



# Tanium™ Reveal User Guide

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# Reveal overview

With Reveal, you can detect sensitive unstructured data at rest on endpoints across an entire IT environment. Use Reveal to continuously monitor for artifacts that match patterns. When sensitive content that matches a pattern is discovered, you can label the files where the content exists and further analyze or take action on them to address regulatory compliance, information security, or data privacy issues.

## Rule sets

Rule sets group related rules that are collectively used for a specific purpose, such as evaluating compliance with a particular standard, and target rules to specific groups of endpoints.

Create and apply rule sets to provide the most relevant Reveal capabilities to specific groups of endpoints. For example, you can create rule sets that apply rules that discover sensitive data specific to financial information or health records.

Reveal features the following rule sets:

### PCI

PCI standards help companies that accept, process, store, and transmit credit card information to maintain a secure environment.

### HIPAA

HIPAA standards help protect sensitive patient health data.

### GDPR

GDPR standards help protect personal data and ensure European Union compliance.

### CCPA

CCPA standards help protect personal data and ensure State of California compliance.

## Rules

With rules, you can specify patterns to match in specific types of files and perform an action on either the file or the endpoint when Reveal discovers a match. For example, you could add a 'confidential' label to all of the text documents where a social security number pattern matches.

You can create multiple rules to evaluate content on the same files on each endpoint. For example, you can create a rule that detects credit card numbers, a rule that detects social security numbers, and a rule that detects email addresses, and evaluate each rule on specific types of files. The results of each rule indicate which files contain matches for which pattern. Results are categorized by each rule so that you can quickly locate pattern matches.

## Patterns

In Reveal, a pattern is an expression that matches entities that can otherwise be hidden in the context of other information.

For example, a pattern could match an entity such as a credit card number or email address. Such a pattern could be assigned to a rule to match entities in unstructured data such as a word processing document, text file, PDF document, or spreadsheet. Reveal provides patterns for several types of sensitive information, such as credit card numbers, social security numbers, and email addresses. For information regarding extending the list, see [Contact Tanium Support on page 50](#).

## Integration with other Tanium products

Reveal has built in integration with Tanium™ Trends for additional reporting of related data.

### Trends

By default, Reveal features Trends boards that provide data visualization of Reveal concepts.

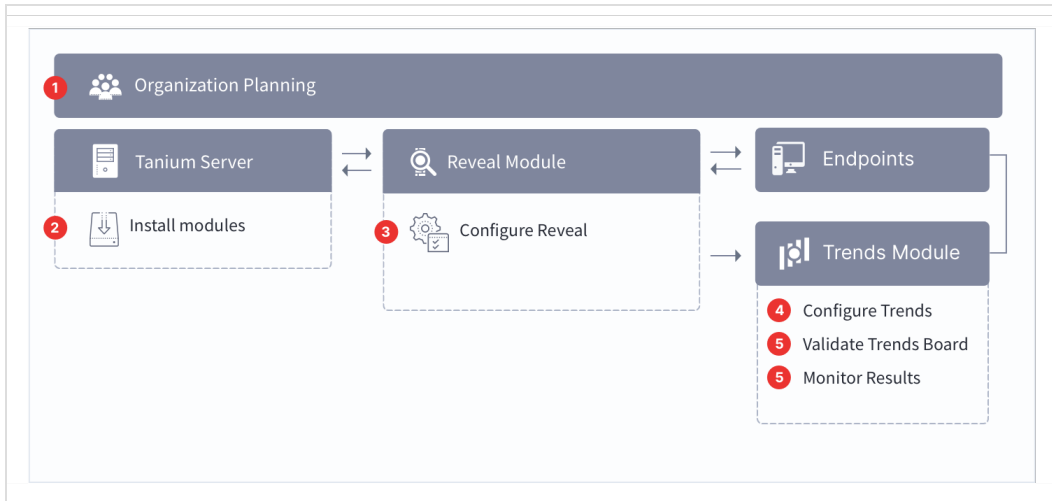
The **Reveal** board features visualizations that show the status of Reveal components on endpoints in an environment and provides visibility into any areas of Reveal that require remediation. Additionally, the **Reveal status** board shows real time and historical statistics concerning rule matches on endpoints. The following panels are in the Reveal board:

- Reveal Coverage
- Endpoints with Confirmed Sensitive Data
- Endpoints with Unconfirmed Sensitive Data
- Unverified Matches
- Label Results
- Endpoint Status
- Data Size
- Scan Failure
- Undersized Reveal Databases
- Reveal Tools Installations
- Applied Rule Sets
- Tools Version

For more information about how to import the Trends boards that are provided by Reveal, see [Tanium Trends User Guide: Importing the initial gallery](#).

# Succeeding with Reveal

Follow these best practices to achieve maximum value and success with Reveal. These steps align with the key benchmark metrics: increasing Reveal coverage, monitoring endpoints with confirmed sensitive data, and monitoring endpoints with unconfirmed sensitive data.



## Step 1: Gain organizational effectiveness

Complete the key organizational governance steps to maximize Reveal value. For more information about each task, see [Gaining organizational effectiveness on page 11](#).

- Develop a dedicated Change management process.
- Define distinct roles and responsibilities in a RACI chart.
- Validate cross-functional Organizational alignment.
- Track Operational metrics.

## Step 2: Install Tanium modules

- Install Tanium Reveal. See [Installing Reveal on page 29](#)



Install Tanium Trends. See [Tanium Trends User Guide: Installing Trends](#).

Install Tanium Direct Connect. See [Tanium Direct Connect User Guide: Installing Direct Connect](#).

Install Tanium Client Management, which provides Tanium Endpoint Configuration. See [Tanium Client Management User Guide: Installing Client Management](#).

### Step 3: Configure Tanium products - Trends and action groups

Open Tanium Trends and import the Reveal gallery. See Tanium [Trends User Guide: Importing the initial gallery](#) for more information. If you installed Trends using the Apply Tanium recommended configurations option, the Reveal boards are automatically imported after the Reveal service account is configured.

### Step 4: Configure Reveal

Create computer groups for Windows, Linux, and macOS. If you install Reveal using the Apply Tanium recommended configurations option, the computer groups are created automatically.

[Add computer groups to Reveal action group](#).

Create a Rule Set with a name indicating the type of sensitive information you want Reveal to discover.

Deploy rules. See [Deploy rules](#).

### Step 5: Configure Trends

From the Trends menu, click **Boards**. Select **Reveal - Executive Metrics**. Click **Validate**. Click **Import**. If you installed Trends using the Apply Tanium recommended configurations option, the Reveal boards are automatically imported after the Reveal service account is configured.

### Step 6: Monitor Reveal metrics

From the Trends menu, click **Boards**. Select **Reveal - Executive Metrics**. Review the trending data in the **Reveal - Coverage**, **Reveal - Endpoints with Findings per Rule**, and **Reveal - Validation Needed** panels.

[Monitor and troubleshoot Reveal coverage.](#)

[Monitor and troubleshoot endpoints with confirmed sensitive data.](#)

[Monitor and troubleshoot endpoints with unconfirmed sensitive data.](#)

# Gaining organizational effectiveness

The four key organizational governance steps to maximizing the value that is delivered by Reveal are as follows:

- Develop a dedicated change management process. See [Change management on page 11](#).
- Define distinct roles and responsibilities. See [RACI chart on page 11](#).
- Track operational maturity. See [Operational metrics on page 14](#).
- Validate cross-functional alignment. See [Organizational alignment on page 14](#).

## Change management

Develop a tailored, dedicated change management process for patch management, taking into account the new capabilities provided by Tanium.

- Update SLAs and align activities to key resources for Tanium Reveal activities across IT Security, IT Operations, and IT Risk and Compliance.
- Designate change or maintenance windows for various data identification scenarios; for example, implementing rules for CCPA, GDPR, PCI, PII, custom content, investigating alerts, and validating rules.
- Identify internal and external dependencies to your data identification process; for example, to support eDiscovery, or investigate insider threats and policy violations.
- Create a Tanium Steering Group (TSG) for data identification activities to expedite reviews and approvals of processes that align with SLAs.

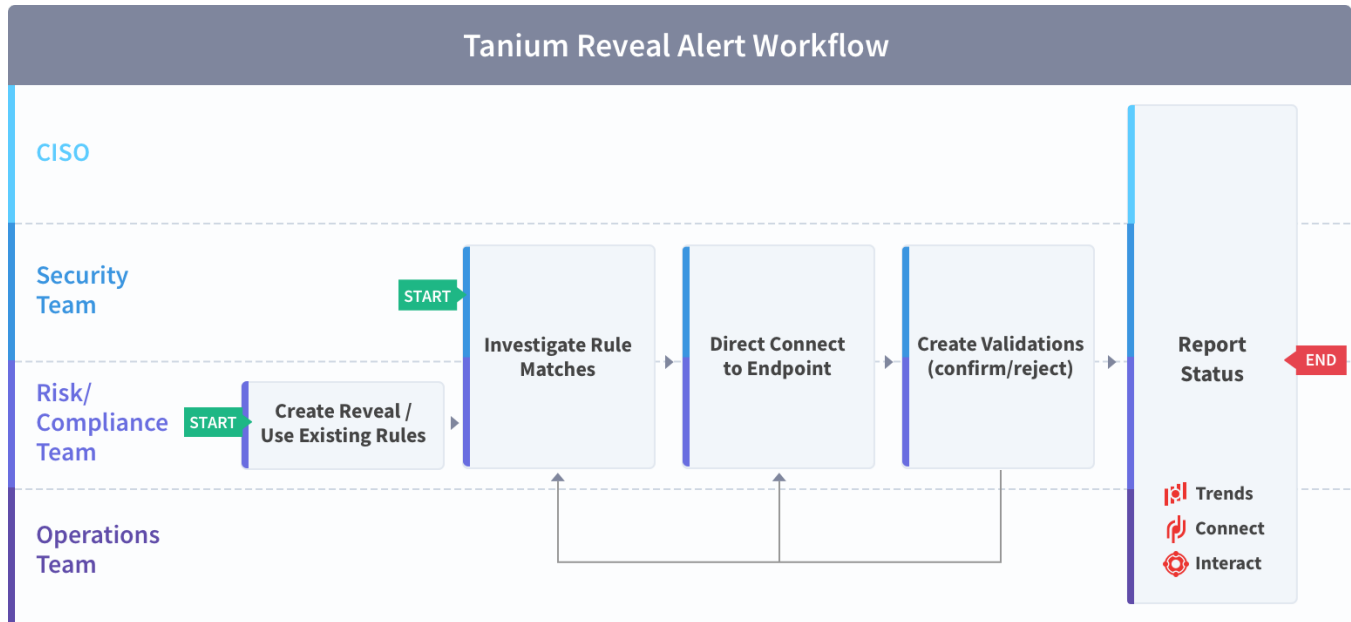
## RACI chart

A RACI chart identifies the team or resource who is **R**esponsible, **A**ccountable, **C**onsulted, and **I**nformed, and serves as a guideline to describe the key activities across the security, risk/compliance, and operations teams. Every organization has specific business processes and IT organization demands. The following table represents Tanium's point of view for how organizations should align functional resources against patch management. Use the following table as a baseline example.

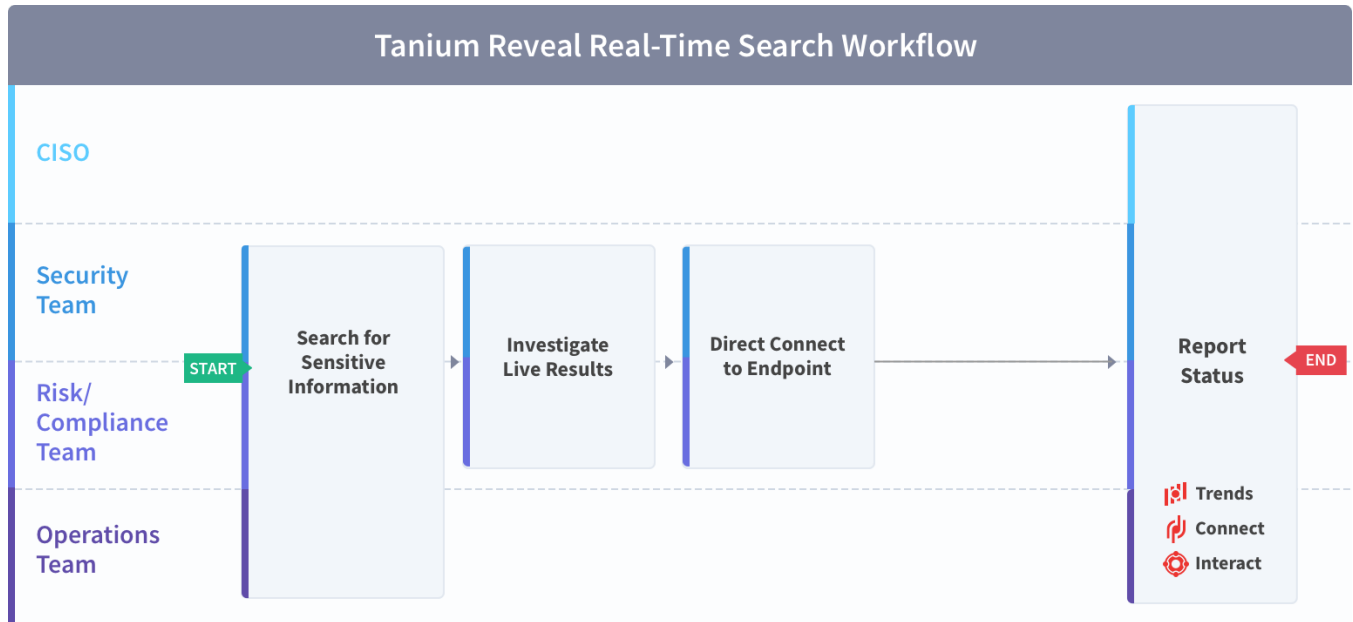
Task	IT Security	IT Operations	IT Risk/Compliance	Executive	Rationale
Determine which default rules to use or which custom rules to create	C	I	R/A	C	When Reveal is originally installed, there are default rules for PCI, HIPAA, GDPR, and CCPA. The Risk/Compliance team might have other items they need to track and will be accountable for defining those rules and labels. The security team will be consulted along with the CIO/CRO/CPO to ensure proper policy coverage.
Investigate rule matches using Live Connect	R/A	I	R/A	-	Both the security and risk/compliance teams will investigate rule matches and are accountable for acting on the alert. The security team is more likely to connect to the endpoint for further investigation.
Validate rule pattern matches	R/A	I	R/A	-	Both the security and risk/compliance teams will validate rule pattern matches to confirm the matches or reject false positives and reduce noise to more accurately represent the alert.
Search for sensitive information that matches a search string in real-time	R/A	R	R/A	-	The security and risk/compliance teams will be accountable to define what data is sensitive; however, operations and the other two teams should have access to search for said data in real time.

Task	IT Security	IT Operations	IT Risk/Compliance	Executive	Rationale
Reporting through Tanium Trends or external systems; for example, a SIEM.	R/A	I	C/I	C/I	Reporting can be automated via Tanium Trends boards and/or integrated with other tools such as a SIEM via Tanium Connect for ease to digest, share with executives, or other owners that require action or remediation.

**Tanium Reveal alert workflow**



## Tanium Reveal real time search workflow



## Organizational alignment

Successful organizations use Tanium across functional silos as a common platform for high-fidelity endpoint data and unified endpoint management. Tanium provides a common data schema that enables security, operations, and risk/compliance teams to assure that they are acting on a common set of facts that are delivered by a unified platform.

In the absence of cross-functional alignment, functional silos often spend time and effort in litigating data quality instead of making decisions to improve sensitive data discovery.

## Operational metrics

### Reveal maturity

Managing a data identification program successfully includes operationalization of the technology and measuring success through key benchmarking metrics. The four key processes to measure and guide operational maturity of your Tanium Reveal program are as follows:

Process	Description
Usage	how and when Reveal is used in your organization
Automation	how automated Reveal is in your environment
Functional Integration	how integrated Reveal is, across IT security, IT operations, and IT risk/compliance teams
Reporting	how automated Reveal is and who the audience of Reveal reporting is

## Benchmark metrics

In addition to the key Reveal processes, the four key benchmark metrics that align to the operational maturity of the Reveal program to achieve maximum value and success are as follows:

Executive Metrics	Reveal Coverage	Endpoints with findings per rule	Validation needed
Description	Percentage of managed endpoints with Reveal installed. Without Reveal, there is no way to know if sensitive or prohibited information is present in files at rest.	Number of endpoints with hits/findings per rule. Rules are based on CCPA, GDPR, HIPAA, PII, PCI, and other custom criteria.	Shows the numbers of unvalidated hits/findings. Over time, as validations are created, this number should trend down.
Instrumentation	Trends panel showing where Reveal is installed.	Trends panel showing matches on endpoints.	Trends panel showing the trend - should trend down.
Why this metric matters	Without Reveal, there is no way to know if sensitive or prohibited information is present in files at rest.	There are many laws and regulations around the world a company must follow to protect personal data. These laws and regulations include CCPA, GDPR, HIPAA, PII, PCI, PHI, and several others. Failure to follow and/or enforce these standards can cost thousands to millions of dollars. There are also similar concerns about PCI, PII, and other sensitive information.	When rule hits are found, they are initially unconfirmed. The Reveal workflow includes an analysts reviewing those hits and creating validations - confirmed or rejected. Over time, this amount of work should go down as proper validations are created.

Use the following table to determine the maturity level for Tanium Reveal in your organization.

		Level 1 (Needs improvement)	Level 2 (Below average)	Level 3 (Average)	Level 4 (Above average)	Level 5 (Optimized)
Process	Usage	Reveal module and action group configured, Tanium default rule sets deployed	Target rule sets by Computer Group based on what information is acceptable vs not acceptable on those endpoints	Custom rules created with provided patterns based on governance policies, e.g. customer specific account number. Rule matches investigated and data validated, Include filters and / or pattern / pattern group to reduce false positives	Create rules based on custom patterns. Support for eDiscovery for use in legal proceedings	Taking action based on hits or label results, Identifying and investigating insider threats and policy violations
	Automation	Manual	Manual	Email alert results with Tanium Connect	Email generic alert results with Tanium Connect	Email specific alert results with Tanium Connect tailored to type of data discovered
	Functional integration	Direct Connect for Live Connect	Tanium Enforce for device control / removable media, Tanium Threat Response	Tanium Connect, Reports on numbers of hits by endpoint or total aggregate to SIEM, Google Chronicle	Tanium Impact, Tanium Data Services	ITSM workflow
	Reporting	Manual; via Reveal workbench / dashboard for operators only	Manual; Reveal workbench / dashboard for operators / peer group only	Automated; Trends Boards tailored to stakeholders ranging from Operator to Executive	Automated; Trends Boards tailored to stakeholders ranging from Operator to Executive and Legal	Automated; Trends Boards tailored to stakeholders ranging from Operator to Executive, Legal, and HR




		Level 1 (Needs improvement)	Level 2 (Below average)	Level 3 (Average)	Level 4 (Above average)	Level 5 (Optimized)
Metrics	Endpoints managed	0-49%	50-65%	65-85%	85-95%	95-100%
	Endpoints with findings	>50%	25-50%	15-24%	10-14%	0-9%
	Validations needed	>= 60%	40-59%	20-39%	10-19%	0-9%

# Reveal requirements

Review the requirements before you install and use Reveal.

## Tanium dependencies

Component	Requirement
Tanium™ Core Platform	7.3.314.4250 or later.
Tanium™ Client	<p>Any supported version of Tanium Client. For the Tanium Client versions supported for each OS, see <a href="#">Tanium Client Management User Guide: Client version and host system requirements</a>.</p> <p>If you use a client version that is not listed, certain product features might not be available, or stability issues can occur that can only be resolved by upgrading to one of the listed client versions.</p>
Tanium solutions	<p>If you clicked the <b>Tanium Recommended Installation</b> button when you installed Reveal, the Tanium Server automatically installed all your licensed solutions at the same time. Otherwise, you must manually install the solutions that Reveal requires to function, as described under <a href="#">Tanium Console User Guide: Import, re-import, or update specific solutions</a>.</p> <p>Tanium solutions at the following minimum versions are required:</p> <ul style="list-style-type: none"> <li>• Tanium Index 2.5.13 or later.</li> <li>• Tanium Trends 3.6.331 or later.</li> <li>• Tanium Interact 2.5.146 or later.</li> <li>• Tanium Direct Connect 1.4.0 or later.</li> <li>• Tanium Endpoint Configuration 1.2 or later.</li> </ul> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;">  Endpoint Configuration is installed as part of Tanium Client Management 1.5 or later.         </div> <p>The following Tanium solutions are optional, but Reveal requires the specified minimum versions to work with them:</p> <ul style="list-style-type: none"> <li>• Threat Response 3.4.346 or later</li> </ul>
Computer groups	<p>When you first log into the Tanium Console after installing the Tanium Server, the server automatically imports the computer groups that Reveal requires:</p> <ul style="list-style-type: none"> <li>• All Computers</li> <li>• All Windows</li> <li>• All Mac</li> <li>• All Linux</li> </ul>

Reveal deploys the Tanium Index tools if necessary and starts the indexing process. Additionally, Reveal deploys a default Index configuration. Ensure that any file types or directories that you expect Reveal to scan are not excluded from hashing. By default, the following directories are excluded from hashing:


- ^/Library/Tanium/TaniumClient/ (macOS)
- ^/opt/Tanium/TaniumClient/ (Linux)
- \\Tanium\\Tanium Client\\ (Windows)

## Tanium Module Server

Reveal is installed and runs as a service on the Tanium Module Server. The impact on the Module Server is minimal and depends on usage.

## Endpoints

### Supported operating systems

Operating system	OS version
Microsoft Windows Server	<ul style="list-style-type: none"> <li>• Windows Server 2008 R2 SP1 or later</li> </ul>
Microsoft Windows Workstation	<ul style="list-style-type: none"> <li>• Windows 11</li> <li>• Windows 10</li> <li>• Windows 8</li> <li>• Windows 7 SP1</li> </ul> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;">  Windows 7 Service Pack 1 requires Microsoft <a href="#">KB2758857</a>.         </div>
macOS (Intel processor only)	<ul style="list-style-type: none"> <li>• macOS 12 Monterey</li> <li>• macOS 11 Big Sur</li> <li>• macOS 10.15 Catalina</li> <li>• macOS 10.14 Mojave</li> <li>• macOS 10.13 High Sierra</li> <li>• macOS 10.12 Sierra</li> <li>• OS X 10.11.6 El Capitan</li> </ul>

### Supported operating systems (continued)

Operating system	OS version
Linux	Amazon Linux 2 LTS (2017.12)
	Debian 9.x, 8.x, 10x
	Oracle Linux 8.x, 7.x, 6.x, 5.x
	<ul style="list-style-type: none"><li>Red Hat Enterprise Linux (RHEL) 8.x, 7.x, 6.x, 5.x</li><li>CentOS 8x, 7.x, 6.x, 5.x</li></ul>
	Ubuntu 20.04 LTS
	Ubuntu 18.04 LTS
	Ubuntu 16.04 LTS

### Disk space requirements

Up to 2 GB of free disk space is required on each endpoint.

## Host and network security requirements

Specific ports and processes are needed to run Reveal.

### Ports

The following ports are required for Reveal communication.

Source	Destination	Port	Protocol	Purpose
Tanium Client (internal)	Module Server	17475	TCP	Used by the Module Server for endpoint connections to internal clients.
Tanium Client (external)	Zone Server*	17486	TCP	Used by the Zone Server for endpoint connections to external clients. The default port number is 17486. If needed, you can specify a different port number when you configure the Zone Proxy.
Module Server	Module Server (loopback)	17470	TCP	Internal purposes, not externally accessible

Source	Destination	Port	Protocol	Purpose
Module Server	Zone Server*	17487	TCP	Used by the Zone Server for Module Server connections. The default port number is 17487. If needed, you can specify a different port number when you configure the Zone Proxy.
		17488	TCP	Allows communication between the Zone Server and the Module Server. On TanOS, the Direct Connect Zone Proxy installer automatically opens port 17488 on the Zone Server. This port must be manually opened on Windows.

\*These ports are required only when you use a Zone Server.



BEST PRACTICE

Configure firewall policies to open ports for Tanium traffic with TCP-based rules instead of application identity-based rules. For example, on a Palo Alto Networks firewall, configure the rules with service objects or service groups instead of application objects or application groups.

## Security exclusions

If security software is in use in the environment to monitor and block unknown host system processes, a security administrator must create exclusions to allow the Tanium processes to run without interference. The configuration of these exclusions varies depending on AV software. For a list of all security exclusions to define across Tanium, see [Tanium Core Platform Deployment Reference Guide: Host system security exclusions](#).

### Reveal security exclusions

Target Device	Notes	Exclusion Type	Exclusion
Module Server		Process	<Module Server>\services\reveal-service\node.exe
		Process	<Module Server>\services\endpoint-configuration-service\taniumEndpointConfigService.exe

Reveal security exclusions (continued)

Target Device	Notes	Exclusion Type	Exclusion
Windows endpoints		Process	<Tanium Client>\TaniumCX.exe
		Process	<Tanium Client>\TaniumClientExtensions.dll
		Process	<Tanium Client>\TaniumClientExtensions.dll.sig
		Process	<Tanium Client>\extensions\TaniumReveal.dll
		Process	<Tanium Client>\extensions\TaniumReveal.dll.sig
		Process	<Tanium Client>\extensions\TaniumDEC.dll
		Process	<Tanium Client>\extensions\TaniumDEC.dll.sig
		Process	<Tanium Client>\extensions\TaniumIndex.dll
		Process	<Tanium Client>\extensions\TaniumIndex.dll.sig
		Process	<Tanium Client>\extensions\core\TaniumPythonCx.dll
		Process	<Tanium Client>\extensions\core\TaniumPythonCx.dll.sig
	7.2.x clients, <sup>1</sup>	Process	<Tanium Client>\python27\TPython.exe
	7.4.x clients, <sup>1</sup>	Process	<Tanium Client>\python38\TPython.exe
	7.4.x clients	Folder	<Tanium Client>\python38

Reveal security exclusions (continued)

Target Device	Notes	Exclusion Type	Exclusion
Linux endpoints		Process	<Tanium Client>/TaniumCX
		Process	<Tanium Client>/libTaniumClientExtensions.so
		Process	<Tanium Client>/libTaniumClientExtensions.so.sig
		Process	<Tanium Client>/extensions/libTaniumReveal.so
		Process	<Tanium Client>/extensions/libTaniumReveal.so.sig
		Process	<Tanium Client>/extensions/libTaniumDEC.so
		Process	<Tanium Client>/extensions/libTaniumDEC.so.sig
		Process	<Tanium Client>/extensions/libTaniumIndex.so
		Process	<Tanium Client>/extensions/libTaniumIndex.so.sig
		Process	<Tanium Client>/extensions/core/libTaniumPythonCx.so
		Process	<Tanium Client>/extensions/core/libTaniumPythonCx.so.sig
	7.2.x clients	Process	<Tanium Client>/python27/python
	7.4.x clients	Process	<Tanium Client>/python38/python



### Reveal security exclusions (continued)

Target Device	Notes	Exclusion Type	Exclusion
macOS endpoints		Process	<Tanium Client>/TaniumCX
		Process	<Tanium Client>/libTaniumClientExtensions.dylib
		Process	<Tanium Client>/libTaniumClientExtensions.dylib.sig
		Process	<Tanium Client>/extensions/libTaniumReveal.dylib
		Process	<Tanium Client>/extensions/libTaniumReveal.dylib.sig
		Process	<Tanium Client>/extensions/libTaniumDEC.dylib
		Process	<Tanium Client>/extensions/libTaniumDEC.dylib.sig
		Process	<Tanium Client>/extensions/libTaniumIndex.dylib
		Process	<Tanium Client>/extensions/libTaniumIndex.dylib.sig
		Process	<Tanium Client>/extensions/core/libTaniumPythonCx.dylib
		Process	<Tanium Client>/extensions/core/libTaniumPythonCx.dylib.sig
	7.2.x clients	Process	<Tanium Client>/python27/python
	7.4.x clients	Process	<Tanium Client>/python38/python







<sup>1</sup> = TPython requires SHA2 support to allow installation.

## User role requirements

The following tables list the role permissions required to use Reveal. To review a summary of the predefined roles, see [Set up Reveal users on page 33](#).

For more information about role permissions and associated content sets, see [Tanium Console User Guide: Managing RBAC](#).

### Reveal user role permissions

Permission	Reveal Administrator	Reveal Operator	Reveal Read Only User	Reveal Service Account <sup>3</sup>	Reveal User <sup>1</sup>	Reveal Endpoint Configuration Approver <sup>2</sup>
<b>Reveal</b> Provides access to the Reveal workbench and enables viewing of snippets of affected files.	 SNIPPETS SHOW	 SNIPPETS SHOW	 SHOW		 SNIPPETS SHOW	 SHOW

Reveal user role permissions (continued)

Permission	Reveal Administrator	Reveal Operator	Reveal Read Only User	Reveal Service Account <sup>3</sup>	Reveal User <sup>1</sup>	Reveal Endpoint Configuration Approver <sup>2</sup>
<b>Reveal Affected</b> Enables viewing of affected files	✓ FILES	✓ FILES	✗	✗	✓ FILES	✗
<b>Reveal API</b> Perform Reveal operations using the API	✓ EXECUTE	✓ EXECUTE	✓ EXECUTE	✓ EXECUTE	✓ EXECUTE	✗
<b>Reveal Operator Settings</b> Enables viewing, listing, and editing Reveal settings	✓ READ WRITE	✓ READ WRITE	✗	✗	✗	✗
<b>Reveal Quick</b> Enables viewing of quick search results	✓ SEARCH	✓ SEARCH	✗	✗	✓ SEARCH	✗
<b>Reveal Rules</b> Enables the viewing, listing, editing, and deploying of rules	✓ DEPLOY READ WRITE	✓ DEPLOY READ WRITE	✓ READ	✗	✓ DEPLOY READ WRITE	✓ READ
<b>Reveal Rules Deploy</b> Access to the Reveal workbench	✓ STATUS	✓ STATUS	✓ STATUS	✗	✓ STATUS	✗
<b>Reveal Rule Sets</b> Enables the viewing, listing, and editing of rule sets	✓ READ WRITE	✓ READ WRITE	✓ READ	✗	✓ READ WRITE	✓ READ
<b>Reveal Service</b> Enables a user to perform work as the service account user	✓ READ WRITE	✗	✓ READ	✓ USER	✗	✗

Reveal user role permissions (continued)

Permission	Reveal Administrator	Reveal Operator	Reveal Read Only User	Reveal Service Account <sup>3</sup>	Reveal User <sup>1</sup>	Reveal Endpoint Configuration Approver <sup>2</sup>
<b>Reveal Validations</b> Enables viewing, editing, listing, and deploying validations	 DEPLOY READ WRITE	 DEPLOY READ WRITE	 READ		 DEPLOY READ WRITE	 READ
<b>Reveal Validations Deploy</b> Enables viewing of the status of validation deployments	 STATUS	 STATUS	 STATUS		 STATUS	
<b>Reveal Settings</b> Enables viewing, editing, and listing Reveal settings	 READ WRITE					 READ
<b>Reveal Admin</b> Perform administrative functions for the Reveal module	 ADMINISTRATOR					
<b>Reveal Endpoint Configuration</b> Enables approver privileges in Tanium Endpoint Configuration for Reveal configuration changes.						 APPROVE

<sup>1</sup> This role provides module permissions for Tanium Trends. You can view which Trends permissions are granted to this role in the Tanium Console. For more information, see the [Tanium Trends User Guide: User role requirements](#).

<sup>2</sup> This role provides module permissions for Tanium Endpoint Configuration. You can view which Endpoint Configuration permissions are granted to this role in the Tanium Console. For more information, see the [Tanium Endpoint Configuration User Guide: User role requirements](#).

<sup>3</sup> If you installed Tanium Client Management, Endpoint Configuration is installed, and by default, configuration changes initiated by the module service account (such as tool deployment) require approval. You can bypass approval for module-generated configuration changes by applying the **Endpoint Configuration Bypass Approval** permission to this role and adding the relevant content sets. For more information, see [Tanium Endpoint Configuration User Guide: User role requirements](#).

**Provided Reveal administration and platform content permissions**

Permission	Permission Type	Reveal Administrator 1,2	Reveal Operator	Reveal Endpoint Configuration Approver	Reveal User	Reveal Read Only User	Reveal Service Account
Action Group	Administration	✓ READ	✓ READ	✗	✓ READ	✓ READ	✓ READ
User	Administration	✓ READ	✗	✗	✗	✗	✗
Action	Platform Content	✓ READ WRITE	✓ READ WRITE	✗	✓ READ WRITE	✗	✓ READ WRITE
Filter Group	Platform Content	✓ READ	✓ READ	✗	✓ READ	✓ READ	✓ READ
Own Action	Platform Content	✓ READ	✓ READ	✗	✓ READ	✓ READ	✓ READ
Package	Platform Content	✓ READ WRITE	✓ READ WRITE	✗	✓ READ WRITE	✗	✓ READ WRITE
Plugin	Platform Content	✓ READ EXECUTE	✓ READ EXECUTE	✗	✓ READ EXECUTE	✓ READ EXECUTE	✓ READ EXECUTE
Saved Question	Platform Content	✓ READ WRITE	✓ READ WRITE	✗	✓ READ WRITE	✓ READ	✓ READ
Sensor	Platform Content	✓ READ	✓ READ	✗	✓ READ	✓ READ	✓ READ

You can view which content sets are granted to any role in the Tanium Console.

<sup>1</sup> This role provides content set permissions for Tanium Trends. You can view which Trends content sets are granted to this role in the Tanium Console. For more information, see [Tanium Trends User Guide: User role requirements](#).

<sup>2</sup> This role provides content set permissions for Tanium Direct Connect. You can view which Direct Connect content sets are granted to this role in the Tanium Console. For more information, see [Tanium Direct Connect User Guide: User role requirements](#).

# Installing Reveal

Use the Tanium Console **Solutions** page to install Reveal and choose either automatic or manual configuration:

- **Automatic configuration with default settings** (Tanium Core Platform 7.4.2 or later only): Reveal is installed with any required dependencies and other selected products. After installation, the Tanium Server automatically configures the recommended default settings. This option is the best practice for most deployments. For details about the automatic configuration for Reveal, see [Import Reveal with default settings on page 29](#).
- **Manual configuration with custom settings:** After installing Reveal, you must manually configure required settings. Select this option only if Reveal requires settings that differ from the recommended default settings. For more information, see [Import Reveal with custom settings on page 30](#).

## Before you begin

- Read the [Release Notes](#).
- Review the [Reveal requirements on page 18](#).
- If you are upgrading from a previous version, see [Upgrade Reveal](#).
- Assign the correct roles to users for Reveal. Review the [User role requirements on page 25](#).
  - To import the Reveal solution, you must be assigned the Administrator reserved role.
  - To configure the Reveal action group, you must be assigned the Administrator reserved role, Content Administrator reserved role, or a role that has the **Action Group** write permission.

For initial installations of Reveal, defining an action group is the event that initiates the distribution of tools to endpoints. When you configure an action group, Reveal begins to deploy tools to those endpoints, index file systems, and evaluate rules. When you upgrade Reveal, for example from version 1.14 to 1.15, and an endpoint has no rules or rule sets, Reveal tools are not upgraded and no new tools get deployed until you deploy rules to those endpoints.

## Import Reveal with default settings

(Tanium Core Platform 7.4.5 or later only) You can set the Reveal action group to target the **No Computers** filter group by enabling restricted targeting before importing Reveal. This option enables you to control tools deployment through scheduled actions that are created during the import and that target the Tanium Reveal action group. For example, you might want to test tools on a subset of endpoints before deploying the tools to all endpoints. In this case, you can manually deploy the tools to an action group that you configured to target only the subset. To configure an action group, see [Tanium Console User Guide: Managing action groups](#). To enable or disable restricted targeting, see [Tanium Console User Guide: Dependencies, default settings, and tools deployment](#).

When you import Reveal with automatic configuration, the following default settings are configured:

Setting	Default value
Action group	<ul style="list-style-type: none"> <li>Restricted targeting disabled (default): ALL Computers computer group</li> <li>Restricted targeting enabled: No Computers computer group</li> </ul>
Service account	<p>The service account is set to the account that you used to import the module.</p> <p>Configuring a unique service account for each Tanium solution is an extra security measure to consider in consultation with the security team of your organization. See <a href="#">Configure service account on page 32</a>.</p>

To import Reveal and configure default settings, see [Tanium Console User Guide: Import all modules and services](#). After the import, verify that the correct version is installed: see [Verify Reveal version on page 31](#).

## Import Reveal with custom settings

To import Reveal without automatically configuring default settings, be sure to clear the **Apply All Tanium recommended configurations** check box while performing the steps in [Tanium Console User Guide: Import, re-import, or update specific solutions](#). After the import, verify that the correct version is installed: see [Verify Reveal version on page 31](#).

To configure the service account, see [Configure service account on page 32](#).

To configure the Reveal action group, see [Add computer groups to the Reveal action group on page 33](#).

## Manage dependencies for Tanium solutions

When you start the Reveal workbench for the first time, the Tanium Console ensures that all of the required dependencies for Reveal are installed at the required version. You must install all required Tanium dependencies before the Reveal workbench can load. A banner appears if one or more Tanium dependencies are not installed in the environment. The Tanium Console lists the required Tanium dependencies and the required versions.

1. Install the modules and shared services that the Tanium Console lists as dependencies, as described under [Tanium Console User Guide: Import, re-import, or update specific solutions](#).
2. From the Main menu, go to **Modules > Reveal** to open the Reveal **Overview** page.

## Upgrade Reveal



BEST PRACTICE

Before upgrading the Reveal version, download a troubleshooting package. The troubleshooting package contains a copy of the Reveal database and definitions that you can use in a disaster recovery scenario. For more information on downloading a troubleshooting package, see [Troubleshooting Reveal: Collect logs](#).

For the steps to upgrade Reveal, see [Tanium Console User Guide: Import, re-import, or update specific solutions](#). After the upgrade, verify that the correct version is installed: see [Verify Reveal version on page 31](#).



TIP

If the Reveal version does not update, refresh your browser window.

## Remove legacy Index dependencies from endpoints


If you have previously installed Tanium Index as a standalone application, or used the standalone application to upgrade Tanium Index, ensure that all legacy Index assets are uninstalled from endpoints before deploying the latest Reveal tools to endpoints. To ensure complete removal of legacy Index dependencies, deploy the **Index - Remove Legacy Dependent** package to endpoints where legacy versions of Tanium Index dependencies exist.

1. To target endpoints, issue a question in Interact. Ask the question `Get Tanium File Contents [Tools/EPI/dependents.txt]` from all machines. If the results for an endpoint display `Index` it indicates that the standalone Index content has been used in the past.
2. In the **Question Results** grid, select the rows for the endpoints that require the action, and click **Deploy Action**.
3. From the Deploy Action page, use the Deployment Package search box typeaheads to select packages. Select the **Index - Remove Legacy Dependent [Windows]** or **Index - Remove Legacy Dependent [Non-Windows]** package.
4. Configure a Deployment Schedule and Targeting Criteria. Click **Deploy Action**. For more information, see [Deploying actions](#).

After you have performed these steps, if the results of the **Client Extensions - Status** sensor displays `recorder|has_subscription|index.fileevents` you can use the **Recorder - Clear Subscription [OS]** package to remove a single subscription from recorder.

## Verify Reveal version

After you import or upgrade Reveal, verify that the correct version is installed:

1. Refresh your browser.
2. From the Main menu, go to **Modules > Reveal** to open the Reveal **Overview** page.
3. To display version information, click Info .

# Configuring Reveal

If you did not install Reveal with the **Apply All Tanium recommended configurations** option, you must enable and configure certain features.

## Install and configure Tanium Endpoint Configuration

### Manage solution configurations with Tanium Endpoint Configuration


Tanium Endpoint Configuration delivers configuration information and required tools for Tanium Solutions to endpoints. Endpoint Configuration consolidates the configuration actions that traditionally accompany additional Tanium functionality and eliminates the potential for timing errors that occur between when a solution configuration is made and the time that configuration reaches an endpoint. Managing configuration in this way greatly reduces the time to install, configure, and use Tanium functionality, and improves the flexibility to target specific configurations to groups of endpoints.



Endpoint Configuration is installed as a part of Tanium Client Management. For more information, see the [Tanium Client Management User Guide: Installing Client Management](#).

Additionally you can use Endpoint Configuration to manage configuration approval. For example, configuration changes are not deployed to endpoints until a user with approval permission approves the configuration changes in Endpoint Configuration. For more information about the roles and permissions that are required to approve configuration changes for Reveal, see [User role requirements on page 25](#).

To use Endpoint Configuration to manage approvals, you must enable configuration approvals.

1. From the Main menu, go to **Administration > Shared Services > Endpoint Configuration** to open the Endpoint Configuration **Overview** page.
2. Click Settings  and click the **Global** tab.
3. Select **Enable configuration approvals**, and click **Save**.

For more information about Endpoint Configuration, see [Tanium Endpoint Configuration User Guide](#).

## Configure Reveal

### Configure service account

The service account is a user that performs the following tasks for Reveal:

- Creates scheduled actions for automatic tools deployment and indexing
- Schedules automatic rules deployment
- Gathers stats and results



After deploying the tools for the first time, endpoints can take some time to display status, depending on throttling configuration.


This user requires the following roles and access:

- **Tanium Administrator** or **Reveal Service Account** role.
- If you installed Tanium Client Management, Endpoint Configuration is installed, and by default, configuration changes initiated by the module service account (such as tool deployment) require approval. You can bypass approval for module-generated configuration changes by applying the **Endpoint Configuration Bypass Approval** permission to this role and adding the relevant content sets. For more information, see [Tanium Endpoint Configuration User Guide: User role requirements](#).

For more information about Reveal permissions, see [User role requirements on page 25](#).



If you imported Reveal with default settings, the service account is set to the account that you used to perform the import. Configuring a unique service account for each Tanium solution is an extra security measure to consider in consultation with the security team of your organization.

1. On the Reveal **Overview** page, click Settings  and then click **Service Account** if needed.
2. Provide a user name and password, and then click **Save**.

## Add computer groups to the Reveal action group

The action group defines the set of endpoints to which you are deploying the Reveal packages. By default, the **Computer Group Targets** setting for the Reveal action group is set to **No Computers**. You can set the action group to **All Computers** or any computer groups that you have defined.

1. From the Main menu, go to **Administration > Actions > Action Groups**.
2. In the list of action groups, click **Tanium Reveal**.
3. Click **Edit**, select computer groups to include in the action group, and click **Save**.

## Set up Reveal users

You can use the following set of predefined user roles to set up Reveal users.

To review specific permissions for each role, see [User role requirements on page 25](#).

For more information about assigning user roles, see [Tanium Core Platform User Guide: Manage role assignments for a user](#).

### Reveal Administrator

Assign the **Reveal Administrator** role to users who manage the configuration and deployment of Reveal functionality to endpoints.

This role can perform the following tasks:

- Administrative functions for Reveal, including viewing, editing, and listing Reveal settings
- Configure the service account user
- Perform Reveal operations using the API
- View snippets of affected files
- View affected files
- Perform a quick search
- View, list, edit, and deploy rules
- View, list, and edit rule sets
- View, list, edit, and deploy validations
- View the status of validation deployments
- View the status of rules deployments

### **Reveal Operator**

Assign the **Reveal Operator** role to users who manage the configuration and deployment of Reveal functionality to endpoints.

This role can perform the following tasks:

- View, edit, and list Reveal settings
- Perform Reveal operations using the API
- View snippets of affected files
- View affected files
- Perform a quick search
- View, list, edit, and deploy rules
- View, list, and edit rule sets
- View, list, edit, and deploy validations
- View the status of validation deployments
- View the status of rules deployments

### **Reveal User**

Assign the **Reveal User** role to users who manage the configuration and deployment of Reveal functionality to endpoints but do not need to administer or configure settings for Reveal.

This role can perform the following tasks:

- Perform Reveal operations using the API
- View snippets of affected files
- View affected files
- Perform a quick search
- View, list, edit, and deploy rules
- View, list, and edit rule sets
- View, list, edit, and deploy validations
- View the status of validation deployments
- View the status of rules deployments

### **Reveal Read Only User**

Assign the **Reveal Read Only User** role to users who need visibility into Reveal configurations but do not need rights to update them.

This role can perform the following tasks:

- Perform Reveal operations using the API
- View rules and rule sets
- View the status of validation deployments
- View the status of rules deployments

### **Reveal Endpoint Configuration Approver**

Assign the **Reveal Endpoint Configuration Approver** role to a user who approves or rejects Reveal configuration items in Tanium Endpoint Configuration.

This role can perform the following tasks: approve, reject, or dismiss changes that target endpoints where Reveal is installed.

### **Reveal Service Account**

Assign the **Reveal Service Account** role to the account that configures system settings for Reveal.

This role can perform several background processes for Reveal.

# Creating rules


A rule is a combination of conditions that you define and an action to perform when the conditions are met. Rules are evaluated every hour on all files that have been hashed by Tanium™ Index. When all of the conditions of a rule are matched, an action is triggered. For example, you can label files that contain matches to social security number patterns as confidential. You can apply multiple rules to target the same files so you can discover many types of sensitive information in the same file set.



Depending on the role and permissions you have been assigned, you can view rules or create and edit rules. For more information, see [User role requirements](#). For example, if you have write permissions for rules, you can edit the content of rules. Conversely, if you do not have write permissions for rules, you can view the rule information but not make edits and save changes. Regardless of permissions, you cannot edit or save rules that are designated as Tanium Managed.

## Criteria for rule evaluation

For rules to evaluate on a file, the file must match the following criteria:

- The file must be hashed by Tanium Index using hash type MIME.
- The file must be in a format that Tanium Reveal can read.
- Binary files must be less than 32 MB. To increase the default size limit, update the **Maximum Size Non-Streamable File Formats** setting (from the Reveal **Overview** page, go to Settings  and click **Endpoint Configuration**). Note that text files do not have a size limit.
- The file must not be filtered by the **Path Stem Exclusions** or **Path Filter Exclusions** settings (from the Reveal **Overview** page, click **Settings > Endpoint Configuration**).

## Rule conditions

Rule conditions are criteria that determine if a file matches the rule. The following are the types of conditions that you can apply to a rule:

### Filter

Use filters to limit the rule to files that match. Filters include file type, file location, file modification date, and file size. If you do not specify any filters, the rule applies to all eligible files on the endpoints from the computer groups specified in the rule set.

### Pattern

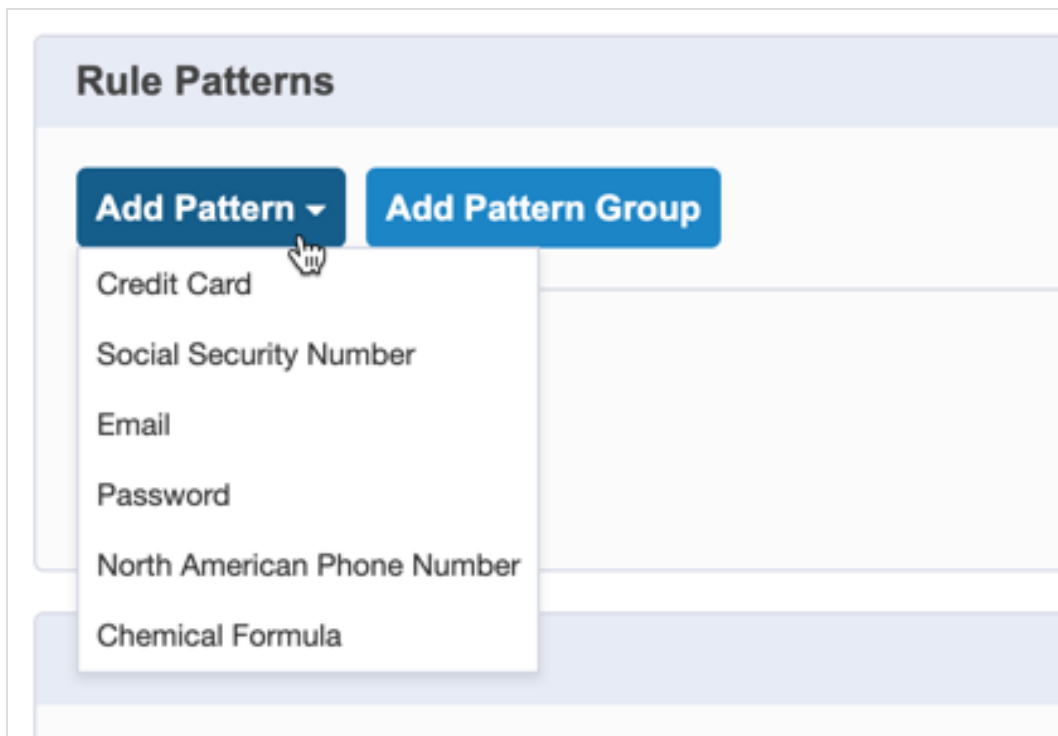
Use patterns to find sensitive data in files that match the filters. Patterns include credit cards, social security numbers, email addresses, passwords, and phone numbers.

## Pattern group

Use pattern groups to find combinations of patterns that are in close proximity to each other within a file.

## Create a rule

1. From the Reveal menu, click **Rules**. Click **Create Rule**.
2. Enter a name and description for the rule.
3. Select one or more rule sets to contain the rule. Click **Add Rule Sets** and select the rule sets you want to associate with the rule. Click **Assign**.
4. [Optional] Add filters to limit the files to target. Under **Rule Filters**, click **Add Filter** and select the criteria that you want the rule to cover. Repeat to add another filter. For a list of file types, see [Reference: Supported file types for rule evaluation on page 51](#).
5. Under **Rule Patterns**, add one or more rule patterns. Rules must contain at least one condition.
  - To match a pattern, click **Add Pattern** and select the pattern to match. Enter the minimum number of matches to the pattern that must occur for the rule to match. Repeat to add another pattern.
  - To add a proximal pattern match, click **Add Pattern Group**. A rule can contain one pattern group.
    - a. For **Proximity**, select the maximum number of characters that the patterns can be from each other.
    - b. In the pattern group, click **Add Pattern** and select a pattern to include in the match. Repeat to add a second pattern. A pattern group must contain at least two patterns.



Each instance that matches the pattern group results in a rule match. For example, you can create a pattern group that searches for email addresses and password text that appear within 100 characters of each other. If there are four email addresses that appear within 100 characters of the word "password", Reveal creates five rule matches: four for the email addresses and one for the word "password".

6. Under **Rule Actions**, click **Add** to select the action to perform when all the conditions match. To add a label to files that match the conditions of the rule, select **Tag the affected files**, and select one or more labels.
7. Click **Save**.

## Deploy rules

Reveal deploys rules to endpoints through a rules package. Rules packages also contain information that maps rules to rule sets and determines how endpoints in specific computer groups monitor for rules. Multiple rule sets can apply to an endpoint; and all rules in all of the applicable rule sets are evaluated.

Rules are automatically included in the next scheduled deployment when you update existing rules or create new rules. To immediately deploy updated rules, navigate to the **Rules** page, click **Deploy Rules**, enter your credentials, and click **OK**.



BEST PRACTICE

Test and verify rules before deploying to endpoints.



NOTE

You can also deploy rules from the **Rule Sets** page and from the **Deploy Rules** configuration step on the Reveal overview page.


## Customize rule patterns

You can download a copy of rule patterns and file types to customize, and upload any customizations that you make to refine the scope of rules.



IMPORTANT

To be effective, rule patterns must be developed methodically and tested exhaustively.

1. From the Main menu, click **Reveal**. The Reveal Overview page appears.
2. Click Settings  and open the **Pattern Definitions** tab.
3. To download pattern definitions, click **Download**.
4. Edit the downloaded file and either drag the file into the upload dialog, or click **Select a file** to browse to the file you want to upload.



NOTE

You cannot upload a file that is not valid. Make sure that any file you attempt to upload is structurally valid.

# Creating rule sets

Rule sets group rules together and assign them to specific groups of endpoints. You can group rules into rule sets that address specific categories of sensitive information, or that monitor specific types of files.

For example, you might want to apply and monitor for specific rules on one group of endpoints, but not other groups. Or, you might want to apply a subset of the available rules to a group of endpoints.

You can view the number of rules that are assigned to each rule set, the computer groups that it targets, and whether there are any pending changes to any of the associated rules.

A rule set has no effect unless it contains at least one rule. The default rule sets contain at least one rule. The default rules cannot be edited, but you can delete them, or make a duplicate of a rule and customize it for your specific needs.



BEST PRACTICE

Test and verify rules before adding to rule sets.



NOTE

Depending on the role and permissions you have been assigned, you can view rule sets or create and edit rule sets. For more information, see [User role requirements](#). For example, if you have write permissions for rule sets, you can edit the content of rule sets. Conversely, if you do not have write permissions for rule sets, you can view the rule set information but not make edits and save changes.

## Create a rule set

1. From the Reveal menu, click **Rule Sets**. Click **New Rule Set**.
2. Enter a name and description for the rule set.

### Summary

**Name \***

**Description**

### Rules

**Add Rules**

PCI 2 - System Passwords ✕ PCI 3 - Cardholder Data ✕

### Computer Groups

**Target Computer Groups**

All Computers ✕

**Save** **Cancel**

3. Select one or more rules to associate with the rule set. Click **Add Rules** and select the rules you want to associate with the rule set. Click **Assign**.
4. Under **Computer Groups**, click **Target Computer Groups** to add computer groups that you want the rule set to target. The rules that are associated with the rule set are applied to the endpoints in the computer groups you specify. Click **Assign**.
5. Click **Save**.



## Add rules to an existing rule set

1. From the Reveal menu, click **Rule Sets**.
2. Click the title of the rule set to which you want to add one or more rules.
3. Click **Edit Rule Set**.
4. Click **Add Rules** and select the rules you want to associate with the rule set. Click **Assign**.
5. Click **Save**.

## Delete a rule set

1. From the Reveal menu, click **Rule Sets**.
2. Select the check box next to the rule set that you want to delete.
3. Click **Actions > Delete**. Enter your credentials to confirm that you want to delete the rule set.



NOTE

Deleting a rule set does not remove any historical matches from any metrics.

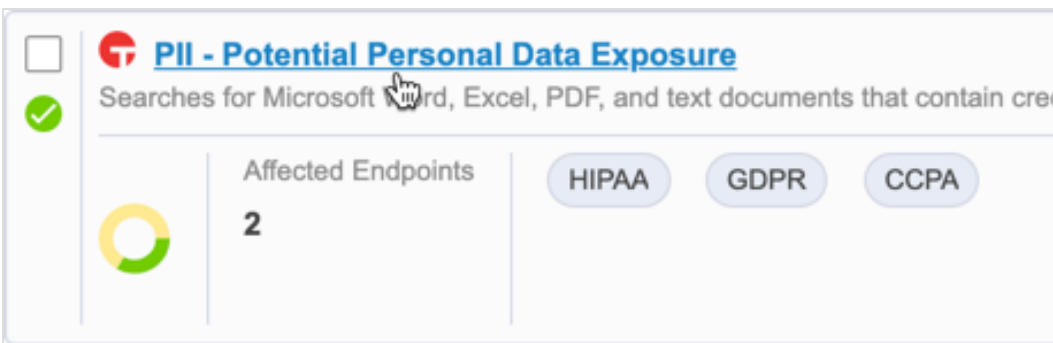
# Investigating rule matches

When Reveal finds a match to a rule, the Rules and Rule Sets pages update to show a breakdown of all endpoints affected by the rule according to how many matches occur on that endpoint. You can further investigate the details of the match. Each rule displays information about the number of endpoints on which matches have been detected. You can create a live connection to the endpoint and drill down to perform further analysis. You can investigate the number of matches across the endpoints over time.

From the **Rules** page, you can investigate the affected endpoints, and files where matches are detected when a rule match occurs.

## Investigate by endpoint

1. From the Reveal menu, click **Rules**.
2. Click a rule that has matches that you want to investigate.



3. Under **Results**, Reveal displays the endpoints where matches have occurred.

The screenshot shows the "Results" section with a table of endpoints. The table has the following columns: Status, Computer Name, Files Matched, Total Matches, Unverified Matches, and Scan Progress. There are two rows of data.

	Status	Computer Name	Files Matched	Total Matches	Unverified Matches	Scan Progress
<input type="checkbox"/>	<input checked="" type="radio"/>	macosx-10-12.vagrantup.	1-10	11-50	11-50	In Progress
<input type="checkbox"/>	<input checked="" type="radio"/>	WIN-10-X64	1-10	11-50	11-50	In Progress

4. Select up to five endpoints and click **Connect**. A live connection is opened to the selected endpoints. When an endpoint connection state displays as **Active**, click the endpoint name to view files that contain matches.
5. For files where matches have occurred, the file name, number of hits, and path are displayed.
6. Click an affected file to view snippets that show pattern matches in context.

## Take action on files where rule matches occur

When a rule applies a label to files that contain a rule match, you can use Tanium questions to take action on affected files.

1. From the Main menu, click Interact.
2. Ask the question **Get Reveal - Label Results from all machines**. The results grid displays the labels that have been applied to files, and the number of files that are labeled.
3. Select the rows for the labels that require the action, and then click **Deploy Action**. Interact displays the Deploy Action workflow page.

For more information, see [Tanium Interact User Guide: Questions](#).

# Validating pattern matches


Create validations to improve the accuracy of rule performance and to reduce the number of false positive results on the data that rules target. Validate rules to ensure that pattern matches are accurate and consistent in the targeted data. By validating rules, you can focus any analysis of data on results that have been confirmed or rejected as relevant pattern matches.

Validations apply to pattern matches in the context of a rule where the text selected for the validation is in specific proximity to the matched pattern. A successful validation is comprised of three parts:

- The selected (highlighted) validation characters
- The number of characters, including spaces, between the the validation selection and the start of the pattern match
- The pattern match itself

New validations display in a pending state, and are only visible to the user who created them. Pending validations automatically apply to snippet results, but do not affect rule hit counts until they are published.

## Create a validation

1. From the Reveal menu, click **Rules**.
2. Select a specific rule to view a list of results and associated endpoints.
3. Select the check box next to an endpoint that has one or more files that match patterns. Click **Live Connect** .
4. After the connection establishes, click the computer name.
5. Select a file that contains one or more pattern matches.
6. View the snippets that show where a pattern matches. Confirmed and unverified snippets are shown by default. To limit which results display, click **Filter Results** to view or hide unverified, confirmed, rejected, and excluded snippets.



Excluded snippets are unverified snippets that do not match patterns exactly. This includes matches to pattern groups outside the proximity range. You can confirm or reject an excluded snippet.

7. For each snippet, highlight the relevant text. Validations are tracked relative to the beginning of the match. Unicode and ASCII control characters - with the exception of tab, carriage return (CR) and line feed (LF) - are not supported in validation text. This includes Unicode characters U+0000 through U+0008, U+000B through U+000C, U+000E, and U+000F. If you select validation text that contains unsupported control characters, an error appears in the **Create Validation** page.

Validations for snippets are applied to the entire document by default unless the document is in table format. If a document is in table format, the validation applies to the individual cell, column, or row that is actively selected when you create the validation.

8. Select **Confirm** or **Reject**. Rejected snippets are filtered from future results.



Keyboard shortcuts include (c) for Confirm and (r) for Reject. If you do not want to add a name and description for the validation, press (cc) for Confirm and Save, or (rr) for Reject and Save; these two shortcuts skip the next two steps.

9. Provide a name and description for the validation. A preview of the text you have validated appears and reports the number of pattern matches that the validation affects in the current file, the rule that the validation affects, and whether matching patterns should be confirmed or rejected.
10. Click **Save**. Snippets that contain validations are displayed as pending; meaning that validations have been authored recently and have not been distributed to endpoints. Validations deploy to endpoints within 30 minutes of authoring.

When you have completed validating pattern matches in a file, click **Next** at the top of the page to create validations in the next file on the endpoint where patterns have been matched.

When validations have been confirmed or rejected, values in the affected files view for any rule where patterns have been matched and validated display in orange in the **Unconfirmed hits** and **Confirmed hits** columns. Orange indicates that the data is "stale"; meaning that new validation data exists. If a file is designated as stale, it is prioritized for rescanning. When no new validation data exists, the values display in black.

## Deploy validations


Deploying validations creates new **Reveal - Validations** packages, and recreates the **Reveal - Deploy Validations** saved actions.

Published validations apply to all hits of the corresponding rule. Rejected hits are ignored.

1. From the Reveal menu, click **Rule Validations**.
2. Click **Deploy Validations**.

## Audit published validations

Audit validations to view snippets where pattern matches affected by a validation apply.

1. From the Reveal menu, click **Rule Validations**.
2. Click a published validation to view endpoints that contain pattern matches to which the validation has been applied.
3. Select the check box next to an endpoint that has one or more files that match patterns. Click **Live Connect** .
4. View files affected by the validation.
5. Click a file to view snippets that match the validation.

# Searching across the enterprise

Use Reveal to search for specific items of sensitive information across an entire enterprise. You can search for sensitive information that matches a search string in real-time and not wait for an alert from a rule match. Quick search targets all of the endpoints in the Reveal action group. Use a literal search string and parameters that you want the search to target. Reveal returns a list of results that match the search criteria you provide.

Reveal converts search strings to lowercase, removes punctuation, and removes common stop words, such as articles. Reveal then searches for the exact sequence of tokens across the environment. For example, if a search query is `process is started`, this is tokenized as `["process", "started"]`. These tokens match `the malicious process has started`, but not `started the process` because the tokens are not in the same order as the query.

## Perform a quick search

1. From the Reveal menu, click **Quick Search**.
2. In the search field, provide a literal search string or a token from a previous or saved search. For example, 123-45-6789 to find an exact match.
3. (Optional) Expand **Search Parameters** to add filters to limit the files that you want to target.
4. Click **Search**.

Recent quick searches are saved to enable you to perform the same search multiple times. However, the search terms used in the search are obfuscated and preserved as a token that corresponds to the original search terms. By obfuscating the original search terms, potentially sensitive data is not displayed in the Reveal workbench.

## Investigate quick search results

Quick search results appear as Reveal discovers matches to the search criteria. Select up to five endpoints and click **Connect**. A live connection is opened to the endpoints. When the endpoint connection state displays as **Active**, click the endpoint name to investigate the files where matches occur.



Click the check box next to a file name and click **Find Similar Files** to see other computers in your enterprise that have the same file or similar files.



Both the quick search query and the searchable data are encrypted with a one way hash. Hashing occurs before the query is distributed to endpoints, and unencrypted queries and results are not persisted. The query is retained in the browser during the search workflow only. When results snippets are requested, the file is read on demand on the endpoint, and results are returned directly to Reveal. Reveal does not write any unencrypted file content to disk, and no unencrypted query or result is ever sent as Tanium content.


# Troubleshooting Reveal

To collect and send information to Tanium for troubleshooting, collect logs and other relevant information.

## Remediating "Needs Attention" messages from Reveal Status

Use the Reveal - Status sensor to query the status of Reveal on endpoints in an environment. From Tanium Interact, ask the question `Get Reveal - Status[*] from all machines`. The results grid provides detailed information regarding the status of Reveal, and tools that Reveal uses to discover sensitive data.

If the value of Reveal Status in the results grid displays as **Needs Attention** there are troubleshooting steps you can take to determine the cause, and to correct any issues that Reveal encounters. The following table describes situations that cause the value of the Reveal Status row in the results grid to display **Needs Attention** and corresponding corrective measures to take to resolve.

Possible reason	Steps for remediation
Files have been dropped from the Reveal database	It is possible that the maximum size allowed for the Reveal database has been exceeded, and as a result, files have been dropped. The <code>&lt;Tanium Client&gt;/Tools/Reveal/results/drop_latest.json</code> file contains detailed information. If this is the cause, you can increase the <b>Maximum Database Size</b> setting. To access this setting, go to the Reveal <b>Overview</b> page, and click Settings  . From the <b>Settings</b> tab, click <b>Endpoint Configuration</b> .
A previous Reveal indexing pass might have ended with a failure	The <code>&lt;Tanium Client&gt;/Tools/Reveal/results/status.failed.json</code> file contains detailed information that is useful for troubleshooting. Additionally, <code>&lt;Tanium Client&gt;/Logs/extensions0.txt</code> contains useful information. For more information, see <a href="#">Contact Tanium Support on page 50</a> .
There is no data from a previous Reveal indexing pass	It is possible that Reveal has not yet run on the endpoint. The Reveal Status value displays as <b>OK</b> when Reveal runs on the endpoint and results have been returned.

If you are unable to remediate a Reveal Status of **Needs Attention**, see [Contact Tanium Support](#).

## Monitor and troubleshoot Reveal coverage

The following table lists contributing factors into why the Reveal coverage metric might be lower than expected, and corrective actions you can make.

Contributing factor	Corrective action
Tools Not Deployed	<p>Verify Tanium Clients are current and supported. For more information see <a href="#">Requirements: Tanium dependencies</a>.</p> <p>Ensure the Reveal Action Group is set to All Computers.</p> <p>Ensure the Trends Action Group is set to All Computers.</p> <p>Ensure the intended Reveal targets are in the appropriate Computer Groups.</p> <p>Ensure the Computer Groups are included in the appropriate Rule Set in Reveal.</p>
Index Health and Configuration	<p>Ensure Index is properly configured and operating as expected on the endpoints.</p> <p>Ensure you are not excluding the files you want Reveal to scan from indexing or hashing. This could be by an ExcludeFrom(Hashing Indexing) setting or if the file exceeds the setting of MaxFileSizeToHashMB, 32MB by default.</p> <p>Use the <b>Index Resolved Config</b> sensor to see how Index combined any Index configuration files from all modules using Index.</p>

## Monitor and troubleshoot endpoints with confirmed sensitive data

The following table lists contributing factors into why the endpoints with confirmed sensitive data metric might be higher than expected, and corrective actions you can make.

Contributing factor	Corrective action
See “Tools Not Deployed” and “Index Health and Configuration” above.	See the Corrective Actions for “Tools Not Deployed” and “Index Health and Configuration” in the preceding table.
Recently updated rule not on desired endpoint(s) or the rule(s) or Reveal may not yet have had time to be processed.	After deploying a rule, it might take several hours to begin to see results. You might need to allow Reveal a couple more hours. If longer than a few hours has passed, you can ask the Tanium question “Get Reveal - Background Scan Results[*] from all machines”. In the results, look for the name of the rule you are troubleshooting. Use the Filter Text box to filter to just that rule. Select columns to display and add “Rule Revision”. Use Tanium to drill down to find out about any hosts with outdated rule.
Reveal Rules not targeted as desired or required	To assign Reveal rules, they must be assigned to a Rule Set and the Rule Set must target the desired computer groups. First, review the specific Rule and make sure it’s assigned to a Rule Set. Next, review the Rule Set and confirm it targets the appropriate Computer Group. Examine the Computer Group and ensure that it properly targets the desired computers.
Reveal findings are not yet confirmed	Reveal finds matches to rules, but the findings are only confirmed once an analyst confirms or rejects the findings. Click the results of the desired rule, then select and connect to an endpoint with findings. Select a file to see the snippets, then highlight an appropriate selection of text and click <b>Confirm</b> to create a validation - confirmed or rejected - of the rule. All similar snippets on all endpoints then show confirmed results. Rejected snippets no longer display in the results.




## Monitor and troubleshoot endpoints with unconfirmed sensitive data

The following table lists contributing factors into why the endpoints with unconfirmed sensitive data metric might be higher than expected, and corrective actions you can make.

Contributing factor	Corrective action
Reveal not fully deployed or operational	See the corrective actions detailed in the previous two tables to ensure Reveal tools and rules are properly targeted and deployed.
Reveal findings are not yet confirmed	Reveal finds matches to rules, but the findings are only confirmed once an analyst confirms or rejects the findings. Click the results of the desired rule, then select and connect to an endpoint with findings. Select a file to see the snippets, then highlight an appropriate selection of text and click <b>Confirm</b> to create a confirmed match of the rule. All similar snippets on all endpoints then show confirmed results.

## Collect logs

The information is saved as a ZIP file that you can download with your browser.

1. From the Reveal **Overview** page, click Help , then the **Troubleshooting** tab.
2. Click **Create Package**. When the status shows that the package is complete, click **Download Package**.
3. A `reveal-troubleshooting.zip` file downloads to the local download directory.
4. Attach the ZIP file to your Tanium Support case form or [Contact Tanium Support](#).

Tanium Reveal maintains logging information in the `reveal.log` and `reveal-audit.log` files in the `<Module Server>\services\reveal-files\logs` directory.

## Remove Reveal tools from endpoints

You can deploy an action to remove Reveal tools from an endpoint or computer group. Separate actions are available for Windows and non-Windows endpoints.

1. In Interact, target the computers from which you want to remove the tools. For example, ask a question that targets a specific operating system:  
`Get Endpoint Configuration - Tools Status from all machines with Is <OS> equals True`, for example:  
`Get Endpoint Configuration - Tools Status from all machines with Is Windows equals True`
2. In the results, select the row for **Reveal**, drill down as necessary, and select the targets from which you want to remove Reveal tools. For more information, see [Tanium Interact User Guide: Drill Down](#).
3. Click **Deploy Action**.

4. On the **Deploy Action** page, enter `Endpoint Configuration - Uninstall` in the **Enter package name here** box, and select **Endpoint Configuration - Uninstall Tool [Windows]** or **Endpoint Configuration - Uninstall Tool [Non-Windows]**, depending on the endpoints you are targeting.
5. For **Tool Name**, select **Reveal**.
6. (Optional) By default, after the tools are removed they cannot be reinstalled. To allow tools to be automatically reinstalled, clear the selection for **Block reinstallation**. Re-installation occurs almost immediately.



If reinstallation is blocked, you must unblock it manually:

- To allow Reveal to reinstall tools, deploy the **Endpoint Configuration - Unblock Tool [Windows]** or **Endpoint Configuration - Unblock Tool [Non-Windows]** package (depending on the targeted endpoints).
- If you reinstall tools manually, select **Unblock Tool** when you deploy the **Endpoint Configuration - Reinstall Tool [Windows]** or **Endpoint Configuration - Reinstall Tool [Non-Windows]** package.

7. (Optional) To remove all Reveal databases and logs from the endpoints, clear the selection for **Soft uninstall**.
8. (Optional) To also remove any tools that were dependencies of the Reveal tools that are not dependencies for tools from other solutions, select **Remove unreferenced dependencies**.
9. Click **Show preview to continue**.
10. A results grid displays at the bottom of the page showing you the targeted endpoints for your action. If you are satisfied with the results, click **Deploy Action**.



If you have enabled Endpoint Configuration, tool removal must be approved in Endpoint Configuration before tools are removed from endpoints.

## Uninstall Reveal

You might need to remove Reveal from the Tanium Module Server for troubleshooting purposes.


1. From the Main menu, go to **Administration > Configuration > Solutions**. Under Reveal, click **Uninstall**. Click **Proceed with Uninstall** to complete the process.
2. Enter your password to start the uninstall process.  
A progress bar displays as the installation package is removed.
3. Click **Close**.
4. If the Reveal module has not updated in the console, refresh your browser.

## Contact Tanium Support

To contact Tanium Support for help, sign in to <https://support.tanium.com>.

# Reference: Supported file types for rule evaluation

For rules to evaluate on a file, the file must match the following criteria:

- The file must be hashed by Tanium Index using hash type MIME.
- The file must be in a format that Tanium Reveal can read.
- Binary files must be less than 32 MB. To increase the default size limit, update the **Maximum Size Non-Streamable File Formats** setting (from the Reveal **Overview** page, go to Settings  and click **Endpoint Configuration**). Note that text files do not have a size limit.
- The file must not be filtered by the **Path Stem Exclusions** or **Path Filter Exclusions** settings (from the Reveal **Overview** page, click **Settings > Endpoint Configuration**).

When you create or edit a rule, you can add a filter to target file types in one or more categories. The following options are available:

Category	Format	File types
Configuration	Text	CFG, CONF, INI, YAML
Microsoft Excel	Binary	ODS, XLAM, XLSM, XLSX, XLTM, XLTX
Microsoft PowerPoint	Binary	ODP, POTM, POTX, PPA, PPSM, PPSX, PPTM, PPTX
Microsoft Word	Binary	DOCM, DOCX, DOTM, DOTX, ODT
PDF	Binary	FDF, PDF
Structured text	Text	CSV, TSV, JSON, XML, DB (SQLite Databases)
Text	Text	TXT
Zip <sup>1</sup>	Binary	EAR, JAR, WAR, ZIP
Everything Else	Binary / Text	Any files with a MIME type that are not already contained in another category.

<sup>1</sup> If a rule only targets files in the Zip category, the rule matches all supported file types inside the supported archived files. If a rule does not target files in the Zip category, all files in archives are ignored.

Reveal can read files in any of the supported file types, regardless of the file extension. If you do not specify a file type filter for a rule, the rule attempts to read all files that are hashed by Tanium Index. When you assign a file type to a rule, the rule only attempts to read files with the listed file extensions.

## Supported MIME types

Reveal supports the following MIME types:

zip:

- application/zip
- application/vnd.openxmlformats-officedocument
- application/vnd.oasis.opendocument
- application/java-archive

xml:

- text/xml
- text/html
- application/vnd.oasis.opendocument

text:

- text\*

sqlite:

- application/x-sqlite3

pdf:

- application/pdf
- application/x-pdf

csv:

- text/plain (also must match a file extension for “tabular” in definitions.json)