

سبر 1213 Network Defense Lecture #5 Part 3 Securing Hosts and Data

اسم المقرر. - سبر King Saud University – Applied Studies and Community Service –1213



Models support connecting mobile devices to organization's network ✓ Corporate-owned ✓ COPE (corporate-owned, personally enabled) \checkmark BYOD (bring your own device) ✓ Bring your own disaster ✓ CYOD (choose your own device) Limits supported devices (employee still) buys)

a o oi

King Saud University

Mobile Device Connection Methods

- **W**iFi
- ✓ Infrared
- ✓ USB (Universal Serial Bus)

م معام ال سعود

King Saud University

- ✓ Point-to-point
- ✓Point-to-multipoint
- ✓ Cellular
- ✓ Bluetooth
- NFC (near field communication)
 RFID (radio frequency identification)

Mobile Device Connection Methods

✓ Full device encryption

- \checkmark Containerization
 - ✓ Good for BYOD
- \checkmark Storage segmentation
- ✓ Remote wipe
- Application management
- ✓Content management
- \checkmark Passwords and PINs
- ✓ Biometrics
- ✓Screen locks



✓ Unauthorized software Third party app stores Rooting and jailbreaking ✓ OTA updates ✓ Sideloading \checkmark SMS and MMS ✓ SMS **√**RCS

جے ۵ انمالک سعود King Saud University

اسم المقرر - سبر King Saud University – Applied Studies and Community Service –1213 اسم المقرر - سبر Lecture 1

MDM Enforcement / Monitoring

- ✓OTA updates
- ✓ Sideloading
- ✓ SMS
- ✓ MMS
- ✓ RCS
- ✓ Unauthorized software
 ✓ Third party app stores
 ✓ Rooting and jailbreaking
- ✓ Device posturing
 - \checkmark Checks device status
 - (such OS, version, screen lock)



MDM Enforcement / Monitoring

Hardware control
 USB OTG cables

✓ Unauthorized
 connections
 ✓ Tethering
 ✓ Wi-Fi Direct

Lecture 1 اسم المقرر - سبر 1213 – King Saud University – Applied Studies and Community Service

SEAndroid

 Security-enhanced Android ✓ Uses Security-Enhanced Linux (SELinux) to enforce access security ✓ Enforcing mode Enforces SELinux policy \checkmark Permissive mode ✓ Does not enforce SELinux policy ✓ Logs all activity \checkmark Useful when testing the policy



 Dedicated function with a computer system to perform that function
 Compare to desktop PCs, laptops, and servers

0 0

Saud University

 All use central processing units (CPUs), operating systems, and applications to perform various functions

✓ Embedded systems

 Use CPUs, operating systems, and one or more applications to perform specific functions





 Security implications and vulnerabilities

Keep up-to-date
 Implement patch
 management processes

 Avoid default configurations

Embedded

System

لد Lecture 1اسم المقرر - سبر King Saud University – Applied Studies and Community Service –1213

Embedded System

 Field programmable gate array (FPGA)
 Programmable integrated circuit (IC) installed on a circuit board

✓ Arduino

 Microcontroller board, and the circuit board contains the CPU, RAM, and ROM

🗸 Raspberry Pi

 Microprocessor-based mini-computer, and it uses the Raspberry Pi OS to run Comparing Embedded Systems ✓ RTOS

- ✓ Printers/MFDs
- ✓ Camera systems
- ✓ Special purpose
 - \checkmark Medical devices
 - ✓ Vehicles
 - ✓ Aircraft/UAV
 - \checkmark Smart devices
 - \checkmark Internet of things (IoT)
 - ✓ Wearable technology
 - \checkmark Home automation
 - ✓ HVAC



لا Lecture 1 اسم المقرر - سبر King Saud University – Applied Studies and Community Service –1213

Embedded System Constraints

- ✓Compute
- ✓Crypto
- ✓ Power
- √Range
- ✓Authentication
- ✓ Network
- ✓Cost
- \checkmark Inability to patch
- ✓ Implied trust
- \checkmark Weak defaults

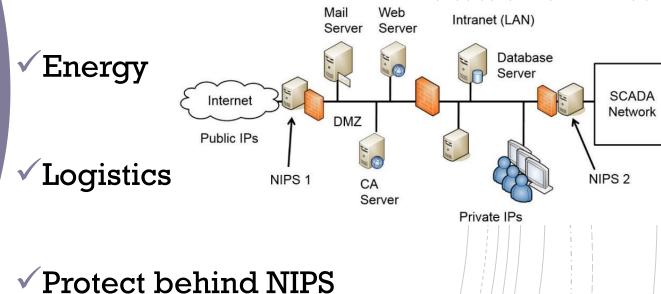




Manufacturing and industrial

✓ Facilities

SCADA/ICSs



/ Lecture 1 اسم المقرر. - سبر King Saud University — Applied Studies and Community Service —1213



Summarize Virtualization Concepts

Implementing Secure Systems

Chapter 5 Summary

Summarizing Cloud Concepts

Deploying Mobile Devices Securely

Exploring Embedded Systems

✓ Check out the free online resources

Slides created for CompTIA Security4 Cet Cettified Get Aheadr SY0-601 Study Guide



End of Third Lecture

King Saud University – Applied Studies and Community Service –1213 اسم المقرر - سبر المقرر - سبر