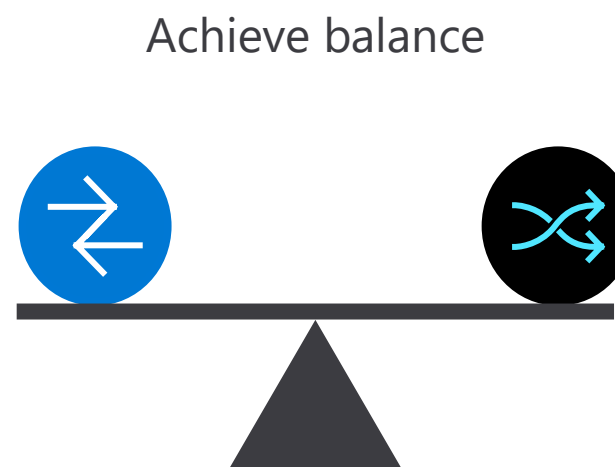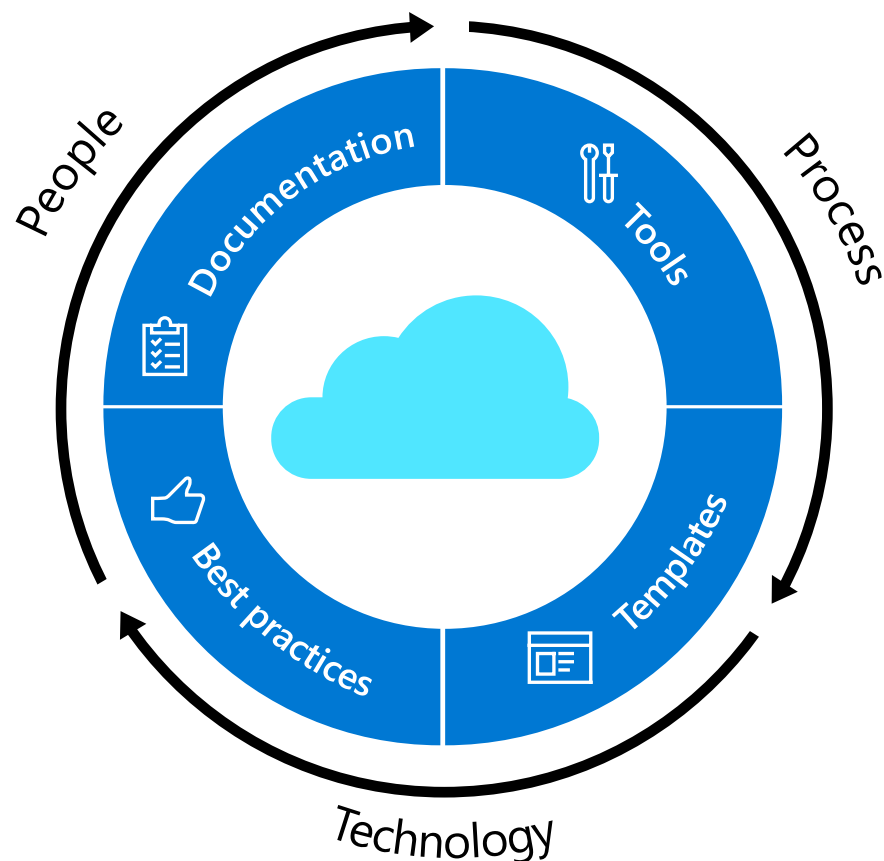# Microsoft

Cloud Management
Cloud Adoption Framework for Azure
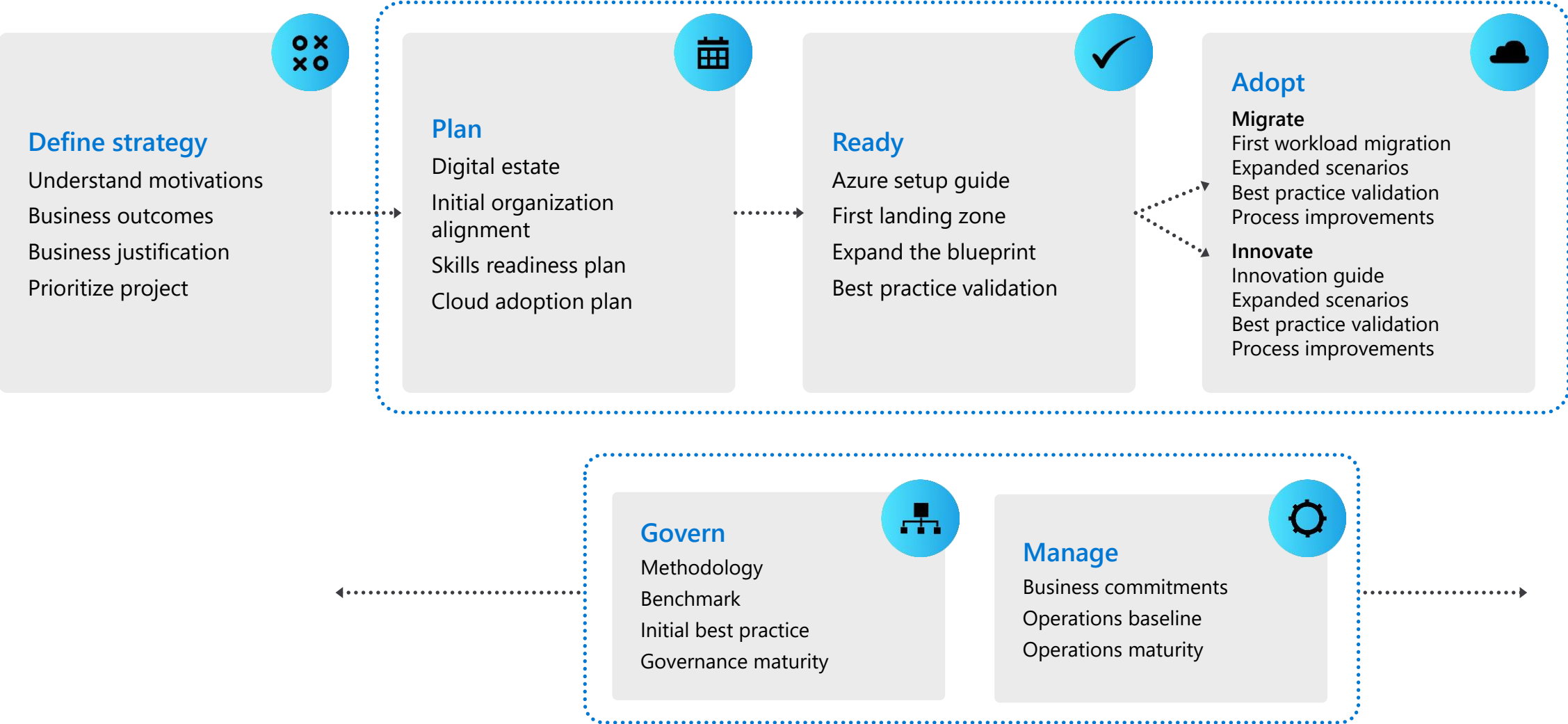
Speaker
Title

Microsoft Cloud Adoption Framework for Azure

Align **business, people, and technology strategy** to achieve business goals with **actionable, efficient, and comprehensive** guidance to deliver fast results with control and stability.
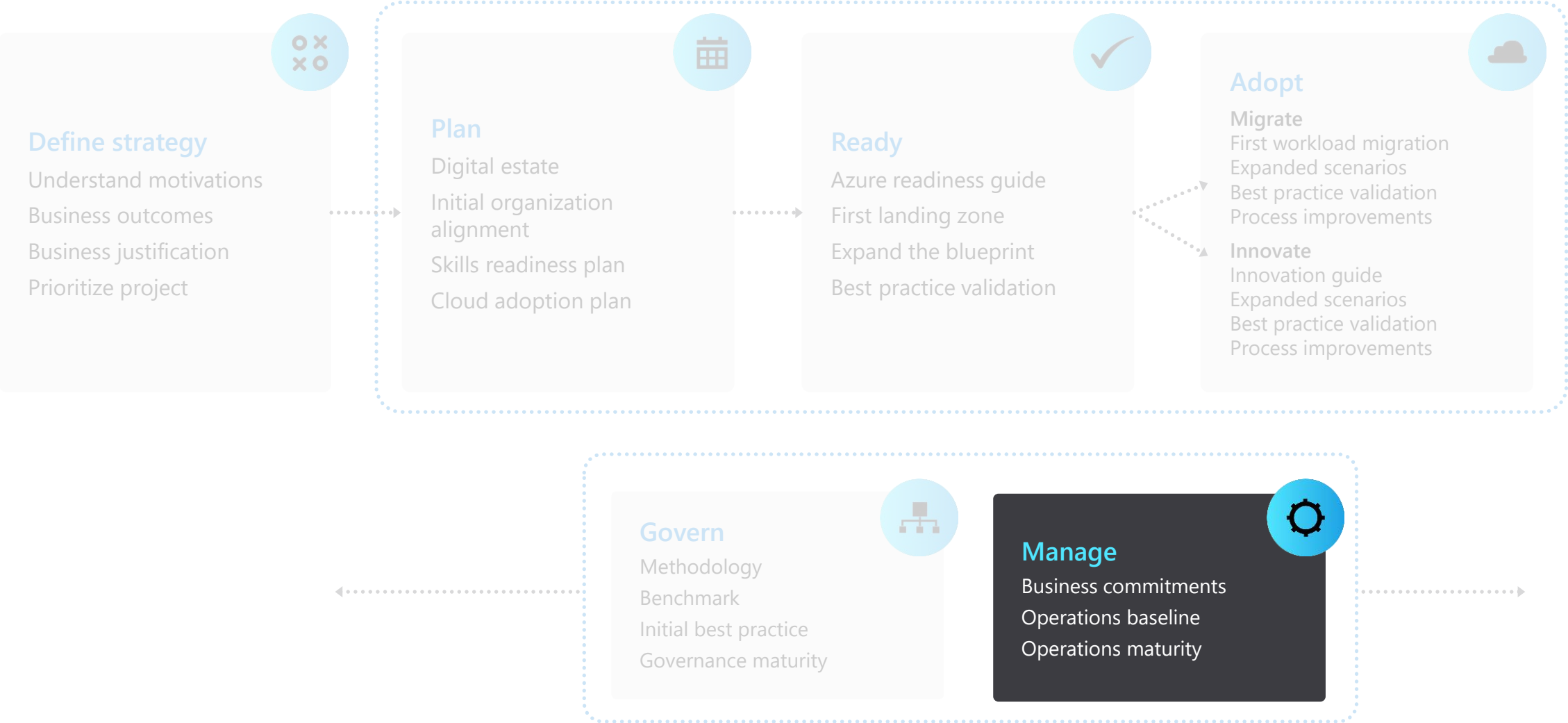
Building the framework

Use a modular approach to meet the customer in their journey

Define strategy
Understand motivations
Business outcomes
Business justification
Prioritize project

Plan
Digital estate
Initial organization alignment
Skills readiness plan
Cloud adoption plan

Ready
Azure setup guide
First landing zone
Expand the blueprint
Best practice validation

Adopt

Migrate
First workload migration
Expanded scenarios
Best practice validation
Process improvements

Innovate
Innovation guide
Expanded scenarios
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Process improvements

Govern
Methodology
Benchmark
Initial best practice
Governance maturity

Manage
Business commitments
Operations baseline
Operations maturity

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Evolution of the IT Business Model

The cloud is causing a paradigm shift in the function of Operations Management
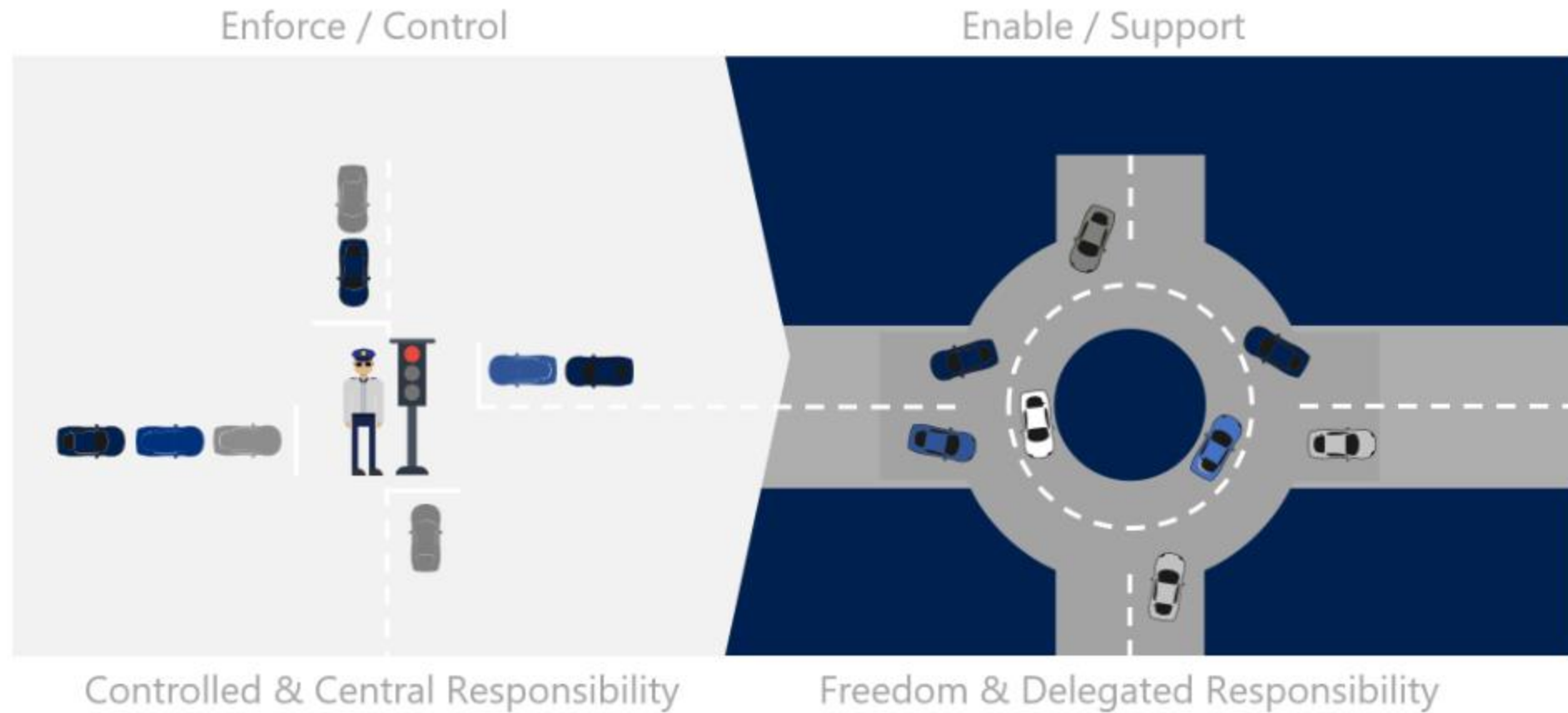
Cloud management

Cloud Adoption Framework

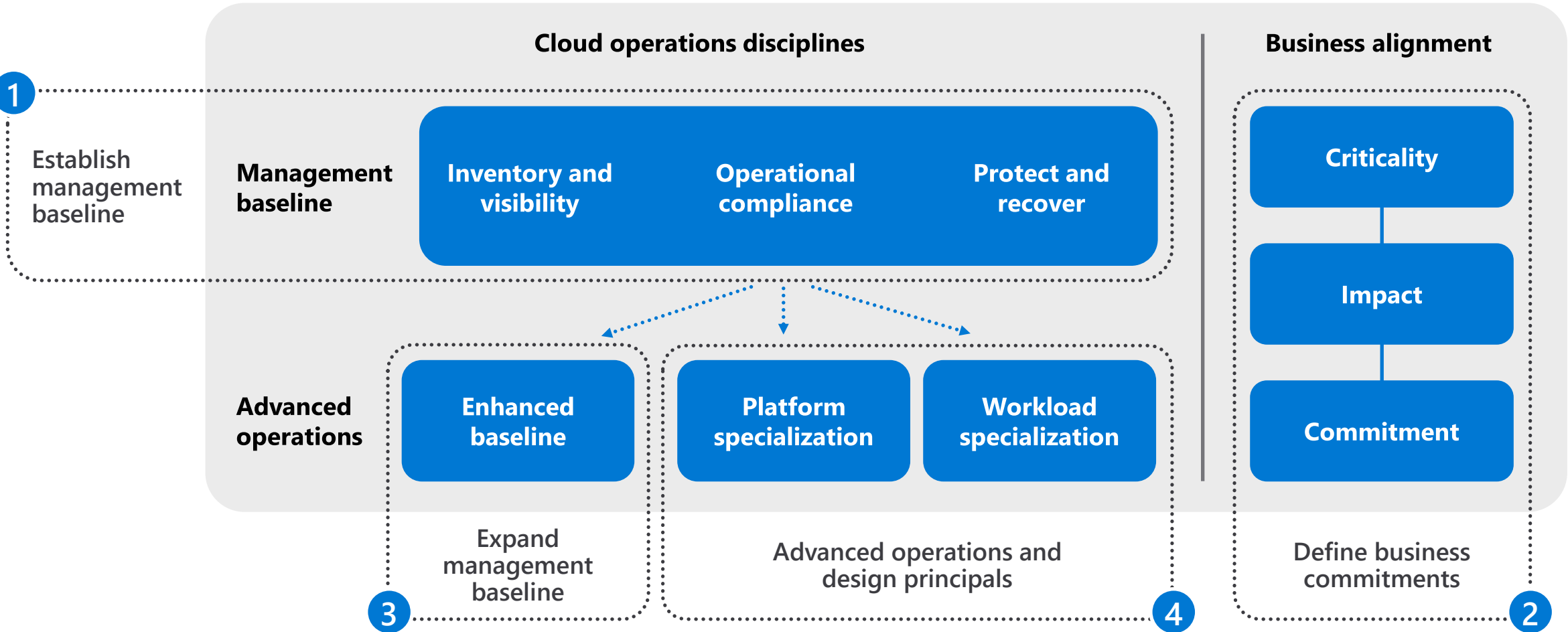# Operations management for cloud and hybrid solutions

Expand IT management and operations to ensure cloud-based solutions can be operated through secure, cost-effective processes using modern, cloud-first tools.

Cloud management for cloud adoption efficiency

1 **Establish management baseline**
Define the criticality classifications, cloud management tools, and processes

2 **Define business commitments**
Document supported workloads to establish operational commitments

3 **Expand management baseline**
Make use of the included best practices based on business commitments and operations decisions

4 **Advanced operations and design principals**
Use a deeper architecture review to deliver on resiliency and reliability commitments

Methodology to enable cloud management

Cloud operations disciplines

Business alignment

1 Establish management baseline

Management baseline

- Inventory and visibility
- Operational compliance
- Protect and recover

Advanced operations

- Enhanced baseline
- Platform specialization
- Workload specialization

Expand management baseline

Advanced operations and design principals

- Criticality
- Impact
- Commitment

Define business commitments

3

4

2

Establish management baseline

Cloud management for cloud adoption efficiency

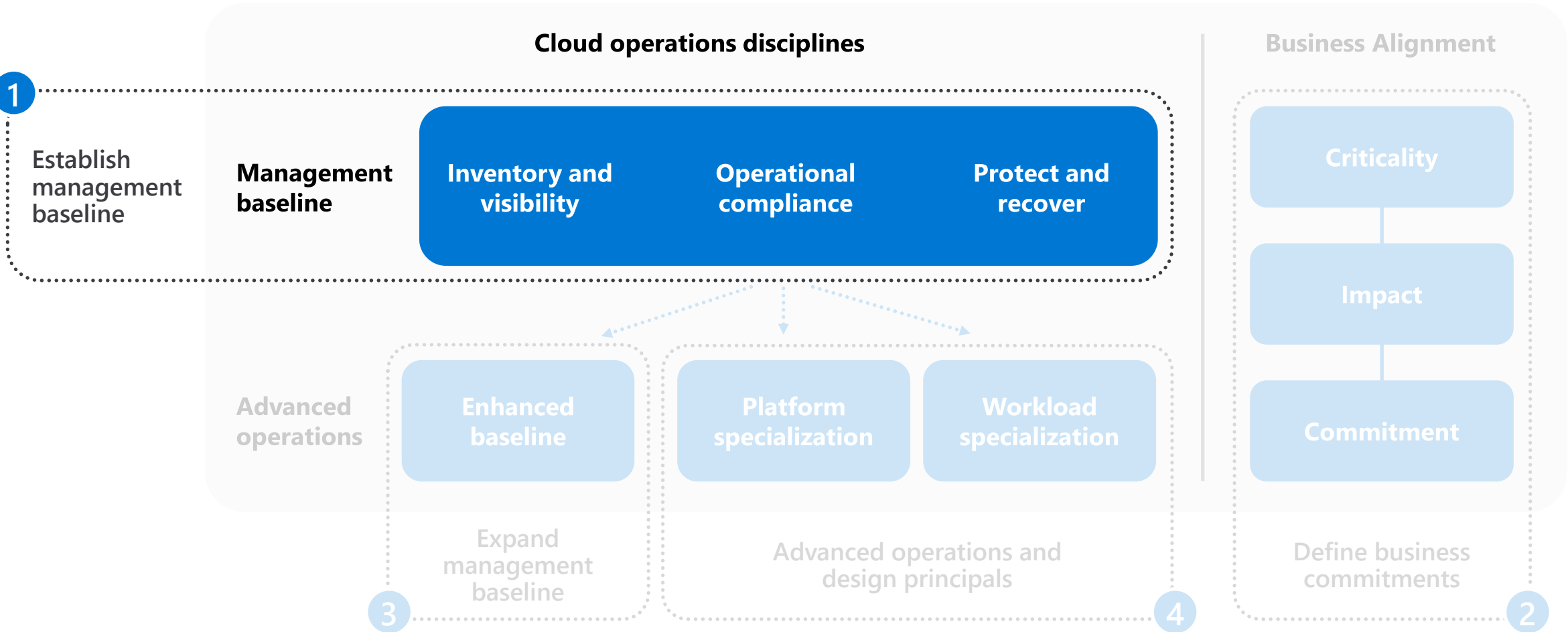|		
1	**Establish management baseline**	Define the criticality classifications, cloud management tools, and processes
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Management baseline

Why do you need this?

A well-guided management baseline defines a set of cloud management tools and processes required to deliver your minimum commitment to operations management.

Goals for management baseline

- Define the basic tools needed for managing operations around any Azure production environments
- Focus on the minimum options and processes necessary instead of all the available options
- Use the management baseline to apply resource consistency across different resources on the Azure platform

Methodology to enable cloud management

Cloud operations disciplines

Business Alignment

1 Establish management baseline

Management baseline

Inventory and visibility | Operational compliance | Protect and recover

Criticality

Impact

Commitment

Advanced operations

Enhanced baseline | Platform specialization | Workload specialization

3 Expand management baseline

4 Advanced operations and design principals

2 Define business commitments

Inventory and visibility

Management baseline

Create an inventory of assets across multiple clouds, and develop deep visibility into the run state of each asset

- Each monitoring tool has been configured with **proper access and scope** for each operations team

- Each asset must be **inventoried and classified** towards stable operations

- **Centralization of logging** drives reports about change management, service health, and configuration for IT operations

- **Awareness and understanding of technical changes** across multiple workloads is essential for reliable operations

- Understand the **telemetry about the stability, performance, and operations** of the workload, and the assets which support the workload

Azure tools and services

- Service health
- Log analytics
- Azure change tracking and inventory service
- Azure activity log
- Azure monitor for VMs
- Azure network watcher
- DNS analytics

Management baseline

Inventory and visibility

Operational compliance

Management baseline

Establish controls and processes to ensure each state is properly configured and running in a well-governed environment

- Streamline and **update management solutions** to schedule and control all required updates to be deployed
- Ensure **policy enforcement** across configuration of operating systems, applications, and underlying environments
- Get **automated compliance** for core services to enforce operational compliance in an environment
- **Effective operational compliance** requires consistency:
  - Established **resource consistency** with resource organization and tagging
  - **Consistent environment** or **landing zones** enforced through automated tools
  - **Resource configuration consistency** with ongoing monitoring and evaluation processes
  - **Updated consistency** with scheduling, controlling, and automating necessary updates
  - **Automated remediation** to reduce cloud management efforts and increase user satisfaction

Azure tools and services

- Azure Primitives
- Azure automation
- Azure update management service
- Azure policy
- Azure blueprint

Management baseline — Operational compliance

Protect and recover

Management baseline

Ensure all managed assets are protected and can be recovered using baseline management tooling

- **Protect and recover** business critical workloads in the cloud to anticipate and prepare for a potential workload outage

- **Define plans** to back up, protect, and recover your data and VMs in Azure

- Get **short- and long-term backup** without the need to deploy complex on-premises backup solutions

- **Replicate VMs and workloads** to the secondary location to ensure business continuity

- **Failover to secondary location**, and access apps and workloads even during outages

Azure tools and services

- Azure Backup
- Azure Site Recovery

Management baseline | **Protect and recover**

Define business commitments

Cloud management for cloud adoption efficiency

1 Establish management baseline | Define the criticality classifications, cloud management tools, and processes

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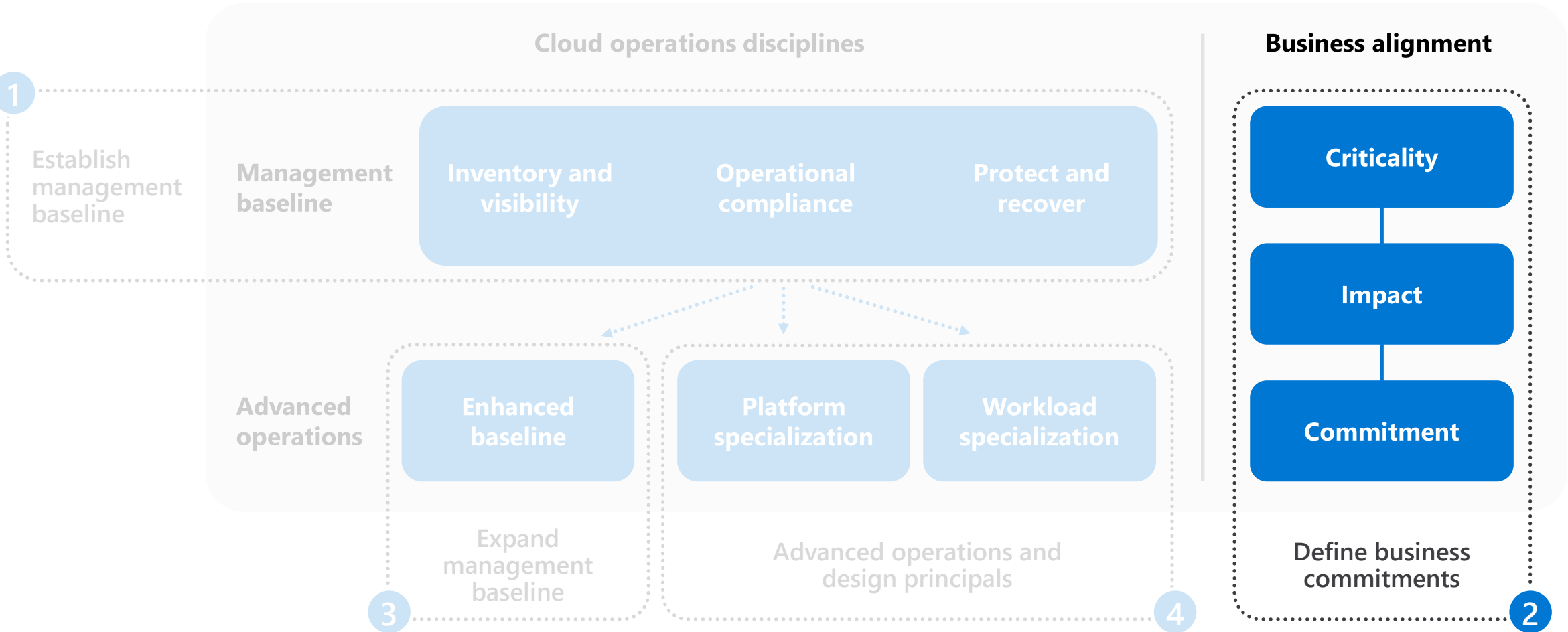
Business alignments and commitments

Why do you need this?

Business alignment with cloud management is required to rethink commitments to operational management in partnership with the business.

Goals for management baseline

- Document the criticality and relative business value of each workload

- Establish clear performance expectations and business interruption time/value metrics

- Document, track, and report on commitments to cost and performance

Methodology to enable cloud management

Define business criticality

Business alignment

Map workloads to business processes and rank their criticality to focus investments

- **Understand the criticality** of each workload in the IT portfolio to identify missing critical workloads

- **Create a criticality scale** for criticality with business and categorize them with custom criticality classifications

- **Define default criticality** to apply to all workloads and ensure criticality classification doesn't block your broader cloud strategy

- **Use pre-defined templates** to record the criticality scale, define default criticality, and provide the correct value to reflect any deviations

Azure tools and services

- Operations management workbook

Business alignment

Criticality

Understanding business impact

Business alignment

Understand the impact of potential outages to aid in evaluating return on investment for cloud management

- Business impact **serves as a prioritization variable** when recovering systems during an outage.

- **Calculate impact time** depending on the nature of workloads, from high to low frequency of workload usage

- **Calculate the total business impact** more accurately with three approaches, including adjusted losses, historical losses, and complete loss calculation

- **Calculate workload impact**, which must be attributed across each of the workloads

Azure tools and services

- Operations management workbook

Business alignment

Impact

Establish business commitments

Business alignment

Develop true partnerships by creating and documenting agreements with the business

- Define business commitment by **aligning the proper level of operational management** at an acceptable operating cost

- **Commitments to business stability**, via technical resiliency or other SLA impacts, are a business justification decision

- Establish commitment with the business by aligning the following aspects:

  - IT operations prerequisites

  - Management responsibility

  - Cloud tenancy

  - Soft-cost factors

  - Loss avoidance ROI

  - Validation of management level

Azure tools and services
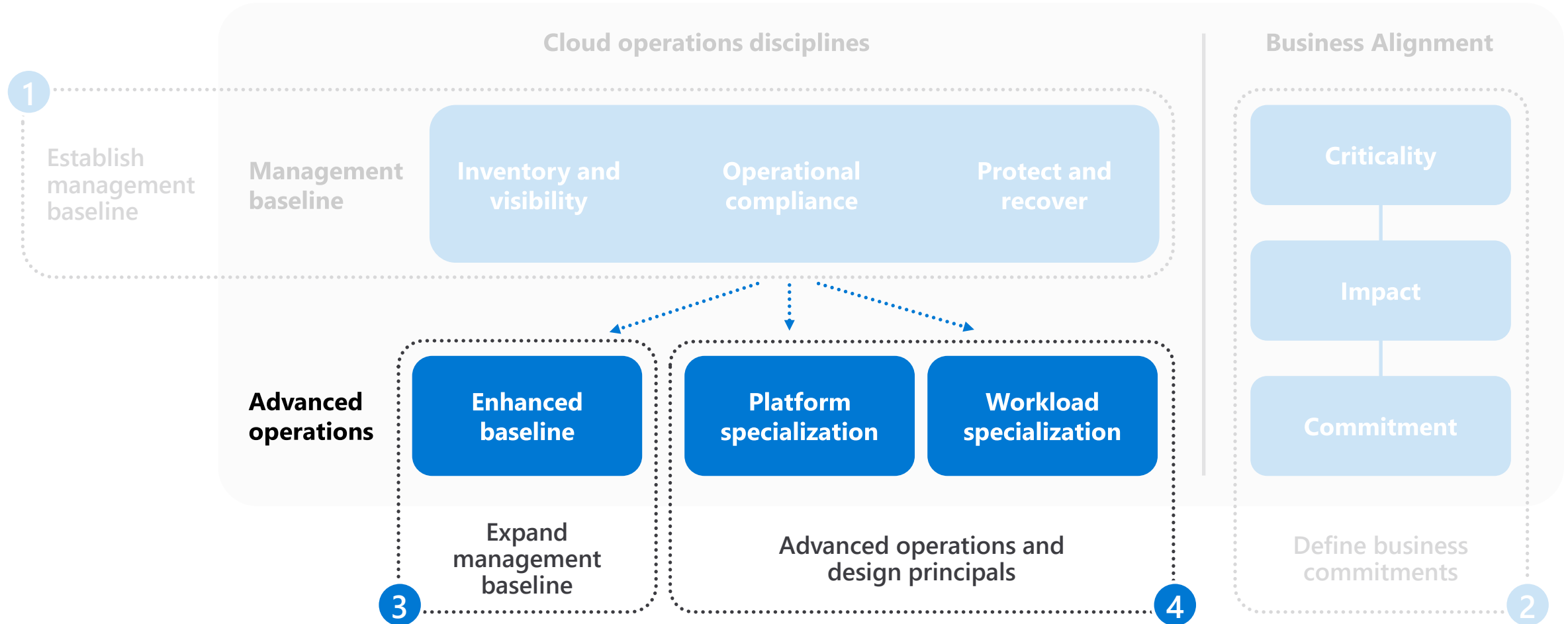
- Operations management workbook

Business alignment

Commitments

Ops Management planning workbook

Help capture decisions that result from business alignment conversations

	A	B	C	D	E	F	G	H	I	J	K
1	Microsoft Cloud Adoption Framework for Azure										
2	Operations Management - Commitment alignment										
3											
4		Business inputs		Ops management responses							
5	Workload	Criticality	Time/Value impact	Comitment Level	Composite SLA	Monthly Cost	Est. Outage**	Standard I	Commitm	Comparison basis	Annual ROI
6	SAP	Mission Critical	$ 1,000,000.00	High Availablity Comm	99.9999%	$ 100,000.00	0.00876	$ 8,760,000	$ 8,760.00	$ 8,751,240.00	629%
7	Logistics	Mission Critical	$ 1,000,000.00	High Availablity Comm	99.9990%	$ 30,000.00	0.08760	$ 8,760,000	$ 87,600.00	$ 8,672,400.00	2309%
8	eCommerce	High	$ 200,000.00	Platform Commitment	99.9900%	$ 1,000.00	0.87600	$ 1,752,000	$175,200.00	$ 1,576,800.00	13040%
9	Payroll	Medium	$ 10,000.00	Platform Commitment	99.9500%	$ 1,000.00	4.38000	$ 87,600	$ 43,800.00	$ 43,800.00	265%
10	Marketing	Medium	$ 10,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 87,600	$ 87,600.00	$ 87,600.00	7200%
11	workload 6	Medium	$ 10,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 87,600	$ 87,600.00	$ 87,600.00	7200%
12	workload 7	Medium	$ 10,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 87,600	$ 87,600.00	$ 87,600.00	7200%
13	workload 8	Medium	$ 5,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 43,800	$ 43,800.00	$ 43,800.00	3550%
14	workload 9	Medium	$ 5,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 43,800	$ 43,800.00	$ 43,800.00	3550%
15	workload 10	Medium	$ 5,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 43,800	$ 43,800.00	$ 43,800.00	3550%
16	workload 11	Medium	$ 5,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 43,800	$ 43,800.00	$ 43,800.00	3550%
17	workload 12	Medium	$ 5,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 43,800	$ 43,800.00	$ 43,800.00	3550%
18	workload 13	Low	$ 1,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 8,760	$ 8,760.00	$ 8,760.00	630%
19	workload 14	Low	$ 1,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 8,760	$ 8,760.00	$ 8,760.00	630%
20	workload 15	Low	$ 1,000.00	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ 8,760	$ 8,760.00	$ 8,760.00	630%
21	workload 16	Mission Critical	$ 1,000.00	Standard Commitmen	99.9000%	$ 20,000.00	8.76000	$ 8,760	$ 8,760.00	$ 8,760.00	-96%
22	workload 17	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%
23	workload 18	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%
24	workload 19	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%
25	workload 20	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%
26	workload 21	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%
27	workload 22	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%
28	workload 23	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%
29	workload 24	Low	$ -	Standard Commitmen	99.9000%	$ 100.00	8.76000	$ -	$ -	$ -	-100%

Fulfilling business commitments

Methodology to enable cloud management

Cloud operations disciplines

Business Alignment

1

Establish management baseline

Management baseline

Inventory and visibility

Operational compliance

Protect and recover

Criticality

Impact

Commitment

Advanced operations

Enhanced baseline

Platform specialization

Workload specialization

Expand management baseline

Advanced operations and design principals

3

4

Define business commitments

2

Expand management baseline

Cloud management for cloud adoption efficiency

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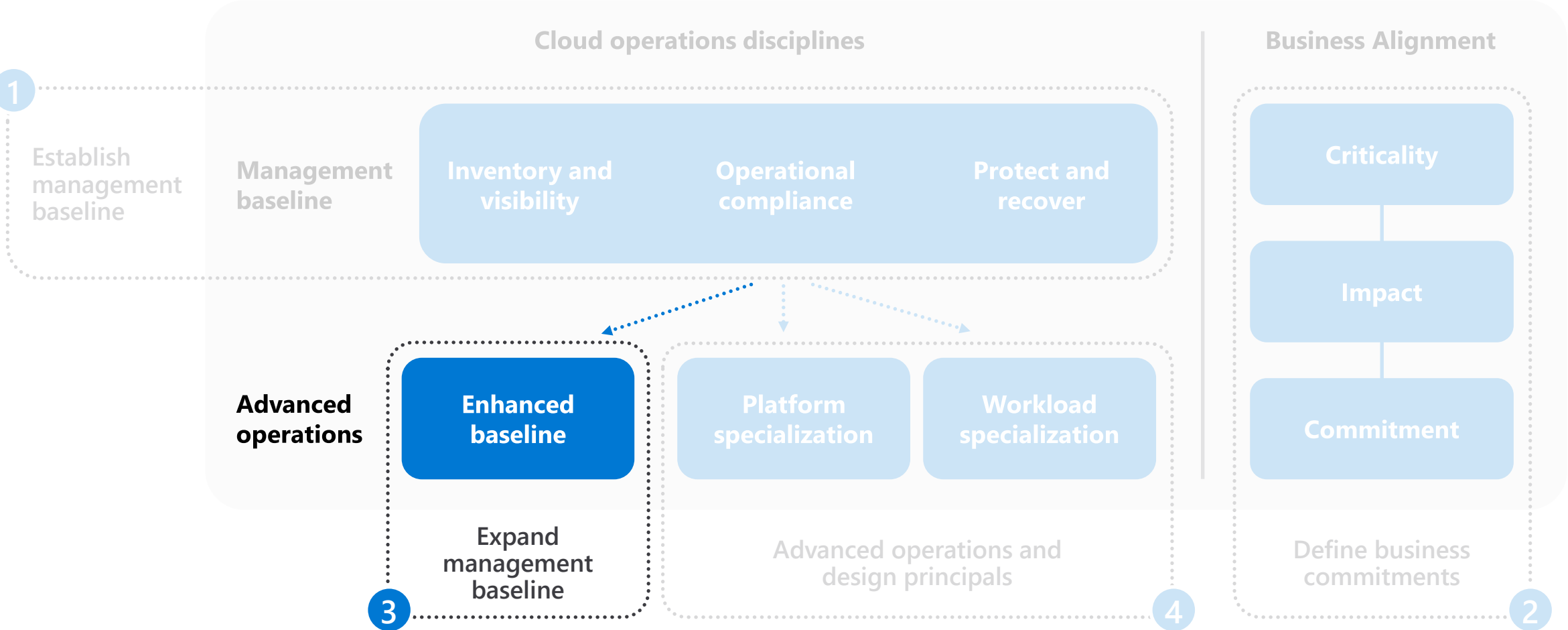
Enhance management baseline

Why do you need this?

Outline a minimum viable product (MVP) for cloud management services, referred to as a management baseline, and add common improvements to the baseline.

Goals for management baseline

- In addition to management baseline, improve business commitments with enhanced management baseline
- Improve uptime and decrease recovery times for the entire portfolio of workloads with cloud-native tools

Methodology to enable cloud management

Cloud operations disciplines

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Enhanced baseline

Platform specialization

Workload specialization

3 Expand management baseline

Advanced operations and design principals

4

Define business commitments

2

Enhanced baseline

Advanced operations

Evaluate common additions to the baseline that might meet business needs

- Use enhanced management baseline **cloud-native operations tools and processes to extend the business commitment**

- A number of mission-critical workloads might require **enhancements to the management baseline for better commitment**

- Enhanced baseline can be enabled to **perform advanced management operations and processes** such as:

  - Service change tracking

  - ITSM integration

  - Operations automation

  - Multi-cloud operations

  - Guest automation

  - Breach notification

Azure tools and services

- Azure Resource Graph

- IT Service Management Connector

- Azure Automation

- Azure Automation Hybrid Runbook Worker

- Desired State Configuration (DSC)

- Azure Security Center

Advanced operations   **Enhanced baseline**

Advanced operations and design principals

Cloud management for cloud adoption efficiency

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Advanced operations and design principles

Why do you need this?

Management specialization is required to improve the design of common systems (platforms) or specific workloads to effectively minimize interruptions.

Goals for management baseline

- Improve the resiliency and design of business workloads

- Detect trends and provide automated remediation

- Create repeatable solutions to minimize maintenance overhead

- Use advanced monitoring tools to discover incremental improvements

Methodology to enable cloud management
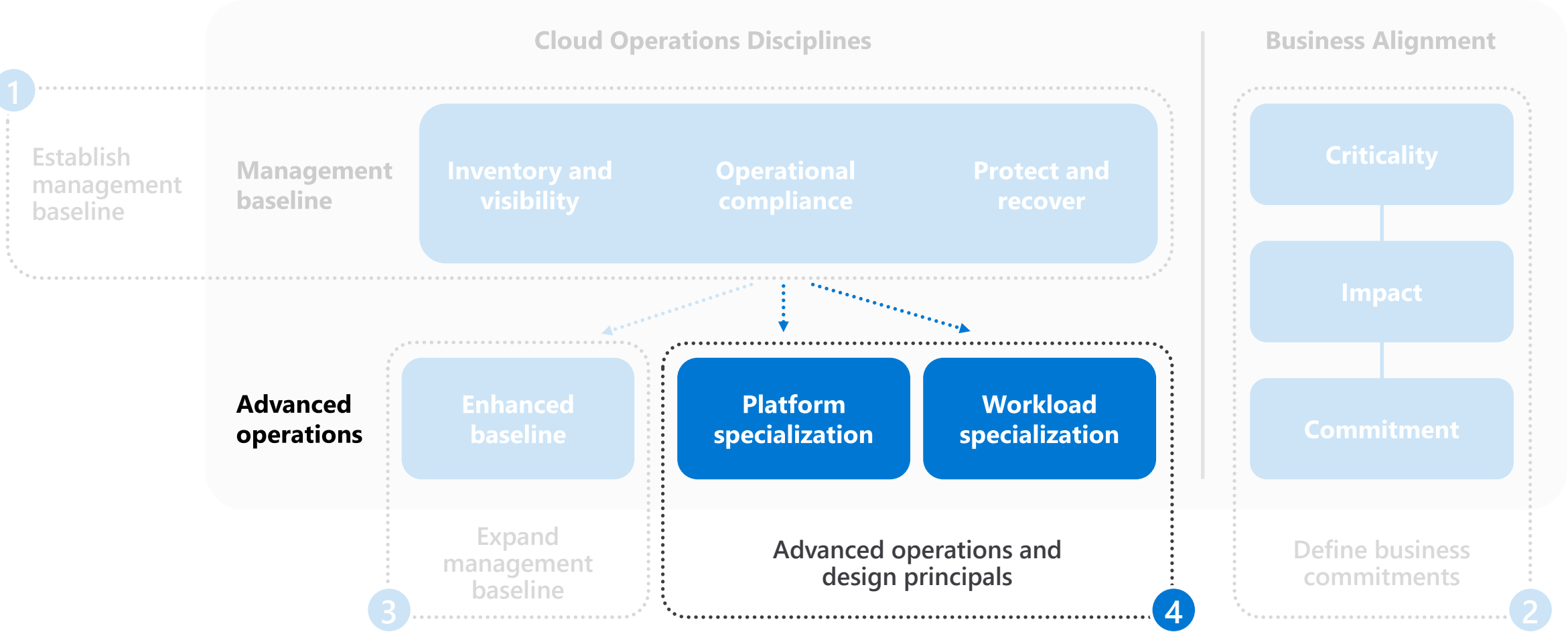
Platform specialization

Advanced operations

Invest in ongoing operations of a specific workload, generally reserved for mission-critical workloads

Platform specialization consists of a disciplined execution of the following **processes in an iterative approach:**

- **Improve the design** of common systems (platforms) or specific workloads by considering best practices for architecture frameworks with Azure Architecture Frameworks

- **Minimize business interruptions** with Azure Architecture Framework by improving systems designs with scalability, availability, resiliency, security, and management

- **Automate remediation** and reduce the impact of interruptions

- **Scale changes** across the environment through the service catalog

- **Discover incremental improvements** to address in the next pass of system design, automation, and scale

Azure tools and services

- Azure Managed Applications
- Azure Monitor for containers
- Azure SQL analytics
- SQL Server health check
- Azure Automation
- Azure Architecture Framework

Platform operations

Platform specialization

Workload specialization

Advanced operations

Invest in ongoing operations of a shared platform, distributing the investment across multiple workloads

- **Trigger a cultural change** in traditional IT build processes that focus on delivering a management baseline, enhanced baselines, and platform operations

- Apply **best practices for improving the resiliency and design** of a specific system with Azure Architecture Frameworks

- **Get the flexibility of advanced monitoring** of options for monitoring performance, availability, usage, and dependencies

- **Operational tasks shift** to an application-development or business-unit organization

- **Application insights**—to get deep insights on the specific workload—are required to provide clear workload operations

Azure tools and services

- Azure Monitor logs
- Application Insights
- Azure Automation
- Azure Architecture Framework

Workload operations

Workload specialization

Take Action

Cloud management for cloud adoption efficiency

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Use a deeper architecture review to deliver on resiliency and reliability commitments

Resources

Resources

Learn more about the Microsoft Cloud Adoption Framework and cloud management.

What	Where
Microsoft Cloud Adoption Framework for Azure: Introduction	https://azure.microsoft.com/cloud-adoption-framework/
Microsoft Cloud Adoption Framework for Azure: Technical overview	https://docs.microsoft.com/azure/cloud-adoption-framework/
Cloud management in the Cloud Adoption Framework	https://docs.microsoft.com/azure/cloud-adoption-framework/manage/
Azure Architecture Review	https://docs.microsoft.com/assessments/?id=azure-architecture-review

Microsoft

Thank You