



FUTURE INTERNET TESTBEDS
EXPERIMENTATION BETWEEN
BRAZIL AND EUROPE



CastFlow: a lightweight approach to multicast in Openflow

Cesar Marcondes [1], Antonio Añon Brasolin [2], Ettore Zugliani [3]

1 marcondes@dc.ufscar.br | 2 tonhoanhon@gmail.com | 3 ettorezugliani@gmail.com

OBJECTIVES

1. **Propose** and **develop** an optimized multicast **openflow** solution
2. Take advantage of openflow **centralized** solution to calculate as much as possible **beforehand**
3. **Reduce** the **overhead** of the most frequent operations (entry and exit of host, source changes) in expense of the least frequent ones like topology changes

CastFlow environment

1. Using **Openflow** version **1.0**
2. **Implemented** using **Nox** controller framework
3. Currently runs on **linux** Debian Squeeze
4. The programming **language** chosen was **python 2.6**
5. Using **Networkx** library to manage the **graph**

Event	Action
Add host	1. Updates graph 2. Iterates from the host to source setting the rules to add the flow 3. Sends rules to be installed
Remove host	1. Updates graph 2. Iterates from the host to source setting the rules to remove the flow 3. Sends rules to be installed
Change source	1. Remove all hosts 2. Change the source of the topology 3. Add all hosts

FUTURE WORK

1. Further **improvement** of the implementation including performance boosts and failproof
2. **Port** Castflow to other controller frameworks like **Pox** or **Floodlight**
3. Using the **IGMP** messages for group management instead off a castflow event

