IP SHOWCASE THEATRE

CURATED BY VSF VIDEO SERVICES FORUM

AMWA/EBU Joint Security Efforts

Willem Vermost – Network IP Media Technology Architect
EBU

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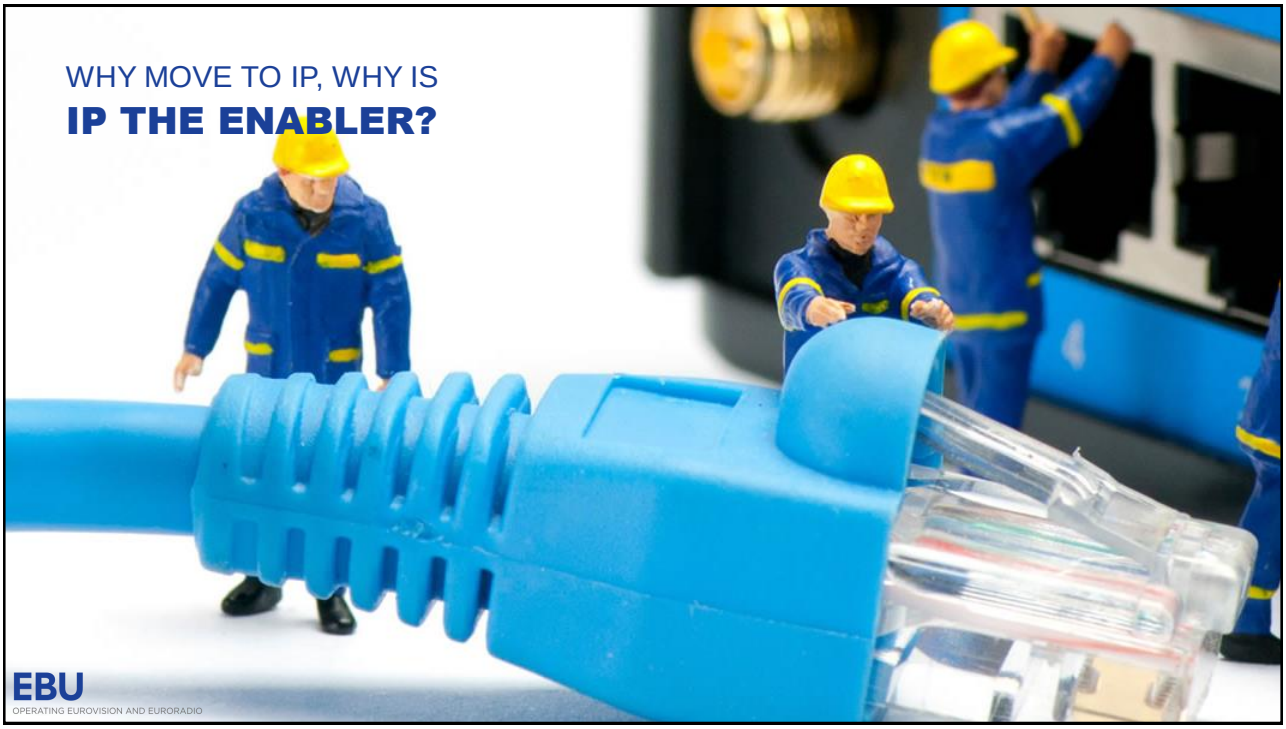
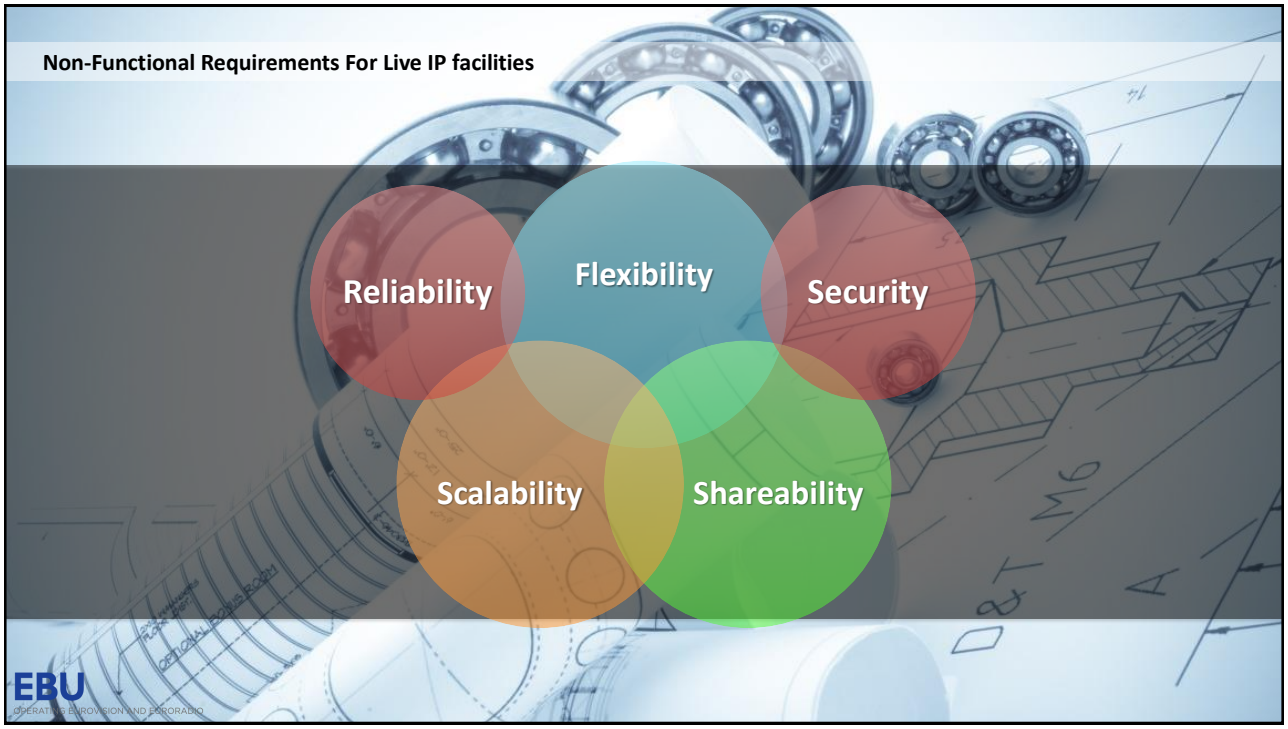
IP SHOWCASE THEATRE AT IBC – SEPT. 14-18, 2018

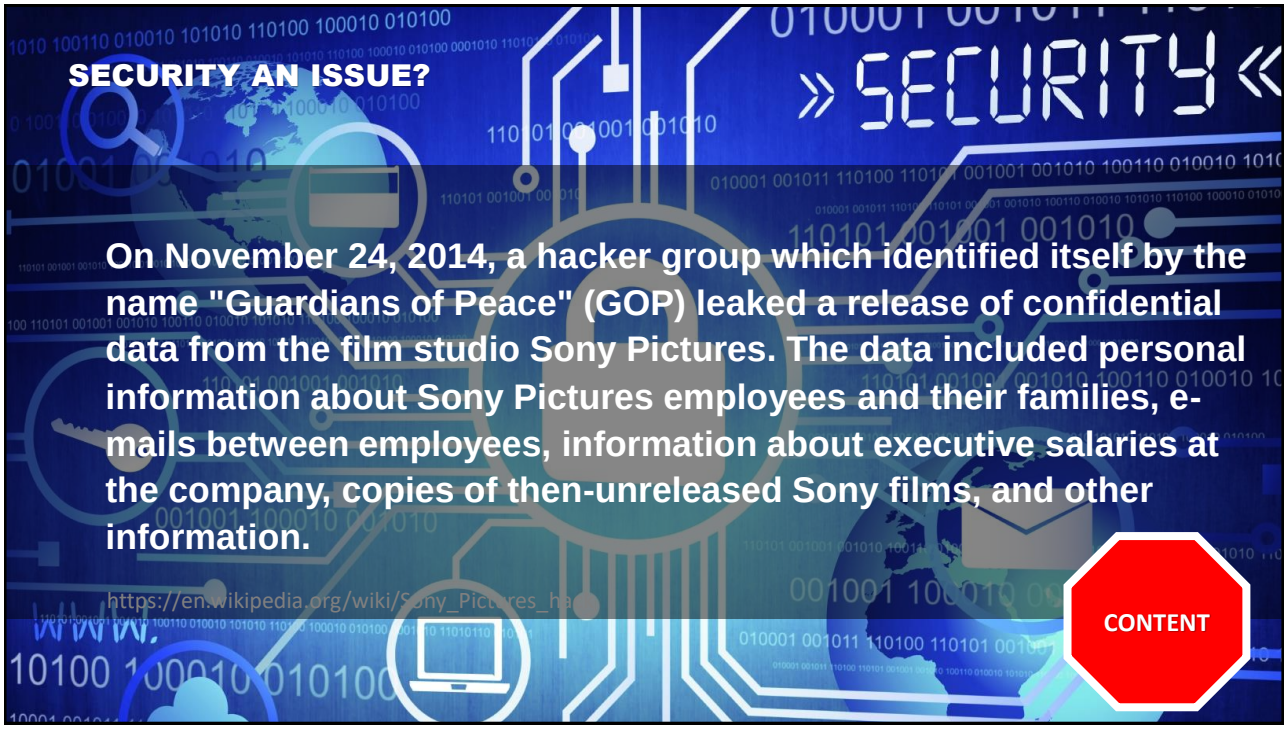



Non-Functional Requirements For Live IP facilities
Reliability
Flexibility
Security
Scalability
Shareability
EBU


» SECURITY «
WHY SECURITY?
From Script kiddies to organized Crime


Well, I'll hazard I can do more damage on my laptop sitting in my pajamas before my first cup of Earl Grey than you can do in a year in the field.
Exaggerated or Reality ??


SECURITY AN ISSUE?
» SECURITY «
• Multiple reports of broadcasters being hacked.
• Content being altered or taken “off-air”
• Reputation damage


SECURITY AN ISSUE?
» SECURITY «
On November 24, 2014, a hacker group which identified itself by the name "Guardians of Peace" (GOP) leaked a release of confidential data from the film studio Sony Pictures. The data included personal information about Sony Pictures employees and their families, e-mails between employees, information about executive salaries at the company, copies of then-unreleased Sony films, and other information.
https://en.wikipedia.org/wiki/Sony_Pictures_ha
CONTENT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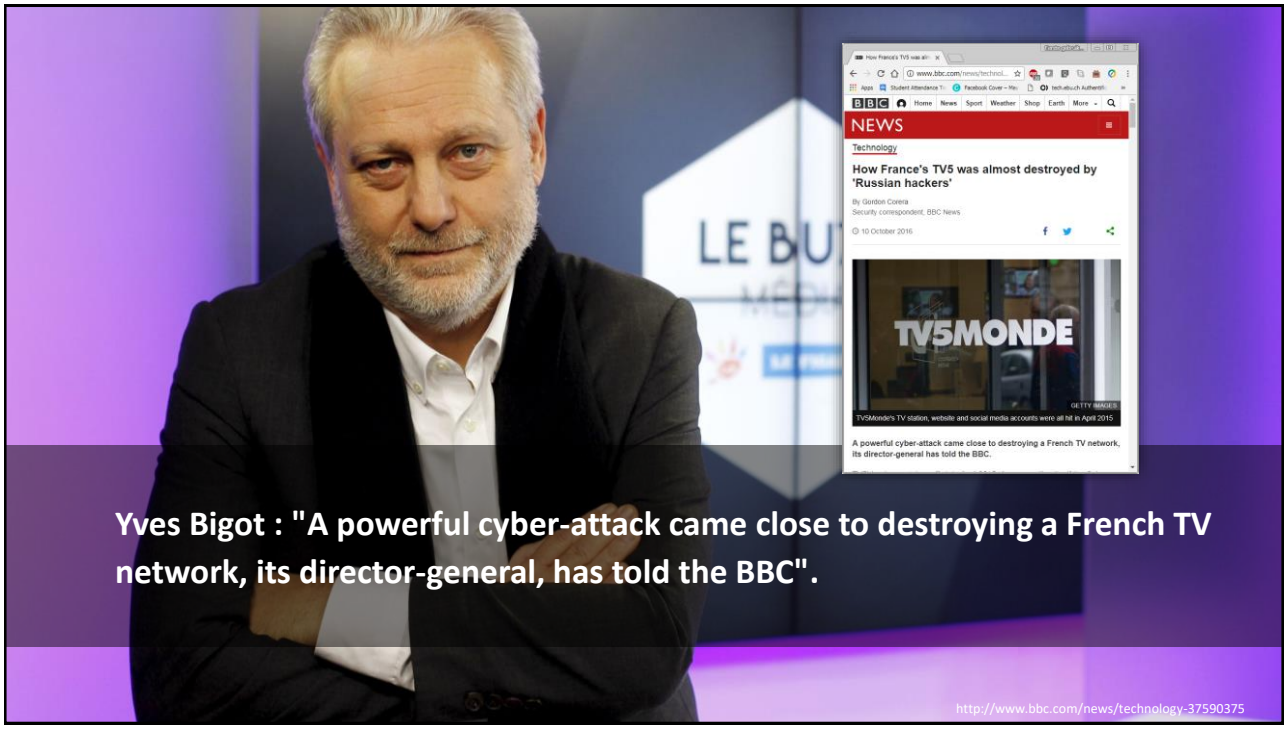
CONTENT


#socialTV
#TV CONNECTÉE
#DECOUVRIR
#COMPRENDRE
#ENSEIGNER
#RIRE
#AIMER
#VISITER
#VOIR
#JEUNESSE
#APPRENDRE
TV5MONDE
#COMMENTT
#AFRIQUE
TV5MONDE had just launched its latest channel.
French ministers had been in attendance at the Paris headquarters.
http://www.bbc.com/news/technology-37590375


BBC
NEWS
Technology
How France's TV5 was almost destroyed by 'Russian hackers'
TV5MONDE
A powerful cyber-attack came close to destroying a French TV network, its director-general has told the BBC.
Yves Bigot : "A powerful cyber-attack came close to destroying a French TV network, its director-general, has told the BBC".
http://www.bbc.com/news/technology-37590375

It was a race against time - more systems were corrupted with every passing minute. Any substantial delay would have led satellite distribution channels to cancel their contracts, placing the entire company in jeopardy.

Destructive intent

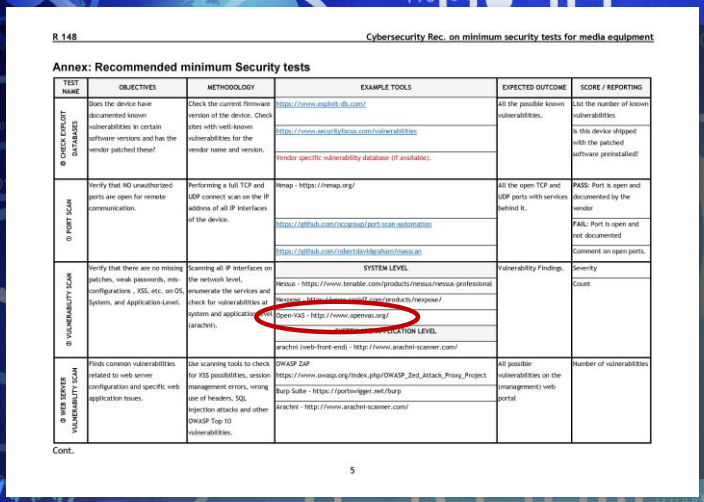

SECURITY IN BROADCAST SYSTEMS
» SECURITY «
Archive
Non-linear editing
Playout facility
Master Control Room
News room
Graphics systems
…
ALL IT Based systems


SECURITY IN BROADCAST SYSTEMS
WHAT USERS GET TO HEAR WHEN THEY ASK ABOUT …
» SECURITY «
User with administrator access
Default simple password
Identical user for entire system
Anti virus: please don't!
OS patching: please don't!
Old, unsafe protocols/versions

SECURITY – WHERE TO START?

- Keep your software up to date!
- Physical Security
- Active Directory (User management, Policies to Lock, Down machines …)
- Windows Server Update Services
- Anti-virus (Apply different profiles)
- Network (Layer 3, ACLs, Firewalls, …)

SECURITY - EBU R 148



R 148 Cybersecurity Rec. on minimum security tests for media equipment

Annex: Recommended minimum Security tests

TEST NAME	OBJECTIVES	METHODOLOGY	EXAMPLE TOOLS	EXPECTED OUTCOME	SCORE / REPORTING
⚙ CHECK EXPLOIT DATABASES	Does the device have documented known vulnerabilities in certain software versions and has the vendor patched these?	Check the current firmware version of the device. Check sites with well-known vulnerabilities for the vendor name and version.	https://www.exploit-db.com/ https://www.securityfocus.com/vulnerabilities Vendor specific vulnerability database (if available).	All the possible known vulnerabilities.	List the number of known vulnerabilities Is this device shipped with the patched software preinstalled?
⚙ PORT SCAN	Verify that NO unauthorized ports are open for remote communication.	Performing a full TCP and UDP connect scan on the IP address of all IP interfaces of the device.	Nmap - https://nmap.org/ https://github.com/nccgroup/port-scan-automation https://github.com/robertdavidgraham/masscan	All the open TCP and UDP ports with services behind it.	PASS: Port is open and documented by the vendor FAIL: Port is open and not documented Comment on open ports.
⚙ VULNERABILITY SCAN	Verify that there are no missing patches, weak passwords, mis-configurations , XSS, etc. on OS, System, and Application-Level.	Scanning all IP interfaces on the network level, enumerate the services and check for vulnerabilities at system and application (arachni).	SYSTEM LEVEL Nessus - https://www.tenable.com/products/nessus/nessus-professional Nexpose - https://www.rapid7.com/products/nexpose/ Open-VAS - http://www.openvas.org/ APPLICATION LEVEL arachni (web-front-end) - http://www.arachni-scanner.com/	Vulnerability Findings.	Severity Count
⚙ WEB SERVER VULNERABILITY SCAN	Finds common vulnerabilities related to web server configuration and specific web application issues.	Use scanning tools to check for XSS possibilities, session management errors, wrong use of headers, SQL Injection attacks and other OWASP Top 10 vulnerabilities.	OWASP ZAP https://www.owasp.org/index.php/OWASP_Zed_Attack_Proxy_Project Burp Suite - https://portswigger.net/burp Arachni - http://www.arachni-scanner.com/	All possible vulnerabilities on the (management) web portal	Number of vulnerabilities

Cont.

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CYBERSECURITY RECOMMENDATION ON MINIMUM SECURITY TESTS FOR NETWORKED MEDIA EQUIPMENT

RECOMMENDATION

Geneva
April 2018

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CURATED BY VSF VIDEO SERVICES FORUM

Thank You

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