Azure Well-Architected Framework for IoT Overview

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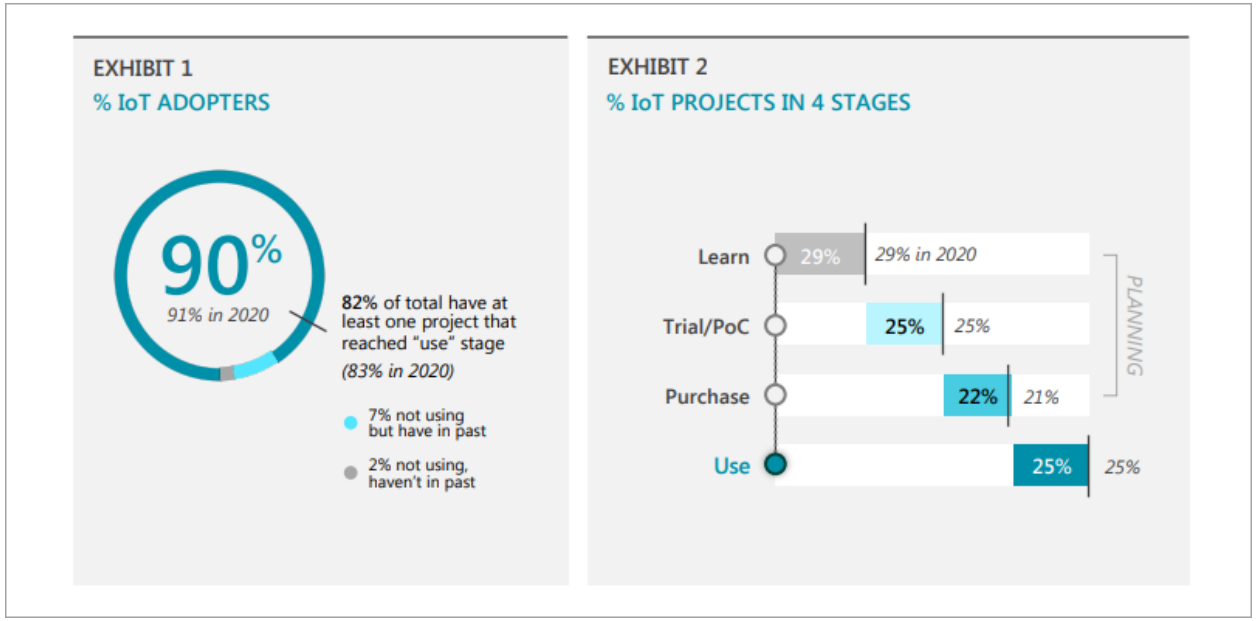
Azure Well-Architected Framework for IoT

Motivation



IoT Signals Edition 3 – October 2021

- IoT Projects are complex, many fail in the POC stage
  - Primary causes cited:
    1. Lack of knowledge
    2. Technical complexity cited as causes

Azure Well-Architected Framework for IoT

Introduction

- Built by a deeply technical team of architects, consultants, developers
- Goal: synthesize experience into actionable recommendations for customers
- Approach: leverage existing Azure Well-Architected Framework and extend for IoT workloads

Baseline: What is the Azure Well-Architected Framework?

Azure Well-Architected

Build and manage high-performing workloads

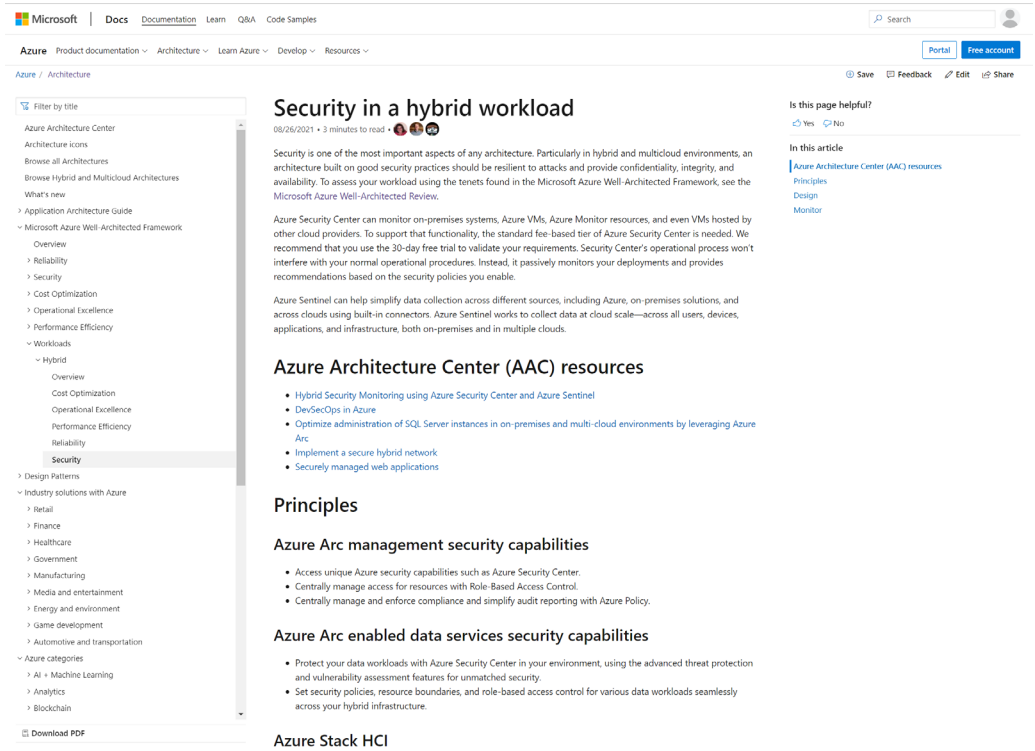
Build workloads with confidence with proven best practices

Design high-performing workloads using deep technical guidance

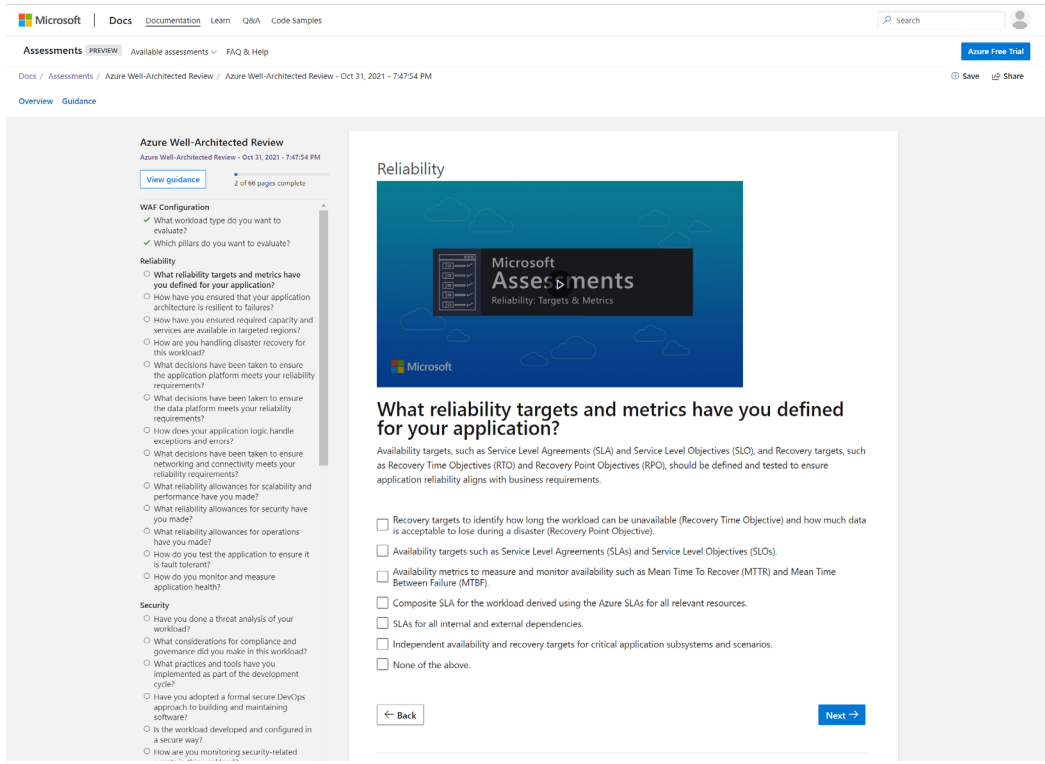
Optimize workloads with actionable focus areas

What are WAF “workload” deliverables?

(1) Written overview and guidance



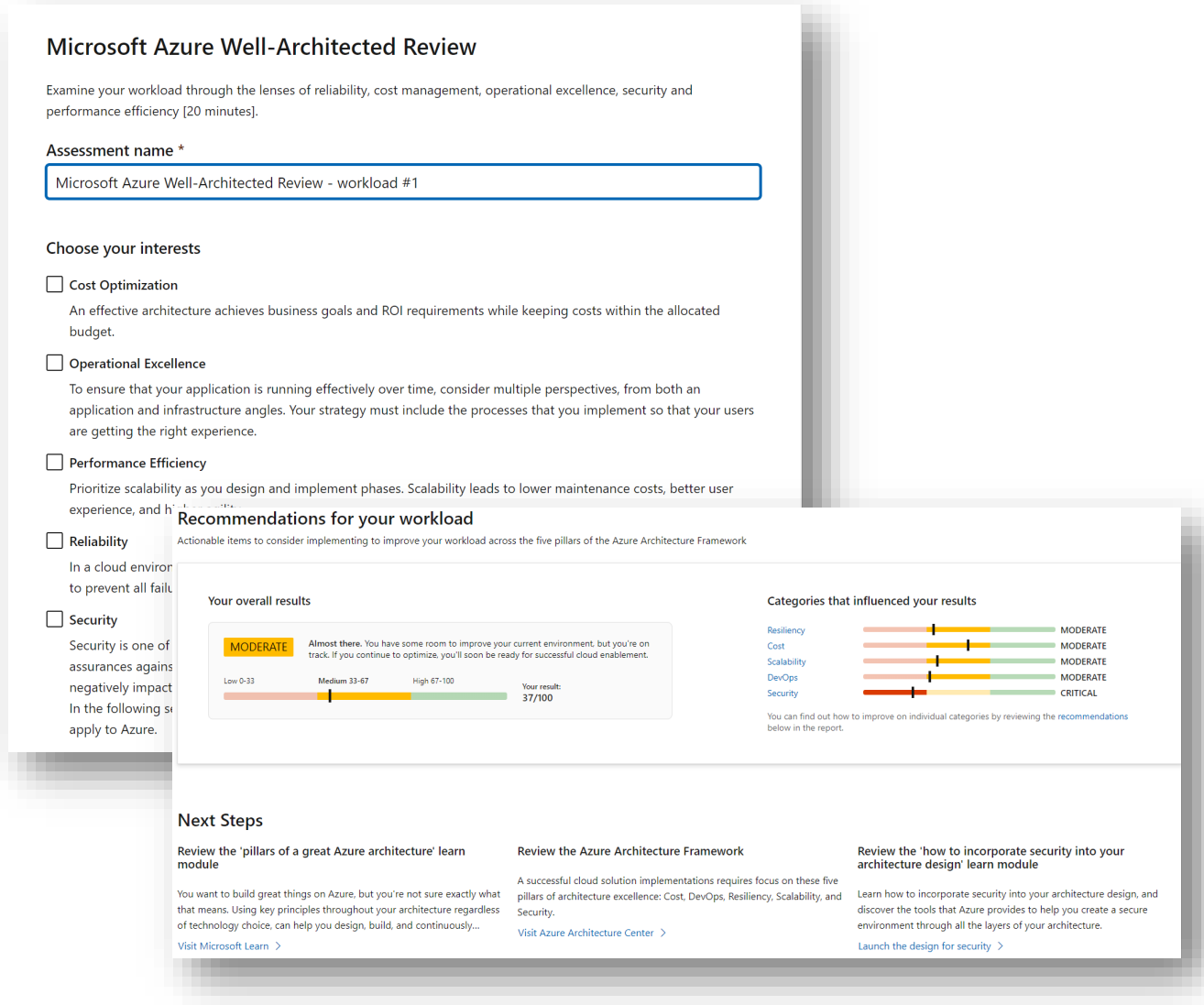
(2) Assessment questionnaire and implementation resources



Using the Azure Well-Architected Review

This web-based assessment helps improve the quality of a workload by

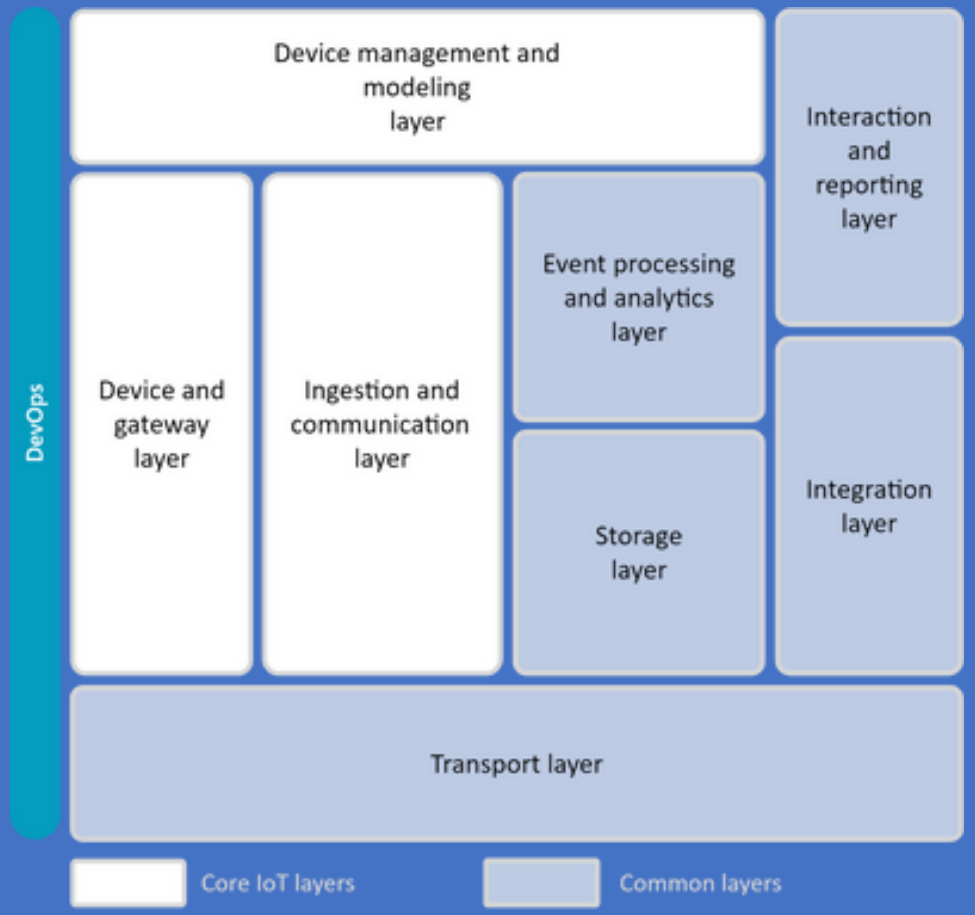
- **Examining the workload** across the 5 pillars of the Azure Well Architected Framework (Reliability, Cost Optimization, Security, Operations Excellence, and Performance Efficiency)
- **Providing specific guidance** to improve architecture and overcome detected hurdles effectively
- **Proactively focusing** on the pillar where most attention is needed
- **Driving consistency** into customer discussions.



https://aka.ms/architecture/review

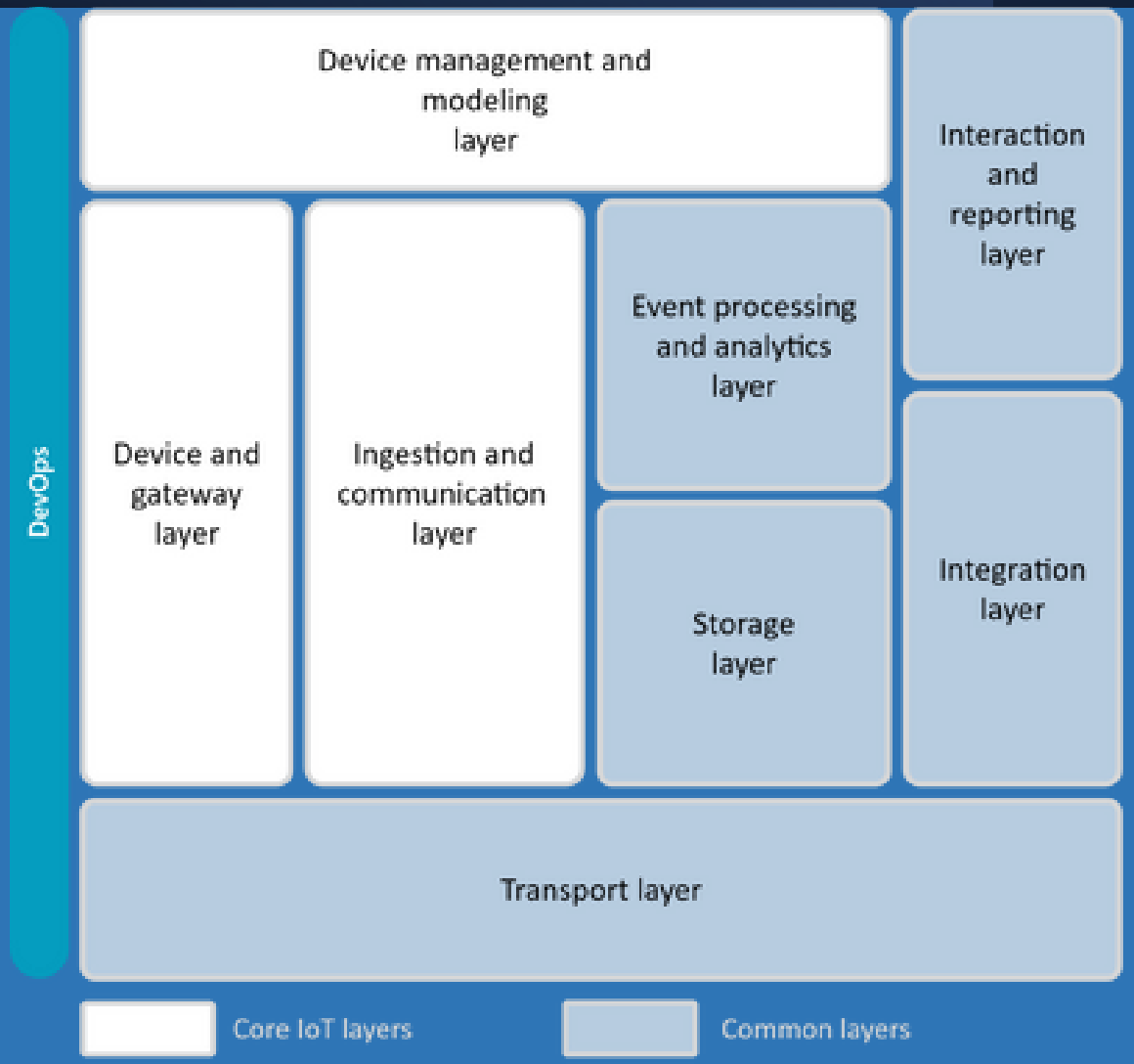
Azure Well-Architected Framework for IoT

1. Written Guidance
2. Well-Architected Review for IoT



Azure Well-Architected Framework for IoT

Architecture Layers



Azure Well-Architected Framework for IoT

IoT Workload Guidance

Outlines core principles

- Heterogeneity: different types of hardware and software
- Security: security and privacy measures
- (Hyper-) Scalability: support millions of connected devices and events
- Flexibility: built upon a principle of composability
- Serviceability: maintain and repair the components, devices, and other elements
- Intermittent connectivity: handle periods of offline and low-bandwidth connectivity
- Hybridity: on-premises, edge, and multi-cloud environments

Choosing the right architectural approach / pattern

- Connected Products - apply core principles
- Connected Operations - apply core principles

Provides recommendations for the 5 pillars of WAF

Resource: *https://aka.ms/waf/iot*

Azure Well-Architected Framework for IoT

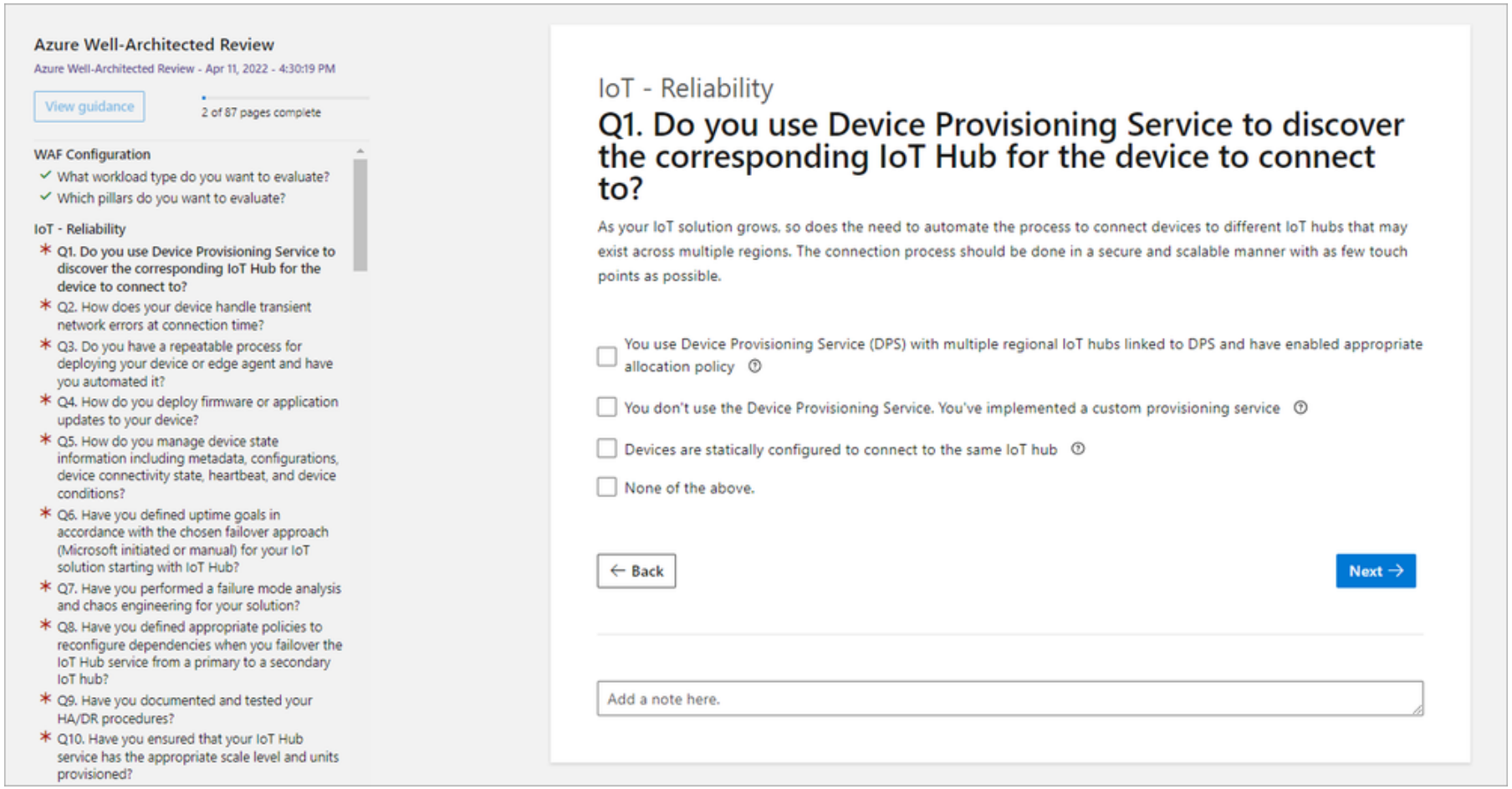
IoT Workload Assessment

- Web based assessment tool
- Designed to help evaluate your workload against Azure best practices
- Provides actionable guidance
- Tailors recommendations to IoT project needs (considers tradeoffs among pillars)
- Repeat anytime during your development process (pre-deployment, refining architecture for pillars, etc.)

Resource: *https://docs.microsoft.com/en-us/assessments*

Azure Well-Architected Framework for IoT

IoT Workload Assessment



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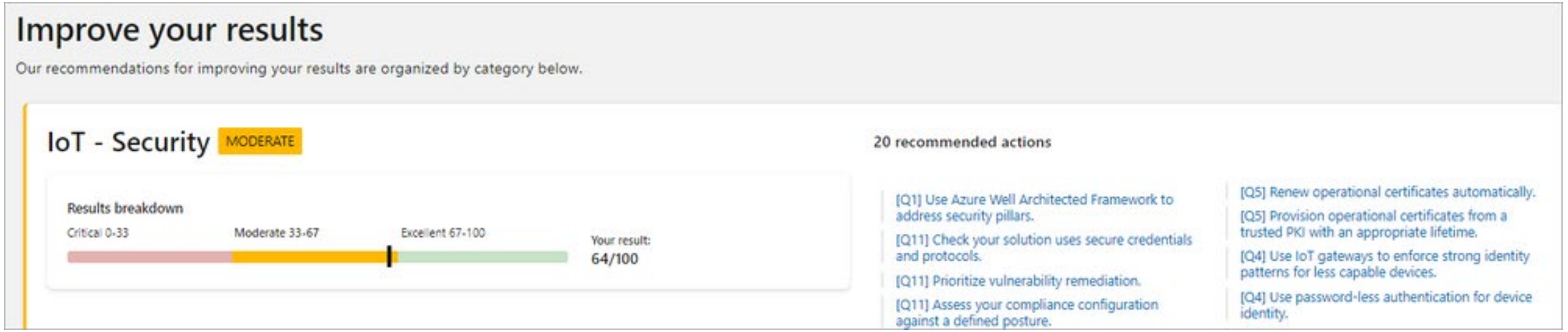
IoT Workload Assessment



Azure Well-Architected Framework for IoT

Resources

Well-Architected Framework for IoT – Guidance
https://aka.ms/waf/iot

Well-Architected Framework – MSLearn (leads to AZ-305 certification)
https://docs.microsoft.com/en-us/learn/paths/azure-well-architected-framework/

Well-Architected Review – aka “WAF assessment”
https://aka.ms/architecture/review

IoT Signals Report
IoT Signals Report | Microsoft Azure

Let’s take a look!

Thank you!