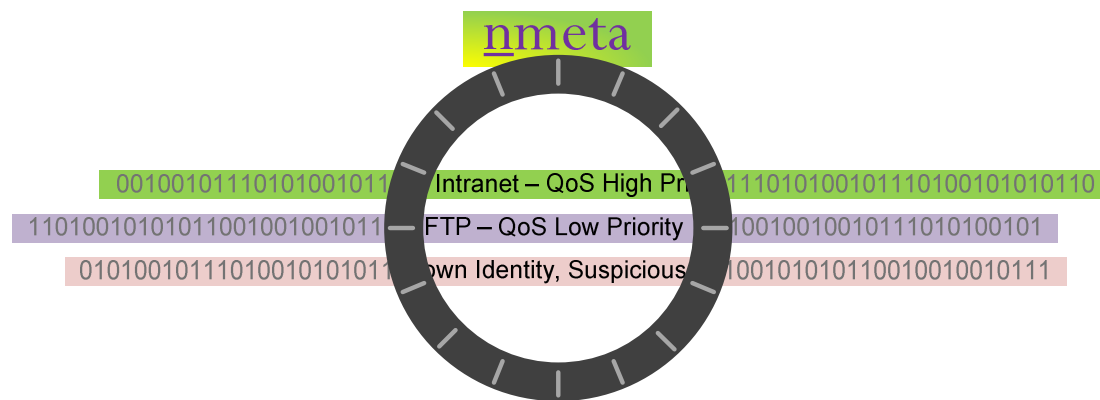


SDN Traffic Classification for Enterprise Networks



Matt Hayes



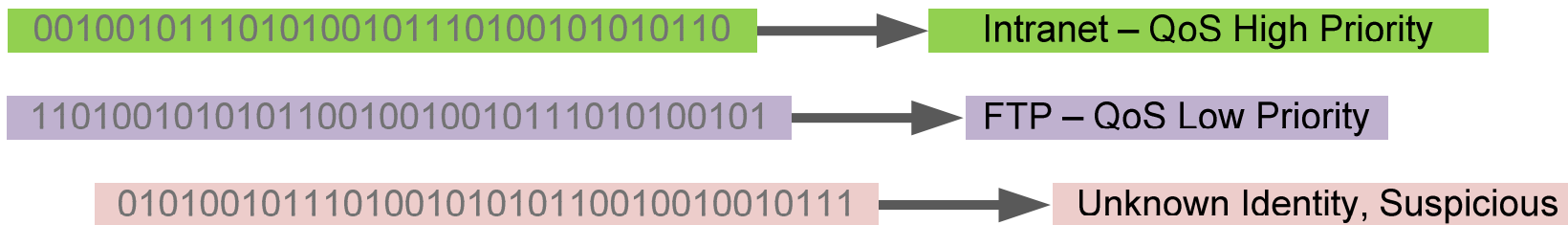
Background



- Based on research at Victoria, and does not necessarily represent the views of my employer
- 2014 COMP489 project (supervised by Professor Winston Seah and Dr Bryan Ng)

Introduction

- Traffic Classification



Introduction

- Why Enterprise Networks?

- No net neutrality debates(can do QoS)

- Rarely studied

- Fewer personal privacy issues than public networks



- Huge market, big incumbents

- Ripe for disruption?

Introduction

- Complexity – Internet of Things (IoT)



Problem

- Traditional methods of **traffic classification** in enterprise networks are becoming **impractical** due to **scale of devices and flows**
- **Hypothesis:** *SDN architecture is a suitable foundation ... functional traffic classification requirements of enterprise...*

Why SDN?

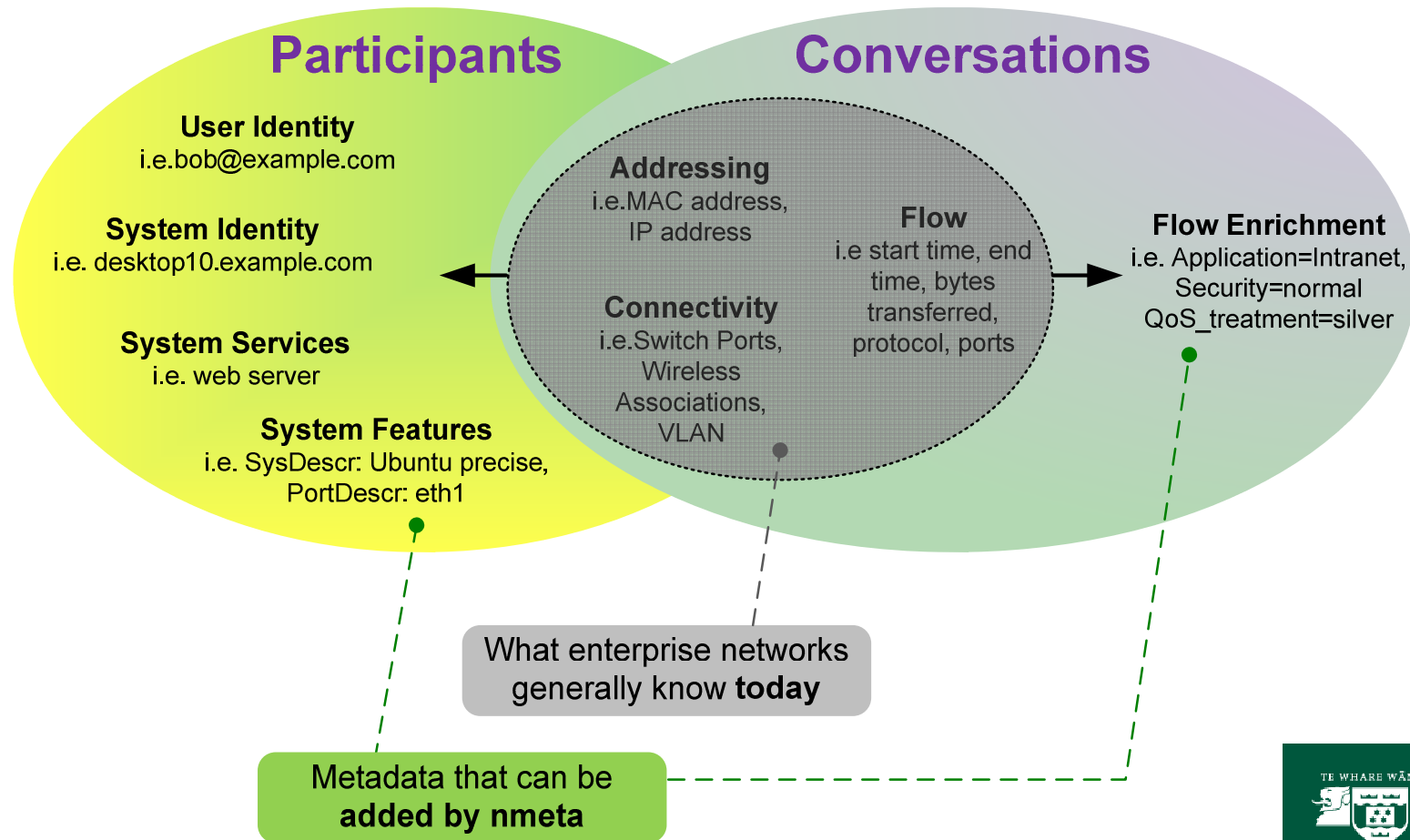
- Network-wide view
 - Classify once
 - Identity visibility
- Software!!! Can easily update how it works
- We are creating *Software-Defined Traffic Classification*

Types of Classification

- Static
- Identity
- Payload
- Statistical
- Multiclassifier

Nmeta

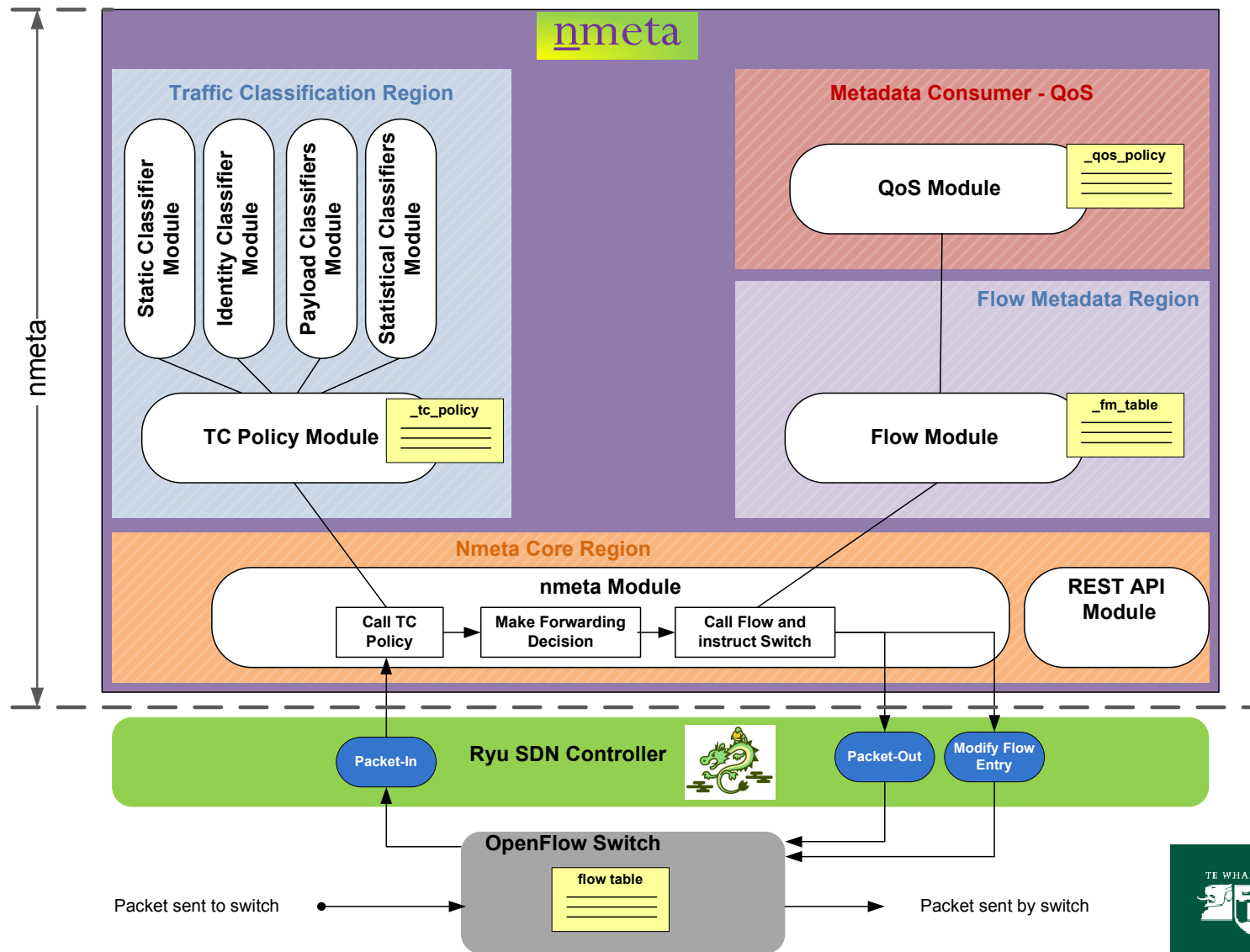
- Network metadata:



The background of the slide is a dark, atmospheric landscape. It features a silhouette of a forest or trees in the foreground, set against a twilight sky with a gradient from dark blue to a lighter, hazy horizon. The overall mood is mysterious and tech-oriented.

Teaching the Network New Tricks

Nmeta



Nmeta on GitHub

Policy Roadmap #35

 **Open** mattjhayes opened this issue 20 days ago · 0 comments

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mattjhayes commented 20 days ago

Owner 

Policy Roadmap

This GitHub issue is a roadmap for nmeta policy structure, developed through fictional use cases expressed as aspirational policies. It is intended to be long-lived, with regular updates and issues raised separately to implement specific features. It is thus an evolving guide that provides context and direction to work on specific enhancements.

Policy Principles:

The policy should be:

- Easy to use and get results from
- Start abstract and become more detailed
- Less is more!
- Flexible enough so that could be used for more than just traffic classification

Labels 

enhancement

Non-Functional

Severity: Low Priority

Milestone 

No milestone

Assignee 

No one—[assign yourself](#)

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Summary



- SDN can be used to build network-wide rich metadata on participants and types of conversation enabling new functionality
- Policy-controlled classifiers (can be user-defined) enrich flow metadata and set extensible actions
- Functional relatively easy, non-functional is a *lot* harder...

Wrapping it Up



- Check it out at GitHub:

<https://github.com/mattjhayes/nmeta>

- Build a full-function virtual lab:

<http://mattjhayes.github.io/nmeta/extras.html>

- SDN needs a reason to be, give it one!

Questions?