners in the cloud. Traditionally, an IT department might assign a large amount of manpower to making these quality updates; with cloud, the community itself goes to work.




**Traditional Scenario:** Carrier 1 fixes vessel ingate for Shipper C, and only Shipper C benefits

**Cloud Scenario:** Carrier 1 fixes vessel ingate for Shipper C, and all other shippers benefit

## Smartly Analyzing Supply Chain Data

When an IT team has an agile, flexible, cloud-based solution and the tools to run it according to the company's needs, they will monitor a flow of high quality data with which important supply chain decisions are made. This data must be presented in a way that can be easily analyzed by any stakeholder, allowing them to take steps to make improvements in the system.

On a cloud supply chain platform, IT has the ability to compare business KPIs across partners, understanding which partners are meeting an appropriate level of performance and which are dragging down the average level of service in supply chain operations. Team members can easily view outliers and analyze how real performance measures up to predictive models.


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When IT improves business logic, replaces an underperforming partner, or corrects an integration issue, they need a place to measure the effectiveness of the decisions. If a useful and easy to interpret means of analysis is available, the IT department can play a continuous strategic role in shaping the cloud application for the business.

## The Right Tools Make All the Difference

A steady stream of new cloud offerings can be found in the market today, and true cloud platforms make vast improvements in the way a company collaborates with partners and operates its global supply chain. In order for a company to successfully bring its physical supply chain into a networked, cloud environment, the IT department must decide on a model that allows its IT professionals to take on a more strategic role, as well as the responsibility for choosing the best possible technology vendors.

Cloud software works best when it equips IT with the tools the team needs to manage the new technology and workflow. With the right provider and support, cloud can meet IT's needs and secure them an invaluable role in the success of their company's global operations.


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