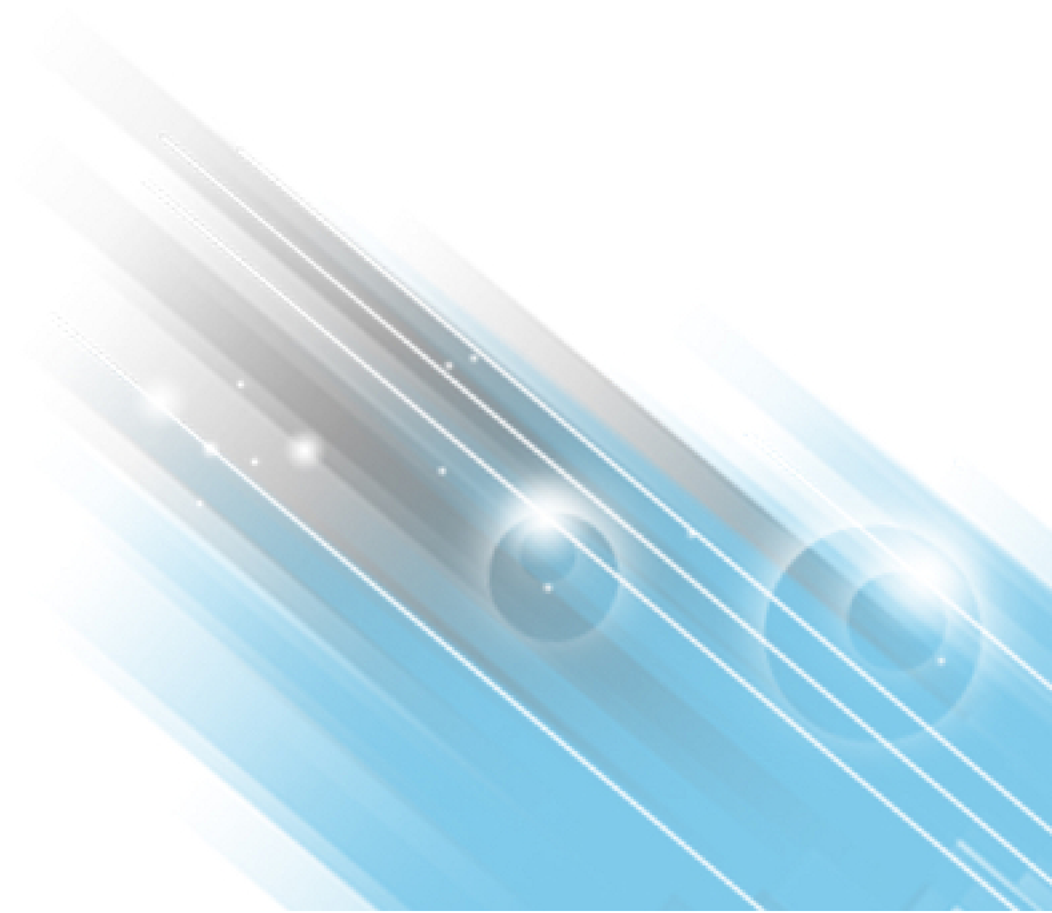
HP ArcSight Risk Insight

Software Version: 1.1
Linux Operating System

User Guide



December 1, 2015

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Contact Information

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Chapter 1: Welcome to This Guide

Welcome to ArcSight Risk Insight User Guide. This guide provides you with information about all of the operational aspects of Risk Insight.

This guide is intended for all Risk Insight users.

This guide includes the following chapters:

"Asset Profiling" on page 10

"Vulnerability Management" on page 64

"Key Performance Indicators" on page 32

"Risk Factors" on page 29

"Dashboards and Reports" on page 35

"Settings" on page 90

About ArcSight Risk Insight

Risk Insight is an ArcSight ESM add-on that enables Risk Managers and Security Operation Center (SOC) Managers to analyze security risk information in a business context and prioritize actions to minimize that risk. Security risk information is processed periodically providing continuous monitoring capabilities on the risks imposed on your organization's assets.

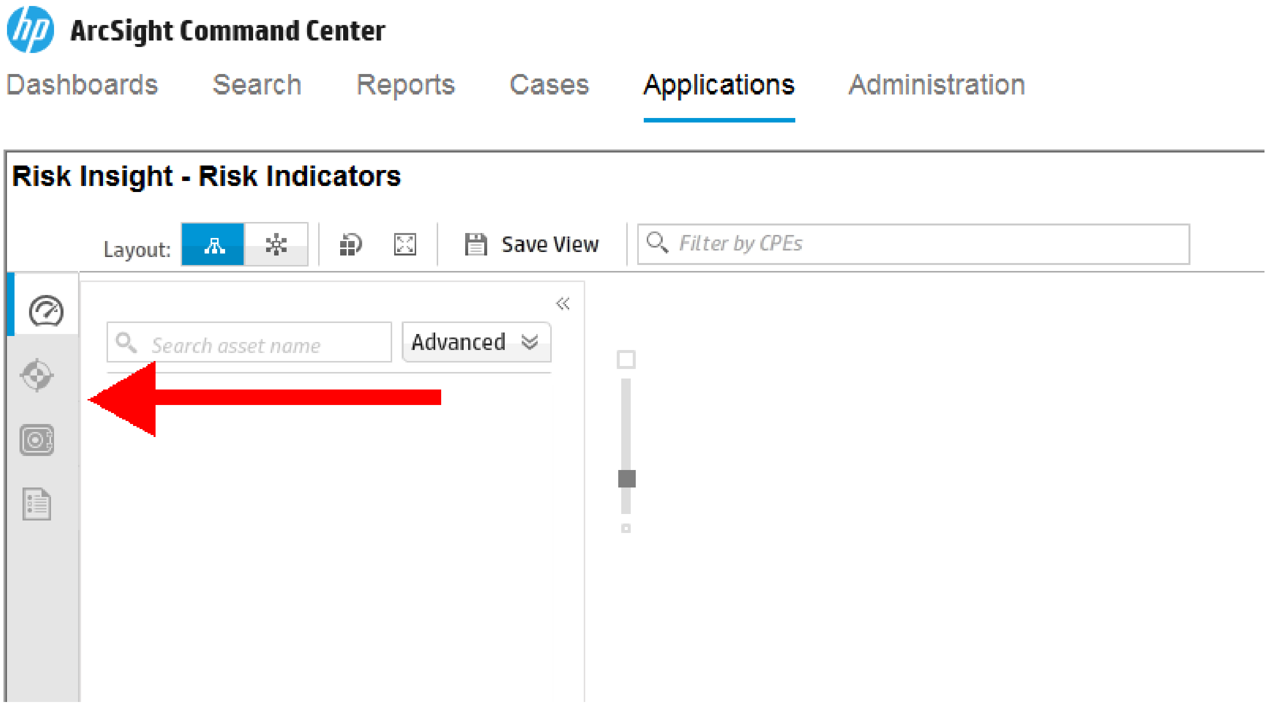
Risk Insight optimizes the way risk information is delivered in the following ways:

- By building a hierarchical business model from the assets defined in ESM. The business model depicts the entire organization from high-level business assets to low-level IT assets, allowing you to quickly respond to real-time threats and to invest your resources efficiently.
- By defining risk factors based on the logic that exists in ESM to help focus the risk analysis on what really matters to the organization.
- By following up after the various risk factors using sophisticated executive dashboards. You can present risk information visually in configurable dashboards, create custom dashboards, create new KPIs, and apply any other type of logic to your risk information in order to make analysis more efficient.

Risk Insight also includes a Vulnerability Management module that collects vulnerabilities by using ArcSight SmartConnectors, removes duplicates, assigns them to assets, and prioritizes them accordingly, allowing you to manage the remediation process.

Navigating the User Interface

You can navigate the Risk Insight user interface by using the navigation bar. The navigation bar is conveniently located on the left side of every screen.



Clicking the icon of a module in the navigation bar opens a sub menu that includes its components.

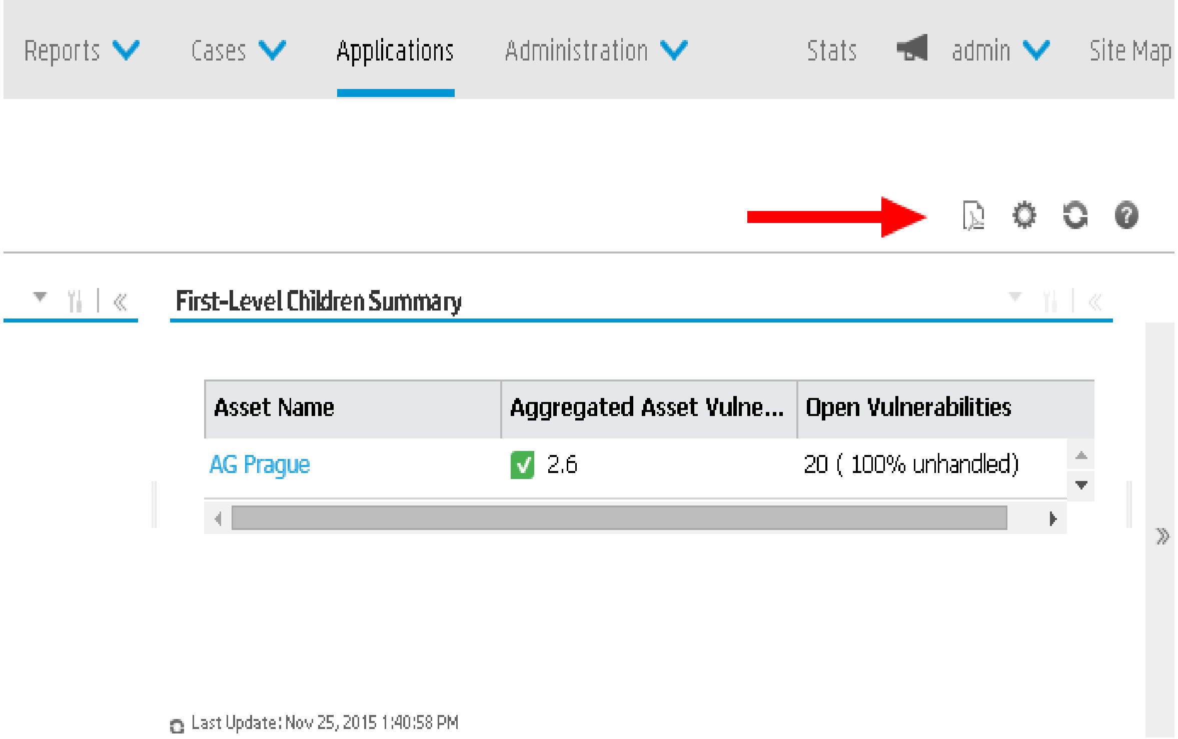
The following table includes information on the navigation bar.

Module	Pages	Description
Executive View **Executive View**	- Overall Score Heat Map - Risk Factor Dashboard - Risk Register - Risk Indicators	Executive dashboards enable Risk Managers and Security Operation Center (SOC) Managers to view and analyze security risk information in a business context. When you open Risk Insight, the default page is the Risk Indicator dashboard.

Module	Pages	Description
Vulnerabilities **Vulnerabilities**	- Vulnerability Dashboard - Vulnerability Assignment - Vulnerability Management - Vulnerability Dictionary	Manage and remediate the vulnerabilities according to their severity and the criticality level of your assets.
Assets **Assets**	Asset Profiling	Create and manage a business model that depicts your organization from high-level business assets to low-level IT assets, on which you can view risk factors.
Administration **Administration**	- Audit Log - Configuration - Job Management - Dashboard Builder - KPI Management	Administer Risk Insight by creating customized dashboards, managing roles and permissions, monitoring batch jobs and managing application settings.

Toolbar Description

The Risk Insight toolbar appears on every page except for the Configuration page. The toolbar appears on the top right side of every page.



Asset Name	Aggregated Asset Vulne...	Open Vulnerabilities
AG Prague	✓ 2.6	20 (100% unhandled)

Last Update: Nov 25, 2015 1:40:58 PM

The following table includes information on the toolbar.

Tool	Description
Generate Report	Click this button to generate a report. Select a report from the list of reports. If you are prompted, select to always allow pop-ups from the ESM server. You can save the report as a PDF. This button does not appear on pages that do not have reports. If you create a report for that page and assign it to the category of that page, then the button will appear on the toolbar.
Settings	Click this button to open the **Settings** dialog box. For more information, see "Settings" on page 1
Refresh	Click this button to refresh the information on the current page.

Tool	Description
? Help	Click this button to open the help relevant to the current page.

Personalization

Risk Insight stores the last asset that you worked on. When you navigate Risk Insight, the UI pages appear in the context of that asset. For example, you can view statistical information for a specific asset in the different dashboards without having to select the asset in every dashboard. The context is also saved when you log out.

Chapter 2: Asset Profiling

In Risk Insight, an asset is an entity that represents a physical or logical resource in the system. For example, assets can represent hardware, software, services, people, documents or business units.

Assets are the building blocks of the business model. They are organized into a hierarchical format based on the dependencies in your organization’s IT environment.The Risk Insight business model depicts the entire IT environment, from the highest level of the organization (such as an office location or a line of business) to the lowest level (such as a software application). Each entity in the Risk Insight business model is an asset. For more information on building a business model, see "How to Build a Business Model" on page 12.

The business model is the foundation for all core Risk Insight functionality. An extensive business model provides Risk Insight users with more accurate information about the organization's overall risk.

There are many different types of assets, which are divided into categories. For more information,see "Manage Asset Types" on the next page.

Common Platform Enumeration

Common Platform Enumeration (CPE) is a structured naming scheme for describing and identifying classes of applications, operating systems, and hardware devices present among an enterprise’s computing assets. The official version of the CPE Product Dictionary is maintained by National Institute for Standards and Technology (NIST).

In Risk Insight, a CPE is primarily an asset property that helps identify the asset by using this standardized method. But it is also one of the vulnerability properties, for the vulnerabilities defined in the vulnerability dictionary.This means that you can use CPEs as a source of information for identifying potential vulnerabilities on your organizations assets. CPEs are updated along with the vulnerability dictionary.

A CPE has the following URI-based format:

cpe:/<part>:<vendor>:<product>:<version>:<update>:<edition>:<language>

The part field includes one of the following values:

- **a** for applications
- **h** for hardware platforms
- **o** for operating systems

Fields at the end of the URI can be left off.

For example:

cpe:/a:hp:loadrunner:11.50.

This format is based on the CPE 2.2 version, although the CPEs in the dictionary are from version 2.3.

Note: CPEs are derived from data found in ESM asset categories. This means that your business model must be category-based in order to include CPEs.

Manage Asset Types

Risk Insight includes the following asset categories:

- **Organization**: Includes only one asset type—Organization. The Organization is the starting point of the business model. Risk Insight includes a predefined Organization asset.
- **Location**: Includes types such as Country, City, and Building.
- **Business**: Includes a business reference or a line of business, such as online banking.
- **IP**: Includes only one asset type—IP Address. Risk Insight supports both IPv4 and IPv6.
- **Infrastructure Elements**: Includes hardware, such as a computer (network entity) or a printer.
- **Running Software**: Includes software applications, such as a mail server or a database.
- **People**: Includes groups and individuals.
- **Documents**: Includes one asset type—Document.

Each of these categories includes various predefined asset types. In addition to the asset types that come with Risk Insight, you can add new asset types to any category, except the Organization category, which includes only one Organization asset.

You can also edit or delete an asset type.

Note: Deleting or renaming an asset type in the Configuration module only affects new assets; they do not affect existing assets in the business model. Existing assets of the deleted or renamed type are displayed with a question mark icon.

To add an asset type

1. Click **Administration > Configuration**.

2. In the **Configuration** module, in the left pane, click **Asset Management > Asset Type Categories**, and then click the asset category to which you want to add an asset type.

3. In the right pane, click the **Add configuration to configuration set** button, and then do the following:
   - In the **Type** box, enter the internal name of the asset type.
   - In the **Label** box, enter the display name of the asset type.
   - From the **Icon** list, select the image for the asset type icon.

4. Save and apply the configuration changes. For more information, see the *Save and Apply Configuration Changes* section in the *ArcSight Risk Insight Deployment Guide*.

To edit an asset type

1. Click **Administration > Configuration**.

2. In the **Configuration** module, in the left pane, click **Asset Management > Asset Type Categories**, and then click the asset category to which the asset type that you want to edit belongs.

3. In the right pane, make the required changes for the asset type that you want to change.

4. Save and apply the configuration changes. For more information, see the *Save and Apply Configuration Changes* section in the *ArcSight Risk Insight Deployment Guide*.

To delete an asset type

1. Click **Administration > Configuration**.

2. In the **Configuration** module, in the left pane, click **Asset Management > Asset Type Categories**, and then click the asset category from which you want to delete an asset type.

3. In the right pane, click the asset type that you want to delete, and then click the **Remove configuration from the configuration set** button.

4. Save and apply the configuration changes. For more information, see the *Save and Apply Configuration Changes* section in the *ArcSight Risk Insight Deployment Guide*.

How to Build a Business Model

The following procedure outlines the steps for creating a business model in Risk Insight.

To create a business model

1. Follow the instructions in the *Integrate with ArcSight Enterprise Security Manager* section in the *ArcSight Risk Insight Deployment Guide* .
2. During the first import, all imported assets are saved as **Unattached**. Follow the instructions in "Connect an Asset to the Business Model" on page 15. Repeat this process until all imported assets are connected to the business model.

   Creating the business model from imported assets is a one-time task. After the business model is created, each subsequent synchronization automatically updates the business model for all existing assets, and only newly introduced assets are saved as unattached.

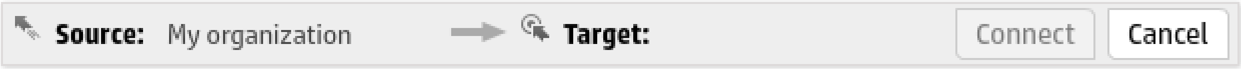
Create an Asset

New assets must be connected to the business model. You cannot create an unattached asset, but you can create a new asset and then detach it from the business model. For more information, see "Disconnect an Asset from the Business Model" on page 17.

To create an asset

1. Click **Assets > Asset Profiling**.
2. Search for the source (parent) asset, as described in "Search for an Asset" on page 16, or click the asset in the map.
3. In the asset's asset card, click the **Connect to another asset (mark as source asset)** button.

   The connection panel is displayed in the map area.

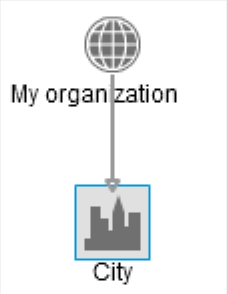
   

4. In the left pane, click the **New** tab.
5. On the **New** tab, click the asset type that you want to create and connect to the business model.
6. In the left pane, click the **Create as target asset** button. This asset will be connected to the business model as a child asset.
7. In the connection panel, click **Create and Connect**.

The asset is added to the business model and the **Edit Asset Properties** dialog box opens.

8. In the **Edit Asset Properties** dialog box, enter the relevant information, and then click **Save**. For a detailed description on asset properties, see "Asset Properties" on page 19.

9. To cancel the connection, in the connection panel, click **Cancel**.

> You can also drag the asset from the **New** tab and drop it on the parent asset in the map area. For example, to create a city asset under the **My organization** asset, drag the **City** asset from the left pane and drop it on the **My organization** asset in the map area. The following path is created:
>
> 
>

Connect an Asset to the Business Model

You can connect unattached assets to the business model or connect assets that are already part of the business model to a different parent asset.

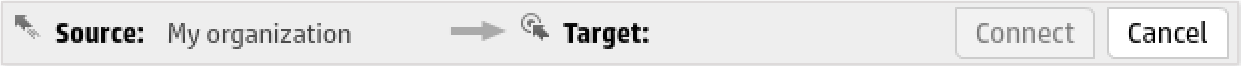
There are two scenarios in which assets are saved as unattached in Risk Insight:

- Assets are saved as unattached the first time that they are imported from an external asset repository. After the business model is created, each subsequent synchronization automatically updates the business model for all existing assets, and only newly introduced assets are saved as unattached.
- Assets that have been disconnected from the business model are also saved as unattached.

To connect an asset to the business model

1. Click **Assets > Asset Profiling**.
2. In the left pane, click the **Unattached** tab and find the asset that you want to connect to the business model, or search for the asset, as described in "Search for an Asset" on the next page.
3. Click the **Mark as target asset** button. This asset will be connected to the business model as a child asset.

   The connection panel is displayed in the map area.

4. Search for the source (parent) asset, as described in "Search for an Asset" on the next page or click the asset in the map.
5. In the asset card of the source parent, click the **Connect to another asset (mark as source asset)** button.
6. In the connection panel, click **Connect**.

   The asset is added to the business model.

7. To cancel the connection, in the connection panel, click **Cancel**.

> **Note:** You can also drag the asset from the left pane and drop it on the parent asset in the map area.

Search for an Asset

You can search for a name or a partial name of any asset, either attached to the business model or unattached, in the **Search** tab. You can also search for an asset according to the user or group that is authorized to work on that asset.

To search for an asset

1. Click **Assets > Asset Profiling**, and then, in the left pane, click the **Search** tab.
2. In the **Search asset name** box, enter the asset name or a partial asset name, and then press **ENTER**.

   The search results are displayed in the left pane. The two immediate parent assets are displayed next to each asset that is found.
3. Click **Advanced** to search by asset category or type. Select the category or type from the list, and then click **Search**.
4. To display the asset in the business model map, click the **Show on Map** button.

To search for an asset by user or group

1. Click **Assets > Asset Profiling**, and then, in the left pane, click the **Authorized User** tab.
2. In the **Search asset by user or group** box, enter the name of the user or group according to which you want to search, and then press **ENTER**.

   The search results are displayed in the left pane.

   > **Note:** Only assets on which the user or group are authorized to work on directly (as opposed to assets that inherited the access rights) are displayed.

Filter Assets by a CPE

You can filter assets by a CPE in order to create a business model view that is product or vendor specific. For example, you can create a filter that displays a segment of the business model that includes only servers that host an Oracle database. For more information on CPEs, see "Common Platform Enumeration" on page 10.

The filter is applied to the entire Asset Profiling page. This means that if you filter the page and search for assets, you will receive search results out of the filtered results.

To filter assets by a CPE

1. Click **Assets > Asset Profiling**.
2. In the **Asset Profiling** page, in the **Filter by CPEs** box, enter the CPE (vendor:product:version) or a partial CPE (vendor:product).

   The business model is collapsed.
3. Expand the business model to display the assets that are associated with the CPE.

   The assets that are displayed in the map in the business model are assets that are directly associated with the CPE and their parent assets. The full hierarchy is displayed.

Disconnect an Asset from the Business Model

To disconnect an asset from the business model you must delete the relationship between the asset and its parent.

You can delete only relationships that you created within Risk Insight. You cannot delete relationships that you imported from an external asset repository.

If the asset has only one parent, then when it is disconnected, it is saved as unattached; the asset itself is not deleted. If the asset has more than one parent, then it remains in the business model.

Disconnected assets can be reconnected to the business model at any time.

To disconnect an asset from the business model

1. Click **Assets > Asset Profiling**.
2. Search for the asset that you want to disconnect, as described in "Search for an Asset" on the previous page.
3. In the **Search** tab, click the asset that you want to disconnect, and then click the **Show on Map** button.
4. In the map area, click the relationship between the asset that you want to disconnect and its parent asset, and then press **DELETE**.
5. Click **Yes** to confirm the action.

   The disconnected asset can be viewed in the **Unattached** tab in the left pane.

Delete an Asset

You can only delete assets created in Risk Insight. In order to preserve the integrity of the business model, assets imported from an external asset repository cannot be deleted directly from Risk Insight; they must be deleted in the system from which they originated. When the business model is next synchronized, the change will be displayed in Risk Insight.

To delete an asset

1. Click **Assets > Asset Profiling**.
2. Search for the asset that you want to delete, as described in "Search for an Asset" on page 16.
3. Click the asset that you want to delete and then click the **Delete** 🗑 button or select the asset in the map and press **DELETE**.

   A confirmation message is displayed. Confirm this action by clicking **Yes**.

   > **Note:** If you delete an asset that has children, then the asset is deleted and the children are saved as unattached.

Add a CPE to an Asset

You can add or remove CPEs that are associated with an asset. You can add CPEs only to asset that belong to the following categories:

- Running Software
- Infrastructure Element
- IP

You can add CPEs only to assets that were created in Risk Insight. CPEs that were imported from a CSV file or from ArcSight ESM cannot be removed and are read-only.

To add a CPE to an asset

1. Click **Assets > Asset Profiling**.
2. Search for the asset to which you want to add a CPE, as described in "Search for an Asset" on page 16.

3. Click the asset in the search results, and then click the **Edit Asset Properties** button.
4. In the **Edit Asset Properties** dialog box, click the **CPEs** tab.
5. In the search box, enter a CPE (vendor:product:version) or a partial CPE (vendor:product).

   > **Note:** To optimize your search, enter the full vendor and product name.

6. Click **Add**.
7. Click **Save**.

To remove a CPE from an asset

1. Click **Assets > Asset Profiling**.
2. Search for the asset from which you want to remove a CPE, as described in "Search for an Asset" on page 16.
3. Click the asset in the search results, and then click the **Edit Asset Properties** button.
4. In the **Edit Asset Properties** dialog box, click the **CPEs** tab.
5. From the list of CPEs, click the CPE that you want to remove, and then click the **Remove this CPE from the asset** button.
6. Click **Save**.

Asset Properties

The asset properties include the following information:

- **Asset General Properties**

  The following table describes all of the properties for each asset category.

- **CPEs**

  A CPE is an asset identifier. For more information, see "Common Platform Enumeration" on page 10.

  You can add or remove CPEs that are associated with the asset. CPEs that were imported from a

CSV file or from ArcSight ESM cannot be removed and are read-only.

You can filter assets according to their CPE, as described in "Filter Assets by a CPE" on page 16.

Asset General Properties

Category	Property	Description
General	**Name**	The name of the asset. It is displayed in the business model's graphic view along with the asset type icon. This field is mandatory.
	Description	Additional information about the asset.
	Type	The asset type.
	Source	The source name for the Organization asset is **System**. The source name for assets created in Risk Insight is empty. For assets imported from an external asset repository, the source name is the same as the connector name defined in the **Configuration** module.
Location	**Latitude**	The geographical coordinates of the asset's location.
	Longitude	The geographical coordinates of the asset's location.
	Address	The street address of the asset.
	ZIP Code	The asset location ZIP code.
	City	The city of the asset.
	State	The state of the asset.
	Country	The country of the asset.
	Criticality Level	A numeric index, between 0 and 10, indicating the severity of a potential catastrophe and the probability of its occurrence. The default criticality level of all assets is 1.
Business	**Criticality Level**	See above description.
	Value	A numeric, monetary value.
Infrastructure Element	**OS Name**	The operating system that is installed on the infrastructure element.
	OS Version	The version of the operating system that is installed on the infrastructure element.

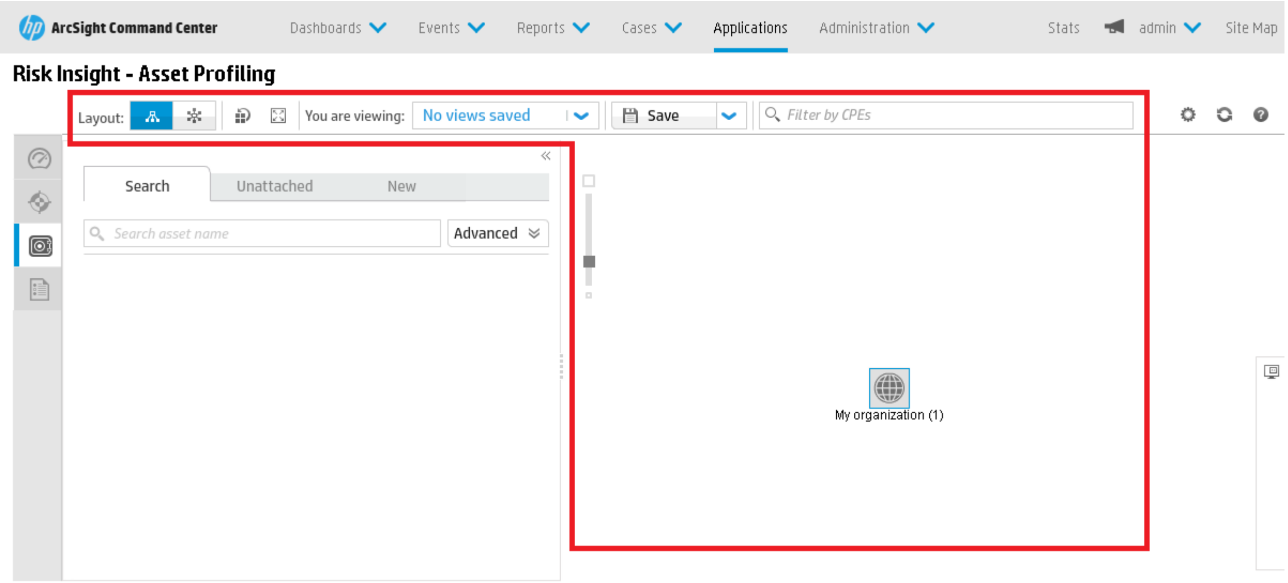
Asset General Properties, continued

Category	Property	Description
Running Software	**Application Name**	The name of the application.
	Application Version	The version of the application.
IP	**DNS Name**	The server name as defined in the network DNS.
	MAC Address	The server MAC address.
	IP Address	The server IP address.
People	**Role**	The role of the person or the group in the organization.
Documents	**Version**	The version of the document.
	Purpose	The purpose for which the document was created.
	Classification	The type of document, such as legal or technical.
	Release Date	The date on which the document was published.

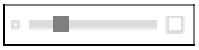
Asset Profiling Window

The Asset Profiling window enables you to create and maintain your organization's business model. The different areas and the functionalities available in each area are described in the following sections. For information on the Risk Insight toolbar, see *"Toolbar Description"* in "Navigating the User Interface" on page 6.

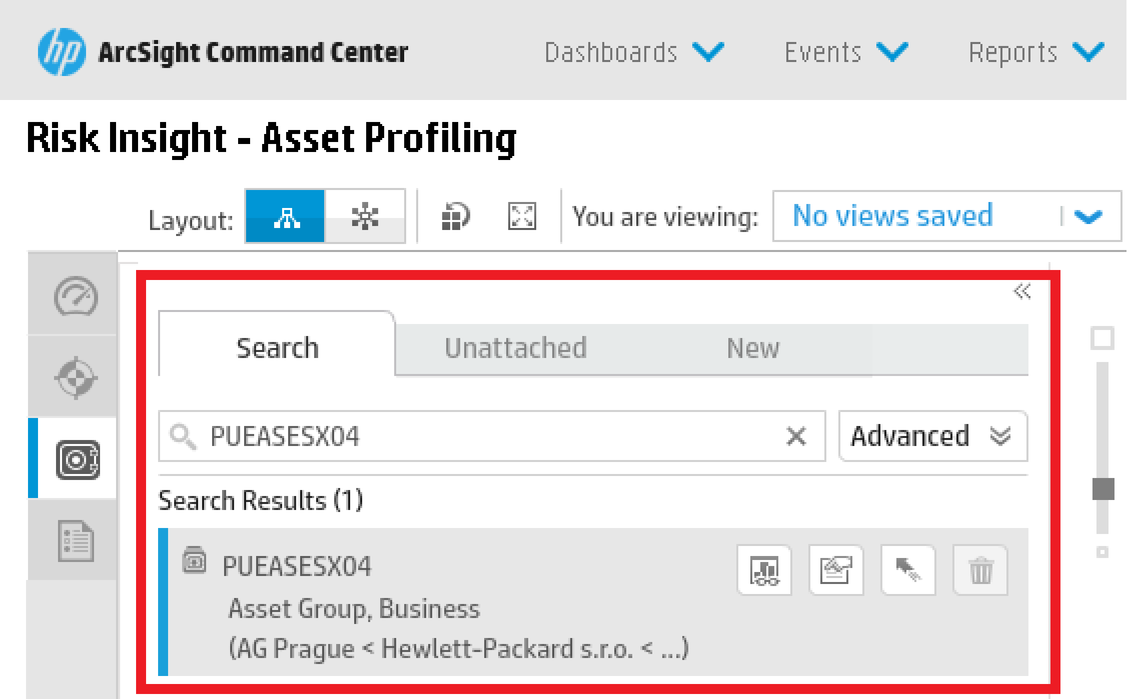
Map Area



UI Element	Description
(Layout)	**Display the business model in a tree layout** Displays the business model in a tree structured graph.
(Layout)	**Display the business model in a circular layout** Displays the business model in an interconnected ring and star topology.
	Optimize Layout Refreshes the layout of the business model in the graph.
	Fit to Window Resizes and displays the entire business model in the map area.
You are Viewing	The name of the view that is displayed. If there are multiple views, you can select a different view from the list.

UI Element	Description
Save New View	Creates a new view based on the current business model view displayed in the map. Access this option by clicking the arrow next to the Save button. After you save the view, when you reopen the Asset Profiling page, the business model displayed in the map area is resized to the default zoom and to fit to window. **Note:** Assets that were disconnected from the business model are not displayed in the view. Views are user-specific; you cannot see views that other users created. For more information, see Create a Business Model View.
Save	Saves the changes that you made to the view displayed on the map.
Filter by CPEs	Filter the business model by a CPE. For more information, see "Filter Assets by a CPE" on page 16.
	**Zoom** Zooms the business model in and out.
⟳	**Refresh** Refreshes the data on the page.

Left Pane

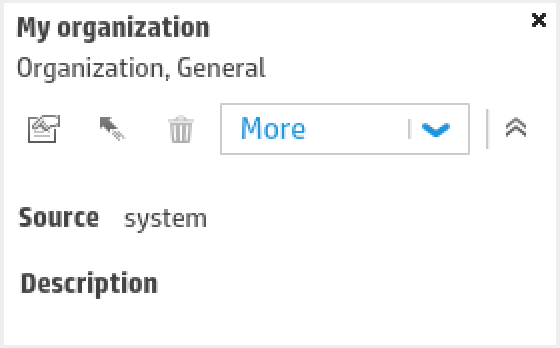


UI Element	Description
Search tab	Enables you to search for a name or a partial name of any asset in Risk Insight, connected to the business model or unattached. You can also search by asset category or type by clicking **Advanced**.
Unattached tab	Includes assets that have either been imported from an external asset repository and have not been connected to the business model or any asset that has been disconnected from the business model.
New tab	Displays all of the asset types according to categories. When you create a new asset in Risk Insight you also connect it to the business model.
Authorization	Enables you to search for assets according to users or groups that are authorized to work with the assets. For more information, see "To search for an asset by user or group" on page 16.

UI Element	Description
🗑	**Delete** Deletes the selected asset. You can delete only assets created in Risk Insight. In order to preserve the integrity of the business model, assets imported from an external asset repository cannot be deleted directly from Risk Insight; they must be deleted in the system from which they originated. When the business model is next synchronized, the change will be displayed in Risk Insight. If you delete an asset that has children, then the asset is deleted and the children are saved as unattached. This button is available in: • **Search** tab • **Unattached** tab • **Asset Card**
📊	**Show on Map** Displays the asset in the business model in the map area. This button is disabled if the asset is unattached. This button is available in the **Search** tab.
✎	**Edit Asset Properties** Opens the **Edit Asset Properties** dialog box. For more information on asset properties, see "Asset Properties" on page 19. This button is available in: • **Search** tab • **Unattached** tab • **Asset Card**
↖	**Connect to another asset (mark as source asset)** Marks an asset as the parent asset when you connect an asset to the business model. A source asset must be attached to the business model. This button is available in: • **Search** tab • **Asset Card**

UI Element	Description
	Mark as target asset Marks an asset as the child asset when you connect it to the business model. A target asset can be unattached or already connected to the business model. This button is available in: - **New** tab - **Unattached** tab - **Search** tab after the source asset has been defined - **Asset Card** after the source asset has been defined
⟳	**Refresh** Refreshes the business model to display any changes that might have occurred, for example, synchronization with an external asset repository. Available in all tabs.
«	**Collapse** Collapses the left pane.
»	**Expand** Expands the left pane.

Asset Card



My organization
Organization, General

Source system

Description

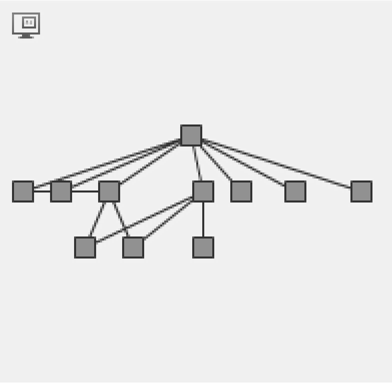
You can open the asset card by clicking on the asset in the business model map.

The asset card includes the asset name, category and type. The following table includes the functionality available from the asset card.

UI Element	Description
🗑	See "Delete" on page 25.
↖	See "Connect to another asset (mark as source asset)" on page 25
◎	See "Mark as target asset" on the previous page.
✎	See "Edit Asset Properties" on page 25.
Expand	Displays the direct children of the asset in the business model map. Click **More > Expand**. If the asset has more than 20 children, then the assets are not displayed automatically in order not to overload the business model. In this case, the **Show Children on Map for Asset** dialog box is displayed, enabling you to select the children you want to display. The number of direct children that an asset has is displayed in the business model map by the asset name. You can also expand by double-clicking the asset. **Note:** You cannot expand an asset that has more than 1000 children in the business model. If you attempt to expand such an asset, you will receive an error message.

UI Element	Description
Collapse	Hides the direct children of the asset in the business model map. Click **More > Collapse**. You can also collapse by double-clicking the asset.
Show Parents	Displays the parent assets of the asset in the business model map. Click **More > Show Parents**.
Hide Parents	Hides the parent assets of the asset in the business model map. Click **More > Hide Parents**.
︾	**Open Properties** Displays properties in read-only mode. For more information on asset properties, see "Asset Properties" on page 19.
︽	**Close Properties** Closes properties view.

Mini-Map



When the business model is expanded to a larger size than the map area, you can navigate it by clicking and dragging in the mini-map area.

To expand or collapse the mini-map, click the **Expand/Collapse** 🖥 button.

Chapter 3: Risk Factors

The risk posture of the assets in your organization can be affected by various risk factors. Risk Insight includes the risk factors from the following sources:

- Vulnerability assessment tools (scanners): Vulnerabilities are imported into Risk Insight using ArcSight SmartConnector. For more information, see "Vulnerability Management" on page 64.

- ESM: For a list of all risk factors originating from ESM, see "Out-of-the-Box Risk Factors" on the next page.

You can import risk information from ESM for any risk factor that you deem significant and that impacts the overall risk score of your organization. For example, the score of IPS security alerts resulting from security attacks on a segment of your network.For more information on importing risk information from ESM , see the *Import Risk Information from ESM* section in the *Risk Insight Administration Guide*.

The scores of all risk factors are consolidated into one score—asset overall score—that reflects the overall risk posture of the assets in your organization. For more information on how the overall score is calculated, see "Configure Overall Score Formula Weights" on page 91.

Risk factors must fulfill the following conditions:

- A risk factor must be associated with an asset defined in Risk Insight. Information that does not relate to a particular asset is discarded.

- The information must be numeric. Only numeric information can be aggregated, included in the overall score, and reflected in trend charts.

Whenever you add a risk factor to Risk Insight, a corresponding KPI is created automatically. KPIs are managed in the KPI Management page. You can configure the risk factor KPI settings, as described in "Configure Risk Factor KPI Settings" on the next page. You can also configure risk factor ranges, as described in the *Configure Risk Factor Ranges* section in the *ArcSight Risk Insight Deployment Guide*.

Risk factors are reflected in:

- **Risk Register**: Aggregate scores for risk factors are displayed in the Asset Summary component and in the First-Level Children Summary component. For more information, see "Risk Register" on page 40.

- **Risk Indicators**: Risk factors are regarded as risk indicators. For more information, see "Risk Indicators" on page 43.

Risk factors have a dedicated dashboard—**Risk Factor Dashboard**—that displays information on all the risk factors that are imported into Risk Insight. For more information, see "Risk Factors Dashboard" on page 46. You can also incorporate risk factor scores, aggregate scores and any other information into user created reports. For more information on creating reports, see the *Create a Report Using SAP BusinessObjects WebIntelligence* in the *ArcSight Risk Insight Administration Guide*.

Configure Risk Factor KPI Settings

You can configure KPI settings in order to reflect the tolerance of your organization to the risk factor. For example, if you lower the High threshold of a KPI, then the KPI will reflect more tolerance towards the risk factor.

You can also configure the KPI settings in the KPI Management page, as described in the *Edit a KPI* section in the *ArcSight Risk Insight Administration Guide*.

To configure KPI settings

1. Click the **Settings** ⚙ button, and then, in the Settings dialog box, click **Risk Factor**.
2. In the left pane, select the risk factor that you want to configure.
3. Edit the following options as necessary:
   - **KPI Parameter**: Enter the threshold that indicates a desirable or an undesirable result.
   - **Thresholds**: Drag the sliders to define the severity of the percentage ranges, for low, medium, and high thresholds.

     These thresholds are reflected in the gauge that represents the KPI and they define whether the KPI is acceptable or not.
4. Click **Save**.

Out-of-the-Box Risk Factors

Risk Insight includes out-of-the-box risk factors that are based on ESM reports. The reports are imported into ESM during the integration process.

Risk Factor	Description	Data Source
Antivirus	Shows whether the antivirus installed on the asset is updated or not.	Assets
Brute Force Attempt	Shows the brute force attempts events for assets that have been targeted in the last hour.	Active List
DoS Attacks	Shows the denial of service score for assets that have been targeted in the past day.	Active List

Risk Factor	Description	Data Source
Events Priority	Shows the average priority for assets that have been targeted in the last hour.	Events
Dropped Events by Firewall	Shows events dropped by the firewall, for assets that have been targeted in the last hour.	Active List
Failed Login	Shows the number of failed login events for assets that have been targeted in the last hour.	Active List
IP Scanning	Shows the IP scanning events for assets that have been targeted in the last hour.	Active List
Port Scanning	Shows the port scanning events for assets that have been targeted in the last hour.	Active List

Chapter 4: Key Performance Indicators

Risk Insight includes key performance indicators (KPIs) that are used to measure the progression of your organization towards its objectives. In Risk Insight, KPIs are used to monitor and improve upon the different aspects that comprise risk in your organization.

Simple KPIs enable you to define the ranges for the score severity of various risk factors, according to your business needs. For example, asset vulnerability scores are displayed along with an icon that represents a low, medium or high score throughout the application. The color indication is also reflected in the trend charts and heat maps.

More complex KPIs include the percentage of assets with scores that are above or below a certain threshold. For example, the vulnerability KPI indicates the percentage of assets with an aggregate vulnerability score that is higher than a certain threshold. The higher the percentage the farther the organization is from its vulnerability objectives.

Risk Insight includes out-of-the-box KPIs, as described in "Out-of-the-Box KPIs" on the next page as well as a corresponding KPI for any risk factor added to Risk Insight. In addition, custom KPIs can be created by an Administrator for any risk factor defined in Risk Insight. For more information, see the *Create a KPI* section in the *ArcSight Risk Insight Administration Guide*.

All KPIs, both custom and out-of-the-box, are configurable. You can change the KPI parameter or threshold, as described in "Configure KPI Settings" below.

Configure KPI Settings

You can configure KPI settings in order to reflect the tolerance of your organization to the risk factor. For example, if you lower the High threshold of a KPI, then the KPI will reflect more tolerance towards the risk factor.

To configure KPI settings

1. Click the **Settings** ⚙ button, and then select the module to which the KPI belongs.
2. In the left pane, select the KPI that you want to configure.
3. KPIs can have one or both of the following options. Edit these options as necessary:
   - **KPI Parameter**: enter the threshold that indicates a desirable or an undesirable result.

     For example, in a KPI that displays the percentage of assets with an overall score higher than 20, then “20” is the KPI Parameter. In this case, scores that are higher than 20 are not desirable.

- **Thresholds**: drag the sliders to define the severity of the percentage ranges, for low, medium, and high thresholds.

  These thresholds are reflected in the gauge that represents the KPI and they define whether the KPI is acceptable or not.

4. Click **Save**.

Out-of-the-Box KPIs

Risk Insight includes out-of-the-box KPIs described in the following table. You can configure the settings for out-of-the-box KPIs as well as custom KPIs, as described in "Configure KPI Settings" on the previous page.

Name	Description
Overall Score KPI	The overall score KPI is used to determine how close or far the organization is from it's overall risk objectives. The KPI indicates the percentage of assets, out of both direct and indirect children including the asset itself, with an overall score that is higher than a certain threshold (KPI parameter). The higher the percentage the farther the organization is from its overall risk objectives. This KPI reflects the tolerance of your organization to its overall risk. It is configurable and should be derived from your organization's strategic plans. The overall score KPI is displayed in the Risk Register page. For more information, see "Risk Register" on page 40.
Vulnerability Score KPI	The vulnerability score KPI is used to determine how close or far the organization is from it's vulnerability objectives. The KPI indicates the percentage of assets, out of both direct and indirect children and the asset itself, with an aggregate vulnerability score that is higher than a certain threshold (KPI parameter). The higher the percentage the farther the organization is from its vulnerability objectives. This KPI reflects the tolerance of your organization to vulnerabilities. It is configurable and should be derived from your organization's strategic plans. The vulnerability score KPI is displayed in the Risk Register page. For more information, see "Risk Register" on page 40.

Name	Description
Antivirus KPI	These KPIs are used to determine how close or far the organization is from it's objectives. The KPI indicates the percentage of assets, out of both direct and indirect children and the asset itself, with an aggregate score, for any of these risk factors, that is higher than a certain threshold (KPI parameter). This KPI reflects the tolerance of your organization to this risk factor. It is configurable and should be derived from your organization's strategic plans. These KPIs are displayed in the Risk Factor Dashboard, per risk factor, depending on the one that you choose to display. For more information, see "Risk Factors Dashboard" on page 46.
Brute Force Attempt KPI	
DoS Attacks KPI	
Events Priority KPI	
Dropped Events by Firewall KPI	
Failed Login KPI	
IP Scanning KPI	
Port Scanning KPI	

Chapter 5: Dashboards and Reports

Risk Insight comes with a variety of out-of-the-box dashboards and printable reports. Risk Insight administrators can create customized role-based dashboards for different types of users, as described in the *Create a Customized Dashboards Page* in the *ArcSight Risk Insight Administration Guide*. The dashboards can be created from predefined reports or from user-created reports.

There are two types of reports that you can create:

- **Printable**

  These reports are available from any page that is associated with a report. These reports are generated as print-friendly PDF documents by clicking the **Generate Report** button. For more information on the reports included in Risk Insight, see "Printing Reports" on page 39.

- **Dashboard**

  These reports are used as data analysis components and can be grouped together with other components in order to create comprehensive dashboards, such as the Risk Register, for the various roles. For more information, see "Risk Register" on page 40

You can create reports that belong to both categories. For more information on creating reports, see the *Create a Report Using SAP BusinessObjects WebIntelligence* in the *ArcSight Risk Insight Administration Guide*.

Root Cause Analysis

Root cause analysis (RCA) is a structured approach for identifying the underlying causes of problems or events. RCA is based on the assumption that problems should be solved by addressing their root causes rather than their obvious symptoms. You can use RCA to mitigate, eliminate, or prevent risk in your organization.

Risk Insight dashboards support RCA. The dashboards include a drill-down functionality, strategically placed links, allowing you to trace root problems by navigating the various dashboards and Risk Insight pages. These links are available depending on your role and permissions. In addition, the Risk Insight Risk Indicators is an RCA tool that offers you the quickest way to identify risk sources in your organization's business model. It provides you with graphical risk indication on top of your business model map.

There are two main approaches for RCA in Risk Insight:

- Identifying the underlying asset or assets that are responsible for increasing the overall risk in your organization.

To follow this approach, you can track the source asset by drilling down in the business model.

Example:

a. Start by opening the **Risk Register** (Executive View > Risk Register) for your root asset.

b. Identify the asset with the highest risk in the **First-Level Children Summary** component, and click its name.

   The **Risk Register** is updated with information on the asset that you selected.

c. Continue drilling down until you identify the underlying problematic asset.

- Identifying the risk element that is responsible for increasing the overall risk in an asset.

  To follow this approach, you can track the risk element by investigating it specifically.

Example:

a. Start by opening the **Risk Register** for your root asset.

b. Identify the risk element that appears to be problematic the in the **Asset Summary**, and click its name.

   Risk Insight navigates to the dashboard that corresponds with the risk element that you chose. For example, if the problematic risk element is the vulnerability score, then when you click **Vulnerability**, the **Vulnerability Dashboard** opens.

c. Continue drilling down until you identify the underlying problematic risk element.

Regardless of the approach you take, after you have identified the problematic asset or risk element, you can navigate to the relevant Risk Insight page through which you can mitigate the problem.

Example:

1. Identify an asset with a high aggregate asset vulnerability score in the **Risk Register**.

2. Click the **Aggregate Asset Vulnerability Score** label in the **Vulnerability Dashboard**.

   The **Vulnerability Management** page opens with information about the specific asset.

3. Continue investigating the vulnerabilities using the tools available in the **Vulnerability Management** page. For example, you can filter vulnerabilities according to their score.

4. Handle the vulnerabilities attached to the asset to lower the asset vulnerability score.

Create a Report Using SAP BusinessObjects Web Intelligence

In addition to the various reports provided by Risk Insight, you can create customized reports by using BusinessObjects Web Intelligence. For information on creating reports, see *Building Reports with BusinessObjects Web Intelligence User Guide*.

You can create printable reports, dashboard reports, or reports that belong to both categories.

> **Note:** To create a report you must be familiar with the process of creating reports in *BusinessObjects*.

General instructions for creating a report for Risk Insight

1. Select **Risk Insight Universe** when you create a new document (report). For detailed information on the classes and objects in the Risk Insight Universe, see the *Risk Insight Universe* section in the *ArcSight Risk Insight User Guide*.

2. Prompts can be added to the report in order to get the application context. Add an **assetId** prompt to create a report for a certain asset. For more information on prompts, see the *Filtering Data Using Prompts* chapter in the *Building Reports with BusinessObjects Web Intelligence User Guide*

3. The query that you created could be an ambiguous query. In this case, after you run the query, you are prompted to select a context. For detailed information on ambiguous queries and query contexts, see the *Query Contexts* section in the *Building Reports with BusinessObjects Web Intelligence User Guide*. The Risk Insight Universe includes predefined contexts. For information on the contexts, see " Universe Query Contexts" on page 62.

4. Assign a category to the report when you export the document to the Central Management Server (CMS). Select the categories that apply to the report (one or more). The category determines from which page the report will be available. If you are creating a report for a page that does not have a category, then you need to create a category, as described in the *Working with Categories* section in the *SAP BusinessObjects Enterprise Administrator's Guide*. The name of the category must reflect the name of the page and it is not case-sensitive.

   > **Note:** If you do not assign the report to a category, then it will not be displayed in Risk Insight.
   >
   > To create a report for a single asset, use the **Asset ID** object as query filter and the **@AssetPrompt** object as the prompt value.

To create an Risk Insight report that displays the children of a specific asset

- When you create the query, drag the following objects to the **Results Object** area:
    - **Parent Asset ID** (**Asset Children** class)
    - **Child Asset ID** (**Children** class)
    - **Hierarchy Level** (**Children** class)

  Add the rest of the objects that you want to display to the **Results Object** area.

  For information on how to create a query, see the *Building and Working with Queries* section in the *Building Reports with BusinessObjects Web Intelligence User Guide*.

- Use the following objects as **Query Filters**:
    - **Parent Asset ID** to determine the asset that contains the assets that you want to display.
    - **Hierarchy Level** to determine which levels of children are displayed in the report.

  For information on query filters, see the *Filtering Data Using Query Filters* section in the *Building Reports with BusinessObjects Web Intelligence User Guide*.

The report that you created is automatically added to Risk Insight. You can access printable reports by clicking the **Generate Report** button from any page that has a report associated with it.

You can access dashboard reports and create customized dashboards from the BusinessObjects Reports component, as described in the *Create a Customized Dashboard Page* section in the *ArcSight Risk Insight Deployment Guide*.

Printing Reports

Out-of-the-box printable reports are available from the Risk Factor Dashboard, Risk Register, Vulnerability Management page. Custom reports are available from the page that you associated with them when you created the report. These reports are generated as print-friendly PDF documents by clicking the **Generate Report** button.

In addition to the various reports provided by Risk Insight, you can create your own customized reports using BusinessObjects Web Intelligence, as described in *Create a Report Using SAP BusinessObjects WebIntelligence* in the *ArcSight Risk Insight Administration Guide*.

The following table includes all of the out-of-the-box reports in Risk Insight.

Page	Report Name	Description
Risk Register	Overall Score Trend	This report includes overall scores for the asset selected and its children, for the following times: • Current date • The date on which the last score was archived (within the last week) • Within the last month This reports shows a general pattern of change in data over time.
Risk Factor Dashboard	Risk Factor Score Trend	This report includes risk factor scores for the asset selected and its children, for the following times: • Current date • The date on which the last score was archived (within the last week) • Within the last month This reports shows a general pattern of change in data over time.

Page	Report Name	Description
Vulnerability	Open Vulnerabilities Summary	This report includes the vulnerability score and the number of locations that the vulnerability was found for all open vulnerabilities for a selected asset and all of its children. **Note:** If the vulnerability is attached to more than one asset, then the score for each vulnerability, displayed in the Score column, may be different. In this case, the highest score is displayed.
	Product Vulnerability Details	This report reflects the degree of vulnerability of products that are connected to assets in the business model according to the number of occurrences, the highest vulnerability score, and the average vulnerability score.
	Actual vs. Potential Vulnerabilities by Product	This report includes the number of actual vulnerabilities found on a product (according to the CPEs associated with an asset) versus the number of potential vulnerabilities that a product can have (according to the CPEs defined in the Vulnerability Dictionary).

Risk Register

The Risk Insight Risk Register is a comprehensive dashboard that provides you with all the risk-related information identified by your organization.

To open the Risk Register, click **Executive View > Risk Register**.

The Risk Register includes the following components:

- **Asset Selector**

  This component enables you to select the asset that you want to display in the Risk Register.

  The **Organization** tab displays the Risk Insight business model. Expand the business model to select the asset that you want to display.

  The **Search** tab enables you to search for a name or a partial name of any asset connected to the business model.

  After you have selected the asset, you can collapse the **Asset Selector** by clicking the **Collapse** « button. To expand the Asset Selector, click the **Expand Asset Selector** » button.

  The asset that you selected is saved for when you next log on.

- **Asset Summary**

  This component displays the overall asset score. The asset overall score reflects the total risk of the asset. It is composed of the weighted average of the aggregate scores of all risk factors.

  The following formula is used for calculating the asset overall score:

  $$\frac{\sum(\mathit{normalizedaggregatedriskfactor\ scores} * \mathit{weight})}{\sum \mathit{weights}}$$

  > **Note:** You can edit the weights of these scores in **Settings > Executive View > Overall Score Formula Weights**. For more information, see "Configure Overall Score Formula Weights" on page 91.

  To analyze the scores, click on the label of the score that you want to analyze. You will be redirected to the corresponding page.

- **First-Level Children Summary**

  This component displays the information provided in the **Asset Summary** for the highest risk, first level children of the asset that you selected (up to five are displayed).

  To analyze a specific child asset, click the asset in the **Asset Name** column. The page is reloaded with information on the asset that you chose.

- **Asset Overall Score Over Time**

  This component displays the asset overall score over time. Asset overall scores are archived on a weekly basis. These scores, as well as the most updated score, are displayed in a graph in order to reveal trends in the overall score. If you hover over the round icons in the graph, you can see the exact score and the date on which it was calculated.

  For more information on archiving, see the *Archive Trend Data* section in the *ArcSight Risk Insight Administration Guide*.

- **Overall Score KPI**

  This component displays a Key Performance Indicator (KPI) that indicates the percentage of assets, out of both direct and indirect children, with an overall score that is higher than a certain threshold (KPI parameter). The higher the percentage the farther the organization is from its business objectives. You can configure the KPI parameter and thresholds, as described in "Configure KPI Settings" on page 32.

  The KPI score percentage is dynamic and is displayed in the center of the gauge.

- **Children Summary**

This component displays the assets, both direct and indirect, with the highest overall score (up to five are displayed).

To analyze a specific child asset, click the asset in the **Asset Name** column. The page is reloaded with information on the asset that you chose.

Overall Score Heat Map

The Overall Score Heat Map enables you to view the overall score of Business and Location assets according to their urgency. The urgency allows for more precise risk analysis.

Urgency is calculated as follows:

$$\frac{worst\ score * criticality\ level}{10}$$

Worst score = the normalized score of the risk factor, out of all risk factors (including the vulnerability score).

To open the Overall Score Heat Map, click **Executive View > Overall Score Heat Map**.

The colors in the heat map reflect the severity of the scores, as follows:

- Low = green
- Medium = yellow
- High = red

The criticality level ranges are configurable. For more information, see "Configure Criticality Level Ranges" on page 92.

The overall score is composed of the aggregate scores of all the risk factors. For more information on the how this score is calculated, see "Configure Overall Score Formula Weights" on page 91.

The assets displayed in the graph are first and second level children of the asset that you select. If the asset that you select does not contain Business or Location assets, the graph remains empty.

The Overall Score Heat Map includes the following components:

- **Asset Selector**

  The **Organization** tab displays the Risk Insight business model. Expand the business model to select the asset that you want to analyze.

  The **Search** tab enables you to search for a name or a partial name of any asset connected to the business model.

After you have selected the asset, you can collapse the **Asset Selector** by clicking the **Collapse** « button. To expand the Asset Selector, click the **Expand Asset Selector** » button.

- **Overall Score Heat Map**

  The name of the asset that you selected is displayed above the graph along with its overall asset score and its criticality level, if it is defined.

  > **Note:** Only assets that have been assessed are displayed on the graph.

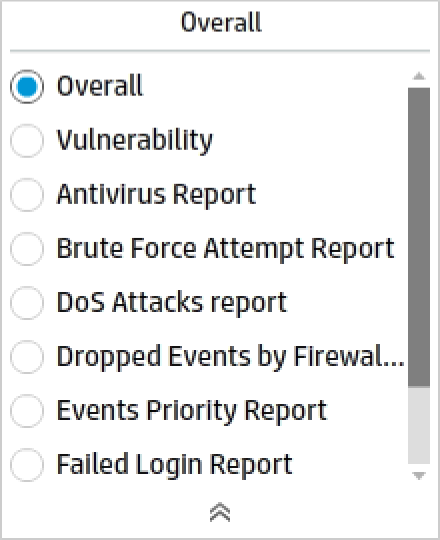
  The assets that are displayed in the legend are sorted alphabetically and are numbered accordingly. Hover over the asset on the graph to display the name of the asset, the criticality level and the overall asset score. Click the icon of the asset in the graph to highlight the asset in the legend and vice versa. If two or more assets have the same criticality level and overall asset score, then they both appear as a single point on the graph and the icon is displayed with an ellipsis (...). Hover over the ellipsis icon to display information on all the assets that have the same overall asset score and criticality level.

Risk Indicators

The Risk Indicators page is a root cause analysis tool that helps you identify risk sources in your organization's business model. It provides you with graphical risk indication on top of your business model map.

Risk indicators include the vulnerability score, the scores of all the risk factors defined in Risk Insight, and the overall score. For information on how the asset overall score is calculated, see "Configure Overall Score Formula Weights" on page 91.

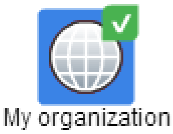
You can select the risk indicator that you want to display on the business model map from the indicator menu. When you select an indicator from the indicator menu, information is updated in the business model map, in the asset card, and in the search pane. The name of the indicator that you selected appears at the top of the indicator menu. For example, if you chose the Overall indicator then the indicator menu appears as follows:



Overall

● Overall
○ Vulnerability
○ Antivirus Report
○ Brute Force Attempt Report
○ DoS Attacks report
○ Dropped Events by Firewal...
○ Events Priority Report
○ Failed Login Report

Every asset in the map has an icon that depicts the severity of the indicator score that you chose to display. The severity ranges for these scores are defined in Settings. For more information, see "Settings" on page 90. In the following example My organization has a low severity score.



If you click an asset in the map, the asset card opens displaying information on the asset,including the scores for all the indicators. For more information, see "Asset Card" below.

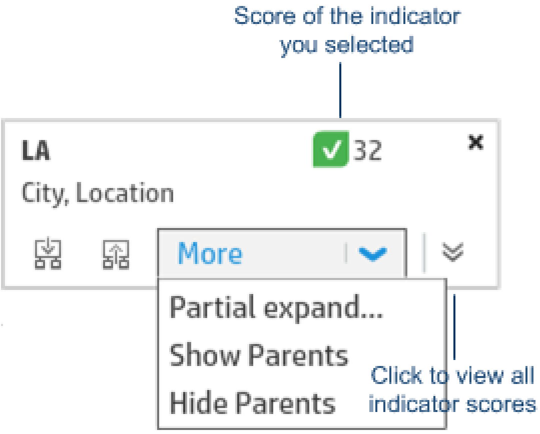
The Risk Indicators page includes the following areas:

- **Left Pane**
  - **Search**. You can search for a name or a partial name of any asset connected to the business model. You can also search by asset category or type by clicking **Advanced**. Click the **Show on Map** button to display the asset in the business model map.
  - **Toolbar**. The toolbar includes map-related actions that are similar to the Asset Profiling page, such as changing the map layout. All actions are view-only. For more information on these actions, see "Map Area" on page 22.
- **Map Area**

  The map area provides a graphical display of the business model. The indicator menu can be found in the upper right side of the map area. You can select a risk indicator to display in the business model map.
- **Asset Card**

You can open the asset card by clicking on the asset in the business model map.

Example:



Score of the indicator you selected

Click to view all indicator scores

Note: The My Organization asset does not include the **Show Parents** and **Hide Parents** options because it is the root asset in the business model.

The following table includes the functionality available from the asset card.

UI Element	Description
	Expand Show the direct children of the asset in the business model map. If the asset has more than 20 children, then the assets are not displayed automatically in order not to overload the business model. In this case, the **Show Children on Map for Asset** dialog box is displayed, enabling you to select the children you want to display. The number of direct children that an asset has is displayed in the business model map by the asset name. You can also expand by double-clicking the asset.
	Collapse Hide the direct children of the asset in the business model map. You can also collapse by double-clicking the asset.
Show Parents	Show the parent assets of the asset in the business model map. Click **More > Show Parents**.

UI Element	Description
Hide Parents	Hide the parent assets of the asset in the business model map. Click **More > Hide Parents**.
︾	**Open Indicator Scores** Click to view all indicator scores. To analyze the scores, click on the label of the score that you want to analyze. You will be redirected to the corresponding page.
︽	**Close Indicator Scores** Close indicator scores.

- **Mini-Map**

  When the business model is expanded to a larger size than the map area, you can navigate it by clicking and dragging in the mini-map area.

  To expand or collapse the mini-map, click the **Expand/Collapse** 🖥 button.

  High-risk assets that are displayed with a red severity indication in the map are also marked in red in the mini-map.

Risk Factors Dashboard

The Risk Factors Dashboard is a comprehensive dashboard that provides you with information on risk factors that have been imported into Risk Insight from ESM . For more information on risk factors, see "Risk Factors" on page 29.

To open the Risk Factors Dashboard, click **Executive View > Risk Factors Dashboard**.

- **Risk Factor and Asset Selector**

  This component enables you to select an asset and a risk factor and display risk information on that asset and its children.

  You must first select a risk factor from the list.

  The **Organization** tab displays the Risk Insight business model. Expand the business model to select the asset that you want to display.

The **Search** tab enables you to search for a name or a partial name of any asset connected to the business model.

After you have selected the asset, you can collapse the **Risk Factor and Asset Selector** by clicking the **Collapse Risk Factor and Asset Selector** « button. To expand the**Risk Factor and Asset Selector**, click the **Expand Risk Factor and Asset Selector** » button.

- **Summary**

  This component displays the score and aggregate score for a specific risk factor for the asset that you have selected.

- **First level Children Summary**

  This component displays the information provided in the **Summary** component for the highest risk first-level children of the asset that you selected (up to five are displayed).

- **Aggregate Risk Score Over Time**

  Asset aggregate risk factor scores are archived on a regular basis. The archived scores and the current score are displayed in a graph in order to reveal trends in risk. Hover over the round icons in the graph to see the exact risk factor score and the date on which it was calculated.

  For more information on archiving, see the *Archive Trend Data* section in the *ArcSight Risk Insight Administration Guide*.

- **Risk Factor KPI**

  Indicates the percentage of assets, out of both direct and indirect children and the asset itself, with an aggregate risk factor score that is higher or lower than a certain threshold (KPI parameter). The percentage indicates how near or far the organization is from its risk objectives.

  This KPI reflects the tolerance of your organization to risk. It is configurable and should be derived from your organization's strategic plans.

Risk Insight Universe

In BusinessObjects, a universe is an abstraction of a data source that contains data in non-technical terms with which users can create queries and run them against a database. These queries are then used to perform data analysis and create reports using entities in the universe called objects. For more information, see BusinessObjects documentation. The Risk Insight system includes an Risk Insight universe that contains the classes and objects described in the following tables. You can use these objects to create a customized report, as described in *Create a Report Using SAP BusinessObjects WebIntelligence* in the *ArcSight Risk Insight Administration Guide*.

Asset

An asset is an entity that represents a physical or logical resource in the system. For example, assets can represent hardware, software, services, or business units.

Object	Description
Asset ID	The unique ID of the asset.
Asset Category	The category of the asset. Includes: Organization, Location, Business, IP, Infrastructure Elements, Running Software. For more information, see "Manage Asset Types" on page 11.
Asset Name	The name of the asset.
Asset Type	The asset type is a subset of the asset category.
Asset Description	Additional information on the asset.
Business Value	A numeric, monetary value.
Criticality Level	A numeric index, between 0 and 10, indicating the severity of a potential catastrophe and the probability of its occurrence. The default criticality level of all assets is 1.
Latitude	Geographical coordinates of the asset's location.
Longitude	Geographical coordinates of the asset's location.
Address	Street address of the asset.
ZIP Code	Asset location ZIP code.
City	City of the asset.
State	State of the asset.
Country	Country of the asset.

Object	Description
OS Name	The operating system that is installed on the infrastructure element.
OS Version	The version of the operating system that is installed on the infrastructure element.
Application Name	The name of the application.
Application Version	The version of the application.
DNS Name	The server name as defined in the network DNS.
MAC Address	The server MAC address.
IP Address	The server IP address.
Role	For people or groups, their role in the organization.
Version	For documents, its version.
Purpose	The purpose for which the document was created.
Classification	The type of document, such as legal or technical.
Release Date	The date on which the document was published.
Is Attached	Indicates whether the asset is attached to the business model.

Archived Data (subclass of Asset)

This class includes information about scores that are archived in Risk Insight. A dedicated job is run periodically to extract and store a snapshot of these scores in the database. This data is used to create history and trend reports.

Overall Score Archive (subclass of Archived Data)

This class includes archived data about the overall score of the asset.

Object	Description
Overall Score	The overall score of the asset. For more information on how this score is calculated, see "Configure Overall Score Formula Weights" on page 91
Snapshot Time	The date and time that the overall score was archived.

Asset Vulnerability Archive (subclass of Archived Data)

This class includes archived data on asset vulnerabilities and aggregate asset vulnerability scores.

Object	Description
Aggregated Open Vulnerability Count	The number of all open vulnerabilities that are attached to an asset and its direct and indirect children.
Aggregated Asset Vulnerability Score	See "Aggregate Asset Vulnerability Score" on the next page.
Snapshot Time	The date and time that the aggregate asset vulnerability score was archived.

Risk Factor Archive (Subclass of Archived Data)

This class includes archived data on the score and aggregate score for and risk factor of an asset.

Aggregated Asset Risk Factor Archive (subclass of Risk Factor Archive)

This class includes archived data on the aggregate score for and risk factor of an asset.

Object	Description
Risk Factor ID	The unique ID of the risk factor.
Aggregated Asset Risk Factor Score	The aggregate score of the risk factor for a specific asset.
Snapshot Time	The import date.

Asset Risk Factor Archive (subclass of Archived Data)

This class includes archived data on the score of an risk factor of an asset.

Object	Description
Risk Factor ID	The unique ID of the risk factor.
Asset Risk Factor Score	The score of the risk factor for a specific asset.
Snapshot Time	The import date.

Asset Source (subclass of Asset)

The origin of the asset.

Object	Description
Source ID	The unique ID of the source.

Object	Description
Source Name	- If assets are created in Risk Insight, then the source name is empty. - If assets are imported from an external asset repository, then the source name is the same as the connector name defined in the **Configuration** module. - For the Organization asset the source name is **System**.
External ID	The ESM asset ID.

Overall Asset Score (subclass of Asset)

Object	Description
Overall Asset Score	The overall asset score is composed of the aggregate scores of all risk factors. The following formula is used for calculating the overall asset score: $\frac{\sum(normalized\ aggregated\ risk\ factor\ scores*weight)}{\sum weights}$

Asset Vulnerability (subclass of Asset)

This class includes different types of asset vulnerability scores.

Object	Description
Asset Vulnerability Score	The highest score out of all the vulnerability scores of open vulnerabilities that are associated with the asset.
Aggregate Asset Vulnerability Score	The highest score of the following: Asset vulnerability score Or $\mathbf{m} * \frac{\sum(AggregatedAsset\ Vulnerability\ Score*Criticality\ Level) of\ top\ \mathbf{n}\ Children}{\sum(Criticality\ Level)}$ ***m****=Children Multiplier* ***n****=Maximum Children in Calculation. Sorted primarily by aggregate asset vulnerability score and secondarily by criticality level.*
Aggregate Open Vulnerability Count	The number of open vulnerabilities for an asset and its children.

Top Open Vulnerabilities (subclass of Asset Vulnerability)

Use this class to create a report that displays the vulnerabilities with the highest scores out of the vulnerabilities with status Open. Use this class in conjunction with the **Max rows retrieved** field in the **Query Properties**. The number that you enter represents the number of "top" vulnerabilities.

Object	Description
Vulnerability ID	The unique ID of the vulnerability.
Asset Count	The number of assets with this vulnerability.
Vulnerability Count	The number of vulnerability instances.

Vulnerability Remediation Counts (subclass of Asset Vulnerability)

This class includes objects that represent the number of vulnerabilities, for each remediation status type, for the asset and its children.

Object	Description
Aggregated New Vulnerability Count	The number of aggregate vulnerabilities with status New.
Aggregated Reopened Vulnerability Count	The number of aggregate vulnerabilities with status Reopened.
Aggregated Assigned Vulnerability Count	The number of aggregate vulnerabilities with status Assigned.
Aggregated Awaiting Remediation Vulnerability Count	The number of aggregate vulnerabilities with status Awaiting Remediation.
Aggregated Awaiting Verification Vulnerability Count	The number of aggregate vulnerabilities with status Awaiting Verification.
Aggregated Not an Issue Vulnerability Count	The number of aggregate vulnerabilities with status Not an Issue.
Aggregated Resolved Vulnerability Count	The number of aggregate vulnerabilities with status Resolved.
Aggregated Automatically Closed Vulnerability Count	The number of aggregate vulnerabilities with status Automatically Closed.

Asset Risk Factors (subclass of Asset)

Use this class to create reports on risk factors. For more information on risk factors, see "Risk Factors" on page 29.

Object	Description
Risk Factor ID	The unique ID of the risk factor.
Risk Factor Comment	Additional information to the risk factor score imported from the risk source.
Risk Factor Score	The score for a specific asset for a risk factor imported from an external source.
Aggregated Risk Factor Score	The aggregate score for a specific asset for a risk factor imported from an external source.

Asset CPE (subclass of Asset)

This class includes information on CPEs that are associated with the assets in the business model.

Object	Description
CPE ID	The unique ID of the CPE.
CPE Name	The name of the CPE is composed of the vendor name, the product name, and the version of the product, in the following format: vendor:product:version.

Asset Product (subclass of Asset CPE)

This class includes information on products that are included in the CPE definitions, for CPEs that are associated with assets in the business model.

Object	Description
Product ID	The unique ID of the product.
Product Name	The name of the product as it appears in the CPE.

Asset Vendor (subclass of Asset Product)

This class includes information on vendors that are included in the CPE definitions, for CPEs that are associated with assets in the business model.

Object	Description
Vendor ID	The unique ID of the vendor.
Vendor Name	The name of the vendor as it appears in the CPE.

Asset Children

Use this class to create reports on an asset's children.

Object	Description
Parent Asset ID	Parent asset unique ID. This asset is the starting point for the asset hierarchy.

Children (subclass of Asset Children)

Use this class to create reports on an asset's children.

Object	Description
Child Asset ID	Child asset unique ID.
Hierarchy Level	The position of the asset in the hierarchical tree, in reference to the parent asset (Parent Asset ID object).

Asset Profiling

This class includes information that is relevant to asset properties.

Criticality Level Ranges (subclass of Asset profiling)

This class includes color indication for the criticality level ranges.

Object	Description
Medium	Criticality level within a medium range is displayed in yellow. Score below the medium range is displayed in green.
High	Criticality level within the high range is displayed in red.

Vulnerability

A vulnerability is a flaw or a weakness in the software (in the network layer or the application layer) or a system configuration issue that can be exploited by an attacker and used to gain access to a system or a network.

Object	Description
Count (Distinct Vulnerability ID)	Counts vulnerability IDs. This means that if two records have the same vulnerability ID, then they will count as one. This object only works when you query a table that has an Vulnerability ID field.

Object	Description
Vulnerability ID	A common classification ID. This ID can be defined in the vulnerability dictionary or not. It can be a CVE, CCE, or identification provided by the scanner. It is displayed in the User Interface.
Vulnerability Internal ID	The unique ID of the vulnerability. It is not displayed in the User Interface.
Vulnerability Name	A descriptive name of the vulnerability.
Vulnerability Type	**Network**, **Application**, and **Configuration**
Vulnerability Score	The vulnerability score is the severity level of the vulnerability expressed as a number between 0 and 10. It is calculated by Risk Insight labs. The scoring system varies between the different vulnerability types: • **Network and Web application vulnerabilities** The score is CVSS version 2.0 compliant. For more information, see "Common Vulnerability Scoring System" on page 68. Scores of new vulnerabilities that do not exist in the dictionary are imported from the scanner and are normalized to the Risk Insight scoring system. • **Configuration vulnerabilities** The score is determined according to the check results: ■ **Passed** (the configuration is correct): the score is 0. ■ **Failed** (the configuration is incorrect): the score is 10. ■ **Unknown** (there is not enough information to determine if the check failed or passed): the score is 5.

Object	**Description**
Vulnerability Location	The location displayed depends on the type of the vulnerability. Each type has the following location formats: • Network and configuration: **<Hostname>:<Network Port>**. Hostname and IP address are interchangeable. • Application: **<Normalized URI>:<Vulnerable Parameter>**. The original URI indicating the location of the vulnerability is normalized by the Vulnerability Import Job. The vulnerable parameter is isolated from the query string passed in the original URI.
Vulnerability Number of Times Reported	The number of times that a specific vulnerability is reported from various sources.
Vulnerability First Reported On	The date and time of the first report of the vulnerability, as recorded by the external source from which the vulnerability was imported.
Vulnerability Last Reported On	The date and time of the last report of the vulnerability, as recorded by the external source from which the vulnerability was imported.

Vulnerability Statuses (subclass of Vulnerability)

This class includes the names and ID of all types of vulnerability statuses.

Vulnerability Status (subclass of Vulnerability Statuses)

This class includes the names and ID for all vulnerability statuses.

Object	**Description**
Vulnerability Status ID	The unique ID of the vulnerability status.
Vulnerability Status Name	Indicates the values **Open** or **Closed**.

Vulnerability Remediation Status (subclass of Vulnerability Statuses)

This class includes the names and ID for all remediation statuses.

Object	**Description**
Vulnerability Remediation Status ID	The unique ID of the vulnerability remediation status.

Object	Description
Vulnerability Remediation Status Name	Indicates the values **New**, **Reopened**, **Assigned**, **Awaiting Remediation**, **Not an Issue**, **Awaiting Verification**, **Resolved**, or **Automatically Closed**.

Vulnerability Score Ranges (subclass of Vulnerability)

This class includes color indication for the vulnerability score ranges.

Object	Description
Medium	Scores within a medium range are displayed in yellow. Scores below the medium range are displayed in green.
High	Scores within the high range are displayed in red.

Vulnerability Dictionary

This class includes information on vulnerabilities in the vulnerability dictionary.

Object	Description
Count(Distinct Vulnerability ID)	Counts vulnerability IDs. This means that if two records have the same vulnerability ID, then they will count as one. This object only works when you query a table that has an Vulnerability ID field.
Vulnerability ID	The unique ID of the vulnerability.
Vulnerability Type	**Network**, **Application**, and **Configuration**
Vulnerability Details	A detailed description of the vulnerability.
Vulnerability Title	A short description of the vulnerability. For configuration vulnerabilities, the title and the details are identical.
Vulnerability Score	The vulnerability score is the severity level of the vulnerability expressed as a number between 0 and 10. The score of a vulnerability is calculated by Risk Insight labs. It is CVSS version 2.0 compliant. For more information, see "Common Vulnerability Scoring System" on page 68. Scores of new vulnerabilities that do not exist in the dictionary are imported from the scanner and are normalized to the Risk Insight scoring system.

CPE (subclass of Vulnerability Dictionary)

This class includes information on CPEs that are associated with the vulnerabilities in the vulnerability dictionary.

Object	Description
CPE ID	The unique ID of the CPE.
CPE Name	The name of the CPE is composed of the vendor name, the product name, and the version of the product, in the following format: vendor:product:version.

Product (subclass of CPE)

This class includes information on products that are included in the CPE definitions, for CPEs that are associated with vulnerabilities in the vulnerability dictionary.

Object	Description
Product ID	The unique ID of the product.
Product Name	The name of the product as it appears in the CPE.

Vendor (subclass of Product)

This class includes information on vendors that are included in the CPE definitions, for CPEs that are associated with vulnerabilities in the vulnerability dictionary.

Object	Description
Vendor ID	The unique ID of the vendor.
Vendor Name	The name of the vendor as it appears in the CPE.

Overall Score

This class includes overall score settings.

Overall Score Ranges (subclass of Overall Score)

This class includes color indication for the overall score ranges.

Object	Description
Medium	Scores within a medium range are displayed in yellow. Scores below the medium range are displayed in green.
High	Scores within the high range are displayed in red.

Overall Score Weights (subclass of Overall Score)

This class includes the weights for all the factors used to calculate the overall asset score. This value can be edited in **Settings > Executive View > Overall Score formula Weights**.

Object	Description
Vulnerability Weight	The weight applied to an asset's aggregate vulnerability score when calculating the asset's overall score.

Risk Factor Weights (subclass of Overall Score Weights)

This class includes the weights for all the risk factors used to calculate the overall asset score . This value can be edited in **Settings > Executive View > Overall Score formula Weights**

Object	Description
Risk Factor ID	The unique ID of the risk factor.
Risk Factor Weight	The weight applied to an asset's aggregate risk factor score when calculating the asset's overall score.

Risk Factors

General information about the risk factors and settings.

Risk Factor (Subclass of Risk Factors)

Information about an risk factor.

Object	Description
Risk Factor ID	The unique ID of the risk factor.
Risk Factor Name	The name of the risk factor as defined in Risk Insight.
Risk Factor Description	The description of the risk factor as defined in Risk Insight.
Risk Factor Date	The timestamp of the import job.
Risk Factor KPI ID	The unique ID of the KPI of the risk factor.

Risk Factor Ranges (Subclass of Risk Factors)

This class includes risk factor settings.

Object	Description
Medium	Scores within a medium range are displayed in yellow. Score below the medium range are displayed in green or red, depending on the directionality of the severity.

Object	Description
High	Scores within the high range are displayed in red or green, depending on the directionality of the severity.
Minimum	The first number in the score range.
Maximum	The last number in the score range.
Precision	The number of digits after the decimal point that you want to display. Limited to five digits.
Lower score is best	The directionality of the score severity. For example, a low score is considered low risk while a high score is considered high risk.

KPIs

This class includes properties of key performance indicators (KPIs).

Object	Description
KPI ID	The unique ID of the KPI.
KPI Name	The display name of the KPI. This name is displayed as the title in the KPI component. The KPI name is defined in the KPI Management page.
KPI Description	The description of the KPI is displayed in the KPI component. The KPI parameter can be embedded in the KPI description. The KPI name is defined in the KPI Management page.
KPI High Threshold	A KPI score percentage within the high range is displayed in red.
KPI Medium Threshold	A KPI score percentage within a medium range is displayed in yellow. A KPI score percentage below the medium range is displayed in green.
KPI Lower is Better	The directionality of the score severity. For example, a low score is considered low risk while a high score is considered high risk.
KPI Parameter	The KPI Parameter is a threshold that indicates a desirable or an undesirable result. For example, in a KPI that displays the percentage of assets with an overall score higher than 20, then “20” is the KPI Parameter. In this case, scores that are higher than 20 are not desirable.

Generic Prompts

This class can be used to easily create a query filter without inputting the prompt value.

Object	Description
@KPIPrompt	Can be used to create a query filter without the need to input the value "kpiId".
@AssetPrompt	Can be used to create a query filter without the need to input the value "assetId".
@RiskFactorPrompt	Can be used to create a query filter without the need to input the value "riskFactorId".

Generic Objects

This class includes miscellaneous classes and objects.

Object	Description
Snapshot Age (Days)	The age of the snapshot in days (as opposed to the snapshot time, which holds the date of the snapshot).
Current Time	The date that the report is generated.

Aggregate Functions (subclass of Generic Objects)

This class includes objects that are used to count entities (such as assets). Using these objects for counting entities helps reduce performance problems. These objects can be used only within a query. For example, you can create a query that counts all the assets with asset type IP, but you cannot use these objects to count all the assets in the system.

Object	Description
Count(*)	Counts records in a table.
Count(Distinct Asset ID)	Counts asset IDs. This means that if two records have the same asset ID, then they will count as one. This object only works when you query a table that has an Asset ID field.

Score Severity (subclass of Generic Objects)

This class includes the values for score severity.

Object	Description
Score Severity	Displays one of the following values: Low, Medium, or High.

Scores Rank (subclass of Generic Objects)

The objects in this class are used to rank asset scores using a weighted average in order to display "top

#" assets in reports. The rank itself is not displayed in the report.

Object	Description
Aggregated Asset Vulnerability Score Rank	Used for ranking aggregate vulnerability scores.
Overall Asset Score Rank	Used for ranking the overall asset score.
Asset Vulnerability Score Rank	Used for ranking the direct asset vulnerability scores.
Vulnerability Score Rank	Used for ranking the vulnerability scores.
Aggregated Risk Factor Score Rank	Used for ranking the aggregate risk factor scores.

Universe Query Contexts

The Risk Insight Universe includes predefined contexts.The following table includes a description for all Risk Insight query contexts. For detailed information on ambiguous queries and query contexts, see the *Query Contexts* section in the *Building Reports with BusinessObjects Web Intelligence User Guide*.

Context Name	Description
Asset Scores Context	Defines the group of objects with which you can create a report that includes the various aggregate scores on an asset
Asset Profiling Context	Defines the group of objects with which you can create a report that includes information on the business model, such as a printout of the asset hierarchy.
Vulnerability Context	Defines the group of objects with which you can create a report that includes information on vulnerabilities on the asset level. For example, the dashboard reports in the vulnerability dashboard utilize the Vulnerability Context.
Vulnerability Aggregation Context	Defines the group of objects with which you can create a report that includes information on vulnerabilities on the asset in addition to its aggregate scores.
Asset Risk Factor Score Context	Defines the group of objects with which you can create a report on the risk factor scores of an asset.
Aggregated Asset Risk Factor Score Context	Defines the group of objects with which you can create a report on the aggregate risk factor scores of an asset.
Asset Risk Factor Score Archive Context	Defines the group of objects with which you can create a report on the archived risk factor scores of an asset.

Context Name	Description
Aggregated Asset Risk Factor Score Archive Context	Defines the group of objects with which you can create a report on the archived aggregate risk factor scores of an asset.

Chapter 6: Vulnerability Management

In Risk Insight, a vulnerability is a flaw or a weakness in a software application or a system configuration issue that can be exploited by an attacker and used to gain access to a system or a network or impact the confidentiality, integrity, and availability of a system or a network. For example, a user account that does not have a password, or an input validation error, such as SQL injection.

Risk Insight supports three types of vulnerabilities:

- Network
- Application
- Configuration

For more information on each type, see "Vulnerability Types" on page 68.

The Vulnerabilities module enables you to manage the life cycle of vulnerabilities in your organization including collection, aggregation, prioritization, and remediation. For more information on the vulnerability life cycle, see "About the Vulnerability Life Cycle" on page 66. You can manage the vulnerability's life cycle by applying statuses aiding you in managing remediation, as described in "Manage the Vulnerability Life Cycle" on page 69.

The Vulnerabilities module enables you to view vulnerabilities that affect an asset and its children in a summarized view or a detailed view. Both views offer filtering capabilities so that, for example, vulnerabilities can be viewed within a specific score range or a specific location.

Risk Insight assigns vulnerabilities to specific assets in your business model, but you can also attach or remove vulnerabilities to assets manually, as described in "Attach a Vulnerability to an Asset" on page 70. Asset vulnerability scores are derived from vulnerability scores (see "Common Vulnerability Scoring System" on page 68) and the asset's criticality level (see "Criticality Level" on page 20) and are trickled up and aggregated to top-level assets, providing business context to the state of your organization's security.

Risk Insight imports vulnerability information from output generated by the following vulnerability assessment tools:

- Tenable Nessus Vulnerability Scanner
- McAfee Vulnerability Manager (Foundscan)
- Qualys Guard
- Rapid7 Nexpose
- HP WebInspect

The vulnerability information is imported into Risk Insight using ArcSight SmartConnectors. For information on deploying ArcSight SmartConnectors, see the *Import Vulnerabilities From Vulnerability Assessment Tools* section in the *ArcSight Risk Insight Deployment Guide*.

Risk Insight is CVE (Common Vulnerabilities and Exposures) and CCE (Common Configuration Enumeration) compliant, aligned with most established dictionary of common names for publicly known information security vulnerabilities. However, Risk Insight also supports management of vulnerabilities from sources that do not have a CVE or a CCE classification.

The same vulnerability can be reported numerous times and by numerous vulnerability assessment tools. Risk Insight aggregates these reports into a single vulnerability, in order to eliminate duplication of data, allowing you to manage the vulnerability only once.

About the Vulnerability Life Cycle

In Risk Insight, the vulnerability life cycle is managed by using the vulnerability's status (see "Status" on page 75) and the vulnerability's remediation status (see "Remediation Status" on page 74). For more information about managing the vulnerability life cycle, see "Manage the Vulnerability Life Cycle" on page 69. Vulnerability remediation has both manual and automatic aspects. For more information on the automatic aspects, see the *About the Vulnerability Import Job* section in the *Risk Insight Deployment Guide*.

The following example outlines how to manage the vulnerability life cycle:

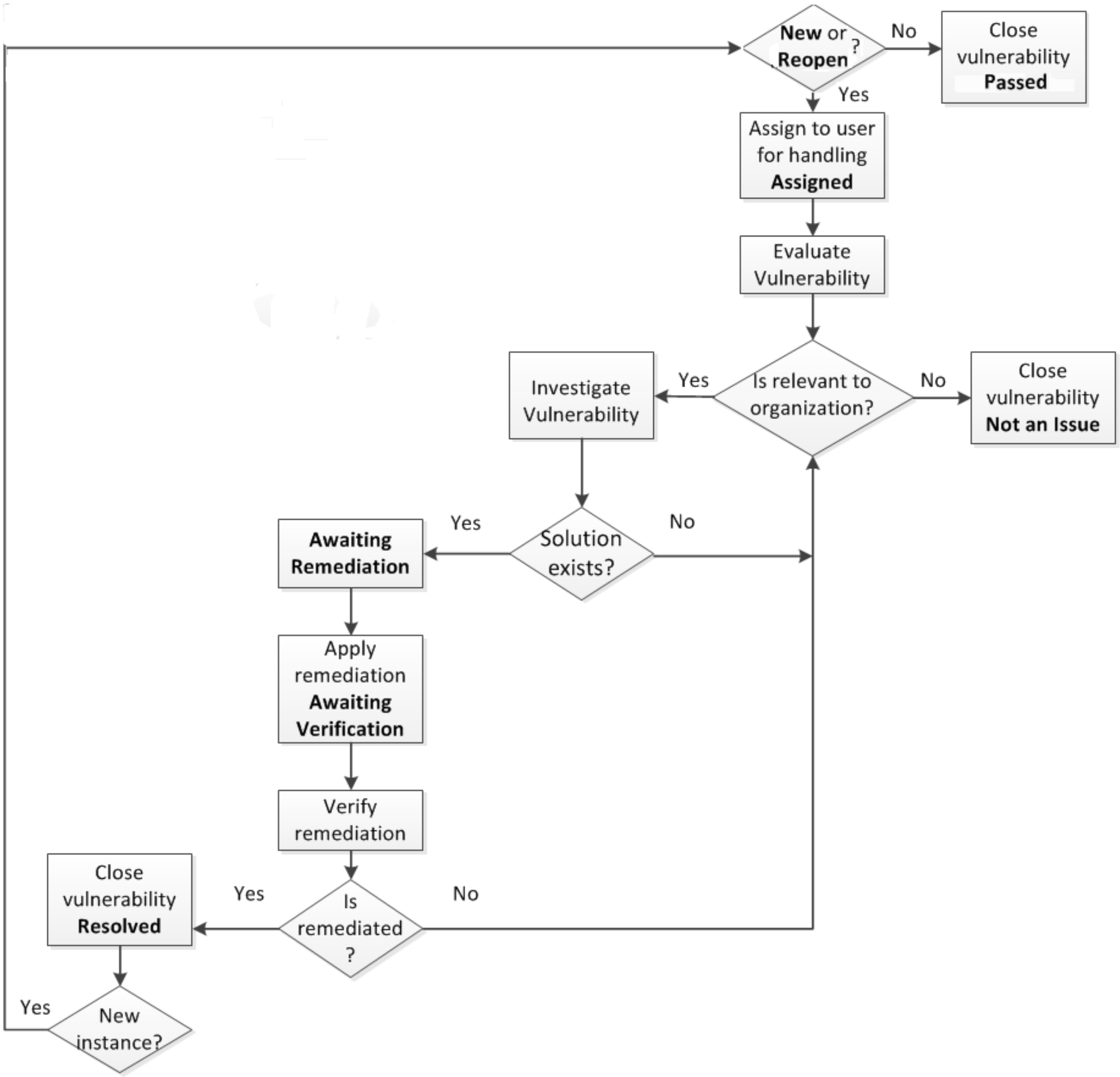
1. When a vulnerability occurrence is first imported into Risk Insight, it can have one of the following status combinations:
   - A **New** remediation status and an **Open** status. Remediation status **Reopened** is handled the same as remediation status **New**.
   - A **Passed** remediation status and a **Closed** status, relevant only for configuration vulnerabilities. Does not require further handling.
2. A user with an appropriate role assigns **New** and **Reopened** vulnerabilities to users for handling.

   Note: Users can use the **Notes** parameter to communicate information to one another or for any other comments that the user wants to document.

3. The user to whom the vulnerability is assigned must first determine whether the vulnerability is an actual problem.
   - If the vulnerability is not found to be significant, then the user can close it, and change its remediation status to **Not an Issue**. Cases in which vulnerabilities are identified as non-issues include vulnerabilities that have very low scores, when the organization uses security tools that provide virtual patching to solve security issues in the network, and any other case in which insignificant reports unnecessarily overload the system.
   - If the vulnerability is found to be significant, then the user investigates methods for solving the problem. The user can use the Solution parameter (see "Solution" on page 78 to help solve the problem. When the solution is found, the user changes the remediation status to **Awaiting Remediation**.
4. After the vulnerability is fixed, the user changes the vulnerability's remediation status to **Awaiting Verification**.
5. The user verifies that the vulnerability is fixed by rescanning the network.
6. If the vulnerability is not reported, then the user changes the vulnerability status to **Closed** and the remediation status to **Resolved**.

7. If a new vulnerability instance is reported for a closed and resolved vulnerability, then the vulnerability status is changed to **Open** and the remediation status is changed to **Reopened**, automatically.

The following flowchart depicts the process described above.


New or Reopen?
No
Close vulnerability Passed
Yes
Assign to user for handling Assigned
Evaluate Vulnerability
Is relevant to organization?
Yes
No
Investigate Vulnerability
Close vulnerability Not an Issue
Solution exists?
Yes
No
Awaiting Remediation
Apply remediation Awaiting Verification
Verify remediation
Is remediated?
Yes
No
Close vulnerability Resolved
New instance?
Yes

Vulnerability Types

Risk Insight distinguishes between three vulnerability types:

- Web Application (referred to as "Application" in the user interface)
- Network
- Configuration

Web Application

Web application vulnerabilities are vulnerabilities that are found by Web application vulnerability scanners. A Web application vulnerability scanner communicates with a Web application (a 3rd party application or a custom application) through the application's URL in order to identify vulnerabilities in the application and its architecture. The scanner searched for security flaws based on a database of known flaws. Examples of Web application vulnerabilities include: cross-site scripting, SQL injection, and remote file inclusion.

Network

Network vulnerabilities are vulnerabilities that are found by network vulnerability scanners. A network vulnerability scanner scans all the network elements (such as operating system, ports, services, and firewalls) and runs tests applicable to each host. An example of a network vulnerability is include: TCP/IP stack buffer overflow.

Configuration

Configuration vulnerabilities are actually misconfigurations in network elements, such as servers, applications, and firewalls. Configuration checks are defined in a configuration file provided in OVAL (Open Vulnerability and Assessment Language) format and are entered into the scanner. Examples of configuration checks include: port numbers that are higher than 2000 must be closed to communication, and all users defined in an Active Directory must have a password with over X characters and must include special characters. The scanner provides information for both correct configurations and misconfigurations, as opposed to Web application and network vulnerabilities, which only report weaknesses. Most vulnerability properties are shared between the different types, but there are also some differences. For more information on the various vulnerability properties. See "Vulnerability Properties" on page 72".

Common Vulnerability Scoring System

The Common Vulnerability Scoring System (CVSS) is an industry standard vulnerability scoring system for assessing the severity IT vulnerabilities. It is widely adopted by commercial and open-source products, such as McAfee, National Vulnerability Database, Qualys, and Tenable network Security.

Risk Insight uses CVSS v2 as the scoring system for the network and application vulnerabilities defined in the vulnerability dictionary. For more information on the vulnerability dictionary, see "Vulnerability Dictionary" on page 88.

The score defined in the vulnerability dictionary is based on the following metrics:

- Base: Represent the intrinsic qualities of a vulnerability.
- Temporal: Represent the characteristics of a vulnerability that change over time but are not related to your organization's environment.

Because temporal metrics are dynamic by nature, the vulnerability score is regularly updated by Risk Insight labs. Every time you update the vulnerability dictionary in Risk Insight, you receive the most updated vulnerability scores. In addition to the vulnerability score, Risk Insight displays the scoring vector, providing you a breakdown of the score calculation. For more information on the vulnerability score, see "Vulnerability Properties" on page 72.

After a vulnerability is attached to an asset, the vulnerability score on that asset is recalculated to include environmental metrics. Therefore, the vulnerability score defined in the vulnerability dictionary will usually be different than the vulnerability score on a specific asset.

Manage the Vulnerability Life Cycle

You can change vulnerability statuses, as described in the following procedure. For information on the vulnerability life cycle, see "About the Vulnerability Life Cycle" on page 66.

To manage the vulnerability life cycle

1. Click **Vulnerabilities > Management**.
2. From the grid, select the relevant vulnerability, and then click the **Details View** ▤ button.
3. In the **Status Management**, perform the following steps, and then click **Save**:
   a. If required, change the **Status** field.
   b. From the **Remediation Status** list, select the relevant status.
   c. If required, use the **Notes** parameter to communicate information with other users or for any other comments that you want to document.

Attach a Vulnerability to an Asset

During the Vulnerability Import Job, vulnerabilities are mapped and attached to assets. For more information, see the *About the Vulnerability Import Job* section in the *ArcSight Risk Insight Deployment Guide*. In some cases, vulnerabilities cannot be mapped to assets, which results in unattached vulnerabilities. You can manually attach vulnerabilities to assets through the Vulnerability Assignment window. You can also detach vulnerabilities from one asset and reattach them to a another asset.

> **Note:** In order to put vulnerabilities in a business context, it is important to attach all vulnerabilities to assets. The more vulnerabilities are attached to assets the more accurate the overall asset risk score will be.

To attach a vulnerability to an asset

1. Click **Vulnerabilities > Assignment**.
2. On the **Vulnerability Assignment** window, in the **Assets** pane, select the asset to which you want to attach a vulnerability/vulnerabilities using either of the following methods:
   - In the **Organization** tab, expand the organization tree.
   - In the **Search** tab, enter the asset name or a partial name.

   The **Unattached Vulnerabilities** pane displays all the vulnerabilities that have been imported into Risk Insight that are not currently attached to an asset.
3. If necessary, you can filter the vulnerabilities according to the vulnerability score or status, or by clicking **More Filters**. For more information on the vulnerability properties in the **Filter Vulnerabilities** dialog box, see "Summary View Grid" on page 72.
4. From the **Unattached Vulnerabilities**, select the vulnerability that you want to attach to the asset, and then click < Attach. You can also select multiple vulnerabilities by pressing CTRL and selecting the vulnerabilities from the list.

   The vulnerability/vulnerabilities are displayed in the **Attached Vulnerabilities** pane.

To detach a vulnerability from an asset

1. Click **Vulnerabilities > Assignment**.
2. On the **Vulnerability Assignment** window, in the **Assets** pane, select the asset from which you want to detach the vulnerabilities.
3. From the **Attached Vulnerabilities** pane, select the vulnerability or vulnerabilities that you want

to detach from the asset, and then click Detach >.

The vulnerability/vulnerabilities are displayed in the **Unattached Vulnerabilities** pane.

Configure Asset Vulnerability Score Aggregation Parameters

You can configure the asset vulnerability score aggregation parameters to better suit your business needs and your organization's structure. For more information on these parameters, see "Asset Vulnerability Score Aggregation Mechanism" on page 79.

To configure asset vulnerability score aggregation parameters

1. On the Risk Insight toolbar, click the **Settings** ⚙ button.
2. In the **Settings** dialog box, click **Vulnerabilities > Asset Vulnerability Score Aggregation**.
3. In the **Asset Vulnerability Score Aggregation** page, enter the following information:
   - **Maximum Children in Calculation**. Lower the impact of the children severity on the score.
   - **Children Multiplier**. Lower the impact of the children on the score.

   > **Note:** This change recalculates scores for the entire business model, therefore it might take some time until the updated scores are apparent.

4. Click **Save**.

Configure Vulnerability Score Ranges

You can configure the ranges for the score severity indication for vulnerability scores.

Vulnerability scores are displayed with one of the following icons:

✓ Low score

! Medium score

✗ High score

This configuration is reflected throughout the application, wherever these scores are displayed. For example, on the Vulnerability Management page, in the Score column in the grid.

To configure vulnerability score ranges

1. On the Risk Insight toolbar, click the **Settings** ⚙ button.
2. In the **Settings** dialog box, click **Vulnerabilities > Vulnerability Ranges**.
3. Under **Vulnerability Score Ranges**, drag the slider to define the score ranges.
4. Click **Save**.

Vulnerability Properties

The following tables describe all the vulnerability properties according to where they are displayed in the Vulnerabilities module.

Some properties are relevant only to specific vulnerability types.

Summary View Grid

The Summary View is available from the Vulnerability Management window.

Each record in the summary view grid is an occurrence of a vulnerability in a specific location.

Property	Description
ID	A common classification ID. This ID can be defined in the vulnerability dictionary or not. It can be a CVE, CCE, or identification provided by the scanner. CVE IDs are linkable to the NVD website.
Type	See "Vulnerability Types" on page 68.

Property	Description
Score	The vulnerability score is the severity level of the vulnerability expressed as a number between 0 and 10. It is calculated by Risk Insight labs. The scoring system varies between the different vulnerability types: • **Network and Web application vulnerabilities** The score is CVSS version 2.0 compliant. For more information, see "Common Vulnerability Scoring System" on page 68. Scores of new vulnerabilities that do not exist in the dictionary are imported from the scanner and are normalized to the Risk Insight scoring system. • **Configuration vulnerabilities** The score is determined according to the vulnerability status and the check results from the scanner. For more information, see Configuration Vulnerabilities Scoring Method.
Location	The location displayed depends on the type of the vulnerability. Each type has the following location formats: • Network and configuration: **<Hostname>:<Network Port>**. Hostname and IP address are interchangeable. • Application: **<Normalized URI>:<Vulnerable Parameter>**. The original URI indicating the location of the vulnerability is normalized by the Vulnerability Import Job. The vulnerable parameter is isolated from the query string passed in the original URI.

Property	Description
Remediation Status	The remediation status depends on the vulnerability status, meaning that a vulnerability with status Open has different remediation status options than a vulnerability with status Closed. Some statuses can be applied manually and some are applied automatically by Risk Insight. The following options are available: • **New**: The default remediation status for open vulnerabilities. • **Passed**: Applicable to only for configuration vulnerabilities. The remediation status for vulnerabilities that have passed the configuration check. This remediation status is given automatically by the system, according to the check status reported by the scanner. For more information, see Last Scan Status. Because the configuration is correct, the vulnerability status is Closed. • **Reopened**: A closed vulnerability can be automatically reopened by Risk Insight if a new instance of the same vulnerability occurrence is found. • **Assigned**: An open vulnerability is assigned to a system user. • **Awaiting Remediation**: Remediation for an open vulnerability was found, but has not been applied. • **Not an Issue**: A closed vulnerability that was identified as irrelevant to the organization, due to its severity, to the probability of an attack using this vulnerability or for any other reason defined by the organization. A vulnerability with this status will not be reopened. • **Awaiting Verification**: Remediation was applied to a vulnerability, but was not verified. • **Resolved**: The vulnerability was fixed. • **Automatically Closed**: Applicable only for network and application vulnerabilities. This status is assigned automatically when a vulnerability has been open for more than N days and none of its properties have been changed (based on the Last Updated On property). The number of days is configurable in the Configuration module. For more information, see the *Schedule and Activate Vulnerabilities Import Job* section in the *ArcSight Risk Insight Deployment Guide*.

Property	Description
Status	The following options are available: - **Open**: The default status of all vulnerabilities that are imported into Risk Insight. As long as the vulnerability exists, its status is open. A vulnerability can be reopened automatically by Risk Insight if a new instance of the same vulnerability occurrence is found. - **Closed**: You can manually change the status to Closed. Open vulnerabilities are automatically closed by Risk Insight if they have been open for more than N days. The number of days is configurable in the Configuration module.For more information, see the *Schedule and Activate Vulnerabilities Import Job* section in the *ArcSight Risk Insight Deployment Guide*. Closed vulnerabilities do not affect the vulnerability scores of assets in the business model.
Attached to Asset	The asset name in the Risk Insight business model to which the vulnerability is attached. Vulnerabilities can be attached automatically to IP assets according to their host, IP address or MAC address. Vulnerabilities can also be attached manually to assets. If a vulnerability is not attached to an asset, then this field is empty. For more information, see "Attach a Vulnerability to an Asset" on page 70.
Times Reported	The number of instances of a vulnerability occurrence. Imported vulnerabilities can be reported more than once, either by different vulnerability assessment tools or due to multiple scans from the same tool.
First Reported On	The date that the vulnerability occurrence was first reported, as recorded by the external source from which the vulnerability was imported. Format: Mon Day, Year Example: Jan 16, 1970
Last Reported On	The date that the vulnerability occurrence was last reported, as recorded by the external source from which the vulnerability was imported.
Title	A short description of the vulnerability.

Details View

The Details View is available from the Vulnerability Management window. The Details View displays information on a single vulnerability occurrence.

Category	Property	Description
General	**ID**	See "ID" on page 72
	Type	See "Vulnerability Types" on page 68.
	Score	See "Score" on page 73.
	Related CVEs	Not relevant for configuration vulnerabilities. The CVE identifiers of related vulnerabilities. Defined by Risk Insight labs. CVE IDs are linkable to the NVD website.
	References	The identifiers defined by various sources for vulnerabilities that are similar or related to the vulnerability defined in the Risk Insight vulnerability dictionary. CVE IDs are linkable to the NVD website.
	Groups	Vulnerabilities are grouped according to different vulnerability categories. EnterpriseView adopted the Common Weakness Enumeration (CWE) system for identifying most vulnerability groups. Other vulnerability groups are internal and can be identified by an "EVG" prefix. CWE IDs are linkable to the NVD website.
	Details	A detailed description of the vulnerability.
	Location	See "Location" on page 73.
	Attached to Asset	See "Attached to Asset" on the previous page
	Times Reported	See "Times Reported" on the previous page.
	First Reported On	See "First Reported On" on the previous page
	Last Updated On	The last time that one of the properties of the vulnerability occurrence was changed. This property is not updated if a vulnerability is attached or detached from an asset or if a new note has been added.

Category	Property	Description
	Last Scan Status	Relevant only for configuration vulnerabilities. Typically, scanners provide a status for configuration vulnerability checks. Common values include: Pass, Fixed, Error, Unknown, Not Applicable, Not Checked, not Selected, and Warning. If a scanner provides such a status, then it is displayed as this property. If the last scan status is Passed or Fixed, then the remediation status is Passed. For more information, see "Remediation Status" on page 74.
	Host	The host where the vulnerability was found.
	Port	Relevant only for network vulnerabilities. The port where the vulnerability was found.
	Vulnerable Parameter	Relevant only for application vulnerabilities. The parameter from the URI that is used to exploit the vulnerability. For example, User ID can be the vulnerable parameter in case of an SQL injection vulnerability.
	Platform	Relevant only for configuration vulnerabilities. The application or operating system where the vulnerability was found.
	Associated Technical Mechanism	Relevant only for configuration vulnerabilities. The method by which the configuration is implemented.
	Conceptual Parameters	Relevant only for configuration vulnerabilities. A list of valid values of the field or property that needs to be configured.
Note: the following properties are relevant only for network and application vulnerabilities; they are not relevant for configuration vulnerabilities.		

Category	Property	Description
CVSS	**Base Score**	Represents the intrinsic qualities of a vulnerability. This score is static. For more information on CVSS, see "Common Vulnerability Scoring System" on page 68.
	Temporal Score	Represent the characteristics of a vulnerability that change over time but are not related to the organization's environment. This score is updated when the vulnerability dictionary content is updated, as described in the *About the Dictionary Information Import Job* section in the *ArcSight Risk Insight Administration Guide*. For more information on CVSS, see "Common Vulnerability Scoring System" on page 68.
	Vector	The components from which the score was calculated and their values. Both base and temporal metrics. Click the **Show** link to see how the score was derived.
Remediation	**Solution**	A recommended solution for fixing the vulnerability, as provided from the vulnerability assessment tool.

Instances

The Instances tab is available from the Details View page.

The Instances tab includes all the instances reported for a single vulnerability occurrence. The data displayed is provided by the connectors.

Property	Description
Reported On	The date and time that the vulnerability instance was reported by the connector.
Source Rule ID	The identifier of the rule that corresponds to the vulnerability defined in the vulnerability assessment tool.
CVEs	A list of CVEs that correspond to the scanner rule, as provided by the connector.
Scanner	The name of the vulnerability assessment tool.
Scanner Type	Network or Application.
Scanner Version	The version of the vulnerability assessment tool.

Property	Description
Origin	Information on the instance origin. A concatenation of the following parameters separated by a dash: • Source name: Nessus, Qualys, McAfee, or WebInspect. • The output of the scanner, either file name or URL • CSV file name (connector output) • The line number where the vulnerability was reported in the CSV file Example, Nessus-/home/Credit Card Vulns/Visa/nessus_report_WebTrends.nessus- 2011-09-06-17-42-19.done.csv-555
IP	Relevant for network and configuration vulnerabilities. IP address where the vulnerability was found.
MAC	Relevant for network and configuration vulnerabilities. MAC address where the vulnerability was found.

Asset Vulnerability Score Aggregation Mechanism

The aggregate asset vulnerability score is calculated as the higher score out of the following:

- The direct asset vulnerability score, which is the highest score out of all the vulnerability scores of open vulnerabilities that are associated with the asset.
- $$\mathbf{m} * \frac{\sum(\mathit{AggregatedAsset\,Vulnerability\,Score} * \mathit{Criticality\,Level})\ \mathit{of\ top}\,\mathbf{n}\,\mathit{Children}}{\sum(\mathit{Criticality\,Level})}$$
    - **m=Children Multiplier**: This variable is a number between 0 and 1 (inclusive) that is typically used to decrease the impact of the children on the aggregate asset vulnerability score; the lower the number, the smaller the effect. Consider the structure of your business model when configuring this variable. For example, if you have a flat organizational structure, then the children will have a bigger impact then if you have a structure with many levels of hierarchy.
    - **n=Maximum Children in Calculation**: Sorted primarily by aggregate asset vulnerability score and secondarily by criticality level. This variable is used to decrease the impact of the children severity on the aggregate asset vulnerability score; the higher the number, the smaller the impact. Consider the structure of your business model when configuring this variable. For example, if assets in your business model have a maximum of five children each, then it would be meaningless if this variable is configured to six.

For more information on configuring these variables, see the *Configure Vulnerability Score Aggregation Parameters* section in the *ArcSight Risk Insight Deployment Guide*.

Vulnerability Error Handling

Vulnerability assessment tools generate reports in a variety of formats, such as an XML file or into a database. The information is converted to CSV format using connectors. The Vulnerability Import Job retrieves the CSV files, processes the information and writes it to the Risk Insight database. For more information on the Vulnerability Import Job, see the *About the Vulnerability Import Job* section in the *ArcSight Risk Insight Deployment Guide*.

The connectors write the CSV file to the **<Risk Insight Installation folder>\vm\import\pending\<connector ID>** folder. The Vulnerability Import Job processes the files and does the following:

- Successfully processed files are moved to the **<Risk Insight Installation folder>\vm\import\done\<connector ID>** folder. When vulnerabilities are not defined in the vulnerability dictionary, their records might contain data that was not fully imported into Risk Insight due to format constraints. In these cases, the data is truncated, and only partial information is displayed.

  > For example,the **Description** field in Risk Insight can be a maximum of 4000 characters, but the field in the file holds a value of 5000 characters. In this case, only the first 4000 characters are imported and displayed.

  If a record is modified then a notification, indicated by "INFO", is entered into the redcat-vulnerability-admin.log file that is located in the <**Risk Insight Installation folder>\logs** folder.

- Files containing erroneous records are moved to the **<Risk Insight Installation folder>\vm\import\errors\<connector ID>** folder. If an erroneous record exists, then the record is skipped and an error message is entered into the redcat-vulnerability-admin.log file that is located in the <**Risk Insight Installation folder>\logs** folder.

In either case, vulnerability information is displayed in the Vulnerability Management window. The **Last Imported On** field on the toolbar of the Vulnerability Management window displays the date and time of the most recent import update. If there are any ERROR or INFO messages in the redcat-vulnerability-admin.log file, an icon informing the user of errors or notifications is displayed right next to the **Last Imported On** field.

The redcat-vulnerability-admin.log file is updated with each import. The maximum size of this file is 4MB. When the maximum size is reached, a backup copy of the file is created with the following suffix:

redcat-vulnerability-admin.log **.1**

Whenever a new backup file is created, the suffix is incremented by 1. Up to 19 backup files can be created. After the maximum number of files is reached, the oldest file is deleted.

Because the log file generally includes multiple imports, you can use the Job Execution ID to locate the latest job. Check the Job Management module for the last job executed. For more information, see the *Troubleshoot Batch Jobs* section in the *ArcSight Risk Insight Administration Guide*.

File Format

Following is the format of a log file record:

<timestamp> ERROR/INFO "The file <file name> for job execution ID <ID> has the following issues in line number <line number>

<error/info message1>

<error/info message2>"

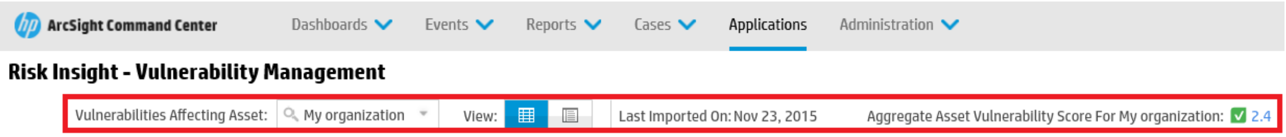
Example:

```
2012-01-31 18:07:43,801 ERROR The file '6_error-handling.done.csv' for job
execution ID '36' has the following issues in line number 3

The values in the following fields exceed the maximum length:

Description (event.flexString1),  maximum length: 4000

These fields were truncated to the maximum length.

The following fields are mandatory and are missing from the record:

Host (event.destinationHostName)

This record was skipped.
```

Vulnerability Management Window

The Vulnerability Management window enables you to filter the vulnerabilities found in your organization's network using various criteria, creating views that help you manage the vulnerability life cycle. The different areas and the functionalites available in each area are described in the following sections. For information on the Risk Insight toolbar, see *"Toolbar Description"* in "Navigating the User Interface" on page 6.

Toolbar



Risk Insight - Vulnerability Management

Vulnerabilities Affecting Asset: My organization

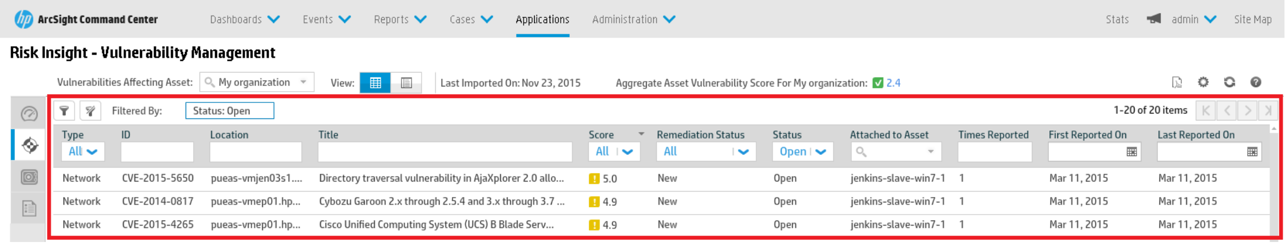
Last Imported On: Nov 23, 2015

Aggregate Asset Vulnerability Score For My organization: ✓ 2.4

UI Element	Description
Vulnerabilities Affecting Asset	Filter the vulnerabilities in the grid using one of the following options: • **All Vulnerabilities**: View all vulnerabilities, both attached to assets and unattached assets. • **Unattached Vulnerabilities**: Select this option to view vulnerabilities that are not attached to an asset. • **My Organization**: Expand the business model and select an asset. View all vulnerabilities that affect this asset; meaning all vulnerabilities that are directly attached to this asset or that are attached to any of its children.
▦	**Summary View** This is the default view. For more information, see "Summary View" on the next page. Filters are retained when passing from one view to another.
▤	**Details View** To open this view, select a vulnerability from the grid, and then select this view. For more information, see "Details View" on page 84. Filters are retained when passing from one view to another.
Reports	**Generate Report** Click this button to generate a report. Select a report from the list of reports. If you are prompted, select to always allow pop-ups from the Risk Insight server. You can save the report as a PDF. You can generate a report for an asset or for an asset and its children.

UI Element	Description
Last Imported On	Displays the date of the most recent import update. If any ERROR or INFO messages are in the redcat-vulnerability-admin.log file, one of the following icons is displayed: ✖ Errors. Hovering over this icon displays the following message: "Last update completed with errors." ⓘ Notifications (INFO). Hovering over this icon displays the following message: "Last update completed with notifications." For more information or error handling, see "Vulnerability Error Handling" on page 80.
Aggregate Asset Vulnerability Score For <asset>	You can click the score to open the Vulnerability Dashboard page and view more information about the vulnerabilities attached to the asset. For more information on how this score is calculated, see "Asset Vulnerability Score Aggregation Mechanism" on page 79.
	Filter Vulnerabilities Click this button to open the **Filter Vulnerabilities** dialog box. You can filter the vulnerabilities in the grid according to the vulnerability properties that are displayed in the grid, described in "Summary View Grid" on page 72. To remove a filter, you can either open the **Filter Vulnerabilities** dialog box and change the filter, or you can close the filter indicators that display on the toolbar.
	Clear Filter Click this button to clear all the filters that you set.

Summary View



Risk Insight - Vulnerability Management

Vulnerabilities Affecting Asset: My organization

View:

Last Imported On: Nov 23, 2015

Aggregate Asset Vulnerability Score For My organization: ✓ 2.4

Filtered By: Status: Open

1-20 of 20 items

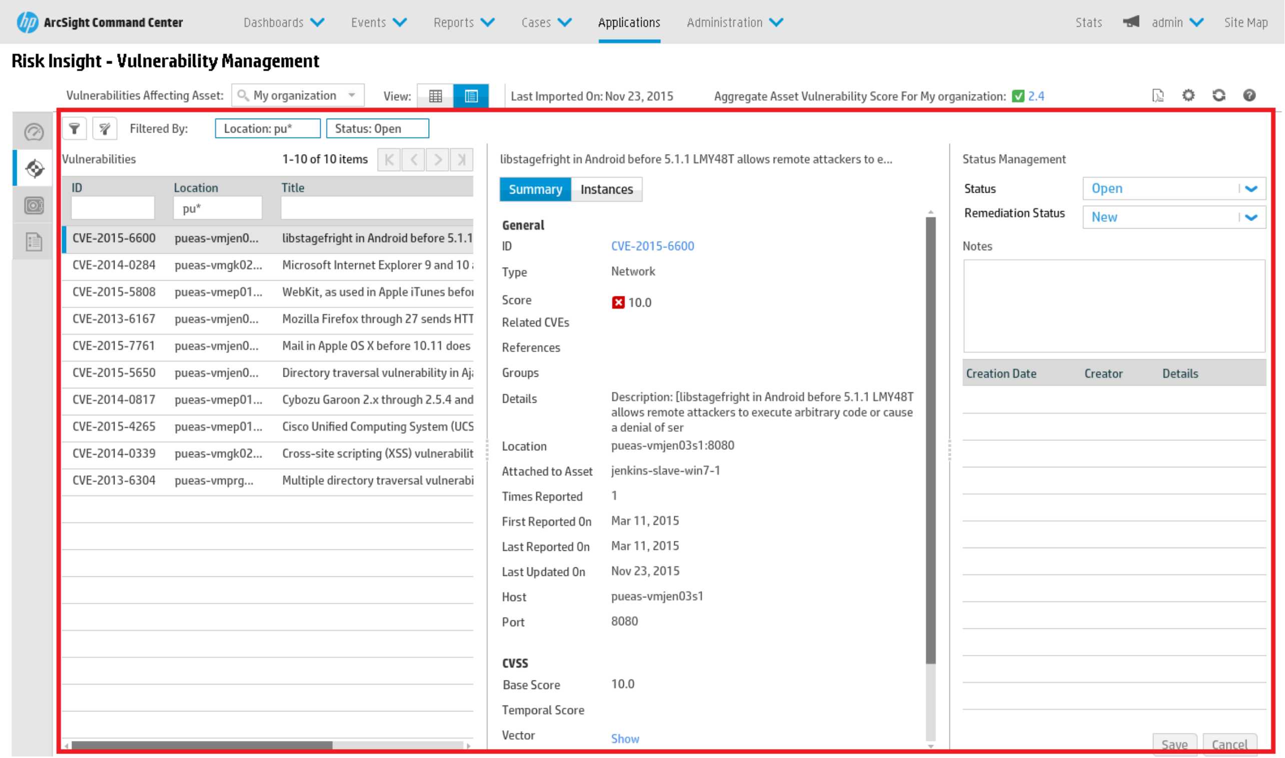
Type	ID	Location	Title	Score	Remediation Status	Status	Attached to Asset	Times Reported	First Reported On	Last Reported On
All				All	All	Open				
Network	CVE-2015-5650	pueas-vmjen03s1....	Directory traversal vulnerability in AjaXplorer 2.0 allo...	! 5.0	New	Open	jenkins-slave-win7-1	1	Mar 11, 2015	Mar 11, 2015
Network	CVE-2014-0817	pueas-vmep01.hp...	Cybozu Garoon 2.x through 2.5.4 and 3.x through 3.7 ...	! 4.9	New	Open	jenkins-slave-win7-1	1	Mar 11, 2015	Mar 11, 2015
Network	CVE-2015-4265	pueas-vmep01.hp...	Cisco Unified Computing System (UCS) B Blade Serv...	! 4.9	New	Open	jenkins-slave-win7-1	1	Mar 11, 2015	Mar 11, 2015

Each record in the summary view grid is an occurrence of a vulnerability in a specific location.

You can filter vulnerabilities using the grid column headers. If the filter string that you enter exceeds 200 characters, only the first 200 characters are used.

The Summary View includes the vulnerability properties describes in "Summary View Grid" on page 72.

Details View



Risk Insight - Vulnerability Management

Vulnerabilities Affecting Asset: My organization

View:

Last Imported On: Nov 23, 2015

Aggregate Asset Vulnerability Score For My organization: ✓ 2.4

Filtered By: Location: pu* Status: Open

Vulnerabilities 1-10 of 10 items

ID	Location	Title
	pu*	
CVE-2015-6600	pueas-vmjen0...	libstagefright in Android before 5.1.1
CVE-2014-0284	pueas-vmgk02...	Microsoft Internet Explorer 9 and 10
CVE-2015-5808	pueas-vmep01...	WebKit, as used in Apple iTunes befo
CVE-2013-6167	pueas-vmjen0...	Mozilla Firefox through 27 sends HTT
CVE-2015-7761	pueas-vmjen0...	Mail in Apple OS X before 10.11 does
CVE-2015-5650	pueas-vmjen0...	Directory traversal vulnerability in Aj
CVE-2014-0817	pueas-vmep01...	Cybozu Garoon 2.x through 2.5.4 and
CVE-2015-4265	pueas-vmep01...	Cisco Unified Computing System (UCS
CVE-2014-0339	pueas-vmgk02...	Cross-site scripting (XSS) vulnerabilit
CVE-2013-6304	pueas-vmprg...	Multiple directory traversal vulnerabi

libstagefright in Android before 5.1.1 LMY48T allows remote attackers to e...

General

ID	CVE-2015-6600
Type	Network
Score	☒ 10.0
Related CVEs	
References	
Groups	
Details	Description: [libstagefright in Android before 5.1.1 LMY48T allows remote attackers to execute arbitrary code or cause a denial of ser
Location	pueas-vmjen03s1:8080
Attached to Asset	jenkins-slave-win7-1
Times Reported	1
First Reported On	Mar 11, 2015
Last Reported On	Mar 11, 2015
Last Updated On	Nov 23, 2015
Host	pueas-vmjen03s1
Port	8080

CVSS

Base Score	10.0
Temporal Score	
Vector	Show

Status Management

Status: Open

Remediation Status: New

Notes

Creation Date	Creator	Details

The Details View includes the following areas:

Left Pane

This area displays a minimized version of the vulnerabilities grid that is displayed in the Summary View. It includes the vulnerability ID, Location and Title. Clicking on a vulnerability in this grid displays its details in the other panes,allowing you to navigate through the vulnerabilities without changing the view. Vulnerabilities can be filtered using the grid column headers.

Details (middle pane)

This area displays the vulnerability properties described in "Details View" on page 75.

Instances (tab)

This tab displays the vulnerability properties described in "Instances " on page 78.

Status Management

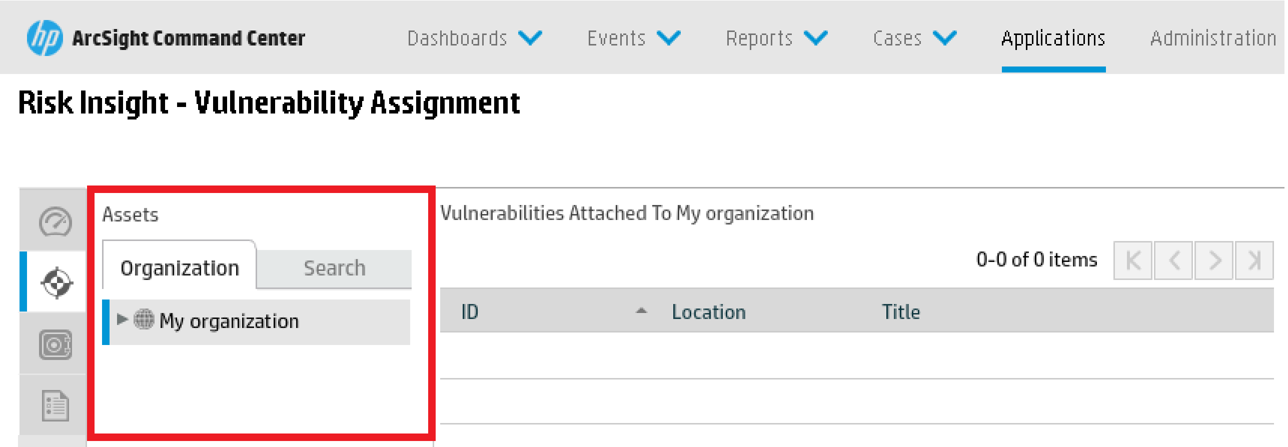
UI Element	Description
Status	Assign a status to the vulnerability (**Open** or **Closed**).
Remediation Status	Assign a remediation status to the vulnerability. For more information on the different statuses, see "Remediation Status" on page 74.

UI Element	Description
Notes	Use Notes to communicate with other users that are involved in remediating the vulnerability and to document anything regarding the vulnerability. Notes cannot be deleted or edited.
Save	Click to save changes.
Cancel	Click to clear changes. Reverts any change that you have made to the statuses.

Vulnerability Assignment Window

The Vulnerability Assignment window enables you to attach vulnerabilities to assets or detach vulnerabilities from assets. The different areas and the functionalities available in each area are described in the following sections. For information on the Risk Insight toolbar, see *"Toolbar Description"* in "Navigating the User Interface" on page 6..

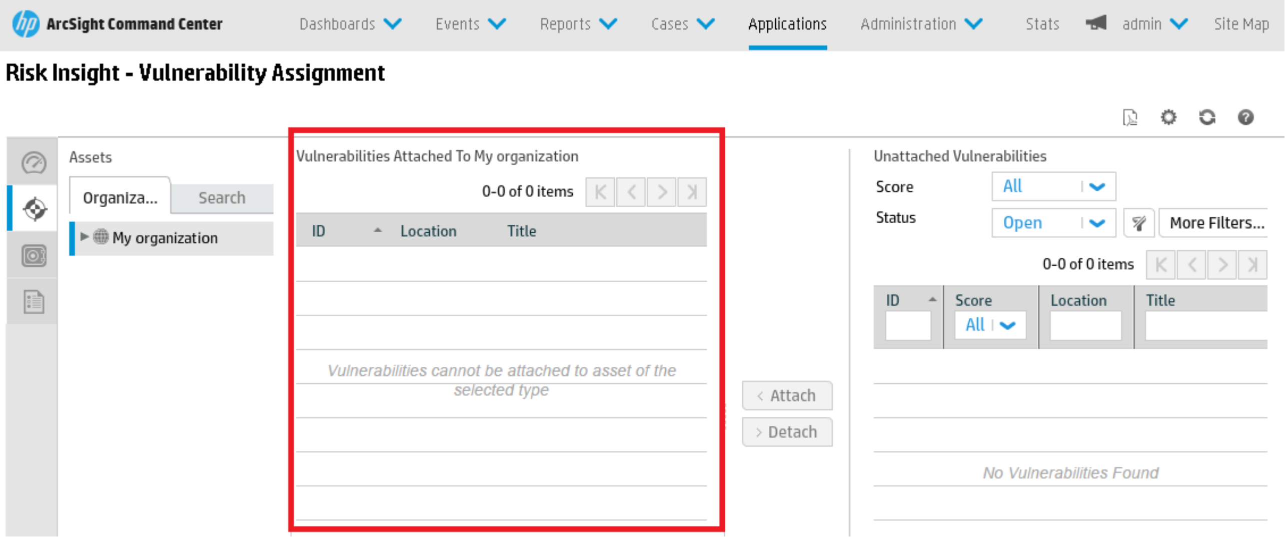
Assets



This pane enables you to select the asset to which you want to attach a vulnerability.

UI Element	Description
Organization tab	Displays the Risk Insight business model. Expand the business model to select the asset that you want to display.
Search tab	Enables you to search for a name or a partial name of any asset in Risk Insight, connected to the business model.

Attached Vulnerabilities



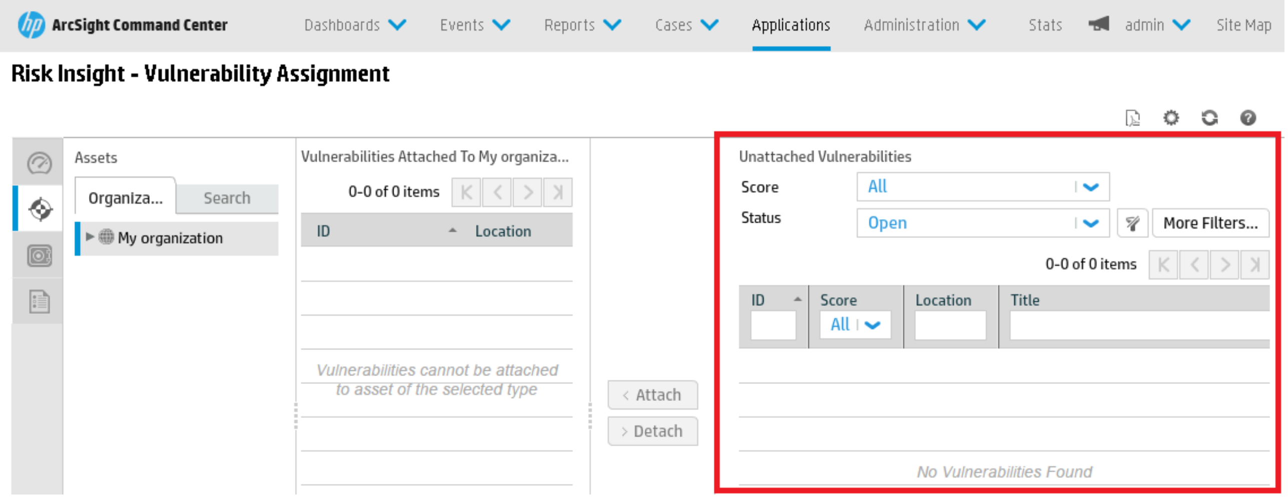
Vulnerabilities cannot be attached to asset of the selected type

No Vulnerabilities Found

This pane displays all the vulnerabilities that are attached to a selected asset. When an asset is selected, the title of this pane displays the asset name.

UI Element	Description
Attach	**Attach Vulnerabilities to Asset** From the grid, select or multi-select (CTRL+click) the vulnerabilities that you want to attach to the asset, and then click this button. For more information, see "Attach a Vulnerability to an Asset" on page 70.
Detach	**Detach Vulnerabilities from Asset** From the grid, select or multi-select (CTRL+click) the vulnerabilities that you want to detach from the asset, and then click this button. For more information, see "To detach a vulnerability from an asset" on page 70.
<Vulnerability Grid>	A grid with the details of the vulnerabilities that are directly attached to the asset in the **Assets** pane.

Unattached Vulnerabilities



Score: All

Status: Open

Vulnerabilities cannot be attached to asset of the selected type

No Vulnerabilities Found

This pane displays vulnerabilities that are not attached to an asset. It includes the following methods for filtering unattached vulnerabilities:

- Quick filters accessible from the screen
- Header filters
- The Filter Vulnerabilities dialog box

UI Element	Description
Score	Filter according to the vulnerability score severity: ✓ Low ! Medium ✗ High The ranges are determined in the *Configure Vulnerability Score Ranges* section in the *ArcSight Risk Insight Deployment Guide*.
Status	Filter according to **Open** or **Closed**.
More Filters	**Filter Vulnerabilities** Click this button to open the **Filter Vulnerabilities** dialog box. You can filter the vulnerabilities in the grid according to the vulnerability properties that are displayed in the grid, described in "Summary View Grid" on page 72. To remove a filter, click More Filters to open the **Filter Vulnerabilities** dialog box and change the filter.

UI Element	Description
	Clear Filter Click this button to clear all the filters that you set through the **Filter Vulnerabilities** dialog box.
<Vulnerability Grid>	A minimized version of the vulnerabilities grid that is displayed in the Summary View. It includes the vulnerability ID, Location, Title, and Score. You can filter vulnerabilities using the grid column headers.

Vulnerability Dictionary

Many information security tools and resources, both commercial and non-commercial, include a vulnerability database. Each has a different methodology for naming and identifying vulnerabilities. This means that the same vulnerability can be defined differently in each of these sources. Because the Vulnerabilities module receives vulnerability information from various sources, the disparity would make it difficult to identify duplicate reports, provide additional information about the vulnerabilities, and efficiently associate them with remediation actions.

To solve this problem, Risk Insight labs created and maintains a comprehensive vulnerability dictionary that includes all vulnerabilities, regardless of whether they have been recognized by an industry standard source. Risk Insight labs compiles, correlates, processes and enriches these vulnerabilities, and creates a single point of reference for each vulnerability.

The vulnerability dictionary is continually expanded by the labs and can be updated in Risk Insight, as described in the *Update the Vulnerability Dictionary* section in the *ArcSight Risk Insight Administration Guide* . As time goes by, some vulnerability properties can change. In such cases, these changes are reflected in the dictionary.

Risk Insight labs sources are varied. Some of the leading industry standard sources from which information is derived are:

- National Vulnerability Database (NVD), for Common Vulnerabilities and Exposures (CVE) and Common Configuration Enumeration (CCE)
- Open Source Vulnerability Database (OSVDB)
- BugTraq

You can view the vulnerabilities in the dictionary through the Risk Insight user interface. To access the vulnerability dictionary, click **Vulnerabilities > Dictionary**.

The Vulnerability Dictionary window includes two panes:

- **Left pane**: Displays the vulnerabilities and includes the properties: Vulnerability ID, Title, Modified Date (either date of creation or the last date it was updated), and score.
- **Right pane**: Displays the properties of the vulnerability that is selected and Common Platform

Enumerations (CPEs) that are associated with the vulnerability. For more information on CPEs, see "Common Platform Enumeration" on page 10.

To view the properties of a vulnerability, click the vulnerability record in the left pane. The **Properties** tab is displayed. To view CPEs associated with the vulnerability, click the **CPEs** tab.

You can search for vulnerabilities using their ID, title, details, or group or partial strings from these properties.

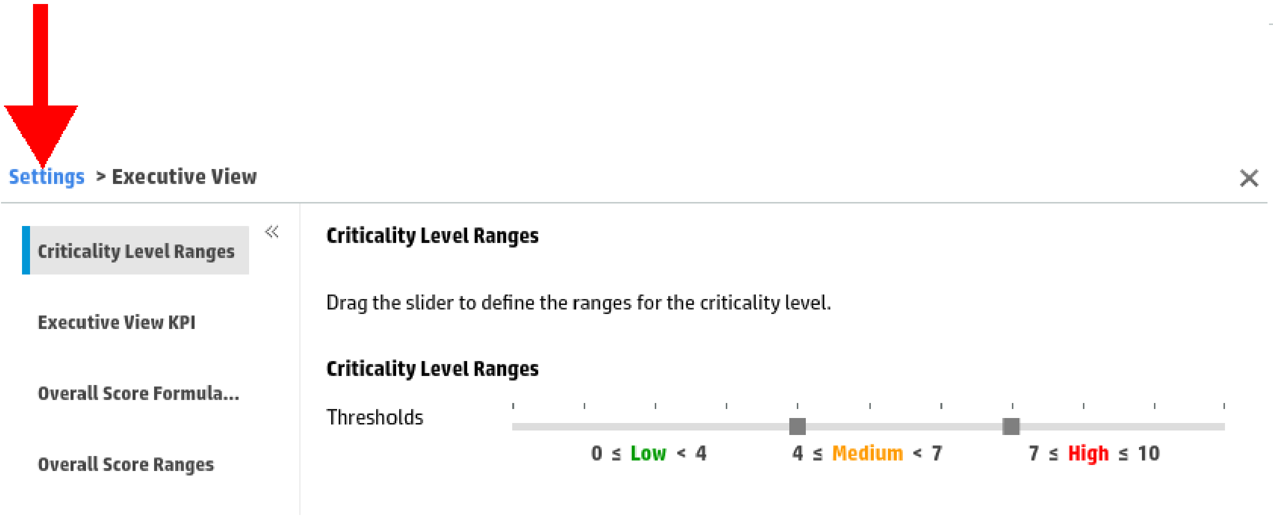
Note: You can perform wildcard searches. For example, if you type **ser***, the results will contain words beginning with ser (such as server and service). An asterisks cannot be placed before a string (*ser).

Chapter 7: Settings

Risk Insight includes a centralized settings module, through which you can configure all internal settings.

To access the settings module, on the Risk Insight toolbar, click the **Settings** ⚙ button. When the **Settings** dialog box opens, it displays one of the following:

- Links to every module that has specific settings. This display appears when the Risk Insight page that is currently open does not have specific settings. Click the module name in order to access the configuration options for that module.
- The settings for a specific module. This display appears when the Risk Insight page that is currently open has specific settings. For example, if the Vulnerability Management page is open, when you click the **Settings** ⚙ button, then the **Settings** dialog box opens on the **Vulnerabilities** page. To return to the **Settings** main page, click **Settings** on the title bar.



Settings > Executive View

Criticality Level Ranges

Drag the slider to define the ranges for the criticality level.

Criticality Level Ranges

Thresholds

0 ≤ Low < 4

4 ≤ Medium < 7

7 ≤ High ≤ 10

After you make a change in settings, you need to refresh the page in order to apply the changes.

The following table includes all the configuration options available through the **Settings** dialog box, for each module.

Module	**Setting Page**
Executive View	Overall Score Formula For more information, see "Configure Overall Score Formula Weights" below.
	Overall Score Ranges For more information, see "Configure Asset Overall Score Ranges" on the next page.
	Criticality Level Ranges For more information, see "Configure Criticality Level Ranges" on the next page.
	Executive View KPI For more information, see "Overall Score KPI" on page 33.
Vulnerabilities	Asset Vulnerability Score Aggregation For more information, see "Configure Asset Vulnerability Score Aggregation Parameters" on page 71.
	Vulnerability KPI For more information, see "Vulnerability Score KPI " on page 33.
	Vulnerability Ranges For more information, see "Configure Vulnerability Score Ranges" on page 71
Risk Factor	*<Risk Factor Name>* For more information, see the *Configure Risk Factor Ranges* section in the *ArcSight Risk Insight Deployment Guide* and "Configure Risk Factor KPI Settings" on page 30.

Configure Overall Score Formula Weights

The asset overall score reflects the total risk of the asset. It is composed of the weighted average of the aggregate scores of all risk factors.

Following is the formula for calculating the asset overall score:

$$\frac{\sum(\text{normalized aggregated risk factor scores*weight})}{\sum \text{weights}}$$

You can edit the weights of each of the variables in the formula.

To configure the overall score formula weights:

1. On the Risk Insight toolbar, click the **Settings** ⚙ button.
2. In the **Settings** dialog box, click **Executive View > Overall Score Formula Weights**.
3. In the **Overall Score Formula Weights** page, enter the weight for each variable in the formula.
4. Click **Save**.

Configure Asset Overall Score Ranges

You can configure the ranges for the score severity indication for asset overall scores.

Asset overall scores are displayed with one of the following icons:

✓ Low score

! Medium score

✗ High score

This configuration is reflected throughout the application, wherever these scores are displayed. For example, on the Risk Register page, in the Asset Summary component and in the Overall Score Heat Map page.

To configure vulnerability score ranges

1. On the Risk Insight toolbar, click the **Settings** ⚙ button.
2. In the **Settings** dialog box, click **Executive View > Overall Score Ranges**.
3. Under **Overall Score Ranges**, drag the slider to define the score ranges.
4. Click **Save**.

Configure Criticality Level Ranges

You can configure the ranges for the severity indication for the criticality levels. Severity is indicated by color:

- Low = green
- Medium = yellow
- High = red

This configuration is reflected in the Overall Score Heat Map.

To configure criticality level ranges

1. On the Risk Insight toolbar, click the **Settings** ⚙ button.
2. In the **Settings** dialog box, click **Executive View > Criticality Level Ranges**.
3. Under **Criticality Level Ranges**, drag the slider to define the ranges.
4. Click **Save**.

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Feedback on User Guide (Risk Insight 1.1)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to arc-doc@hp.com.

We appreciate your feedback!