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NIST SP 800-53B, Control Baselines for Information Systems and Organizations: Moderate-Impact Baseline

The NIST SP 800-53B Rev. 5 moderate-impact baseline: at least one FIPS 199 objective moderate and none high, 177 controls and 110 enhancements, tailored under Section 2.4.



What it is

This page covers the moderate-impact security control baseline in NIST SP 800-53B, Control Baselines for Information Systems and Organizations: the baseline a federal system takes when at least one of its FIPS 199 security objectives (confidentiality, integrity or availability) is rated moderate and none is rated high (Section 2.2). The SP 800-53B parent page describes the publication with all four of its baselines, and the high baseline has its own page. NIST released SP 800-53B on October 29, 2020 alongside the NIST SP 800-53 Rev. 5 catalog, issued an errata update on December 10, 2020, and on August 27, 2025 published Release 5.2.0, a version-number change that includes no changes to the baselines.

At a glance

PUBLISHER National Institute of Standards and Technology (NIST)	TYPE Control Framework	VERSION Revision 5 baselines (October 2020; Release 5.2.0 August 27, 2025, no baseline changes)
EFFECTIVE October 29, 2020	DOMAIN Cybersecurity	FAMILY NIST Special Publications
REGION United States	INDUSTRY Government & Public Sector	ADOPTION MODEL Regulatory Compliance
IMPLEMENTATION COMPLEXITY High		

Source: csrc.nist.gov/pubs/sp/800/53/b/upd1/final

Why it matters

- **A trigger in the publication's own words** Section 2.2 defines a moderate-impact system as one in which at least one security objective is moderate and no security objective is high, using the high water mark concept from FIPS 199 and FIPS 200.
- **A fixed starting set** The 177 controls and 110 enhancements are marked with an x in the Mod column of Tables 3-1 to 3-20, and NIST's OSCAL profile of the moderate baseline carries the same list in machine-readable form.
- **Room to downgrade with conditions** Section 2.4 lists controls that support only confidentiality, only integrity or only availability, so a moderate system that is low on availability can consider downgrading items such as CP-2(1) when three stated conditions are met.
- **Inheritance reduces the work** Section 2.4 lets common controls inherited from another provider count for the system, so account, physical and contingency controls run once by the organization need not be re-implemented.

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How SmartSuite supports NIST 800-53B Rev.5 Moderate

Moderate Baseline Register (Tables 3-1 to 3-20)

Load the 177 controls and 110 enhancements as records keyed by Rev. 5 identifier, with family, Mod-column marking, owner and implementation status for each system.

Categorization Record (Section 2.2)

Hold the FIPS 199 impact value for confidentiality, integrity and availability, the high water mark result and the finding that no objective is high, as the evidence that the moderate baseline applies.

Tailoring Record and System Security Plan (Section 2.4)

Record each control's common, hybrid or system-specific designation, scoping ground, compensating-control rationale, parameter values and supplements, with the approving official, in the form the plans must carry.

Security Objective Downgrades

Track the availability-only, confidentiality-only and integrity-only candidates from Section 2.4, such as CP-2(1), CP-7, MP-5 and SI-7, with the FIPS 199 category, the risk assessment and the protection finding that each downgrade needs.

Supplier and Independent Assessments (SR-6, CA-2(1), CA-7(1))

Keep SR-6 supplier assessments in Third Party Risk Management and plan the independent assessors and assessments that CA-2(1) and CA-7(1) require in Internal Audit Management, linked to the controls they cover.

Overlay Application (Appendix C)

Record any overlay applied to a moderate system, such as the SP 800-82 Rev. 3 OT overlay, with the controls it adds to or removes from the baseline and the OT-specific parameter values.

Common framework mappings

CIS Controls v8.1 · COBIT 2019 · FedRAMP Rev. 5 · HIPAA (NIST SP 800-66 Rev. 2) · HITRUST CSF v11.5 · ISO 27001:2022 · NIST CSF 2.0 · PCI DSS 4.0.1 · SOC 2

Official resources

NIST Special Publication 800-53B

Defines control baselines for information systems in moderate impact environments.

csrc.nist.gov/pubs/sp/800/53/b/upd1/final

NIST SP 800-53 Revision 5

Defines the security and privacy controls for federal information systems.

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

NIST Risk Management Framework (RMF) Overview

Describes the integration of NIST SP 800-53 controls within the Risk Management Framework.

csrc.nist.gov/projects/risk-management

Frequently asked questions

What makes a system moderate-impact under NIST SP 800-53B?

Section 2.2 defines a moderate-impact system as one in which at least one of the three FIPS 199 security objectives, confidentiality, integrity or availability, is rated moderate and no objective is rated high. The high water mark concept from FIPS 199 and FIPS 200 sets the system's impact level, and the organization selects the Mod column of Tables 3-1 to 3-20 as its initial baseline before tailoring under Section 2.4.

How many controls are in the SP 800-53B moderate baseline?

NIST's OSCAL Release 5.2.0 profile of the moderate baseline lists 287 controls and control enhancements: 177 base controls and 110 enhancements from 18 of the 20 SP 800-53 Rev. 5 families. Access Control is the largest family with 39 items, followed by System and Communications Protection with 25, and Configuration Management and Identification and Authentication with 24 each. The printed source is Chapter Three of SP 800-53B, where an x in the Mod column marks each selected item.

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What does the moderate baseline add that the low baseline does not?

The moderate baseline has 138 more items than the 149-item low baseline: 46 base controls and 92 enhancements. The base controls include AC-4 Information Flow Enforcement, AC-5 Separation of Duties, AC-6 Least Privilege, CM-3 Configuration Change Control, CP-6, CP-7 and CP-8 for alternate sites and telecommunications, IA-12 Identity Proofing, SC-8 Transmission Confidentiality and Integrity, SC-28 Protection of Information at Rest and SR-6 Supplier Assessments and Reviews. The enhancements include AC-2(1) to (5), AC-6(1), (2), (5), (7), (9) and (10), AC-17(1) to (4), CA-7(1), SC-7(3), (4), (5), (7) and (8), SC-8(1), SC-28(1) and SI-4(2), (4) and (5).

Can a moderate-impact system that is low on availability leave out contingency controls?

It can downgrade them, with conditions. Section 2.4 gives the example of a system categorized moderate because confidentiality or integrity is moderate while availability is low, and says availability-only items such as CP-2(1) may be downgraded to the low-baseline control. The downgrade must reflect the FIPS 199 security category for that objective, be supported by an organizational assessment of risk and not reduce protection of security-relevant information, and the rationale is recorded in the system security and privacy plans. Candidates listed in Section 2.4 include CP-2(1), (3) and (8), CP-6, CP-7, CP-8, MA-6, PE-9, PE-10 and PE-11.

How does the SP 800-82 Rev. 3 OT overlay change the moderate baseline?

Appendix C of SP 800-53B describes overlays as tailored control sets for a community of interest, and Appendix F of NIST SP 800-82 Rev. 3 publishes one for operational technology that starts from the SP 800-53B baselines. Its Table 22 moderate column adds CP-12 Safe Mode, SI-17 Fail-Safe Procedures, MA-7 Field Maintenance and AU-4(1), which the overlay adds to all three OT baselines, plus AC-17(10), CP-10(6), SR-5(1) and SC-7(18), the last of which SP 800-53B assigns to the high baseline only. Overlays are registered in NIST's Security Control Overlay Repository.

License included / downloadable: Yes NIST SP 800-53B, with the moderate baseline tables, the control baselines spreadsheet and the OSCAL profiles, is available free of charge from NIST.

Full framework page and mappings: smartsuite.com/frameworks/nist-sp-800-53b-rev-5-moderate-baseline

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