

# Industrial Vulnerability Manager

## **Neglecting vulnerabilities means taking risks**

#### **Operative challenges**

- Every day new software vulnerabilities get reported.
- Currently manufacturers and operators of automation technology with a multitude of different software components struggle to identify if their products are affected.
- Today's solution: Manual checking of different web pages from providers of automation technology (e.g. on the Siemens web page).
- The industrial security standard IEC 62443 2-3 recommends a broad patch management process.

Already known security vulnerabilities are one of the main entry points for cyber attacks. You need to keep on track with the vulnerabilities and react promptly.

#### Possible consequences



High manual effort and consequently neglecting already officially reported vulnerabilities



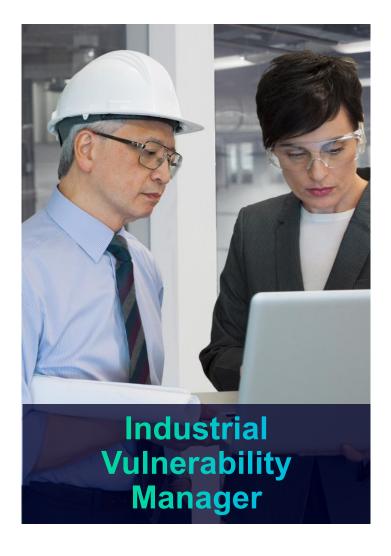
Stay unaware of real threats and consequently not trigger proactive measures (e.g. patching)



Significant financial loss due to cyber attacks exploiting existing vulnerabilities



## Efficiently manage vulnerabilities to maximize availability with Industrial Vulnerability Manager



#### Solution

The Industrial Vulnerability Manager is an application that provides relevant security information to enable manufacturers and operators of automation technology to proactively manage their cyber risks – tailored to their system in a one-stop shop.

#### How does it work?

Step 1: Definition of components to be monitored

Step 2: Monitoring regarding recently published vulnerabilities (completely in the background)

Step 3: Automatic generation of digital "Security Bulletins" in case of detected vulnerabilities

and possible patches; overview via graphical dashboard

#### Several deployment options to meet different requirements:

Option A: For end-customers, based on AWS

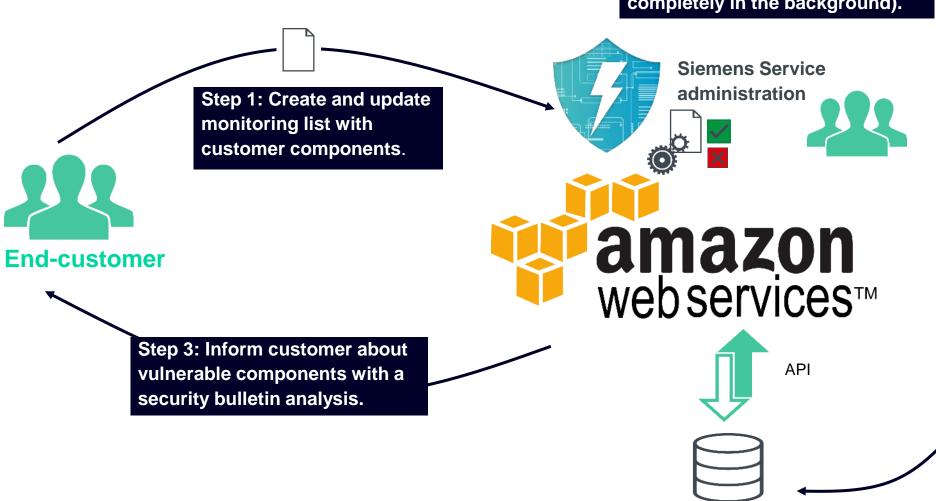
Option B: For end-customers, on premise

Option C: For end-customers, based on Siemens Industrial Edge

Option D: For **OEMs**, based on cloud solution (incl. reporting to OEM's customers)

## Option A for <u>end-customers</u>, based on <u>AWS</u>

Step 2: Monitor listed components regarding recently published vulnerabilities (happens completely in the background).



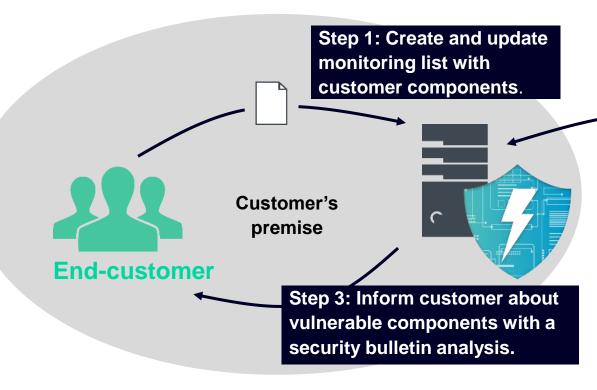


#### Precondition:

The components, their published vulnerabilities and patch information are available.



## **Option B for end-customers**, on premise



**Step 2: Local version of Industrial Vulnerability Manager polls actual** database information from central server via dedicated ports and delivers only license details to the central server.



**More than 80,000** components:



ubuntu<sup>®</sup>



**SIEMENS** 



#### Details:

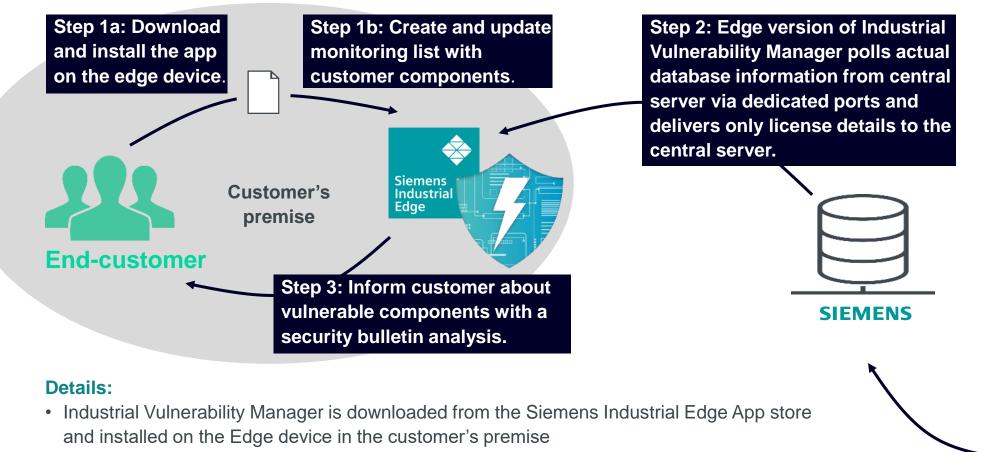
- Industrial Vulnerability Manager is installed on a system on the customers premises (Ubuntu Linux)
- All communication is managed from the application on-site
- All information of the customer assets stays on customer site
- Customer is responsible for the management and operation

#### Precondition:

The components, their published vulnerabilities and patch information are available.



## Option C for <u>end-customers</u>, based on <u>Siemens Industrial Edge</u>





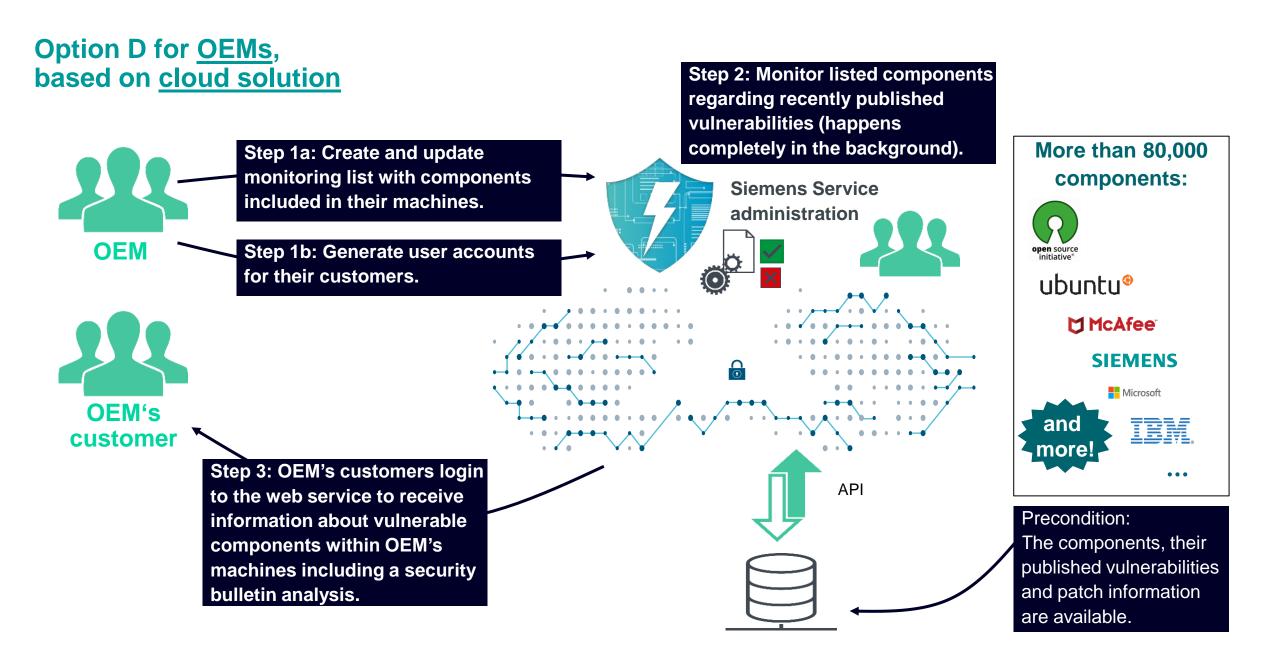
#### Precondition:

The components, their published vulnerabilities and patch information are available.

All communication is managed from the Edge manager

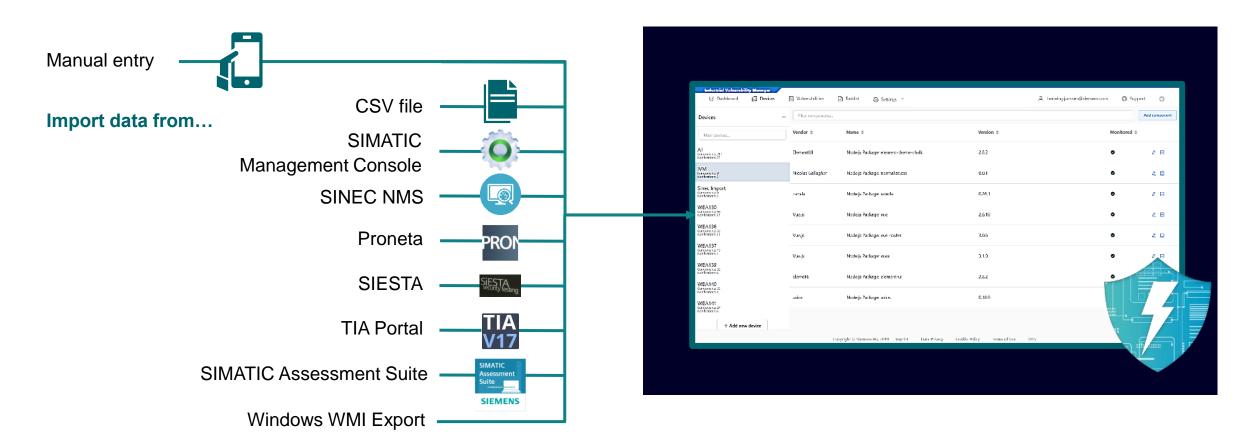
• Customer is responsible for the management and operation

All information of the customer assets stays on customer site on the Edge device



#### **Step 1: Definition of components to be monitored**

#### Easy creation and update of component list through several import options





## Step 2: Monitoring regarding recently published vulnerabilities

#### A sophisticated system as basis for the Industrial Vulnerability Manager

## Unique monitoring infrastructure

- Gaining relevant vulnerability information from all over the internet, e.g.:
  - Official security advisories
  - Vendor support pages
  - Security communities
- Covering vulnerabilities affecting:
  - Open source software
  - Commercial software
  - Hardware components
  - Siemens and 3rd party



#### **Security expert team**

- Evaluates vulnerabilities with four-eyes principle regarding two rating scales:
  - Criticality scale
  - CVSS

#### **Proven process**

- Monitoring more than 80,000 components (constantly growing)
- Over 1,000 vulnerabilities per month, bundled in practicable packages





## Step 3: Automatic generation of digital "Security Bulletins"

#### The notifications and the dashboard allow an easy management and reporting of cyber risks

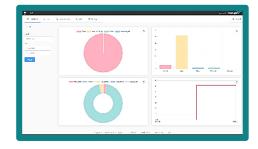


#### **Security Bulletin**

- Description of the vulnerability and affected components
- Real-time monitoring of available patches
- CVSS score
- Priority
- Link to the vendor web site

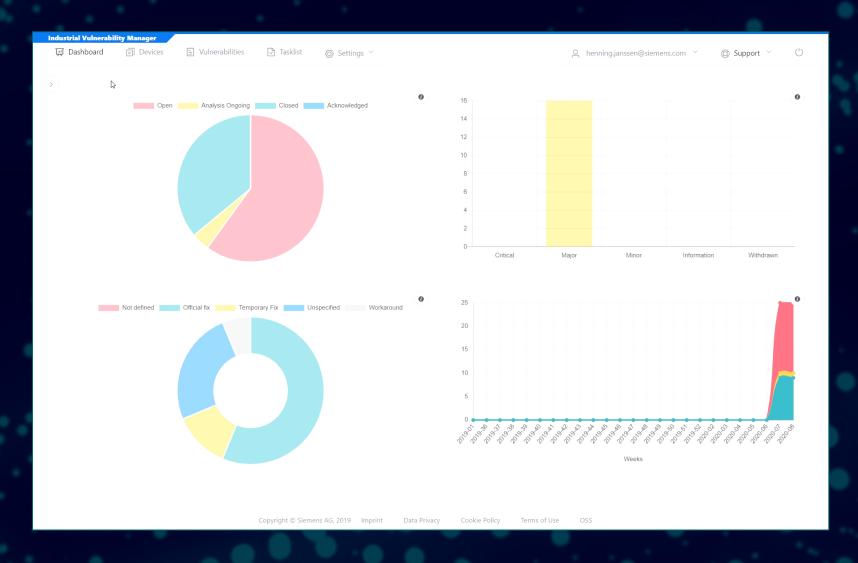
#### **Graphical dashboard**

- Overview of vulnerabilities including criticality
- Task list to check overdue and upcoming fixes
- Overview of patch status to follow and track the mitigation and closure of the vulnerabilities

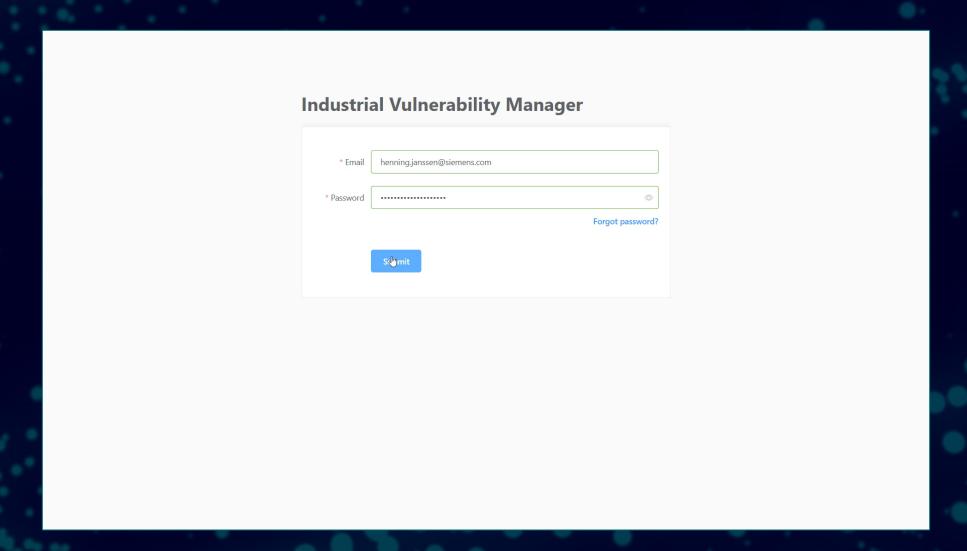




## **Application overview – short version**



## Application overview – long version



#### Demo portal – access, workflow, restrictions

Demo portal can be accessed via the following link:

siemens.com/ivm-demo



#### **Restrictions:**

- The portal can be used to test the service for up to 30 days and up to 50 components. No new components can be added.
- As this is only a test portal, we will not guarantee any service level for the availability.
- It is only possible to register once.



#### Siemens as reliable partner for Industrial Security



"We make sure that you can focus on your core business."



## Why should you choose Industrial Vulnerability Manager?





**Instant transparency on vulnerabilities and patches** 



**Proactive management of cyber risks** 



**Avoid downtime and save costs** 



## Let us know if there is anything we can support you with!



# You want to find out more?

Contact the Siemens partner near you

Siemens Contact Database





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## **Security Information**

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit <a href="https://www.siemens.com/industrialsecurity">https://www.siemens.com/industrialsecurity</a>

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