



Analysis, Design, and Implementation of a Network Security Solution

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2325544

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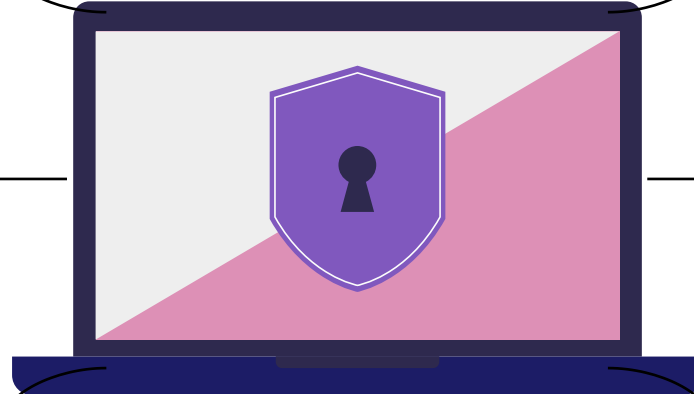
5

Recommendations
for improvements



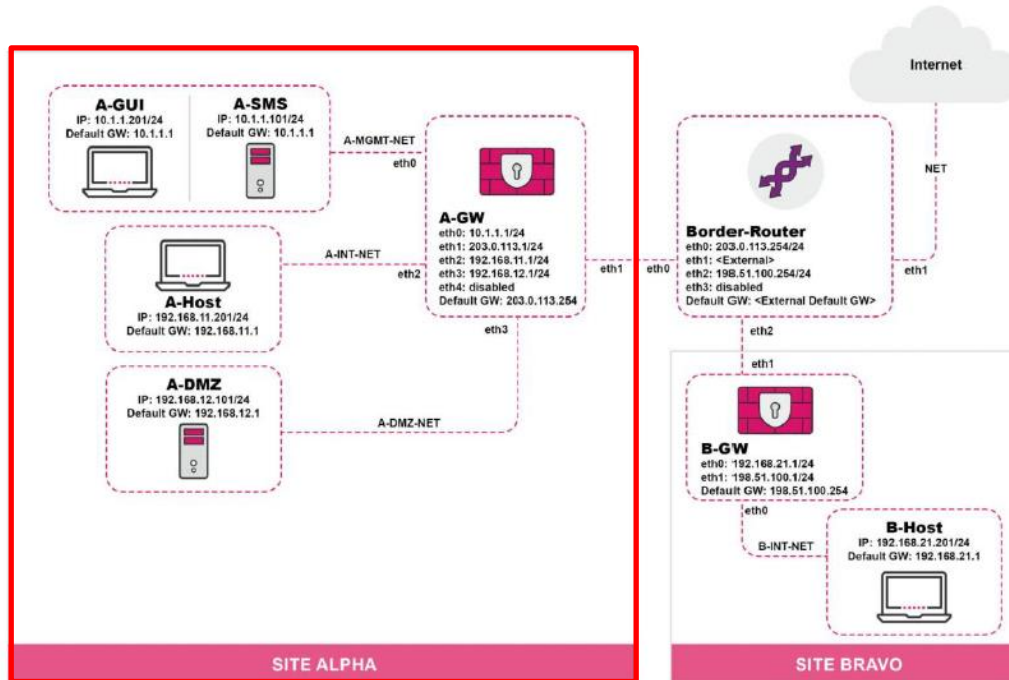
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Personal and
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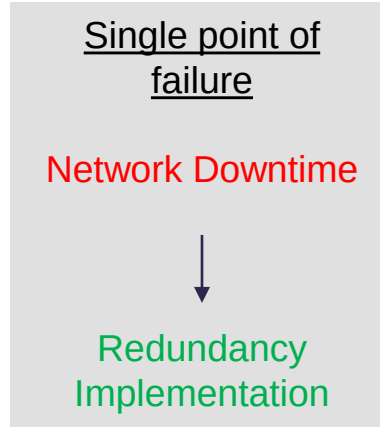
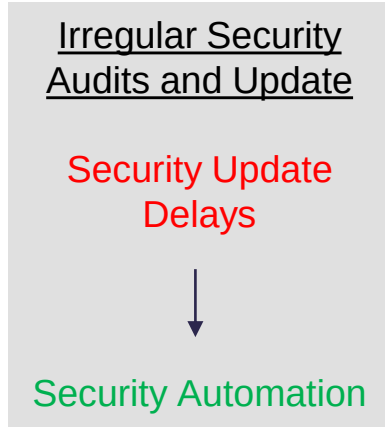


Initial Topology

CCSA R81.20 LAB TOPOLOGY



Analysis of the existing security posture



Analysis of the existing security posture

Costly and Inefficient
Licensing Structure

Overspending on
Licenses



License
Optimization

Undefined Rôle and
Permissions

Access Control
Flaws



Rôle Definition and
Access Control

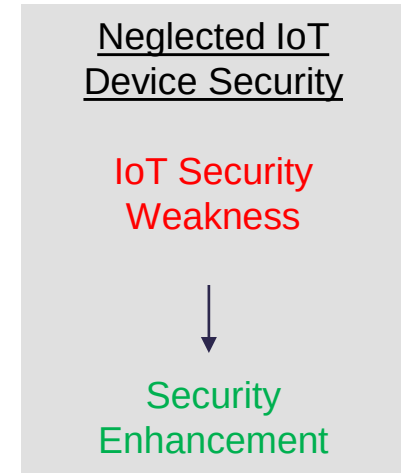
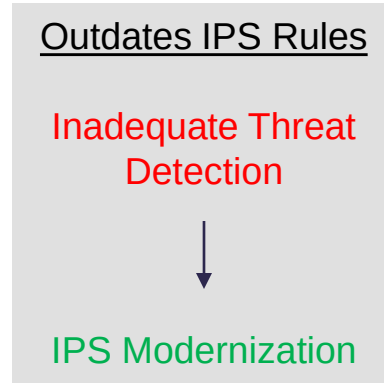
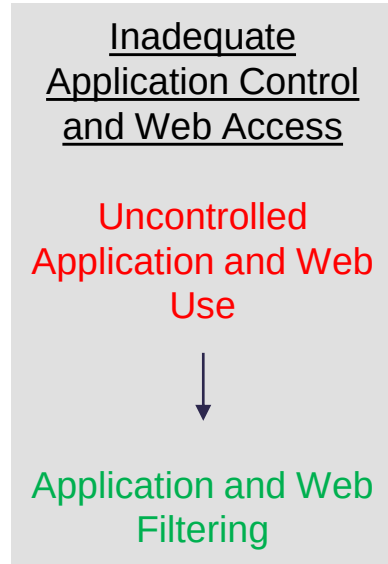
Overlapping and
Conflicting Policies

Policy Overlap and
Conflicts



Policy
Synchronization

Analysis of the existing security posture



Objectives and Outcomes



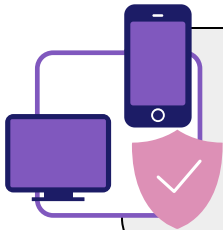
**Enhance
Regularity of
Security
Updates**



**Enforce
Access
Controls**



**Resolve Policy
Overlaps and
Conflicts**



**Reduced
Security
Vulnerabilities**



**Enhanced
Security
Monitoring
and Control**



**Clear Policy
Framework**

Exploring the SmartConsole

The screenshot displays the SmartConsole interface with the following components:

- Left Panel (Navigation Bar):** Contains the 'Gateways & Servers' configuration view.
- Main Content Area:**
 - Top Section:** Shows the 'A-SMS' configuration page with fields for IP (10.1.1.101), Version (R81.20), and a green checkmark indicating successful installation.
 - Bottom Section:** Displays the 'Management Blades' section, which includes a table of installed blades. A red box highlights the 'Management Blade' section, which lists 'A-SMS' and 'A-SMS' as installed blades.
- Right Panel (Object Categories):** Lists various object categories such as Network Objects, Services, Applications Categories, VPN Communities, Data Types, Users/Identities, Servers, Time Objects, User Check Interactions, and Limit.

The screenshot displays a virtual machine environment with two primary windows. The left window, titled 'Check Point Certified Security Administrator', shows a task labeled '2A-3.13: Click Audit Log view'. Below this, an audit log table is visible, listing events for 'New VM Snapshot'. The table includes columns for Time, Audit Status, Admin, Operation, Object, and Performed. The right window, titled 'WebScanConsole', shows a list of audit logs with columns for Time, Audit Status, Admin, Operation, Object, and Performed. The audit log table in the left window lists events for 'New VM Snapshot' with details like 'User: hsi', 'IP: 192.168.1.100', and 'Status: Success'.

Time	Audit Status	Admin	Operation	Object	Performed
Nov 22, 2024 2:00:01 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:02 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:03 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:04 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:05 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:06 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:07 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:08 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:09 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:10 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:11 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:12 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:13 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:14 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:15 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:16 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:17 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:18 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:19 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:20 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:21 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:22 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:23 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:24 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:25 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:26 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:27 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:28 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:29 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:30 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:31 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:32 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:33 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:34 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:35 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:36 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:37 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:38 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:39 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:40 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:41 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:42 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:43 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:44 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:45 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:46 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:47 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:48 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:49 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:50 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:51 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:52 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:53 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:54 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:55 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:56 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:57 PM	Log In	hsi	Log In		
Nov 22, 2024 2:00:58 PM	Log In</				

Installing a Security Gateway

The image displays four sequential screenshots from a virtual machine environment, illustrating the installation and initial configuration of a Check Point Security Gateway. The interface is the Check Point Certified Security Administrator (CPSA).

- First Screenshot (Page 197):** Shows the 'First Time Configuration Wizard' with a 'Yes' button highlighted. Below it, a 'First Time Configuration Wizard Summary' window indicates the system will reboot in 28 seconds.
- Second Screenshot (Page 204):** Shows the 'First Time Configuration Wizard Summary' window with a progress bar at 34% for 'Verifying Configuration'. The 'Security Gateway' status is 'Pending Configuration (this may take several minutes)'.
- Third Screenshot (Page 204):** Shows the 'Configure eth3 as follows' window. The configuration details are:
 - Enable: Enabled
 - Comment: Alpha DMZ Network
 - IPv4 Address: 192.168.12.1
 - Subnet mask: 255.255.255.0Below this, a 'Default' gateway of 203.0.113.254 is shown.
- Fourth Screenshot (Page 204):** Shows the 'Network Management > Network Interfaces' configuration page. A table lists the configured interfaces:

Name	Type	IPv4 Address	Subnet Mask	IPv4 Address
eth0	Ethernet	192.168.12.1	255.255.255.0	-
eth1	Ethernet	203.0.113.1	255.255.255.0	-
eth2	Ethernet	192.168.12.1	255.255.255.0	-
eth3	Ethernet	192.168.12.1	255.255.255.0	-
lo	Loopback	127.0.0.1	255.0.0.0	-

Establishing Secure Internal Communication

3A-1.4: Configure the object with the following settings:

Gateway name:	A-GW
Gateway platform:	Open server
IPv4 IP:	10.1.1.1

3A-1.5: Select Next.

The screenshot shows the 'Check Point Gateway Installation Wizard' with the 'General Properties' tab selected. The 'Gateway name' is 'A-GW', 'Gateway platform' is 'Open server', and 'IPv4 IP' is '10.1.1.1'. The 'Next' button is highlighted.

3A-2.5: If SIC has been established and is properly communicating, you will see a status of Communicating.

The screenshot shows the 'SIC Status' window with the status 'Communicating' for 'A-GW'. The 'DN' field contains 'CN=A-GW.O=SMS.alpha.co.uk@2'. The 'Close' button is highlighted.

3A-2.6: Select Close to exit the SIC status window.

3A-2.7: Select OK to close the Trusted Communication window.

The screenshot shows the 'Trusted Communication' window with the 'SIC Status' window open. The 'OK' button is highlighted.

Alpha Site Security Policies

SA-1.22: Configure the Network object as follows:

New Network

A-MGMT-NET
Alpha Site Security Management Network

General

IPv4

Network address: 10.1.1.0
Net mask: 255.255.255.0
Broadcast address: Not included
Groups: Add Tag

IPv6

Network address:
Prefix:
Groups: Add Tag

Object Name: A-MGMT-NET
Color: Create Blue
Object Comment: Alpha Site Security Management Network
Network address: 10.1.1.0
Net mask: 255.255.255.0

Page 417

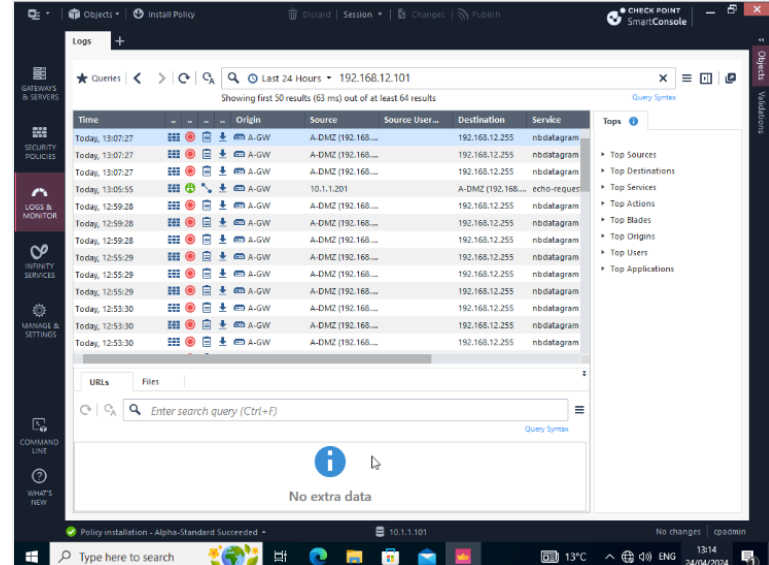
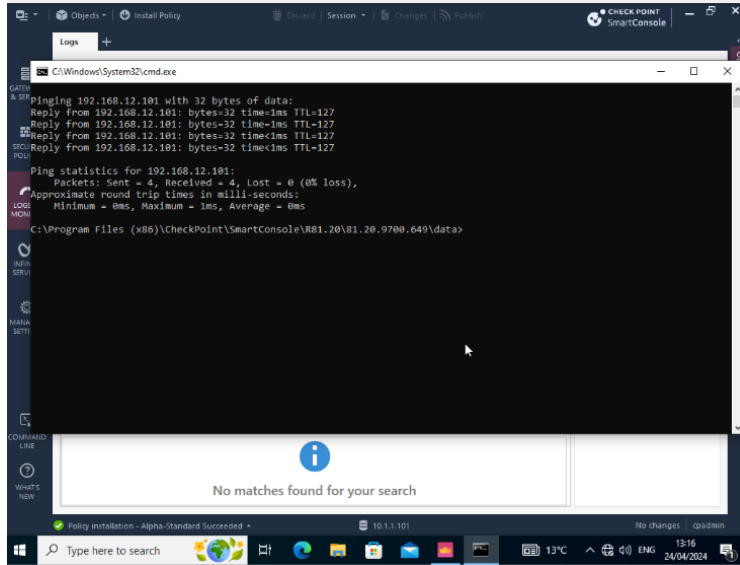
Name: Stealth Rule
Source: Any
Destination: A-GW
Services & Applications: Any
Action: Drop
Track: Log
Install On: A-GW

SA-2.13: Configure the rest of the rules as shown:

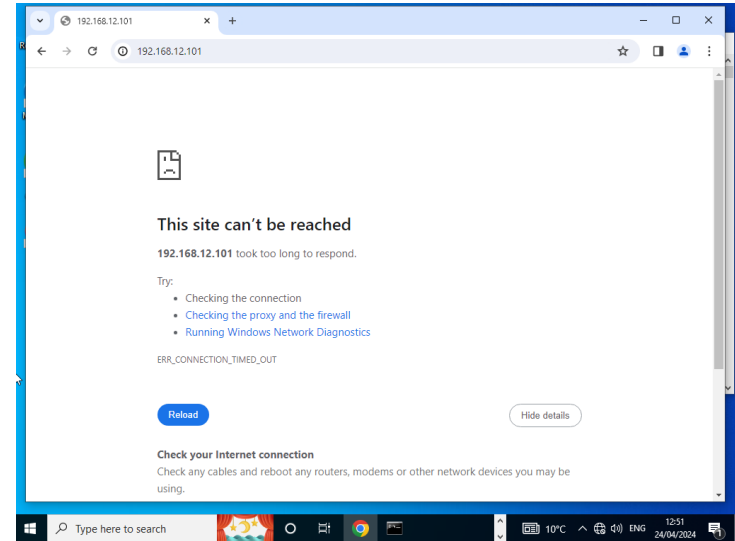
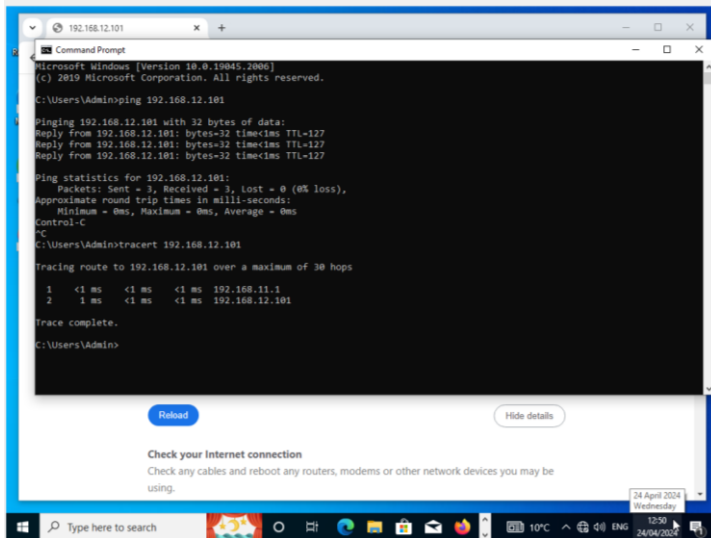
Order	Name	Source	Destination	Service	Action	Track	Install On
1	Management Rule	Any	Any	Any	Drop	Log	Any
2	Stealth Rule	Any	A-GW	Any	Drop	Log	A-GW
3	Management Rule	Any	Any	Any	Drop	Log	Any
4	Stealth Rule	Any	A-GW	Any	Drop	Log	A-GW
5	Management Rule	Any	Any	Any	Drop	Log	Any
6	Stealth Rule	Any	A-GW	Any	Drop	Log	A-GW
7	Management Rule	Any	Any	Any	Drop	Log	Any
8	Stealth Rule	Any	A-GW	Any	Drop	Log	A-GW
9	Management Rule	Any	Any	Any	Drop	Log	Any
10	Stealth Rule	Any	A-GW	Any	Drop	Log	A-GW

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Alpha Site Security Policies



Alpha Site Security Policies



Bravo Site Security Policies

Check Point Certified Security Administrator

SB-1.8: Enter the one-time password that was configured on B-GW:
chkp1234

Trusted Communication

Platform: Open server / Appliance

Authentication

One time password: *****

Confirm one time password: *****

Trusted Communication Initiation

Initialize

Certificate state: Uninitialized

Test SIC Status

SB-1.9: Click **Initialize** to connect A-SMS to B-GW.

NOTE:
If the communication fails, ask your instructor to help you with troubleshooting the issue.

Task SB-1: Establishing SIC to B-GW

SEND FEEDBACK 447

Check Point Gateway - B-GW

Machine Name: B-GW

IP4 Address: 192.51.100.1

Resolve from Name

Dynamic Address

Trusted Communication

Platform: Open server / Appliance

Authentication

One time password: *****

Confirm one time password: *****

Trusted Communication

Initialize

SmartConsole

Failed to connect to the Security Gateway.

OK

Certificate state: Uninitialized

Test SIC Status

OK

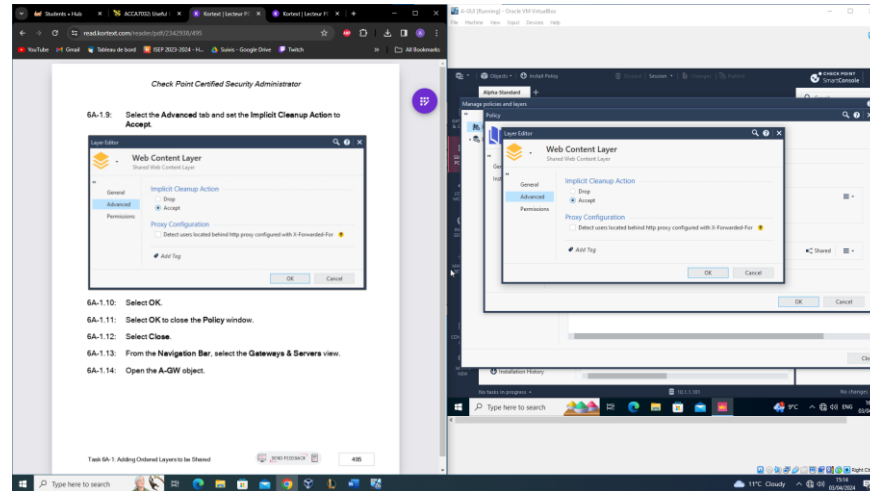
Cancel

World's most proven firewall solution that can examine hundreds of applications, protocols and services out of the box.

OK

Cancel

Creating Security Policy



Managing Role and Permission

[video1344792227.mp4](#)

Managing Licenses

[videolicensecontract.mp4](#)

Challenges



 1)	A-Host VM
 2)	Problem betwin A-Host & A-DMZ
 3)	Issues with the bravo site

Futur Improvements

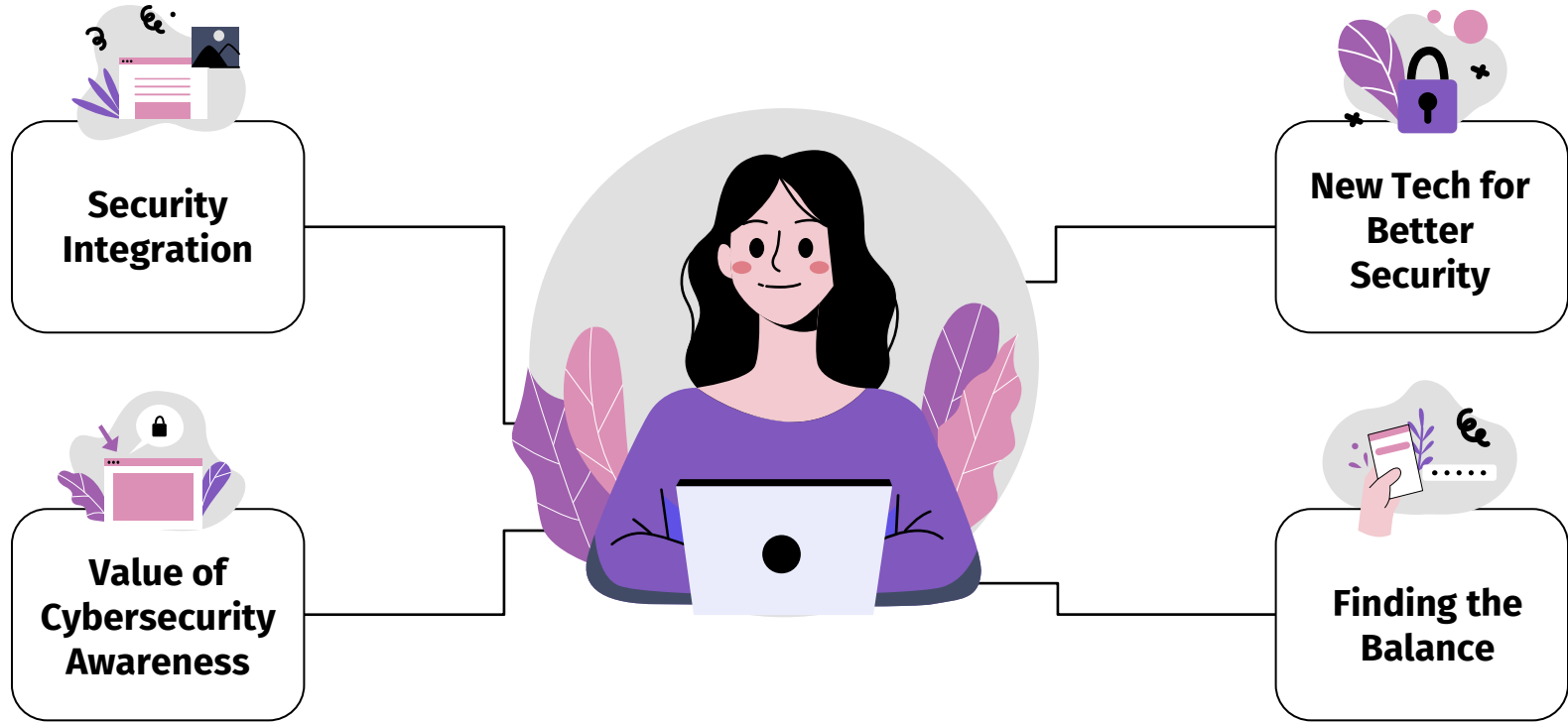


Zero Trust Network Access (ZTNA)



Cloud Security

Personal Reflexion



Conclusions



Topology Reminder

MERCURY

Mercury is the smallest planet



VENUS

Venus has a beautiful name



JUPITER

Jupiter is the biggest planet



MARS

Mars is actually a cold place



NEPTUNE

It's the farthest planet



SATURN

Yes, Saturn is the ringed one



Implementation details



Cybersecurity Infographics



01

MERCURY

It's the closest planet to the Sun



02

MARS

Despite being red, Mars is a cold place



03

JUPITER

It's a gas giant and the biggest planet



04

VENUS

Venus is the second planet to the Sun

Cybersecurity Infographics



MERCURY

It's the closest planet to the Sun



MARS

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JUPITER

It's a gas giant and the biggest planet



VENUS

Venus is the second planet to the Sun



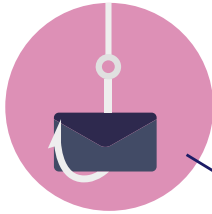
SATURN

Yes, Saturn is the ringed one

Cybersecurity Infographics

MERCURY

Mercury is the smallest planet



VENUS

Venus has a beautiful name



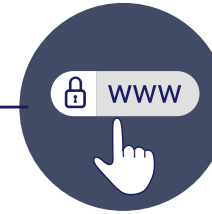
MARS

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Cybersecurity Infographics

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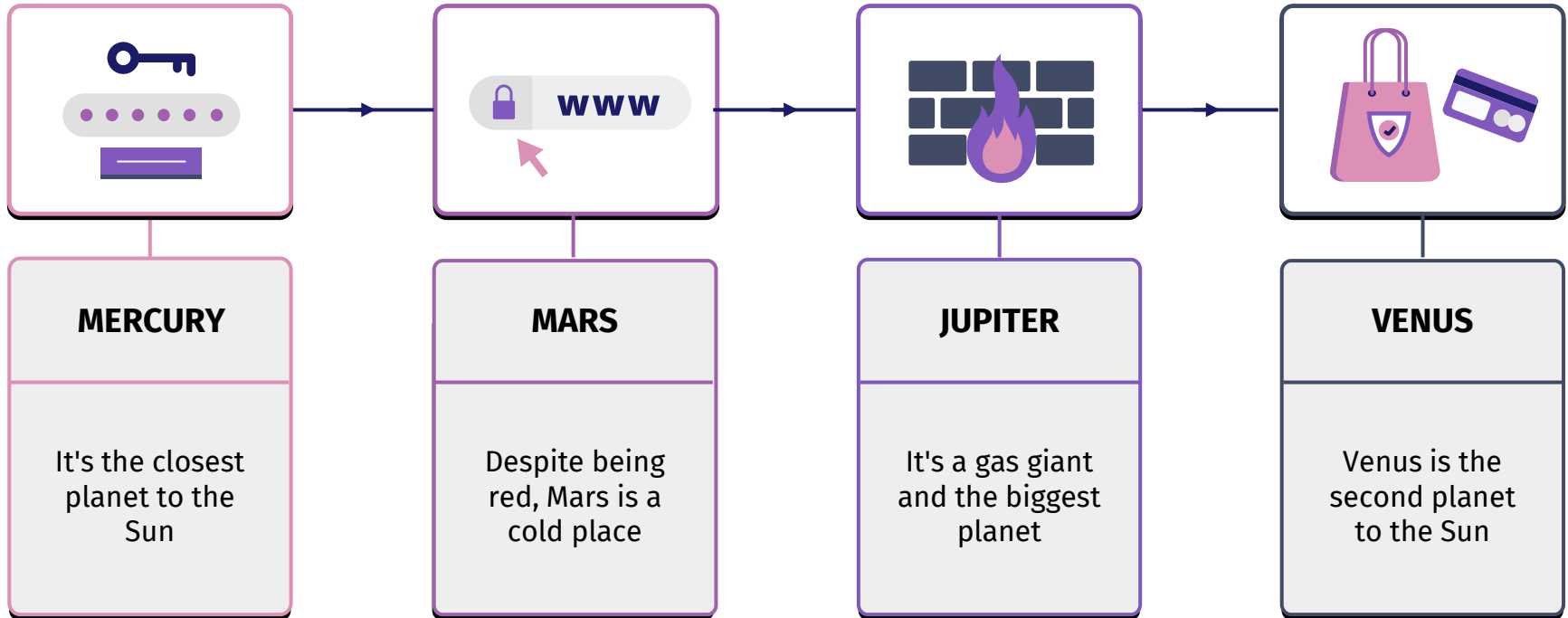


SATURN

Yes, Saturn is the ringed one



Cybersecurity Infographics



Cybersecurity Infographics

MERCURY

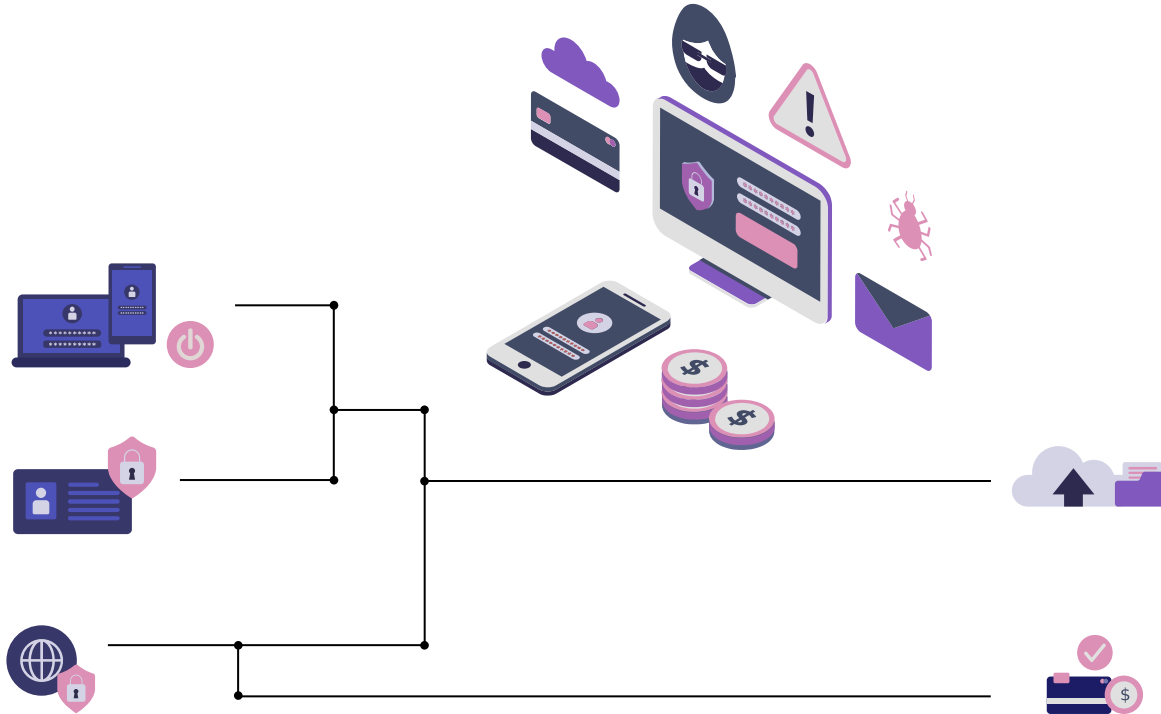
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NEPTUNE

It's the farthest planet



SATURN

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Cybersecurity Infographics

JUPITER



Jupiter is the fifth planet from the Sun and the largest

Mercury is the smallest planet of them all



MERCURY

VENUS



Venus is the second planet from the Sun. It has a beautiful name

Neptune is the farthest planet from the Sun



NEPTUNE

Cybersecurity Infographics

MERCURY

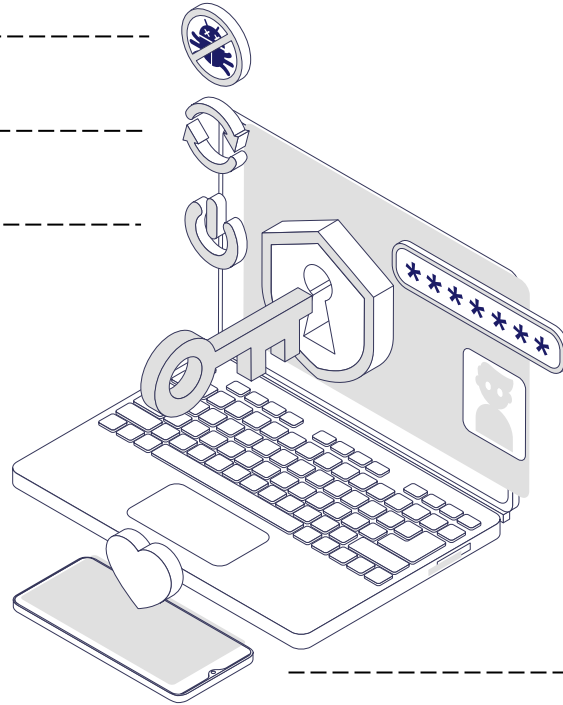
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MARS

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NEPTUNE

It's the farthest planet

SATURN

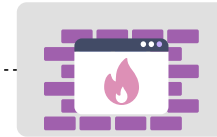
Yes, Saturn is the ringed one

Cybersecurity Infographics



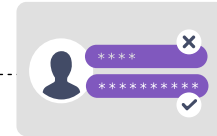
JUPITER

Jupiter is the fifth planet from the Sun



NEPTUNE

Neptune is the farthest planet from the Sun



SATURN

Mercury is the smallest planet of them all

Cybersecurity Infographics

EARTH



MERCURY

Mercury is the closest planet



VENUS

Venus has a beautiful name



MARS

Mars is a cold place



JUPITER

Jupiter is the biggest planet



NEPTUNE

It's the farthest planet



SATURN

Yes, Saturn is the ringed one

Cybersecurity Infographics



Mercury is the closest planet to the Sun and the smallest one in the Solar System

1

Jupiter is a gas giant and actually also the biggest planet in the Solar System

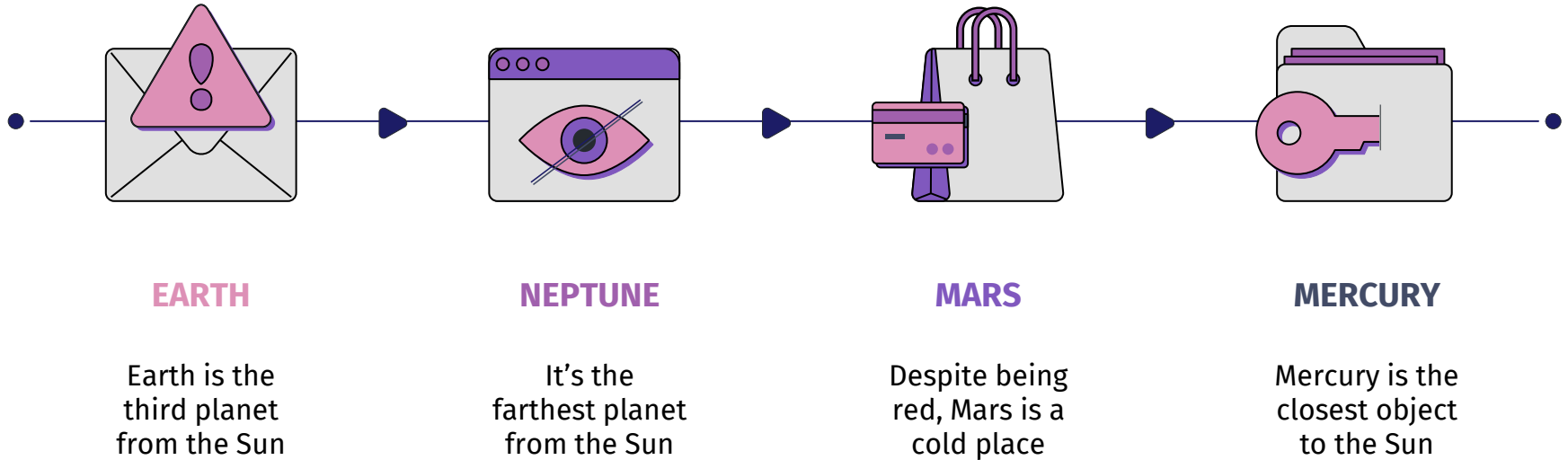
2

Saturn is a gas giant in the Solar System, composed mostly of hydrogen and helium

3

Venus has a beautiful name and is the second planet from the Sun

Cybersecurity Infographics



Cybersecurity Infographics

Venus is the
second planet
from the Sun

Venus is the
second planet
from the Sun

Neptune is
the farthest
known planet

Jupiter is the
fifth planet
from the Sun

Mercury is the
smallest
planet



Cybersecurity Infographics



MERCURY

Mercury is the closest planet



VENUS

Venus has a beautiful name



JUPITER

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NEPTUNE

It's the farthest planet

Cybersecurity Infographics

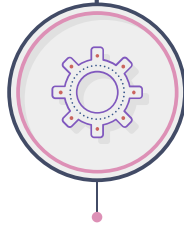


EARTH

Earth is the third planet from the Sun

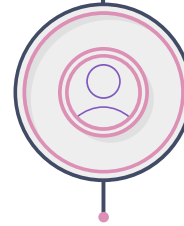
NEPTUNE

Neptune is the farthest planet from the Sun



MARS

Despite being red, Mars is a cold place



JUPITER

Jupiter is a gas giant and the biggest planet

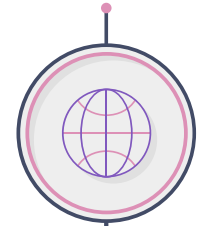
SATURN

It's composed of hydrogen and helium



MERCURY

Mercury is the closest object to the Sun



Cybersecurity Infographics



Despite being red,
Mars is a cold place

MARS

It's the farthest planet
from the Sun

NEPTUNE

Jupiter the biggest
planet of them all

JUPITER

Mercury closest
planet to the Sun

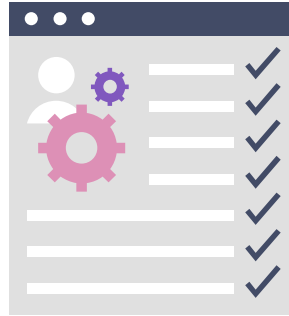
MERCURY

Cybersecurity Infographics



EARTH

Earth is the third planet from the Sun



NEPTUNE

It's the farthest planet from the Sun



MARS

Despite being red, Mars is a cold place



MERCURY

Mercury is the closest object to the Sun

Cybersecurity Infographics

MERCURY

Mercury is the smallest planet



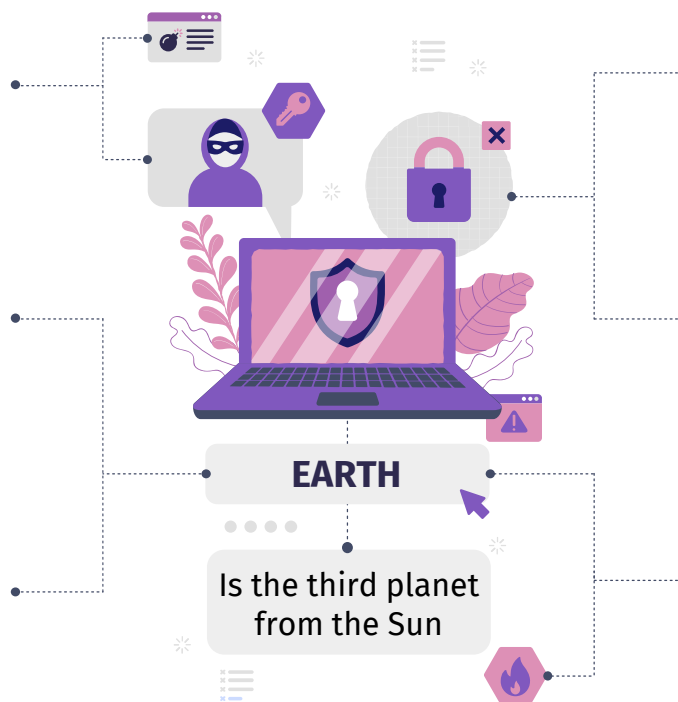
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JUPITER

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MARS

Mars is actually a cold place



NEPTUNE

It's the farthest planet



SATURN

Yes, Saturn is the ringed one



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- **Change the color** by clicking on the paint bucket.
- Then **resize** the element by clicking and dragging one of the square-shaped points of its bounding box (the cursor should look like a double-headed arrow). Remember to hold Shift while dragging to keep the proportions.
- **Group** the elements again by selecting them, right-clicking and choosing “Group”.
- Repeat the steps above with the other parts and when you’re done editing, copy the end result and paste it into your presentation.
- Remember to choose the “**Keep source formatting**” option so that it keeps the design. For more info, please visit **Slidesgo School**.

