

Architecting the ArcGIS Platform: Best Practices

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Patterns & Practices Solution Architects...

Amplify customer success by offering strategic guidance, communicating best practices, and aligning technology with business needs.



Patterns & Practices

Business First!

Best Practices

Patterns and practices for overcoming business challenges

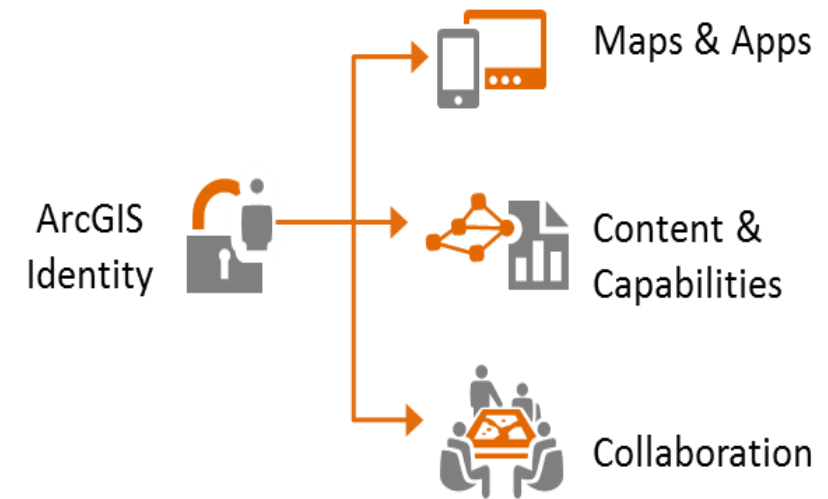


Amplify customer success with a business first approach

Best Practice: Manage Identities

Uniquely and securely describe user access to maps, apps, data, and analysis

- Configure in the portal
 - Users
 - Roles
 - Privileges
- Incorporate in your apps



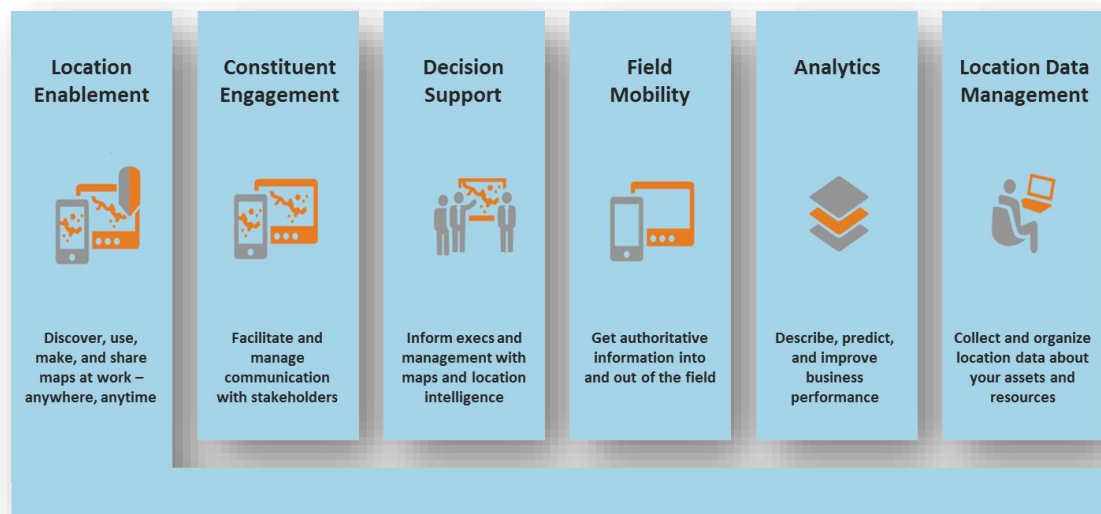
Built-in Security -OR- Third Party Identity Management

Identity enables participation!

Best Practice: Essential Patterns of a Location Strategy

Common geospatial functions that re-occur across business models and environments

Essential Patterns



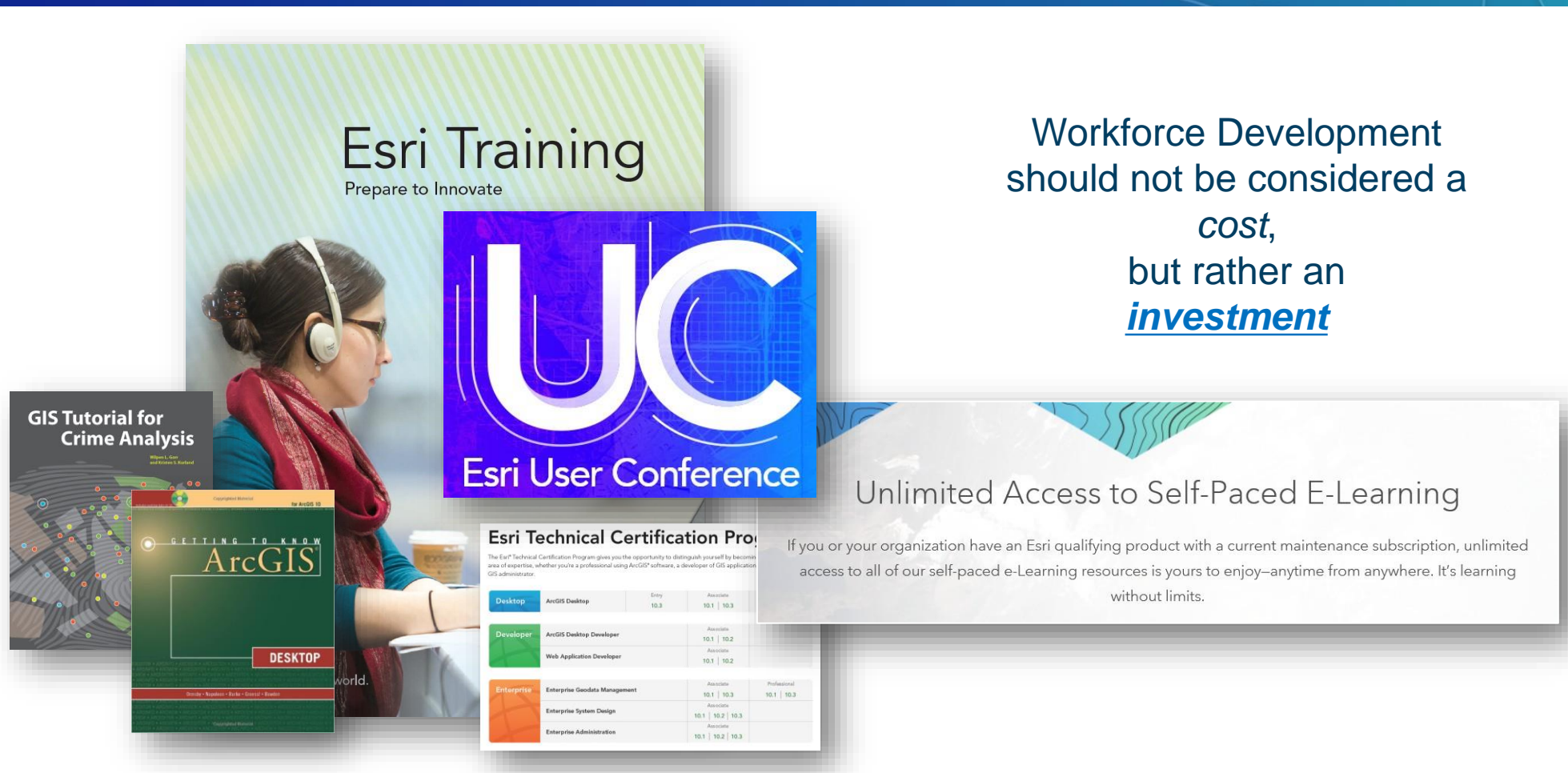
Pattern Gap Analysis

	Location Enablement	Constituent Engagement	Decision Support	Field Mobility	Analytics	Location Data Management
● Expressed Need						
● Partial Use						
● Complete or Near Complete Use						
Planning & Zoning	●	●	●	●	●	●
Operation & Maintenance	●	●	●	●	●	●
Emergency Management	●	●	●	●	●	●
Parks & Recreation	●	●	●	●	●	●
Licensing & Inspections	●	●	●	●	●	●
Assessment	●	●	●	●	●	●
Community Services	●	●	●	●	●	●

The patterns are a framework for driving value

Best Practice: Workforce Development

Equip people with knowledge and experience



Esri Training
Prepare to Innovate

UC
Esri User Conference

GIS Tutorial for Crime Analysis
William L. Goss and Barbara S. Kurland

GETTING TO KNOW ArcGIS
DESKTOP

Esri Technical Certification Program
The Esri Technical Certification Program gives you the opportunity to distinguish yourself by becoming an area of expertise, whether you're a professional using ArcGIS software, a developer of GIS applications, or a GIS administrator.

Category	Product	Entry	Associate	Professional
Desktop	ArcGIS Desktop	10.3	10.1 10.3	
	ArcGIS Desktop Developer		10.1 10.2	
Developer	Web Application Developer		10.1 10.2	
	Enterprise Geodata Management		10.1 10.3	10.1 10.3
Enterprise	Enterprise System Design		10.1 10.2 10.3	
	Enterprise Administration		10.1 10.2 10.3	

Workforce Development
should not be considered a
cost,
but rather an
investment

Unlimited Access to Self-Paced E-Learning
If you or your organization have an Esri qualifying product with a current maintenance subscription, unlimited access to all of our self-paced e-Learning resources is yours to enjoy—anytime from anywhere. It's learning without limits.

Achieve greater value and a faster return on investment from ArcGIS

Best Practice: Apply IT Governance

Governance focused specifically on IT systems, their performance, and risk management

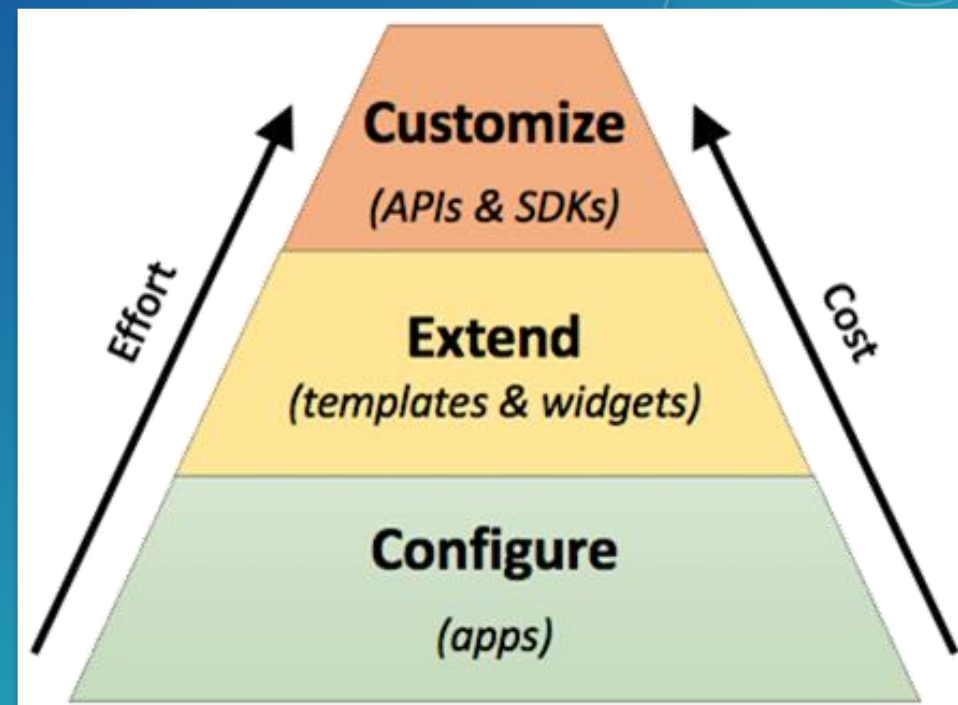


Control change & manage risk

Best Practice: Application Implementation Strategies

Minimize cost and maximize development resources

- **Configure** *First*
- **Extend** *Existing* Apps & Templates
- **Use the ArcGIS Web** *APIs* and *SDKs*

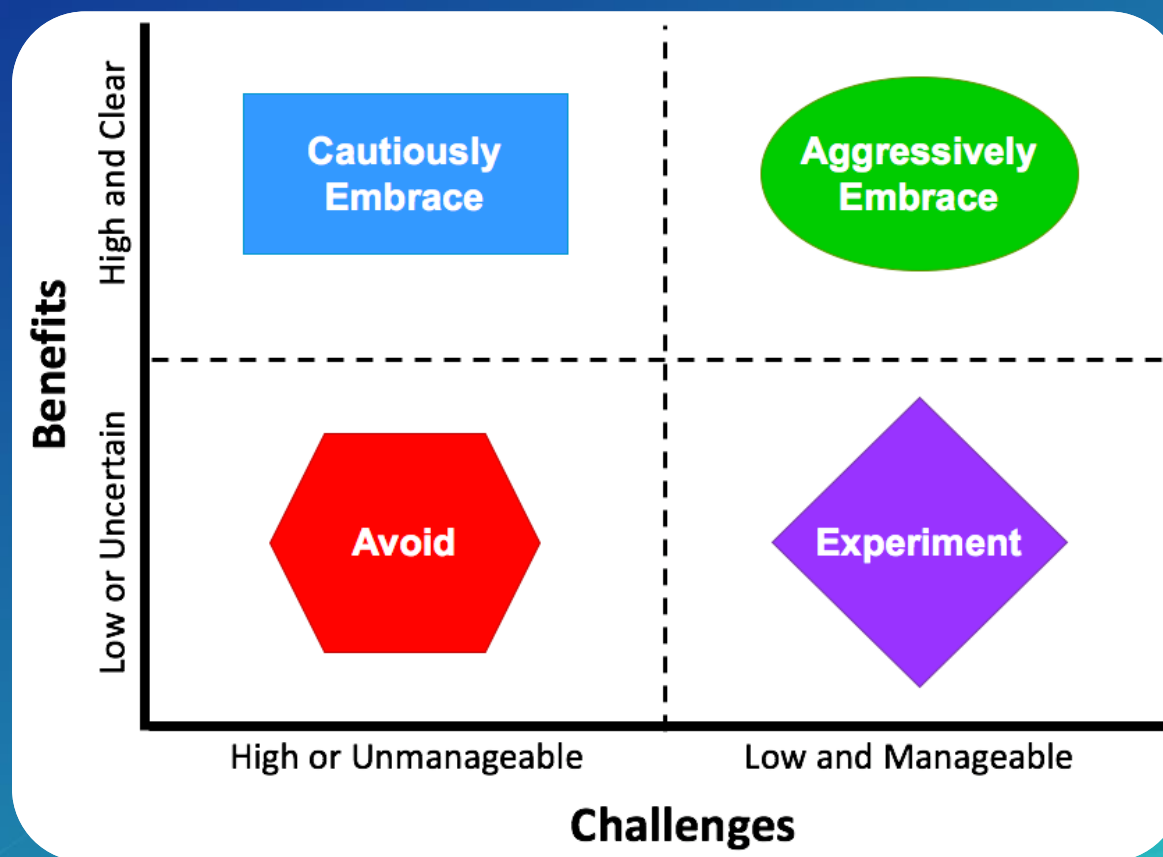


Configure first for the lowest cost and least effort

Deviations from “core” increase risk!

Best Practice: Choose Projects Wisely

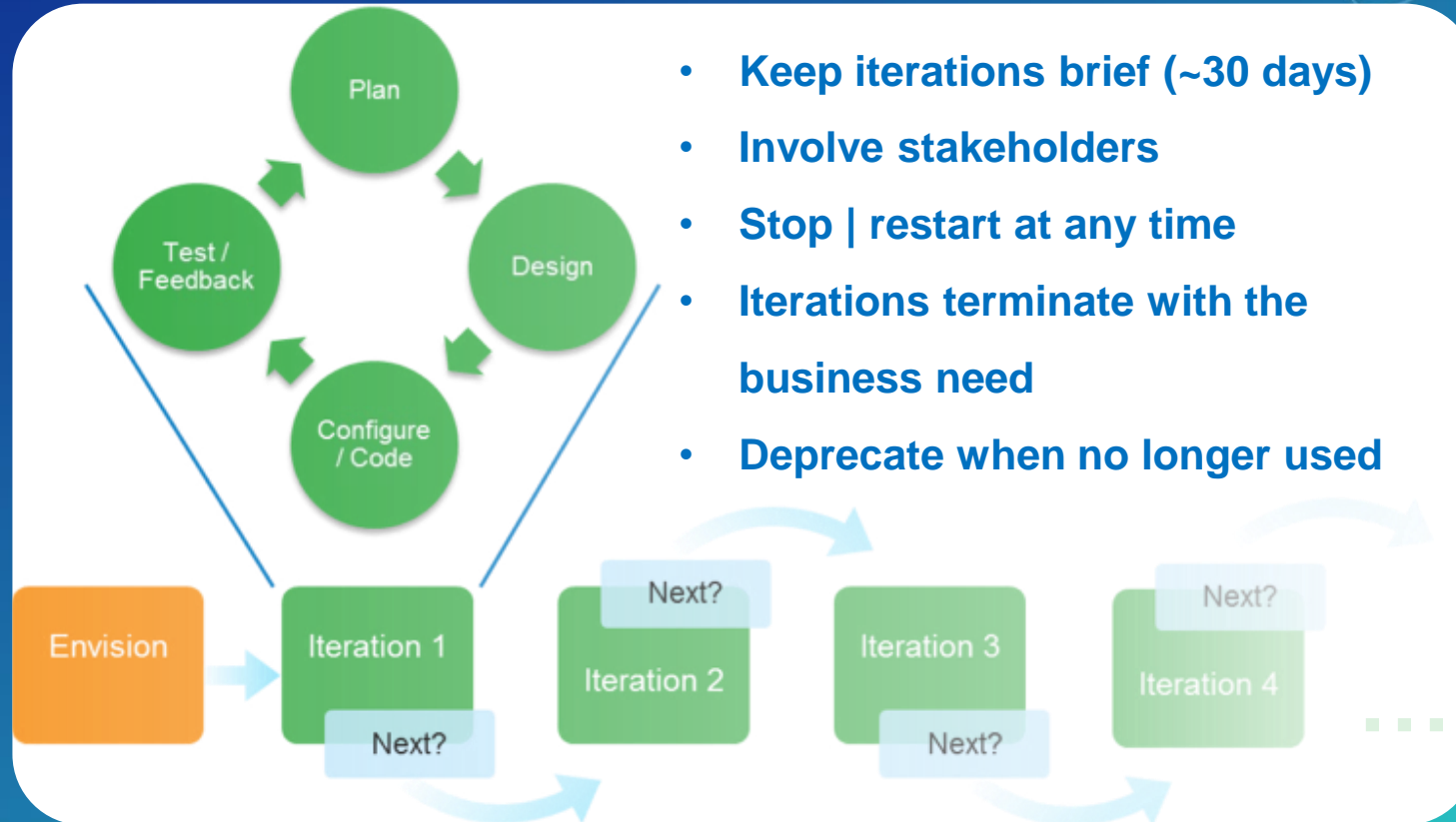
Maximize success by balancing business benefits with challenges



Drive value from technology investments

Best Practice: Rapid & Agile

Seek short term value even as you build long term capabilities



Each iteration results in deliverable you can use...

Best Practice: Security

Securing the ArcGIS platform should be addressed early in the design process as techniques and approaches may vary depending upon business needs and environment

- Authentication/Authorization
- Filtering
- Encryption
- Logging/Auditing

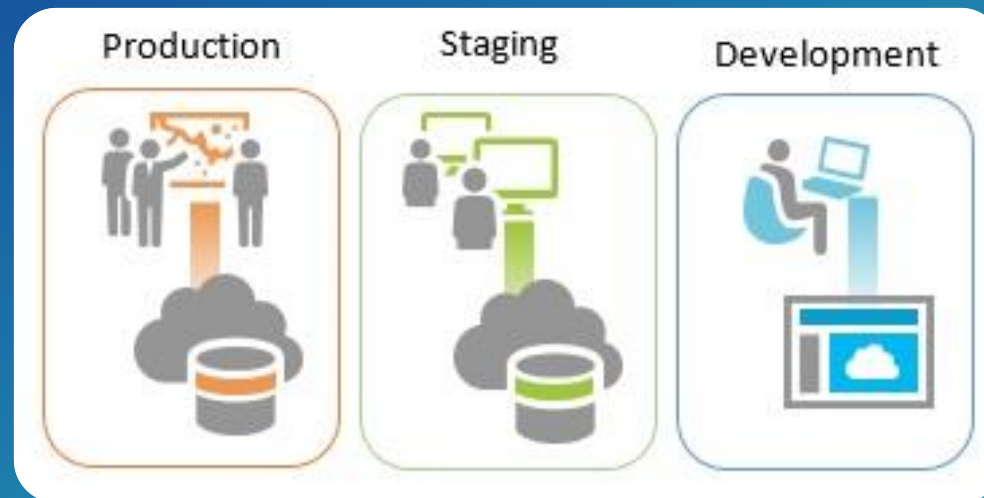


Leverage the organization's existing security framework!

Best Practice: Environment Isolation

Separate and distinct compute environments

- **Production:** *an operational, real-time compute environment*
- **Staging:** *a separate, mirrored, pre-production environment*
- **Development:** *a limited scale environment sufficient for primary code and data modeling*



Reduce risk and protect operational systems from unintentional changes and negative business impacts

Best Practice: High Availability

A design approach that targets a prearranged level of operational performance during a period of time

- Improve service delivery
- Reduce risks

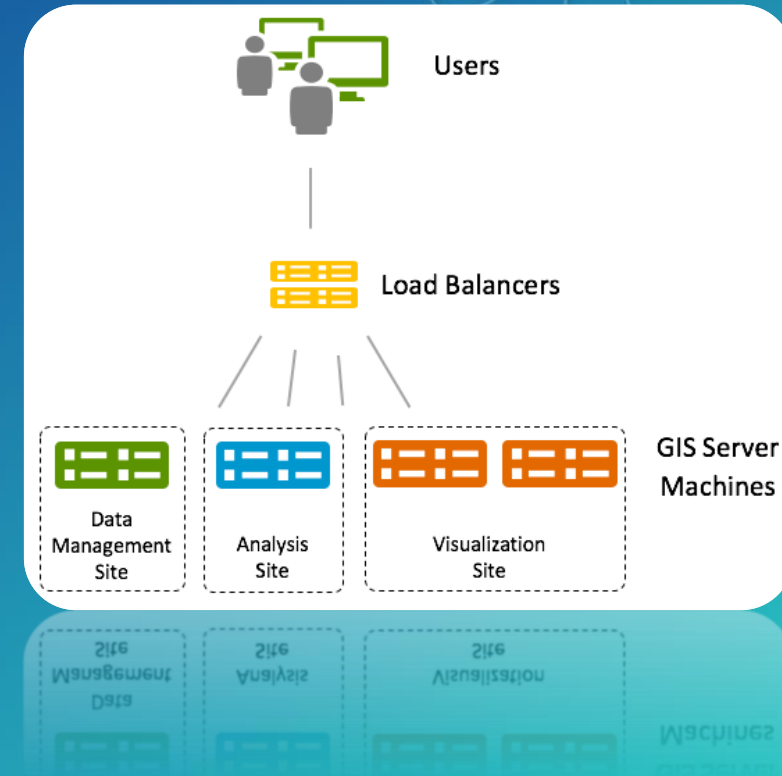
Availability (%)	Downtime per year	Downtime per week
95.0	18.25 days	8.4 hours
99.0	3.65 days	1.68 hours
99.9	8.76 hours	10.1 minutes
99.99	52.56 minutes	1.01 minutes
99.999	5.26 minutes	6.05 seconds

What is the acceptable downtime for your business workflows?

Best Practice: Workload Separation

Separate technology deployments by solution pattern

- Improve service delivery
- Reduce risks
- Minimize system resource contention



Typically SLAs determine which server deployments need to be separated.

Best Practice: Publication Strategy – Geospatial Content Delivery

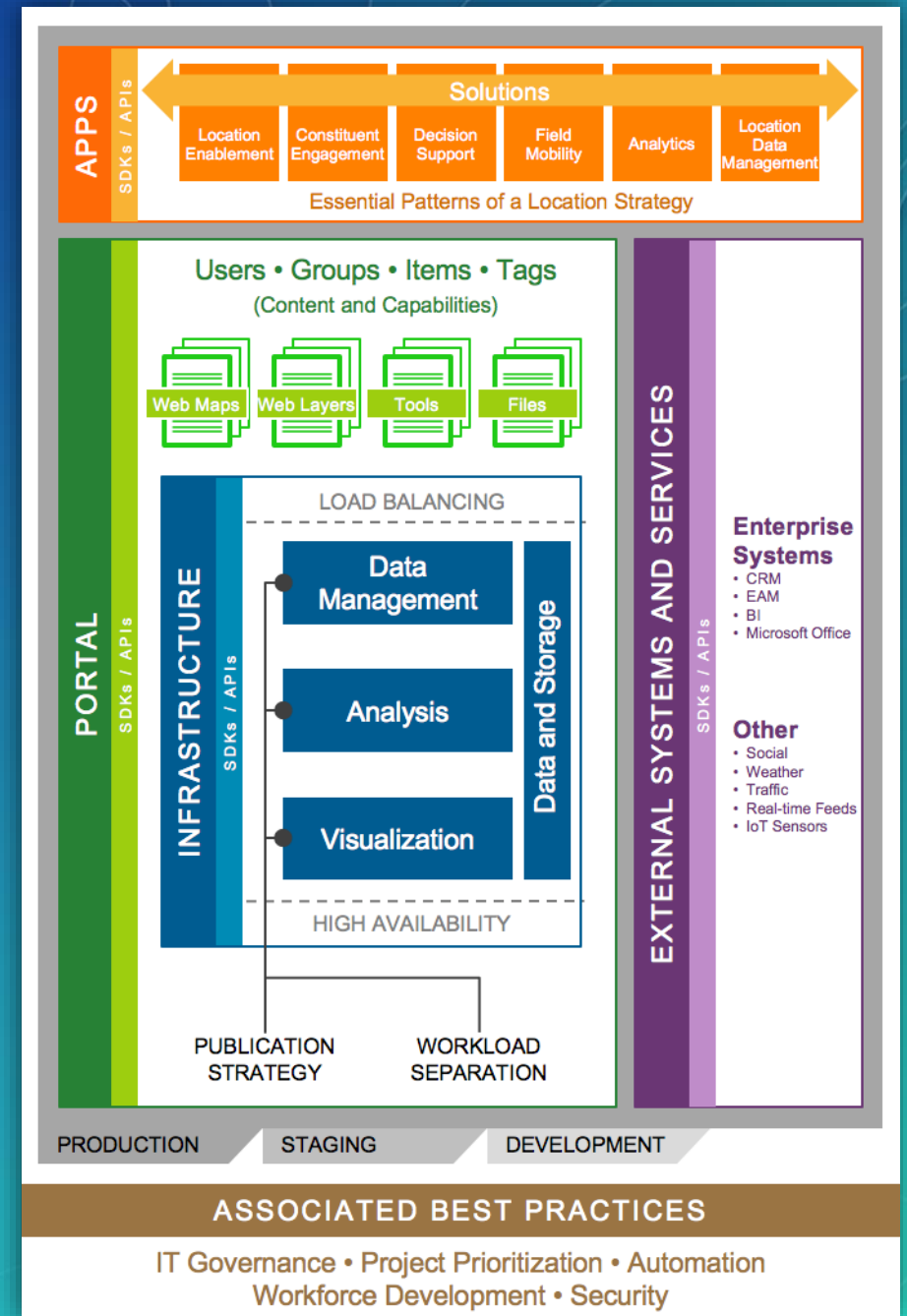
Publication is the act of delivering content (data, services, and applications) to appropriate consumers

- Performance
- Reliability
- Security

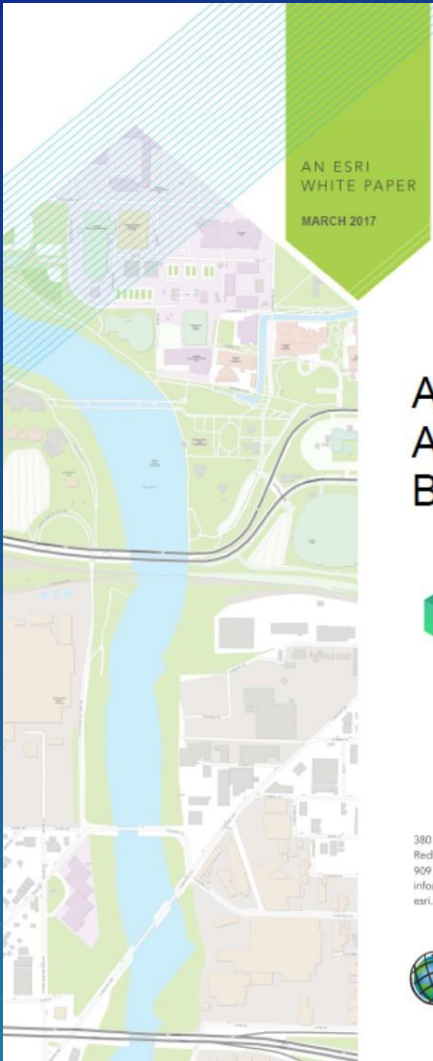


Example: ArcGIS Online helps decouple contending usage patterns

The ArcGIS Conceptual Reference Architecture



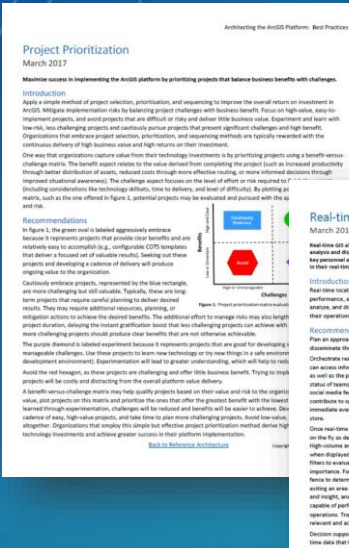
Best Practices Documented



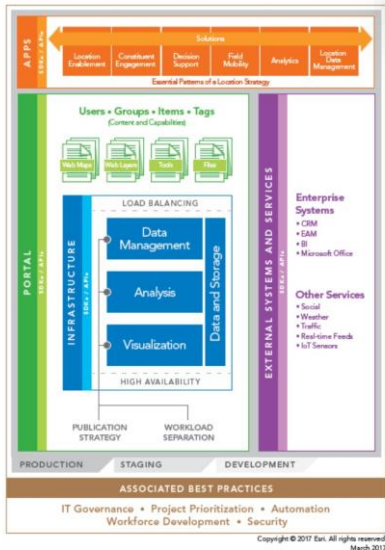
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ArcGIS Conceptual Reference Architecture





¿ Questions ¿



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THE
SCIENCE
OF
WHERE