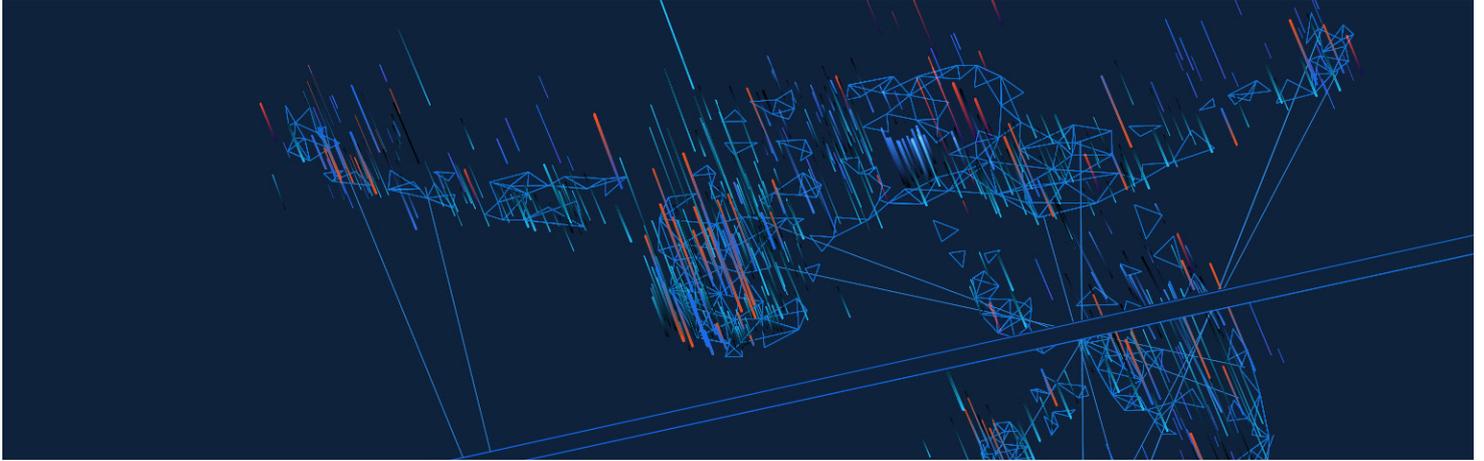


The Power of Cloud



Raising The Bar; Scalability and Agility In The Cloud

Cloud computing has democratized enterprise computing, enabling organizations of all sizes in every market to increase their pace of innovation, scale more quickly and have access to unprecedented capability.

For today's organizations, capitalizing on the digital initiatives this enables is key to innovation and growth. The rise of connected devices and other "things" within the Internet of Things (IoT) present a significant challenge for organizations. This includes growing mounds of data, the emergence of advanced analytics, machine learning, artificial intelligence and augmented reality.

There is also a significant opportunity for business leaders is to harness the ubiquitous, disruptive force of these technologies to be more agile, efficient and ultimately shape their destiny. Naturally, this comes while navigating the expectations of a changing workforce, addressing evolving cybersecurity threats and managing a host of other challenges.

Digital transformation is not just about technology; it requires business leaders to re-envision existing business models and embrace a different way of bringing together people, data, and processes to create value for their customers. Appropriate cloud deployment and storage strategies are key to this mix.

Many IT modernization decisions are driven by organizations' desire to embrace digital transformation and fundamentally change the business models they have operated under for decades. The road is not always a smooth one, however – the instantiation of this business model in computer code introduces significant levels of cost, risk and complexity. While this "end state" is often warranted, the path is more of a modernization continuum than a "big bang".

A funny thing happened on the way to the end state – cloud deployment models became so powerful and so ubiquitous, organizations began questioning whether they

In partnership with Microsoft:

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should be in the business of using data centers to the same scale they had in the past, if at all. Modernization is no longer about just getting out of the “line-of-code” business, but out of the IT business altogether. This change won't happen immediately or in entirety, perhaps, but can anyone question the massive growth of Amazon's AWS, Microsoft's Azure or Google's cloud offerings?

At the start of 2017, [Gartner predicted](#) the worldwide public cloud services market would **grow by 18% in 2017 to \$246bn**, up from \$209.2bn in 2016. This shift would be driven primarily by cloud system infrastructure and cloud application services and supported by a **massive shift to hybrid infrastructure services** – an approach it predicts 90% of organizations will adopt by 2020.

The Cloud is About Agility

While much of the original selling point for cloud deployments was cost, now it's more about agility and time-to-market. Although the cloud is synonymous with experimentation, the reality is that it already runs enterprise workloads, with significant uptime requirements. In healthcare, cloud deployment simplifies access to applications, while supporting the extensive data requirements of preventative healthcare, supporting a long-term industry goal of holistic medicine. In finance, companies such as [Barclays](#) are deploying back-office functions on cloud architectures such as [Red Hat OpenShift](#) to bring the agility of DevOps to its in-house IT teams.

Combined with the global innovation of open source, cloud computing paradigms will show continued dramatic growth over the next decade. The Cloud will be the most common computing platform of the next several decades, in the same way that the mainframe computing platform was the predominant platform of the 1960s-1980s.

Many of today's discussions with IT leaders are about cloud deployment models as a technical alternative to existing infrastructure, when they should really be about expanding business models and innovation. Separating the underlying IT infrastructure ownership and management from envisaged new business models provides a much better and more flexible environment for these kinds of decisions. As previously mentioned, the cloud already supports significant workloads, but as [Gartner notes](#), a further significant portion of future cloud infrastructure will be required for increasingly compute-intensive workloads such as **Artificial Intelligence, Analytics and the Internet of Things (IoT)**.

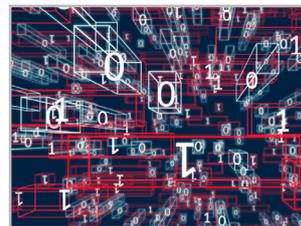
While traditional mainframe customers have been able to point to the strong reliability, availability and serviceability

components of this platform as the reason they couldn't move to another platform, these same characteristics can be applied to cloud environments. Certainly, the scale-out nature of cloud deployments provides these advantages in a different way than the scale-up architecture of the mainframe, but they continue to improve every year.

Mainframe Workload – to The Cloud!

Consequently, many mainframe shops are considering moving off this proprietary, single-vendor platform to commodity cloud environments, such as the **Microsoft Azure Cloud Platform**.

If one really understands, not only the technical investment being made to operate cloud deployment environments, but



also the financial investment, the money spent by IBM on the mainframe pales in comparison. Can all these computer science graduates and financial MBAs be wrong? One would be hard pressed to name a

startup company founded in the last 20 years that built their IT infrastructure on the mainframe. The number of IBM mainframe shops has declined from a high of 30,000 – 40,000 customers to closer to 3,000! Have these companies made an existential mistake?

The mainframe disciples are quick to point out the computing requirements, transactions requirements and reliability requirements of the top 100 mainframe organizations in the world, and that it would be ludicrous to suggest moving any of this workload to the cloud. What this point misses is that cloud architectures have generally higher up-time than the mainframe.

Furthermore, 90% of the existing mainframe install base does NOT run that many transactions. So what options do organizations actually have? Can they move mainframe workloads of any size to the cloud? Can they move mainframe data to Oracle, SQL Server or PostgreSQL? Can they NOT provide application capability in Java, C# or the myriad of other distributing computing languages? The answer is **“of course they can!”** Total mainframe MIPS are a sum of MIPS consumed by a number of mainframe applications, the majority of which can be moved to these modern deployment models.

At LzLabs we speak to many companies that have mainframe application portfolios. All of them want to get off the mainframe, to a greater or lesser extent. They want to move to modern, agile, innovative, lower-cost x86 and cloud environments. The

migration of 150,000 MIPS of mainframe workload is certainly a journey – a continuum of migrations of applications running a small portion of those total MIPS, but to deny the power of these platforms indicates an intransient bias that belies the facts.

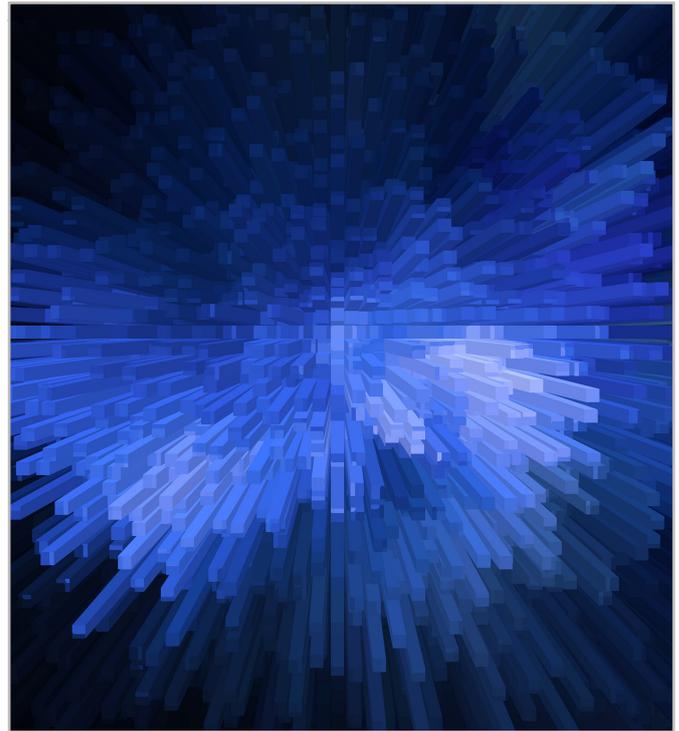
LzSDM® – Leveraging the Power of Cloud

At LzLabs, our vision is to enable the power of modern computing infrastructures to liberate any organization from the limitations of legacy applications so they can achieve agility, flexibility and cost-effectiveness from their computing platforms.

LzLabs has developed a managed container technology – the **LzLabs Software Defined Mainframe® (SDM)**, which eliminates the need to modify and recompile mainframe application source code and preserves mainframe data in its native encoding format.

Our vision is to enable the power of modern computing infrastructures to liberate organizations from the limitations of legacy applications so they can achieve agility, flexibility and cost-effectiveness from their computing platforms. The three **Driving Philosophies of Product Development** at LzLabs are:

1. The power of modern x86 computing paradigms can be leveraged to **run enterprise class workloads**, including cloud infrastructure deployment models.
2. Our Software Defined Mainframe approach ensures the **lowest migration cost and risks**. You move existing workload, unchanged and “It just runs!”
3. The LzSDM is designed to provide a container environment to run mainframe applications, but in all other ways is designed to **leverage the power of Linux, open source and cloud environments**. ■



For insights into the LzLabs Power of Cloud, [view this video](#) where **Dale Vecchio**, Chief Marketing Officer at LzLabs, and **David Kurth**, Cloud & Enterprise Business Group Lead at Microsoft, Switzerland – discuss the strategic business advantages and cost savings of running legacy mainframe applications in the Cloud.

About LzLabs

LzLabs GmbH is a software company that develops innovative solutions for enterprise computing customers including the **LzLabs Software Defined Mainframe®**. The LzLabs managed software container provides enterprises with a viable way to migrate applications from mainframes onto Red Hat Linux computers or into cloud environments such as Microsoft Azure. The company was founded in 2011 and is headquartered in Zürich, Switzerland. Learn more at LzLabs.com



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