Enterprise Architecture, Business Process and Application Program Interface Management

How Coordinating these Disciplines Benefit the Enterprise

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INTRODUCTION

In today's complex technology environment, government organizations are better equipped to achieve their mission when they proactively manage all aspects of their technology infrastructure. Improved Enterprise Architecture (EA), Business Processes (BP) and Application Programming Interface (API) Management is critical for empowering government organizations to deliver products and services cost-effectively and securely in this digital age.

By coordinating and collaborating across these three disciplines, your organization can achieve significant benefits that enable you to improve digital service delivery and better meet the needs of your constituents. Here's what you need to know about the business value of this approach.

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THE SITUATION

Digital transformation is one of the most significant drivers affecting organizations' delivery models as more constituents demand and expect online interactions to occur seamlessly and quickly. To accomplish this, it must be easier to share data and business intelligence across your organization's technology system, which means your organization needs to understand the integration landscape and how these technologies work together to expand your capabilities and make your systems more flexible and scalable.

Typical Management Hierarchy

System required to deliver products and services
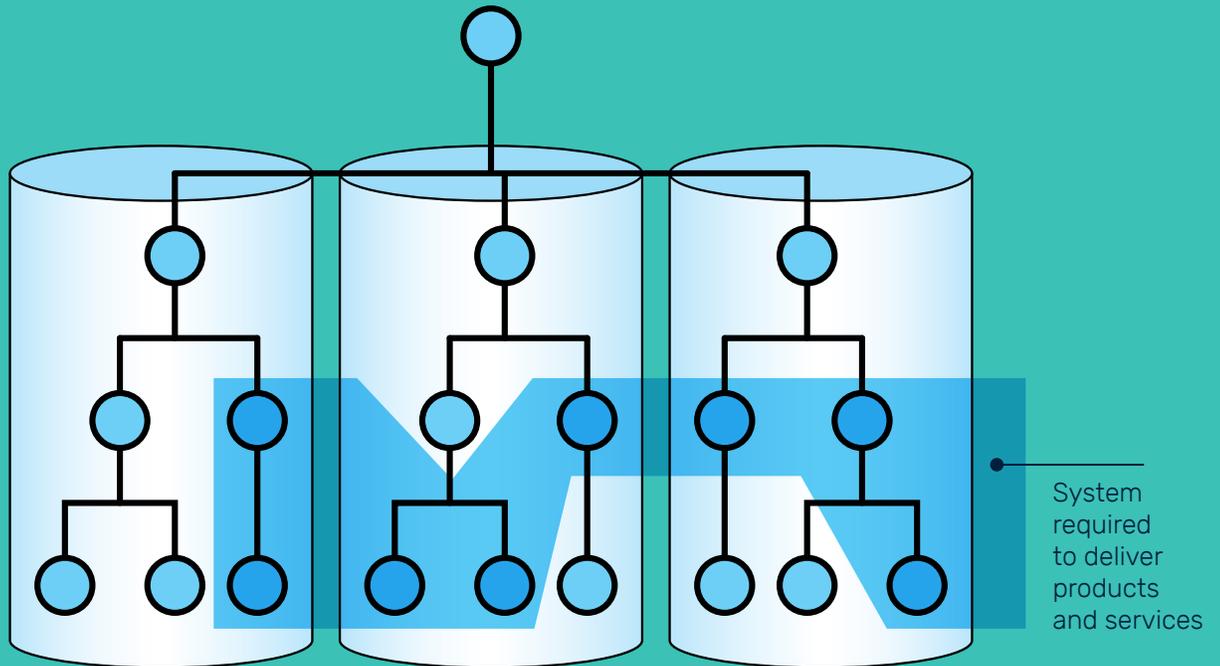
A lack of end-to-end visibility into the overall integration architecture often prevents organizations from improving business processes and achieving strategic goals. Without this visibility, it's difficult for your organization to develop an effective IT strategy and invest in the right technologies that will grow with you as your business needs change.

The solution to this is obvious – you need a holistic view of the entire integration landscape. This single view is crucial because your organization needs a complete line of sight from your business goals all the way through to the technical services and solutions that will help you actually achieve these objectives. Without this visibility, you can't understand or assess your risk and you can't measure the impact of business process and technology changes within your organization.

This holistic view can only come from embracing a management model that powerfully brings Enterprise Architecture, Business Process and API Management together.

Coordinating EA, BP and API Management can benefit your organization in several ways, including:

- Better Governance: Increased adherence to IT policies
- Improved Performance: Meeting performance goals
- Greater Business/Technology Alignment: Better understanding of the business goals, capabilities and processes supported by integration
- Realized ROI: Ensuring your investments are delivering both their promised benefits and measurable progress toward specific business goals

These benefits result in improved cost optimization within your organization, while minimizing the business risks associated with changes to your enterprise architecture. These benefits include:

- Faster recognition and removal of redundant or minimally used architectural elements.
- Better business alignment and more informed decision-making and funding decisions related to IT development and deployment initiatives.
- The ability to recognize and abandon efforts that don't provide a significant return for time and resources your organization invests in them.
- A whole-system approach that provides more visibility into your technology and data ecosystem, which can improve security, performance and collaboration across the enterprise.
- An ability to assess whole-system performance at a "customer transaction" level and directly relate it to overall customer satisfaction.

Enterprise Architecture Management

Oversee the interplay between all the elements of the enterprise

Business Process Management

Oversee the enterprise delivery and operational processes

Application Programming Interface Management

Oversee the information delivery and integration of enterprise applications
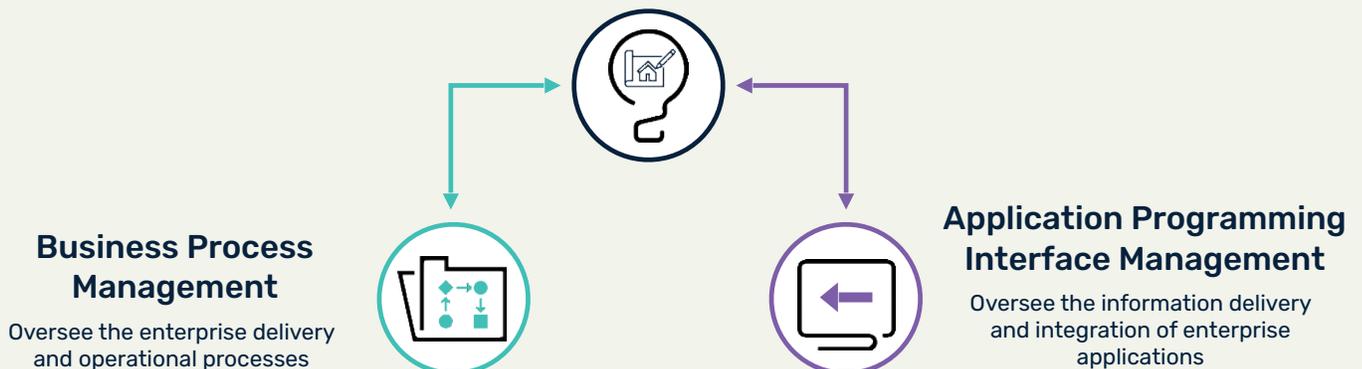
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UNDERSTANDING EA, BP AND API MANAGEMENT

Management Disciplines High-level Responsibilities

Business Process Inventory

Business Process Design

Business Process Analysis

Business Process Deployment

Architecture Element Portfolios Inventory

Architecture Elements' Interactions, Collaborations, Integration Definition

System Analysis

API Inventory

API Publication

API Design

API Usage Monitoring

API Community Support

API Performance Monitoring

Before describing this collaboration, it's helpful to understand the scope of each discipline, how they intersect and the appropriate governance to put in place to ensure this collaborative management model is successful.

EA Management

In its simplest form, Enterprise Architecture Management focuses on all the elements that constitute an enterprise and their inter-connectedness. These elements aren't solely restricted to IT. They also encompass business processes, capabilities, principles and the larger overarching mission and vision for how an organization will achieve its goals. EA Management connects your organization's enterprise architecture to your overall business strategy and fosters greater collaboration between key stakeholders across departments and agencies to successfully execute this strategy.

If we were to boil down EA Management into specific tactics, they would include:

- Inventory management: Maintaining the elements, their associations, and key characteristics, such as lifecycles, versions and responsibilities.
- Portfolio management: Assigning, maintaining and assessing elements and systems of elements through evaluations and portfolios (grouping), as well as analyzing related costs and contracts.
- Planning: Understanding business-IT alignment and developing a forward-looking strategy for future architectures, technology investments and projects.
- GRC: Identifying, assigning and monitoring application, information and project risks and compliance requirements.

To put it simply, EA Management's primary benefit is the ability to recognize, control and prioritize change, while improving resilience and minimizing business disruptions that can result from this change.

BP Management

BP Management focuses on the business processes necessary to carry out your organization's mission and critical business operations. Managing these business processes includes identifying, designing, and evaluating these activities to ensure they're relevant, efficient, effective and align with your overall strategy and goals.

The aim of BP Management is to ensure the right business processes are deployed at the right time and for the right purpose and that team members adhere to them throughout your organization. The main benefit of BP Management is that it gives your organization the ability to quickly identify roadblocks and bottlenecks in your business processes and where you can leverage technology to optimize them.

API Management

API Management focuses on the integrations that are necessary for data sharing across internal enterprise applications and with external agency partners. Managing the mechanisms for this integration, namely APIs, consists of overseeing the design, creation, publication, usage and access to APIs. Additionally, effective API Management includes nurturing and supporting the user community to ensure APIs are leveraged appropriately, along with ongoing monitoring and analysis of usage and performance.

Security, governance, reporting, analytics, lifecycle and policy management, and API monetization are the cornerstones of effective API Management. To successfully execute these activities, your organization needs specific tools, including a collaborative developer portal, a gateway to control API access and usage, and publishing tools for controlling API distribution. These tools are also crucial to ensure the APIs your organization connects to its systems are reliable and secure, that you have greater visibility into your integration architecture and that you can leverage APIs cost-effectively to scale your systems — especially when there is increased public demand for services.

Scope Comparison

Each discipline manages its respective scope, and therefore, successful collaboration requires good governance and an understanding of how each area benefits the organization, both respectively and collectively.

System of Record / System of Reference

Both BP and API Management retain a system of record for business processes and APIs. EA acts as a reliable system of reference for these architectural elements. Additionally, EA maintains the system of record for all other architectural elements, such as data, applications and technology.

Monitoring and Analysis

BP Management focuses upon process analysis, design, simulation and mining, with the goal of continually improving the efficiency and effectiveness of business processes. API Management concerns itself with usage and performance metrics of the APIs and has similar goals, but also advocates for the broad use of APIs across the enterprise. EA Management takes a broader view, monitoring and analyzing how the entire ecosystem is performing with full line-of-sight from the business capabilities to the business processes, applications, data, technologies and the APIs that enable those capabilities. This holistic view provides insight into how the system as a whole achieves the organization's business goals.

Risks and Costs

One of the main differences between EA, BP and API Management are that they focus on different business risks and costs:

Focus Area	EA Management	BP Management	API Management
Risk Management	EA focuses on business risks that may result from an inefficient or ineffective IT ecosystem and primarily evaluates the impact legacy, inappropriate or insufficient technologies have on the ability to deliver the services the organization needs.	Risks associated with business processes typically revolve around overall efficiency and effectiveness, misaligned roles and responsibilities, potential security gaps and limited use of standard or recommended technologies.	Risks associated with APIs also deal with inefficiencies or ineffectiveness but focus on communication and data transfer between different applications, while also examining the security risks involved in these activities.
Cost Management	Costs from an EA perspective will look at the overall costs associated with delivering business services by understanding each components' contribution, as well as the associated real or potential costs of making changes to the organization's IT ecosystem.	Process costs are often evaluated based on the time and effort required for execution and waste due to unnecessary steps or activities.	API cost considerations deal primarily with the operational expenses associated with the development, publication, maintenance and usage of APIs.

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GOVERNMENT SOLUTIONS

Strategy, Planning and Governance

Coordinating EA, BP and API Management can improve three key areas of your business: strategy, planning and governance.

Strategy: EA links its target or vision architecture to the overall business strategy of the enterprise, ensuring this vision aligns with your organization's goals from both an operational and cost perspective. BP strategy articulates the enterprise's operating model that enables the vision, and the API strategy enables this future architecture and ensures integrations reflect your organization's overall goals.

Planning: Working through change requests for creating future architectures, transforming business processes and evolving APIs requires each of these disciplines to work in tandem to drive business transformation. For example, expanding the functionality of a specific digital application your employees use also requires business process change and must be supported by APIs — all of which requires coordination of project deliverables, implementation and mapping these changes to specific business outcomes.

Governance: Establishing rules, policies and controls across your entire IT ecosystem requires consistency to ensure they are implemented and followed correctly. BP and API rules, policies and controls are typically a sub-set of larger rules, policies or controls that govern your enterprise architecture as a whole and shape your organization's overall IT governance requirements.

The Value of Collaboration

EA, BP, and API Management can complement and augment their respective capabilities to accelerate your business transformation by providing an end-to-end view of your enterprise and integration architecture and context for rationalization decisions.

Sharing Facilitates a Complete System View

Sharing the API inventory with the EA practice provides a more complete view of your enterprise architecture for high-level analysis and planning but leaves the responsibility of API implementation to the API Management function.

The same holds true for the BP inventory. EA Management can place indicators and other measures on business processes related to fulfilling your organization's mission and monitor API usage in supporting business services delivered by applications. Both BP and API Management continue with separate performance monitoring and analysis within their respective domains, while EA Management encompasses evaluation of overall architectural system performance and alignment to business objectives. Additionally, EA Management can incorporate BP implementation and execution tools, and API portals, gateways, publishing and reporting tools as part of your enterprise's overall technology portfolio, ensuring these components are tracked and maintained throughout their lifecycle.

Sharing Provides Context for Rationalization Decisions

Sharing the API inventory with the EA Management function provides complete business context for each API regarding how and where it is used to support and deliver business services – enabling more informed decision-making that takes APIs into account along with the applications that provide the functionality. This business context is possible only by sharing the BP inventory with EA Management and allows your organization to link API usage to specific business processes. This also creates full line of sight traceability from each API all the way through to your business strategy and the business goals these technologies help to advance.

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# MANAGEMENT DISCIPLINES COLLABORATION

Collaboration Enables the Single Pane of Glass View

Ultimately, to achieve a true "single pane of glass" view of your business and technology landscape, your organization needs to incorporate business processes and APIs as core components of the EA portfolio. A single pane of glass view allows for the coordination of strategy, planning and governance across all the disciplines, which ensures their alignment and simplifies overall EA management.

Bringing it all Together – A Conceptual View of Collaboration

Information sharing is the key to successful coordination of EA, BP and API Management. Knowledge of each disciplines' assets under management — and the goals and plans for expanding and improving these assets — will inform your organization's management decisions, reduce your business risks, and ensure consistency across the EA, BP and API landscapes.

At a conceptual level, first consider the scope of the BP and API Management disciplines, as reflected in the diagrams below:
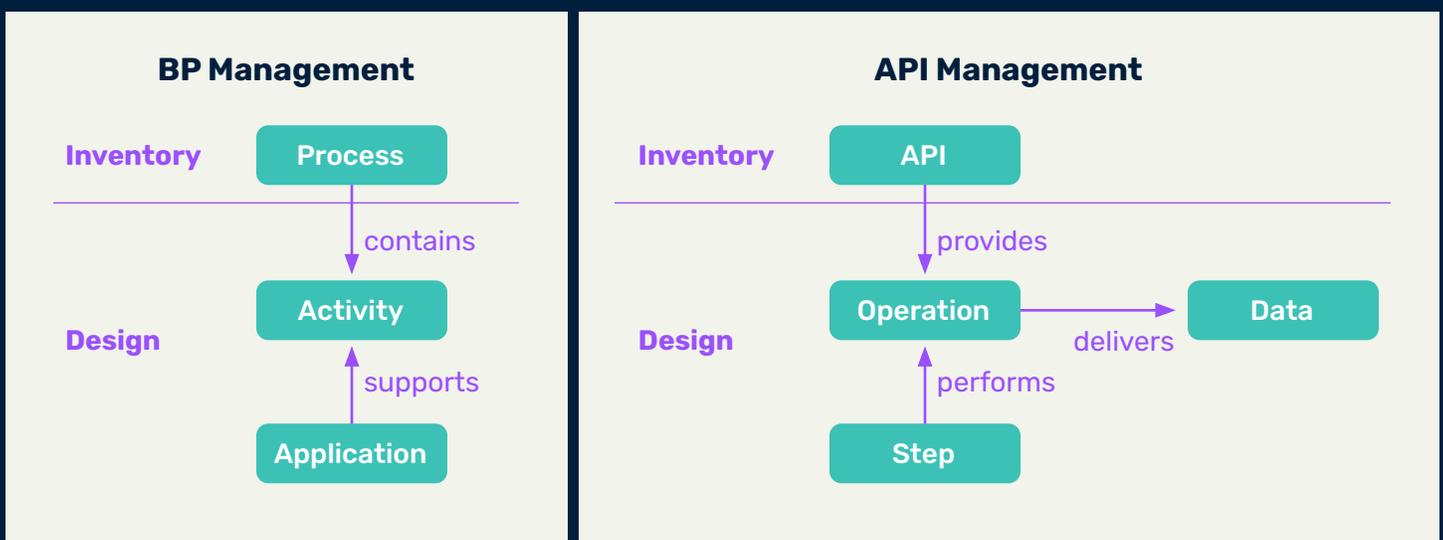
BP and API Management both concern themselves with the inventory of their respective elements and the design level of those elements. This is their focus when it comes to analyzing and evaluating the quality of business processes and APIs. EA Management is what brings this all together to connect the two disciplines, as represented in the following diagram:

EA Management

Enterprise	Goal — achieves	Capability — supports	Policy — controls
System	Process → requests → Service → utilizes → Mechanism ← type of ← API; Application → communicates → Integration; Application → provides → Service		
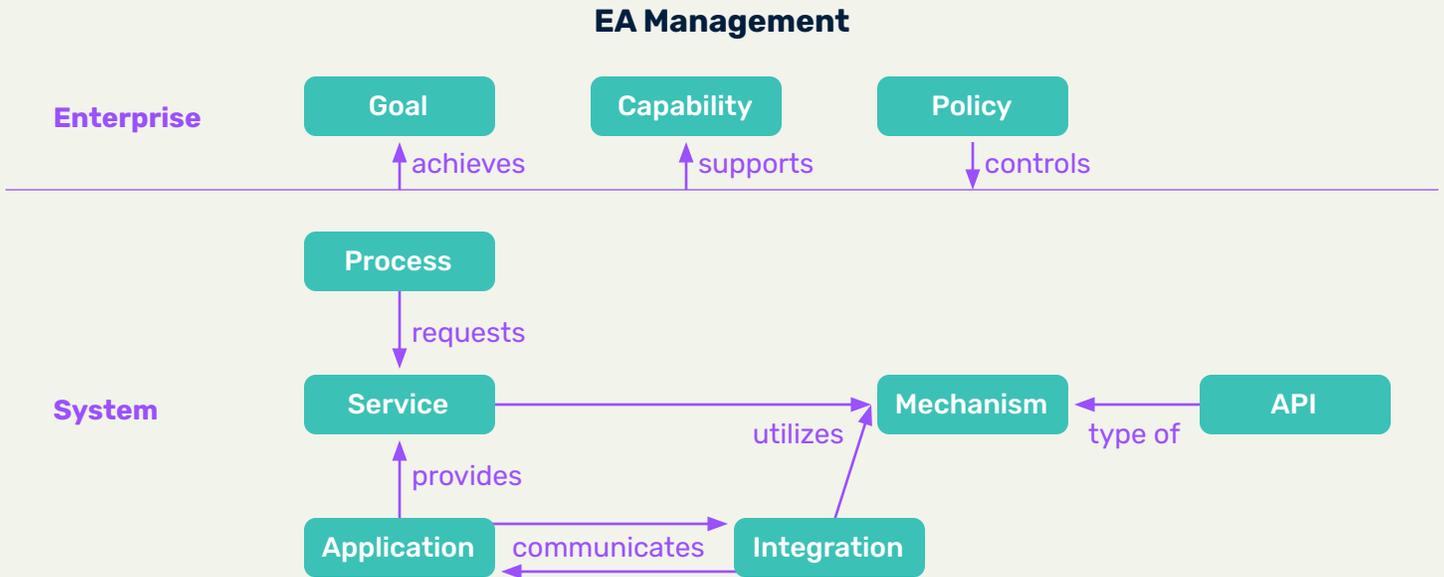
This diagram illustrates how EA Management provides the linchpin for connecting the other two disciplines, but without needing the design- (or implementation) level detail. The only required data sharing is at the inventory level, as seen here:
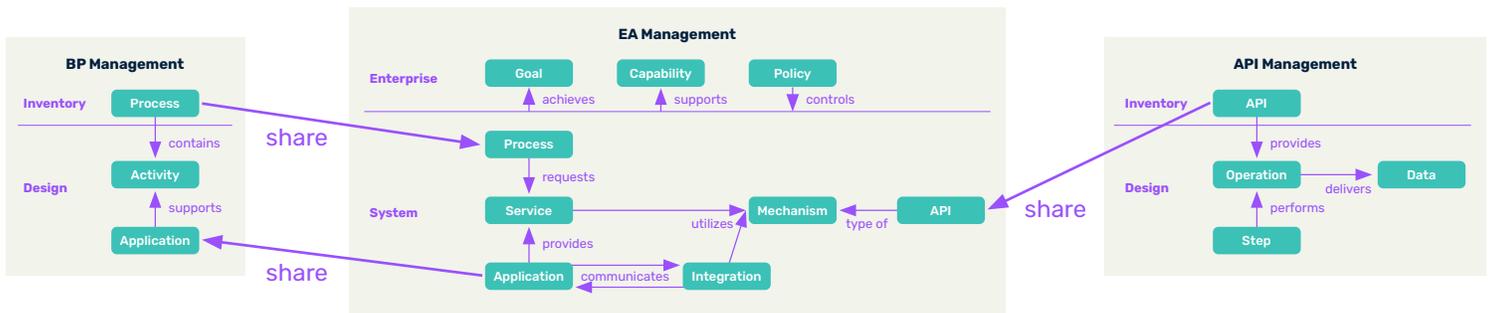
Further, by bringing everything together under EA Management, you provide technical context to business processes by surfacing their reliance on technology and opportunities for API support, and business context to the APIs to weigh in development and prioritization decisions.

You can also evaluate the entire system holistically for its level of support, alignment and effectiveness in helping your organization achieve its goals and carry out its mission. Finally, both BP and API Management can contribute run-time performance metrics that these disciplines are capturing to EA Management, allowing the latter function to incorporate and combine these insights with other metrics across the enterprise to provide a complete view of system performance.

RoadMap for Successful Collaboration

Collaboration does not just happen on its own. Your organization's commitment to collaboration is vital to making it happen. As you bring EA, BP and API Management together, here are some key considerations to keep in mind to improve your chances of success:

Culture of Open Information Sharing

Collaboration only works if all parties can easily and openly share relevant information with each other. Ensuring there are standard processes and avenues for communicating across the disciplines is essential for sharing crucial information in a timely manner.

Enabled by Robust, Interoperable Tools

Sharing information is only as effective as the tools your organization uses to store and present information for discovery and analysis. Quality tools enable information sharing by ensuring information is readily accessible, easy to discover, reliable and accurate.

Acceptance of a Common Vocabulary

It is critical that — as much as practical — all disciplines use the same language for describing the elements they share with one another. At the very least, straightforward translations need to exist for any terminology that isn't an exact match between the three disciplines for the same concept. This minimizes miscommunication and improves the efficiency of the collaboration.

Commitment to Timely Information

It is essential to ensure controls are in place for keeping information current within each discipline, but especially for the information shared between them. Out-of-date information only makes it harder to make informed decisions, so this commitment is vital for ensuring your whole system view is based on timely, consistent, and reliable data.
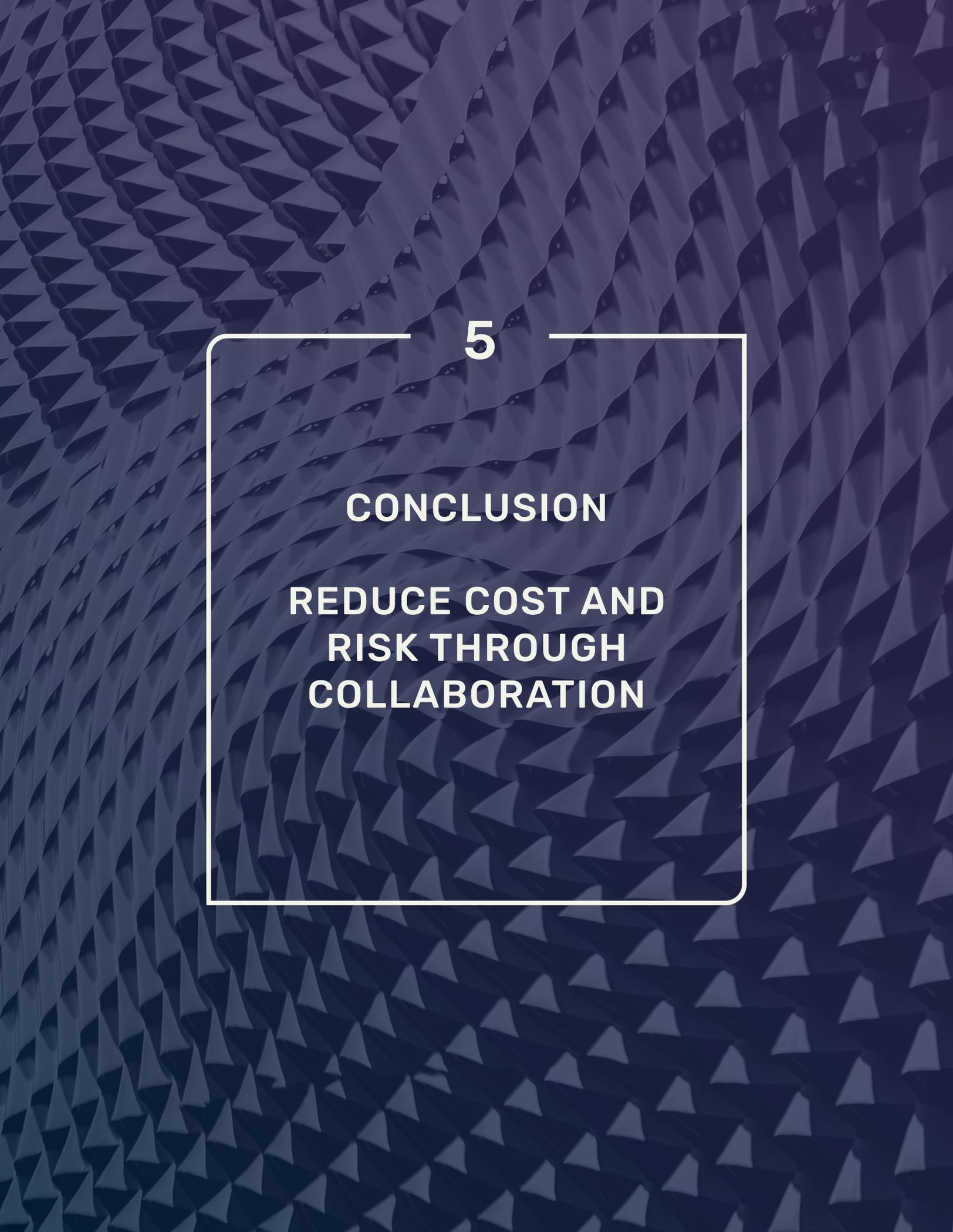
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CONCLUSION

REDUCE COST AND RISK THROUGH COLLABORATION

EA, BP, and API Management are essential disciplines for a successful enterprise. Each provides significant value for ensuring your operational ecosystem functions effectively and can evolve as your business needs change. Operating independently, each discipline can provide value, but together, they can produce insights and observations that transform your organization, help you improve service delivery and successfully execute your mission.

For more information please visit **www.softwareaggov.com** or email us at **info@softwareaggov.com**