Software Trust & Transparency: Artifacts

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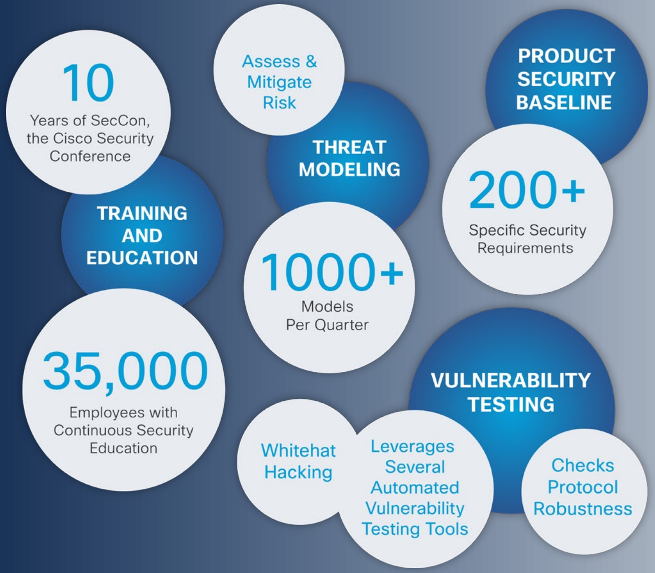
Artifacts

Evidence that demonstrates that an organization is:

- following a documented process or meeting a specific requirement;
- Are gathered and archived throughout the system development life cycle;
- are to be used as evidence in internal and/or external audits and assessments.

Secure Development Lifecycle



10

Years of SecCon, the Cisco Security Conference

Assess & Mitigate Risk

THREAT MODELING

PRODUCT SECURITY BASELINE

TRAINING AND EDUCATION

200+

Specific Security Requirements

1000+

Models Per Quarter

35,000

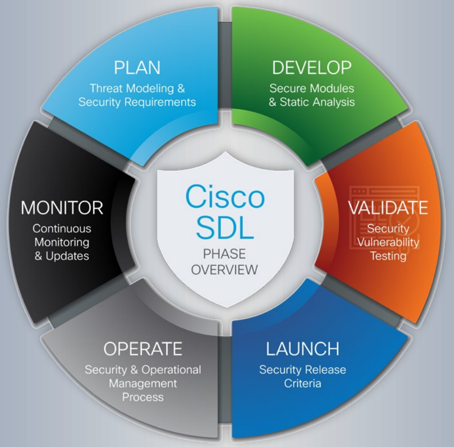
Employees with Continuous Security Education

VULNERABILITY TESTING

Whitehat Hacking

Leverages Several Automated Vulnerability Testing Tools

Checks Protocol Robustness



Cisco SDL

PHASE OVERVIEW

PLAN

Threat Modeling & Security Requirements

DEVELOP

Secure Modules & Static Analysis

VALIDATE

Security Vulnerability Testing

LAUNCH

Security Release Criteria

OPERATE

Security & Operational Management Process

MONITOR

Continuous Monitoring & Updates

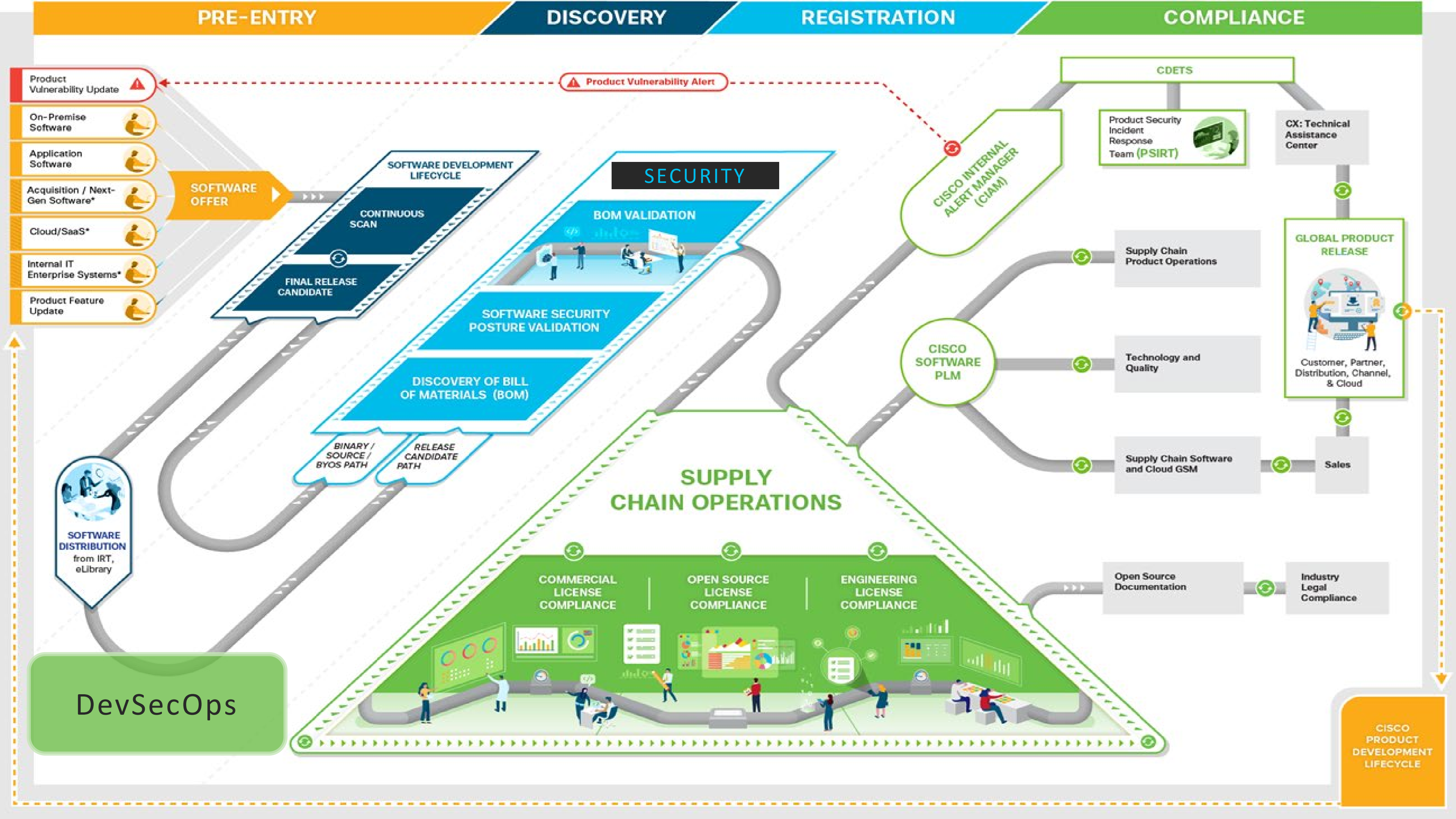
Cisco Secure Development Lifecycle.

Repeatable. Measurable. Resilient. Trustworthy.

- Rigorous, evolving product security baseline
- Minimizes vulnerabilities, enhances security
- Embeds security across the portfolio

NIST 800-53 SCRM Mapping

		Master Security Specification	Cisco Secure Development Lifecycle	Supply Chain Security Team	InfoSec	Acquisition & Integration Team	Secure Boot	Trust Anchor Module	Approved Vendor List	Supply Chain Resiliency Team	Quality Assurance	PSIRT	Brand Protection Team
Control	**Name**	**Value Chain Security Architecture**					**Trustworthy Technology**		**Cisco Polices, Procedures, and Teams**				
SR-1	Policy and Procedures	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
SR-2	Supply Chain Risk Management Plan	✓	✓	✓	✓					✓			
SR-2 (1)	Establish SCRM Team			✓	✓					✓			✓
SR-3	Supply Chain Controls and Processes	✓		✓	✓		✓	✓	✓	✓	✓		
SR-3-1	Diverse Supply Base			✓					✓	✓			
SR-3-2	Limitation of Harm			✓					✓	✓			✓
SR-3-3	Sub-Tier Flow Down	✓		✓	✓				✓	✓	✓		✓
SR-4	Provenance	✓	✓	✓	✓		✓	✓				✓	
SR-4-1	Identity	✓		✓	✓								✓
SR-4-2	Track and Trace	✓											
SR-4-3	Validate as Genuine and Not Altered	✓	✓	✓			✓	✓			✓		✓
SR-4-4	Supply Chain Integrity - Pedigree	✓		✓	✓		✓	✓					
SR-5	Acquisition Strategies, Tools, and Methods			✓	✓	✓			✓				
SR-5-1	Adequate Supply			✓		✓			✓	✓			
SR-5-2	Assessments Prior to Selection, Acceptance, Modification, or Update		✓	✓									✓
SR-6	Suppler Assessments and Reviews	✓		✓	✓				✓				
SR-6-1	Testing and Analysis	✓	✓		✓								
SR-7	Supply Chain Operations Security	✓		✓					✓				✓
SR-8	Notification Agreements	✓		✓	✓					✓			
SR-9	Tamper Resistance and Detection	✓		✓	✓		✓	✓					✓
SR-9-1	Multiple Stages of System Development Lifecycle	✓	✓				✓	✓					
SR-10	Inspection of Systems and Components	✓		✓									✓
SR-11	Component Authenticity	✓	✓	✓			✓	✓				✓	✓
SR-11-1	Anti-Counterfeit Training	✓		✓									✓
SR-11-2	Config Control for Component Service and Repair	✓		✓									
SR-11-3	Anti-Counterfeit Scanning	✓	✓	✓	✓		✓	✓			✓		✓
SR-12	Component Disposal	✓		✓									✓



PRE-ENTRY

DISCOVERY

REGISTRATION

COMPLIANCE

Product Vulnerability Update

On-Premise Software

Application Software

Acquisition / Next-Gen Software*

Cloud/SaaS*

Internal IT Enterprise Systems*

Product Feature Update

SOFTWARE OFFER

Product Vulnerability Alert

SOFTWARE DEVELOPMENT LIFECYCLE

CONTINUOUS SCAN

FINAL RELEASE CANDIDATE

SECURITY

BOM VALIDATION

SOFTWARE SECURITY POSTURE VALIDATION

DISCOVERY OF BILL OF MATERIALS (BOM)

BINARY / SOURCE / BYOS PATH

RELEASE CANDIDATE PATH

CISCO INTERNAL ALERT MANAGER (CIAM)

CDETS

Product Security Incident Response Team (PSIRT)

CX: Technical Assistance Center

GLOBAL PRODUCT RELEASE

Customer, Partner, Distribution, Channel, & Cloud

Supply Chain Product Operations

CISCO SOFTWARE PLM

Technology and Quality

Supply Chain Software and Cloud GSM

Sales

SUPPLY CHAIN OPERATIONS

COMMERCIAL LICENSE COMPLIANCE

OPEN SOURCE LICENSE COMPLIANCE

ENGINEERING LICENSE COMPLIANCE

Open Source Documentation

Industry Legal Compliance

SOFTWARE DISTRIBUTION from IRT, eLibrary

DevSecOps

CISCO PRODUCT DEVELOPMENT LIFECYCLE

SW Development: Robust Process = Substantive Artifacts

Build Environment Security Standard

- Inventory & Attribution
- Hardening
- Vulnerability Management
- Logging and Monitoring
- Segmentation
- Access
- Superuser guardrails
- Source Requirements
- Build Requirements
- Provenance Requirements

EO 14028 – Section 4, Enhanced Software Supply Chain Security

(A) using administratively separate build environments;
(B) auditing trust relationships;
(C) establishing multi-factor, risk-based authentication and conditional access
(D) documenting and minimizing dependencies on enterprise products that are part of the environments used to develop, build, and edit software;
(E) employing encryption for data; and
(F) monitoring operations and alerts and responding to attempted and actual cyber incidents;

(ii) providing artifacts that demonstrate conformance to subsection (e)(i)
(iii) employing automated tools/processes to maintain trusted source code supply chains
(iv) employing automated tools, or comparable processes, that check for known and potential vulnerabilities and remediate them.
(v) providing artifacts of the execution of the tools and processes described in subsection (e)(iii) and (iv)
(vi) maintaining accurate and up-to-date data, provenance (i.e., origin) of software code or components, and controls on internal and third-party software components tools, and services present in software development processes through audits
(vii) providing a purchaser a Software Bill of Materials (SBOM)
(viii) participating in a vulnerability disclosure program that includes a reporting and disclosure process;
(ix) attesting to conformity with secure software development practices; and
(x) ensuring and attesting to the integrity and provenance of open source software used within any portion of a product.

People - Process – Technology - Policy

Artifacts from Secure SW Development

- Identified and accountable SW Security Lead
- Two-person review before commits
- Attribution down to developer
- Documented Policy & Process
- Security assessment of build environment
- Security Assessment of 3d party code
- Use of approved base images
- Approved code library
- Use of antimalware solution in build environment
- Use of encryption within build environment
- Use & follow vulnerability management standard
- Security & visibility
- Secure logging standards
- Build environment/production environment segmentation
- Source code management system
- SBOM

SLSA Security Levels

1
Basic Protection

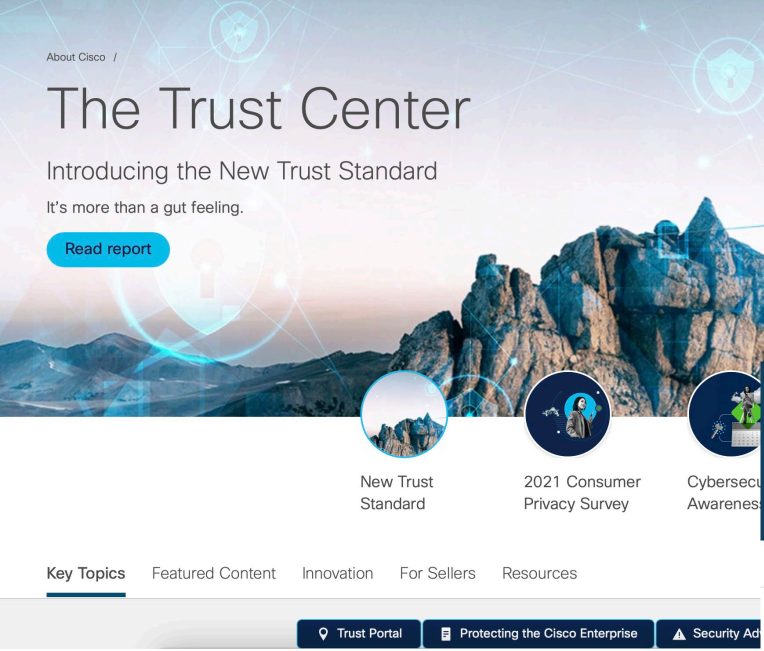
2
Medium Protection

3
Advanced Protection

4
Maximum Protection

Sharing Artifacts

https://www.cisco.com/c/en/us/about/trust-center.html



About Cisco /

The Trust Center

Introducing the New Trust Standard

It's more than a gut feeling.

Read report

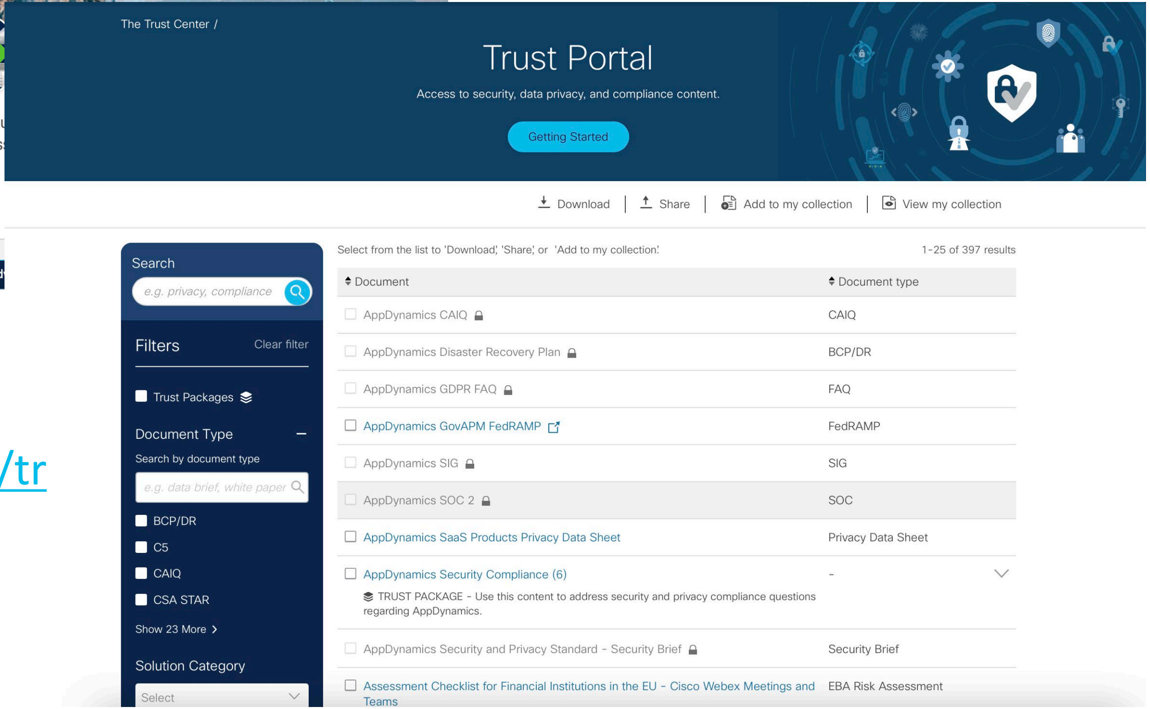
New Trust Standard

2021 Consumer Privacy Survey

Cybersecu Awarenes

Key Topics | Featured Content | Innovation | For Sellers | Resources

Trust Portal | Protecting the Cisco Enterprise | Security Ad



The Trust Center /

Trust Portal

Access to security, data privacy, and compliance content.

Getting Started

Download | Share | Add to my collection | View my collection

Search

e.g. privacy, compliance

Filters Clear filter

□ Trust Packages

Document Type

Search by document type

e.g. data brief, white paper

□ BCP/DR

□ C5

□ CAIQ

□ CSA STAR

Show 23 More >

Solution Category

Select

Select from the list to 'Download,' 'Share,' or 'Add to my collection.'

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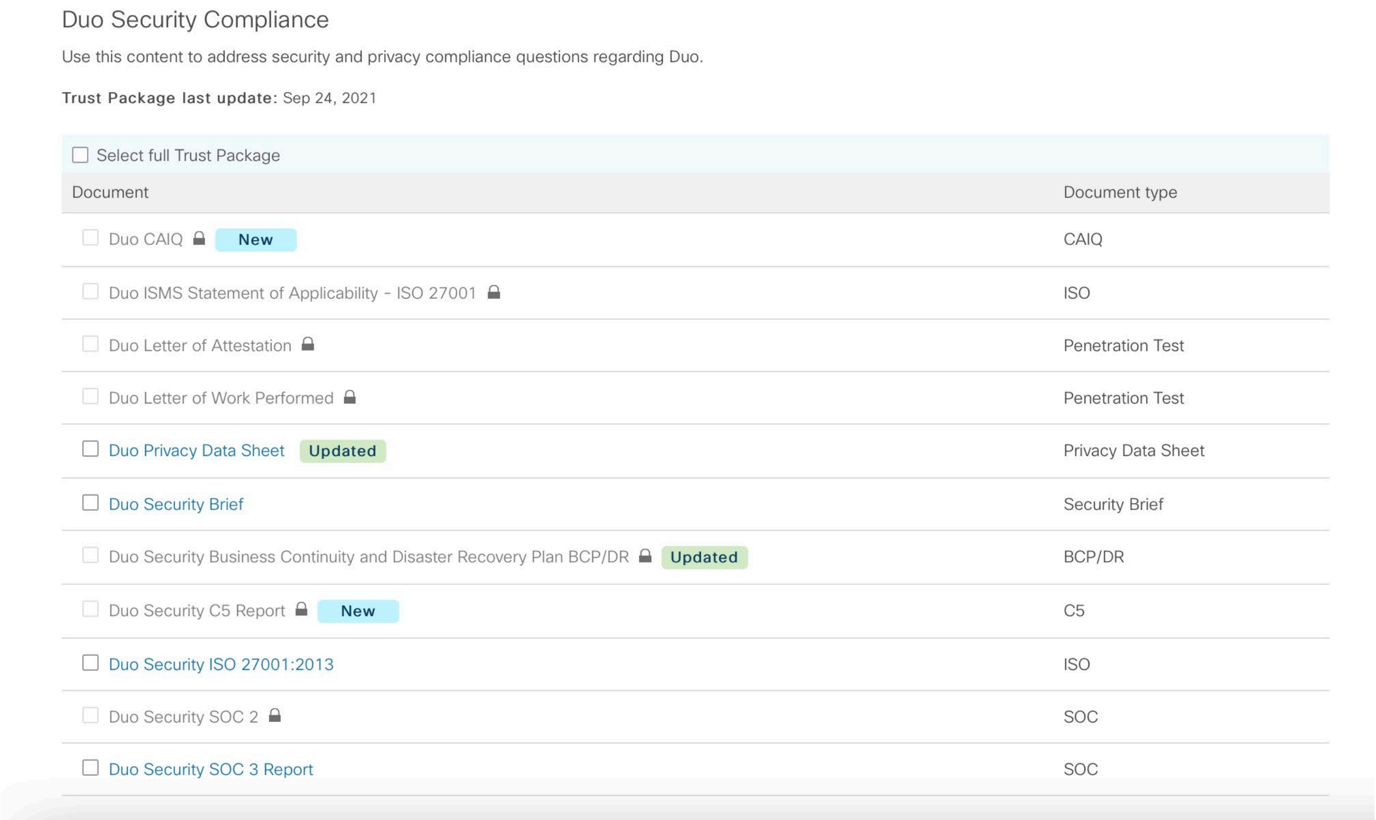
Document	Document type
□ AppDynamics CAIQ	CAIQ
□ AppDynamics Disaster Recovery Plan	BCP/DR
□ AppDynamics GDPR FAQ	FAQ
□ AppDynamics GovAPM FedRAMP	FedRAMP
□ AppDynamics SIG	SIG
□ AppDynamics SOC 2	SOC
□ AppDynamics SaaS Products Privacy Data Sheet	Privacy Data Sheet
□ AppDynamics Security Compliance (6) TRUST PACKAGE - Use this content to address security and privacy compliance questions regarding AppDynamics.	-
□ AppDynamics Security and Privacy Standard - Security Brief	Security Brief
□ Assessment Checklist for Financial Institutions in the EU - Cisco Webex Meetings and Teams	EBA Risk Assessment

https://trustportal.cisco.com/c/r/ctp/trust-portal.html#/

Example: Trust Package



Duo Security Compliance

Use this content to address security and privacy compliance questions regarding Duo.

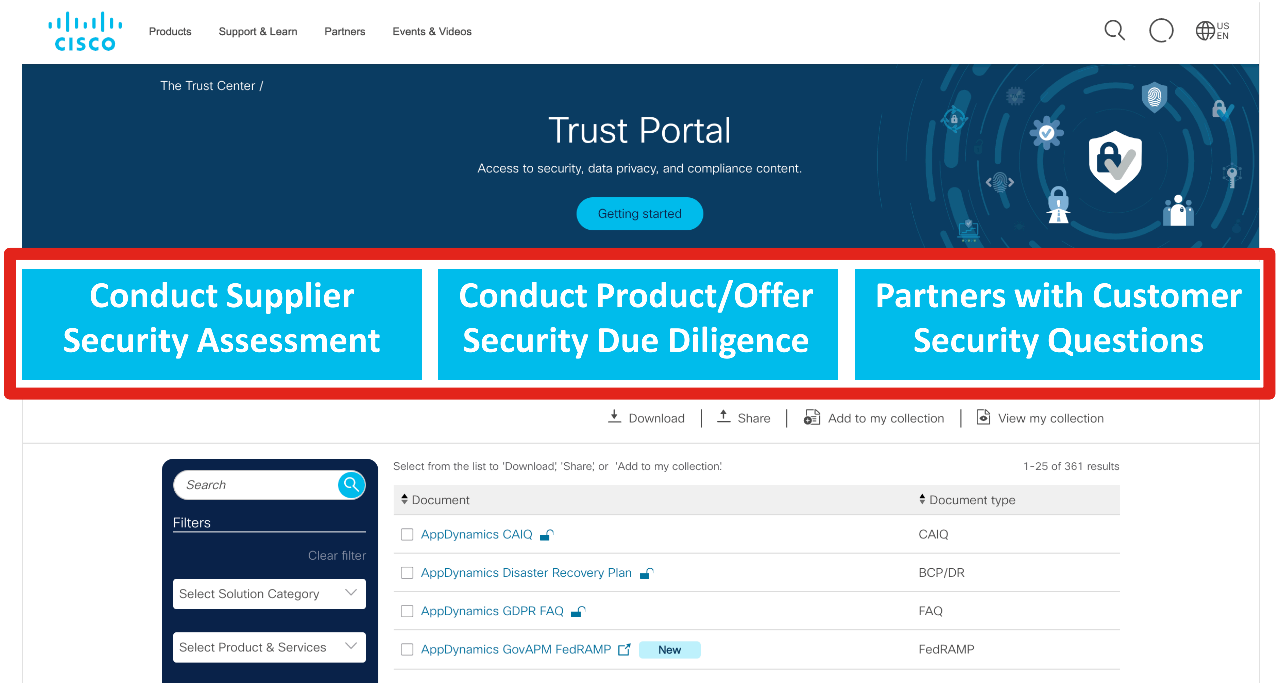
Trust Package last update: Sep 24, 2021

□ Select full Trust Package

Document	Document type
□ Duo CAIQ 🔒 New	CAIQ
□ Duo ISMS Statement of Applicability - ISO 27001 🔒	ISO
□ Duo Letter of Attestation 🔒	Penetration Test
□ Duo Letter of Work Performed 🔒	Penetration Test
□ Duo Privacy Data Sheet Updated	Privacy Data Sheet
□ Duo Security Brief	Security Brief
□ Duo Security Business Continuity and Disaster Recovery Plan BCP/DR 🔒 Updated	BCP/DR
□ Duo Security C5 Report 🔒 New	C5
□ Duo Security ISO 27001:2013	ISO
□ Duo Security SOC 2 🔒	SOC
□ Duo Security SOC 3 Report	SOC

Generic Security Vision for “Guided Experiences”

Suggestion:
Add Tiles to Trust Portal Homepage to initiate “Guided Experiences”



Products Support & Learn Partners Events & Videos

US EN

The Trust Center /

Trust Portal

Access to security, data privacy, and compliance content.

Getting started

Conduct Supplier Security Assessment

Conduct Product/Offer Security Due Diligence

Partners with Customer Security Questions

Download | Share | Add to my collection | View my collection

Search

Filters

Clear filter

Select Solution Category

Select Product & Services

Select from the list to 'Download,' 'Share,' or 'Add to my collection.'

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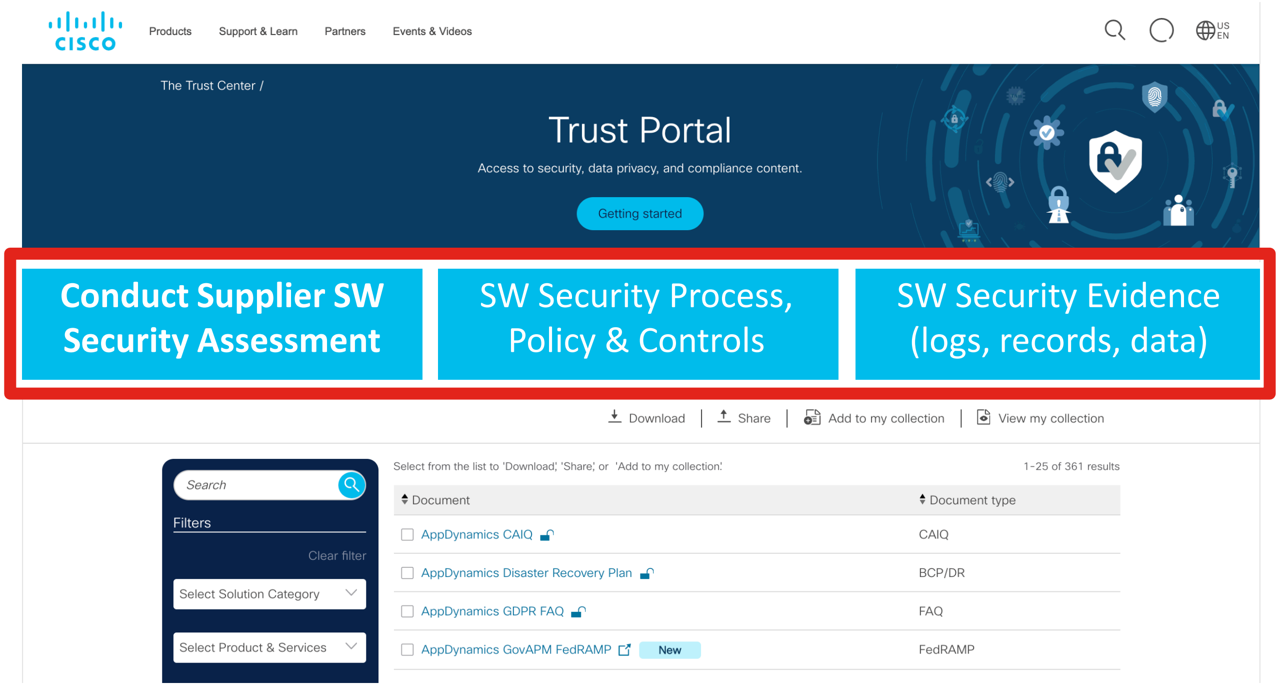
Document	Document type
□ AppDynamics CAIQ	CAIQ
□ AppDynamics Disaster Recovery Plan	BCP/DR
□ AppDynamics GDPR FAQ	FAQ
□ AppDynamics GovAPM FedRAMP New	FedRAMP

Vision for SW Security "Guided Experiences"

Suggestion:
Add Tiles to Trust Portal Homepage to initiate "Guided Experiences" for SW Security



The Trust Center /

Trust Portal

Access to security, data privacy, and compliance content.

Conduct Supplier SW Security Assessment

SW Security Process, Policy & Controls

SW Security Evidence (logs, records, data)

Select from the list to 'Download,' 'Share,' or 'Add to my collection.'

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Document	Document type
□ AppDynamics CAIQ	CAIQ
□ AppDynamics Disaster Recovery Plan	BCP/DR
□ AppDynamics GDPR FAQ	FAQ
□ AppDynamics GovAPM FedRAMP New	FedRAMP