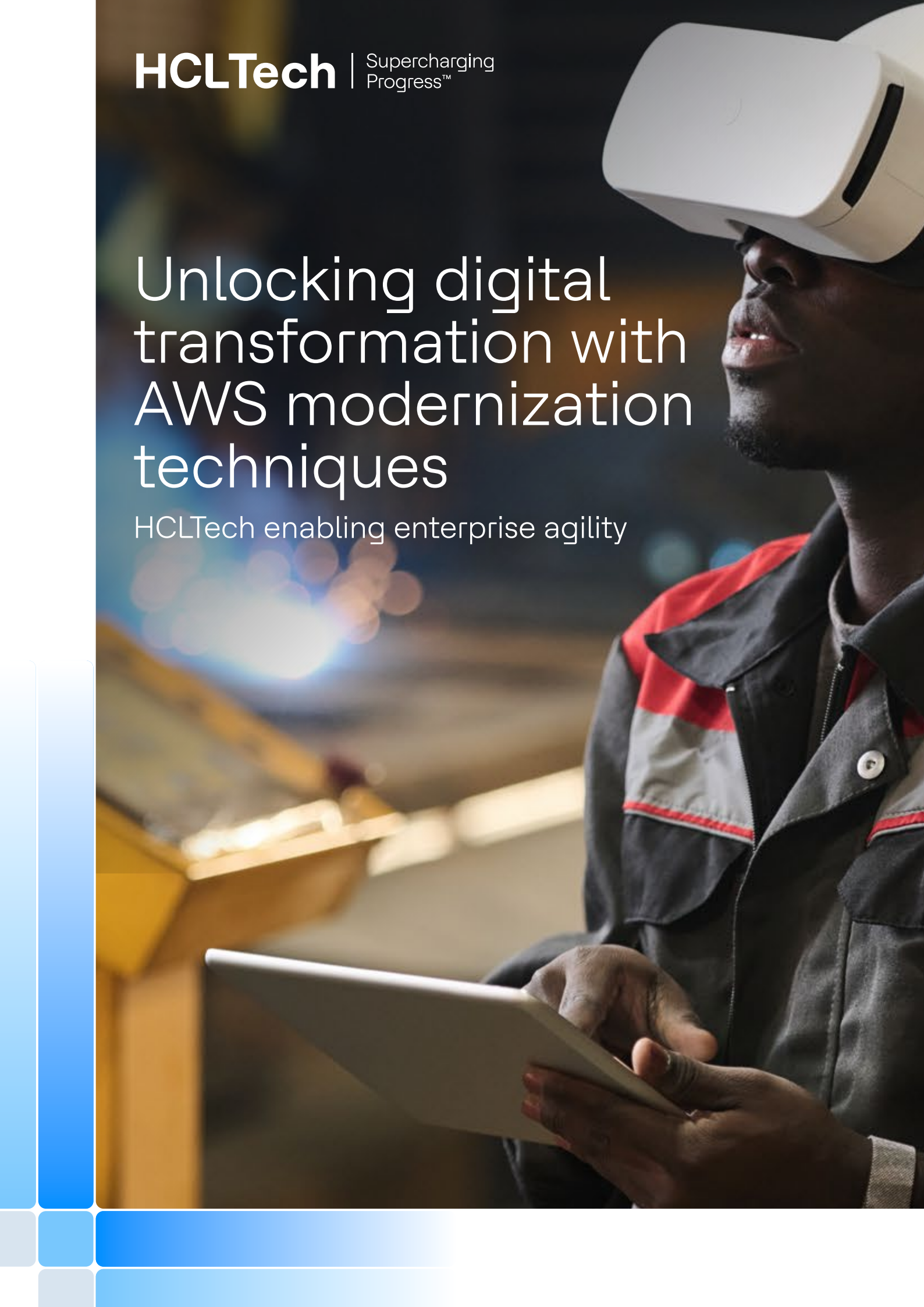


Unlocking digital transformation with AWS modernization techniques

HCLTech enabling enterprise agility



Executive summary

Digital transformation has become a strategic priority for businesses around the world. To stay ahead of the curve, organizations must embrace new innovations in today's fast-paced technological environment. Cloud computing, mainly through platforms like Amazon Web Services (AWS), enables organizations to modernize their infrastructure, streamline operations and enhance agility.

This whitepaper discusses how modernization techniques in AWS are forcing digital transformation, particularly examining how HCLTech helps adopt such methods to make enterprises agile. It discusses market trends and the AWS services that have made modernization easier to adopt. The expertise developed by HCLTech, therefore, accelerates cloud adoption, enhances scalability, and results in better operational efficiency. The paper provides critical AWS tools, elaborates on how businesses can exploit the potential of the cloud and reviews recent market data regarding the state of cloud transformation and enterprise agility.

Introduction:

The urgency for digital transformation

As businesses face growing pressures from changing consumer expectations, technology trends, and economic conditions, digital transformation has emerged as an imperative. As cited from a report by IDC, spending on digital transformation technologies will rise to \$2.8 trillion by showing 2025 worldwide commitment globally to transforming business processes by leveraging technology. AWS remains at the forefront of these changes as it offers wide-ranging services in cloud-natives to enable organizations to transition from legacy to agile, scalable and secured infrastructure.

For businesses, modernization means agility, scalability, cost-effectiveness, and rapid time-to-market for innovations. However, the path to modernization is riddled with challenges, including managing complex infrastructure, legacy systems, security and compliance. AWS has a set of modern cloud computing tools and services that will help overcome these challenges.

HCLTech, with a deep understanding of both technology and business processes, plays an important role in leading organizations through the journey of cloud adoption. With the

techniques of AWS modernization, HCLTech enables the business to transform faster with digital transformation efforts while retaining operational efficiency and flexibility.



Market trends

The cloud-native and agile enterprises

The global cloud market is growing by leaps and bounds and increasing numbers of businesses are resorting to cloud technologies as a solution to modernize infrastructure and processes. **It is estimated that public cloud services worldwide will achieve \$675 billion by 2024, recording a compound annual growth rate (CAGR) of 20.4 %, as suggested by the Gartner report.** In addition, many other influential trends are being followed:



The rise of cloud-native technologies

Businesses are increasingly adopting cloud-native technologies, which enables them to build scalable and resilient applications. Microservices, containers, and serverless architectures are becoming standard as companies seek greater flexibility and agility.



Security and compliance challenges

As businesses move more critical workloads to the cloud, security is one of the key concerns. AWS's strong focus on security features like encryption, IAM, and compliance certifications is helping the business address these concerns.



Increasing focus on cost efficiency

With the rapid growth of cloud adoption, organizations are looking to optimize cloud spending. Tools like AWS Cost Explorer and Trusted Advisor are growing in adoption, helping businesses manage their cloud expenses better.



Machine Learning and AI expansion

Cloud computing transforms business operations by integrating machine learning and AI into cloud environments. For instance, the broad array of AI and ML services AWS offers, including SageMaker and AWS AI Services, aids businesses in utilizing data as the driver of innovation.



Main elements of AWS modernization approaches

AWS modernization approaches involve a range of essential strategies and services through which businesses can completely adapt to cloud computing. These are:



Cloud-native architectures

Cloud-native architectures include designing applications that are natively built to run on cloud environments. These architectures embrace scalability, resilience and flexibility, which allows businesses to adapt quickly to changing market demands.

- **Microservices architecture:**
AWS will enable organizations to break down monolithic applications into more minor, more manageable services using microservices. This approach improves flexibility, scalability and maintainability.
- **Serverless computing:**
With AWS Lambda and AWS Fargate, firms can build and deploy without worrying about the infrastructure. This reduces operational overhead and automatically scales according to demand.
- **Containerization:**
AWS provides tools like Amazon EKS and ECS to help create and deploy applications in the containerized environment. A container simplifies development testing and deployment while achieving portability in different environments.



Automated deployment and CI/CD pipelines

Continuous Integration (CI) and Continuous Deployment (CD) pipelines automate the process of testing, building and deploying applications, ensuring faster and more reliable software releases.

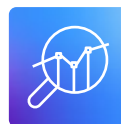
- **AWS CodePipeline:**
This service automates the build, test and deployment process, ensuring that new features and updates are delivered quickly without manual intervention.
- **AWS CodeBuild and CodeDeploy:**
These services help automate the build and deployment of applications, ensuring consistent and reliable software delivery.



Cloud migration and modernization

A big part of AWS modernization techniques is migrating from legacy on-prem infrastructure to the cloud. AWS has several migration services that help businesses migrate seamlessly into the cloud with minimum disruptions.

- **AWS migration hub:**
This service provides a central location for tracking the migration progress, assisting organizations to plan and execute a smooth transition.
- **AWS database migration service:**
It allows businesses to migrate databases to AWS with minimal downtime, thus helping organizations move toward cloud-native databases such as Amazon RDS and Amazon Aurora.



Data analytics and Machine Learning

Unlocking enterprise agility requires modernizing how businesses analyze data and leverage ML. AWS offers several services to help organizations adopt advanced analytics and ML capabilities.

- **AWS big data services:**
It encompasses services like Amazon Redshift, AWS Glue, and Amazon Kinesis that enable companies to analyze vast datasets, identify valuable insights, and make data-driven decisions.
- **AWS SageMaker:**
The managed service streamlines the development, training and deployment of machine learning models and facilitates organizations' ability to implement AI and ML into business processes.



Security and compliance

Data and applications must be secured; therefore, security is paramount to businesses embracing digital transformation. AWS offers a complete set of security services that protect workloads and meet regulatory requirements.

- **AWS IAM:**
This service enables businesses to securely manage access to AWS services and resources.
- **AWS Shield and AWS WAF:**
These services secure applications from security threats like DDoS attacks.



Cost optimization

Cloud cost optimization is a critical aspect of modernization. AWS provides several tools to help businesses monitor and manage cloud spending effectively.

- **AWS Cost Explorer:**
This service enables businesses to analyze AWS usage and costs, identify trends and optimize spending.
- **AWS Trusted Advisor:**
It offers real-time guidance to help organizations optimize their AWS environment for cost, performance and security.



How HCLTech is enabling enterprise agility with AWS

HCLTech is vital in unlocking the complete potential of AWS modernization techniques for organizations. It uses its profound expertise in cloud computing to help businesses adopt cloud technologies, streamline operations, and improve agility overall. Here's how HCLTech is helping organizations through the AWS modernization journey:



End-to-end cloud transformation

HCLTech provides end-to-end cloud transformation services, including strategy development, migration, and application modernization. HCLTech helps organizations create customized cloud adoption roadmaps using AWS services.

- **Cloud strategy and planning:**
HCLTech collaborates with clients to assess their current infrastructure, identify key opportunities for modernization and develop a plan that aligns with their business objectives.
- **Cloud migration and deployment:**
HCLTech accelerates cloud migration with the support of AWS tools and frameworks so that migration is not highly disruptive.



Cloud infrastructure optimization

HCLTech supports organizations in optimizing their cloud infrastructure on AWS using best practices in cloud architecture, automation and monitoring to optimize the environment for cost efficiency, scalability and security.

- **Infrastructure as Code (IaC):**
HCLTech applies AWS CloudFormation to automate cloud resource provisioning, minimizing manual efforts and ensuring consistency.
- **Cost management:**
By using AWS tools like AWS Cost Explorer and Trusted Advisor, HCLTech helps businesses optimize cloud expenses while maintaining performance and scalability.



Building scalable and agile applications

The solution HCLTech focuses on building cloud-native applications with elasticity, resilience, and capability for continuous improvement. This company utilizes AWS's microservices, containerization and serverless capabilities to ensure that applications will scale rapidly and adapt quickly to business needs.

- **Microservices architecture:**
HCLTech helps the business decomposition of monolithic applications, which eventually develops cycles faster and increases flexibility in change.
- **Serverless computing:**
With AWS Lambda and Fargate, HCLTech allows organizations to build and deploy serverless applications with automatic scaling and costs incurred only when in use.



Advanced data analytics and Machine Learning

HCLTech helps businesses unlock insights from their data by implementing advanced data analytics and machine learning solutions on AWS. Using AWS tools like Amazon Redshift and SageMaker, HCLTech enables enterprises to derive actionable insights, optimize processes and drive innovation.

- **Data lake and analytics:**
HCLTech helps organizations build secure and scalable data lakes using AWS services like Amazon S3, AWS Glue and Amazon Redshift to process and analyze large datasets
- **Machine Learning:**
HCLTech, with its cognitive Infrastructure offering, helps organizations employ AWS SageMaker to integrate machine learning models that automate decision-making, improve the customer experience, and enable operational efficiency



DevOps for continuous improvement

HCLTech recommends using DevOps practices to ensure continuous integration and delivery can be achieved in an AWS environment. With AWS DevOps tools such as CodePipeline and CodeDeploy, HCLTech helps ensure the rapid release of new features and quality while improving software delivery speed.

- **CI/CD pipelines:**
HCLTech establishes automated CI/CD pipelines on AWS to reduce human errors and speed up software delivery
- **Monitoring and feedback loops:**
HCLTech integrates monitoring tools like AWS CloudWatch to continuously monitor the performance of applications and infrastructure and proactively resolve issues

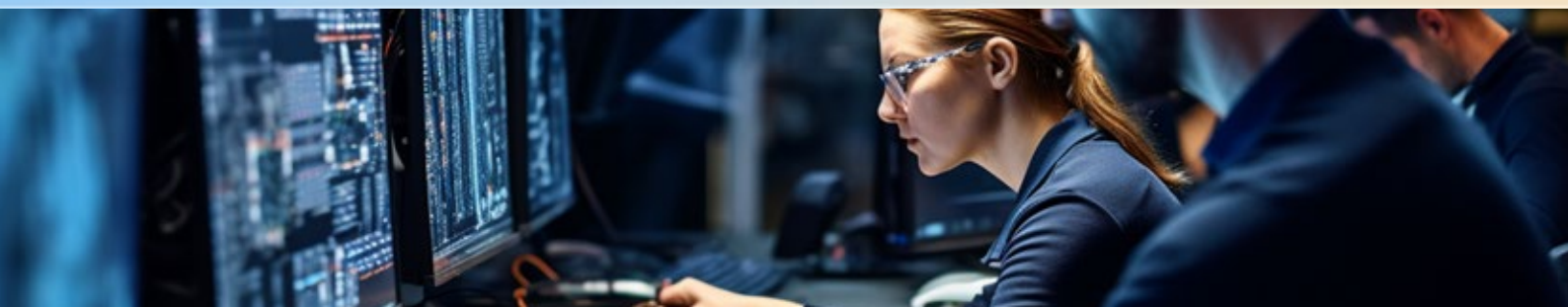


Migration techniques

HCLTech migration offering helps to build, adopt and manage the complex and Hybrid IT environment, bringing in aspects of people, process and technology to deliver solutions geared to help enterprises overcome future challenges. HCLTech is a premier consulting and migration competency partner for AWS. HCL works with global organizations with coherent thinking and strategy in place.

HCLTech approach focuses on building and providing competency-based services such as Cloud Assessment, Implementation and Migration to Private, Public and Hybrid Clouds and Cloud Operations services.

HCLTech helps customers in migration on AWS through offerings like **MCOD-AWS, SAPoD, MyCloud™, DryICE™, MyXalytics™, Cloud Inception, SDI Innovation Garage, RecoverNXT, BackupNxt, ElasticOps** etc. These solutions will allow for the development of new workloads and the migration of existing ones by monitoring and managing cloud environments.



Conclusion

The future of AWS modernization and enterprise agility

AWS modernization techniques enable businesses to achieve digital transformation and enterprise agility. Organizations can unlock the cloud's full potential by adopting cloud-native architectures, automating deployment processes, and embracing advanced data analytics and

machine learning. HCLTech has deep expertise in AWS cloud solutions. It plays a huge role in helping businesses navigate the journey of modernization by providing end-to-end cloud transformation services, optimizing infrastructure, and implementing scalable and agile applications.

As the cloud market grows, it will become increasingly crucial for businesses to modernize their infrastructure to keep pace. With the guidance of companies like HCLTech, AWS will be at the heart of this transformation for organizations looking to achieve greater agility, scalability, and cost efficiency in their operations.



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About the Author

Kunal is a part of the product management team within HCLTech's hybrid cloud practice. He is responsible for formulating product roll-out strategies, GTM plans, product marketing initiatives and scouting for new partnerships. He has more than 10 years of experience into cloud consulting, product advisor, sales enablement and business intelligence for global technology clients.

To know more, you may write to us at HCBU-PMG@hcltech.com

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