

MULESOFT ARCHITECTURE:

Center For Enablement (C4E) and Center of Excellence (CoE)

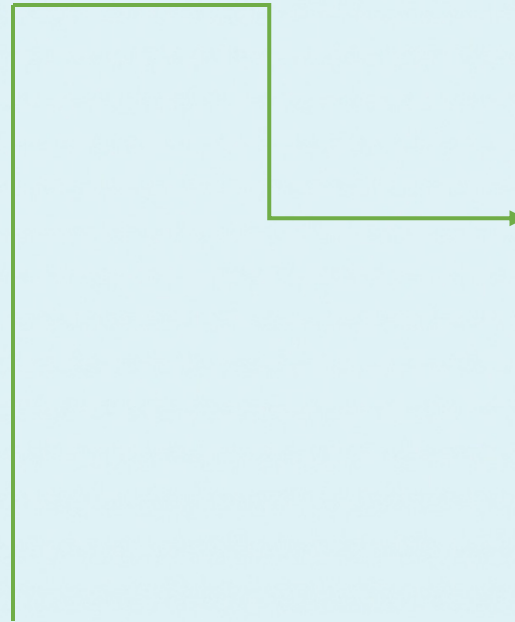


C4E and CoE Introduction

1. C4E vs. CoE
2. CoE overview
3. C4E overview
4. C4E implementation
5. C4E business groups



C4E Vs CoE

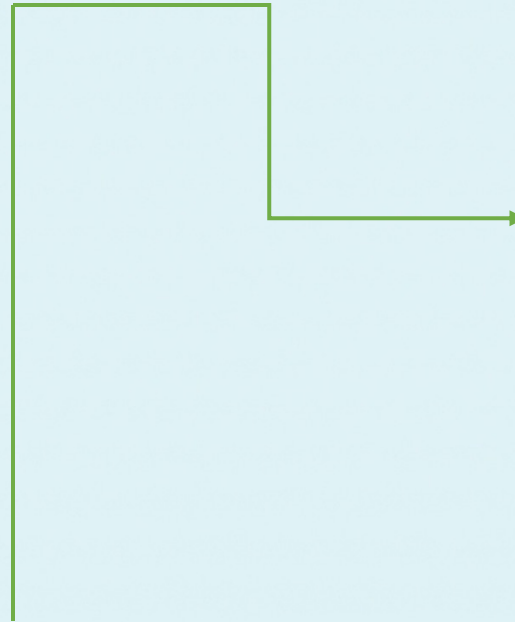


C4E Vs CoE Comparison

Strategy	Description and Goals	Team Structure	Implementation
C4E	Enable the entire organization to operate independently by creating reusable assets and integration best practices	Decentralized team with various different skillsets	Evangelize, community events, workshops, reusable recordings, self-paced training, documentation, reusable assets, driving consumption of assets
CoE	Define and institute best practices and processes in order to drive governance of one technology	Centralized team focused on one technology	Processes defined in central IT, documentation, SDLC phase gates established



Center of Excellence



CoE Overview

- Centralized team of experts in a single technology
- CoE may govern the setup and access for a single technology
- Typically act as a group of advisors to an organization for a single technology
- Teams around the organization can use the CoE for advice, consultations, best practices, code reviews, architecture guidance, and more

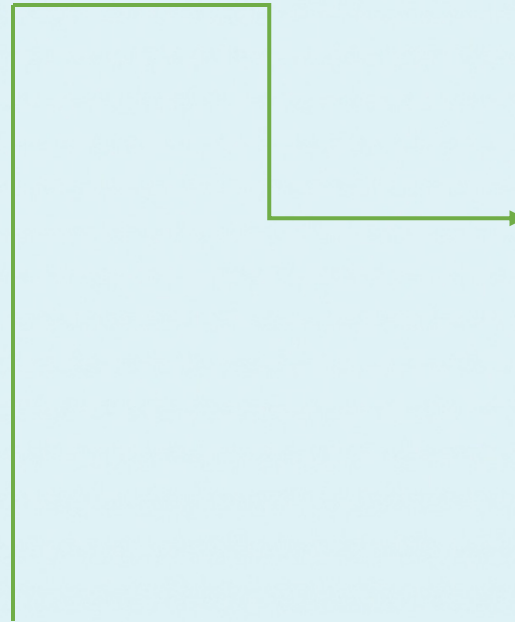


CoE Benefits and Common Obstacles

- Benefits of the CoE
 - Very clear way of getting advice in a single technology
 - Good technology-specific architecture, governance, and best practices are developed in a CoE
 - Can help ensure quality architecture and code is implemented
- Obstacles to overcome with the CoE
 - CoE can act as a bottleneck
 - Does not scale
 - Does not allow the organization to operate independently
 - Pushes policies and procedures to the rest of the organization



Center for Enablement



C4E Overview

- C4E is the evolution of the CoE
- Decentralized team of experts in various technologies and backgrounds
- Enable the organization to operate independently under best practices and processes
- Create reusable assets and drive consumption



C4E Benefits and Common Obstacles

- Benefits of the C4E
 - Enablement for the organization without creating phase gates
 - Scalable and not reliant on a single team to govern all aspects of integration or a single technology
 - Not invasive or disruptive to the organization
- Obstacles to overcome with the C4E
 - CoE could have developed a negative connotation. C4E could require significant re-education and mindset shift of stakeholders
 - Significant time and effort required to develop and evangelize the C4E benefits and best practices
 - Ongoing effort usually over years to fully establish the C4E
 - Communication is crucial



Common C4E Roles

1. C4E lead
2. API lead and architect
3. API developer
4. Integration lead and architect
5. Integration developer
6. Security lead
7. DevOps lead and architect
8. DevOps engineer



Implementing a C4E

Plan	Design	Develop	Evangelize
<ul style="list-style-type: none">• Establish C4E mission, goals, and vision• Create C4E roles and assign team members• Agree on C4E operating model• Align stakeholders	<ul style="list-style-type: none">• Best practices• Documentation model• Processes• Reusable assets• DevOps processes• Project intake process• Consumption model• KPIs and KPI dashboards	<ul style="list-style-type: none">• Best practices• Documentation• Processes• Reusable assets on Exchange• DevOps processes• KPI baseline and dashboards	<ul style="list-style-type: none">• Host workshops• Educate the business• Allow access to Exchange• KPIs



Reusable Assets Recommendations

1. Logging framework
2. Logging API
3. Systematic access to documents in a document store such as S3
4. API security
5. Any request that would benefit multiple areas of the business



MuleSoft Business Groups in a C4E

- Business Groups are used to isolate different entities within the Anypoint Platform
- Business Groups usually align to the business units of the organization
 - Create a Business Group for each business unit/team within the organization
- Business Groups enable different groups/teams to operate independently under a top-level governance model
 - Allows the top-level Business Group owner to govern all Business Groups
 - Can establish a vCore allocation and chargeback model by provisioning vCores upon request to Business Groups
 - Ownership trickles down
 - Each Business Group can define its own roles, environments, etc



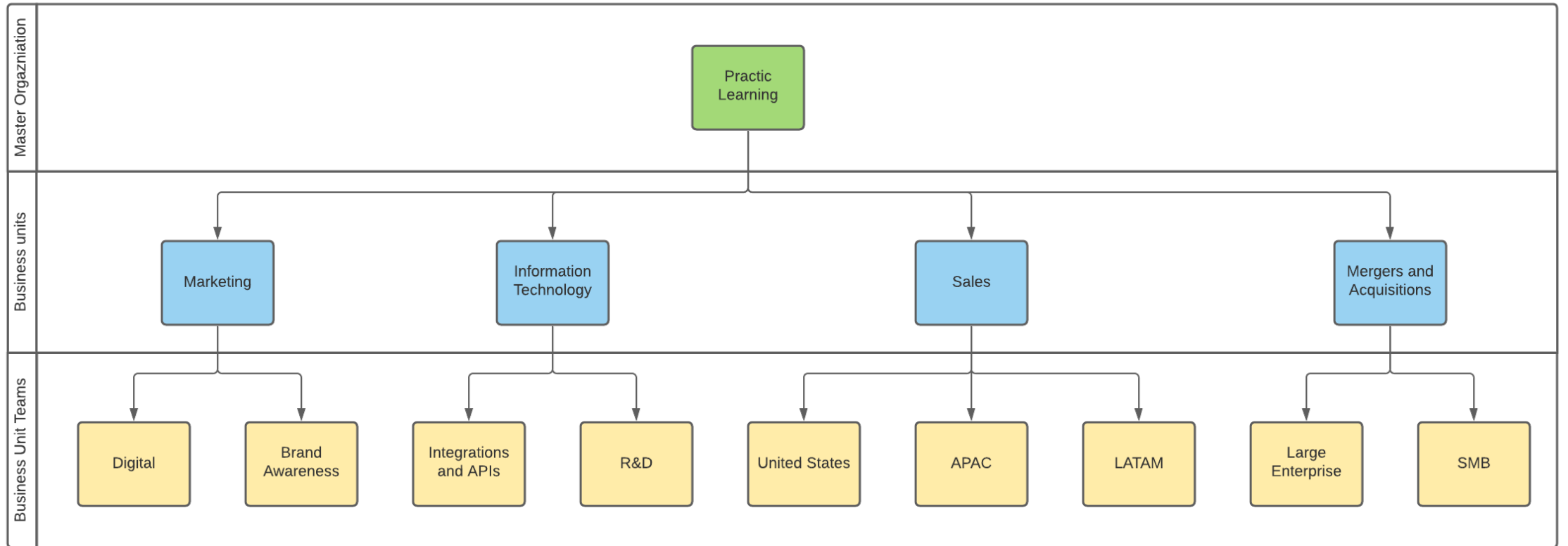
Business Groups Scenario #1

Practic Learning is setting up a C4E for the first time. Each business unit of the organization needs to operate independently of one another, and different teams within each business unit also operate independently of one another. From the governance perspective, they also require that vCores are tracked, allocated to business units upon request, and each business unit is charged appropriately. As an architect, design MuleSoft Business Groups to align with the following organization's business units and teams within each business unit:

- | | | | |
|-----------------|--------------------------|----------------------------|-------------------|
| • Sales | • Information technology | • Mergers and Acquisitions | • Marketing |
| • United States | • Integrations and APIs | • SMB | • Digital |
| • APAC | • R&D | • Large Enterprise | • Brand Awareness |
| • LATAM | | | |



Business Groups Scenario #1 Architecture



C4E and CoE Summary

- CoE vs. C4E
- CoE Overview, Benefits, and Obstacles
- C4E Overview, Benefits, Obstacles, Roles, Implementation, and Business Groups



Additional Reading

- <https://www.mulesoft.com/lp/whitepaper/soa/how-to-build-c4e>

