

WHITE PAPER

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# TRANSFORMING WITH THE CLOUD

*IMPROVING THE VALUE STREAM  
BY ADOPTING MICROSERVICE  
ARCHITECTURE*

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# Transforming with the Cloud - Improving the value stream by adopting microservice architecture

Competitive advantage is the name of the game. In a marketplace where disruption is constant, enterprises are eager to utilise technology that transforms, modernises and – if they're successful – differentiates their brand and offers unique value.

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Organisations that find ways to deliver their services better and faster can uncover new-found agility driven by the efficiencies gained through transformation – like improved value streams, new revenue channels, and time and cost efficiencies. They can use technology to build on their competitiveness in new and innovative ways.

## Shaping the future of IT

Cloud is one of those transformative technologies. Companies are shifting to the cloud in droves because it is enabling them to compete harder than ever before. Cloud computing is undoubtedly shaping the future of IT – supporting sweeping changes for major tech and business disruptors through its delivery of AI, IoT, RPA and overall digital business transformation.

Applications are the gateway to continuous improvement. Improvement of the products and services delivered to the customer. More frequent, agile software releases are required to stay ahead of the competition. But monolithic, aging systems aren't built to support the demands of today's customers whose expectations are rooted in mobility, cutting-edge features, enhanced functionality and remarkable speed.

New application architectures through the cloud offer the prospect of speed and agility. Whether through features, functionality, design, accessibility or something in between, there is always room to improve and modernise applications to transform and

digitally enhance the customer journey. Indeed, today's reality is high-volume, high-competition, and new apps are being created faster than ever before. In fact, [according to IDC](#), 500 million new applications will be created in a five-year span – this is equal to the number built over the past 40 years.

## Microservices

Organisations are increasingly seeing the value of microservices – the architectural style – for developing new applications and distilling monolithic, legacy applications and systems. These systems are unwieldy and difficult to maintain, manage and quickly scale, not to mention they can become a liability and roadblock to progress.

Cloud-native apps can be built as interconnected containers through a service mesh that runs reliably across environments. Compared to monolithic applications, microservice ecosystems are better suited for continuous integration and deployment, enabling better, faster and more dynamic iterating.

By 2022, [IDC predicts](#) that **90%** of all new apps will feature microservices architectures that improve the ability to design, debug, update and leverage third-party code.

Complex workloads can be brought into the cloud, then refactored and easily broken down by leveraging microservices running on containers (think Docker and Kubernetes). When microservices are built using a container infrastructure, you can run the environment anywhere with virtually unrestricted processing power.

The benefits – primarily portability, modularity and velocity – are achieved more rapidly. Containerised microservices also improve operations by isolating services that are easy to deploy, identify, monitor and fix in the event something goes wrong.

**Nearly 8 in 10** leaders are currently using microservices.\*

### Our perspective

Microservices are the solution to a long-standing problem. Due to their nature, monolithic applications are large, robust and very complex systems that make it challenging to quickly deliver new features and enhancements. Customers have evolving expectations, and they demand fast and personalised service. Monoliths stand in the way of delivering an outstanding experience to this modern customer – and meeting those expectations could be the difference between you and your competitor.

### Delighting customers with technology

How do we harness the ever-changing world of technology to delight our customers?

Microservices decompose apps into smaller, compartmentalised and more consumable parts. This breakdown of services creates room for new features and faster development.

By seeking to render legacy environments down into more modular and stateless architectures that allow for quicker/faster iterations, you will ultimately be improving your ability to succeed in your market. Speed is the “name of the game” in many sectors and microservices allow for much faster delivery in this regard.

Furthermore, the corresponding code-bases and feature-sets are iterated in a more continuous fashion, the ultimate quality of CX, UX and all-around app experience is also perpetuated like never before. Speed AND quality ... it's a win-win!

While it does not eliminate the need for full system integration testing, validating singular changes in isolation enables you to move through the development life cycle faster. From resolving that issue, you're able to get things out to your customer at speed and scale – which makes all the difference between exceeding customer needs and lagging behind.

The **No. 1** business driver for microservices adoption: Increasing speed to deliver new features or functionality.\*

Containerised microservices power organisations' digital transformation efforts by delivering better, more seamless and more iterative technology by enabling faster, more efficient deployments. The nimble nature of MSAs allows for agile changes to a code base behind the products supported by an application.

You can only do that if the environment is extensible and amenable to changes on the fly. Legacy application environments can become cumbersome and problematic.

At the start, you have storage, servers, infrastructure and teams of people providing support. Very rarely over time do these app environments become more extensible, modular or transportable to other environments. Instead, they usually get more brittle, fixed and static.

Whereas an MSA offers a holistic method to achieving modernisation and improving the value stream, setting the company up for long-term success.

## TEKsystems' Tips: Advice to Realise the Value



### CREATE MODERNISATION ROAD MAP

Moving from monolith to microservices is one part of the puzzle. Create a modernisation roadmap that takes the entire cloud ecosystem into consideration.



### STREAMLINE AND UNIFY DECISION MAKING PROCESS

You need to have strong leadership. The decision tree can't be big and bloated, and the silos can't be fighting with each other.



### USE LEAN AGILE TEAMS TO DEVELOP USING DEVOPS MODEL

A small group of high-octane performers is all it takes. Key roles include developer, architect, ops engineer, an SDET and scrum master.



### START WITH QUICK WINS

Look for the minimum viable product that you can optimise to get a proof of concept you can use to gain confidence and demonstrate the value.



### BE SERVICE-MINDED

**People:** Make sure your people are up to speed and they're able to adapt to changes.

**Process:** Most processes and governance should be automated.

**Technology:** Position yourself to accept, not resist, emerging technologies.



### THE BUSINESS VALUE IS YOUR NORTH STAR

Technology changes so quickly. Focusing on the value stream to your customers holistically and modernising that value stream is the best way to future-proof your investment.

## THE VALUE

How microservices give the competitive edge

- Drive better, modernised products and services to improve the end-user experience
- Lower total cost of ownership
- Create new revenue streams
- Improve maintenance and portability
- Increase speed, agility and resiliency

## MEASURING SUCCESS

Improved performance across KPIs

- Mean time to resolution
- Reduced cycle time
- Reduced rework
- Reduced buggy source code
- Reduced retest/redeploy time
- Number of features in production
- Cycle time to get features into environment

Over half of leaders say the most important goal of using microservices: **Drive better, modernised products and services to improve the end-user experience.\***

\*TEKsystems Cloud-DevOps Survey, August 2019, TEKsystems

## TEKsystems Global Cloud / DevOps Portfolio



### CLOUD ENABLEMENT

We help businesses scale, flex and compete through sound cloud enablement solutions.



### CLOUD INFRASTRUCTURE ASSETS

Hundreds of thousands of cloud infrastructure assets deployed to AWS, Azure and GCP



### PROVEN SUCCESS

500+ successful cloud enablement, DevOps and application modernisation projects completed



### OPTIMISATION

Thousands of on-premise workloads migrated to – and optimised in – hybrid and public cloud platforms



### REVENUE GENERATION

\$10B+ of customers' revenue generated off next-gen cloud-based apps we've delivered



### AWS PARTNER

Strategic Acceleration Partner to AWS with superpowers spanning DevOps, modernisation and data and analytics—all woven across unparalleled scale

## In Good Company

Transformational technologies demand equally transformative partnerships. TEKsystems is proud to deliver cloud solutions across the leading provider platforms to enable organisations' competitive advantage.



## Discover The Power of Real Partnership

To find out how we can support you locally, please contact your TEKsystems representative or visit [TEKsystems.com](https://www.teksystems.com)

*The content in this white paper has been adapted from [Version Next Now – From Monolith to Microserve](#), originally published by TEKsystems®*





We're partners in transformation. Our people help clients activate ideas and solutions to take advantage of a new world of opportunity. We are a team of 80,000 strong, working for 80% of the global 1000 with over 6,000 client sites across North America, Europe and Asia. As an industry leader in strategy, implementation and talent, we work with progressive leaders who drive change. That's the power of true partnership. TEKsystems is an Allegis Group company.

For more information visit [TEKsystems.com](https://www.teksystems.com).