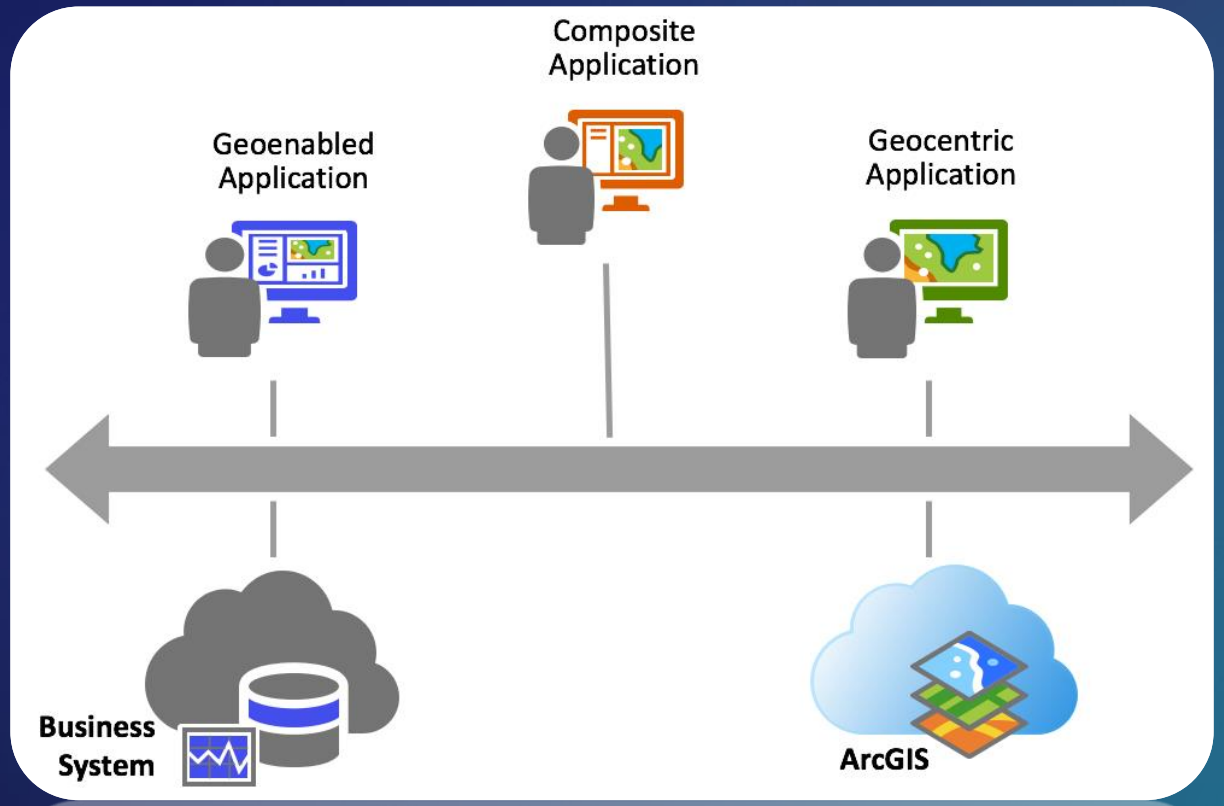
Enterprise Business System Integration Patterns

Jay Rajamohan

Best Practice: Enterprise Integration: Application Patterns

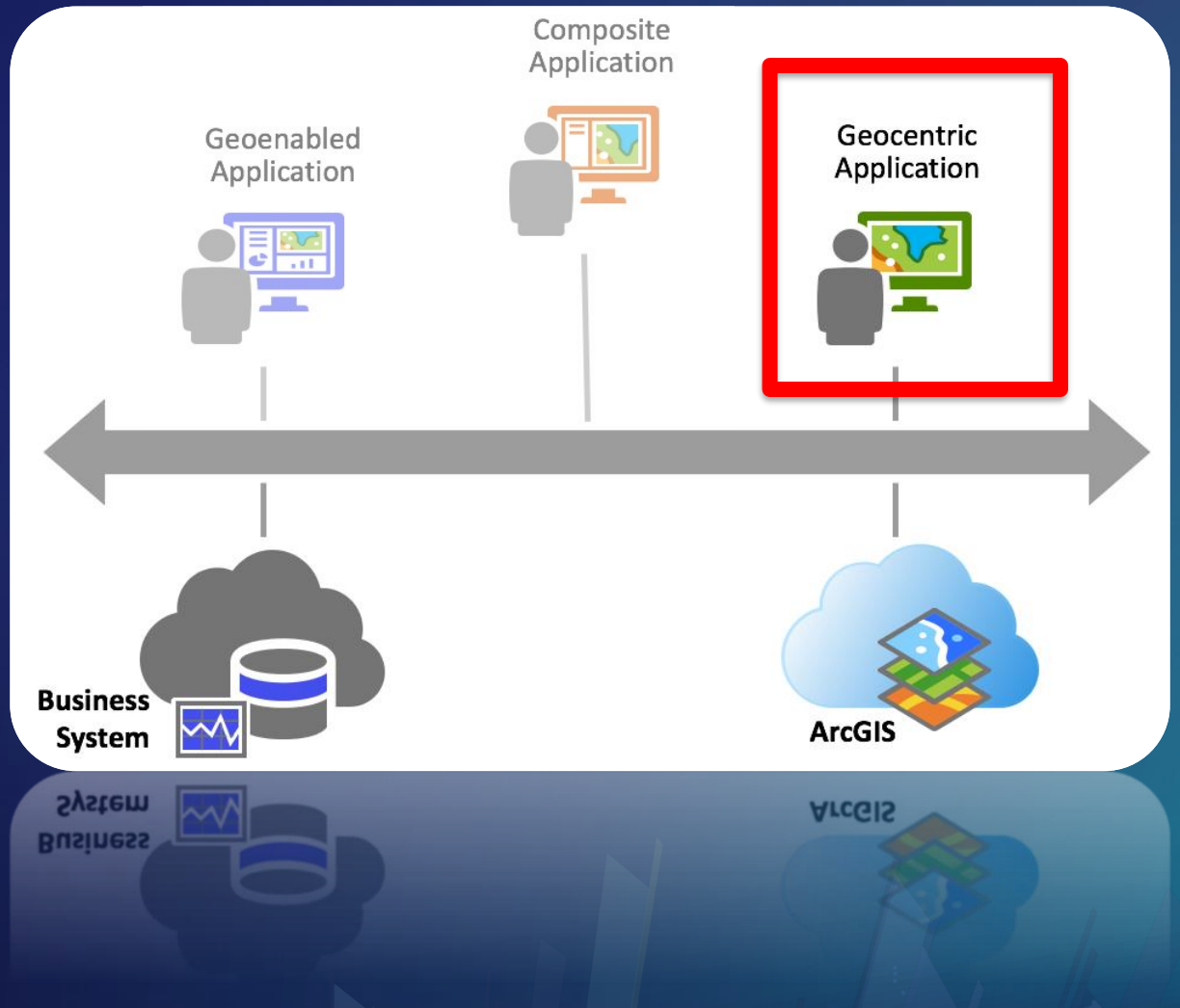
Patterns for integrating disparate information systems



Seek to achieve the greatest impact from available capabilities

Best Practice: Enterprise Integration: Application Patterns

Patterns for integrating disparate information systems



.. enhance mapping applications

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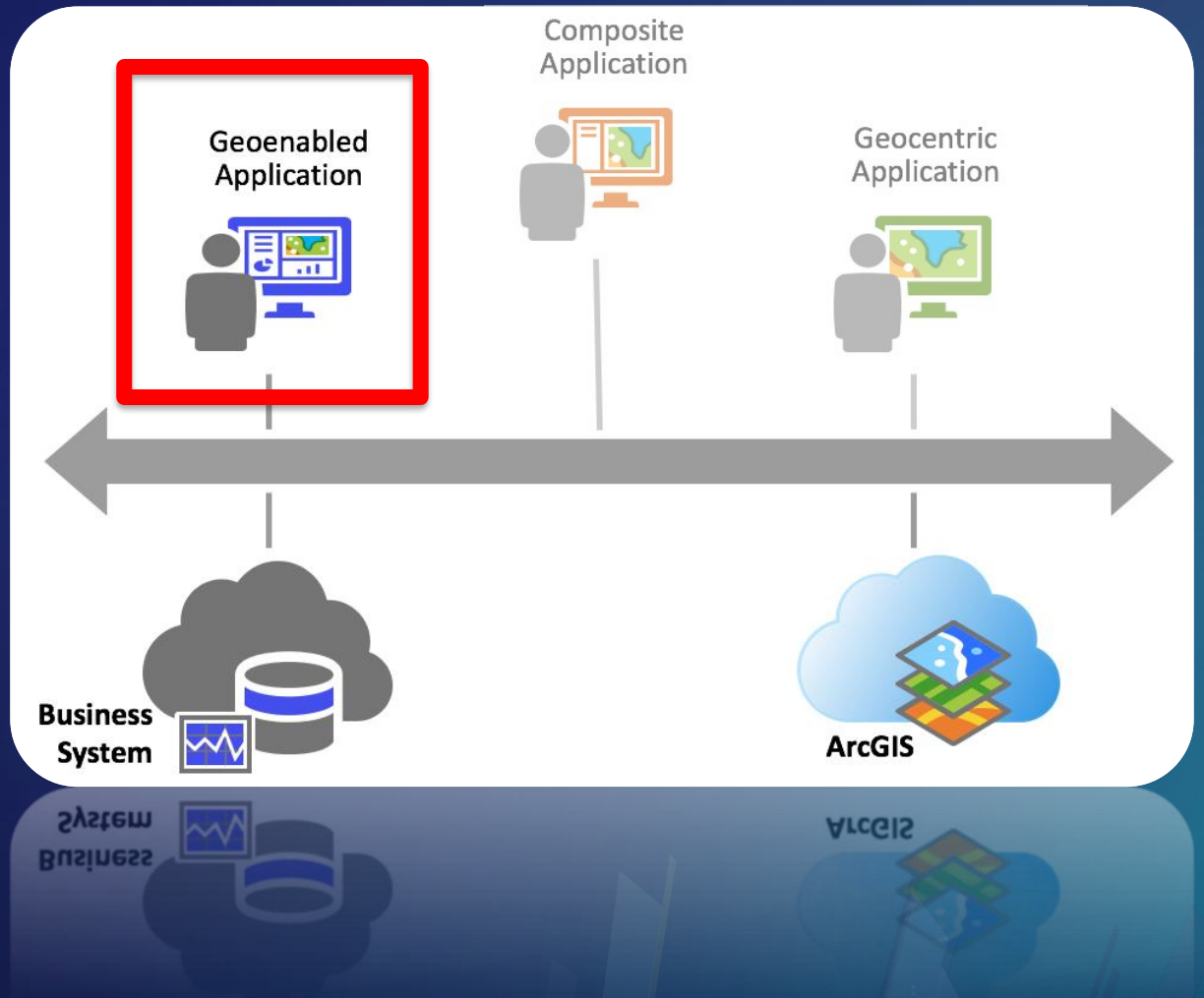
Patterns for integrating disparate information systems



.. enhance business applications

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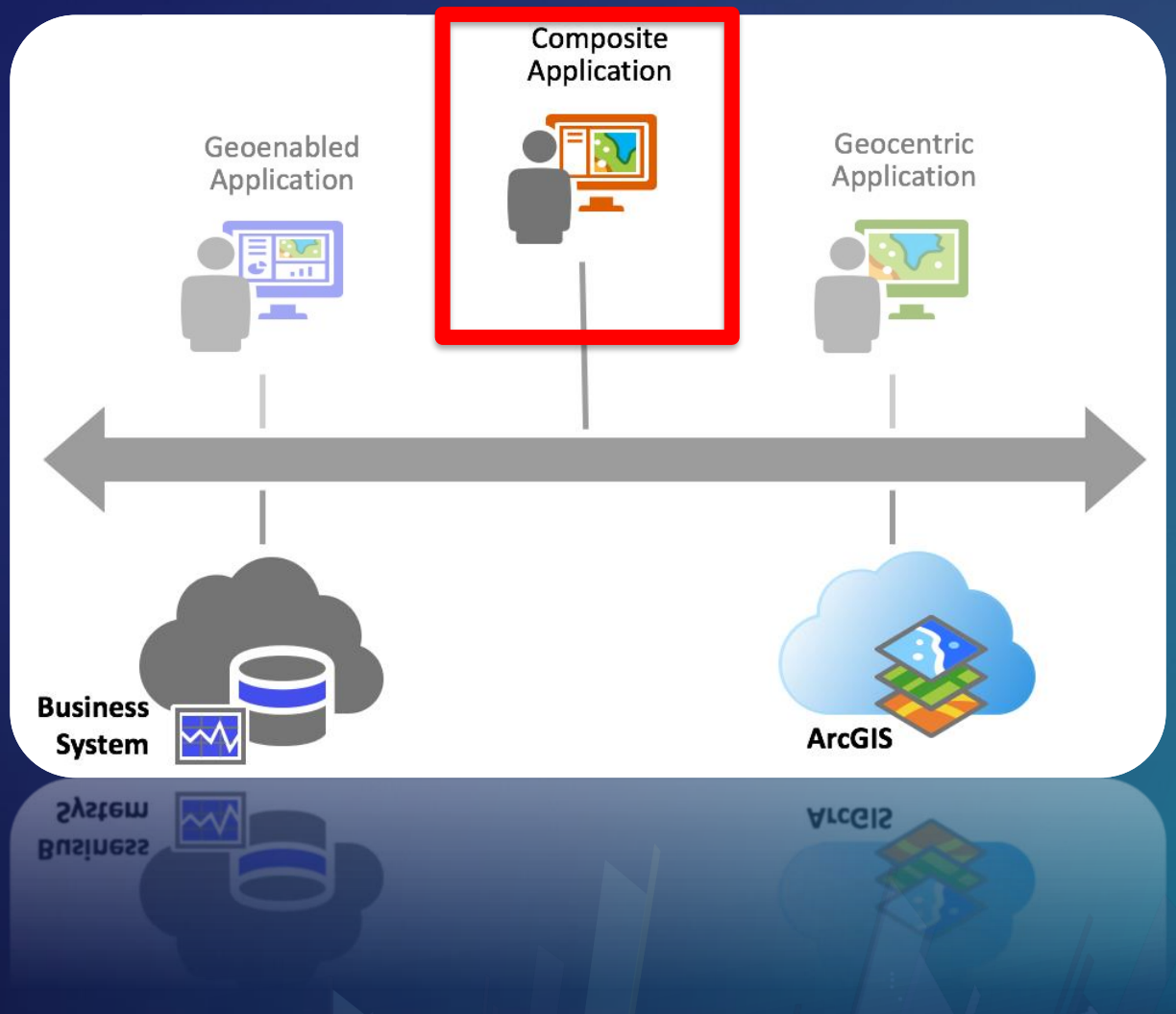

.. integrate from multiple systems

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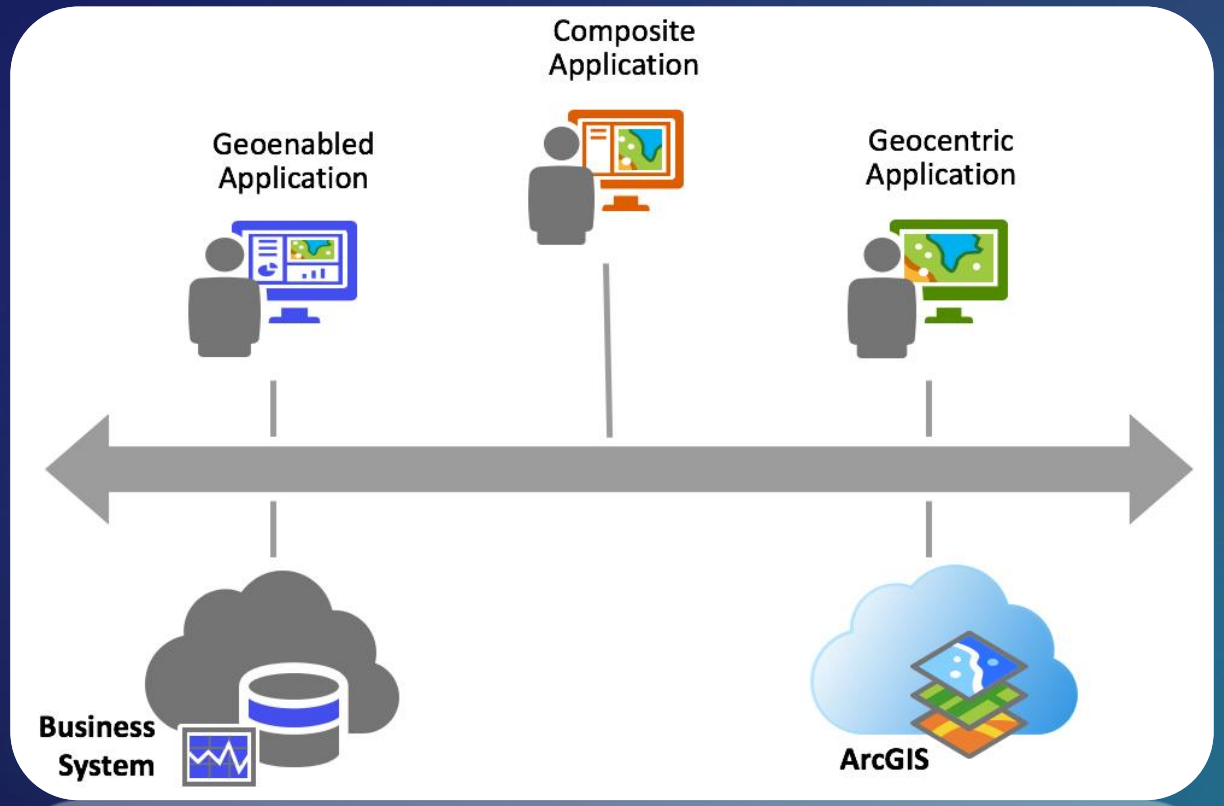
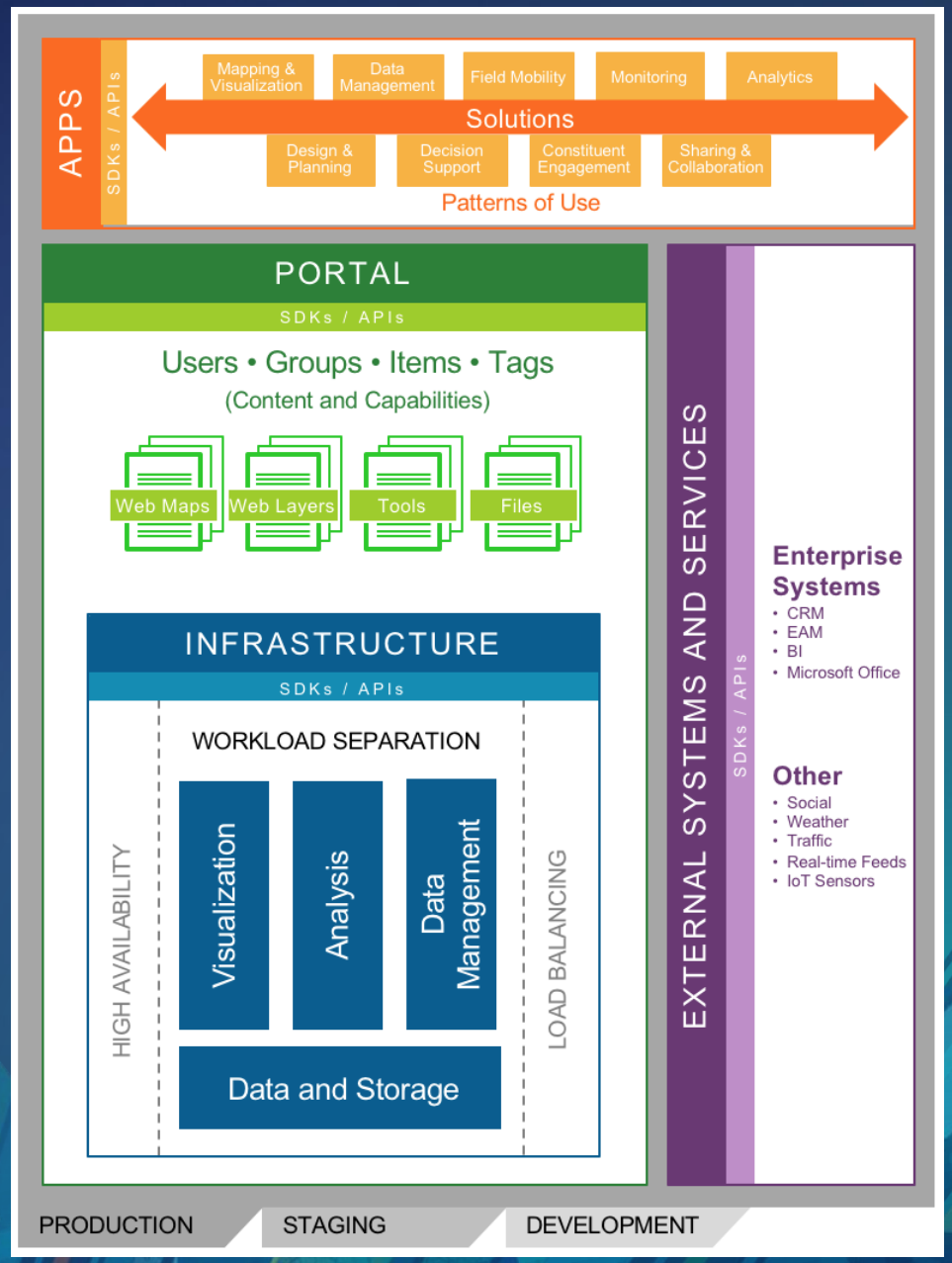
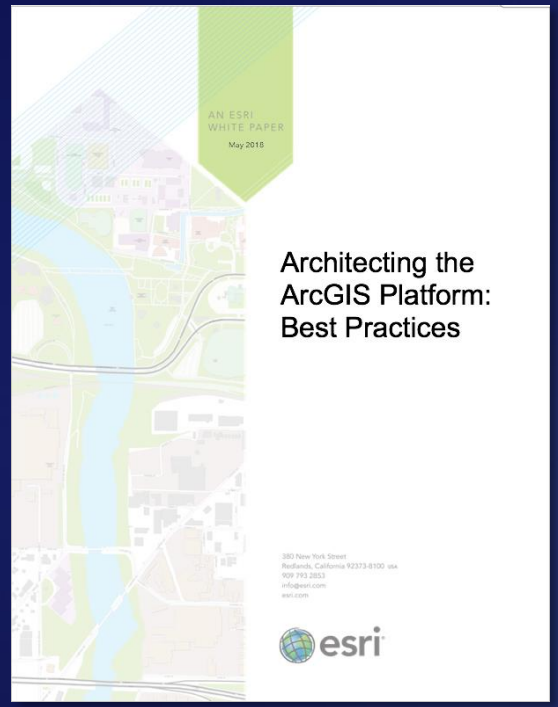
Patterns for integrating disparate information systems

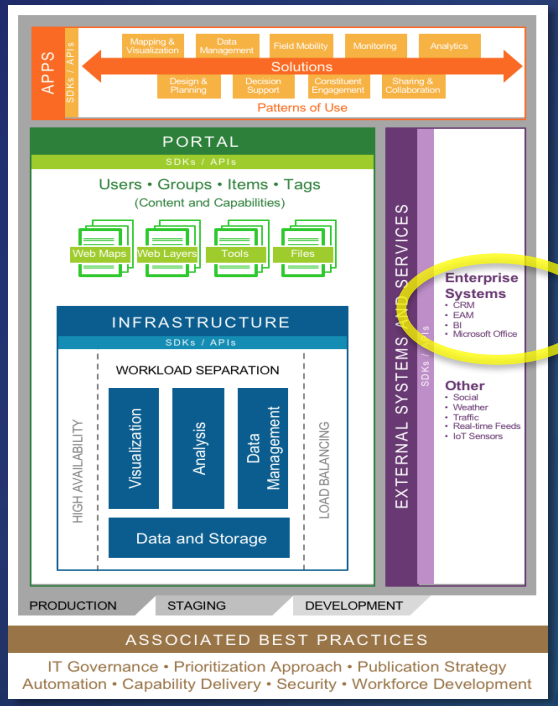


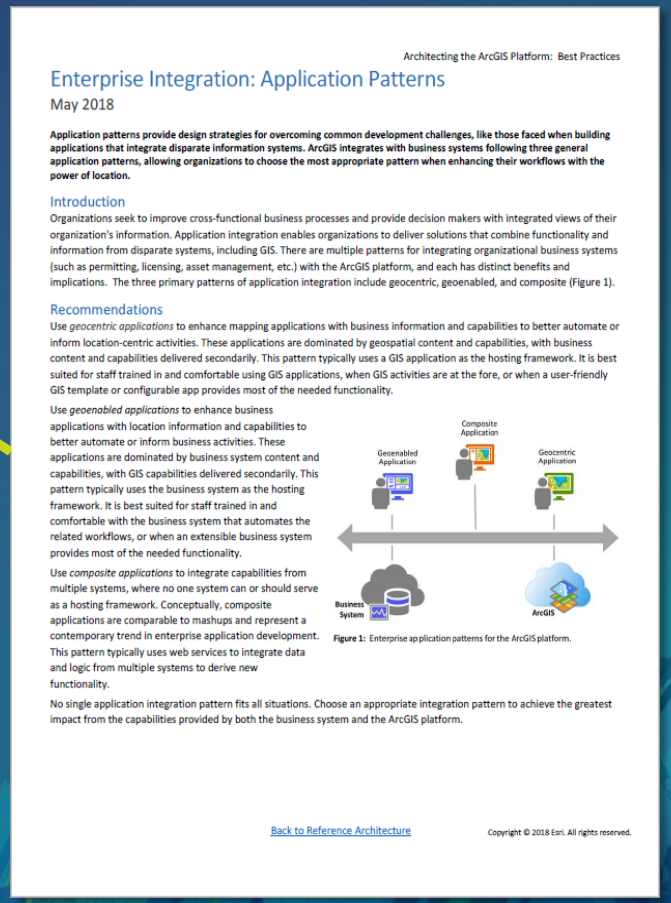
… enhance workflows by leveraging the power of location

The ArcGIS Conceptual Reference Architecture









Architecting the ArcGIS Platform: Best Practices

Enterprise Integration: Application Patterns

May 2018

Application patterns provide design strategies for overcoming common development challenges, like those faced when building applications that integrate disparate information systems. ArcGIS integrates with business systems following three general application patterns, allowing organizations to choose the most appropriate pattern when enhancing their workflows with the power of location.

Introduction

Organizations seek to improve cross-functional business processes and provide decision makers with integrated views of their organization's information. Application integration enables organizations to deliver solutions that combine functionality and information from disparate systems, including GIS. There are multiple patterns for integrating organizational business systems (such as permitting, licensing, asset management, etc.) with the ArcGIS platform, and each has distinct benefits and implications. The three primary patterns of application integration include geocentric, geoenabled, and composite (Figure 1).

Recommendations

Use *geocentric applications* to enhance mapping applications with business information and capabilities to better automate or inform location-centric activities. These applications are dominated by geospatial content and capabilities, with business content and capabilities delivered secondarily. This pattern typically uses a GIS application as the hosting framework. It is best suited for staff trained in and comfortable using GIS applications, when GIS activities are at the fore, or when a user-friendly GIS template or configurable app provides most of the needed functionality.

Use *geoenabled applications* to enhance business applications with location information and capabilities to better automate or inform business activities. These applications are dominated by business system content and capabilities, with GIS capabilities delivered secondarily. This pattern typically uses the business system as the hosting framework. It is best suited for staff trained in and comfortable with the business system that automates the related workflows, or when an extensible business system provides most of the needed functionality.

Use *composite applications* to integrate capabilities from multiple systems, where no one system can or should serve as a hosting framework. Conceptually, composite applications are comparable to mashups and represent a contemporary trend in enterprise application development. This pattern typically uses web services to integrate data and logic from multiple systems to derive new functionality.

Figure 1: Enterprise application patterns for the ArcGIS platform.

No single application integration pattern fits all situations. Choose an appropriate integration pattern to achieve the greatest impact from the capabilities provided by both the business system and the ArcGIS platform.

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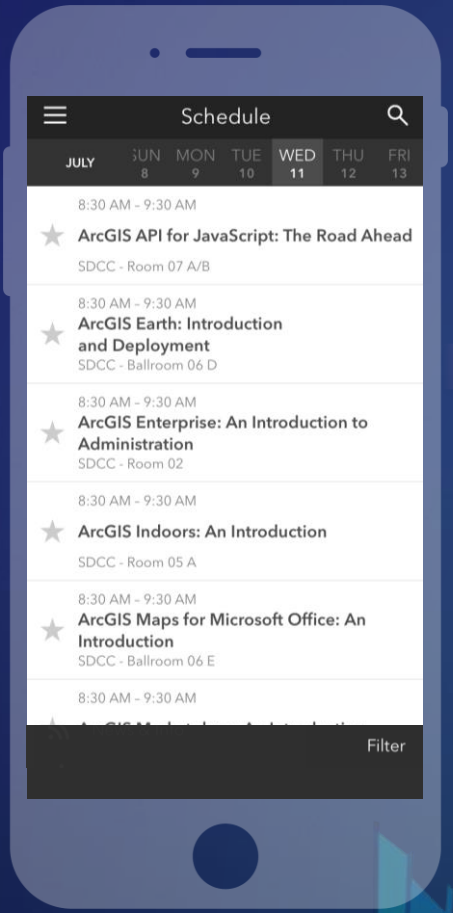

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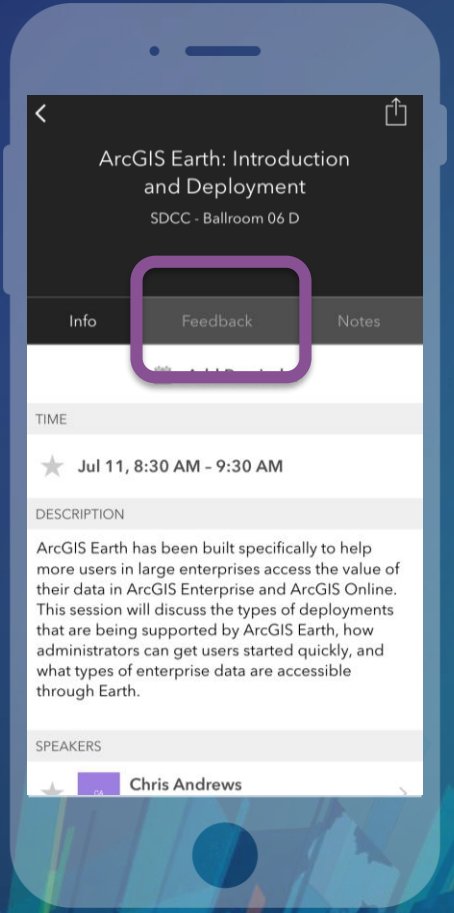

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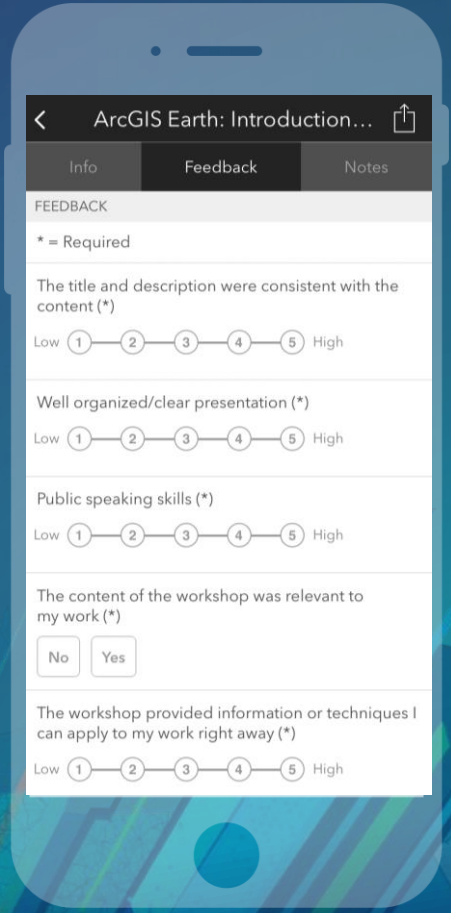


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