

Enforcing FISMA Regulations: NIST 800-53 and FIPS 200

The Federal Information Security Management Act of 2002 was put into effect within the United States in 2002. FISMA requires that government agencies operate secure computing facilities that are maintained by meeting recommended security controls and carrying out annual inventory, security and risk assessments. Documents that help agencies meet the requirements of FISMA Compliance are NIST Special Publication 800-53, "Recommended Security Controls for Federal Information Systems" and FIPS 200, "Minimum requirements for Federal Information Systems".

Although no single solution addresses all the security controls outlined by the NIST documents, our goal is to demonstrate how Nowell's offerings address some of the most important aspects of these documents.

This paper shows how *Nowell's Shalom Security Platform* helps meet some of the most important aspects of these regulations by focusing on Access Control Enforcement, Auditing and Accountability of Information Systems.



WHAT IS NOWELL SHALOM SECURITY PLATFORM?

Shalom Security Platform is an information security software service that defeats Insider Risks such as Insider Information Espionage and Identity Theft. Information espionage occurs when trusted insiders leak information

or compromise information systems. Identity Theft is a violation of access control policy – it happens when a hacker or an intruder steals a legitimate user's identity (such as a password or user name) and illegally gains access to information.

Shalom Security Platform has the ability to prevent such risks by detecting anomalies in user behavior (for example, if someone is accessing sensitive information at 3 AM in the morning on the weekend when he normally is allowed access only at work during day time hours, that is an anomaly). Bad insiders and ID thieves often exhibit anomalous, suspicious behavior that is highly unusual. Shalom Security Platform has the ability to detect such behavior anomalies in computer accounts. It also reports and prevents intruders by additional authentication to the effect that unauthorized persons are identified and locked out of the system immediately. Shalom Security Platform reports all anomalies, risks, and prevented intrusions to administrators for auditing and investigative purposes. According to the CSI/FBI Computer Security Survey, 70% of the risk of information loss is due to insiders. Shalom Security Platform mitigates this risk factor using this method.

WHAT IS NIST SP 800-53? HOW DOES SHALOM SECURITY PLATFORM HELP MEET THE MANDATES OF THIS DOCUMENT?

NIST 800-53 outlines some key areas of information security (called "security control families") that organizations must address to ensure a secure posture. One of them "Access Control" says that access to information should be restricted to only those person(s) who need that information. Shalom Security Platform serves to strengthen the enforcement of access control policies. Shalom Security Platform also enhances Audit & Accountability, Identification & Authentication Security Controls.

1. **DIRECTIVE:** Look out for anomalies in how access control policies are implemented (detect system, and network intrusions); use this information to fix security methods and processes.
2. **DIRECTIVE:** User accounts should be handled securely and should be managed properly [40]. Shalom Security Platform enforces this policy by ensuring the integrity of computer accounts – that users do not have their computer accounts stolen or shared with anyone.
3. **DIRECTIVE:** Computer user accounts are at the heart of computer security - Shalom Security Platform ensures the integrity of the computer account.
4. **DIRECTIVE:** Detect compromises such as use of expired or old accounts; Administrators should

- have a clear user account creation, suspension and termination policy that is enforced. Shalom Security Platform locks out users who use their accounts in a non-secure fashion by sharing passwords or leaving systems unattended. Shalom Security Platform detects backdoor accounts.
5. Page 43 for USER ACCOUNT ACCESS ENFORCEMENT – Shalom Security Platform was designed to ensure that user accounts are used as intended.
 6. AC-3 DIRECTIVE: Ensure that user access is authorized; Shalom Security Platform ensures this by preventing unauthorized users who behave suspiciously
 7. AC-3 DIRECTIVE: Look out for access enforcement anomalies: Shalom Security Platform does access anomaly detection of user accounts; by detecting and reporting anomalies, the Insider risk is addressed too; Shalom Security Platform authenticates possible “bad insiders” and this serves as a clear deterrent.
 8. AC-1, AU-2, AU-8 DIRECTIVE: Asks Administrators to review or audit the activities of users with respect to system security by looking out for anomalies – “indications of inappropriate or unusual activity” [52]. Shalom Security Platform automatically will alert System Administrators to suspicious activities of users. It will tell which accounts have been compromised. This is an important answer to the Audit and Accountability requirements;
 9. IA-2 asks for proper identification and authentication of users by various methods. Shalom Security Platform authenticates persons using personal multifactor authentication on the observance of anomalies to prevent intruders [65].
 10. Incident Response refers to the procedures that information security administrators follow after a compromise. Shalom Security Platform offers tools to review suspicious events, and prevented attacks. This tool serves as a first step in carrying out proper incident response [69].

WHAT IS FIPS 200?

FIPS 200, "Minimum requirements for Federal Information Systems" is a document that outlines minimum requirements for the security of federal information systems

1. Access control directive: Ensure proper access controls: Organizations must ensure that information access is granted to only those who are authorized. By detecting persons who try to gain unauthorized access, Shalom Security Platform

enforces this policy.

2. Audit and Accountability Directive: Organizations must take steps to audit (Record in detail) information systems enough to detect and prosecute unauthorized or inappropriate system activity; Shalom Security Platform can be used as an audit tool to detect suspicious bad activity. Shalom Security Platform provides effective reports that can be used for auditing purposes
3. Identification and Authentication Directive: Organizations must identify users using a unique user ID, and authenticate them; Shalom Security Platform helps to enforce this requirement by ensuring that those who are logged in are who they claim to be using multifactor authentication of anomalous, unusual users.

CONCLUSION

FISMA compliance for any government agency is a long-term project requiring patience that will be addressed by a combination of several processes, people, security tools, and proper training. As was earlier said, no single product or solution can address all concerns; however Nowell's security offering certainly goes a long way in helping meet FISMA compliance in some of the most important security control areas including Access Control, Audit, and Authentication.

In addition, Nowell's Shalom Security Platform will help defeat Insider Risks such as Information Espionage and Computer Identity Theft

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