Bug Bounty programs in Switzerland?

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C1 - public

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About me

- Security Analyst at Swisscom CSIRT, since 2015
  - Incident handling
  - Develop monitoring infrastructure
  - Security initiatives and projects

- Background as pen tester and IT security consultant / teacher

Agenda

- Part 1: Bug Bounty @ Swisscom
- Part 2: Situation in Switzerland

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Bug Bounty @ Swisscom

Part 1

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Why do we have a Bug Bounty program?

- There was an incident…
- 2 options:
  - Going public with a press release
  - De-escalate the situation using a Bug Bounty program

The basic idea behind our program

Goals
- Central point of contact
- Streamlined process to handle vulnerability notifications
- Set the rules
- Create incentives
- Create transparency about security issues

Scope
- All our services and products
- We expect from the researcher to identify the system properly

Bounties
- Risk based approach
- CHF 150 – CHF 10’000

Legal questions

Current situation

- Enable the payout of bounties
- All test-activities have to be within the bounds of the law
  - No permit to perform all kind of tests on our systems

- And in reality..?

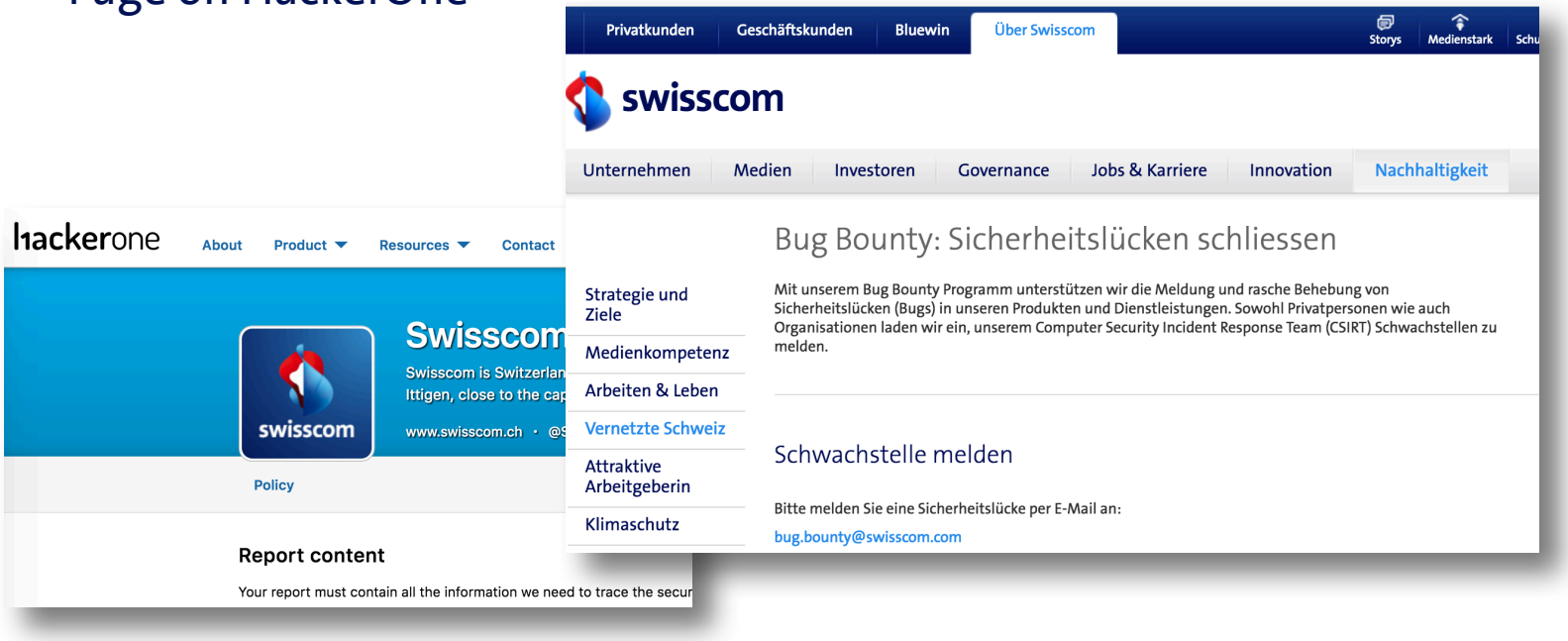
Payout

- Comply with sanctions / embargos
  - Identify the researcher and check all the lists
- Our approach: leave it to the bank
  - No PayPal

How do you start it?

- You probably won't announce it with a big bang

- Simple page on the website
- Page on HackerOne



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Results

Facts

- 200 submissions per year
- 75% web-related
- 50kCHF bounties per year

What works well?

- Quality of the reports
- Some high-risk findings

Where are our difficulties?

- Find the owner of the system *X* with IP *Y* out of 3.4 Mio.
- Convince the (external) dev/ops team to address the issue fast

Results

More results

- Clear guidelines about publishing advisories
- Measure the effectiveness of the education
  - Internal developed code has much less vulnerabilities
- Spot your weak points
  - It shows you very clearly, where you're good and where not

Return on investment

- Learn about vulnerabilities
- Gain insights into the situation at the frontlines
  - All the low-impact submissions are useful as well
- Clean-up old stuff
- Create awareness for security
- Secure software development and Bug Bounty programs complement each other perfectly
- Push agile approaches

What we are working on

- Include the program in our contracts
- Create awareness in the important departments
- Improve the handling / tracking
- Assign some more manpower

Example: CPE

- **Affected devices**:
  - Centro Grande / Centro Business

- **Vulnerability**:
  - Chain of vulnerabilities
  - Remote root access
  - Precondition: remote administration enabled / CSRF

Example: CPE

Swisscom devices are managed

- HDM (Home Device Manager) / ACS (Auto Configuration Server)
- TR-069 or CPE WAN Management Protocol (CWMP)
- It is the responsibility of Swisscom to update the devices

Example: CPE

- **Challenges**
  - Update = replace the firmware
  - Many ISP's use the software
- **Mitigation**
  - Deploy a quick fix
  - Prepare and test the proper fix
  - Coordinate with the vendor
- **For the technical details:**
  - Visit the talk of SCRT@CYBSEC 16

CYBER SECURITY ALLIANCE

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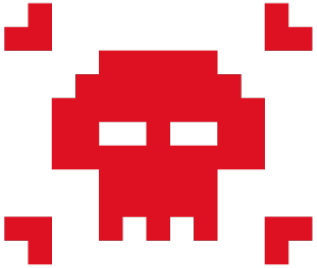
Example: website

- An old marketing page
  - No sensitive data
  - No connections to internal systems
- Forgotten
- Abandoned
- Hosted abroad
- No contacts
- Compromised through some old PHP crap



- With a Swisscom subdomain
- With a www.swisscom.ch/xyz redirect

Conclusion

Important points

- Get top management support
- Know your systems and contacts
- Be ready to handle the workload
- Integrate it in the contracts with suppliers

Situation in Switzerland

Part 2

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Some questions

- Experiences from other Bug Bounty programs?
- Requirements of / expectations to a Bug Bounty program?
  - What kind of information?
  - Bounty range?
- How does your responsible disclosure work?
  - Are there any company guidelines?

Limitations

- The legal framework
  - No legal action can not be guaranteed, even with the researcher following all precautions and all the rules
  - The researcher bears the risk
    (you are not allowed to look for vulnerabilities, but if you have found one, you can submit it and even get money for it…)
    - Exception: apps and devices you own

- The Dutch approach?
  - If you follow the rules, the authorities guarantee not to take any action against you

Thank you!

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Contact information / Links

Links

- https://www.swisscom.ch/en/about/sustainability/digital-switzerland/security/bug-bounty.html
- https://hackerone.com/swisscom/

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