



# **SanerNow's Continuous, Automated, and Scalable Architecture for Advanced Vulnerability Management**

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# Overview

Vulnerability Management is the most crucial Cyberattack Prevention process. With attacks rising rapidly and constant changes in the IT security landscape, the age-old vulnerability management process is no longer effective. The traditional vulnerability management tools still rely on siloed tools doesn't have sufficient visibility to IT infrastructure, lack integrated remediation capabilities, and often overlook other security risks beyond Common Vulnerability Enumeration (CVE) or software vulnerabilities. IT Security Teams need an Advanced Vulnerability Management solution to reduce attack surfaces to a larger extent and keep attacks at bay.

## Challenges with Siloed Solutions

Traditional vulnerability management relies on multiple tools from gaining visibility over the IT infrastructure, identifying vulnerabilities, misconfigurations, and other risk exposures, and mitigating them with relevant remediation controls. Interrelating results from various siloed solutions is often confusing, making it hard for security teams to respond and gain control over the risk exposure. They also create delays between different stages of a vulnerability management program, leading to huge security gaps in the organization.

## Pitfalls of Traditional Vulnerability Management

### Slow and ineffective processes

As the horizon of security risks and vulnerabilities expand, conventional scanners lack the intelligence to detect them. Many conventional vulnerability scanners take hours or sometimes weeks to discover the commonly known vulnerabilities. The time taken to discover all risks, including vulnerabilities, misconfigurations, security patches, and features updates, will be even longer with these traditional scanners. The process of performing a vulnerability scanning over the network tends to choke network bandwidth apart from the delay.

The slowness coupled with false-positives, IT security teams are dealing with an ineffective vulnerability management process.

### Unable to keep up with the volume of vulnerabilities

Tens of thousands of vulnerabilities are discovered every year, and the volume of vulnerabilities released in the NVD database is colossal. The year 2021 ended with a total of 20,061 vulnerabilities, 9.3% more than the previous year. Security teams face numerous challenges in keeping up with the increased volume of vulnerabilities. Compounding the problem further, there are other types of security risks such as misconfigurations, deviations in security controls, and posture anomalies, that are as critical as vulnerabilities and must be managed as a part of cyberattack prevention efforts.



## Not Managing vulnerabilities beyond CVEs

More than 40% of vulnerabilities do not have a CVE identifier assigned, or CVE information is not up-to-date in the commonly available databases. Vulnerability management products typically detect only CVE identified vulnerability leaving out a significant number of vulnerabilities out in the open.

## Lack of Deeper Insights into the IT infrastructure

IT security teams do not have deeper visibility over the IT infrastructure. Traditional tools typically provide limited view to hardware and software details with insufficient actionable insights. As a result, IT security teams overlook the most obvious attack vectors that can lead to massive security breaches.

## Poor clarity on what to remediate first

According to a study by [ESG](#), 43% of security administrators have challenges prioritizing vulnerabilities for remediation. After detecting a huge pile of vulnerabilities and risks, it is critical to identify and remediate the high-risk ones to minimize attacks. Traditional vulnerability management tools lack the right technique to highlight vulnerabilities and risks, merely depending on severity score and not considering other significant factors.

## Delay in patching and remediating vulnerabilities

With new vulnerabilities being discovered every passing day, security teams have difficulty keeping a tab on patching them. Many conventional programs rely on a different tool to patch the vulnerabilities and face hiccups in correlating the vulnerability data to execute the patching process. Delay in patching increases vulnerability exposure, opening gates for numerous cyberattacks. Most of the attacks use a wide-open, known vulnerability that has been present but ignored in the organization for over a year.

## Lack of remediation controls beyond patching

A software update is not often a single remediation measure to fix vulnerabilities and other security risk exposures. As the horizon of vulnerabilities and security risks expand, numerous remediation controls are needed to fix different types of vulnerabilities. Traditional vulnerability management tools lack these controls and restrict security teams from going beyond patching to fix other risk exposures.

## Unable to align vulnerability management goals with security compliance

Popular industry compliance standards like HIPAA, PCI, NIST, and ISO propose numerous system hardening controls and vulnerability management measures to tighten security. Many conventional vulnerability management tools in the market are not equipped with sufficient features to align with these security benchmarks. Thus, security teams rely on different tools to enforce security compliance, making it a challenging goal to achieve.



# Key Requirements for Effective Vulnerability Management:

## Capabilities to Manage Vulnerabilities and Beyond

CVEs and other known software vulnerabilities comprise only a part of the security risks in the IT infrastructure. Numerous risks exist, including software vulnerabilities, poorly configured settings, IT asset exposures, security control deviations, missing patches, and security posture anomalies. AVM must look at these risks as parallel to a vulnerability and provide capabilities in the form of a one-point solution to mitigate all such risks.

## Integrated Remediation

Most of the time, vulnerabilities prevail in large numbers in the IT network due to lack of remediation tools. Advanced vulnerability management offers tight integration with patching and other necessary remediation mechanisms to mitigate vulnerabilities and security risks.

## Deeper and Holistic Visibility to IT Infrastructure

IT security teams generally have only basic visibility over the hardware and software assets with insufficient actionable insights. This limits the capabilities and the actions the team can take, over the IT infrastructure. Advanced vulnerability management provides holistic and deeper visibility to IT and enable you to discover and eliminate the anomalies that threatens IT security.

## Unified Solution

The primary goal of Advanced Vulnerability Management is to reduce the complexities and chaos faced in siloed tools. Advanced vulnerability management needs a unified and centralized solution catering to different needs of managing attack surfaces.

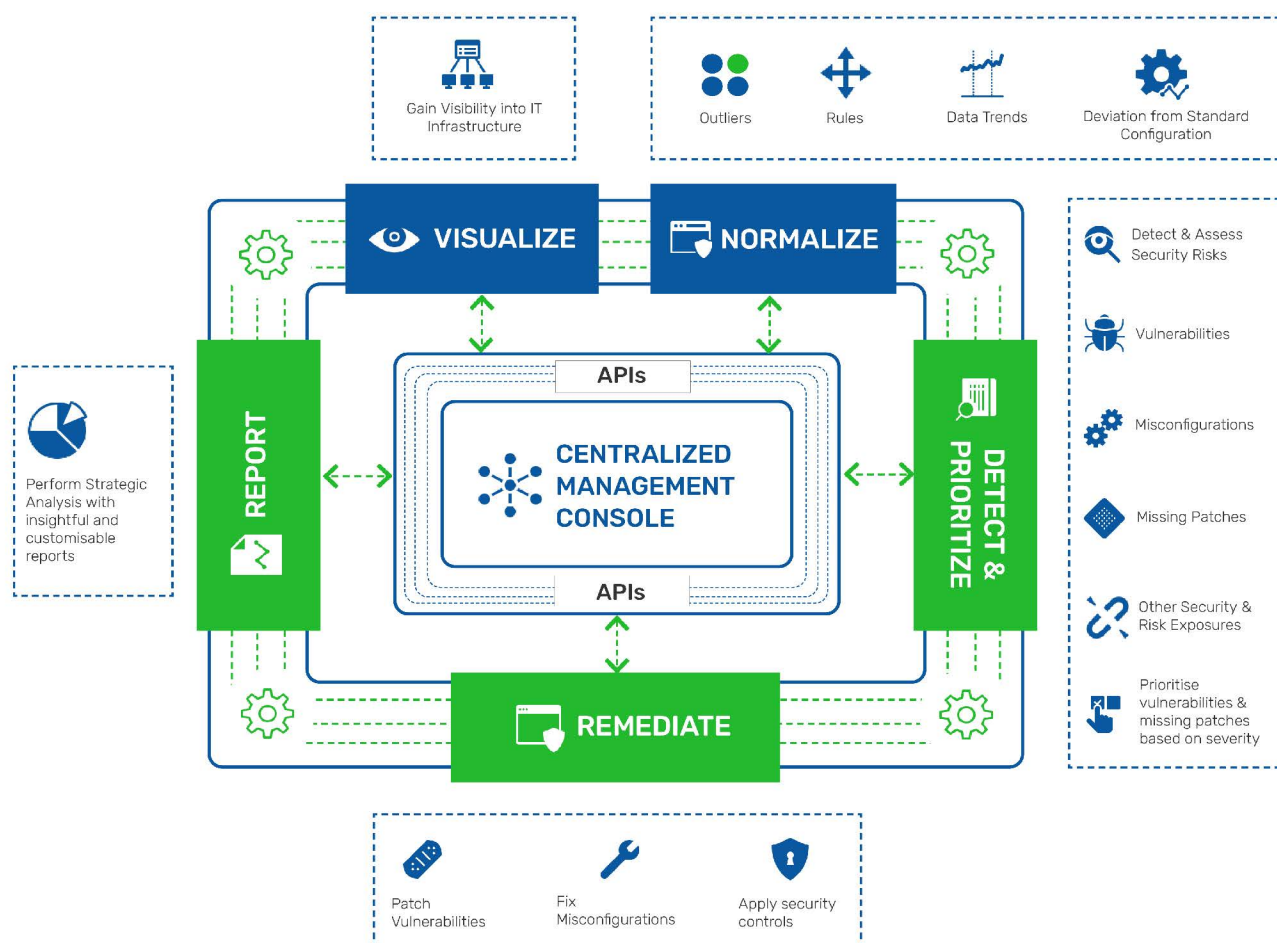
### The key architecture requirements of the unified solution include:

- Integration of various capabilities with machine readable dataset
- Probes to talk to any IT environment
- Query & Respond in real-time
- Scalable & High-performance datastore
- Analytics & correlation

An Advanced Vulnerability Management program,

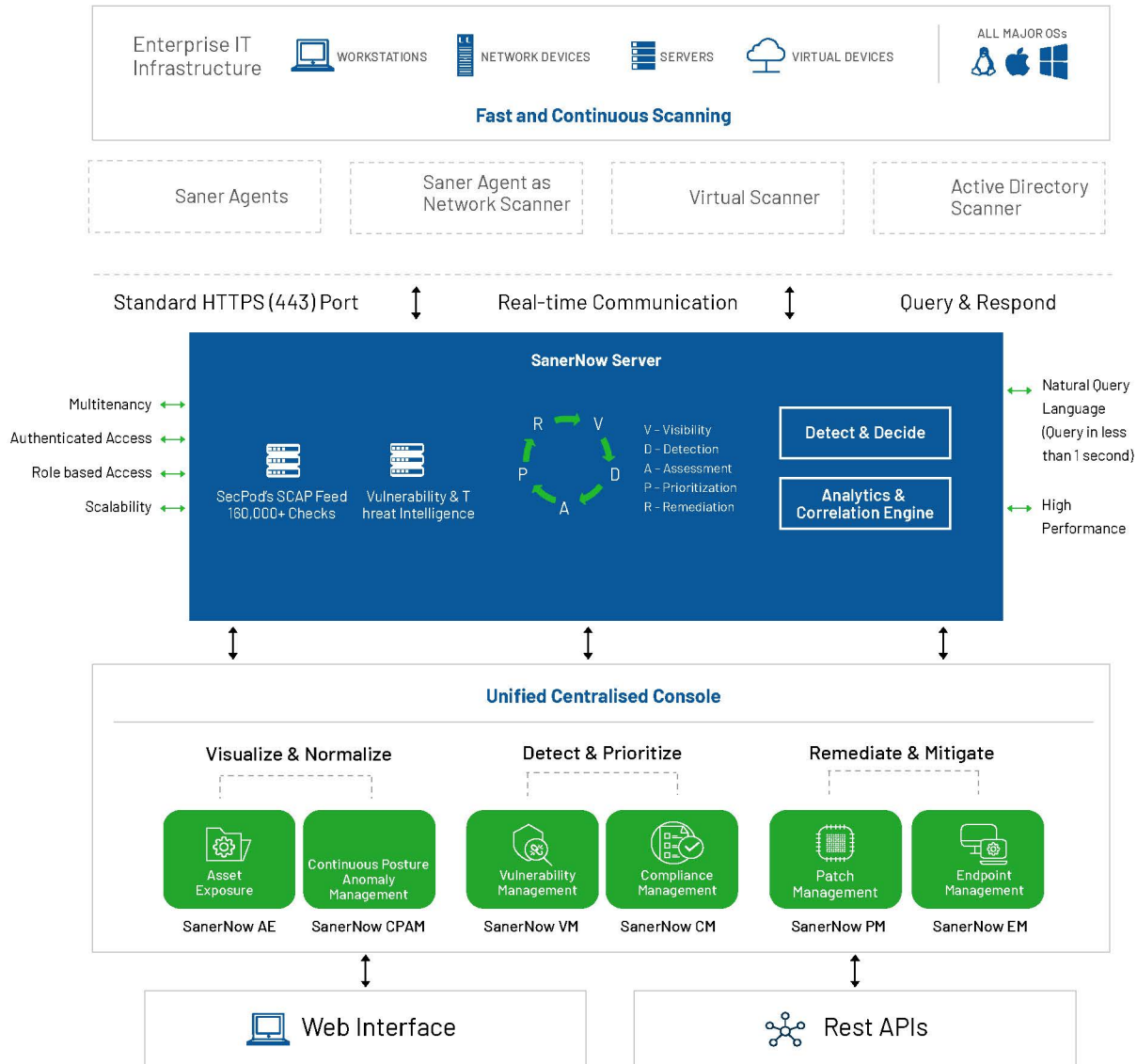
- Unifies the entire vulnerability management lifecycle into one single console. Eliminates the need to implement and operate on multiple siloed products and interfaces.
- Automates the implementation of vulnerability management into a continuous process.
- Helps achieve continuous and measurable cyber hygiene posture through cyber hygiene scores to prevent attacks.

## Continuous Automated & Advanced Vulnerability Management Framework



# Under the Hood of SanerNow's Technology

SanerNow's backend technology is built with a robust Query, Detect, and Response Model, homegrown world's largest Security Intelligence Feed, powerful Analytics & Correlation Engine, and intelligent Radars to support operations on a wide range of devices and multiple operating systems including Windows, Mac, and Linux platforms.



## Query, Detect, and Respond

SanerNow allows IT security teams to perform real-time, on-demand actions to keep IT security in check. SanerNow provides instant visibility over what's happening across your IT infrastructure and provides you with the necessary capabilities to act upon them through its intuitive console.

SanerNow provides hundreds of prebuilt queries to detect various security risks in the network, including vulnerabilities on all IP-enabled devices, misconfigurations across operating systems, missing patches, password aging, screen lockout, bit locker status, firewall status, CPU utilization, unwanted programs, wireless security status, sensitive security data like social security numbers, credit card stored in clear texts, antivirus status,





status of systems which are running more than seven days, disk space less than 100MB, windows registry values, user information in desktops, installation of malicious applications and devices, and more.

SanerNow platform provides an innovative metadata model to support instant searches using unstructured natural language queries. Along with prebuilt checks, you can also create customized checks to detect everything within your IT infrastructure.

The architecture also provides a built-in search to query almost anything in the IT network. With this, you can get details in the network based on IP address, MAC address, system name, hostname, and more.

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## Security Automation in SanerNow's Powerful Architecture

SanerNow hosts the world's largest security intelligence feed and vulnerability threat intelligence feed to provide continuous and automated security updates to the SanerNow Server.

### Security Intelligence feed

SanerNow is powered by its homegrown world's largest vulnerability intelligence feed with more than 160,000 security checks. The SCAP repository offers a natural language-based search interface to extract security information. After continuous research and analysis, all the latest vulnerability updates are fed into the homegrown security intelligence feed every day. The security intelligence feed is automatically synced with the SanerNow server to enable continuous discovery of vulnerabilities in the IT network.

The security research team at SecPod continuously works on getting the latest vulnerability and security updates, including CVE, OVAL, CPE, CCE, CWE, CVSS score, severity range, exploit potential, and relevant patch fixes.

- Additionally, SecPod provides **SVE (SecPod Vulnerability Enumeration)** information for those vulnerabilities that are acknowledged by vendors but still lack complete CVE information on common publicly available CVE databases.
- SanerNow's native **CRE (Common Remediation Enumeration)** technology maps all the discovered vulnerabilities with remediation enumeration data to patch vulnerabilities and misconfigurations on time.
- SanerNow's **ERI (Extended Remediation Information)** technology provides patch information, prerequisites for the patching activity, and evolution of patches over time to aid the complex vulnerability remediation process.
- SanerNow's **XCCDF(Extensible Configuration Checklist Description Format)** provides information for benchmarks like HIPAA, PCI, ISO, NIST & SOC 2 to achieve compliance. SanerNow also provides remediation patches to harden configurations.
- SanerNow's **SQRL (SecPod's Query & Response Language)** provides a wide range of prebuilt detection and response scripts to manage vulnerabilities and security risks in the IT infrastructure.



## Vulnerability Threat Intelligence Feed

SanerNow's Vulnerability threat intelligence feed consists of the Malware Vulnerability Enumeration (MVE) data. SanerNow maps the detected vulnerabilities with **MVE (Malware Vulnerability Enumeration)** data to identify the vulnerabilities causing high-fidelity attacks. With this, SanerNow showcases the threatening vulnerabilities causing dangerous attacks and alerts the IT security teams to remediate them instantly.

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## Powerful Analytics and Correlation Engine (ANCOR)

SanerNow's ANCOR is scalable analytics and correlation engine that operates on multiple sets of data to perform methodical investigations. The data set include vulnerability information, IT asset exposures, missing patches, deviation in security controls, endpoint security metrics, and security posture anomalies. ANCOR correlates all these data to uncover the network's vulnerability and security risk exposure.

Ancor enables detection, assessment, prioritization, remediation, reporting of vulnerabilities & security risks from a single centralized console by analysing data from devices and correlating it with the homegrown security intelligence.

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## SanerNow Radars

### Agent

The smart, lightweight, multifunctional agent must be installed on the endpoints to implement the advanced vulnerability management tasks. The agents receive the tasks from the Server and silently execute them on the devices without interrupting the users. With SanerNow, you can,

- Scan the entire virtual and physical infrastructure
- Establish a live communication channel between the agents installed on the devices and the Server to perform real-time, on-demand queries and responses
- Run active directory scan
- Perform network scan
- Customize the agent-server sync time according to your organization's requirements
- Manage remediation tasks and execute a wide range of actions



## Agent as Network Scanner

The powerful agent also takes up the role of a network scanner to scan other devices in the network, saving additional costs over purchasing new hardware. The agents can be configured to scan the entire network to detect vulnerabilities across your IT infrastructure. The agent performs network scanning without consuming excessive bandwidth and system resources. Different scan profiles can be configured to suit your organization's needs.

## Agent as an Active Directory (AD) Scanner

The powerful agent also takes up the role of an AD scanner to configure users and devices available in the network. This activity also works without consuming excessive bandwidth and system resources.

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## Features & Benefits of SanerNow Architecture



### Robust, Natively Built, and Truly Integrated Solution

SanerNow Cyberhygiene platform is built completely in-house to provide a truly integrated solution. All security tasks can be easily performed from a single place without having to juggle different tools.



### Gain holistic visibility into IT infrastructure and eliminate outliers

Get collective and deeper visibility over your IT infrastructure. Spot the most obvious attack vectors including outliers in the network, unapproved software & devices, incorrectly configured security controls and much more, and eliminate them instantly.



### Multi-tenant Support with Segregated User Data

Efficiently manages multiple business units and system users with a single server. Neatly segregates business users' data and offers the ability to create various user roles with defined access rights to manage different areas of a corporate network.



### Real-Time Communication with Distributed Devices

SanerNow allows you to talk and respond to your devices anytime and anywhere in real-time. You can run on-demand operations and establish real-time communication with your organizational devices.




### High-Performance Scalable Architecture

The platform is highly scalable with a Big Data architecture, efficiently supporting the management of a large number of devices through a single server without performance degradation.



### Rapid, Continuous, and Automated Operations

With SanerNow, you can run the industry's fastest scans in less than 5 minutes and automate all security tasks end-to-end and achieve continuous operations.



## Leverage cloud or on-premise solution as per requirement

SanerNow supports operations on both cloud and on-premises variants. You can opt for either of the ones which suit your business needs.



## Seamless Integration & Interoperability

The flexible architecture of the platform allows integration with various systems. The REST APIs enable access to all collected data from endpoints and supports search queries.



## Operates on a lightweight Agent

SanerNow platform work on a single, lightweight, multifunctional agent which weighs less than 20MB and executes all the tasks. The agent also takes up the role of network scanner and saves cost on integrating additional hardware.



## Protects BYOD, Remote Office, and Transient Devices

Ensures security of organizations' devices across perimeter limits. Provides efficient protection and control of transient, remote, and BYOD devices from a centralized console.



## Rule & Trend based Analysis to Discover Anomalies

SanerNow uses rule and trend-based analysis where it collects some parameters over a period to spot any aberrations or abnormalities in regular pattern.



## Cyber Hygiene Scores

Know how secure your organization and devices are with SanerNow cyber-hygiene scores. Further, know the top 5 risk exposures and top contributors of the risk.



## Easy Setup and Onboarding

SanerNow can be set up in less than 30 minutes, and you can kick start your operations in no time. SanerNow offers multiple modes to deploy agents seamlessly across your network.



## Provides Multi-factor Authentication

The platform provides multi-factor authentication to protect the SanerNow account and add an extra layer of security.



## Supports Natural Language Search Queries

The innovative metadata model of the platform supports instant searches using unstructured natural language queries. SanerNow understands it all and provides valuable insights to our customers.



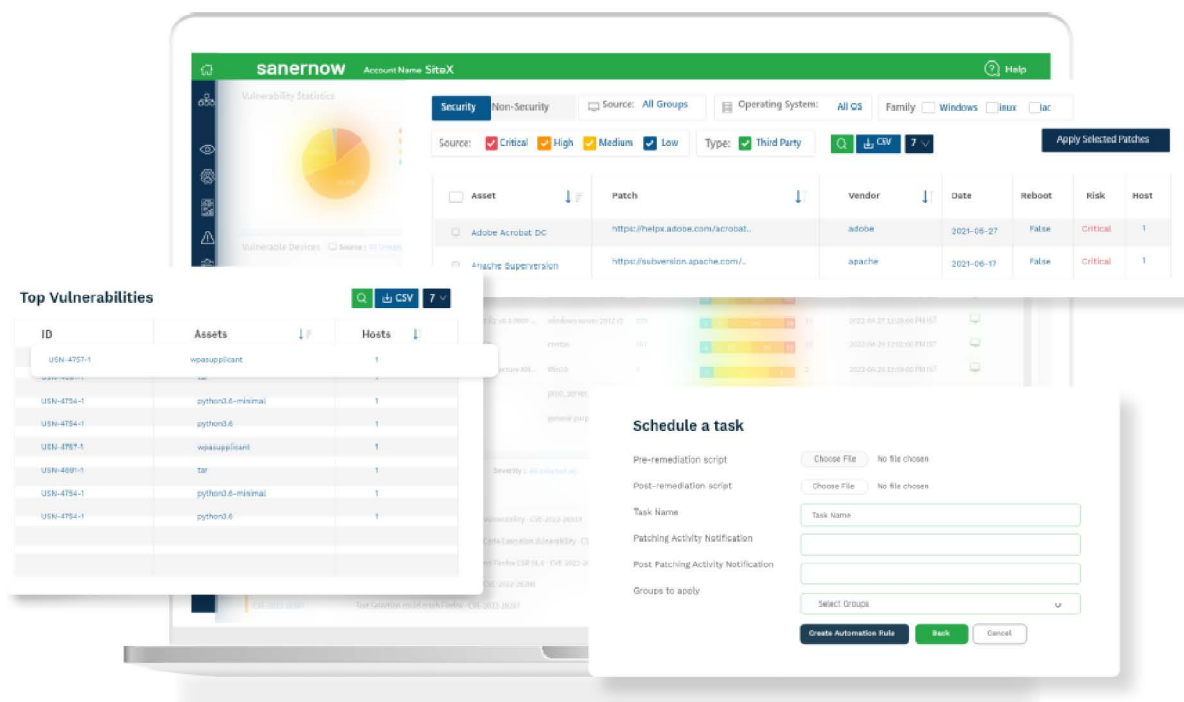
## Leverage Machine Learning to deep learn IT

SanerNow analyses various parameters in the network and uses machine learning concepts to provide deep insights into the IT infrastructure and discover outliers.



## Deviation Computations of Standard Configurations

SanerNow uses 40+ checks to assess if configurations are set differently from others. Through this it identifies the deviated configurations that needs to be looked upon immediately.



## About SecPod

SecPod is a cyber security technology company. We prevent cyberattacks. We do everything to prevent attacks on computing environment. Our product helps implement cyber hygiene measures, so attackers have tough time piercing through.

Our SanerNow CyberHygiene platform provides continuous visibility to computing environment, identifies vulnerabilities and misconfigurations, mitigate loopholes to eliminate attack-surface, and helps automate these routines. Our product philosophy is offering simplicity and automation to make the job of security administrators slightly better.



## Contact Us

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