WP2: Experimentation

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mami
measurement and architecture for a middleboxed internet

measurement   architecture   experimentation

WP2 recap

- Starts July 2016

  – T2.1 Middlebox Classification (ULg, Aberdeen, SRL)

  – T2.2 Middlebox Modeling (ULg, TID)

- Starts January 2017

  – T2.3: Model/NFV-based Experimentation (ETH, Aberdeen, SRL)

  – T2.4: Testbed-based Validation Approach (ETH, Aberdeen, SRL)

WP2 Early Plan Overview

T1.2: Initial Measurements	→	T2.1: MB Classification	→	T2.2: MB Modeling
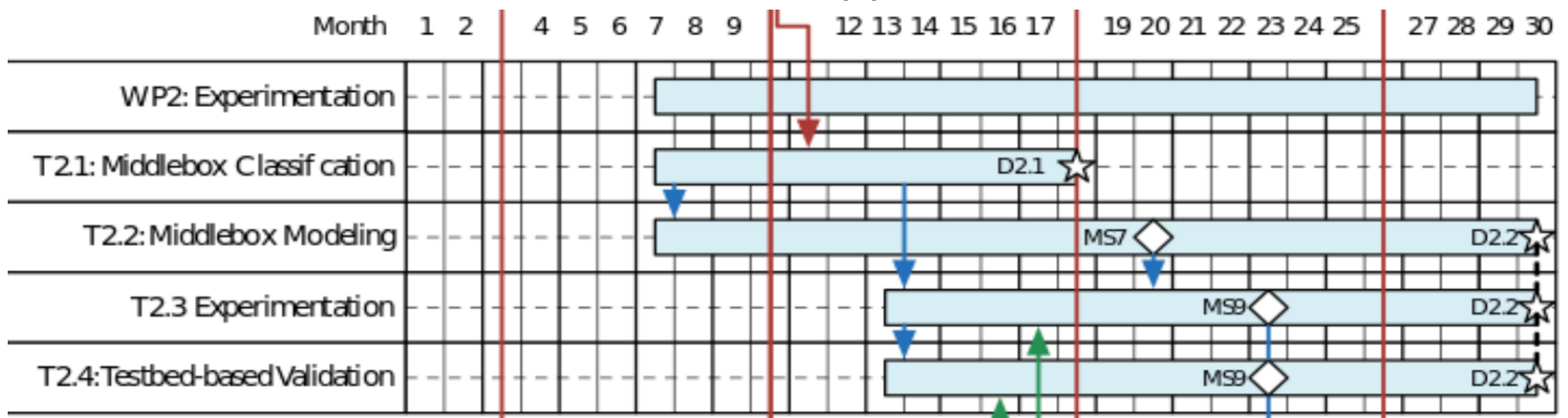
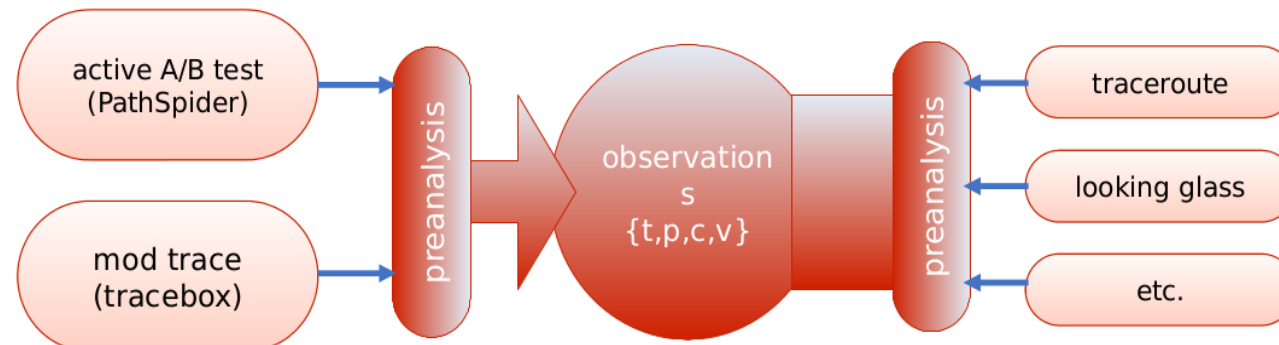- Data

- Classification

- Class models

Tracebox Datasets

- Collected data:

  – PlanetLab

- Being-collected data:

  – Ark (IPv6)

- To-Be-Collected data:

  – RIPE Atlas

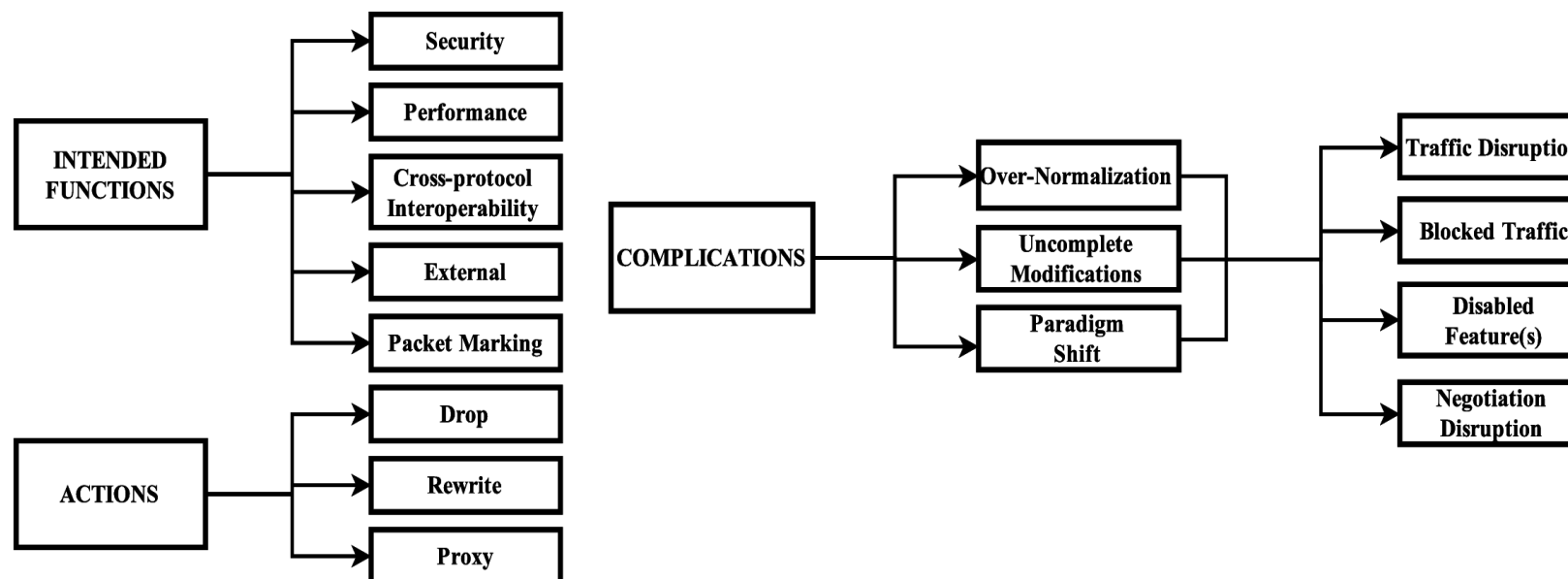- Additional data (SRL ?):

  – MONROE, NORNET

Classification

- Common data model for all *observations* of path conditions
- t: time of observation
- p: path to which observation applies
- c: condition observed, e.g. "feature X ⇨ packet loss"
- v: vector of condition-specific values

- Taxonomy:

Classification

Extend with:

- Persistence (Temporal aspect)

- Positionning (Location on the path)

- Carpenter, B., & Brim, S. (2002). Middleboxes: Taxonomy and issues (No. RFC 3234).

- Edeline, K., & Donnet, B. (2015, April). Towards a middlebox policy taxonomy: Path impairments. In 2015 IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS) (pp. 402-407). IEEE.

- Planned PAM16 submission

- Any help is welcome (Aberdeen, SRL, ...)

Modeling

Simulator

- Netkit/Netkit-NG

  – http://wiki.netkit.org/index.php/Main_Page

- Netkit + Click (MBTest)

  – https://bitbucket.org/bhesmans/mbtest/src

- Mininet (Any experienced user ?)

  – http://mininet.org/

- CliMB (HotMiddlebox16, 26/08) + Mininet

Summary

- T2.1 MB Classification:

  – Data Analysis and Classification: ULg, Aberdeen ?, Any

  – Mobile Data Collection: ULg, SRL ?

- T2.2 MB Modeling:

  – Implementation Practicability Analysis: All