ICN DevOpS

ICN on Rails...

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Motivation

- Several C/C++ implementations available
 - Great
 - Required for validating implementability in routers etc.
- Now: time to build systems (5G, IoT, enterprise, ...)
 - Would be great to have a agile programming environment
 - That can talk to talk to the CCNx infrastructure
 - That can be used for quick experiments

ICN DevOps

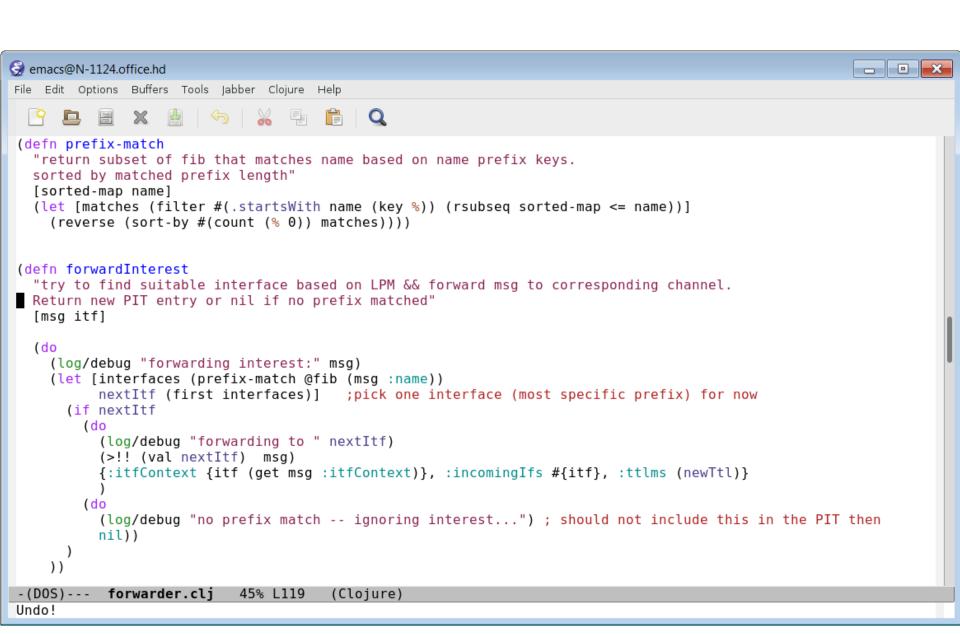
- Interactive ICN Forwarder Programming Environment
- Extensible at runtime
 - New face types
 - Forwarding strategies
 - Caching algorithms



- Access to existing code for security functions, web frameworks etc.
- Implemented in Clojure
 - Robust, practical and fast programming language
 - Lisp dialect runs on the JVM (+ JavaScript & CLR platforms)
 - Robust & efficient concurrency (Software Transactional Memory)
 - Immutable data, expression value caching

Status

- Implements (subset of) ccnx-messages/semantics
- Talks to ccn-lite-peek, ccn-lite-relay
- Face implementations: UDP, HTTP, file directory
- Uses clojure/core.async
 - Think Hoare's CSP and Go's channel concept
 - Asynchronous communication in concurrent programs without callback hell
- Currently working on FLIC it's fun
- Programming environment: clojure-1.7, emacs, CIDER



Plans

- Platform for CCNx prototcol evolution
- ICN/web application development
- Video streaming servers and client
- Browser extensions (JavaScript platform)
- IoT-Gateway platform in RIOT scenarios
- NFV-ready package OsV
- Named Function Networking
- ICN Network Management

Availability

Soon – MIT license, on github

Stay tuned...