happiest minds
The Mindful IT Company
Born Digital . Born Agile

SECURING YOUR CLOUD JOURNEY IN THE DIGITAL ERA

www.happiestminds.com

INTRODUCTION - **THE CURRENT STATE OF CLOUD SECURITY**

The world is experiencing digital transformation like never before, and the Cloud has proven to be a cornerstone of this transformation. Every day there are new applications being migrated to cloud-based services. The Cloud, a central tenet of an organization's IT modernization strategy, provides the enterprise with scale, flexibility and adaptability, enabling innovation. However, there are quite a few risks, threats and vulnerabilities associated with cloud implementation.

Only 7% of businesses have good visibility of all critical data, while 58% have moderate control. – ForcePoint

80% of security breaches involve privileged credentials. – Forrester

It takes between 98 and 197 days for a business to detect a data breach. – Ponemon Institute

80% of employees use non-approved apps for work – Frost & Sullivan

49% of databases are not encrypted. – RedLock

Professional services account for 12.2% of the global cloud spending. – IDC

Through 2022, at least 95% of cloud security failures are predicted to be the customer's fault. – Gartner

Cloud data centers will process 94% of workloads in 2021. – Cisco

IT teams are under tremendous pressure to optimize costs while staying relevant. There is a push to deliver cloud solutions instantly. In a rush to meet such timelines, teams often put security on the back burner. This race has been making companies vulnerable to extremely expensive security threats.

Today, as cloud technology matures and becomes mainstream, it is crucial to have a strong security team that works to ensure the organization's security posture is safe. This whitepaper explains what puts a cloud-enabled enterprise at risk and recommends ways to mitigate such threats.

MOVING TO THE CLOUD?
RISKS AND THREATS YOU NEED TO BE AWARE OF

LOWER CONTROL AND REDUCED VISIBILITY as some policies and infrastructure are controlled by external CSPs

UNAUTHORIZED USE IS EASIER as self-service provisioning features of the Cloud allow provisioning of additional services without IT consent

DATA EXFILTRATION as well as increased malware infections due to unauthorized use of cloud services and reduced control of data and the network

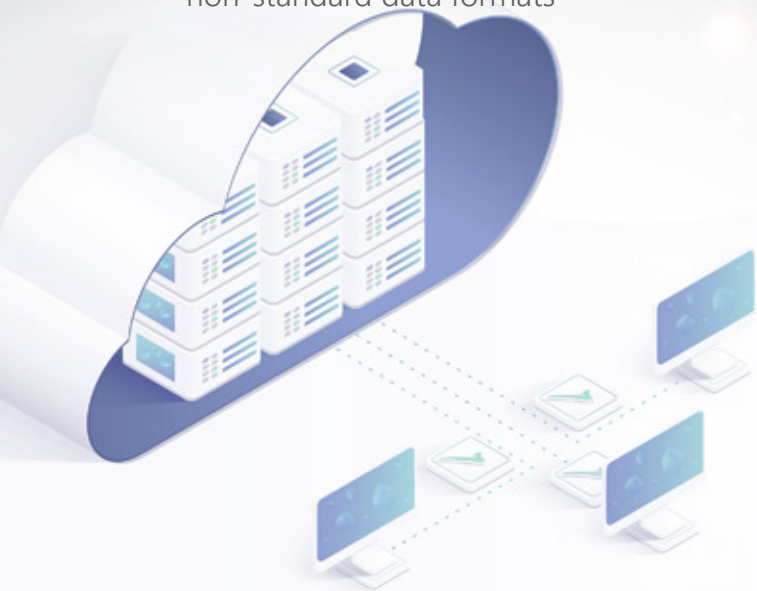
VULNERABLE APIs, since, unlike on-premise computing APIs, CSP APIs can be accessed via the Internet, making them more vulnerable to attacks

INTERFERENCE BETWEEN TENANTS in a multi-tenant cloud environment—a tenant could gain access to another tenant's data, or information could be accidentally returned to a wrong tenant

INCOMPLETE DATA DELETION, since, with CSP-controlled cloud infrastructure, enterprises may not be able to verify deletion of data and its unavailability to cyber attackers

VENDOR LOCK-IN can make migration to a new CSP difficult due to dependability on the existing CSP's proprietary tools and APIs, and non-standard data formats

INEXPERIENCED IT TEAMS without the required skills to manage, integrate and maintain cloud assets can make the migration journey difficult, increasing the potential for security gaps



INSUFFICIENT AND HASTY DUE DILIGENCE without completely analyzing: the pros and cons of cloud enablement, and security measures that must be considered by the enterprise and CSP, can increase the risk of cyberattacks

HOW CAN YOU SECURE **YOUR CLOUD JOURNEY?**

DUE DILIGENCE BEFORE MIGRATION

As a first step, enterprises must have a complete understanding of their applications and networks, and then plan, design and deploy the right cloud adoption framework that is CSP-agnostic and gives security top priority. Transitioning to the Cloud could introduce risks that were not present in the on-premise environment. Review enterprise security policies. Evaluate new risks and develop security controls required to address these risks. Develop a robust strategy for decommissioning of cloud-deployed applications, considering data security, as there may be a need to decommission systems and applications while migrating from one CSP to another.

A STRONG MULTI-VENDOR STRATEGY

If you are looking at choosing the right vendor for the right job, then you need a strong multi-vendor strategy. Diversifying via a multi-cloud strategy allows enterprises to choose the best CSP that offers the right technical features, pricing and required performance for specific applications. A multi-cloud approach also protects organizations from vendor lock-in with special powers of shifting to new or other existing CSPs in case of unfavorable changes in CSP strategy, prices or service level agreements.

ACCESS MANAGEMENT

A Verizon report highlights that 81% of security incidents are caused by credential theft. Promote a security-first culture across the organization. Enable user access via multifactor authentication. Take care of user access rights as most users do not require uncontrolled access to data and systems. Limiting access based on roles and requirements can curb credential compromise. Creating and implementing user access policies while initiating the cloud enablement process solves half the issues.

DATA PROTECTION

Data is one of the most valuable assets and data protection from unauthorized access is one of the most important activities to ensure success of an enterprise's cloud migration journey. Data encryption is a great way to achieve this. At the same time, IT teams should ensure continued access to crucial information in case of errors and failures. It is also essential to understand how the CSP handles data stored in the Cloud. IT teams should put in adequate controls in place to verify removal of deleted data and prevent the accidental disclosure of data that was supposedly deleted.

CONSTANT MONITORING OF CLOUD RESOURCES

In the current digital era, monitoring, managing and securing the hybrid cloud is conceivably the most pervasive issue that enterprises are facing. 24/7 cloud monitoring enables enterprises to identify patterns and discover hidden security risks. A strong cloud monitoring solution will have the ability to: monitor large volumes of data across locations in real time, oversee application and user behavior to proactively identify potential threats, perform auditing and reporting to ensure security compliance, etc.

TRANSITIONING TO THE CLOUD DRIVES THE NEED FOR **COMPLETE CLOUD SECURITY**

Building a persuasive business case for cloud adoption—considering the complexity of change management and the fear of security breaches—has been one of the top barriers to enterprise cloud migration. As executives aim at making a secure transition to the Cloud, they should devise a carefully planned step-by-step approach with the right business strategy covering the complete cloud security lifecycle.

Business Strategy

Understand the business strategy and growth objectives to align cloud adoption capabilities and priorities.

Foundation & Discovery

Build a holistic cloud risk and compliance management framework leveraging business view (top-down) and technology aided (bottom-up) discovery techniques to profile cloud use, including shadow IT, and risk landscape.

Readiness & Baselining

Assess cloud risk, capabilities and controls across the enterprise and determine a cloud governance program strategy and roadmap for ongoing program operations, risk assessment remediation and certification.

Onboarding & Operationalization

Operationalize the cloud security and governance framework across the enterprise through onboarding of business units, production and functions.

Management & Improvement

Continuously manage and improve the cloud security program through assessment, monitoring, tool deployment, and extension of the program.

HAPPIEST MINDS' **CLOUD SERVICES**

Happiest Minds provides a holistic approach to cloud security, effectively protecting data applications and cloud system apps while ensuring regulatory requirements are met and business goals are not compromised on. Our cloud services portfolio covers cloud management, cloud security, application modernization & migration, data migration & re-platforming, and infrastructure migration.

Advisory & Assessment	Build, Deploy, Integrate, Migrate	Cloud Automation
Managed Services	Cloud Management	Cloud Security
Application Modernization & Migration	Data Migration & Re-platforming	Infrastructure Migration

We assist clients at every step in their cloud journey.

Advisory & Assessment	Build, Deploy, Integrate, Migrate	Cloud Automation	Managed Services – Monitor, Maintain & Manage
Application portfolio analysis	Cloud build	Process orchestration, DevSecOps	Cloud operations, security operations
ROI – Business case	Proof of concept	Availability, performance and capacity	Monitoring and level 1/2/3 support
High-level architecture	Integration	Configuration and change	Custom dashboards and reports
Migration strategy and planning	Migration		Optimization of cloud capacity and costs
Risk and compliance			

THE WAY **FORWARD**

Before leaving legacy technologies behind to adopt a cloud strategy, and before choosing a cloud service provider (CSP), it is important to fully understand the associated commercial, financial, technical, legal and compliance risks. Enterprises should develop strategies that cover the entire spectrum of cloud security and threat management requirements. They should aim at achieving 360-degree security against threats by: taking advantage of global intelligence, leveraging the latest in technology to counter risks, and attaining the required maturity in their security and threat management programs.

To know more about our offerings. Please write to us at business@happiestminds.com

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About Happiest Minds Technologies

Happiest Minds, the Mindful IT Company, applies agile methodologies to enable digital transformation for enterprises and technology providers by delivering seamless customer experience, business efficiency and actionable insights. We leverage a spectrum of disruptive technologies such as: Big Data Analytics, AI & Cognitive Computing, Internet of Things, Cloud, Security, SDN-NFV, RPA, Blockchain, etc. Positioned as "Born Digital . Born Agile", our capabilities spans across product engineering, digital business solutions, infrastructure management and security services. We deliver these services across industry sectors such as retail, consumer packaged goods, edutech, e-commerce, banking, insurance, hi-tech, engineering R&D, manufacturing, automotive and travel/ transportation/hospitality.

Headquartered in Bangalore, India Happiest Minds has operations in USA, UK, The Netherlands, Australia and Middle East.