

Cybernetic Proving Ground

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About Us and Background

Project team

- Computer Security Incident Response Team - MU
- Institute of Computer Science Masaryk University
- Faculty of Informatics Masaryk University

Finished Projects

- CAMNEP: co-operation with U.S. Army
- CYBER: project for Czech Ministry of Defence

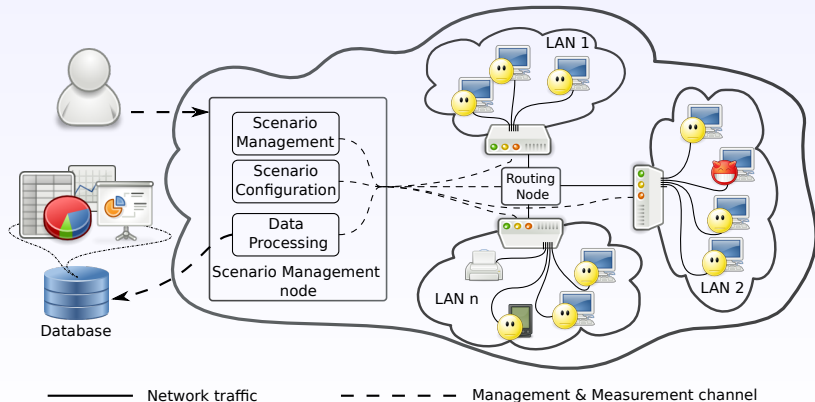
Running Projects

- CPG: project for National Security Authority
- CYBER2: project for Czech Ministry of Defence

Cybernetic Proving Ground - CPG

Motivation

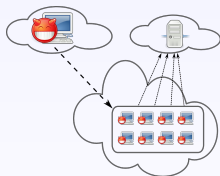
- Unique environment for security development and testing
- Simulation of an network, systems, services and applications



Security Scenario

- Generic way to describe security-related experiment
- Motivation of a (real life) cyber attacks

2013 (Year One)



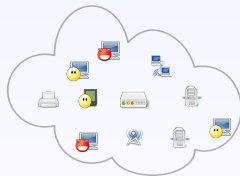
Distributed Denial of Service attack

2014 (Year Two)



Critical Infrastructure

2015 (Year Three)



Infrastructure as a Service

Testbed for simulations of cyber-attacks

Cloud infrastructure

- Dedicated sandbox for security scenarios
- Utilize existing cloud infrastructures
- Hiding technical aspects from users
- Fully transparent to virtualized



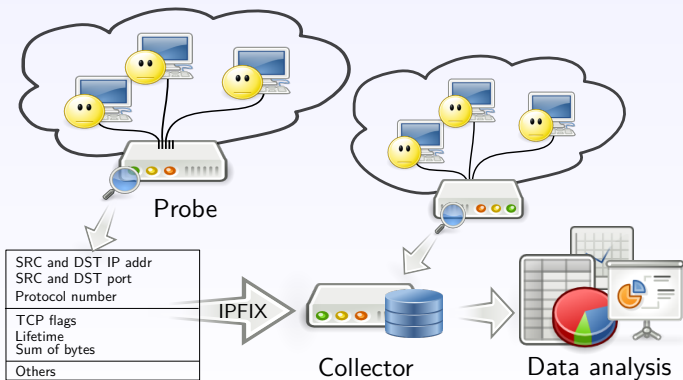
MetaCentrum

cerit
scientific cloud

OpenNebula.org

Traffic Analysis and Anomaly Detection

- Flow-based IPFIX measurement with application visibility
- Data analysis, misuse and anomaly detection methods



Summary

- Complete network can be simulated (including hosts, network components and network topology)
- End users can set up environment very quickly without the necessity to know details about how to configure networking
- Security scenarios provide a generic way to describe an attack and enables to run its simulation executed in controlled manner
- CPG is aimed at employing advanced visualization techniques that would contribute to interactive simulation and analysis
- Basic prototypes of crucial parts already implemented and partially tested

Co-operation offers

- Collaboration on scenarios creation
- Your possible scenarios testing

Cybernetic Proving Ground

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Project Webpage

<http://www.muni.cz/ics/kypo>

