Red Teaming (short)

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Red Team vs. Blue Team

- Red team
  - *authorized to emulate a potential adversary's attack or exploitation capabilities against an enterprise's security posture*
- Blue team
  - *responsible for defending an enterprise's use of information systems by maintaining its security posture against real or simulated attacks*
- White team
  - *responsible for refereeing an engagement between a Red Team and a Blue Team*
- Purple team – a collaborative activity of red and blue teams (a process)
  - sharing information and insights
  - better identification of security weaknesses and vulnerabilities (speed, accuracy, coverage)

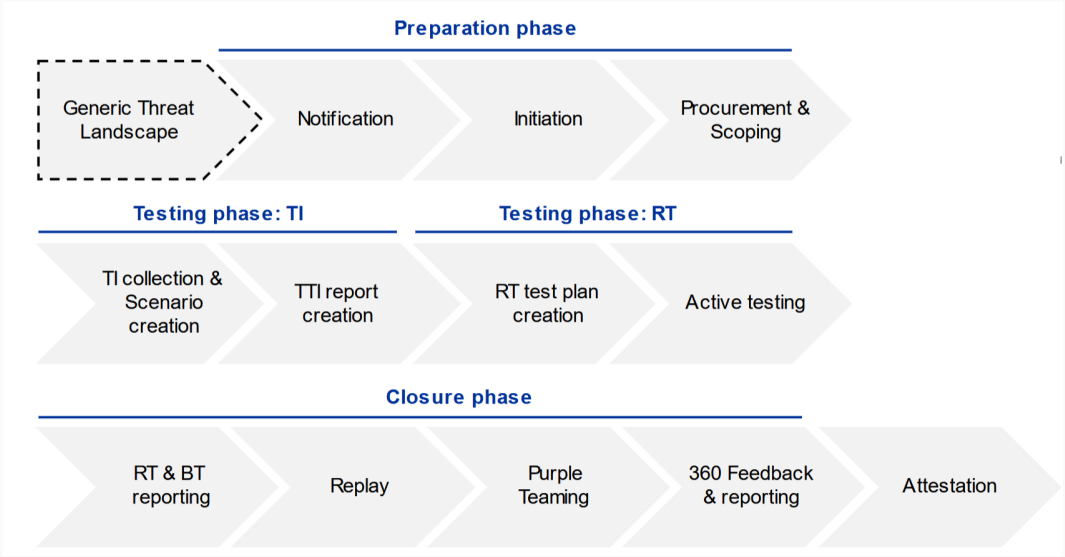
Red Teaming

- ethical hacking & goal-oriented & specific objectives
- variety of real-world TTP employed
- focus on realistic scenario
- might be time-consuming and costly (when compared with a pentest)
- requires a careful planning and oversight

TIBER-EU

- TIBER-EU – European framework for threat intelligence-based ethical red-teaming
- ECB (TIBER-XX Implementation Guides, specific for a country/jurisdiction)
- supporting guidance, templates, recommendations, for example:
  - TIBER-EU Services Procurement Guidelines
  - TIBER-EU White Team Guidance
  - TIBER-EU Purple Teaming Best Practices
  - scoping
  - threat intelligence
  - planning
  - reporting

TIBER-EU process



Purple teaming

- limited variants in the testing phase
  - catch and release (allow execution of the test after successful detection or reveal)
  - collaborative proof of concept (when red teaming itself is too risky)
  - war game (red and blue teams are fully aware of their goals)
- closure phase
  - table-top analysis
  - alternative attack vectors
  - technical exploration
  - planned attack vectors

Variety of resources and tools (examples)

- *Read teaming is not about tools but methodology*
- Adversary Emulation Library (see Lecture 2)
- Atomic Red Team (`atomicredteam.io`)
  - library of tests mapped to the MITRE ATT&CK framework
  - granular verification of Blue team detection capabilities
- Automation of adversary emulation
  - Mitre CALDERA
  - Prelude Operator
- Other emulation tools, e.g.
  - Firedrill, The DumpsterFire Toolset
  - Stratus Red Team (cloud focused)

Exercises

1. TryHackMe: Chaining Vulnerabilities
   Send me a screenshot showing successfully completed Guided Chain task. Read other parts of the room.