AXONIUS

NIST 800-53 Compliance Review

How Axonius Can Help Your Organization Reach FISMA or FedRAMP Compliance

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DISCLAIMER (TEVORA)

The opinions stated in this guide concerning the applicability of Axonius'® products to the National Institute of Standards and Technology (NIST 800-53) framework are the opinions of Tevora. All readers are advised to perform individual product evaluations based on organizational needs. This whitepaper has been reviewed and authored by Tevora's staff of Information Security Professionals in conjunction with Axonius.

DISCLAIMER (AXONIUS)

This document is intended to provide general guidance for organizations that are considering Axonius to help them address compliance requirements. The information contained in this document is for educational and informational purposes only. This document is not intended to provide regulatory guidance and is provided "as is". Axonius makes no claims, promises, or guarantees about the accuracy of, completeness, or adequacy of the information contained herein. Organizations should engage appropriate legal, business, technical, and audit expertise within their specific organization for the review of regulatory compliance requirements.

Executive Summary

Overview

Axonius engaged Tevora, an independent, third-party information security and risk management consulting firm, to conduct an in-depth evaluation of Axonius against the National Institute of Science and Technology's (NIST) SP 800-53 Revision 5 requirements, high impact. Tevora is a leading security consulting firm specializing in enterprise risk, compliance, information security solutions, and threat research. Tevora offers a comprehensive portfolio of information security solutions and services to clients in all industries.

Tevora is also an accredited Third-Party Assessment Organization (3PAO) under the American Association for Laboratory Accreditation (A2LA), which is required to perform qualified assessments against NIST SP 800-53 for FedRAMP and StateRAMP compliance and is highly recommended for assessing FISMA compliance. Tevora partnered with the Axonius product and technical team to test Axonius features and capabilities mapping to NIST 800-53 Revision 5. Tevora was also granted access to the Axonius demo environment in order to conduct further testing and confirmation of capabilities.

Axonius is a software-as-a-service (SaaS)-based platform that correlates asset data from existing solutions to provide an always-up-to-date inventory of assets. Axonius can help organizations uncover gaps and automate response actions to control complexity. The SaaS-based platform provides information technology (IT) and cybersecurity teams the toolset to control complexity by mitigating threats, navigating risk, decreasing incidents, and informing business-level strategy, all while eliminating manual, repetitive tasks. This whitepaper will navigate readers through the NIST 800-53 Revision 5 standard, the importance of NIST 800-53 compliance, and highlight applicable Axonius product capabilities.

NIST SP 800-53

Background

NIST Special Publication 800-53 Revision 5 provides a catalog of security and privacy controls for organizational information systems to be more resilient to a diverse range of threats, including malicious attacks, human error, natural disasters, structural failings, and foreign intelligence surveillance. The controls can be customized and implemented as part of an organization-wide process to manage risk and to meet business objectives more systematically.

The objective of NIST SP 800-53 is to set a basic standard for information security policies and controls for federal agencies or organizations contracted with federal agencies. The latest version, Revision 5, was released on September 23, 2020, to strengthen and modernize both security and privacy controls to better meet requirements set forth by the Federal Information Security Modernization Act (FISMA). The changes introduced are directly linked to the current state of the threat landscape (i.e., capabilities, intentions, and targeted activities of adversaries) and the attack data collected and analyzed over a three-year period.

Control Families

NIST SP 800-53 Rev. 5 requires organizations to comply with a robust set of criteria, which are broken down into 20 control families:

1. ***Access Control (AC)***
2. ***Awareness and Training (AT)***
3. ***Audit and Accountability (AU)***
4. ***Assessment, Authorization, and Monitoring (CA)***
5. ***Configuration Management (CM)***
6. ***Contingency Planning (CP)***
7. ***Identification and Authentication (IA)***
8. ***Incident Response (IR)***
9. ***Maintenance (MA)***
10. ***Media Protection (MP)***
11. ***Physical and Environmental Protection (PE)***
12. ***Planning (PL)***
13. ***Program Management (PM)***
14. ***Personnel Security (PS)***
15. ***Personally Identifiable Information Processing and Transparency (PT)***
16. ***Risk Assessment (RA)***
17. ***System and Services Acquisition (SA)***
18. ***System and Communications Protection (SC)***
19. ***System and Information Integrity (SI)***
20. ***Supply Chain Risk Management (SR)***

Each control family includes a range of controls that are further segmented according to the security baseline for which each control would be required.

Security Baselines

Federal Information Processing Standards Publication 199 (FIPS 199) establishes the standard for security baseline categorization of all federal information systems and information. NIST SP 800-53 relies on the following categorizations based on FIPS 199:

- ***Low –*** loss of confidentiality, integrity, or availability; would be expected to have a **limited** adverse effect on organizational operations, assets, or individuals
- ***Moderate –*** loss of confidentiality, integrity, or availability; would be expected to have a **serious** adverse effect on organizational operations, assets, or individuals
- ***High –*** loss of confidentiality, integrity, or availability; would be expected to have a **severe or catastrophic** adverse effect on organizational operations, assets, or individuals

FIPS 200 establishes minimum security requirements by relating NIST SP 800-53 security controls and control enhancements to the appropriate baseline defined in FIPS 199. Since FIPS documentation only establishes baseline requirements for security controls, the privacy controls identified in NIST SP 800-53 are not included within the baseline categorization. The privacy controls NIST determines as required must be implemented regardless of baseline levels.

Organizations NIST SP 800-53 Applies To

NIST SP 800-53 was originally designed for federal information systems and any applicable organizations that are contracted with federal agencies. Although these systems have requirements to comply with these security and privacy standards to safeguard government information, many non-governmental organizations can benefit from aligning their security program with NIST SP 800-53's comprehensive catalog of controls.

FISMA

FISMA is a United States legislation that made it a requirement for federal agencies to develop, document, and implement an information security protection program. FISMA was introduced in 2002 as part of the E-Government Act (Public Law 107-347). FISMA 2002 was amended by FISMA 2014, providing several modifications that modernize federal security practices to address evolving security concerns. FISMA 2014 defined the Department of Homeland Security's role in administering the implementation of information security policies for Federal Executive Branch civilian agencies, overseeing agencies' compliance with those policies, and assisting in developing those policies. The law aims to reduce the security risk to sensitive federal information. FISMA established a set of guidelines and cybersecurity standards that federal agencies must meet. Federal agencies need to provide information security protections commensurate with the risk and magnitude of the harm that

would result from unauthorized access, use, disclosure, disruption, modification, or destruction of:

- information collected and maintained by or on behalf of an agency
- information systems that are used or operated by an agency or by a contractor of an agency or other organization on behalf of an agency.

Also, federal agencies need to “com[ply] with the information security standards”, guidelines, and mandatory required standards developed by NIST.

FedRAMP

The Federal Risk and Authorization Management Program (FedRAMP) was designed to enable easier contracting for federal agencies with cloud service providers (CSP). Like FISMA, the controls outlined in FedRAMP are based on the controls within NIST 800-53. The process of a FedRAMP certification requires a 3PAO to assess security controls of the CSP’s service by completing a Security Assessment Plan (SAP), performing initial and periodic assessments, and producing a Security Assessment Report (SAR). The SAP, SAR, and CSP’s System Security Plan are then submitted to the Joint Authorization Board (JAB) for an agency review. If authorized, the CSP’s services are placed on the FedRAMP marketplace for other agencies to find services that meet their needs.

StateRAMP

StateRAMP provides a comprehensive security framework designed to improve cloud security for state and local governments. Like FedRAMP, StateRAMP aims to deliver a uniform approach to verifying that CSPs meet the standards and regulations needed to conduct business with state and local governments.

StateRAMP’s goals are to help state and local governments:

- Protect the data of its citizens residing in the state
- Save taxpayer and service provider dollars with a “verify once, serve many” model
- Promote education and best practices in cybersecurity among those it services in industry and government communities

Commercial

NIST 800-53 is the most comprehensive set of cataloged controls. The different sets of controls map easily to many other frameworks such as PCI DSS, CIS Controls, SOC 2, and others. This overlap in control requirements allows organizations to easily tailor their program using relevant controls and baselines that best fit their organizational and business goals.

Challenges Implementing Controls

Complexity in Federal Information Technology

The executive order passed on May 12, 2021, requires the modernization of the federal government's cybersecurity posture. Among the best practices noted on the executive order, the practices that apply to modernization are an advancement toward Zero Trust architecture; accelerated secure cloud, SaaD, IaaS, and PaaS adoption; centralized and streamlined access to cybersecurity data to drive analytics for analyzing and managing cybersecurity risks; and increased incident response collaboration. Mandating the improved cybersecurity posture of organizations working with government agencies, such as the US Department of Defense (DoD), is spurring many agencies to move towards a Zero Trust architecture. Axonius can:

- Provide the visibility needed to control complex IT and adopt Zero Trust principles
- Unify all assets, including cloud assets and unmanaged IoT devices, without the need to scan networks or install agents on devices
- Evaluate the organization's compliance and reporting with comprehensive visibility into asset security and compliance with security policies or regulations such as NIST and FISMA

Axonius can also alert and notify teams when assets fall out of compliance, leading to compliance automation.

Drafting a System Security Plan

A system security plan (SSP) is a formal document that provides an overview of the security requirements for an information system and describes both the security controls already in place or those planned to meet those requirements (Plan of Action and Milestones (POA&M)). If an organization participates in contracts with the DoD, the contract requires an organization to have an SSP in place. The purpose of this SSP is to give anyone looking into an organization’s cybersecurity posture a readable overview of security and controls in place to meet requirements. An SSP is a working and living document; as an organization matures its security posture, the SSP will become larger to include more details. While it is recommended to engage a third-party expert to help assess and help execute an SSP, Axonius can assist an organization with easily mapping security tools with security requirements by identifying gaps and controls that an organization may have in place to safeguard Controlled Unclassified Information (CUI).

Maintaining a Plan of Action and Milestones

SSP and POA&M often work hand in hand. Each organization's POA&M is likely to defer in each organization because it includes information about weaknesses and gaps according to NIST 800-171 standards. The risk posture, gaps, weaknesses, and mitigating steps an organization intends to make should be documented within the POA&M. While an SSP is a working and living document that evolves over time, the POA&M document should become a smaller document as an organization implements mitigating controls.

Axonius for NIST 800-53 Compliance

The Axonius federal systems team helps federal government agencies safeguard mission objectives by strengthening IT asset identification and management. Axonius allows organizations to identify, manage, and track assets. The Axonius solution offers integration with more than 400 of the most powerful business, IT, and security management tools to accurately collect data on all assets, users, vulnerabilities, and more.

Axonius offers flexible deployment options, including on-premises and private cloud deployment (customer hosted). In addition, Axonius-as-a-Service (a SaaS deployment, "Axonius hosted") is also available. The Axonius-hosted SaaS instance resides in the cloud and is not part of an organization's internal network, thereby removing the customer's management overhead. For an on-premises deployment, Axonius is implemented on a virtual appliance that becomes part of the organization's internal network. If an organization prefers Axonius-as-a-Service, the solution is deployed on an AWS EC2 instance.

Once deployed, Axonius securely fetches data from the organization's data sources (IT, security, and business technology), known as adapters. The Axonius Tunnel is required to connect adapters when those sources are only accessible by an internal network.

Axonius offers comprehensive device discovery by providing visibility into important details related to assets, including:

- Devices: refers to any computing entity that has an IP address. This includes workstations, mobile devices, servers, local virtual instances, cloud instances and containers, IoT, and more. In addition to common asset fields, Axonius offers aggregated information such as device configurations, latest used user, open ports, network interfaces, installed software, OS installed security patches, agent versions, and adapters connected to devices
- Users: refers to the identities that authenticate to use devices. Axonius gathers information regarding user identities and connectivity to systems with date and time stamps via adapters such as Microsoft Active Directory (AD), Okta, Duo, and more

Axonius can help an organization meet NIST 800-53 via the following (but not limited to) features:

Cybersecurity Asset Management: Common compliance frameworks require an up-to-date and accurate asset inventory. While organizations may conduct a point-in-time asset inventory to meet compliance mandates, the accurate reporting of assets (and management thereof) requires continuous assessment, as organizations' IT ecosystems are in constant

flux, given today's workplace conditions. Axonius allows organizations to obtain an always-up-to-date, comprehensive asset inventory.

- ***Cyber Asset Attack Surface Management (CAASM): One of the most challenging phases of organizational compliance and compliance-related assessments is identifying accurate scope. Axonius allows organizations to discover and decipher all internal and external assets. The Axonius CAASM product uses API integrations to connect with existing data sources and automatically find and validate security controls and then remediate vulnerabilities.***

SaaS Management: In the ever-evolving, fast-paced business world, new tools and technologies are more frequently than not built as SaaS applications, allowing for easier and manageable deployments, ease of use, and efficiency. Axonius allows organizations to discover all known and unknown SaaS applications, see data interconnectivity, identify risk, and optimize costs.

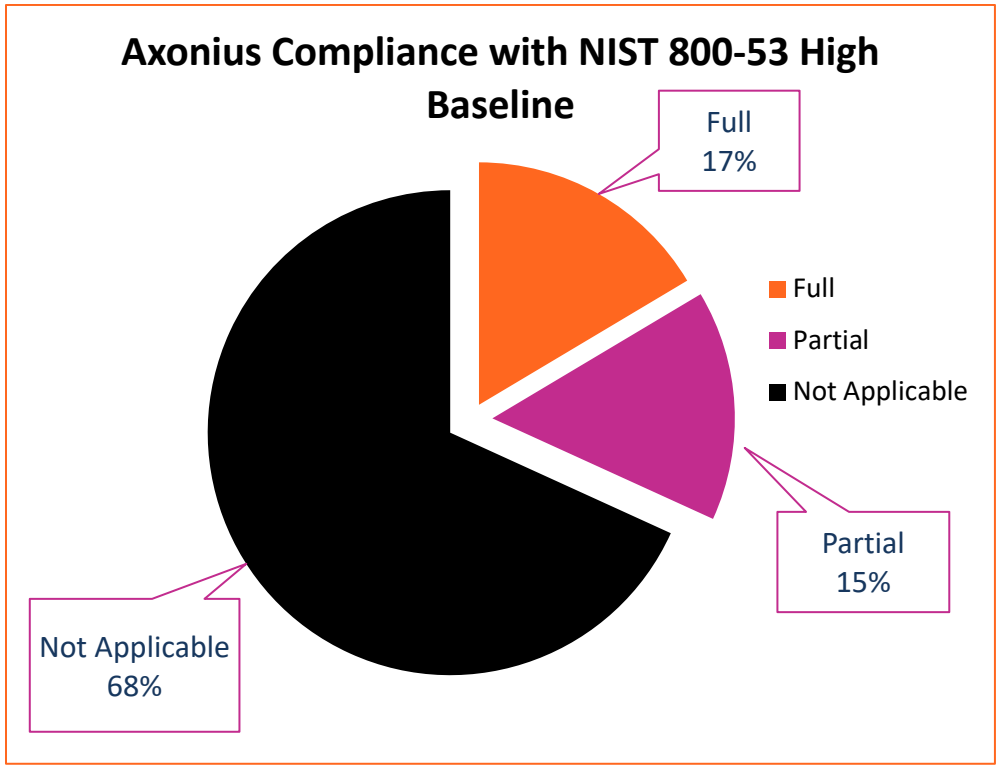
Cloud Asset Compliance: To be included on FedRAMP's marketplace, FedRAMP and FISMA require CSPs to conduct compliance assessments. Axonius cloud asset compliance connects to organizations' cloud platforms to map the state of the cloud instances against industry standards and benchmarks. This capability allows teams to identify issues of non-compliance and reduce the time for manual assessments.

Policy Enforcement: Policies and procedures are the foundational pillars of compliance for any framework. Through the Axonius policy Enforcement Center, organizations can execute automated response actions to immediately address assets that do not adhere to company policies, or that introduce a vulnerability that may put the organization at unnecessary risk.

Vulnerability and Incident Management: Adversaries are always evolving their methods. Attack security, vulnerability management, and incident response teams must have advance warning of evolving threats in order to reduce the likelihood of compromise. Alerting the right team at the right time widens the window of opportunity for prevention. Axonius helps organizations with proactive cybersecurity via automated alerts, incident response ticket creation, data enrichment, expanded security coverage, and more, using either native control or the adapter/integrated technology of choice.

Axonius Capability Charts

Below is a chart that displays the compliance capabilities Axonius provides to organizations that want to achieve compliance with NIST 800-53 Revision 5. The complete guide includes over 1000 security controls. For the High Baseline, NIST requires organizations to implement 371 specific controls, and Axonius either fully or partially supports 118 (31%) of these High Baseline requirements.

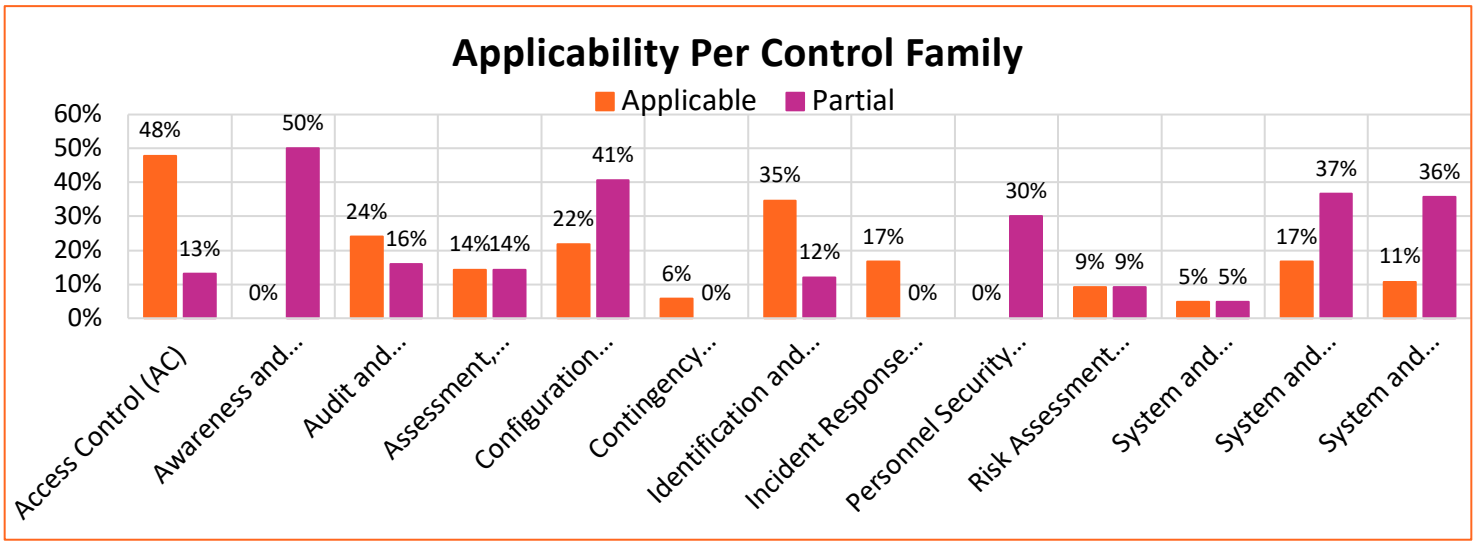


Control Summary Table

Status	Number of Controls
Full Applicability	61
Partially Applicability	57
Not Applicable	253

Axonius Capability Charts

Below is a chart showing the Axonius compliance percentages when it comes to mapping capabilities with applicable NIST 800-53 controls. Of the controls relevant to meeting NIST 800-53 compliance, fully implemented controls are marked as “Applicable” and controls that have partially been implemented are marked “Partially.”



COMPLIANCE CAPABILITIES

Below is the compliance applicability table that highlights how Axonius can help organizations meet NIST 800-53 controls.

Version	Axonius Capability	Supports Compliance
AC – Access Control		
AC-2: Account Management	Axonius offers various solutions when it comes to user management and account management. A good starting point is a platform that casts a wide net such as Microsoft Active Directory (AD). If an organization is invested in the cloud, use cloud directory services such as JumpCloud, Microsoft Azure AD, AWS Directory Service, GSuite, and OneLogin. A more common adapter is AD which can be used to manage users, and groups, enable and disable accounts, and monitor accounts via policy management.	Yes
AC-2(1): Account Management | Automated System Account Management	Axonius has several adapters such as Active Directory (AD) to help organizations automate account management. Within the enforcement center, organizations can use AD and Okta (MFA) to create, enable, modify, disable, and remove accounts.	Yes
AC-2(2): Account Management | Automated	Within AD organizations can set defined time periods for the removal of temporary and	Yes

System Account Management	emergency accounts (if present in the environment). Axonius can help organizations conduct user access reviews by verifying if temporary and emergency accounts have been disabled or removed and if not, take the appropriate action.	
AC-2(3): Account Management | Disable Accounts	Axonius allows disabling of accounts through users and devices in Microsoft AD Services action. Axonius can further be utilized to compare users in Microsoft AD to users in an HR resource, identifying personnel that have left the organization but still have accounts and access. From the Action Library, click Manage Microsoft AD Services, and then click Disable Users or Devices in Microsoft AD Services. Define a unique action name. Save the action.	Yes

AC-2(4): Account Management | Automated Audit Actions	Axonius can be used to create queries and dashboards that entail data pulled from Microsoft AD to identify accounts that were recently created, modified, deleted, for account management audits and user access reviews. Auditing account management can be done via AD by enabling the “audit user account management” audit policy. User logs are generated within Axonius and can be configured with additional adapters such as Splunk to monitor account management. Capabilities include automatically auditing account creation, modification, enabling, disabling, and removal actions.	Yes
AC-2(12): Account Management | Account Monitoring for a Typical Usage	Axonius can be configured to support implemented network access monitoring, security incident and event management (SIEM), and identity and access management (IAM) solutions by sending emails or generating log events when a user attempts to access a device they typically would not require access to.	Yes
AC-2(13): Account Management | Disable Accounts for High-Risk Individuals	Organizations using AD as an adapter within Axonius can disable accounts that prove to be of high risk within a set defined time period. The access removal would remove any user's access across all systems that have integrations with AD.	Partial

AC-3: Access Enforcement	Organizations can configure access to various adapters within Axonius via AD in conjunction with the organization's Access Control policy.	Yes
AC-4: Information Flow Enforcement	Axonius supports boundary device management interfaces, in which organizations can set information flow policies within, through adapter connections.	Yes
AC-4(4): Information Flow Enforcement | Flow Control of Encrypted Information	Axonius has adapters for data loss prevention products such as Netskope which can help prevent encrypted information from being exfiltrated by decrypting and inspecting the information before it leaves organizational assets. Additionally, Axonius can help identify gaps in coverage and deployment of adapters.	Partial
AC-6: Least Privilege	Axonius offers various adapters for organizations to leverage when it comes to the management of least privilege. An example is CyberArk Endpoint Privilege Manager which enforces the least privilege, providing credential theft protection and application control at scale. Microsoft AD can be used for Identify and Access Management (IAM) to manage PAM (Privileged Access Management) which authenticates and authorizes users and workstations. Organizations can use Axonius to	Yes

	help verify members of critical groups such as Domain Administrators and monitor new entries. Axonius can help identify gaps in the coverage provided by these tools.	
AC-6(1): Least Privilege | Authorize Access to Security Functions	Axonius has adapters for directory services such as Active Directory and Okta that provide insights into account management practices. Organizations can gain insight into whether users have administrative rights while comparing the naming convention of the account (e.g., jsmith_admin vs. jsmith).	Yes
AC-6(2): Least Privilege | Non-Privileged Access for Nonsecurity Functions	Axonius supports AD and Azure AD adapter connections to manage an organization's users and ensure all users are provisioned with non-privileged accounts to manage day-to-day functionality while also ensuring those with privileged accounts use them only when necessary (e.g., accessing security functionality).	Yes
AC-6(5): Least Privilege | Privileged Accounts	Organizations can leverage the Axonius Enforcement Center and CyberArk's Privileged Access Management solution to configure accounts that require privilege access. Additionally, utilization of AD groups can help organizations quickly identify users with escalated permissions to systems. Additionally, the integration between Axonius and CyberArk enables Axonius to securely pull privileged credentials from the	Yes

	CyberArk Vault using CyberArk's Application Access Manager (AAM). The integration helps ensure that privileged credentials are secured in the CyberArk Vault, rotated to meet company guidelines, and meet complexity requirements.	
AC-6(7): Least Privilege | Review of User Privileges	The Axonius enforcement center and adapters such as CyberArk allow organizations to review users' privileges and conduct user access reviews according to an organization's Access Control Policy.	Yes
AC-6(9): Least Privilege | Log Use of Privileged Functions	Axonius has various adapters for logging and monitoring, organizations can utilize Axonius to help identify gaps and add any unseen systems via the enforcement center to the logging and monitoring tool to enforce visibility. Axonius allows for logging adapters such as Splunk for log collection. Organizations can review logs and configure alerts according to their logging and monitoring policy and procedure.	Yes

AC-6(10): Least Privilege | Prohibit Non-privileged Users from Executing Privileged Functions	Microsoft AD can be used for Identify and Access Management (IAM) to manage PAM (Privileged Access Management) which authenticates and authorizes users and workstations. Axonius can help identify gaps and allow organizations to add any unseen systems via the enforcement center to the logging tool being used by the organization.	Yes
AC-17(1): Remote Access | Monitoring and Control	Axonius takes a comprehensive approach to identifying user accounts and installed software for all devices in the environment simply by connecting to all the IT and security tools and organizations already in use. By connecting data sources such as EDR/EPP agents, configuration and patch management tools, network infrastructure, vulnerability scanners, and more, it's easy to quickly identify which remote access tools exist in your environment.	Yes
AC-17(3): Remote Access | Managed Access Control Points	Axonius can be used to display all network devices that provide access to external devices. Depending on the specific device, Axonius also supports adapter connections that allow additional configuration management through the Axonius environment.	Yes

AC-17(4): Remote Access | Privileged Commands and Access	Axonius can employ privileged access management (PAM) solutions to restrict access to remote access program execution to only those stipulated with job functions authorized by the enterprise. The following are examples of PAM adapters Axonius support: CyberArk: Provides privileged access management, session recording, and least privilege enforcement to control access to systems and applications within an enterprise/agency. BeyondTrust: Privileged management solution that allows application and system access controls to be configured based on an enterprise's needs. PrivX: Allows organizations to configure privileged access controls to on-premise and cloud environments to control sensitive or critical infrastructure.	Partial
AC-18: Wireless Access	Axonius can integrate with leading network and wireless technology providers such as Cisco Meraki and Aruba Airwave to report on assets accessing wireless networks. It can also easily identify unmanaged devices that are accessing specific network interfaces. Using the Axonius Query Wizard, organizations can easily search for unknown, unmanaged, and rogue devices on specific network interfaces across	Yes

	the connected network infrastructure.	
AC-18(1): Wireless Access | Authentication and Encryption	Axonius integrates with leading network and wireless technology providers such as Cisco Meraki, Aruba Airwave, and Ubiquiti UniFi Controller to report on assets accessing wireless networks. It can also easily identify unmanaged devices that are accessing specific network interfaces. Using the Axonius Query Wizard, organizations can easily search for unknown, unmanaged, and rogue devices on specific network interfaces across the connected network infrastructure.	Partial
AC-18(3): Wireless Access | Disable Wireless Networking	Organizations can manage devices connected to the wireless network via integrations such as Cisco Meraki, Aruba Airwave, and Ubiquiti Networks to control wireless access.	Yes
AC-18(4): Wireless Access | Restrict Configuration by Users	Organizations can manage devices connected to the wireless network via integrations such as Cisco Meraki, Aruba Airwave, and Ubiquiti Networks to control wireless access.	Yes

AC-19: Access Control for Mobile Devices	Axonius would allow visibility to all devices managed through mobile device management (MDM) solutions while also providing direct connections to many common MDM interfaces through adapter connections. The following are a few examples of supported MDM solutions in the Axonius platform: Blackberry Unified Endpoint Management: MDM solution that delivers endpoint management and policy control for both small form-factor devices and workstations endpoints. Citrix Endpoint Management (XenMobile): Endpoint management solution that provides support for mobile device management and mobile application management. IBM MaaS 360: Unified endpoint management solution that extends to mobile devices and allows configurations for apps, content, and stored data. VMWare Workspace ONE (AirWatch): Enterprise mobility management software to manage mobile devices for content, applications, and email.	Yes

AC-19(5): Access Control for Mobile Devices | Full Device or Container-based Encryption	Axonius has an adapter for Microsoft BitLocker Administration and Monitoring (MBAM) that provides a simplified administrative interface to implement full-device encryption through BitLocker.	Yes
AC-20: Use of External Systems	Axonius has sanitizing data features. An adapter may pull in more assets or information than an organization is comfortable with. Such examples can include devices in extraneous subnets or user fields containing potential PII. In these cases, Ingestion Rules may be an appropriate feature to limit that data in a customization way. The result is a unified approach across all adapters to simplify post-fetch filtering.	Partial
AC-21: Information Sharing	Axonius has data security integrations with platforms such as Box and Citrix Sharefile which help users make information sharing and collaboration decisions based on information classifications configured within these applications.	Yes

Version	Axonius Capability	Supports Compliance
AT – Awareness Training		
AT-2: Literacy Training and Awareness	Axonius integrates with KnowBe4, a tool used to monitor users enrolled in security awareness as well as provide training and awareness from a vast library of interactive content including modules, games, newsletters, and more.	Partial
AT-2(2): Literacy Training and Awareness | Insider Threat	While Axonius does not actively provide training on recognizing and reporting indicators of threats, the platform does support UEBA, DLP tools that can monitor, prevent, and provide alerts for potential insider threat activities.	Partial
AT-4: Training Records	Organizations using Axonius's integration with KnowBe4 and other training-related tools can retrieve training records including records such as test results, user risk score, phish prone percentage status, and training completion.	Partial

Version	Axonius Capability	Supports Compliance
AU – Audit and Accountability		
AU-2: Event Logging	Within its list of adapters, Axonius offers Splunk which can index and correlate real-time data in a searchable repository. Other solutions such as Devo, IBM QRadar, LogRhythm, Rapid7 InsightIDR, Exabeam, and Datadog are available as well.	Partial
AU-3: Content of Audit Records	Organizations can specify the content of audit records via supported adapter connections Additionally, Axonius can identify locations that are not being monitored and assets that are not integrated with the SIEM tool.	Yes
AU-3(1): Content of Audit Records | Additional Audit Information	Axonius has various SIEM adapters to choose from. Organizations can customize their audit record content based on organizational needs and requirements. Axonius makes it easy to create queries and search for audit-specific information as needed.	Yes
AU-6: Audit Record Review, Analysis, and Reporting	Axonius has the ability for log analysis through integrations such as Splunk, to identify where audit recording is not taking place.	Partial

AU-7(1): Audit Record Reduction and Report Generation | Automatic Processing	Axonius provides a wide variety of query options to search audit records for events of interest based on specified fields.	Partial
AU-8: Time Stamps	When records are generated in Axonius, they are stamped with the following data field: Last Generated - the timestamp of the last time the report was generated.	Yes
AU-9: Protection of Audit Information	Axonius Role-based Access Control (RBAC) Management can be utilized to control who has access to audit information and prevention from unauthorized access, modification, and deletion.	Yes
AU-11: Audit Record Retention	Axonius allows organizations to query back in time (“display by date”) and obtain a snapshot of how the environment was configured in the past.	Yes
AU-11(1): Audit Record Retention | Long Term Retrieval Capability	Audit records can be retrieved by the Report function. The Display by Date function allows searching for a specified period.	Yes

AU-12: Audit Record Generation	The Axonius Query Wizard can be used to filter for event types from many different information system components. Using the Report function, audit records can be generated for the event types defined in AU-2c and AU-3.	Partial

Version	Axonius Capability	Supports Compliance
CA – Assessment, Authorization, and Monitoring		
CA-2: Control Assessments	Axonius can assess security controls as having an accurate and up-to-date asset inventory allows for more accurate and comprehensive security control validation. The solution integrates with all the security controls, showing how they relate to all IT assets in one central view. It can also validate whether security controls exist and are working correctly for all assets continuously.	Partial
CA-7: Continuous Monitoring	Axonius supports a continuous monitoring strategy and implementation of a continuous monitoring program through the pre-built adapters (third-party IT integrations). Sample adapters include Obsidian Security and ConnectWise Automate.	Partial

CA-7(4): Continuous Monitoring | Risk Monitoring	Axonius supports risk monitoring by connecting adapters to critical sources which provide detailed information on devices, users, and cloud assets. Administrators can query to identify risks, implement risk controls, and validate against them.	Yes
CA-8: Penetration Testing	Axonius currently has two pre-built adapters that allow penetration testing abilities: BurpSuite and Edgescan. Organizations can leverage either of adapters to meet this requirement.	Yes

Version	Axonius Capability	Supports Compliance
CM – Configuration Management		
CM-2(2): Baseline Configuration | Automation Support for Accuracy and Currency	Axonius provides organizations with detailed insight into their enterprise/agency devices to help maintain compliance with security configuration baselines. Devices that do not meet configuration baselines can be identified and prioritized using alerting and dashboards in the Axonius platform.	Partial

CM-2(3): Baseline Configuration | Retention of Previous Configurations	Axonius cannot directly control a rollback of assets to previous configuration baselines; however, if those configuration baselines are retained elsewhere in an organization's systems, administrators are able to use Axonius to validate and ensure all devices on their network are rolled back effectively.	Partial
CM-2(7): Baseline Configuration | Configure Systems and Components for High-risk Areas	Administrators could granularly control, monitor, and manage specific IT devices within their organization's scope by using Axonius and supported adapters to applicable CMDB solutions.	Partial
CM-3: Configuration Change Control | Automated Documentation, Notification, and Prohibition of Changes	Organizations must handle manual documentation regarding change control processes separately but for change implementation, record-keeping, and scheduled changes, Axonius can be employed to allow better visibility and oversight of configuration changes and helps enterprises manage their devices more effectively throughout the change process. Enforcement policies can be created to notify administrators when scheduled changes from a connected CMDB solution fail on any devices, supporting quicker response times to issues and evidence of successful changes.	Partial

CM-3(1): Configuration Change Control | Automated Documentation, Notification, and Prohibition of Changes	Notifications of configuration deviations can be configured within the Enforcement Center of the Axonius platform, but documentation and approval processes cannot be automated within the tool directly.	Partial
CM-3(2): Configuration Change Control | Testing, Validation, and Documentation of Changes	The Axonius asset summary dashboards display details of applications, operating system versions, and other key configurations that can be used to validate changes to devices.	Partial
CM-4(1): Impact Analyses | Separate Test Environments	Axonius can be used to monitor a separate test environment (whether cloud-based or on-premises) and ensure it is configured appropriately for security analysis before the changes are formally made in a production environment.	Partial
CM-4(2): Impact Analyses | Verification of Controls	Axonius gives organizations insight into the configurations (operating systems, installed agents, connected devices) of all assets within their network perimeter, which allows for streamlined verification of changes to devices. Any misconfigured devices that do not meet expected parameters can be queried for identification and targeted remediation.	Yes

CM-5(1): Access Restrictions for Change | Automated Access Enforcement and Audit Records	Axonius supports various adapter connections to IAM and account management tools to support access restrictions, enforcement, and documentation of actions for auditing.	Yes
CM-6: Configuration Settings	Axonius can provide verification evidence of configuration settings and changes through the visibility the asset summary dashboard offers.	Partial
CM-6(1): Configuration Settings | Automated Management, Application, and Verification	Axonius can be configured, using the Enforcement Center, to generate automated notifications based on desired criteria (e.g., missing agents or devices that are not meeting change requirements).	Partial
CM-7: Least Functionality	By collecting and correlating asset details from multiple sources, Axonius provides an all-encompassing inventory of the enterprise which can be searched to identify ports, services, processes, and software that should not be running in the environment. Using the enforcement center, these artifacts can be disabled, removed, or sent to administrators for further action.	Partial

CM-7(1): Least Functionality | Periodic Review	Organizations can review queries and data within the Axonius environment to identify unnecessary or nonsecure functions, ports, protocols, installed software, or services. Upon detection, it would be up to the organization and the adopted tools to remove unnecessary and nonsecure functionality, which could be verified in Axonius.	Partial
CM-7(2): Least Functionality | Prevent Program Execution	Axonius can ensure applications to prevent unwanted program execution, such as VMware Carbon Black App Control (formerly Carbon Black CB Protection), are installed on all devices but the platform cannot directly determine what programs to exclude. This would require manual configurations in the chosen solution to fully meet implementation compliance.	Partial
CM-8: System Component Inventory	Axonius provides a single point of reference for a network inventory to include what is installed on each asset. By using multiple sources and the ability to use WMI for data enrichment, Axonius guarantees the most accurate inventory available, which is easy to query and generate reports with.	Yes

CM-8(1): System Component Inventory | Updates During Installation and Removal	Axonius pulls a complete inventory during every data pull, providing an up-to-date component inventory, and the ability to compare the current inventory with any previous capture.	Yes
CM-8(2): System Component Inventory | Automated Maintenance	By connecting to multiple security and management tools in the environment, Axonius can provide the single source of truth for an up-to-date component inventory, including details on machines that may be temporarily unavailable.	Yes
CM-8(3): System Component Inventory | Automated Unauthorized Component Detection	Notifications can be configured through the Enforcement Center to alert administrators when software that is not part of the configured baseline is installed on any device within an organization's network.	Yes
CM-11: User-Installed Software	Using the Axonius Query Wizard, admins can search by software name, version, or description. A simple way to find unsanctioned software is to reference unsanctioned software-defined percompany/agency policy. Peer to Peer Networks: Tor, Torrent, TikTok, WeChat, PopcornTime Cracking Tools: AirCrack, L0phtcrack, Brutus Protocol Analysis Tools: winpcap, Wireshark, mergcap, mergecap,	Yes

	npcap Vulnerability mapping and pentest tools: dsniff, Metasploit, Nessus, Nikto, nmap Cryptocurrency Wallets and Miners: btcminer, bfgminer, cgminer Gaming: Pokerstars, Discord, Steam, etc Native applications that can be used for malicious purposes: Nmap, mimikatz, dsniff, Wireshark, Metasploit Keyloggers / Password crackers: davegrohl Remote Access Tools (RATs): Poison Ivy, Sakula, KjWorm, Havex, Dark Comet, AlienSpy Unsanctioned IT & Security tools: any unsanctioned platforms including VPN, Antivirus, Cloud storage, and more.	
CM-12(1): Information Location | Automated Tools to Support Information Location	Axonius can support information location by tracking deployed asset location in the asset's detail record and ensuring that tracking agents are installed on all deployed devices.	Partial

Version	Axonius Capability	Supports Compliance
CP - Contingency Planning		
CP-2: Contingency Plan	Axonius helps secure and recover assets that are in scope for organizations. Although Axonius doesn't create specific contingency plans, it can track assets in scope which will lead to efficiency in recovery of those same assets, if needed. Commvault enables data protection, backup and recovery, and information management solutions. Dell EMC Avamar is a backup and recovery solution that enables daily backups of physical and virtual environments, NAS servers, enterprise applications, remote offices, and desktops/laptops. Zerto is a data loss protection solution that provides disaster recovery, backup, and workload mobility software for virtualized infrastructures and environments. Nutanix AHV is a hypervisor included with the Enterprise Cloud OS. AHV delivers flexible migrations, security hardening, automated data protection and disaster recovery, and analytics. Rubrik provides data security and data protection on a single platform, including Zero Trust Data	Yes

	Protection, ransomware investigation, incident containment, sensitive data discovery, and orchestrated application recovery.	
CP-9: System Backup	CommVault is an available data backup solution that Axonius can integrate with. CommVault enables data protection, backup and recovery, and information management solutions. It provides end-to-end encryption, including data-at-rest and data-in-flight encryption, to ensure data is secure.	Yes

Version	Axonius Capability	Supports Compliance
IA – Identification and Authentication		
IA-2: Identification and Authentication (Organizational Users)	Once Axonius is deployed within the organization, Axonius adapters such as Microsoft Active Directory can be used to manage users, groups, and monitor accounts. The Enforcement Center can support security policies from applicable adapters, such as Okta, to manage MFA. SAML login is used to authenticate users. AD consists of remote and wireless accesses.	Yes
IA-2(1): Identification and	Axonius provides visibility into privileged user accounts that an organization may have.	Yes

Authentication (Organizational Users) | Multi-factor Authentication to Privileged Accounts	Organizations can leverage Axonius's capability via connecting to identity and access management tools like Okta, Duo, Ping Identity, and more to implement multifactor authentication for access to privileged accounts. Sample adapter: BeyondTrust Privileged Identity.	
IA-2(2): Identification and Authentication (Organizational Users) | Multi-factor Authentication to Non-privileged Accounts	Organizations can obtain user account data via Axonius. Axonius offers visibility into user data (including but not limited to) such as username, user title, user manager, user department, MFA enrollment, and MFA enforcement. The user department section can help identify domain ownership distinguishing between privileged and non-privileged accounts. Axonius can connect to identity and access management tools like Okta, Duo, Ping Identity, and more to implement multifactor authentication for access to non-privileged accounts.	Yes

IA-3: Device Identification and Authentication	Organizations using Axonius, can easily identify devices that are interconnected, within the device description and device details. Axonius offers the ability to uniquely identify and authenticate devices based on different scenarios: 1. Through exact hostnames, if the device entity does not have any MAC or IP address. 2. With ServiceNow adapter, based on MAC address only. 3. If enabled, Axonius only correlates assets from Microsoft Azure AD adapter connection based on asset name. If disabled, Axonius correlates assets from Azure AD adapter connection based on several parameters such as MAC address, hostname, and others.	Partial
IA-4: Identifier Management	Organization's deploying Axonius can identify and assign identifiers that could identify individuals, groups, roles, and devices used within the organization. Organizations can use adapters such as Microsoft Active Directory to facilitate this.	Yes

IA-4(4): Identifier Management | Identify User Status	Axonius has pre-built adapters for directory services such as Active Directory and Okta where user status can be queried. For example, within the Axonius Active Directory adapter, users can be identified through fields that denote a user as a contractor or non-organizational user.	Yes
IA-5: Authenticator Management	Through the Axonius adapter connections to account management tools and IAM solutions such as Active Directory or Okta, organizations can configure authentication requirements across the organization to ensure authenticators have sufficient strength to meet organizational policy. Physical authenticators cannot be token-based authentication and passwords can be configured through these adapters.	Partial
IA-5(1): Authentication Management | Password-based Authentication	Organizations using Axonius can utilize various adapters for authentication management. The Password Policy Settings address: Password complexity, brute-forced protection, expiration settings, and more. Enterprise Password Management vaults like AWS Secrets Manager, Cyberark, and BeyondTrust Privileged Identity are available for storing and securing passwords.	Partial
IA-5(2):	DigiCert CertCentral consolidates tasks for issuing, installing,	Yes

Authenticator Management | Public Key-based Authentication	inspecting, remediating, and renewing certificates. DigiCert PKI Platform (formerly Symantec Managed PKI) provides a cloud-based enterprise solution for issuing and managing digital certificates used to enable strong authentication and encryption. Venafi secures and protects cryptographic keys and digital certificates.	
IA-7: Cryptographic Module Authentication	Axonius has been added to the Department of Homeland Security (DHS) Continuous Diagnostics and Mitigation (CDM) Program Approved Products List (APL) and has received the Cryptographic Algorithm Validation Program (CAVP) certification for its product's use of the OpenSSL FIPS Object Module. Additional details can be found here.	Yes

IA-8: Identification and Authentication (non-organizational Users)	Axonius can be used to identify users accessing systems that are not in the organization's user directory such as Microsoft Active Directory or Okta.Microsoft Active Directory can be used to manage users, groups, and monitor accounts including non-organizational accounts associated with guest users. The LDAP Connection can use the Enforcement Center to manage MFA and AD via tools like Okta. SAML login is used to authenticate users.	Yes
IA-11: Reauthenticatio n	Axonius supports adapter connections to Active Directory to configure authentication policy as well as many IAM solutions, such as Okta, KeyCloak, PingOne, and SailPoint. Organizations can define device locks and re-authentication of individuals via adapters.	Yes

Version	Axonius Capability	Supports Compliance
IR – Incident Response		
IR-4(4): Incident Handling | Information Correlation	If an organization is using WMI or an OSQuery tool for data enrichment, this can be exceptionally useful by looking for services, local accounts, processes, or other artifacts across the enterprise that are related to an incident. Some adapters include: Code42: a next-gen DLP solution used to detect insider threats, satisfy regulatory compliance, and accelerate incident response investigations. Proofpoint ObserveIT Insider Threat Management (ITM) platform: a cloud-based solution that provides insider risk detection, incident response, and unified visibility across user activity, data interaction, and threat context. VMware Carbon Black EDR (formerly Carbon Black CB Response): a threat hunting and incident response solution that delivers continuous visibility in offline, air-gapped, and disconnected environments using threat intel and customizable detections. Wazuh:an open-source and enterprise-ready security	Yes

	monitoring solution for threat detection, integrity monitoring, incident response, and compliance.	
IR-7: Incident Response Assistance	Organizations using Axonius can utilize Axonius to help prepare, identify, and contain incidents. Axonius has capabilities of creating dashboards identifying critical data points for an incident response team. The enforcement center allows organizations to use existing tools to isolate target devices with Carbon Black, Crowdstike and others. If the investigation is user based, creating and using an incident response dashboard chart will allow identification. Additional information can be found here: Incident Response User Dashboards	Yes
IR-7(1): Incident Response Assistance | Automation Support for Availability of Information and Support	Organizations using Axonius can utilize Axonius to help prepare, identify, and contain incidents. Axonius has capabilities of creating dashboards identifying critical data points for an incident response team. The enforcement center allows organizations to use existing tools to isolate target devices with Carbon Black, Crowdstike and others. If the investigation is user based, creating and using an incident response dashboard chart will allow identification.	Yes

Version	Axonius Capability	Supports Compliance
PS – Personnel Security		
PS-4: Personnel Termination	Axonius integrates with various HR software such as ADP and BambooHR, which can be used to to verify access of terminated personnel has been removed across the environment.	Partial
PS-4(2): Personnel Termination | Automated Actions	Axonius integrates with various HR software such as ADP and BambooHR. The enforcement center could be used to automatically disable or delete associated user accounts, and access to systems.	Partial
PS-5: Personnel Transfer	Axonius can integrate with various Human Resources Information Information Systems (HRIS) and Identity Management (IDM) systems that facilitate employee transfer protocols. This data can then be compared to other sources to ensure completeness and validate current access across the network. Enforcements could be used to add/remove users in different AD groups to ensure appropriate access based on employee attributes such as division or title.	Partial

Version	Axonius Capability	Supports Compliance
RA – Risk Assessment		
RA-5: Vulnerability Monitoring and Scanning	Axonius provides users the ability to understand the presence and impact of all observed vulnerabilities. Organizations can manage vulnerabilities across the fleet of devices, prioritize vulnerabilities via contextual device data, enriched data from external threat databases, and third-party threat intelligence, to better understand and assess the urgency, relevancy, and importance of security weaknesses. Axonius integrates with various vulnerability scanning/management tools to help organizations find and remediate applications or assets at risk. Axonius identifies gaps in coverage related to Vulnerability scanning. It also pulls CVEs from NIST as another source to verify the results of the vulnerability scanner.	Partial
RA-5(2): Vulnerability Monitoring and Scanning | Update Vulnerabilities to be Scanned	Axonius pulls vulnerability information from multiple sources allowing verification that an organization's vulnerability monitoring platform is current with the latest vulnerabilities.	Yes

Version	Axonius Capability	Supports Compliance
SA – System and Services Acquisition		
SA-16: Developer-provided Training	Axonius provides general security awareness training, social engineering, phishing awareness, and threat simulations for employees by correlating with tools such as KnowBe4 and Cofense PhishMe.	Yes
SA-22: Unsupported System Components	Within the Axonius dashboard, metrics are displayed for operating system versions, software versions installed on systems, and more, helping organizations understand what system components may be unsupported.	Partial

Version	Axonius Capability	Supports Compliance
SC – System and Communications Protection		
SC-2: Separation of System and User Functionality	Axonius allows organizations to leverage Data Scope Management. Organizations can use data scopes to control the sets of data different groups of users have access to. Once the organization defines the set of data using special asset scope saved queries, assign it to a role, and assign users to the role. This enables groups of users to see only data that is relevant to them or that they are allowed to see.	Yes
SC-3: Security Function	To protect the integrity of the hardware, software, and firmware that performs security functions, organizations can combine Axonius with a tool like Eclypsium_adapter which can identify where protections are not in place. The tool can be used to ensure that hardware is not being modified.	Partial

SC-5: Denial-of-service Protection	Axonius adapters can allow clients to manage their boundary protection devices (e.g., firewall, web-application firewall), update IDS/IPS to filter DoS or volumetrics traffic or manage cloud-based protection if using a cloud service provider such as Cloudflare, AWS Shield, or Azure. Within the firewall rules organizations can allow/deny, view direction (ingress, egress), target, and the protocol.	Partial
SC-7: Boundary Protection	Axonius integrates with various firewall solutions: Check Point Infinity: protects against cyber threats across networks, endpoint, cloud, and mobile devices. This adapter supports the entire Infinity platform, including Check Point firewalls. Fortinet FortiGate:a next-generation firewall providing security and visibility for end-to-end protection across the entire network. Skybox Firewall Assurance: provides automation of firewall management tasks across different firewall vendors and complex rulesets. Tufin SecureTrack:a firewall management solution that delivers security, compliance, and connectivity across physical networks and hybrid cloud.	Partial
SC-7(5): Boundary Protection | Deny	Organizations can use Axonius-supported adapters to connect to	Partial

by Default – Allow by Exception	their firewall management platforms and update configurations - including the deny all, allow by default rules. Axonius can show cloud configurations and the firewall rules being utilized.	
SC-7(8): Boundary Protection | Route Traffic to Authenticated Proxy Servers	Organizations can view firewall rules for cloud based devices to identify traffic routes (ingress or egress) and if the traffic is being allowed or denied.	Partial
SC-7(21): Boundary Protection | Isolation of System Components	Axonius supports various firewall adapter connections to allow information flow configuration management through portals supported through adapters.	Partial
SC-8: Transmission Confidentiality and Integrity	Axonius supports various adapters to manage DLP configurations, including encryption, for an enterprise's/agency's assets: Symantec DLP: central interface to manage DLP configurations and enforced policies to reduce information leakage risks. Also supports reporting and IT analytics. PKWARE: monitors and remediates all instances of unprotected data traversing an organization's network.	Yes

SC-10: Network Disconnect	While organizations can set time periods of inactivity, Axonius can help identify and pass information to a SOAR such as Swimlane, Phantom, and XSOAR.	Partial
SC-12: Cryptographic Key Establishment and Management	Axonius does not support adapters that provide full coverage for an organization's encryption key management; however, some adapter connections do support encryption key management within their interface: KeyCloak: open-source identity brokering service that provides an administrative console to manage applicable encryption key life cycles within. Venafi: SaaS-based encryption key and certificate management solution for mixed IT environments. Symantec Endpoint Encryption: organizations can manage full-disk and removable media encryption policies on their endpoint devices through a centralized management platform.	Partial
SC-13: Cryptographic Protection	Once an organization has formally defined the cryptographic requirements for the data it possesses, the various adapters Axonius supports can be employed to ensure encryption is implemented in accordance with policy including DLP management, backup encryption configurations, and endpoint encryption solutions,	Partial

	and key management solutions. BitLocker Administration and Monitoring: provides a simplified administrative interface for organizations to manage BitLocker Drive Encryption, Symantec Endpoint Encryption: combines full-disk and removable media encryption with a centralized management interface to protect sensitive information and ensure compliance.	
SC-17: Public Key Infrastructure Certificates	Organizations can consolidate and manage their public key certificates using the following adapter connections: Digicert CertCentral: management platform for issuing, installing, inspecting, remediating, and renewing an organization's certificates. Venafi: SaaS-based encryption key and certificate management solution for mixed IT environments.	Yes

SC-20: Secure Name/Address Resolution Service (Authoritative Source)	Axonius supports adapter connections to several DNS security management services and shows gaps in coverage in the tools below: Cisco Umbrella: secure internet gateway that provides DNS and IP layer enforcement and control callback blocking. Men&Mice DNS Management: network management software allowing DNS security configurations across an enterprise. Cloudflare DNS: centralized management platform where DNS filtering can be configured if using Cloudflare products or infrastructure. BlueCat Enterprise DNS: centralized management platform to connect assets and manage DNS filtering services on those assets. DNS Made Easy: DNS management services and tools to provide traffic management solutions to organizations.	Partial
SC-23: Session Authenticity	Axonius cannot directly ensure session authenticity across an enterprise/agency, but organizations can use supported adapters for firewall management, Active Directory Group Policy configurations, applicable remote conferencing settings, and applicable email security services to prove compliance.	Partial

SC-28: Protection of Information at Rest	Axonius supports adapter connections to various encryption management solutions organizations can use to validate that their systems are encrypted according to configured policies. BitLocker Administration and Monitoring: provides a simplified administrative interface for organizations to manage BitLocker Drive Encryption, Symantec Endpoint Encryption: combines full-disk and removable media encryption with a centralized management interface to protect sensitive information and ensure compliance.	Yes
SC-28(1): Protection of Information at Rest | Cryptographic Protection	Axonius supports adapter connections to various encryption management solutions organizations can use to validate that their systems are encrypted according to their configured policies. BitLocker Administration and Monitoring: provides a simplified administrative interface for organizations to manage BitLocker Drive Encryption, Symantec Endpoint Encryption: combines full-disk and removable media encryption with a centralized management interface to protect sensitive information and ensure compliance.	Yes

Version	Axonius Capability	Supports Compliance
SI – System and Information Security		
SI-2: Flaw Remediation	Axonius offers the Query Wizard to identify outdated systems. Fortify Software Security Center offers security assurance solutions that address the threats posed by security flaws in business-critical software applications.	Partial
SI-2(2): Flaw Remediation | Automated Flaw Remediation Status	Enforcements can be created to automate this process based on a number of factors, such as data from the vulnerability scans, SCCM, or CVE checks. Axonius provides an additional layer of verification that an organization's flaw remediation process is working.	Partial
SI-3: Malicious Code Protection	Axonius shows gaps in coverage of whichever tools an organization uses to provide Malicious code protection, whether its host or network-based.	Partial
SI-4: System Monitoring	For system monitoring, Axonius shows gaps in coverage and can take enforcement actions to resolve those gaps. Axonius offers the following solutions for system monitoring: Contrast Security: protects software applications against	Partial

	cyberattacks. CrowdStrike Falcon: delivers next-generation antivirus, endpoint detection and response (EDR), managed threat hunting, and threat intelligence. Cybereason Deep Detect & Respond (EDR): defends against advanced attacks by collecting and analyzing behavioral data to identify suspicious activities. CyCognito:delivers proactive attack surface protection and digital risk protection across the entire extended IT ecosystem to help organizations identify, categorize, prioritize, and eliminate attacker-exposed risk. Darktrace Immune System: protects the workforce and data from sophisticated attackers, by detecting, investigating, and responding to cyber-threats. Endgame: an endpoint protection platform that combines online and offline protection against exploits, phishing, malware, ransomware, and fileless attacks. Heimdal Security:protects organizations and home users against malware attacks. Palo Alto Networks Cortex XDR: a detection and response app that natively integrates network, endpoint, and cloud data to detect threats and stop sophisticated attacks.	

	Palo Alto Traps Endpoint Security Manager (ESM): delivers endpoint protection to prevent advanced persistent threats (APTs) and zero-day attacks.	
SI-4(2): System Monitoring | Automated Tools and Mechanisms for Real-Time	Axonius supports adapter connections to many SIEM and network monitoring tools and is displayed through the dashboard function to assure all devices are being monitored.	Partial
SI-4(4): System Monitoring | Inbound and Outbound Communications Traffic	Axonius allows the integration of solutions that monitor network activities which includes setting predefined criteria for abnormal activities or conditions. Sample adapters include: ConnectWise Automate: monitors, manages, and supports client networks. using out-of-the-box scripts, continuous monitoring, and automation capabilities. Awake Security: a network traffic analysis solution that's capable of detecting and visualizing behavioral, malintent, and compliance incidents. Cisco Stealthwatch:an agentless malware detection solution that provides visibility and network traffic security analytics across the extended network, including endpoints, branches, data centers, and cloud environments.	Yes
SI-4(14): System	Axonius supports adapters for network access control (NAC)	Yes

Monitoring | Wireless Intrusion Detection	solutions to allow enterprises/agencies to identify devices within their environment, enforce security policies, and remediate threats. Additionally, dashboards can be configured on the Axonius platform to display any rogue device that was not deployed with an organization's typical software or agents.	
SI-4(20): System Monitoring | Privileged Users	Axonius supports adapter connections to AD, Azure AD, and many IAM solutions to gather data on an organization's users. This data can be viewed or queried within the 'Users' tab in the Axonius platform. By employing filters, specific queries, or applicable adapter connections to monitoring solutions, organizations can create dashboards that display privileged users, devices accessed by these privileged users, and other details that would support additional monitoring capabilities.	Yes

SI-4(22): System Monitoring | Unauthorized Network Services	Some application-level controls can be employed to restrict network traffic. For example, Axonius allows direct access to firewall management interfaces, such as Palo Alto Networks. Palo Alto management software allows organizations to restrict unauthorized network services, such as Tor, by configuring security policies to block certain applications, denying self-signed certificates, blocking risky URL categories, blocking unknown applications, or managing a source and destination IP list that restricts where traffic is allowed to ingress from or egress to.	Partial
SI-5: Security Alerts, Advisories, and Directives	Axonius supports adapter connections to external security monitoring and alerting services such as BitSight, BinaryEdge, and UpGuard, which can be used to generate internal alerts for organizations. An example of this would be Axonius automating the intake of results from known exploited vulnerabilities and display the results for the environment. Axonius can also streamline identifying gaps in executive OMB orders such as but not limited to: EO-M-21-31, EO - 14028, and NDAA 889	Partial

SI-7: Software, Firmware, and Information Integrity	Organizations can track their employed integrity verification tools and use Axonius to ensure all assets within the organization have the expected coverage. Some integrity checking tools supported by Axonius include: VMware Carbon Black App Control (formerly Carbon Black CB Protection): protects critical systems and servers to prevent unwanted changes and ensure continuous compliance with regulatory mandates. Eclypsium: protects the foundation of computing infrastructure, controlling risks and stopping threats to enterprise firmware and hardware devices.	Partial
SI-8: Spam Protection	Axonius allows integration of Proofpoint, which offers threat protection from targeting email, mobile, social, cloud, and other digital channels. Proofpoint Targeted Attack Protection (TAP). Axonius can also show gaps in coverage of these tools.	Partial
SI-12: Information Management and Retention	Axonius saves historically collected data which can be used in the dashboard and in the Devices and Users pages to show insights. Information within the system can be retained through lifecycle settings where historical snapshot data can be taken and saved for a defined number of days.	Partial