

**parc**<sup>®</sup>

A Xerox Company

# Carrier Class CCN Demo

**Contributors:**  
**Eric Holmberg**  
**Ramesh Ayyagari**  
**Dick Sillman**  
**Priti Goel**  
**Mark Konezny**



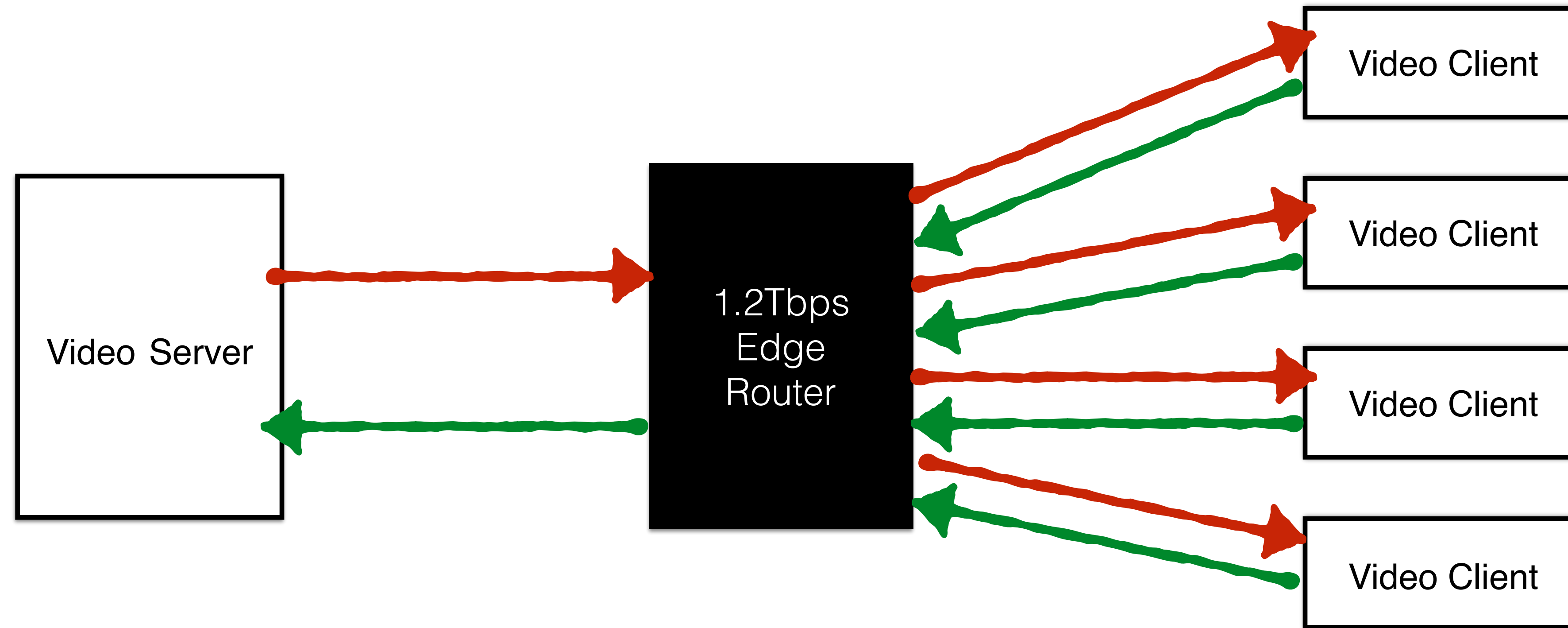
# Motivation for Demo

**According to the latest news report from Cisco, “2014 Complete VNI Global IP Traffic Forecast for 2013-2018”,**

Video is predicated to amount for 84% of all the Internet traffic by 2018

**What better choice than streaming CCN video across a Carrier Edge router while running IP traffic as well?**

# Interest/Content Protocol



CCN Interest Message



CCN Content Message

# Demo Ingredients

## CCN Producers:

- 10 VMs running on Intel Xeon Server running

## CCN Consumers:

- 10 “Raspberry Pi”
- Open Source VLC (VideoLan Client) plugin

## Parc Distillery software

- Protocol Stack
- Metis forwarder

## Datapath:

- Parc Hybrid Router Research Platform

# PARC Router Platform



CE Edge Router with L2/L3/MPLS

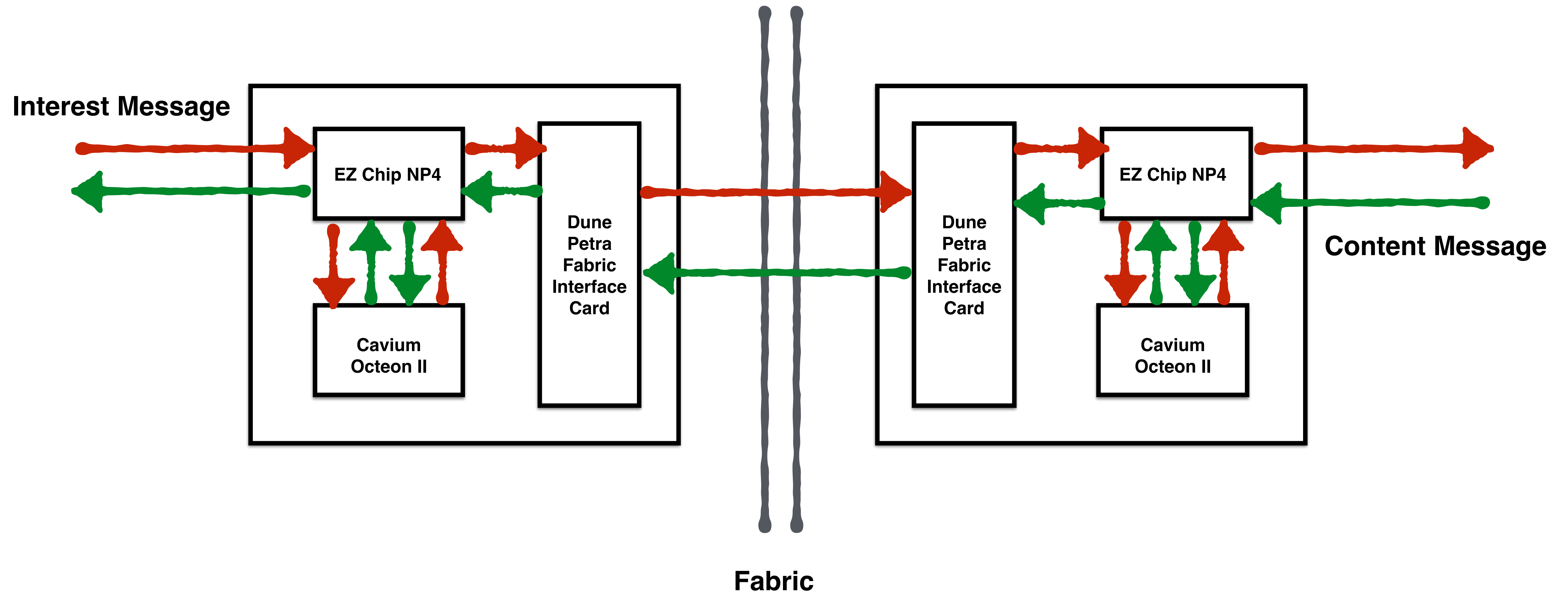
NSR/NSF architecture with ingress/egress QoS

6RU (4 linecard) and 16RU (12 linecard) Models

Each Linecard supports 40-100GE of front port at wiretapped

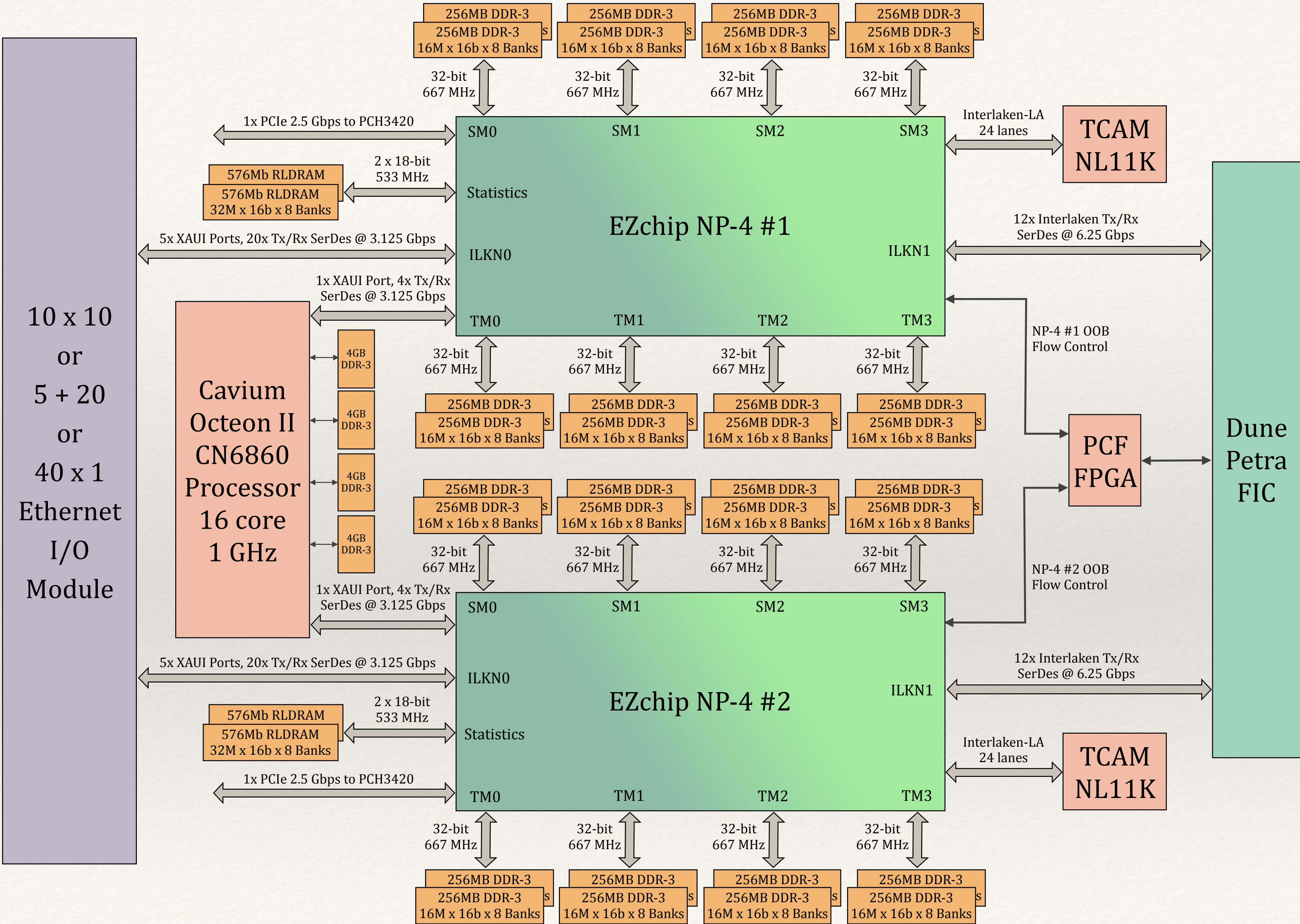
Backplane supports 200GE/slot

# Router Datapath





NPU Resources on PARC Line Card





# Conclusions/Future Directions

CCN came up quickly on both low end consumer and carrier equipment

CCN over Ethernet can be added to Carrier Routers as a software upgrade

PARC research platforms are available for CCN developers

Coming Research Topics using PARC research platform

- Network Caching
- Scale optimization



**parc<sup>®</sup>**

A Xerox Company

**Thank you**

<http://www.ccnx.org/>