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# California Enterprise Architecture Framework Views

# What are Views?

The California Enterprise Architecture Framework (CEAF) relies heavily on the use of graphical models and diagrams to manage and communicate architectural concepts.

Enterprise Architecture (EA) programs utilize graphical views to:

1. Communicate baseline capabilities and resources
2. Develop plausible future operating scenarios to review needed changes
3. Describe relationships of EA components within organizational domains
4. Capture architectural patterns in business-driven solution designs

# Views and Viewpoints

**View** – Sacramento Capital Mall          **Viewpoint** – State Capital Building Steps
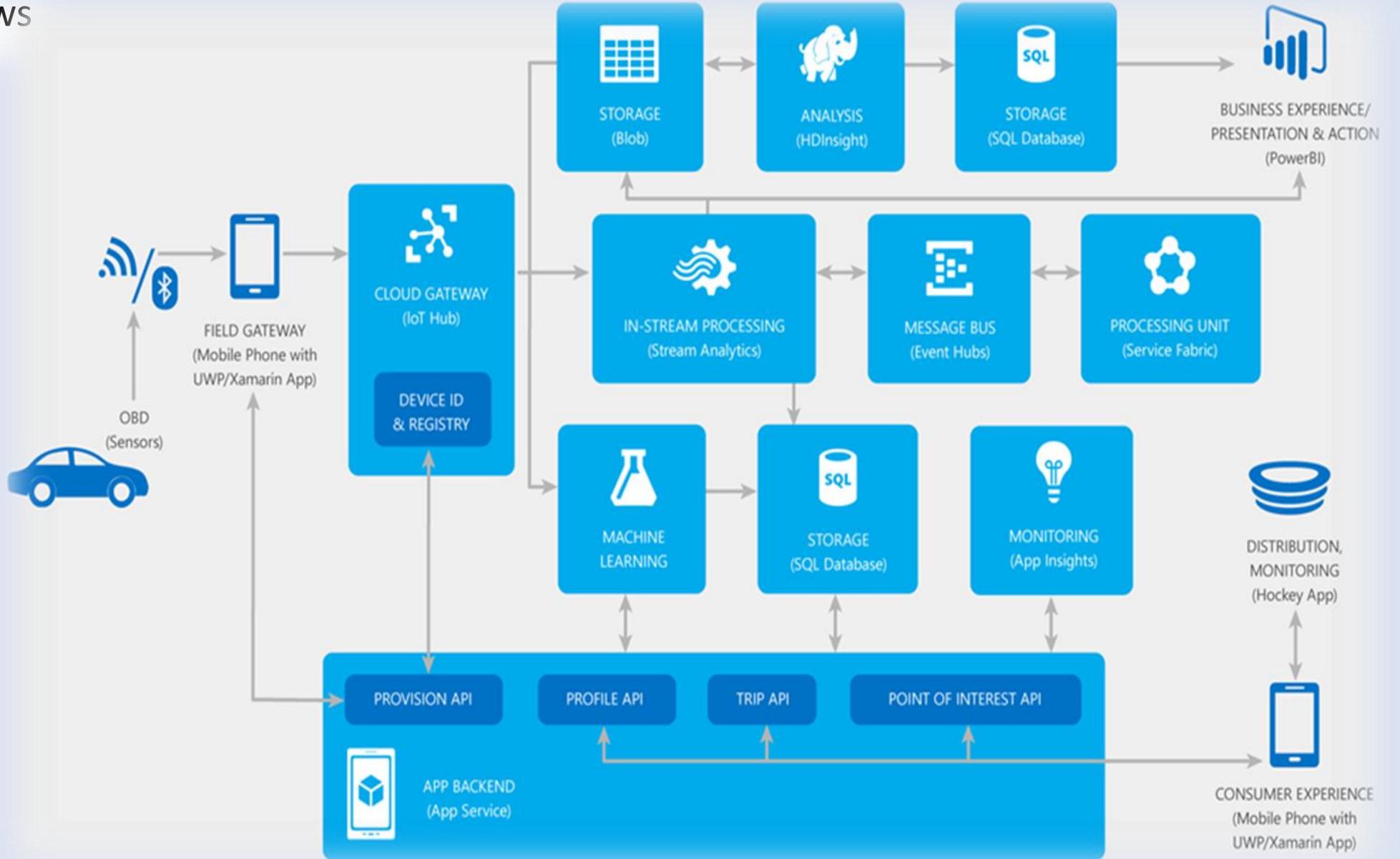
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## Benefits of Graphical Language

Communicating through graphical language can help people to both understand information and share ideas. Benefits of model and diagram language are to:

- Reduce the likelihood of adversely impactful architectural decisions;
- Gain and maintain executive sponsors and resources for the EA program;
- Communicate high-level management-friendly views of architecture scope;
- Show the boundaries of the architecture scope; and,
- Combine artifacts into actionable information for managing and decision-making.
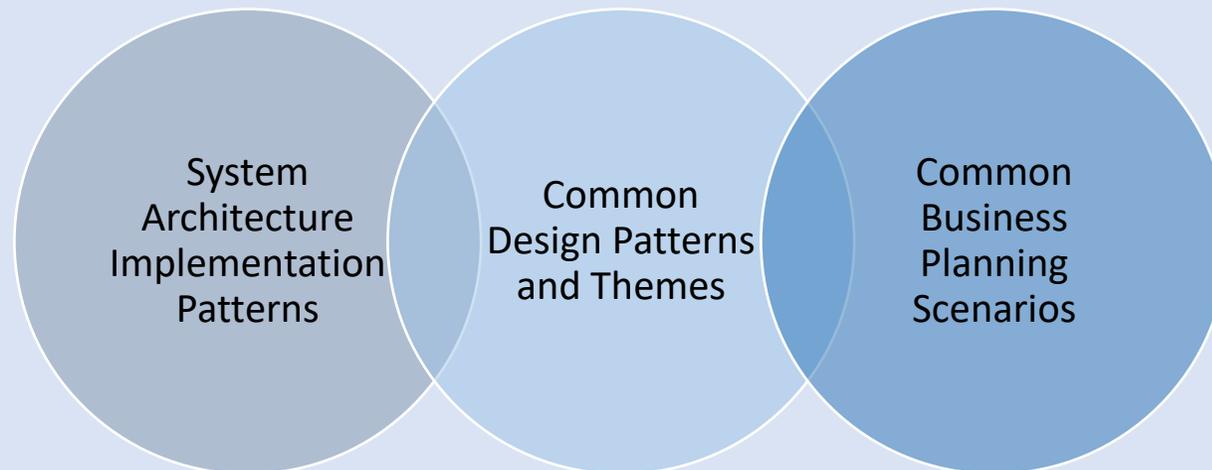
Technology View Diagram

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OBD (Sensors)

FIELD GATEWAY (Mobile Phone with UWP/Xamarin App)

CLOUD GATEWAY (IoT Hub)

DEVICE ID & REGISTRY

STORAGE (Blob)

ANALYSIS (HDInsight)

STORAGE (SQL Database)

BUSINESS EXPERIENCE/ PRESENTATION & ACTION (PowerBI)

IN-STREAM PROCESSING (Stream Analytics)

MESSAGE BUS (Event Hubs)

PROCESSING UNIT (Service Fabric)

MACHINE LEARNING

STORAGE (SQL Database)

MONITORING (App Insights)

DISTRIBUTION, MONITORING (Hockey App)

PROVISION API

PROFILE API

TRIP API

POINT OF INTEREST API

APP BACKEND (App Service)

CONSUMER EXPERIENCE (Mobile Phone with UWP/Xamarin App)

# Fundamental Framework Views

Framework provided artifacts can be leveraged for a variety of uses and scopes. Fundamental views within CEAF are the current and future state views of architectural scope, and the transformation sequence (or roadmap) to attain it.

Create current and future state views that focus on a manageable number of key business outcomes and the underlying segments to provide quick value and gain executive support. The repository includes, but is not limited to:

System Architecture Implementation Patterns

Common Design Patterns and Themes

Common Business Planning Scenarios

# Iterative Creation of Views

The CEAF promotes placing the implementation of enterprise architecture using a segment approach at the forefront. Taking this iterative approach elicits the following benefits:

- Value more quickly and helps to gain executive support.

- Facilitates incremental development of an agency's enterprise architecture.

- Allows identification of crosscutting segments that serve several lines of business within or between programs that support similar mission areas.

# Foundational Views

**Current state** views represent the motivational elements pertaining to baseline requirements and constraints.

**Future state** views represent a modified "to be" state of the current state baseline within the context of the strategic direction and operating model.

**Target architecture** is an important part of the future state vision. It enables departments to realize synergies and efficiencies across diverse business units and allows for business unit autonomy when it is the best course of action.

Target

Future

Current

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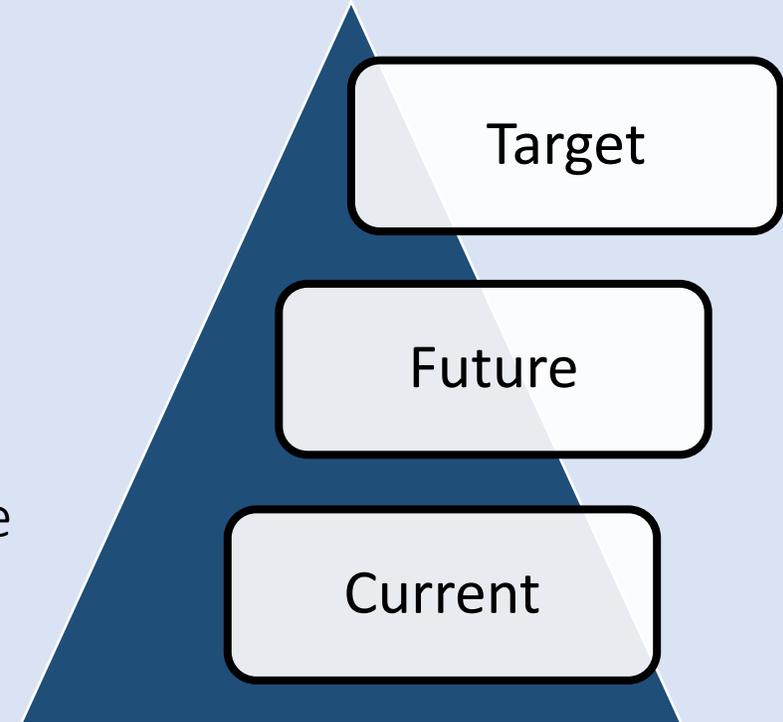
## Target Architecture Implementation Strategies

- Use architectural drivers, dependencies and the capabilities of transformation projects to determine the architecture areas for which to create standardized solutions.

- Integrate architectural patterns into the projects to guide their solution efforts.

- Collaborate with technology service providers to enhance capabilities to provide implementation patterns as standard services and multi-tenant consumers.

- Continually collaborate and analyze other organizations' enterprise roadmaps to identify and undertake cross-program initiatives that develop shared solutions and ultimately cost.

# Motivation and Cross-Domain

## Motivation

Motivation elements are the actual
impetuses or inspirations, and
the forces that together affect
the enterprise architecture.


(i.e.: mission, vision, requirements,
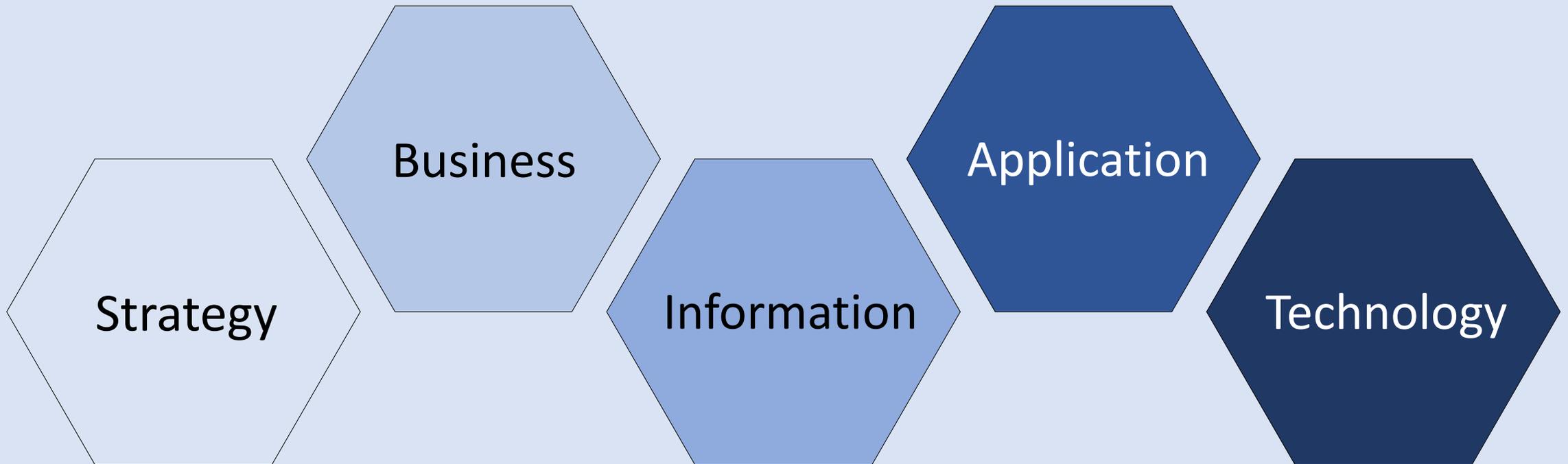regulations, and assessments)

## Cross-Domain

Aspects of the enterprise architecture
present in multiple domains, rather
than operating separately.


(i.e.: security, skills, performance,
interoperability)

# Strategic View

Strategic views, driven by motivational elements, are high-level direction perspectives that an enterprise or organizational segment sets for itself.



Strategic views support strategic planning efforts by presenting linkages of organizational domains and developing potential longer-range future state operating scenarios and goals.

# Business View

Business context and business process views show the parts of a capability within an organization in a format that can be further decomposed and interrelated with other processes to show relationships.

The CEAF places significant emphasis on the importance of understanding and accurately representing the organization's business architecture.

# Information Views

Information views can help describe the fundamental organization of the data and information that support an enterprise's business processes and application systems.



They organize information and map data entities to business processes. Doing this represents the overall conceptual structure of the data and provides a visual representation of high-level information entities needed to run an enterprise or provide a business capability.

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# Application Views

Applications views can describe the structure and behavior of the major kinds of application systems and their key components necessary to support business processes as well as process the information for business capabilities.

Architects can create views of support applications to show what application flow and system interactions are present in the context of the application. Secondarily helpful is the general types of business functions being supported as well as active front/back office services and operations systems that the enterprise has in its IT operating environment.

# Technology Views

Technology views can describe the logical software, hardware, and communication capabilities (also known as infrastructure) that are required to support the deployment of application and data components. the focus is the infrastructure-level components and services necessary to provide integrated infrastructure support of the business.

Views help define:

- What nodes (i.e.: network device), host which application and data artifacts, as well as what devices and system software comprise each node.

- The types of network communication paths that host the devices and transport information.

- The infrastructure interfaces/services used by the application components or functions.

# Architecture Pattern Types

The CEAF fosters architectural designs that promote the use of patterns. Three (3) types of useful patterns are:

- Distinct, Common, and Core Modeling Elements

- Reference Models (Implementations)

- Common Business Scenarios

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# Architectural Patterns

Patterns identify how a set of technology elements should interact and be deployed to best deliver a solution to support an application or system. The CEAF patterns are based on state defined architecture implementations and are expected to provide a variety of benefits. A few are listed here:

- Ensure individual technology elements and corresponding standards are interoperable and work together in the context of a larger application or system.
- Improve data consolidation and standardization and reduce redundancies.
- Reduce technical complexity within organizations.
- Improve deployment speed and reduce support and maintenance costs.

# Distinct, Common, and Core Elements

Variances in modeling is among distinct, common, and core elements of the architecture scope and can exist in both business and technology views. Making this distinction helps analyze existing business operations and the current state architecture.

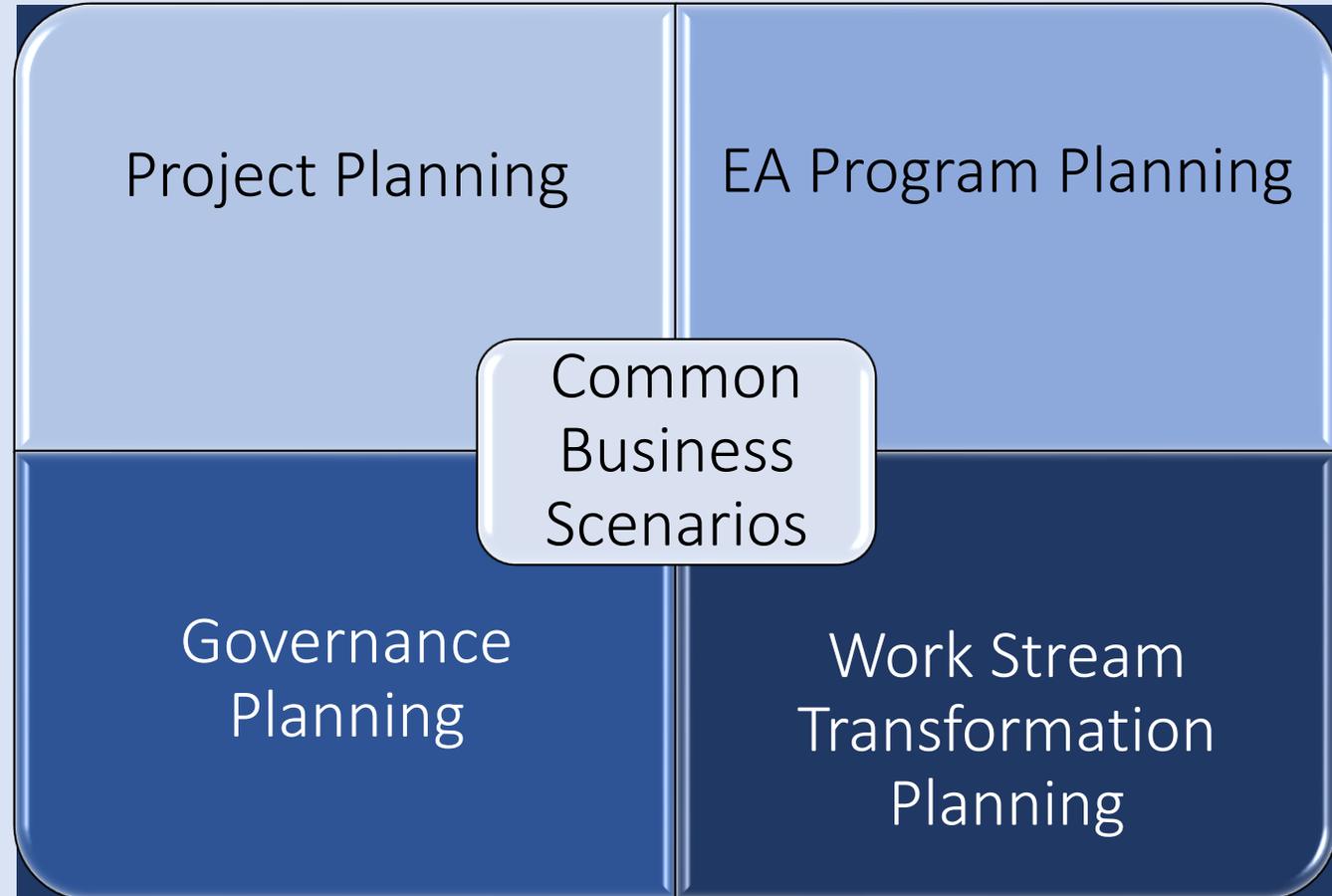| Distinct | Common | Core |
|---|---|---|
| Capability, process, or segment specific with little to no integration or coordination with other architectures. | Common to some, not all, business capability, process, or segment. | Common to the entire organization architecture; usually shared enterprise applications. |

# Reference Models
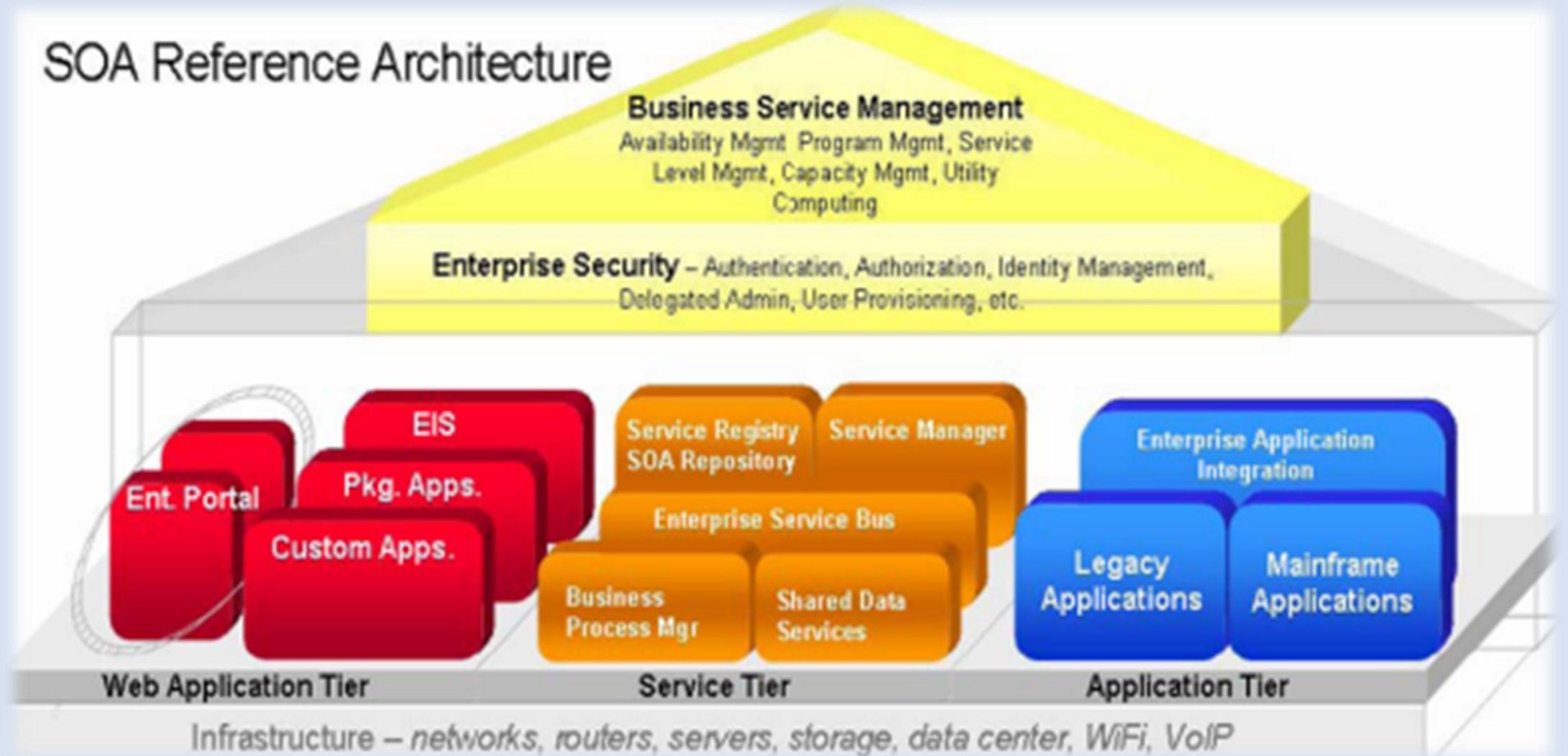
# CEAF Reference Models

Today state initiatives often identify with the following eight (8) common architectural models. Each of these logical view reference models, are documented and in the statewide repository.

- Cloud Computing (CC)
- Identity and Access Management (IdAM)
- Business Intelligence (BI)
- Master Data Management (MDM)
- Service-Oriented Architecture (SOA)
- Enterprise Application Integration (EAI)
- Enterprise Content Management (ECM)
- eGovernment (eGOV)

# Common Business Scenarios

Currently the CEAF identifies these four (4) common business scenarios. They are widespread and demand a higher frequency of EA consultation.

Project Planning

EA Program Planning

Common Business Scenarios

Governance Planning

Work Stream Transformation Planning

# References

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From the CDT's homepage ([www.CDT.ca.gov/services/ea-home/](www.CDT.ca.gov/services/ea-home/)):

[CA Enterprise Architecture Views Presentation](CA Enterprise Architecture Views Presentation)

[CA Enterprise Architecture Views](CA Enterprise Architecture Views)

We would like to hear from you! Provide your questions, comments and feedback regarding the CEAF Digest, in the [Enterprise Architecture Communities Forum](Enterprise Architecture Communities Forum).

Thank you