



White Paper

Cloud for Manufacturing



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The manufacturing industry is not unfamiliar with new technology. This is a sector that knows how to take advantage of new tools to increase efficiency. Think about the introduction of electricity or computing. These technology shifts always have at their core the recognition of a new resource, and then the harnessing of that resource. Today, that resource is cloud computing, and manufacturers are already exploring it. Cloud computing has the potential to revolutionize the manufacturing industry.

Already, manufacturers use mobile reporting, online dashboards and automation, all of which tie into the cloud. However, the use of the cloud in the production sector can go even further than this.

Manufacturing organizations face huge challenges that the cloud is ready to take on, including regulatory and compliance requirements, the introduction of big data, the demand for efficiency, a pressure to innovate rapidly, a global marketplace, security, and much more. While manufacturers have made small moves towards the cloud, fully embracing it can help address these challenges.

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Why does this make sense?

Manufacturers consider cloud computing among the most important technologies in strengthening their competitive edge in the next five years, according to Plex Systems' "The State of Manufacturing Technology" 2015 report. Manufacturers are increasingly compared to competitors and face a pressure to improve accuracy, process speed, security, innovation and more. Cloud computing is a popular solution today that is benefiting businesses in all industries, and manufacturing is no exception.

The move to the cloud results in transferring many responsibilities and costs to the cloud provider, including hardware management and maintenance, and software upgrades. With characteristics like scalability, cost efficiency, security, centralized data and flexibility, it's no wonder that the cloud is proving to be such a powerful force in the business world.

The combination of cloud computing and manufacturing streamlines operations and business processes. This not only positively impacts time to market, but it also frees up time, money and resources for innovation and business growth. The benefits of cloud in the manufacturing sector include reduced costs, rapid deployment, greater innovation, increased flexibility and improved security.

Cloud computing has sparked the next technological revolution in the manufacturing world. It will help manufacturers address trends like mass customization and the Internet of Things. The cloud enables manufacturers to be more agile and responsive to all types of change so they can continue to thrive in a constantly shifting business world.



What are the benefits?

Operational Flexibility and Location Irrelevance

We mentioned the dynamic demands that manufacturers face. It's clear that operational flexibility is extremely important for these organizations. With the immense scalability that cloud computing offers, manufacturing companies can easily and quickly free up the resources they need to accommodate constantly changing demands. As demand fluctuates, it's easy to scale or provision new capabilities. 81% of manufacturers say that having a scalable, secure cloud platform improved mobile access to data. (Plex Systems)

But scalability isn't the only way these companies can experience flexibility. Cloud computing makes it possible to access, use and share secure data from any location, on any device, at any time. 93% of manufacturers are using consumer tablets in their manufacturing operations. (Plex Systems) This type of mobility means employees around the globe can easily participate in remote operations by accessing centralized data and workflows, as well as collaborate with ease while avoiding travel and security issues. This brings geographically separate employees together, which ultimately benefits the manufacturing company.

And speaking of geographic location, it doesn't matter so much anymore! In the past, manufacturing locations were determined by ready access to water or electricity grids. Now, cloud drives location irrelevance, providing manufacturers with the massive amounts of computing power, storage, data and analytical tools they need at all times. When operations move to the cloud, factories and warehouses don't need to be treated like separate links in a chain. Instead, cloud helps create an "omnichain," or a single, cloud-based environment built around a unified data set. It fully integrates all processes, regardless of where they occur! Doesn't that already sound easier and more organized?

Significant Cost Reduction

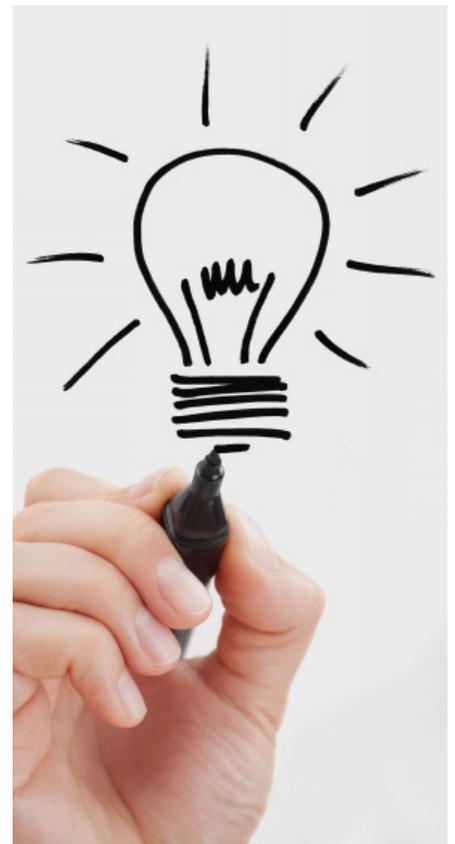
With cloud solutions in place, manufacturers are able to reduce both capital and operational expenditure significantly. After migrating to the cloud, these organizations use hardware that is managed, monitored and maintained by a cloud computing provider like RapidScale. This fact alone shifts and decreases costs significantly.

But it doesn't end there. Much of the traditional upfront costs are replaced by lower, predictable operational costs, as manufacturers use a pay-as-you-go model in the cloud. This means that costs adjust according to organizational usage of the cloud services. In times of business growth or product development, manufacturers may increase their usage and see costs adjust accordingly. And when things slow down again, the costs adjust again. Manufacturers will undoubtedly see cost savings in IT labor, operations, physical space, computing resources, administration, and management. These savings leave time and money for innovation and strategic business decisions and projects.

Efficient Deployment and Innovation

Not only does cloud lead to easier access and lower costs for the necessary infrastructure resources, but it also results in rapid deployment. Ultimately, this supports faster time to market. Set up for production infrastructure can happen in a matter of minutes or hours, instead of the weeks that are typical with traditional solutions. This rapid deployment supports quicker responses to dynamic demands from around the globe that manufacturers constantly face.

Furthermore, the quick setup cloud computing allows leads to increased innovation within an organization. Manufacturing companies can more quickly access new capabilities to easily experiment, share and collaborate. These innovations won't result in the typical significant costs or disruption of resources. Instead, they may result in a step forward for the manufacturer. 40% of manufacturers draw a direct correlation between cloud technologies and their ability to innovate during the next five years. (Plex Systems)



Powerful Security

While security continues to be the main factor standing in the way of cloud adoption, it has improved immensely. 90% of manufacturers said that data security improved with the adoption of professionally managed cloud solutions (Plex Systems), like those offered by RapidScale. The cloud makes it possible for manufacturers to extend their existing security model into the cloud and add to it. Additionally, cloud security prepares an organization for multiple threats through authentication, authorization and encryption on both the application and infrastructure levels.

Cloud providers know that security is a top priority for the organizations they work with, and therefore have made it their own priority as well. Providers have the resources to hire security experts and dedicate personnel, time and money to client security. This is often more than a manufacturer is able to do for itself, so these organizations tend to experience greater security following the cloud transition.

Mass Production vs. Mass Customization

Customer expectations are set high for product design, quality, availability and customization. They have an appetite for the latest, greatest products and an interest in personalized products. Due to this trend, the product life cycle is shortening. Today's consumers are interested in personalized products, and this is shifting the manufacturers focus from mass production to mass customization. Mass customization is the mass production of individually customized products.

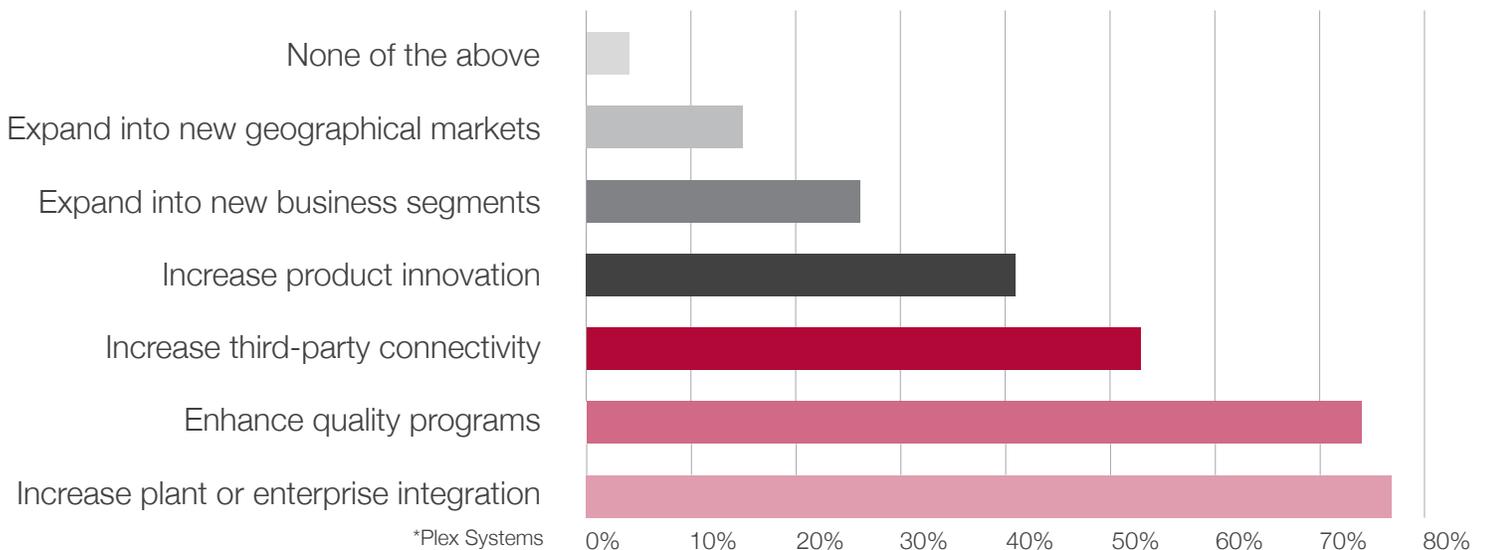
With the growth of cloud technology and the expectations of customers, the manufacturing process will inevitably become more and more digitized - we can already see this happening. Manufacturers will increasingly use new and emerging technologies to improve operations and accommodate a broad set of communities, including employees, partners, customers and more.



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Future Impact of Cloud Technology

Initiatives Manufacturers Can Undertake in the Next Five Years as a Result of Cloud Technologies



About RapidScale

RapidScale, a managed cloud services provider, delivers world-class, secure, and reliable cloud computing solutions to companies of all sizes across the globe. Its state-of-the-art managed CloudDesktop platform and market-leading cloud solutions are the reasons why RapidScale is the provider of choice for leading MSOs, VARs, MSPs, Carriers and Master Agents throughout the United States. RapidScale is not only delivering a service but also innovating advanced solutions and applications for the cloud computing space. RapidScale's innovative solutions include CloudServer, CloudDesktop, CloudOffice, CloudMail, CloudRecovery, CloudApps, and more.

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