

Adria Forum 2025

Security for Private Cloud with VCF

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Security in Cloud Foundation



Be Secure, Faster

All the capabilities you need to succeed, turned on and ready to use, flexible to meet any workload or environment's needs.



Inherent Trust

Visibility into, and control of, the entire infrastructure stack is very important. Replace trust with continuous verification.



Recover Quickly

Resilience has always been the primary feature of VMware infrastructure, whether you face a failed application upgrade or a natural disaster.

CIA Triad: **Core Tenets** of Information Security



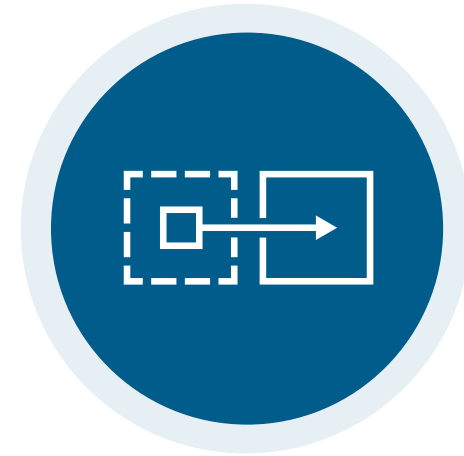
Confidentiality

Protecting systems & data
from unauthorized people
& groups



Integrity

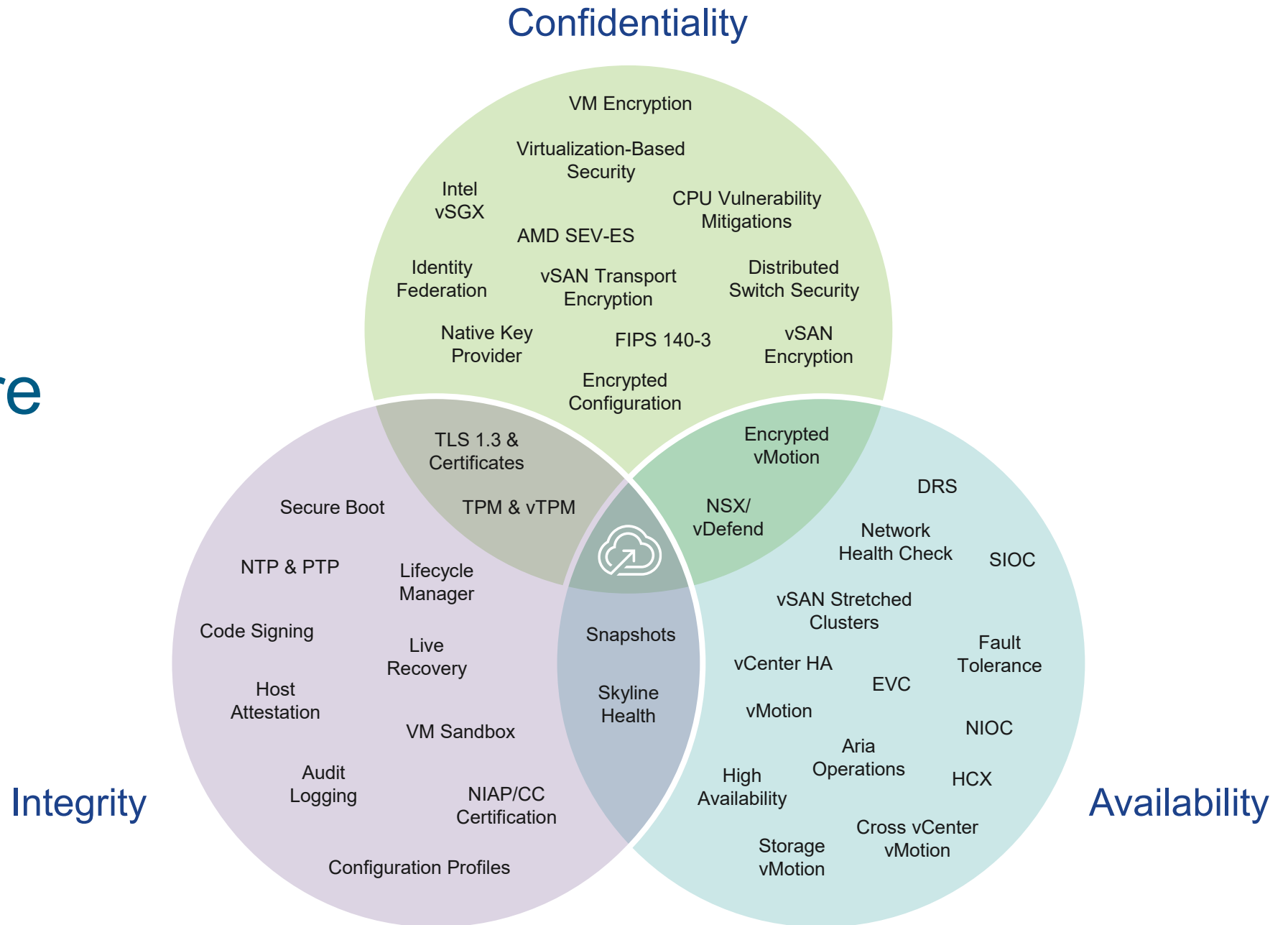
Preventing modification of
data by unauthorized
groups & systems



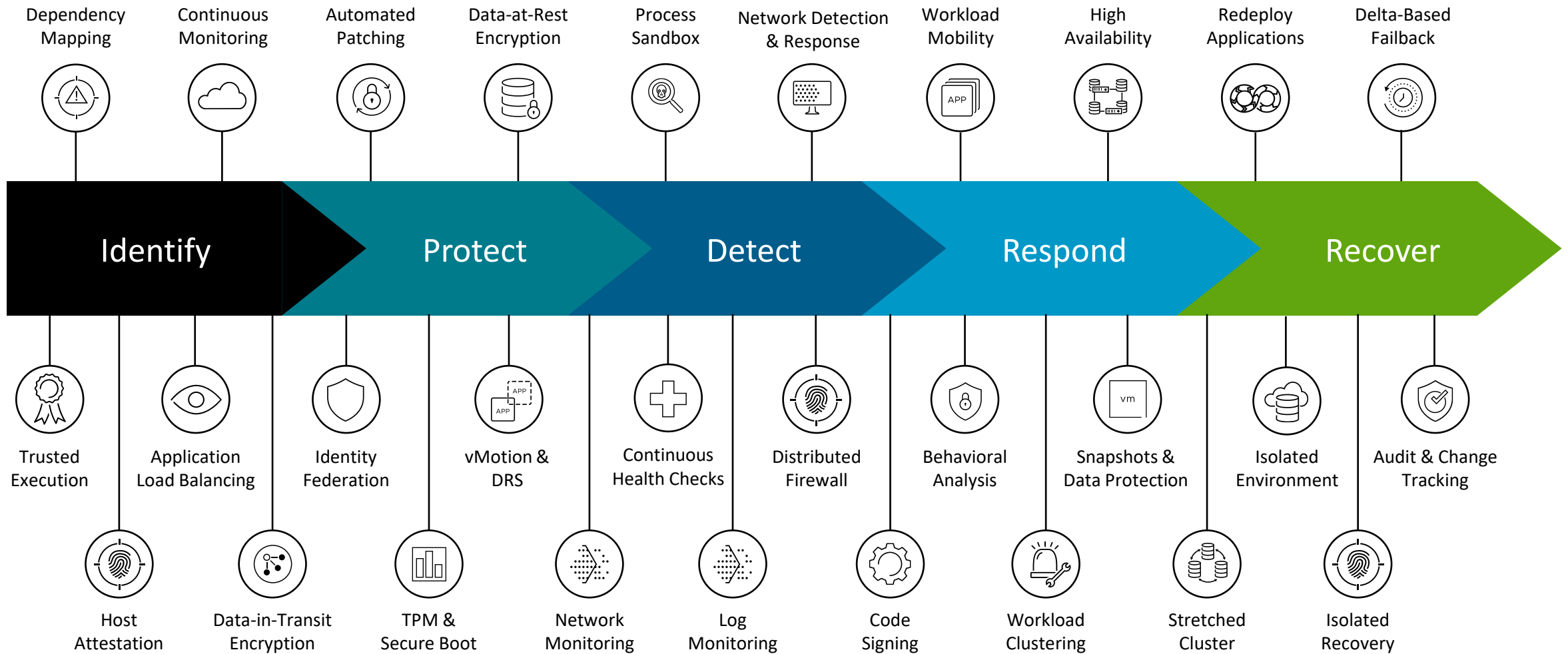
Availability

Ensuring that data is
available to authorized
parties when needed

Every Feature is a Security Feature



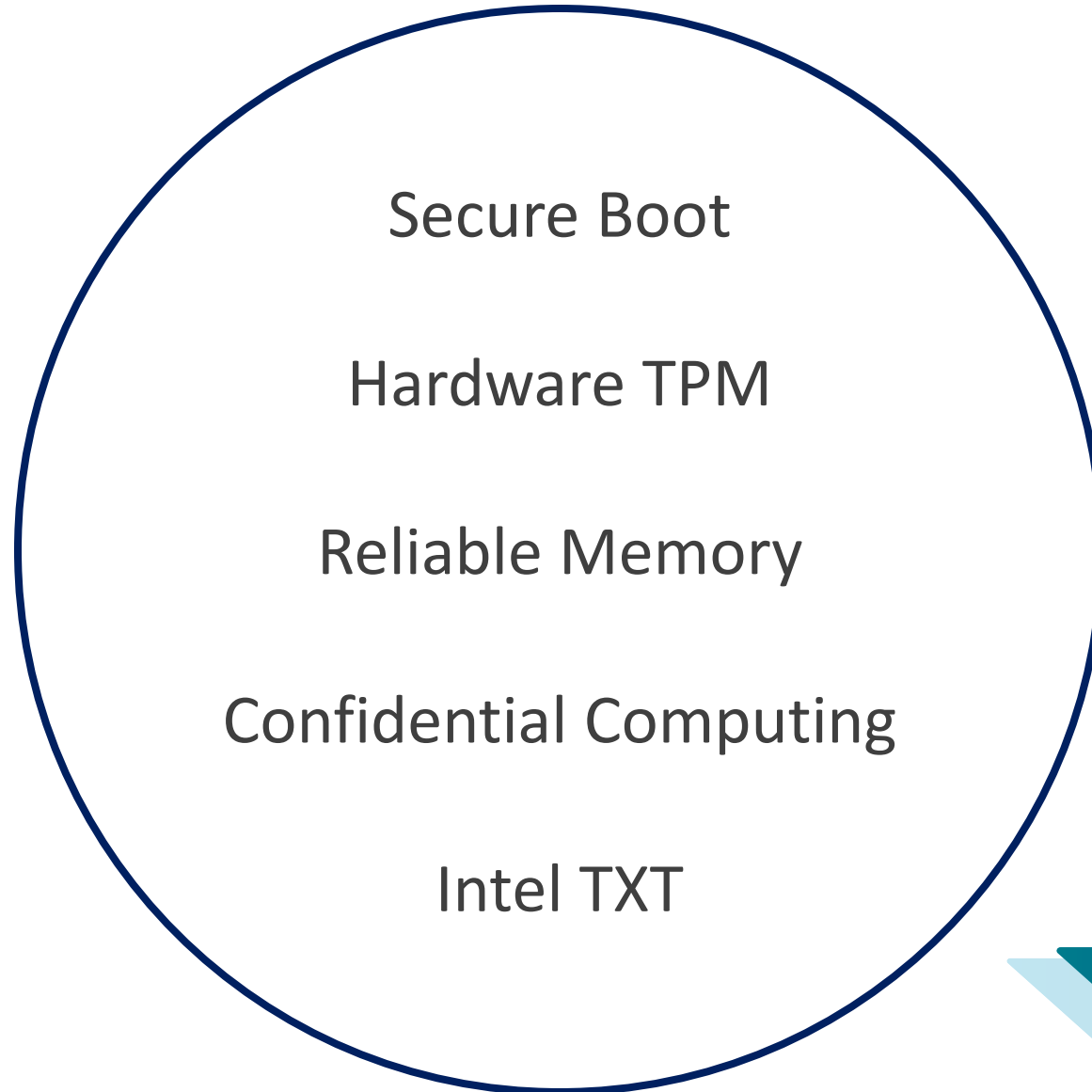
Resilience Woven Throughout VMware Cloud Foundation



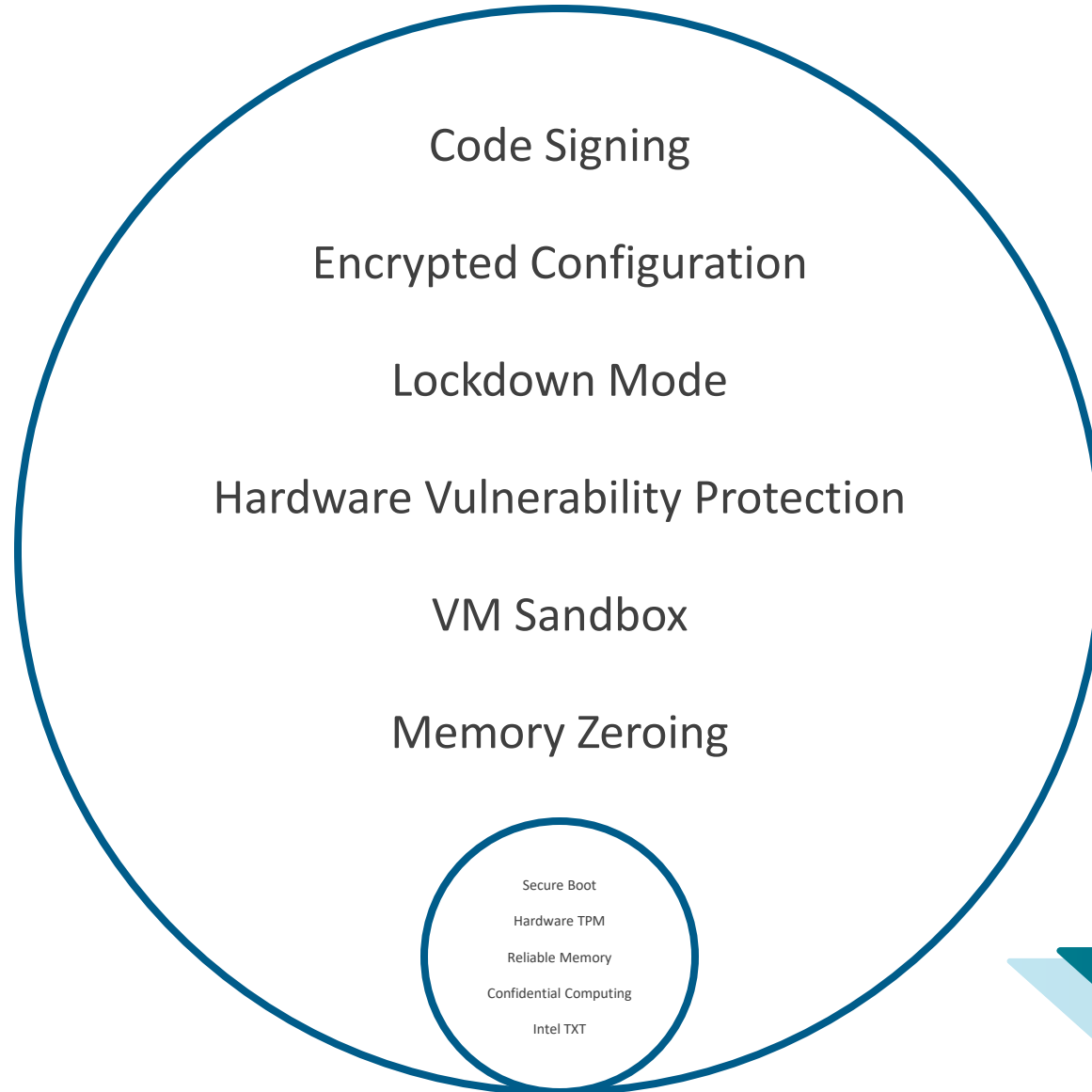
Layered Defenses

VMware Cloud Foundation 9.0





Hardware



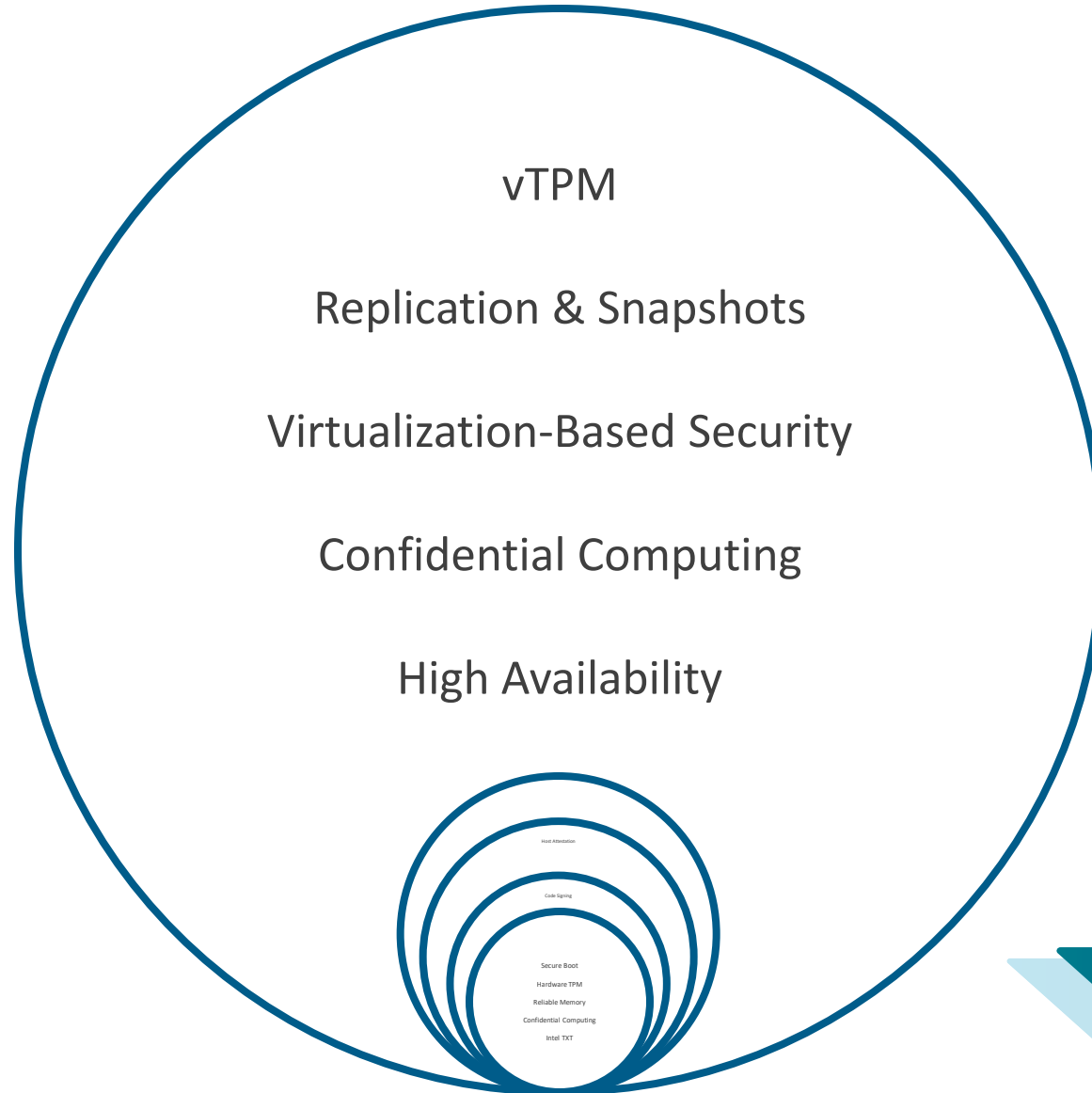
Hypervisor



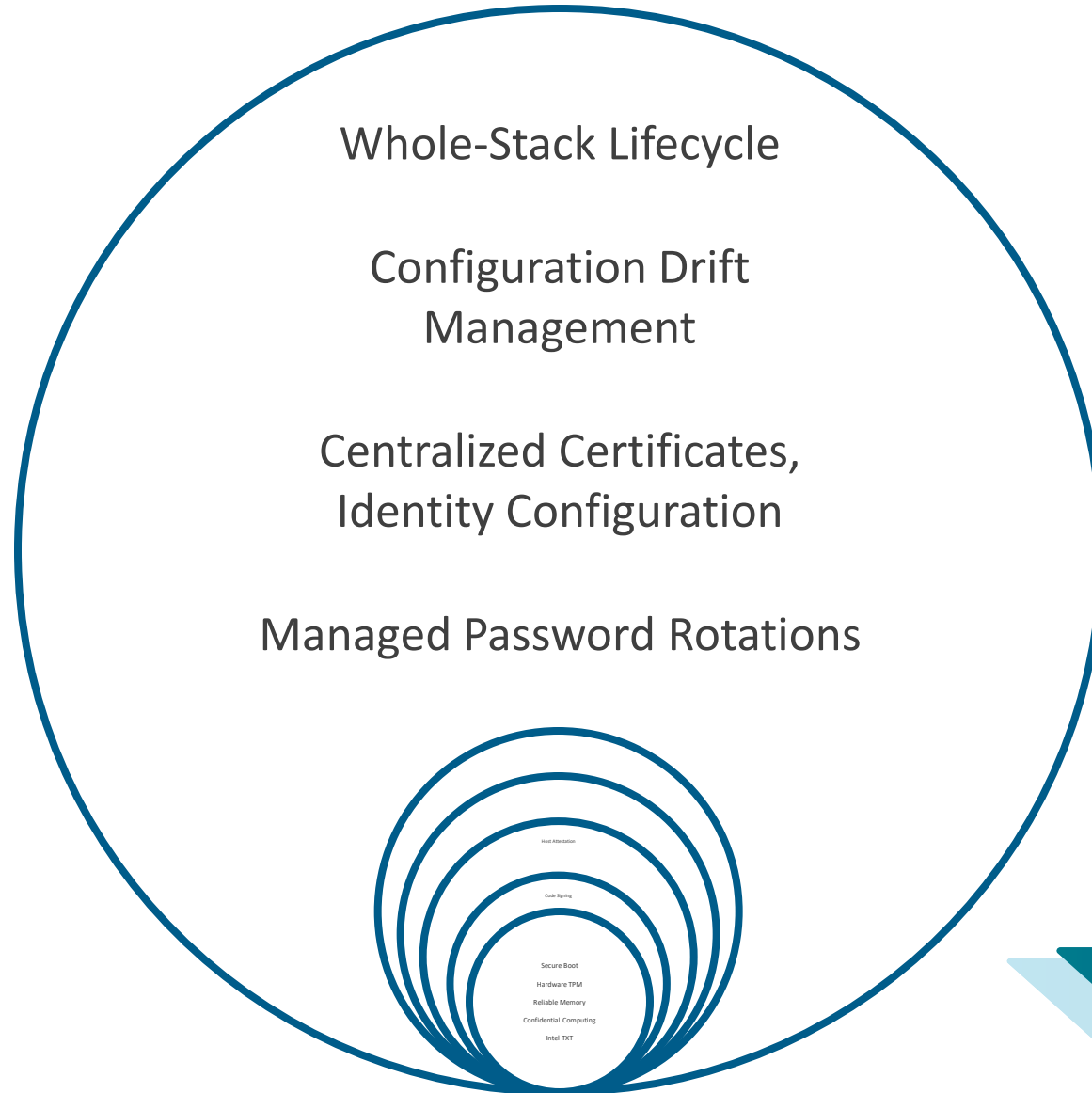
vCenter



vSAN



Workloads



Operations



VCF



VMware Cloud
Foundation® Operations




VMware Cloud
Foundation® Automation



VMware
Live Recovery™



VMware
vDefend™



Continuous monitoring of
performance, availability,
security status & events



VMware Cloud
Foundation® Operations



VMware Cloud
Foundation® Automation



VMware
Live Recovery™



VMware
vDefend™



VMware Cloud Foundation® Operations



VMware Cloud Foundation® Automation



VMware Live Recovery™



VMware vDefend™



VMware Cloud
Foundation® Operations



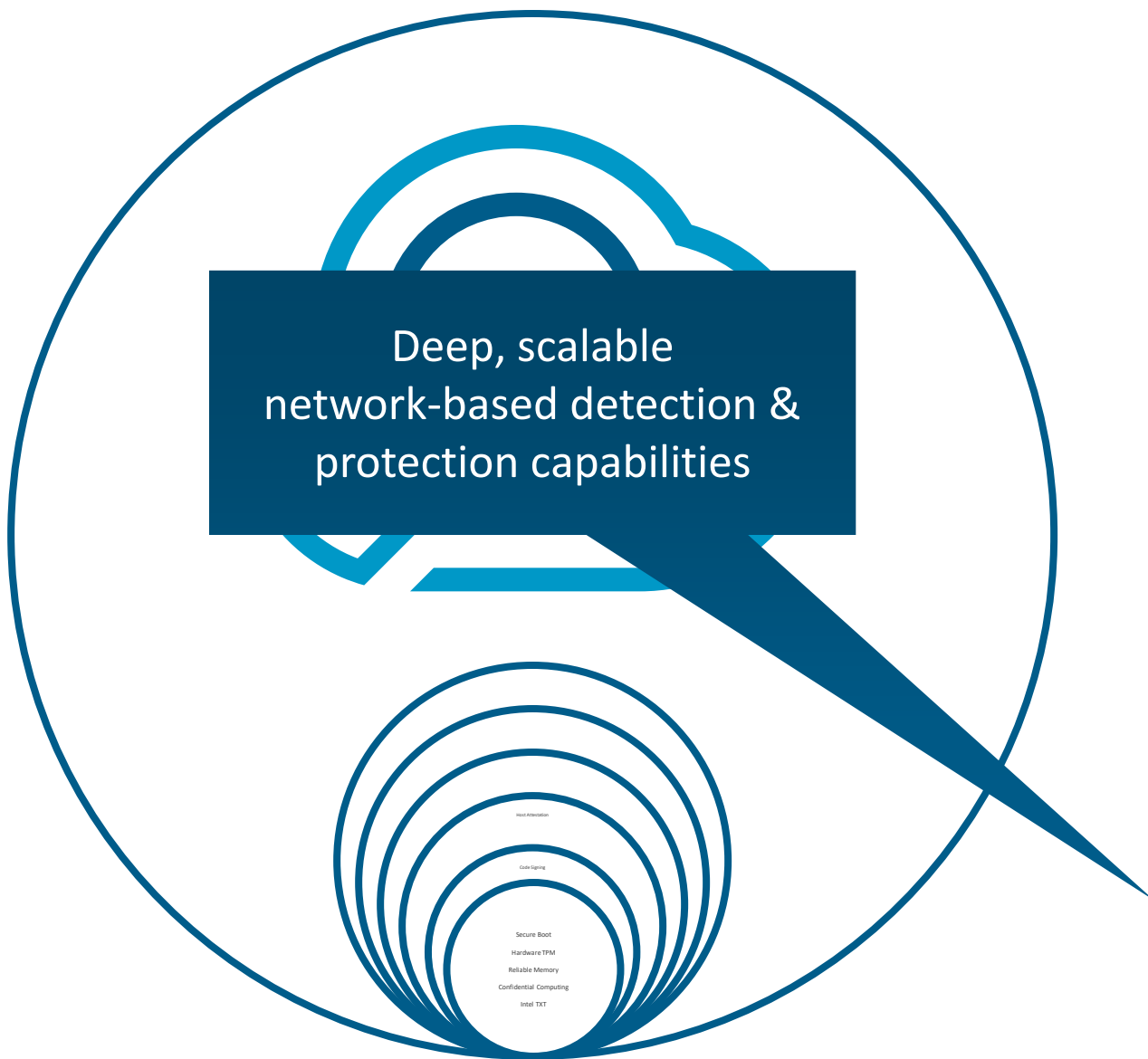
VMware Cloud
Foundation® Automation



VMware
Live Recovery™



VMware
vDefend™



VMware Cloud
Foundation® Operations



VMware Cloud
Foundation® Automation



VMware
Live Recovery™

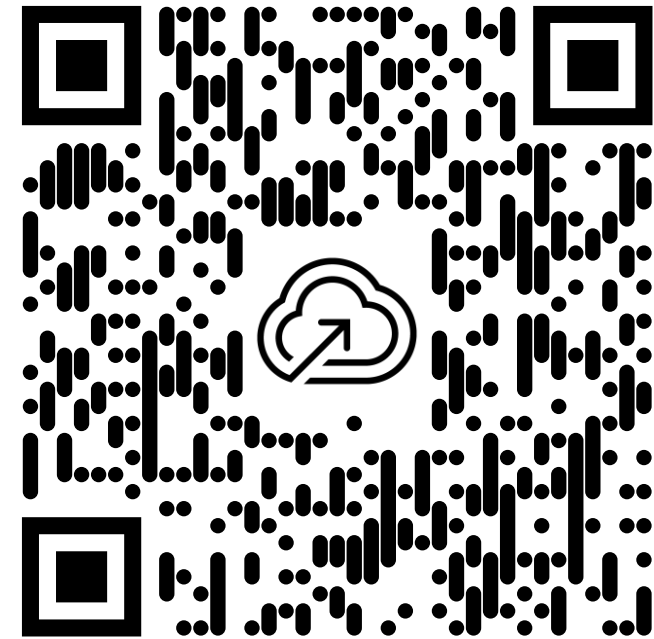


VMware
vDefend™

Security Hardening & Compliance Resources

<https://brcm.tech/vcf-security>

<https://github.com/vmware/vcf-security-and-compliance-guidelines/>



Baseline Security Hardening Guidance

Security Configuration Guides

VMware vSphere Security Baseline							
Version 803-20240813-01. Visit https://bit.ly/vcf-scg for the latest version.							
See the included documentation for important guidance and instructions.							
SCG ID	Product	Product Version	Component	Component Version	Feature/Function	Implementation Priority	Description/Title
esxi-8.account-auto-unlock-time	VMware vSphere	8	VMware ESXi	8.0.3	Base	P2	The ESXi host must unlock
esxi-8.account-dcui	VMware vSphere	8	VMware ESXi	8.0.3	Base	P0	The ESXi host must deny s
esxi-8.account-lockout	VMware vSphere	8	VMware ESXi	8.0.3	Base	P2	The ESXi host must lock a
esxi-8.account-password-history	VMware vSphere	8	VMware ESXi	8.0.3	Base	P2	Configure the password h
esxi-8.account-password-max-days	VMware vSphere	8	VMware ESXi	8.0.3	Base	P2	The ESXi host must be co
esxi-8.account-password-policies	VMware vSphere	8	VMware ESXi	8.0.3	Base	P0	The ESXi host must enfor
esxi-8.account-vpxuser	VMware vSphere	8	VMware ESXi	8.0.3	Base	Advanced	The ESXi host must deny s

Guidance that is easy to use and understand for VCF components

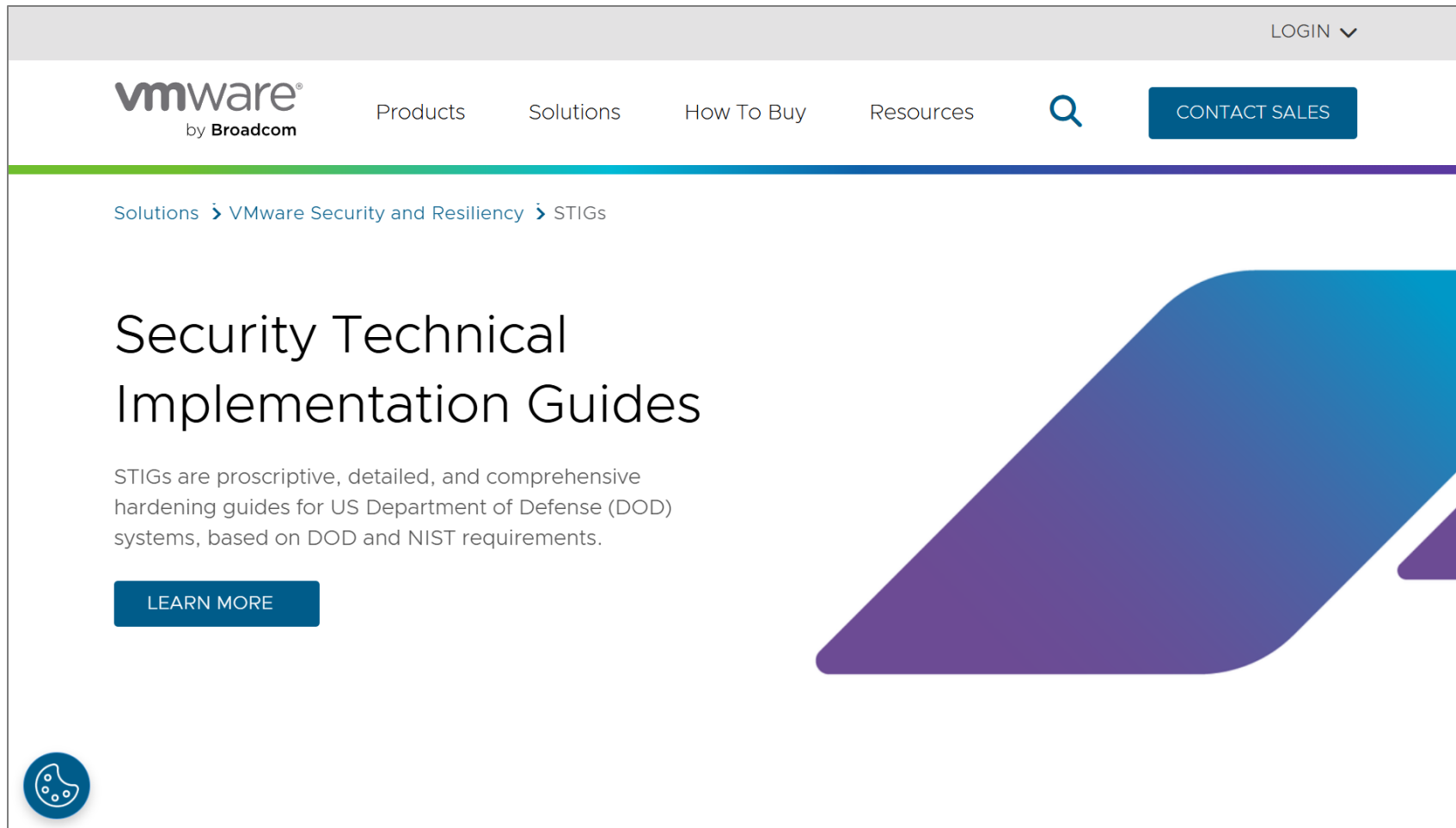
Filterable based on component, feature, version, and risk

Standardizes checks across components

Maps additional regulations and differences

US Department of Defense Guidance (DISA STIG)

Security Configuration Guides



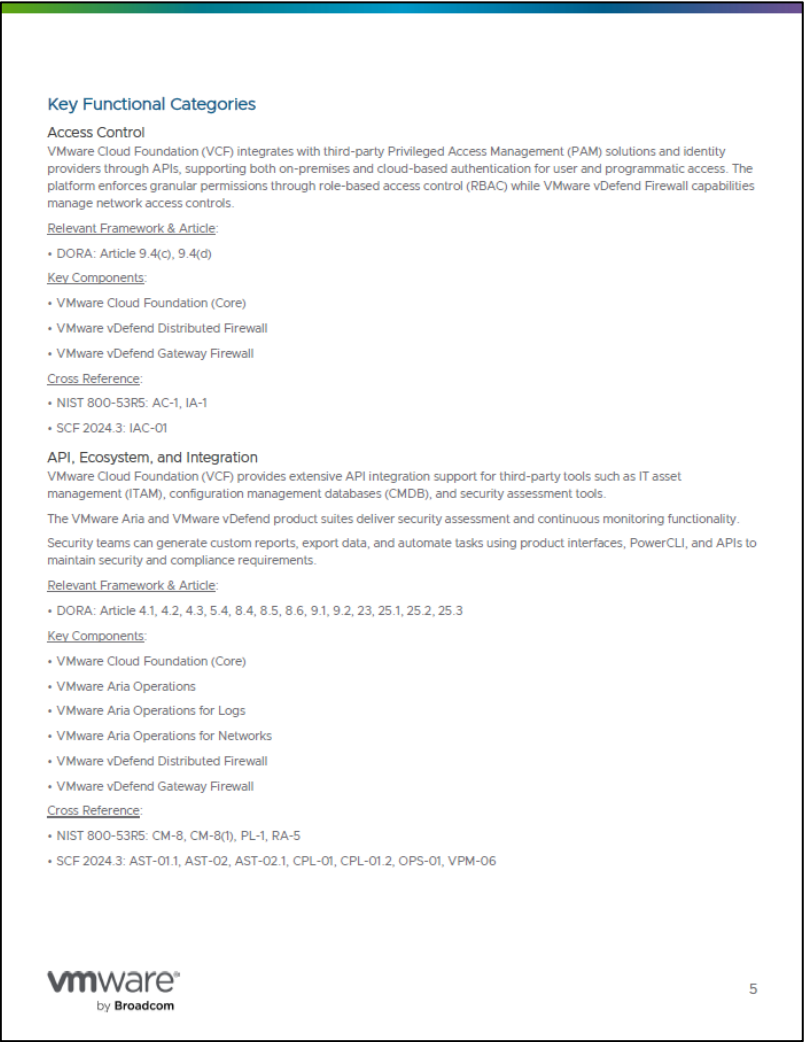
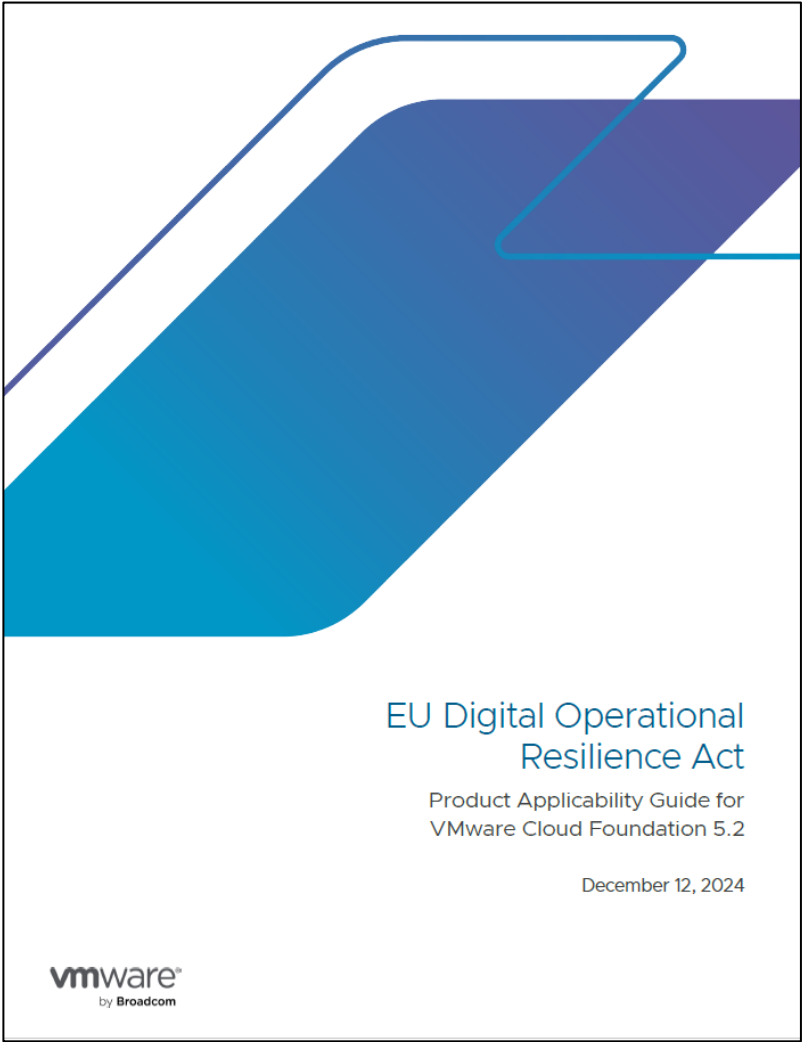
DISA-published
STIGs for direct US
DOD compliance

STIG Readiness
Guides: what has
been submitted to
DISA for approval

**Automation
capabilities via
Powershell &
InSpec to make it
easy to pass audits**

Understand Specifically How VCF Features Help

Product Applicability Guides & Kits for Regulatory Compliance



Know which features of VCF apply to a specific regulatory requirement.

Aids auditor understanding of VCF features.

Speeds design work and audits, making everyone happier.

Multiple Compliance Standards? No Problem.

Secure Controls Framework Mappings

J2 : X ✓ fx - Steering committee											
A	B	C	D	E	F	G	H	I	J	K	L
SCF Domain	SCF Control	SCF #	Secure Controls Framework (SCF) Control Description	Evidence Request List (ERL) #	Possible Solutions & Considerations Micro-Small Business (<10 staff) BLS Firm Size Classes 1-2	Possible Solutions & Considerations Small Business (10-49 staff) BLS Firm Size Classes 3-4	Possible Solutions & Considerations Medium Business (50-249 staff) BLS Firm Size Classes 5-6	Possible Solutions & Considerations Large Business (250-999 staff) BLS Firm Size Classes 7-8	Possible Solutions & Considerations Enterprise (> 1,000 staff) BLS Firm Size Class 9	SCF Control Question	Related Work
1	Cybersecurity & Data Protection Governance	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	E-GOV-01 E-GOV-02	- ComplianceForge - Cybersecurity & Data Protection Program (CDPP) (https://complianceforge.com)	- ComplianceForge - Cybersecurity & Data Protection Program (CDPP) (https://complianceforge.com)	- Steering committee - ComplianceForge - Digital Security Program (DSP) (https://complianceforge.com) - ComplianceForge - Cybersecurity & Data Protection Program (CDPP)	- Steering committee - ComplianceForge - Digital Security Program (DSP) (https://complianceforge.com) - ComplianceForge - Cybersecurity & Data Protection Program (CDPP)	- Steering committee - ComplianceForge - Digital Security Program (DSP) (https://complianceforge.com)	Does the organization facilitate the implementation of cybersecurity & data protection governance controls?	
2	Cybersecurity & Data Protection Governance	GOV-01.1	Mechanisms exist to coordinate cybersecurity, data protection and business alignment through a steering committee or advisory board, comprised of key cybersecurity, data privacy and business executives, which meets formally and on a regular basis.	E-GOV-03	- Third-party advisors (subject matter experts)	- Third-party advisors (subject matter experts)	- Steering committee / advisory board	- Steering committee / advisory board	- Steering committee / advisory board	Does the organization coordinate cybersecurity, data protection and business alignment through a steering committee or advisory board, comprised of key cybersecurity, data privacy and business executives, which meets formally and on a regular basis?	
3	Cybersecurity & Data Protection Governance	GOV-01.2	Mechanisms exist to provide governance oversight reporting and recommendations to those entrusted to make executive decisions about matters considered material to the organization's cybersecurity & data protection program.	E-CPL-05 E-GOV-03 E-GOV-04 E-GOV-05 E-GOV-06	- Quarterly Business Review (QBR)	- Quarterly Business Review (QBR)	- Quarterly Business Review (QBR)	- Quarterly Business Review (QBR)	- Quarterly Business Review (QBR)	Does the organization provide governance oversight reporting and recommendations to those entrusted to make executive decisions about matters considered material to its cybersecurity & data protection program?	
4	Cybersecurity & Data Protection Governance	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	E-GOV-08 E-GOV-09 E-GOV-11	- ComplianceForge - Cybersecurity & Data Protection Program (CDPP) (https://complianceforge.com) - SCFConnect (https://scfconnect.com)	- ComplianceForge - Cybersecurity & Data Protection Program (CDPP) (https://complianceforge.com) - SCFConnect (https://scfconnect.com)	- ComplianceForge - Digital Security Program (DSP) (https://complianceforge.com) - ComplianceForge - Cybersecurity & Data Protection Program (CDPP) (https://complianceforge.com)	- ComplianceForge - Digital Security Program (DSP) (https://complianceforge.com) - ComplianceForge - Cybersecurity & Data Protection Program (CDPP) (https://complianceforge.com)	- ComplianceForge - Digital Security Program (DSP) (https://complianceforge.com)	Does the organization establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures?	
5	Cybersecurity & Data Protection Governance	GOV-02.1	Mechanisms exist to prohibit exceptions to standards, except when the exception has been formally assessed for risk impact, approved and recorded.	E-GOV-18	- Manual exception management process - SCFConnect (https://scfconnect.com)	- Manual exception management process - Governance, Risk & Compliance (GRC) solution - SCFConnect (https://scfconnect.com)	- Manual exception management process - Governance, Risk & Compliance (GRC) solution - SCFConnect (https://scfconnect.com)	- Governance, Risk & Compliance (GRC) solution - SCFConnect (https://scfconnect.com)	- Governance, Risk & Compliance (GRC) solution - SCFConnect (https://scfconnect.com)	Does the organization prohibit exceptions to standards, except when the exception has been formally assessed for risk impact, approved and recorded?	
6	Cybersecurity & Data Protection Governance	GOV-03	Mechanisms exist to review the cybersecurity & data privacy program, including policies, standards and procedures, at planned intervals or if significant changes occur to ensure their continuing suitability, adequacy and effectiveness.	E-GOV-12	- Human reviews - Documentation change control	- Human reviews - Documentation change control	- Human reviews - Documentation change control	- Human reviews - Documentation change control	- Human reviews - Documentation change control	Does the organization review the cybersecurity & data privacy program, including policies, standards and procedures, at planned intervals or if significant changes occur to ensure their continuing suitability, adequacy and effectiveness?	
7	Cybersecurity & Data Protection Governance	GOV-04	Mechanisms exist to assign one or more qualified individuals with the mission and resources to centrally-manage, coordinate, develop, implement and maintain an enterprise-wide cybersecurity & data protection program.	E-HRS-01 E-HRS-05 E-HRS-06 E-HRS-07 E-HRS-08 E-HRS-09	- Third-party advisors (e.g., virtual CISO, Managed Security Services Provider (MSSP), etc.)	- Third-party advisors (e.g., virtual CISO, Managed Security Services Provider (MSSP), etc.)	- Chief Information Security Officer (CISO)	- Chief Information Security Officer (CISO)	- Chief Information Security Officer (CISO)	Does the organization assign one or more qualified individuals with the mission and resources to centrally-manage, coordinate, develop, implement and maintain an enterprise-wide cybersecurity & data protection program?	
8	Cybersecurity & Data Protection Governance	GOV-04.1	Mechanisms exist to enforce an accountability structure so that appropriate teams and individuals are empowered, responsible and trained for mapping, measuring and managing data and technology-related risks.	E-HRS-15	- Documented roles and responsibilities	- Documented roles and responsibilities	- Documented roles and responsibilities	- Documented roles and responsibilities	- Documented roles and responsibilities	Does the organization enforce an accountability structure so that appropriate teams and individuals are empowered, responsible and trained for mapping, measuring and managing data and technology-related risks?	
9	Cybersecurity & Data Protection Governance	GOV-04.2	Mechanisms exist to establish an authoritative chain of command with clear lines of communication to remove ambiguity from individuals and teams related to managing data and technology-related risks.	E-HRS-15	- Organization chart	- Organization chart	- Organization chart	- Organization chart	- Organization chart	Does the organization establish an authoritative chain of command with clear lines of communication to remove ambiguity from individuals and teams related to managing data and technology-related risks?	
10	Cybersecurity & Data Protection Governance	GOV-05	Mechanisms exist to develop, report and monitor cybersecurity & data privacy program measures of performance.	E-GOV-13	- Manually-generated metrics - Governance, Risk & Compliance (GRC) solution	- Manually-generated metrics - Governance, Risk & Compliance (GRC) solution	- Manually-generated metrics - Governance, Risk & Compliance (GRC) solution	- Manually-generated metrics - Governance, Risk & Compliance (GRC) solution	- Manually-generated metrics - Governance, Risk & Compliance (GRC) solution	Does the organization develop, report and monitor cybersecurity & data privacy program measures of performance?	
11	Cybersecurity & Data Protection Governance		Mechanisms exist to develop, report and monitor Key		- Manually-generated metrics	- Manually-generated metrics	- Manually-generated metrics	- Manually-generated metrics	- Manually-generated metrics	Does the organization develop, report and monitor Key	

SCF is a terrific open-source meta-framework for regulatory compliance

Crosswalk between 100+ compliance standards

We've mapped VCF capabilities & baseline guidance to security controls

Lots of Other Security & Compliance Information

<https://github.com/vmware/vcf-security-and-compliance-guidelines>

vmware / vcf-security-and-compliance-guidelines

<> Code Issues Pull requests Actions Security Insights Settings

vcf-security-and-compliance-guidelines Public

Edit Pins Unwatch 10 Fork 2 Starred 31

main 1 Branch 0 Tags

Go to file Add file Code

plankers Mapping FIPS validations to products in VCF 5.2.1 f80792e · 53 minutes ago 116 Commits

features-capabilities	Mapping FIPS validations to products in VCF 5.2.1	53 minutes ago
ransomware-resources	Added Symantec incident response services information.	3 months ago
regulatory-compliance	Added brcm.tech/vcf-compliance links.	last month
security-advisories	Updated security advisory mailing list information.	last month
security-configuration-hardening-guide	Changing bit.ly links to brcm.tech.	2 months ago
security-design	Changing bit.ly links to brcm.tech.	2 months ago
.gitignore	Initial content migration.	4 months ago
CODE_OF_CONDUCT.md	Initial content migration.	4 months ago
CONTRIBUTING_CLA.md	Initial content migration.	4 months ago
LICENSE.md	Update and rename LICENSE to LICENSE.md	4 months ago
LINKS.md	Updated security advisory mailing list information.	last month
NOTICE.md	Rename NOTICE to NOTICE.md	4 months ago
README.md	Added brcm.tech/vcf-compliance links.	last month
SECURITY.md	Update SECURITY.md	4 months ago

About

Security, compliance, and operational resilience resources applicable to VMware Cloud Foundation and VMware vSphere. This repository is an official VMware repository managed by Broadcom staff.

brcm.tech/vcf-security

- Readme
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- Code of conduct
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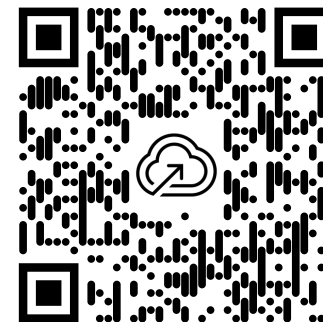
Vast Q&A for product capabilities

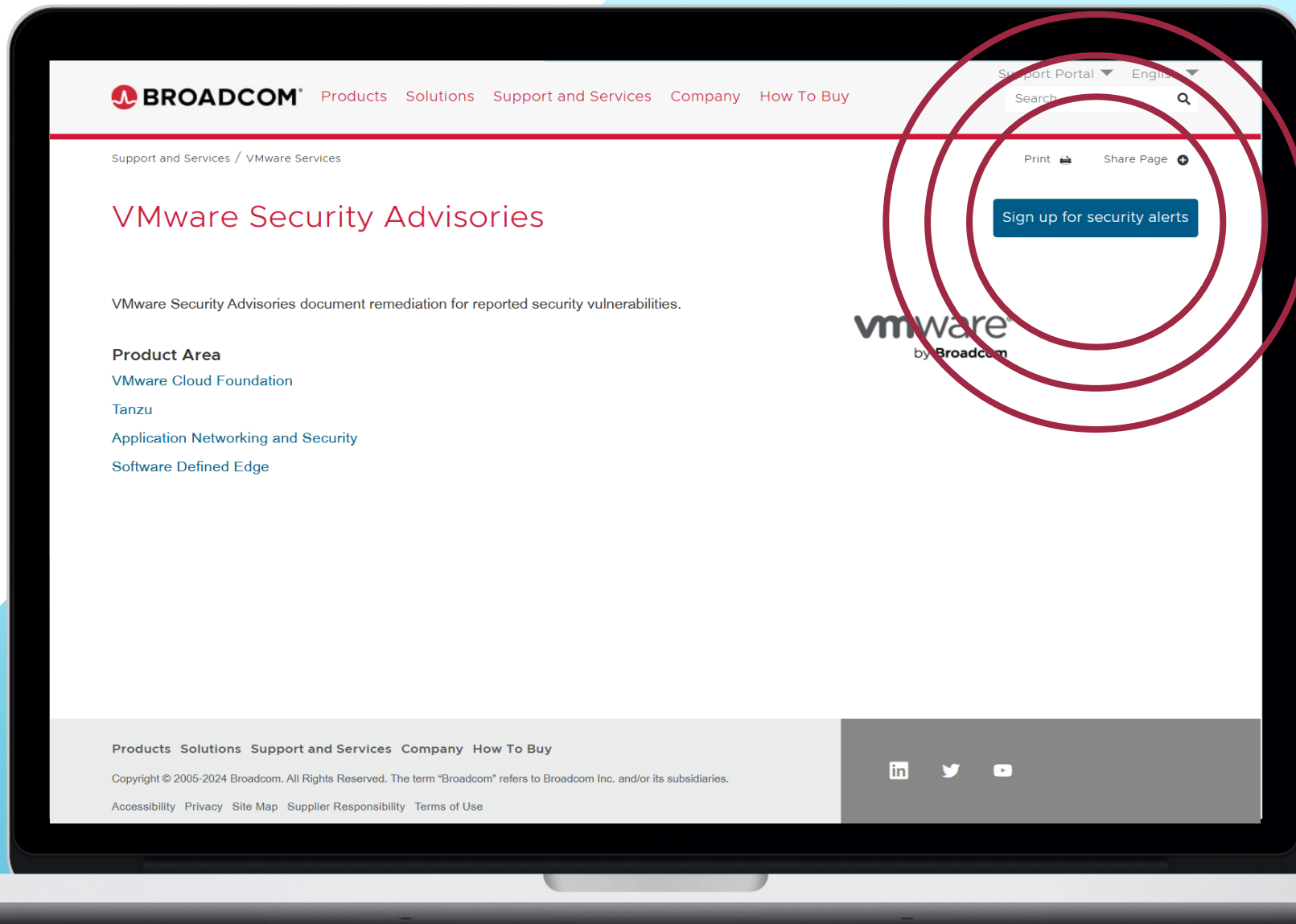
Regulatory compliance information

SCG & sample code for automation

Advisory Q&A

A growing “one-stop shop” for all things VMware security







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Thank You!