AWS Cloud Adoption Framework

an overview

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AWS Cloud Adoption Journey

Customers are asking us for the high-level enterprise-wide organizing logic for mapping their business needs to IT capabilities, reflecting the agility, integration and standardization changes that cloud computing brought to IT industry.

Strategic relationships are opening-up new set of questions, requiring AWS to demonstrate delivery capability, technology insight, and practical business value to our customers.
The AWS CAF organizes and describes the perspectives in planning, creating, managing, and supporting a modern IT service.

Offers practical guidance and comprehensive guidelines for establishing, developing and running AWS cloud-enabled environments.

It provides a structure where business and IT can work together towards common strategy and vision, supported by modern IT automation and process optimization.
AWS Cloud Adoption Framework

KEY PERSPECTIVES AND MODELS
Information Technology (IT) is used by organizations to process, manage and communicate information efficiently and is a vital capability within modern business environments. Increasingly, IT also serves as the basis for delivering innovative products and services that can transform conventional ways of doing business.

The Business Perspective represents areas that business and IT people must focus on to ensure that IT is utilized in an optimum way to deliver the maximum value.
### IT Strategy Model

<table>
<thead>
<tr>
<th>Financial</th>
<th>Customer</th>
<th>Internal Business Processes</th>
<th>Learning and Growth</th>
</tr>
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<tbody>
<tr>
<td>Manage cost of IT</td>
<td>Demonstrate competitive costs</td>
<td>Optimize IT processes</td>
<td>Attract and retain key talent</td>
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<td>Maximize returns</td>
<td>Deliver quality IT services</td>
<td>Manage IT service quality</td>
<td>Enable strong career development</td>
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<td>Enable value</td>
<td>Maximize business productivity</td>
<td>Standardize platforms and architectures</td>
<td>Promote culture of innovation</td>
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<tr>
<td>creation</td>
<td>Achieve business strategies</td>
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<td>Acquire skills in enabling technologies</td>
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- **Financial:**
  - Maximize shareholder returns
  - Enable value creation

- **Customer:**
  - Demonstrate competitive costs
  - Deliver quality IT services
  - Maximize business productivity
  - Achieve business strategies

- **Internal Business Processes:**
  - Optimize IT processes
  - Manage IT service quality
  - Standardize platforms and architectures
  - Utilize economies of scale
  - Deliver on schedule and within budget
  - Improve IT productivity
  - Empower and support end-users
  - Understand business strategies
  - Propose enabling solutions
  - Understand emerging technologies

- **Learning and Growth:**
  - Attract and retain key talent
  - Enable strong career development
  - Promote culture of innovation
  - Acquire skills in enabling technologies
Application Disposition Model

Discover/Assess/Prioritise Applications

Prioritise Applications

Use Migration Tools

Transition Production

Modify underlying Infrastructure

Test

Full ALM / SDLC

Integration

Manual Install

Manual Config

Manual Install & Setup

Retire / Decommission

Determine Migration Path

Retain / Not Moving

Redesign Application/Infrastructure Architecture

App Code Development

Purchasing COTS/SaaS & licensing

Automated

Manual

Manual Deploy

Manual

Production

Automated

Manual

Manual

Manual

Manual

Manual
What is a **process** in Cloud Adoption?

For the purposes of the CAF, process can be defined as a set of interrelated actions and activities performed to achieve a specified set of results, outcomes or services.

The Process Perspective components cover activities across complete IT lifecycle, help structuring the work, re-engineer manual processes, assure quality and govern delivery of agreed outcomes.
Cloud Lifecycle Model

**Strategy**
- Assessing and analyzing the current state
- Defining strategic vision and direction
- Setting financial, GCR and organizational structure
- Validation before delivery begins

**Design**
- Creating/building/coding IT services that meet/exceed defined expectations
- Testing/validating IT services against testing plan and acceptance criteria
- Transition/deployment of IT services into operations

**Transition**
- Effective ongoing service management
- Governance and monitoring
- Initiation of new activities
- Feedback loop and Optimization

**Operations**
- Iterative Development

**Improvemement**
- Value-based Planning
- Automated Operations

***Iterative Development***

- **Plan**
- **Deploy**
- **Optimize**

- **Monitor**
- **Manage**
- **Analyze**
- **Visualize**
- **Validate**
- Value-based Planning
## Initiative Roadmap

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<td>SLA Management, Billing, Reporting</td>
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### Notes:
- **Define Cloud Strategy & Team**
- **Weeks 1-4**
- **Weeks 5-8**
- **Weeks 9-12**
- **Weeks 13-16**
- **Weeks 17-20**
- **Weeks 21-24**
- **Weeks 25-28**
- **Weeks 29+**
Maturity Perspective

Maturity model helps customers with structured, systematic assessment and planning of capability maturity, defining the most optimal map towards effective use of cloud computing.

Focus of maturity perspective components is on consistent implementation towards more secure, well-managed and cost-optimized cloud-based IT capabilities.
Customer State Roadmap

**Traditional**
- Reducing the cost

**Cost-focused**
- Reducing complexity
- Stimulating Innovation

**Innovative**
- Stimulating growth
- Expanding to new geographies
- Improving quality

**Quality-driven**
- Preparing For M&A

**Growth-obsessed**
- Empowering experimentation
- Diversifying the business

**Leading**
People Perspective

People perspectives covers organizational capacity, capability and change management functions that are required for efficient Cloud Transformation.

Activities include assessment, organizational re-alignment and training/readiness required to build agile IT organization capable of leading the change towards effective cloud computing adoption.
Cloud Adoption Team Skills

**Initiative Leadership**
- Strategy Definition
- Business Alignment
- Adoption Roadmap
- Benefit Management

**Project Mgmt. Office**
- Scheduling
- Progress Monitoring
- Reporting
- Orchestration

**IT Architecture**
- Feasibility Analysis
- Technical Requirements
- Cloud Architecture
- Application Migration Design
- Technology Blueprints
- Validation
- SOA Strategy

**IT Delivery**
- Infrastructure Provisioning
- Solution Development
- Service Deployment
- Application Migration
  - Rehosting
  - Replatforming
- Solution Deployment

**Governance**
- Risk & Compliance Mgmt.
- Cost Management
- Information Assurance

**IT Operations**
- Monitoring
- SLA Management
- Incident Management
- Metering
- Billing
- Business Continuity Mgmt.
- Disaster Recovery
Migration V-Team Org Model

Program Mgmt. Office
- Lead Program Manager
  - Security Lead
  - DevOps Process Lead
  - Program/Project Manager

Architecture Team
- Lead Architect
  - Networking Lead
  - Storage & DB Lead
  - Linux Compute Lead
  - Windows Compute Lead
  - Automation Lead
  - Tools Lead

Migration Team
- Migration Lead
  - Foundation Lead
  - Web migration Lead
  - Linux app stack Lead
  - Win app stack Lead
  - Oracle DB Lead

Operations Team
- Cloud Operations Lead
  - Cloud Ops - Network
  - Cloud Ops - Automation
  - Cloud Ops – Front-end
  - Cloud Ops – Middleware
  - Cloud Ops – Database
People and Team Modeling

Sourcing

- Partnering/sourcing options – structural, geo and legal
- Validating vendor capabilities & SLAs
- Hardened interfaces – defined expectations and penalties

Team Composition

- Scalable teaming model – based on 2-pizza teams
- Roles and accountabilities for delivery and operation

Skills and Capabilities

- Well-rounded universalists for cloud computing era
- Skills profiles for various roles in the team
- Balancing development, sysops, project management and business skills
Platform Perspective

Helps architects and technology teams understand the relationship of abstractions used to model cloud computing elements that are common across an enterprise.

Platform Perspective components describe the fundamental organization of a hybrid IT system spanning multiple environments, that is embodied in its components, their relationships to each other and their design and evolution.
<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tr>
<td>IT Capability</td>
<td>An ability of IT to provide value to the business through a collection IT workloads, such as: Line of Business Platform</td>
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<td>Workload</td>
<td>An aggregated IT functionality performed by collection of various IT stacks, such as: Managed Desktop</td>
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<tr>
<td>Stack</td>
<td>A technology collection that can be transparently obtained from collection of available stencils, such as a LAMP stack</td>
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<tr>
<td>Stencil</td>
<td>An IT component that includes pre-defined and configured cloud services, such as Spot instances in auto-scaling group</td>
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<tr>
<td>Service</td>
<td>Measured elastic IT resource that can be rapidly provisioned on-demand, such as: Object storage service</td>
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### Functional Architecture Modeling

#### Foundational Services
- **Networking**
  - Cloud Isolation
  - Connectivity
  - Elasticity
  - Name Resolution
- **Security**
  - Firewall
  - Identity & Access
  - Auditing
  - Encryption
- **Storage**
  - Object Store
  - File Store
  - Archiving
  - Backup/Recovery
  - Storage Integration
- **Compute**
  - General Purpose
  - Compute Optimized
  - Memory Optimized
  - GPU Optimized
  - Storage Optimized
- **Server OS**
  - BSD
  - Linux
  - Windows
  - Other

#### Platform Services
- **Database**
  - Relational
  - NoSQL
  - In-memory DB
  - Data Warehouse
  - HANA
- **Data Integration**
  - ETL/ELT
  - Replication
  - Queueing
  - Data Load
  - MDM

#### App Services
- **App Server**
  - Java
  - PHP
  - Python
  - Ruby
  - .NET
  - Node.js
  - SAP
- **Web Development**
  - SDK kit
  - IDE kit
- **Server OS**
  - BSD
  - Linux
  - Windows
  - Other

#### Protocols
- **Protocols**
  - HTML
  - REST
  - SMTP
  - IM/SMS
  - SOAP/WS-*
  - SSH
  - RDP/VNC
  - HTML
  - REST
  - SMTP
  - IM/SMS
  - SOAP/WS-*
  - SSH
  - RDP/VNC

#### Management & Deployment
- **BCP & Continuity**
  - High Availability
  - Disaster Recovery
- **App Containers**
  - Provisioning
- **Monitoring**
  - Management
Implementation Architecture Modeling

- Internet Gateway
- VPC
- External Subnet
- External ELB
- Internal ELB
- Internal Subnet
- Availability Zone
- VPN Gateway
Operating Perspective

Every organization has an operations group that defines how day-to-day, quarter-to-quarter, and year-to-year business will be conducted. IT operations must align with and support the operations of the business.

Operating Perspective components describe the focus areas used to enable, run, use, operate and recover IT workloads to the level agreed to with business stakeholders.
Operating Model

**Transition**
- **Architectural Governance**
  - Standards
  - Cloud Architecture & Strategy
  - PMO
- **Cloud Transition**
  - Foundational cloud services
  - Application migrations in volumes
  - Training, coaching, communications
- **MSP Transition**
  - Foundational MSP requirements
  - SLA definition
  - Transition to Managed Services

**Operations**
- **Operational Governance**
  - Operational Assurance
  - Resource Management
  - Cost Management
- **Cloud Operations**
  - Access control (traffic & connectivity)
  - Tooling (self service, automation)
  - Knowledge Mgmt (insights, metrics)
  - Monitoring (reliability, BCP)
- **Legacy Operations**
  - On-premise infrastructure & platform
  - Tooling (integration)
  - Incident Management

**Improvement**
- **Environment Optimization**
  - Service Management
  - Alerting & Escalations
  - Problem Management
  - Reporting
  - IT & Cost Optimization
  - BCM
  - Improvement Management (portfolio, lifecycle, sun-setting)
- **Risk & Security**
  - 1st Line of Defense
  - Security architecture & advisory
  - Tooling (PenTest, IDS)
  - Forensics & Insights
Every company is concerned with protecting information and assets as they grow the business. They also want to ensure they are operating within the legal boundaries and standards set by and on the behalf of governmental agencies and industry associations.

Security Perspective components provide guidance that enables a comprehensive and rigorous method of describing a structure and behavior for an organization’s security and compliance processes, systems and personnel.
Identifying What Needs To Be Done

We examine each of these perspectives with you to **identify the goals, implications, and specifically what needs to be addressed**.
AWS Cloud Adoption Framework

WE HAVE THE EXPERTS TO GUIDE YOUR BUSINESS SUCCESSFUL INTO THE CLOUD!
Thank You