AMAZE™ for Applications

DISCOVER THE POWER OF AUTOMATION FOR APPLICATION **CLOUD REPLATFORMING**

Simplify and Accelerate Cloud Mass Migration of Legacy Applications with up to 50% Reduction in TCO and Time

ATM APPLICATION TRANSFORMATION MANAGEMENT

THE WORLD IS MOVING TO THE CLOUD. ARE YOU THERE YET?

In the last ten years, cloud computing, adoption, and migration have transitioned from being just places for storage to becoming indispensable strategy for businesses to accelerate service delivery with high efficiency and at a lower cost. There are businesses that have been built exclusively for the cloud. These born-in-the-cloud companies (think Airbnb, Netflix, and Spotify) enjoy unparalleled scalability, connectivity, speed, and flexibility. They have become iconic symbols of cloud success. However, cloud adoption is not just the forte of internet or customer-facing companies.

Businesses with on-premises infrastructures across professional services, finance, retail, hi-tech, healthcare, manufacturing, and telecom are also aggressively adopting the cloud. "Cloud shift highlights the appeal of greater flexibility and agility, which is perceived as a benefit of on-demand capacity and pay-as-you-go pricing in cloud", says Michael Warrilow[1], Research VP at Gartner. The possibility that traditional, on-premises infrastructure could become obsolete, along with huge, recurring licensing costs and capacity constraints are also hastening cloud adoption and migration. Official estimates[2] from leading research analysts confirm that cloud adoption and services are growing significantly across industries. In this disruptive, cloud-enabled environment, businesses with on-premises, legacy infrastructures simply cannot afford to lag behind.

Simply put, you may not be born in the cloud. However, you will still have to be re-born in the cloud if you have to stay relevant

CLOUD ADOPTION COMES WITH A CLOUDY BAG OF QUESTIONS

Cloud migration needs no advocacy. However, the path to the cloud is anything but straight. Migration plans are fraught with questions.

- What is the best cloud migration approach - rehost, replatform or refactor?
- Which approach will give me maximum TCO savings?
- How do we ensure that the assessment for migration is thorough, accurate and speedy?
- Will on-premises, monolithic and complex legacy applications be compatible with the cloud?
- How do we quickly identify applications that need to be prioritized for migration?
- How can we migrate with minimum disruption and maximum efficiency?
- How do I balance my risk, cost, and timeline when completing the cloud migration?
- Which approach will increase productivity for future application releases?
- Will downtime impact business continuity?
- How do I manage performance across systems and components?
- Will my data be safe?

Going beyond the walls towards the cloud can be turbulent especially if all aspects of business and infrastructure are not assessed thoroughly

WHAT SHOULD BE YOUR PATH TO THE CLOUD?

A dilemma that most businesses confront is with regard to the approach of cloud migration. Rehost, replatform or refactor? We believe once the route has been established, a number of the concerns would get automatically addressed. Here's a quick guide to the different approaches and their benefits and challenges.

Migration Route	Benefits	Challenges
REHOST	Faster and cheaper	Modifications required to leverage cloud-native benefits
	Less resource-intensive	Redundant or risky elements also get shifted
	Migrate now re-architect later	Over-consumption of cloud capacity
		Inaccurate estimates of workload & cost
Go with rehosting if you are looking to migrate your systems without modifications, in minimum time and at lower costs		
REPLATFORM	Highest TCO reduction possible	
	Ideal for legacy systems with high licensing costs	Careful analysis required
	Code modifications possible	Automation critical to leverage full benefits
	Big reduction in migration time & cost	
Go with replatforming if you are saddled with monolithic legacy applications and want to quickly migrate to the cloud at lower TCO		
REFACTOR	High opportunity for innovation	High cost of implementation
	Reduced TCO in the long term	Longer time to implement
	Leverage cloud-native features	Sophisticated cloud and application skills required
		Productivity & performance won't match cloud-native systems
Go with refactoring if you are looking to take the next step in market competitiveness with major code modifications for enhanced service capabilities, improved performance and speed		

There is no one way to the cloud. Your route should align with the current state of your infrastructure & your organization's business goals. Choose wisely.

APPLICATION REPLATFORMING – A VIABLE PATH TO CLOUD MASS MIGRATION

Organizations across industries are looking to leverage cloud elasticity and agility. However, enterprises with legacy, monolithic applications (on Java or .NET) are severely constrained in achieving their cloud migration goals. Their options are at two ends of the spectrum – (a) Rehost - move the entire application in a lift and shift approach, thereby sacrificing any scope for modifications and improvements or (b) Refactor - opt for application refactoring that would demand a steep upfront investment.

Between rehosting and refactoring, application replatforming offers a viable alternative for cloud migration of legacy applications. However, replatforming with traditional/manual methods can be fraught with challenges. The key challenge we believe comes during the assessment stage where an in-depth understanding of the quantum of change is required.

Challenges of manual application replatforming:

a. Lack of SMEs and documentation for legacy applications that are more than ten years old

b. Apprehension about making any changes to legacy applications as the codes are highly interdependent and critical to the business

c. Limited productivity due to protracted assessment of millions of lines of code. The typical developer productivity for assessment is 20,000 lines of code per day. This would take several weeks or even months to complete an assessment of a medium-sized application with 300,000 lines of code

d. Communication gaps and lack of visibility between different teams working on a single application can restrict the reusability of components in their cloud migration journey

e. Too much time is spent on testing every release before replatforming. The ensuing delay may call for renewed assessments even as a current evaluation is underway because some infrastructures might have undergone changes

Advantages of application replatforming can get greatly restricted with a manual approach

AUTOMATION - THE ANSWER TO ACHIEVING EFFICIENCY

At Hexaware, we believe that application replatforming when automated, can deliver unparalleled benefits for businesses looking to move legacy applications to the cloud. With a view to maximizing automation opportunity, we identified the key activities involved in cloud replatforming for Java and .NET applications. These include:

- Converting the source code from on-premises design patterns to cloud-friendly design patterns – EJBs to POJOs on Spring framework
- Upgrading underlying libraries used by the application to make it compatible with cloud containers or PaaS (like JDK, Spring, MyBatis, etc.)
- De-coupling the back-end business logic into multiple services
- Replatforming heavyweight WebLogic or WebSphere application servers to Tomcat servers
- Replatforming heavyweight Oracle, DB2 or SQL Server databases to Postgres database
- Developing unit test cases, API test automation, CI/CD pipeline, etc.

Our assessment shows that there is significant scope to automate most of these activities to deliver maximum cloud benefit.

With Automation

- Your application can be accurately and thoroughly assessed and estimated in a matter of hours
- You can get a comprehensive cloud and containerization readiness report in just a couple of hours
- Your legacy application can get replatformed and deployed to the cloud in just six weeks, while manual efforts can take anywhere between six to nine months

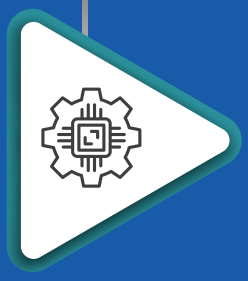
Automation is critical for achieving success in application replatforming across the parameters of time, cost and efficiency

HERE'S A CHECKLIST FOR YOUR APPLICATION REPLATFORMING GOALS

Your application should

Be 100% functional with all test phases successfully passed

Give you a lowered TCO than your on-premises application



Give you a technical debt that is lower than your on-premises application

Meet on-premises performance metrics

Meet all security and compliance requirements on cloud

Look for a cloud migration partner who will not only automate your application replatforming, but also certify it for the five critical parameters of success

EVEN LEGACY APPLICATIONS CAN BENEFIT FROM CLOUD ARCHITECTURE

2 weeks to analyze your application

24 hours for a readiness report

4 weeks to refactor & to move to the cloud

Save up to 50% in cost

Save up to 50% in time

DISCOVER HEXAWARE'S AMAZE

Backed with deep experience of enterprise cloud migration and rigorous research, Hexaware has developed AMAZE, a proprietary and automated application replatforming solution for mass cloud migration. AMAZE can automatically analyze applications, replatform them based on their criticality and move them to any public cloud platform. Its automation capabilities have been specifically designed to efficiently move applications built on Java and .NET to the cloud.

AMAZE

- Reduces time across all stages to deliver application mass migration with high efficiency
- Makes it possible to scan, analyze, review, and replatform millions of lines of code with high efficiency and drastically reduced timelines
- Ensures zero impact on business functionality. On-premises performance gets mirrored on the cloud
- Offers code transformation from old technology to a new technology as well as code generation for new features that are needed on the cloud
- Is highly flexible for customized replatforming and containerization solutions that require portability of different types of applications

In most cases, service providers are not able to take the next step from code analysis and recommendation to action. AMAZE not only analyzes and recommends, but also refactors the codes with high speed

IF YOU

Have a monolithic application
Have an application built on Java or .NET
Are looking to shed licensing costs
Want maximum TCO savings
Want to migrate in minimum time
Want to migrate with least disruption and maximum efficiency

Then, talk to our cloud experts to know how we can simplify and accelerate your cloud journey. Email: amaze@hexaware.com

REFERENCES:

[1]**Quote by Michael Warrilow, Research VP at Gartner**
"Cloud shift highlights the appeal of greater flexibility and agility, which is perceived as a benefit of on-demand capacity and pay-as-you-go pricing in cloud", says Michael Warrilow, Research VP at Gartner
Retrieved from: https://www.gartner.com/en/newsroom/press-releas-es/2018-09-18-gartner-says-28-percent-of-spending-in-key-IT-segments-will-shift-to-the-cloud-by-2022

[2]**Leading research analyst estimates**

- Forrester Research estimates that in 2020 the cloud market (SaaS, PaaS and IaaS combined) will grow to $299.4 billion and that 65% of the enterprises in North America already rely on public cloud platforms and by 2025, 80% of organizations are expected to migrate to the cloud.
  Retrieved from: https://go.forrester.com/blogs/predictions-2020-cloud/

- Twenty-eight percent of spending within key enterprise IT markets will shift to the cloud by 2022, up from 19 percent in 2018, according to Gartner, Inc.
  Retrieved from: https://www.gartner.com/en/newsroom/press-relea es/2018-09-18-gartner-says-28-percent-of -spending-in-key-IT-segments-will-shift-to-the-cloud-by-2022

- The IDG 2018 Cloud Computing Survey revealed that nine out of ten companies said that they would have some part of their applications or infrastructure in the cloud of 2019 and the rest will follow by 2021. More than one third of respondents (38%) said that the IT department feels pressure to migrate 100% to the cloud. *Retrieved from: The Executive Summary of the IDG 2018 Cloud Computing Survey that was available to download here https://www.idg.com/tools-for-marketers/2018-cloud-computing-survey/*

About Hexaware

Hexaware is the fastest growing next-generation provider of IT, BPO and consulting services. Our focus lies on taking a leadership position in helping our clients attain customer intimacy as their competitive advantage. Our digital offerings have helped our clients achieve operational excellence and customer delight by 'Powering Man Machine Collaboration.' We are now on a journey of metamorphosing the experiences of our customer's customers by leveraging our industry-leading delivery and execution model, built around the strategy— 'Automate Everything™, Cloudify Everything™, Transform Customer Experiences™.'

We serve customers in Banking, Financial Services, Capital Markets, Healthcare, Insurance, Manufacturing, Retail, Education, Telecom, Professional Services (Tax, Audit, Accounting and Legal), Travel, Transportation and Logistics. We deliver highly evolved services in Rapid Application prototyping, development and deployment; Build, Migrate and Run cloud solutions; Automation-based Application support; Enterprise Solutions for digitizing the back-office; Customer Experience Transformation; Business Intelligence & Analytics; Digital Assurance (Testing); Infrastructure Management Services; and Business Process Services.

Hexaware services customers in over two dozen languages, from every major time zone and every major regulatory zone. Our goal is to be the first IT services company in the world to have a 50% digital workforce.

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