

NIST SP 800-82 Rev.3 – Low OT Overlay

NIST SP 800-82 Rev. 3 Low OT Overlay provides tailored controls to protect low-impact operational technology systems.



What it is

NIST SP 800-82 Revision 3 (Low OT Overlay) is a cybersecurity guidance framework that helps organizations secure operational technology (OT) environments by tailoring security controls for low-impact OT systems. It provides recommendations to mitigate cybersecurity risks specific to industrial control systems and other OT assets while supporting the unique requirements of these environments.

Published by the National Institute of Standards and Technology (NIST), this guidance is widely used by organizations in critical infrastructure sectors, utilities, and manufacturing to address the security, compliance, and risk management needs of OT systems. The Low OT Overlay refines the broader NIST SP 800-53 control catalog to address the operational realities of low-impact OT, focusing on threat mitigation, system resilience, and risk-based control selection.

At a glance

PUBLISHER National Institute of Standards and Technology (NIST)	TYPE Guidance	VERSION Rev. 3
EFFECTIVE September 28, 2023	DOMAIN Cybersecurity	FAMILY NIST Special Publications
REGION United States	ADOPTION MODEL Risk Management	IMPLEMENTATION COMPLEXITY Moderate

Source: <https://csrc.nist.gov/publications/detail/sp/800-82/rev-3/draft>

Why it matters

- **Promote operational resilience** Increase system uptime and minimize disruption risks by addressing vulnerabilities unique to low-impact OT environments.
- **Strengthen cybersecurity governance** Support structured risk management and improve visibility into security practices specifically tailored for operational technology assets.
- **Enhance regulatory alignment** Facilitate compliance with federal guidelines and sector-specific regulations relevant to industrial control systems and OT environments.
- **Improve incident detection capabilities** Enable earlier identification of OT threats through tailored monitoring and response recommendations suited for operational contexts.

How SmartSuite supports NIST 800-82 Rev.3 Low OT

OT Security Control Overlay Library

Organize OT-specific controls mapped to the NIST 800-82 low-impact overlay for industrial environments.

Asset and System Inventory for OT

Maintain visibility into industrial devices, controllers, and network infrastructure supporting OT systems.

Vulnerability and Patch Management for OT

Track vulnerabilities affecting OT devices and coordinate remediation actions across operational teams.

Incident Detection and Response for OT Systems

Manage workflows for investigating and responding to cybersecurity incidents affecting industrial environments.

OT Vendor and Supply Chain Risk Oversight

Track vendor security posture and third-party access to operational technology systems.

OT Security Monitoring and Reporting

Provide dashboards showing OT control adoption, system risk posture, and operational security readiness.

Common framework mappings

CIS Controls v8.1

ISO 27001:2022

ISO 27002:2022

NERC CIP

NIST CSF 2.0

NIST 800-53 Rev.5

SOC 2

Cyber Essentials

Official resources

NIST SP 800-82 Revision 3 - Guide to OT Security

Provides guidance on securing operational technology environments with tailored security controls.

csrc.nist.gov/pubs/sp/800/82/r3/final

NIST Cybersecurity Framework

Describes common policies to improve cybersecurity risk management.

nist.gov/cyberframework

NIST SP 800-53 Control Catalog

Defines security controls for federal information systems, applicable to low-impact OT environments.

csrc.nist.gov/publications/detail/sp/800-53/rev-5/final

NIST Risk Management Framework Overview

Outlines the integration of security and privacy into the system development life cycle.

csrc.nist.gov/projects/risk-management

Frequently asked questions

What is NIST SP 800-82 Rev. 3 (Low OT Overlay) used for?

NIST SP 800-82 Rev. 3 (Low OT Overlay) provides tailored cybersecurity guidance for securing operational technology (OT) environments with low-impact systems, such as certain industrial control systems and automation assets. It helps organizations identify and mitigate risks unique to OT environments while considering their operational constraints. The framework is designed to enhance the cybersecurity posture of OT systems and ensure alignment with regulatory and sector-specific risk management practices.

Is NIST SP 800-82 Rev. 3 (Low OT Overlay) mandatory or certifiable?

NIST SP 800-82 Rev. 3 (Low OT Overlay) is not mandatory by law, nor does it offer a formal certification process. However, it is widely adopted as a best practice framework, especially in critical infrastructure industries guided by regulatory expectations or sectoral requirements. Regulatory agencies and auditors frequently reference its controls and recommendations when assessing OT security programs.

What is the scope of the NIST SP 800-82 Rev. 3 (Low OT Overlay)?

The Low OT Overlay applies specifically to operational technology environments assessed as having low security impact, such as small-scale or less critical OT assets. Organizations use the overlay to select and tailor relevant security controls from the broader NIST SP 800-53 catalog to their unique OT risk profile and operational requirements. It is most applicable in utilities, manufacturing, and critical infrastructure sectors with low-impact OT deployments.

What key concepts and artifacts are required for compliance with NIST SP 800-82 Rev. 3 (Low OT Overlay)?

Key artifacts for compliance include documented OT system inventories, tailored security control lists, risk assessment reports, configuration management records, and incident response procedures. The framework emphasizes governance domains such as risk management, system integrity, access control, and incident handling, all tailored for low-impact OT environments.

How does an organization implement NIST SP 800-82 Rev. 3 (Low OT Overlay)?

Organizations implement the framework by conducting risk assessments on their OT assets, identifying applicable controls, tailoring controls to their OT environment, and integrating them into existing risk and compliance programs. Implementation involves establishing baseline cybersecurity practices, performing ongoing monitoring, and documenting control effectiveness as part of a continuous improvement process.

How does NIST SP 800-82 Rev. 3 (Low OT Overlay) relate to other security frameworks?

NIST SP 800-82 Rev. 3 (Low OT Overlay) is aligned with NIST SP 800-53, using a subset of control families refined for OT environments. It can be mapped to the NIST Risk Management Framework (RMF) and other sector-specific standards, supporting broader compliance initiatives and regulatory requirements. Integration with other frameworks helps unify risk management and cybersecurity governance across IT and OT domains.

What are the ongoing compliance requirements for NIST SP 800-82 Rev. 3 (Low OT Overlay)?

Maintaining compliance involves regular risk assessments, continuous monitoring of OT systems, periodic review and updating of control implementations, and ongoing documentation of security practices. Organizations must also be prepared to provide evidence of control effectiveness during internal or external audits and respond effectively to new threats or vulnerabilities.

How would SmartSuite support NIST SP 800-82 Rev. 3 (Low OT Overlay)?

SmartSuite enables organizations to operationalize NIST SP 800-82 Rev. 3 (Low OT Overlay) by providing pre-built control libraries mapped to OT assets, risk register management, and evidence collection capabilities. It streamlines control management and facilitates ongoing monitoring through dashboards and reporting features. SmartSuite also supports audit readiness by tracking remediation actions, maintaining documentation, and generating compliance reports aligned with the framework's requirements.

License included / downloadable: Yes NIST SP 800-82 Rev. 3 is publicly available for free from NIST's website. License included with platform

Full framework page and mappings: smartsuite.com/frameworks/nist-sp-800-82-rev-3-low-ot-overlay-guide-to-operational-technology-ot-security