



Cloud Adoption Framework

01/01/2018

The logo for 'ais' features the lowercase letters 'ais' in a white, bold, sans-serif font. Above the letter 'i' is a decorative graphic consisting of a series of seven white dots of varying sizes, arranged in a slight upward curve. The background is a dark blue gradient with several large, semi-transparent circles in shades of blue and brown.

ais

Cloud Adoption Framework

About AIS

- SYS/SW Engineering firm focused on highly regulated Enterprise Accounts
- Among Microsoft's leading partners for 20 years, constantly re-investing
- Headquartered in Reston, Virginia
 - Regional Offices in Columbia, Maryland; Raleigh, North Carolina, Dayton, Ohio; Austin and San Antonio, Texas; Hyderabad, India
- Over 450 employees and \$65M in annual revenue
- 50/50 split between government and commercial clients
- Pioneered many Azure firsts; SecDevOps, Blueprint, CAP, TIC, IL4/II5 ATOs, etc.
 - Involved in every meaningful Azure HQ & field program for 10 years



Cloud Adoption Framework



Step 1: Education & Training

- Know why you are moving to the cloud
 - Starting with a deeper understanding of the benefits of the cloud (IaaS, PaaS, SaaS)
 - Agility, innovation, cost, time to market and value, data growth, capacity, security

- Deep dive training

Sample agenda →

Day 1	Day 2	Day 3	Day 4
Azure Platform Overview (IaaS, PaaS, SaaS) Introduction to Azure IaaS w/ key concepts Azure Portal Compute and Storage Licensing, Pricing VMs (available images) VHDs, Disks and Images Virtual Networks (VNET) Availability Sets VM Extensions Power Shell / REST API / Cross-plat CLI Resource Groups & ARM Azure Automation Monitoring – Log Analytics HA/ DR –Recovery Vault	Azure Networking Deep Dive Endpoints and Endpoint based ACLs VNET, Subnets, NSG Express Route, Site to Site / Point to Site VPN, Forced Tunneling Security Appliances Internal and External Load Balancer VNET Service Endpoints Resource Firewall ACLs (e.g. Storage)	Identity & Security Azure AD AD Federation AD Security protocols RBAC Key Vault Security Center	Azure PaaS Deep Dive App Insights App Service, ASE AKS Azure SQL, Storage, Cosmos DB Azure Service Bus

Broad and Deep understanding of Azure Capabilities

Step 2: Azure Architecture & Governance

Develop a cloud architecture and governance strategy

- **Subscription Topology**
 - Accounts, Azure Regions, Billing and Chargeback, Naming Conventions, Tags
- **Network & Network Security**
 - Virtual Networks, Firewalls, Load Balancing, NSGs, User Defined Routing, Security Zoning, Connectivity, Capacity
- **System Health**
 - Monitoring, Logging, Auditing
- **Access & Resources**
 - RBAC, Policies, Locking, Resource Management Roles and Responsibilities
- **Backup & Recovery**
 - Recovery Vaults, Backup & Retention Policies
- **Security Monitoring, Health Detection**
- **Automation Design**
- **Support, Escalation and Incident Management**

Robust, Scalable and Secure
Foundation For Enterprise to
Embrace Azure

Step 3a: Base Infrastructure Build

- Base/Shared & Workload Subscription Setup
- Network and Express Route Setup
- Azure AD, AD Sync
- Edge Firewall Configuration, Peering (Public/Private) Setup
- RBAC Setup
- Automation Setup
- OMS Workspaces Setup
- Recovery Vaults Setup

Robust, Secure
Azure platform built
for enterprise wide
scalability

Step 3b: Azure Resource Automation

- Azure Resource Profile Selection (VM, Storage, Others)
- Provisioning ARM & Automation Script Creation
- Teardown Automation Script Creation
- Monitoring Automation Integration
- Policy creation and governance Enforcement
- Deploy AIS Service Catalog
- Or Integrate with Organization's ITSM

Automation that creates compliant infrastructure that is secure in dramatically reduced time, with no errors and discrepancies

Step 3c: Application Portfolio Assessment

Conduct an Application Portfolio Assessment

- Which applications make sense to move to the cloud?
- Develop a long term roadmap that is aligned with the cloud provider's roadmap
- Start with a small app
- Startup /agile mindset

Overarching strategy and plan
for enterprise applications to
move to Azure

Step 4: Application Migration Assessment

- Requirements Gathering
- Inventory of the components and services
- Assessment of migration strategy (what Azure resources are appropriate?)
- Create and Deliver Migration Design Document

Detailed design, approach and plan for an enterprise application to move to Azure

Step 5: Application Onboarding

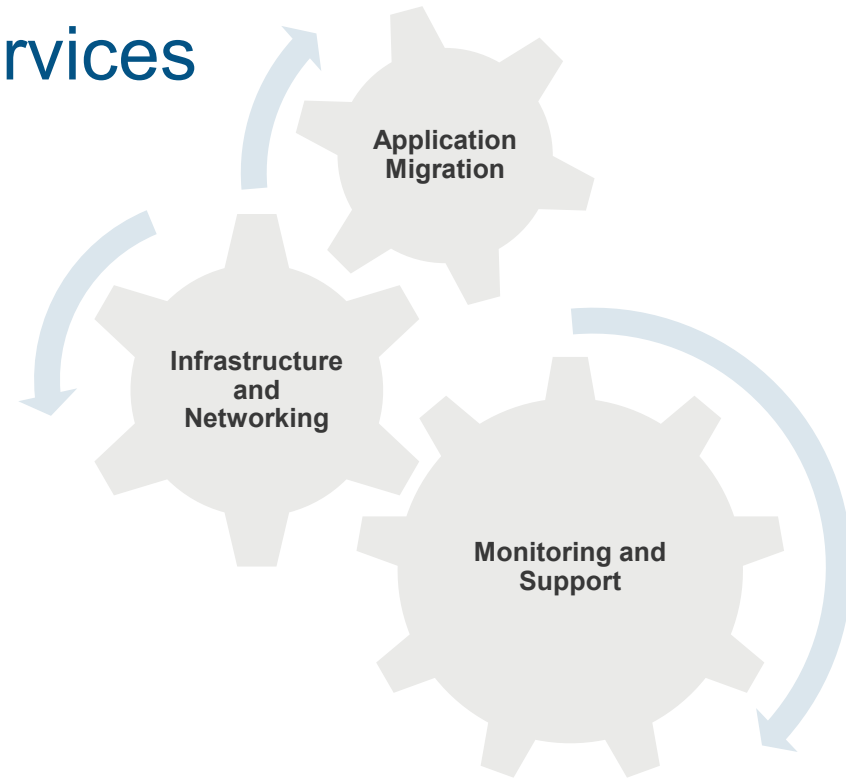
- Involvement from multiple teams
- Project to migrate each application
 - Initiate / Plan / Execute / Close
 - Cloud Service Provisioning team executes requirements to migrate application
 - Redesign and rebuild as necessary
 - Performance, scalability, security
 - Perform migration and optimize for cloud
- Operations & Support Handoff
 - Provide documentation, training, monitoring metrics to Operations & Support Team
 - Support Staffing adjusted as needed



Step 6: AIS Cloud Support Services

Cloud Support Teams

- Operations and Maintenance
 - Monitor system health and performance
 - Respond to incident requests
- Core Cloud Infrastructure and Networking
 - Infrastructure build-out and support
 - Networking architecture
- Cloud Service Provisioning Team
 - Migrate applications
 - Manage Service Catalog

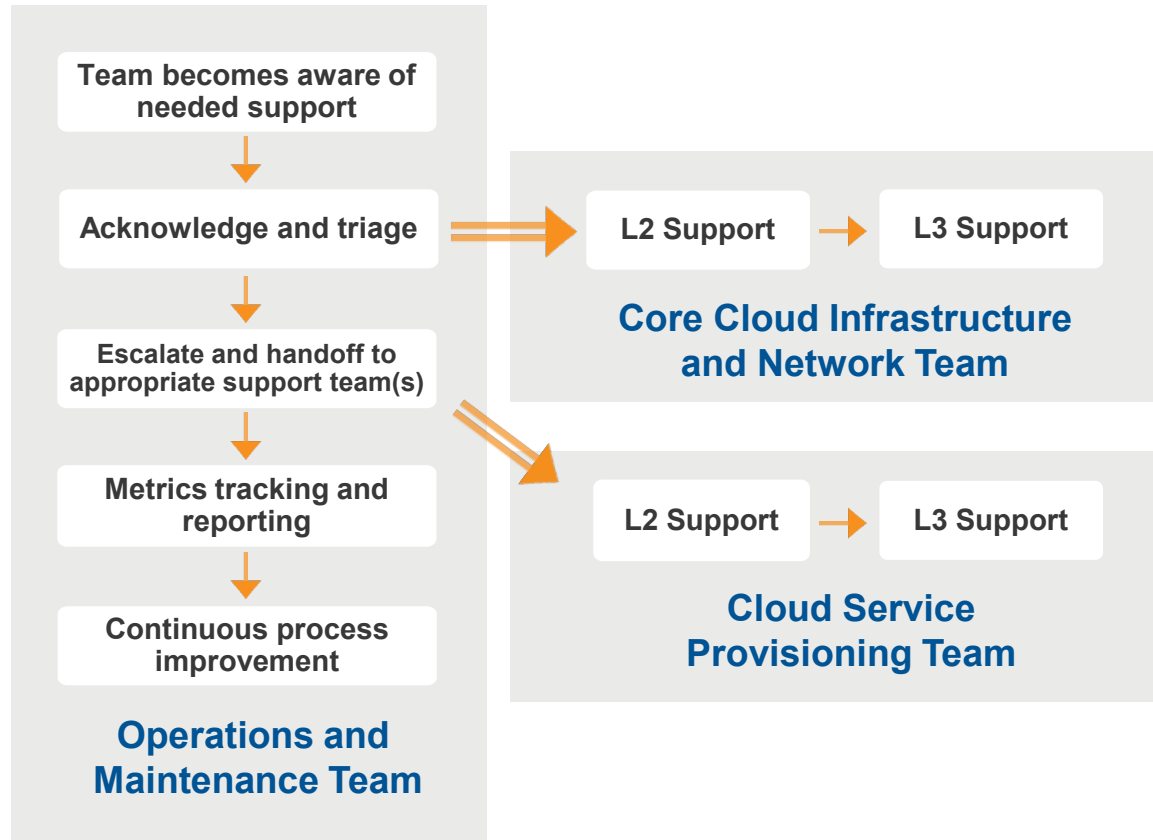


Enterprise application monitored and supported

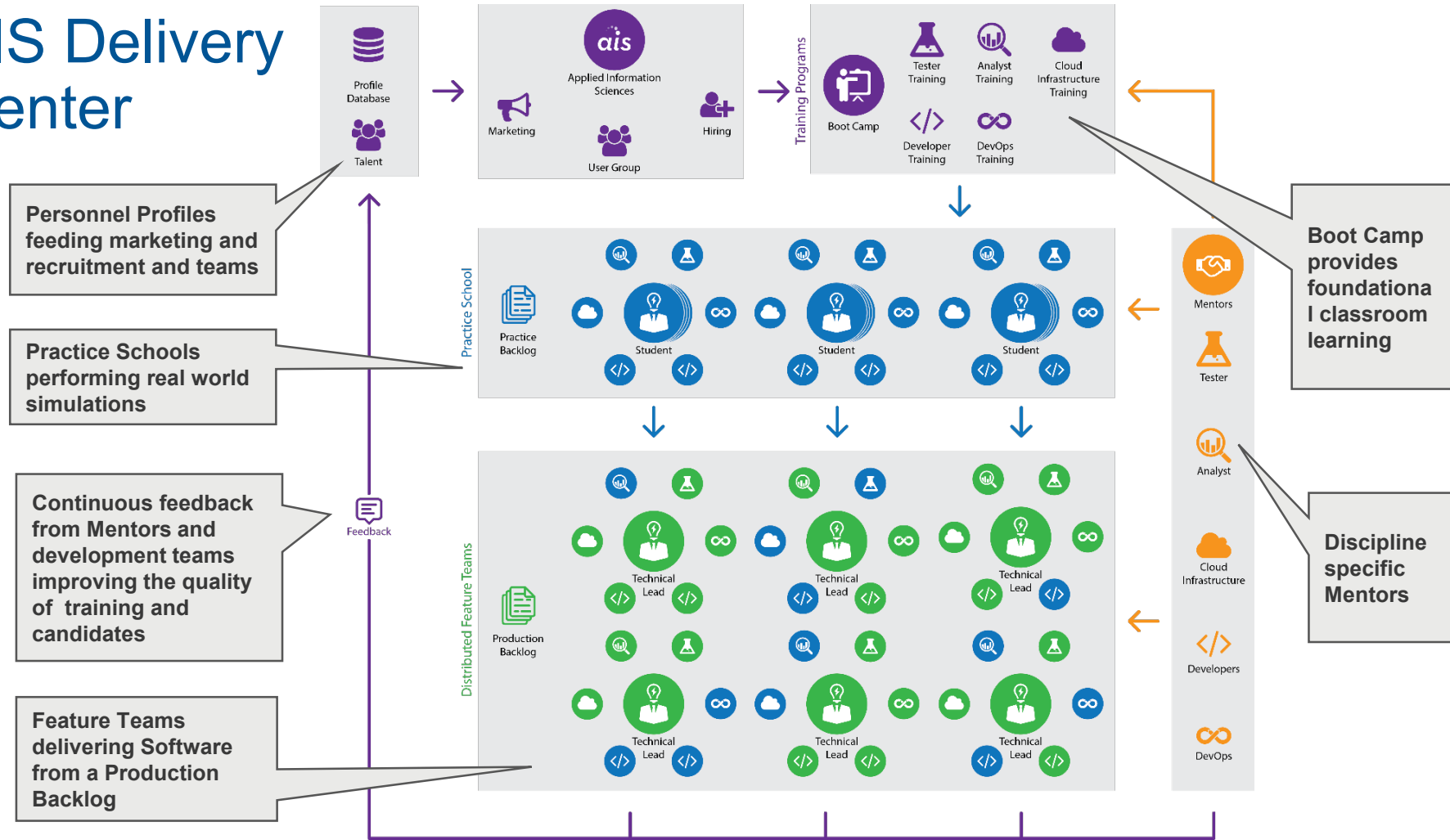
Step 6: AIS Cloud Support Services (continued)

Support Process

- Two options for support:
 - Business Hours + On Call
 - 365 x 24 hr
- SLA – defined priority and response time
- Team size and makeup based on need; scales up or down accordingly

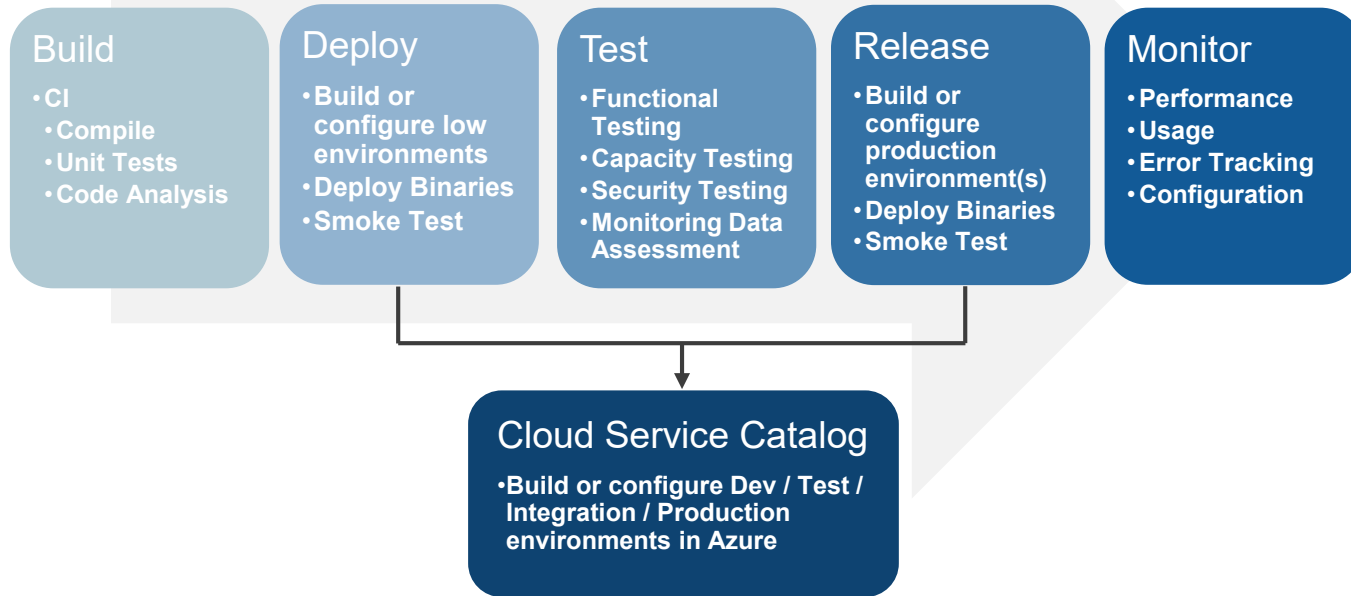


AIS Delivery Center



DevOps Pipeline Design

The Cloud Service Catalog's Role



The Cloud Service Catalog naturally fits into a larger DevOps pipeline.

Provides governed, templated cloud service provisioning.

Orchestrates your application's infrastructure from Dev / Test to Production.

AIS Service Catalog

The screenshot displays the AIS Service Catalog interface. At the top, there is a navigation bar with a home icon, 'Service Catalog', a 'Show Tasks' button, and links for 'About', 'Resources', 'Manage', and a user profile icon with the email 'live.com#stevemic21@yahoo.com'. Below the navigation bar, the user's email 'stevemic21yahoo.onmicrosoft.com' is displayed. The main content area features six service cards arranged in a 2x3 grid. Each card includes an icon, a title, a price, a description, and a list of included resources. A 'Feedback' button is located on the right side of the grid. At the bottom of the page, there are links for 'Contact Us', 'Terms of Use', and 'Privacy', along with a copyright notice: 'Copyright ©2015 Applied Information Sciences, Inc. All Rights Reserved'.

Service Name	Price	Included Resources
Azure storage account	\$2/month	Storage Accounts
Azure Web App	\$0/month	App Service Plan, Web App
Enterprise app ABC	\$11/month	App Service Plan, Web App
IIS 2 VM, SQL 1 VM	\$0/month	Microsoft.Network/networkSecurityGroups, Microsoft.Network/networkSecurityGroups, Virtual Networks, Storage Accounts, Public IP Addresses, Network Interfaces, Virtual Machine, Availability Sets, Public IP Addresses, Network Load Balancers, Network Interfaces, Virtual Machine, VM Extensions
VM Cluster	\$0/month	App Service Plan, Web App, Microsoft.AppService/gateways, Web App, Microsoft.AppService/apiapps, Microsoft.Logic/workflows
Web app with Policy	\$0/month	App Service Plan, Web App

Built on Azure Resource Manager

Accelerate template creation with drag-and-drop designers and Github imports

Manage multiple subscriptions

Deploy and logically organize resources into resource groups

Consistently tag resources for clarity in usage and billing

Control access with Azure AD



Thank You

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