MITRE Cloud Strategy

Cloud Engineering Technical Capability Area (TCA)

Rock Sabetto

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MITRE Cloud Strategy: Audience and Motivation

**Audience:**
- Who should read this briefing? Cloud leaders that need to optimize existing cloud investments

**Additional Resource:**
- MITRE Enterprise Cloud Adoption Framework (ECAF)

**Motivation:** Why did the MITRE Cloud Engineering TCA create a strategy?

Shifts in technology require MITRE and our sponsors to continually assess cloud computing

Most organizations are now operating complex hybrid, multi-cloud environments
MITRE Cloud Strategy: Use and Content

▪ How to use:
  ▪ Adapt and tailor the information in this briefing based upon your organization’s current cloud state and available resources
  ▪ Use this strategy to guide your cloud action planning and build consensus with key leaders

▪ What’s inside:
  ▪ **Cloud Trends**: Evolution of cloud and current cloud trends
  ▪ **Cloud Challenges**: Common hurdles that hamper cloud investments
  ▪ **Cloud Leader Action Areas**: Focal areas that can advance your organization
Cloud Landscape – Cloud Uses Have Changed

- Early cloud adopters, primarily for raw compute
  - Compute and Store: Data center ownership still the primary compute environment
  - Applications: Development and hosting in the data center
  - Security: Network centric security model

- Multi and Hybrid cloud is the reality
  - Compute and Store: Cloud Service Provider (CSP) adoption continues, most organizations using multi-cloud; on premise footprint minimized
  - Applications: SaaS adoption exploding; internal development taking place on CSP machines
  - Security: Identity centric security model increases; VPN connections being retired
Cloud Trends
## Cloud Trends

<table>
<thead>
<tr>
<th>Trend</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Transformation</td>
<td>Loosely defined set of organizational and cultural changes intended that enable organizations to adapt to (and take advantage of) our increasingly technology-centric world</td>
</tr>
<tr>
<td>Technology Commoditization</td>
<td>As technologies are adopted, the number of competitors increases. The resulting competition drives innovation, differentiation, and imitation which eventually results in a commoditized market</td>
</tr>
<tr>
<td>Software as a Service (SaaS)</td>
<td>Software applications delivered via the cloud</td>
</tr>
<tr>
<td>Low Code and No Code Development</td>
<td>Software development conducted on cloud platforms that enable the application developer to create applications without deep knowledge of software coding</td>
</tr>
<tr>
<td>Hybrid Cloud</td>
<td>IT architectures that consist of a combination of multiple public cloud and private cloud (e.g., on-premise data center) environments</td>
</tr>
<tr>
<td>Zero Trust</td>
<td>Security concept focused on applying identity to verify every digital interaction between entities</td>
</tr>
</tbody>
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**How to use:** Identify the trends that are relevant to your organization
Cloud Challenges
## Cloud Challenges

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Staffing</td>
<td>Without the right team of technologists, good things will not happen</td>
</tr>
<tr>
<td>Acquisition strategy</td>
<td>IT efforts are too complex to skip up front “thought investment” that examines how solutions will be acquired</td>
</tr>
<tr>
<td>Architectural understanding</td>
<td>Current and future state architectures must be embraced by key leaders across the organization</td>
</tr>
<tr>
<td>Team friction points</td>
<td>Organizations increase risk by failing to examine and address inter-team friction points</td>
</tr>
<tr>
<td>IT operational effectiveness</td>
<td>After all these years…still building and buying things that do not support operational user needs</td>
</tr>
<tr>
<td>Effective cloud leadership</td>
<td>Cloud leaders that do not first set strategy and continuously attack blockers are still out there</td>
</tr>
<tr>
<td>Security efficiency</td>
<td>Security is no longer an afterthought, but it is still not fully embedded in architectural designs</td>
</tr>
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</table>

**How to use:** Identify the challenges that apply to your organization
Cloud Leader Action Areas
## Cloud Leader Action Areas

<table>
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<tr>
<th>Action Area</th>
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<tbody>
<tr>
<td><strong>Document the Architecture</strong></td>
<td>Basic architectures showing major capabilities and interfaces are created, maintained and broadly socialized to facilitate awareness and decision making</td>
</tr>
<tr>
<td><strong>Draft Digital Transformation Strategy</strong></td>
<td>Logical approach to maximizing the value of technology investments to organization and its mission. Address People, Process and Technology</td>
</tr>
<tr>
<td><strong>Conduct Application Deep Dive</strong></td>
<td>Inventory of the organization's current software assets that can be used for decision making and IT roadmapping</td>
</tr>
<tr>
<td><strong>Conduct CSP Deep Dive</strong></td>
<td>Inventory of the organization's current cloud assets that can be used for decision making and IT roadmapping</td>
</tr>
<tr>
<td><strong>Conduct DevSecOps Deep Dive</strong></td>
<td>Assessment of software engineering methodologies and technologies</td>
</tr>
<tr>
<td><strong>Draft Security Overlay</strong></td>
<td>Overlay that shows how security components fit within, and support, the organization’s architecture</td>
</tr>
</tbody>
</table>

**How to use:** Identify the areas that apply to your organization
Challenges and Trends Drive Action Planning

Identify your organization’s challenges and trends, then formulate action plans

**Challenges**
- Staffing
- Acquisition strategy
- Architectural understanding
- Team friction points
- IT operational effectiveness
- Effective cloud leadership
- Security efficiency

**Trends**
- Digital Transformation
- Technology Commoditization
- Software as a Service (SaaS)
- Low Code and No Code Development
- Hybrid Cloud
- Zero Trust

**Action Areas**
- Document the Architecture
- Draft Digital Transformation Strategy
- Conduct Application Deep Dive
- Conduct CSP Deep Dive
- Conduct DevSecOps Deep Dive
- Draft Security Architecture Overlay

1. Check challenges and trends that apply to you
2. Use these mappings to help identify action plan areas that may apply to you
3. Formulate action plans for the areas that apply to you

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Cloud Leader Action Areas
*Initial Action Steps To Consider*

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<tr>
<td>Document the Architecture</td>
<td>Collect and study existing architectural artifacts; Update or create high level views to provide single look at the enterprise (technologies, owning sub-organizations, major interfaces)</td>
</tr>
<tr>
<td>Draft Digital Transformation Strategy</td>
<td>Draft Digital Transformation Strategy focused on vision and mission; Identify potential silo reducing organizational and process changes</td>
</tr>
<tr>
<td>Conduct Application Deep Dive</td>
<td>Examine previous application rationalization work; Examine all internally developed and operated applications (on premise and IaaS/PaaS); Develop recommended modifications</td>
</tr>
<tr>
<td>Conduct CSP Deep Dive</td>
<td>Identify the rationale for current CSP service portfolio and supported applications (including apps that remain on premise); Leverage experts to identify all CSP services, contracts</td>
</tr>
<tr>
<td>Conduct DevSecOps Deep Dive</td>
<td>Conduct a deep dive on development and operations teams and the technologies in use; Analyze team structure; Analyze the potential for low and no code development platforms</td>
</tr>
<tr>
<td>Draft Security Overlay</td>
<td>Create a security overlay for the architecture, ensuring that all security technologies are included (SOC, audit / compliance, etc.); Initiate or accelerate zero trust initiative</td>
</tr>
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**How to use:** Apply and create action plans for your organization
Next Steps
Next Steps for Cloud Leaders

▪ Adapt and tailor this material to create action plans that address your organization’s cloud challenges and unique situation
  ▪ Use architecture to make objective decisions
  ▪ Base Digital Transformation strategy on the mission

▪ Continually assess your organization’s cloud posture to ensure you are maximizing the value of cloud investments

Reach to MITRE for more help on your cloud journey!
Rock Sabetto
MITRE Principal Engineer and Systems Architect
rsabetto@mitre.org