Datasheet

A Cloud Journey that Delivers Business Outcomes

Asia Pacific Cloud Market

The cloud market in the APAC region is projected to grow 117% from USD$133 billion to $288 billion in the years between 2019 and 2024, according to a new report released today by GlobalData. While there is no denying that the increase in cloud adoption was caused by the COVID-19 pandemic forcing businesses to operate remotely, many organizations were also in the midst of their cloud transformation journey.

Today, cloud services are at the essence of any business strategy looking to make the most out of their organization. From getting valuable data insights to enabling employees to work from anywhere, cloud adoption is becoming a strategic move to also deliver better results and services to customers.

Benefits of Cloud

Strategic Value

- **Streamlined work**: Cloud service providers (CSPs) manage underlying infrastructure, enabling organizations to focus on application development and other priorities.
- **Regular updates**: Service providers regularly update offerings to give users the most up-to-date technology.
- **Collaboration**: Worldwide access means teams can collaborate from widespread locations.
- **Competitive edge**: Organizations can move more nimbly than competitors who must devote IT resources to managing infrastructure.

Efficiency

- **Accessibility**: Cloud-based applications and data are accessible from virtually any internet-connected device.
- **Speed to market**: Developing in the cloud enables users to get their applications to market quickly.
- **Data security**: Hardware failures do not result in data loss because of network backups.
- **Savings on equipment**: Cloud computing uses remote resources, saving organizations the cost of servers and other equipment.
- **Pay structure**: A “utility” pay structure means users only pay for the resources they use.

Agility

- **Scalability**: Cloud infrastructure scales on demand to support fluctuating workloads.
- **Storage options**: Users can choose public, private, or hybrid storage offerings, depending on security needs and other considerations.
- **Control choices**: Organizations can determine their level of control with as-a-service options. These include software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS).
- **Tool selection**: Users can select from a menu of prebuilt tools and features to build a solution that fits their specific needs.
- **Security features**: Virtual private cloud, encryption, and API keys help keep data secure.

A Cloud Journey that Delivers Business Outcomes

LGA's Service

LGA helps you find new and better ways to harness the power of cloud computing. From feasibility and cost studies, cloud strategy recommendations, migration approaches, governance, security and management, actual migration / implementation and go live production, we work with you to help your business realize its full promise and achieve measurable, extraordinary 360° value. LGA is Microsoft CSP and AWS certified. LGA's customers and LGA's internal architecture services are cloud-based.

- **Cloud Feasibility Study** - to identify the strategy, benefits and challenges, business and tech outcomes, priorities, solution building blocks, assets, expected costs, business recovery objectives plus general timelines and cloud adoption sequence. For a study to be effective, LGA will also leverage on customer's business, operational and technology plans as inputs to develop the findings and conclusions of this study.

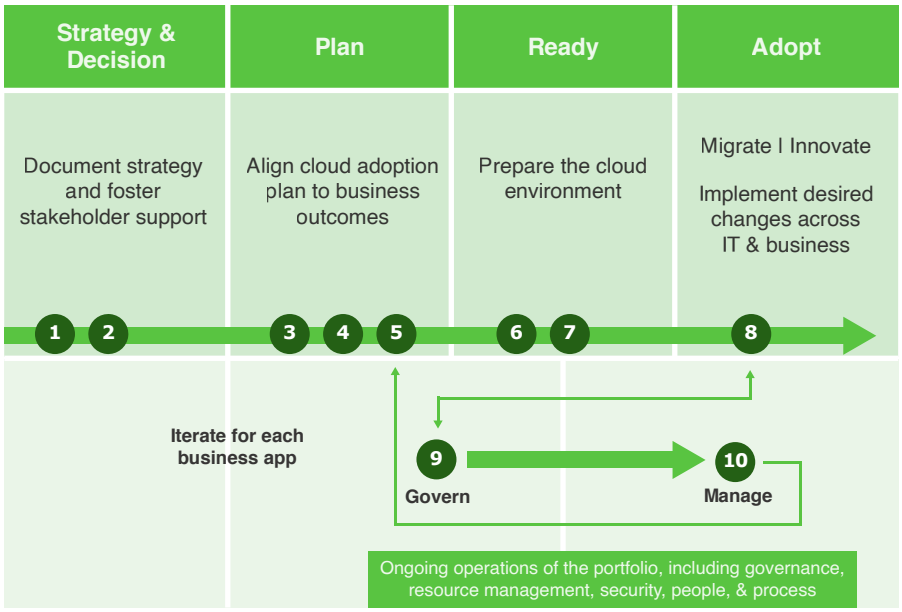
- **Cloud Implementation Services** - this phase includes detailed approaches to cloud architecture and design using the cloud architecture building blocks and cloud recovery strategies. From POC to migration, UAT and production, LGA designs, deploy, connects, secures and manages the solution for customers.

Cloud Feasibility Study Methodology

LGA Cloud Feasibility Study consists of multiple steps using assessment tables, checklists, questionnaires, decision trees, menu building blocks, mapping choices made to journey and timelines, asset, workload assumptions and cost calculations. A workshop is conducted to identify the above decisions and findings. The findings above will be socialized and presented with conclusions.

Overview of Cloud Journey

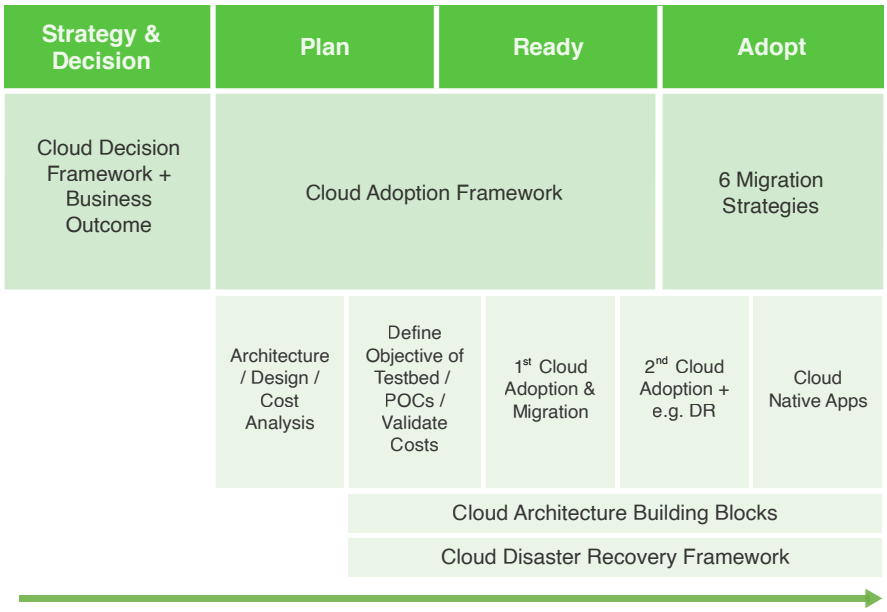
At the start of the cloud journey, an overview is presented in 4 parts and 10 general steps as illustrated below:



1. Stakeholder Alignment
2. Strategy, Partner & Solutions Support
3. Assets and Workload Stocktake
4. Business Case
5. Migration Strategy / Cloud Architecture & Design
6. Skills & Support Plan
7. Preparation & POC
8. Workload Migration / Innovation
9. Cloud Governance
10. Cloud Operations

A Cloud Journey That Delivers Business Outcomes

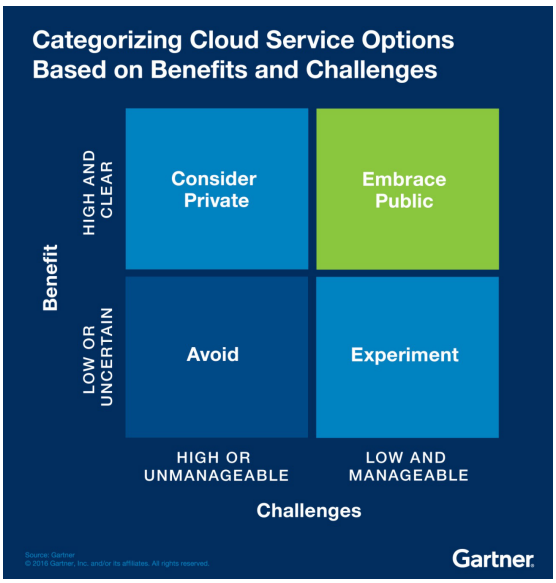
The previous steps are organised into frameworks, decision trees & questionnaires designed to identify initial findings:



1. Stakeholder Alignment
2. Strategy, Partner & Solutions Support
3. Assets and Workload Stocktake
4. Business Case
5. Migration Strategy / Cloud Architecture & Design
6. Skills & Support Plan
7. Preparation & POC
8. Workload Migration / Innovation
9. Cloud Governance
10. Cloud Operations

Cloud Decision Frameworks and Business Outcomes

Two industry leading decision frameworks allow customers to assess the benefits, risks and challenges of moving to the cloud. To get started, evaluate the business' different approaches e.g. one part of the technology organization (Mode 1) is responsible for keeping the business running reliably. The other part (Mode 2) is responsible for agility, speed and innovation. Mode 1 is technology-centric; Mode 2 is business- and customer-centric.



For each application or use-case scenario you're considering, evaluate and mark the framework with:

Potential benefits: How high-priority are the benefits or rewards that cloud provisioning could offer? Benefits under other scenarios might be cost savings, solutions to capacity problems, or better handling of workload imbalances or volatility.

Potential risks and challenges: What are the potential downsides or dangers to using cloud services? For an insurance company considering moving its claims adjustment application into the public cloud, security and regulatory challenges might be issues. In other use cases, risks and challenges might be potential lock-in, integration difficulties or market immaturity.

Benefits	High	
Cost Savings		
Capacity		
Workload Volatility		
Speed of Deployment e.g. PaaS		
Manageability		
Risks & Challenges	**High**	
Regulatory		
Security		
Lock-In / Integration		
Business Process Fit		
Unique Requirements e.g. AI / ML / Edge Computing		

A Cloud Journey that Delivers Business Outcomes

Attributes that are important to an enterprise can be chosen arbitrarily and ranked high or low. Applications that land in the upper left, where cloud service benefits are high and clear but the risks or challenges are also high, may be good candidates for a private cloud approach.

Another cloud decision framework suggests to rank preferences in terms of Business or Tech centric attributes.

		Rank Your Preferences				
Biz & Customer Centric	Industry Regulatory Requirements ?	High	Reasonable	Average	Average	Average
	Customize Core Business Function ?	Highly Customizable	Moderate	Average	Low	Low
	Unique Biz Requirements / Processes	Good Support	Moderate	Average	Low	Low
	Time To Market	Slow	Moderate	Average	Average	High
	Capital Investment	High	Reasonable	Operational Expenses	Operational Expenses	Operational Expenses
	Control / Management	Total Control	Reasonable	Average	Average	Average
Tech Centric	Security	Highly Customizable	Highly Customizable	Moderate	Average	Low
	Scalability / Workload Management	Less Flexible	Moderate	On - demand	On - demand	On - demand
	Speed of Deployment	Low	Moderate	Reasonable	High	High
	Tech Skills Investment	High Investment	Moderate	High	Average	Low
	Unique Tech Requirements	Highly Customizable	Somewhat customizable	Somewhat customizable	Average	Low
	sk of HA / DR / Data Replication / Backup	High	Moderate	Average	Average	Low
	Mobility Needed ?	Best fit	Moderate	Low	Low	Low

The findings in decision frameworks determine if a business unit's operational app's **qualifiable** benefits for cloud transformation.

Business Outcomes

The most successful transformation journeys start with a business outcome in mind. Cloud adoption can be a costly and time-consuming effort. Fostering the right level of support from IT and other areas of the business is crucial to success.

#	Business Outcomes	On Prem Solution	Cloud Solution
1	Time To Market: How Long To Deliver A New Compute Resource To My Business Unit?	e.g. 3 months	e.g. 3 days
2	Capacity: How Long To Increase Resources To My Business Unit?	e.g. 1 month	e.g. 3 minutes
3	Customise Core Business Functions: How Long Did It Take On-Prem versus SaaS Solution?	e.g. 4 months	e.g. 20 days
4	Upfront Capital Investment versus Pay Per Use	$2M	$12k per month
5	Lock In To Vendor versus Portability	Lock In	Portability
6	Separation of Vendor Risks (e.g. Apps / Cloud / Infra / Network)	Lock In	Separated
7	Operation Issues: Loss of Reputation in Downtime: Risk of HA / DR / Data Replication / Backup	Complex & costly to maintain, expertise needed, tasks centric	Focus on business objectives
8	Tech Skills Investment (personnel resources)	e.g. 6	e.g. 3

The findings for business outcomes measure the **quantifiable** benefits for cloud transformation.

A Cloud Journey that Delivers Business Outcomes

Cloud Adoption Framework

Once the transformation to the cloud decision has been made for a business unit or application, a deeper dive into Cloud Adoption is necessary. LGA identifies specific organizational capabilities that underpin successful cloud transformations. These capabilities provide best practice guidance that helps you improve your cloud readiness in 7 perspectives: Business, People, Governance, Platform, Security, Operations and Apps.

	Business	People	Governance	Platform	Operations	Security	Apps
Objectives	Business support capabilities to optimize business value with cloud adoption	People development, training, communications and change management	Managing and measuring resulting business outcomes	Develop, maintain, and optimize cloud solutions and services	Allows system health and reliability through the move to the cloud & delivers an agile cloud computing operation	Ensures that the workloads deployed or developed in the cloud align to organization's security control, resiliency, and compliance requirements	Ensures the app meets key success factors e.g. business logic, functionality, user friendliness (UI/UX), custom features, 3rd party integration, payment, etc
Common Roles	Business Managers; Finance Managers; Budget Owners; Strategy Stakeholders	Human Resources; Staffing; People Managers	Program Managers; Project Managers; Enterprise Architects; Business Analysts; Portfolio Managers	CTO; IT Managers; Solution Architects	IT Operations Managers; IT Support Managers	CISO; IT Security Managers; IT Security Analysts; Head of Audit and Compliance	CIO; BU Management & Championship, Marketing Director, Customer Success Manager, User Groups

The findings for cloud adoption checklists all stakeholders using a RACI approach (responsible, accountable, consulted, informed). Sub workstreams may be needed to complete this checklist.

Six Migration Strategies

At this point, some decision trees are introduced and need to be applied to each business unit or application of choice.

6 Application Migration Strategies →									
Discover / Assess / Prioritise /	Determine Migration Path	**1.** Re-hosting (lift & shift)	Manual Install	Manual Config	Manual Deploy				
			Some Automation e.g. Use Migration Tools, Rewire Dependencies						
		2. Re-platforming (lift & reshape)	Determine New Platform	Understand similarities,gaps, workarounds, dependencies	Modify Underlying Infrastructure	Map existing app process, UI/UX, data, integration to new structures. Process & Data Migration	Validation	Parallel Run, Transition, Cutover	Production
		3. Re-purchasing (replace, drop & shop)	Eval & Purchase COTS / SaaS / Licensing	Understand similarities,gaps, workarounds, dependencies	Manual Install & Config				
		4. Re-factoring (rewriting, decoupling)	Redesign App & Infra Architecture	App Code Development, 3rd party re-integration	Full App Lifecycle Management / SDLC				
		5. Retain / Not migrating							
		6. Retire / Decommision							

For each application, LGA studies each of the 6 options and develops example scenarios, pros, cons, costs, complexity issues to further highlight how customers can take a decision forward. The findings in the decision tree:

6 Application Migration Strategies			Example Scenario	Pros	Cons	Cost	Complexity
Discover / Assess / Prioritise /	Determine Migration Path	**1.** Re-hosting (lift & shift)					
		2. Re-platforming (lift & reshape)					
		3. Re-purchasing (replace, drop & shop)					
		4. Re-factoring (rewriting, decoupling)					
		5. Retain / Not migrating					
		6. Retire / Decommision					

The findings for migration strategy will be inputs to the supplier, app feasibility study, timeline and cost processes.

A Cloud Journey that Delivers Business Outcomes

Stocktake of Assets

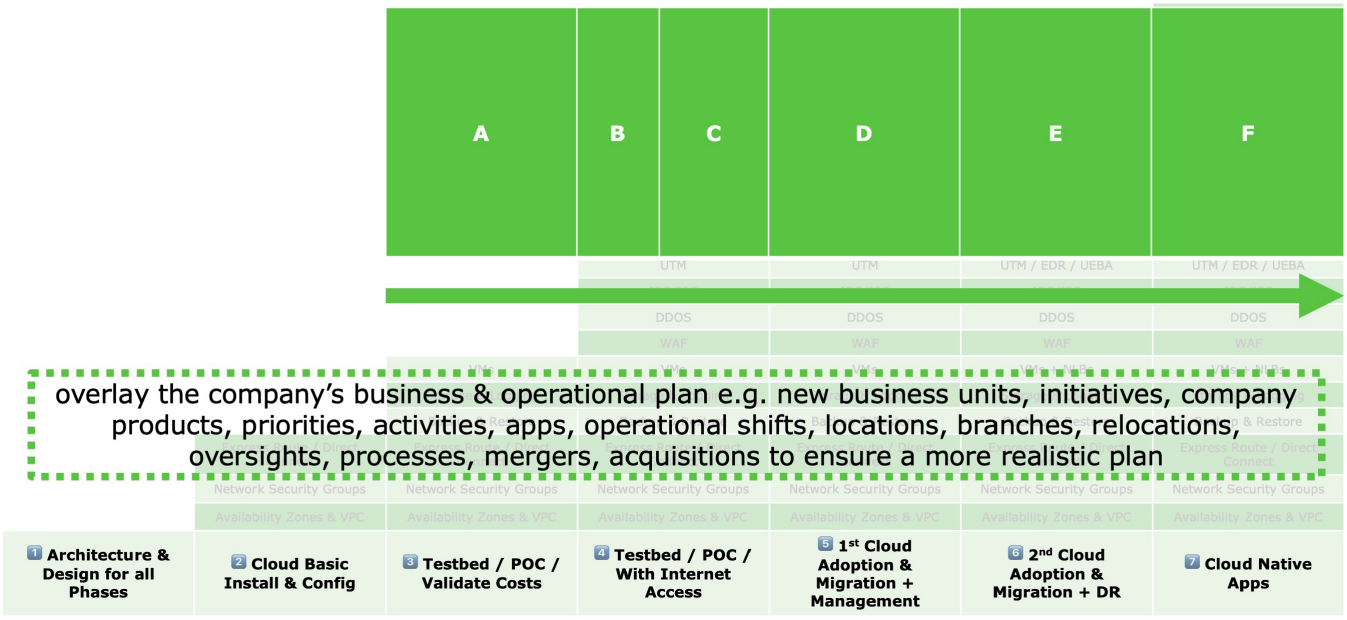
Stocktake of current assets and potential usage on cloud is developed.

Service	A		B	C	D		E	F	Database		Load Balancer		Active Directory		Total
Function	App		App	App	App		App	App	DB		LB		AD		
Hostname	A	AA	B	C	D	DD	E	F	G	GG	H	HH	I	II	
Software	App / web server		App / web server	App / web server	App / web server		X	Y	Z		Web Server		-	-	
Integration	Database & Load Balancer		Database & Load Balancer	Payment	EDI		A	B			A	B	-	-	
3rd Party Integration	AD		AD	AD	AD		AD	AD					-	-	
OS	Ubuntu 20		Ubuntu 20	Ubuntu 20	Win Server 2019		Ubuntu 20	Linux CentOS 7	Ubuntu 20	Ubuntu 20	Ubuntu 20	Ubuntu 20	Win Server	Win Server	
VM	VM 8		VM 8	VM 7	VM 7		VM 13	VM 13	?	?	VM 8	VM 8	?	?	
VCPU	8	8	4	8	8	8	2	8	est. 16	est. 16	4	4	2	2	
Mem	32	32	8	8	16	16	16	32	est. 24	est. 24	8	8	8	8	
Storage	2000G	2000G	1200G	1400G	1500G	1500G	1000G	400G	20000G	20000G	2000G	2000G	1500G	1500G	
Cost A															
Cost B															
Cost C															
Cost D															

The findings of assets stocktake and their equivalent cloud configurations needed will be inputs to the architecture, design, timeline and cost processes.

Cloud Adoption Sequence

An overlay of the company's business and operational plan e.g. new business units, initiatives, company products, priorities, activities, apps, operational shifts, locations, branches, relocations, oversights, processes, mergers, acquisitions are discussed to ensure a more realistic plan during a cloud adoption sequence.



The findings in this section will be inputs to the architecture, design, timeline and cost processes. Summary of findings, conclusions and recommendations, costs will be discussed at the final stage.

A Cloud Journey that Delivers Business Outcomes

LGA's cloud feasibility study deliverables include:

1. Cloud Decision Findings
2. Cloud Business Outcome Findings
3. Cloud Adoption Checklist Findings
4. Migration Strategy Findings
5. Cloud Architecture Building Block Options Desired
6. Stocktake of Assets Findings and Cost Examples / Assumptions
7. Cloud Adoption Sequence Findings
8. Strategies for Cloud Recovery Findings
9. Summary of findings, conclusions and recommendations, costs, options

Cloud Implementation Services

Cloud implementation starts with detailed approaches to cloud architecture and design using the cloud architecture building blocks and cloud recovery strategies. From POC to migration, UAT and production, LGA designs, deploy, connects, secures and manages the solution for customers.

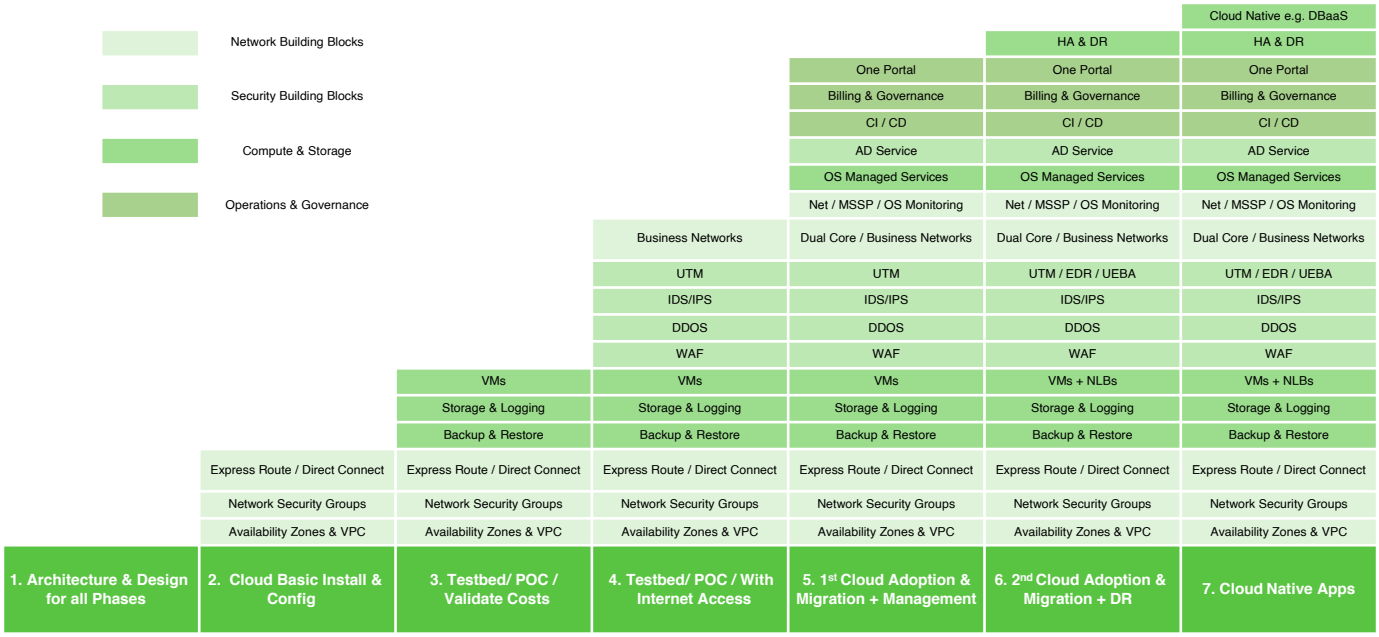
Cloud Architecture Building Blocks

This step introduces the equivalent building blocks for cloud services for customers to prioritise and choose:

Network	Availability Zones & VPC	Network Security Groups	Bandwidth on Demand	GSLB & NLB	Dual Core Internet Redundancy	Dual Core P2P Intranet	Express Route / Direct Connect	VPN	Domain Services	Network Support, Mgmt & Monitoring		
Security	UTM Firewall	IDS/IPS	DDoS	WAF	EDR	UEBA / Server Agents	Smartkey	AD Integration & Sync Service	SOC Managed Security (MSSP)	Continuous VAPT	Security Posture Assessment & Host VA	Assessment & Auditing: ISO27001 / ISO17799 / BS7799
Compute & Storage	HA & DR + Data Replication	OS Managed Services - Patch, Upgrade	Cloud Native e.g. DBaaS	Dockers / Kubernetes	Autoscaling	OS Resource Monitoring	Storage & Logging	Backup & Restore	Data Replication	Storage Monitoring	Migration Planning & Professional Service	Compute & Storage Support
Operations, Management Tools / Governance	One Portal Dashboard for Network, Security, Compute	Billing Charge Out to BU, Forecasting, Budgeting, Overage Alerts, Cost Optimisation	App Monitoring Dashboard	CI / CD								

A Cloud Journey that Delivers Business Outcomes

Cloud Architecture Building Blocks Mapped to Journey



The findings of choices made for infrastructure building blocks will be inputs to the architecture, design, timeline and cost processes.

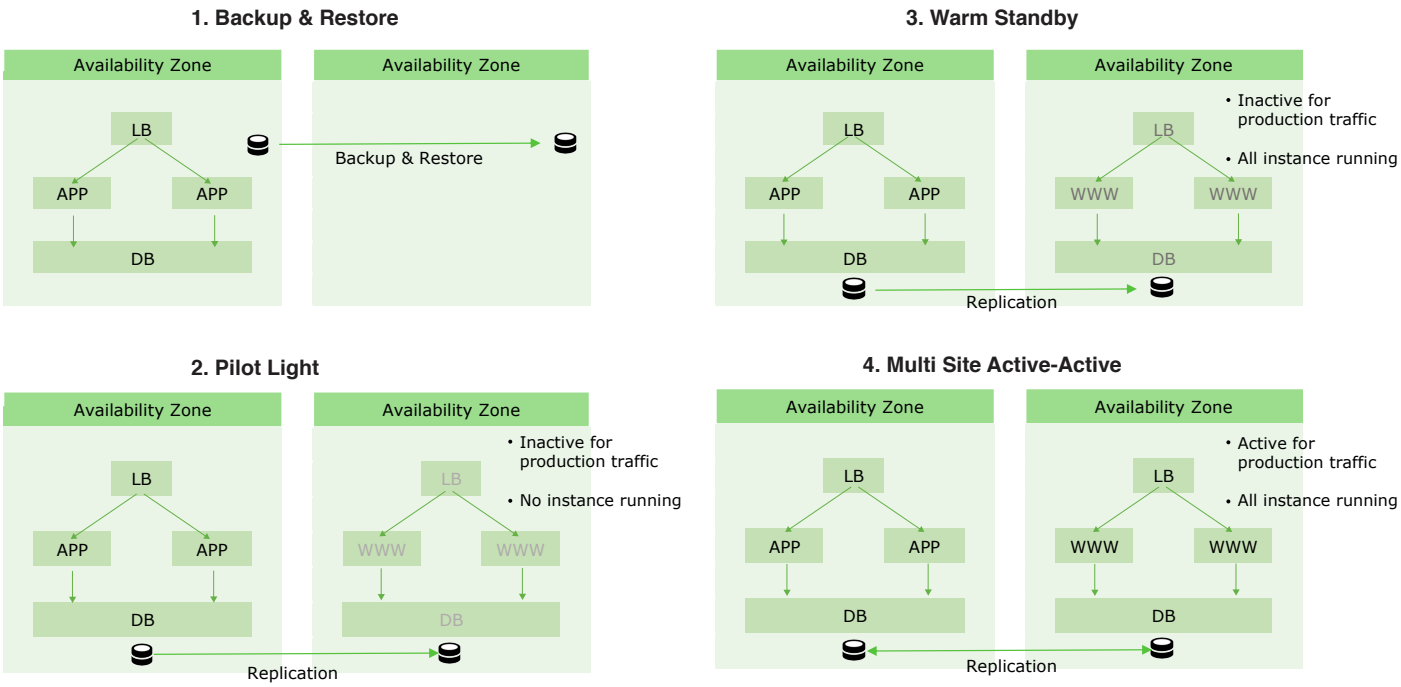
Strategies for Recovery in the Cloud

Disaster recovery strategies available to you can be broadly categorized into four approaches, ranging from the low cost and low complexity of making backups to more complex strategies using multiple active regions. It is critical to regularly test your disaster recovery strategy so that you have confidence in invoking it, should it become necessary.

	Backup & Restore	Pilot Light	Warm Standby	Multi-Site Active-Active
RPO / RTO	Hours	10s of Minutes	Minutes	Seconds
Recovery Method ?	Restore from backup	Start up Standby to access live data		
Is Data Live @ Standby ?	No standby infrastructure configured	Yes	Yes	Yes
Is Services Live @ Standby ?	No standby infrastructure configured	Standby infrastructure configured but not started up	Standby infrastructure configured and started up & running	Standby infrastructure configured and started up & running
Is Services Serving Production Traffic @ Standby ?	No standby infrastructure configured	No	No	Yes
Active - Active ?	No	No	No	Yes
Cost ?	$	$$	$$$	$$$$

A Cloud Journey that Delivers Business Outcomes

4 Strategies for Recovery in the Cloud



The findings in this section will be inputs to the architecture, design, timeline and cost processes.

Cloud Operations, Optimization & Governance

Managing a modern cloud-based data foundation in inherently different than for traditional on-premise models. For example, standardization and automation become critical components. Continuous optimization is also necessary because constant change is one of the defining qualities of being in the cloud. Last but not least, cloud governance is a set of rules and policies adopted by companies that run services in the cloud. The goal of cloud governance is to enhance data security, manage risk, and enable the smooth operation of cloud systems.

Conclusions

LGA's Cloud Feasibility and Cloud Implementation Services offers industry-leading cloud methodologies and expertise through experienced consultants, data-driven tools and a comprehensive cloud computing portfolio. We have enabled significant improvements and savings for hundreds of clients.

To learn more about LGA cloud services, please contact your LGA representative or visit www.lgatelecom.net

Contact Us

LGA Telecom Pte Ltd
33 Ubi Avenue 3
#08-53 Vertex (Tower A)
Singapore 408868

Tel (65) 6892 2308
Email: sales@lgatelecom.net
Website: www.lgatelecom.net

© 2021 LGA Telecom Pte Ltd. All rights reserved.