

# Starting Out - Market & Applications

IEEE 802.3  
HSE Consensus Ad Hoc

John D'Ambrosia, Dell  
IEEE 802.3 Sept 2012 Interim  
Geneva, CH

# Introduction

- When developing a Call-for-Interest
- We don't need to
  - Fully explore the problem
  - Debate strengths and weaknesses of solutions
  - Choose any one solution
  - Create project documentation  
(i.e. PAR, 5 Criteria, Project Objectives)
  - Create a standard or specification
- Anyone can speak or vote
- **RESPECT... give it, get it**

# Study Groups

- Background - IEEE 802.3 Operating Rules, Section 4
  - [http://www.ieee802.org/3/rules/P802\\_3\\_rules.pdf](http://www.ieee802.org/3/rules/P802_3_rules.pdf)
- A SG is formed when enough interest has been identified for a particular area of study within the scope of the WG.
- First step is Call for Interest (CFI)

```

graph TD
    Idea[/Idea/] --> Call[Call for Interest]
    Call --> D1{802.3 Form SG}
    D1 -- No --> RIP([RIP])
    D1 -- Yes --> D2{802.3 Approve}
    D2 -- No --> CP1([Check Point])
    D2 -- Yes --> SG[Study Group Meetings]
    SG --> PAR[/PAR/]
    SG --> C5[/5 Criteria/]
    SG --> Obj[/Objectives/]
    PAR --> D2
    C5 --> D2
    Obj --> D2
    D2 -- Yes --> D3{802 EC Form SG}
    D3 -- No --> CP2([Check Point])
    D3 -- Yes --> D4{802 EC Approve}
    D4 -- No --> CP3([Check Point])
    D4 -- Yes --> A5[/Approved 5 Criteria/]
    A5 --> D5{NesCom Approve}
    D5 -- No --> CP4([Check Point])
    D5 -- Yes --> D6{SASB Approve}
    D6 -- No --> CP5([Check Point])
    D6 -- Yes --> A6[/Approved PAR/]
  
```

4

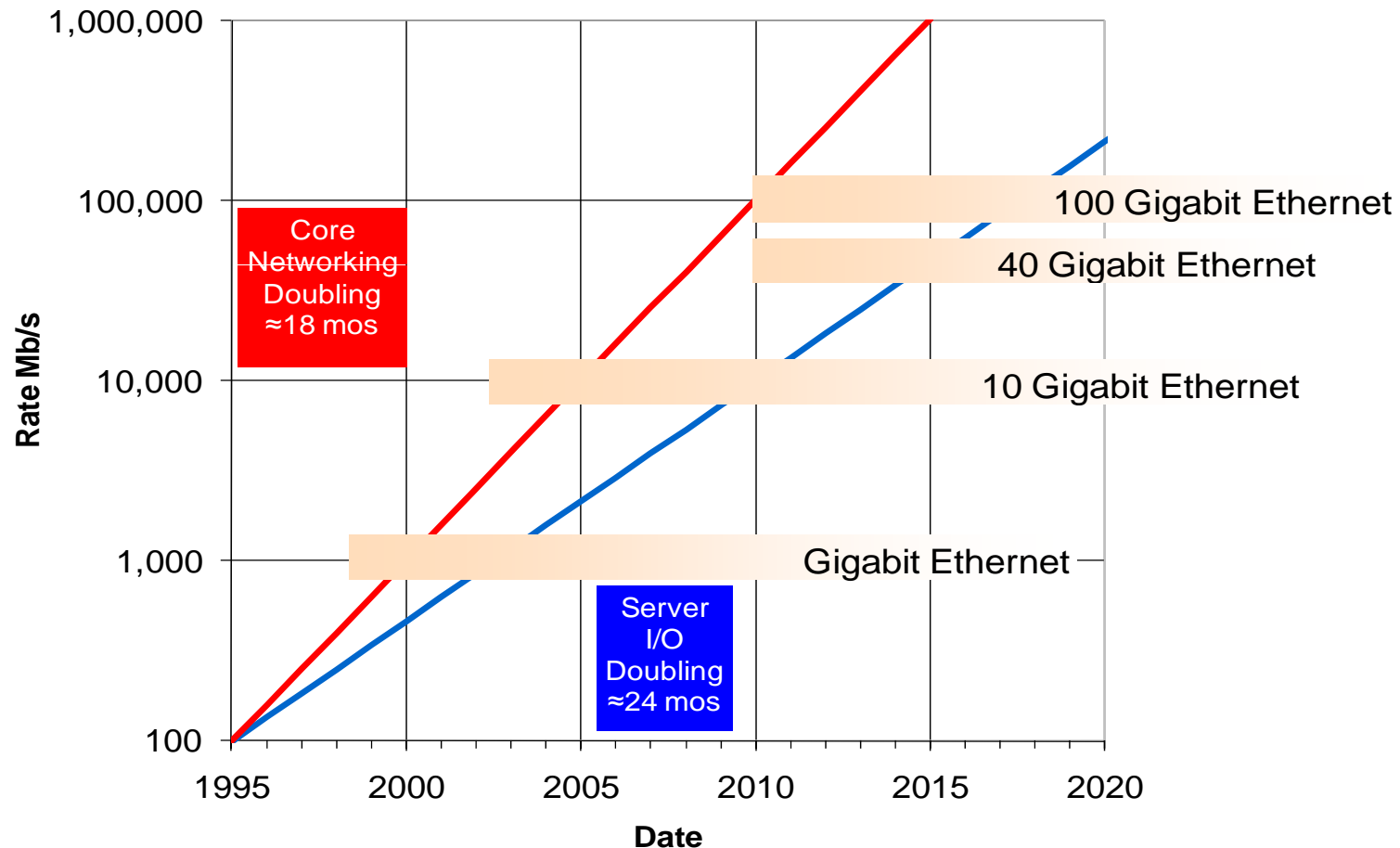
# Typical Outline for Call-for-Interest

- CFI Introduction
- Introduction - Market / Applications
- Technical Feasibility
- Why Now

# Some slides and new information on market / application

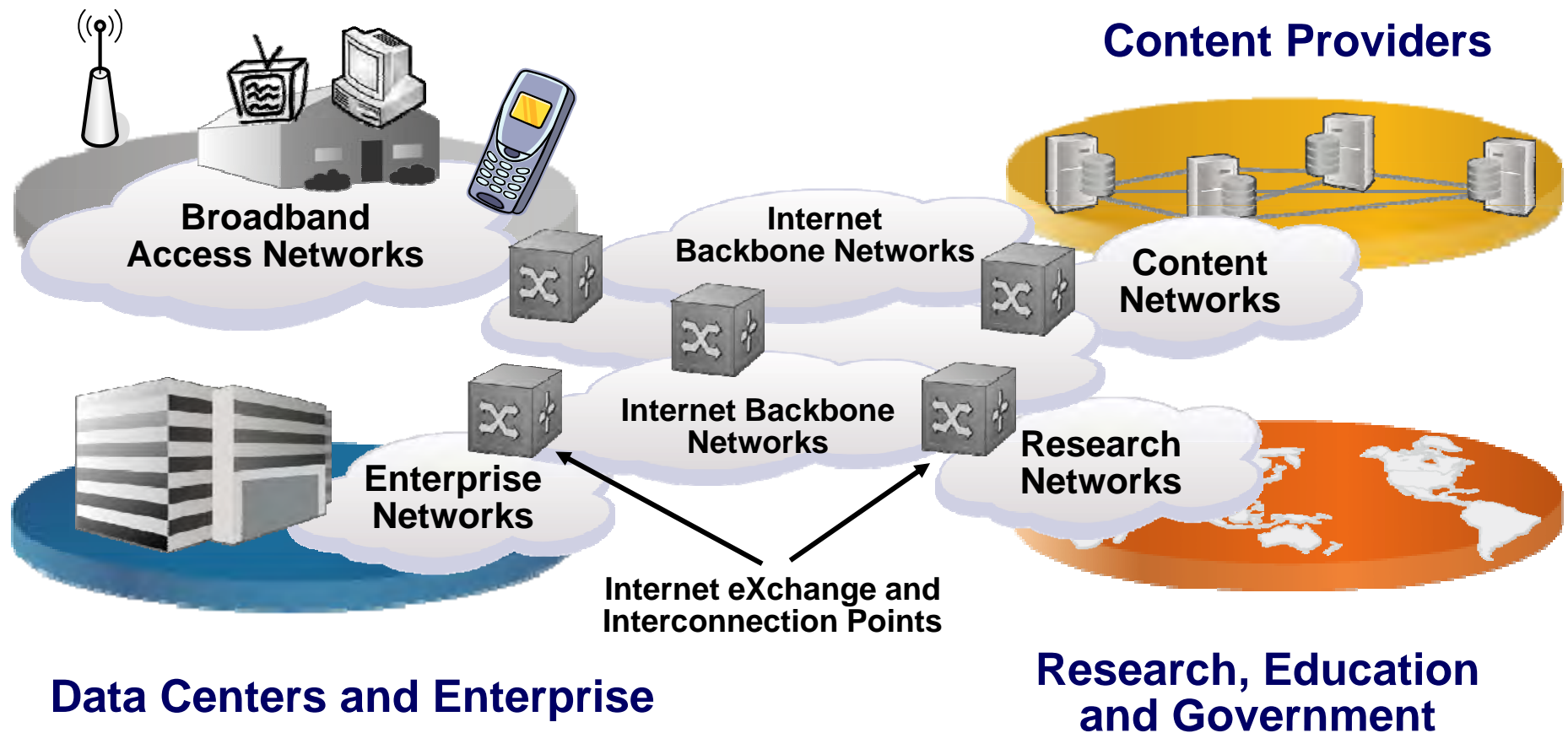
# 2007 HSSG Tutorial

## Justification of Two Rates



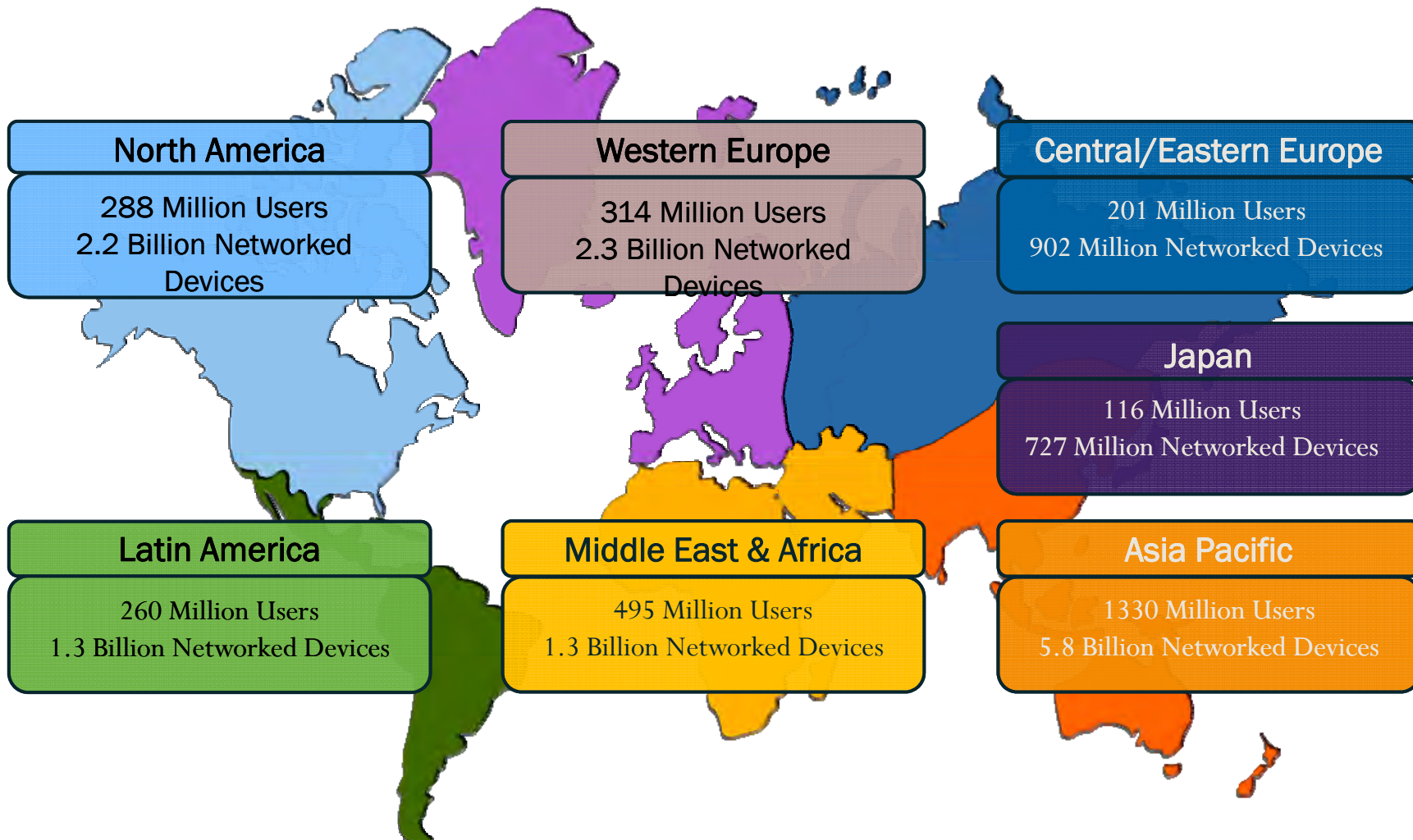
# The Ethernet Eco-System (2007 HSSG)

## Broadband Access





# 2015 Global Users and Network Connections



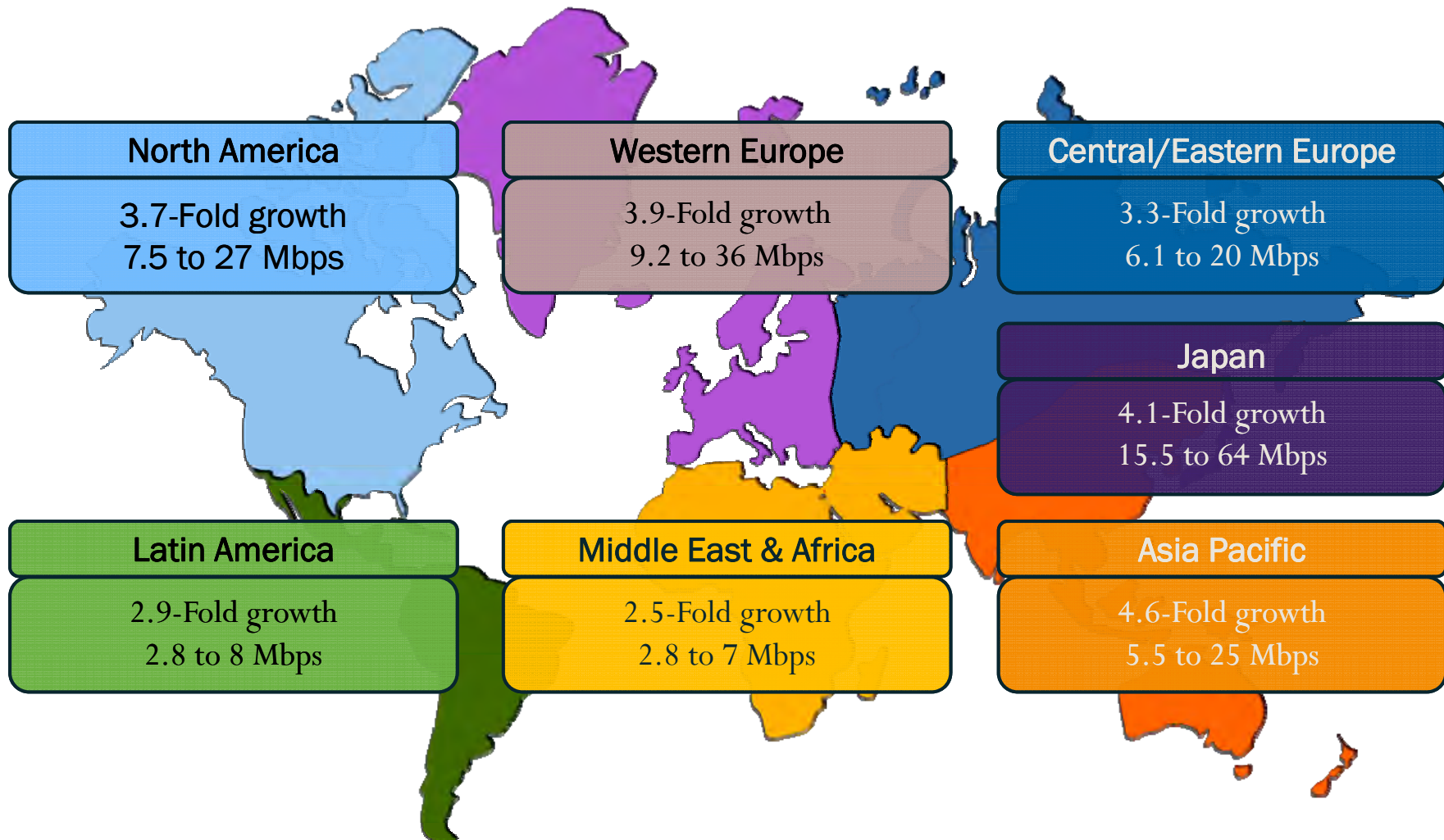
Source: nowell\_01\_0911.pdf citing Cisco Visual Networking Index (VNI) Global IP Traffic Forecast, 2010–2015,  
[http://www.ieee802.org/3/ad\\_hoc/bwa/public/sep11/nowell\\_01\\_0911.pdf](http://www.ieee802.org/3/ad_hoc/bwa/public/sep11/nowell_01_0911.pdf)

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# Global Broadband Speed 2010-2015

Average broadband speed will grow 4X; from 7 to 28 Mbps



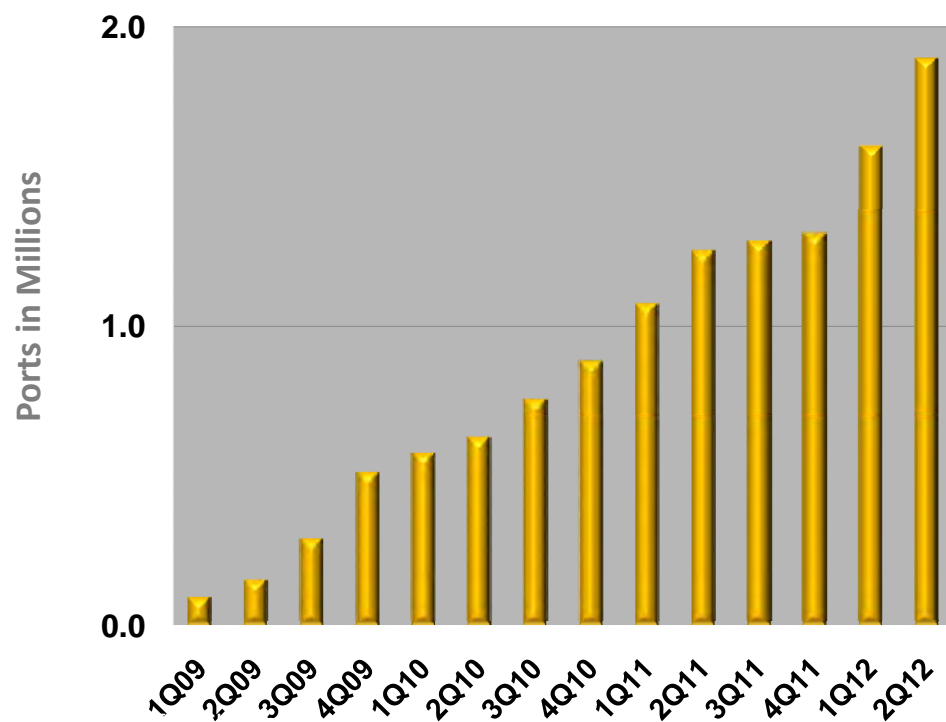
Source: nowell\_01\_0911.pdf citing Cisco Visual Networking Index (VNI) Global IP Traffic Forecast, 2010–2015,  
[http://www.ieee802.org/3/ad\\_hoc/bwa/public/sep11/nowell\\_01\\_0911.pdf](http://www.ieee802.org/3/ad_hoc/bwa/public/sep11/nowell_01_0911.pdf)

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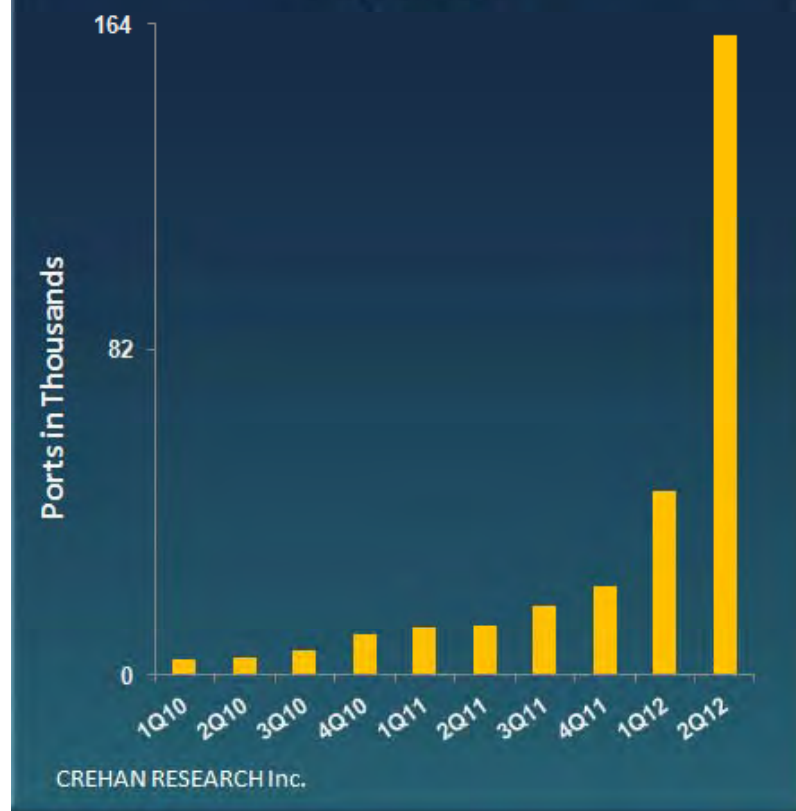
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# 10GbE Server Deployments

10GbE Server-class Adapter/LOM Shipments



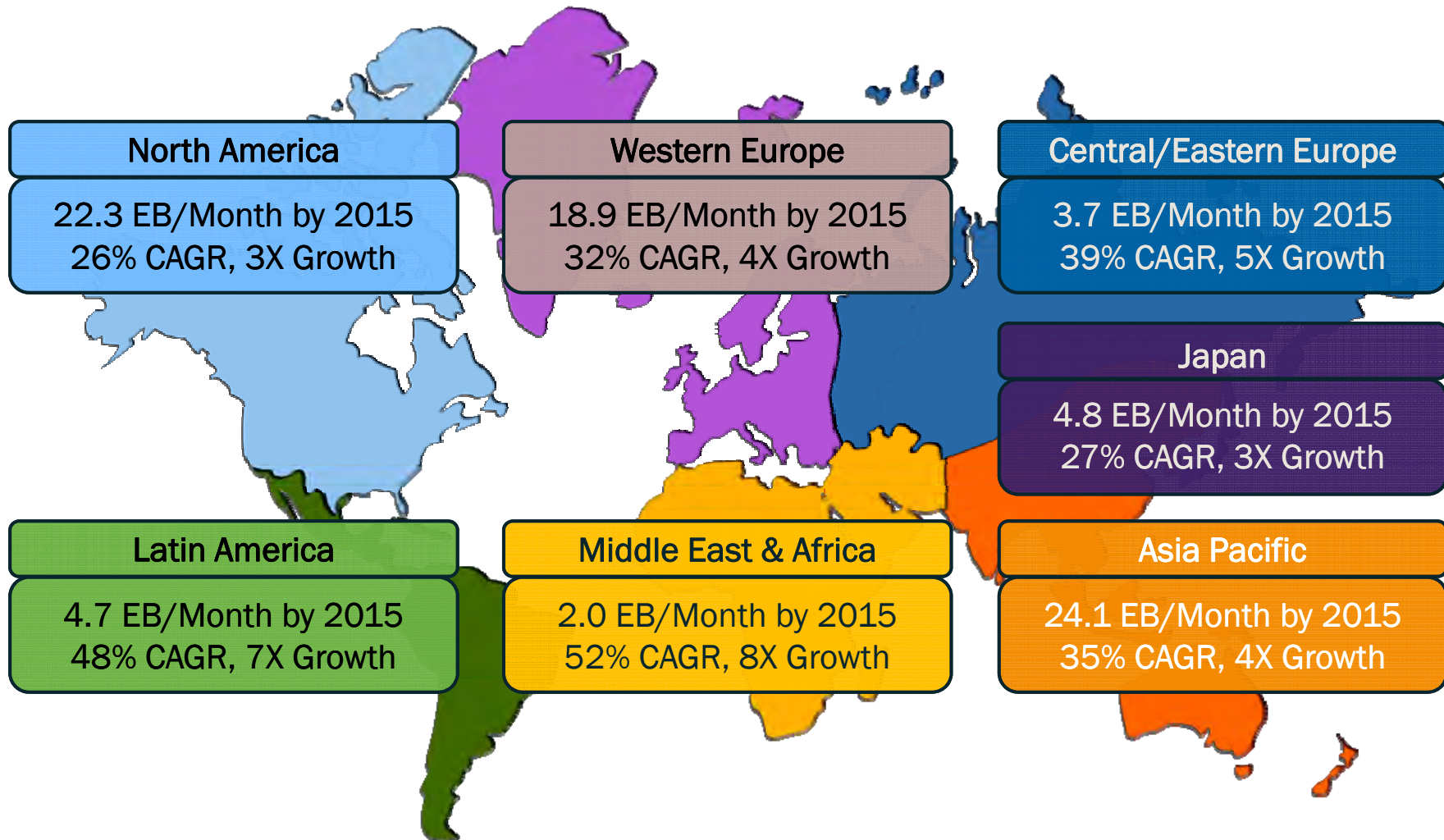
Server-class Adapter & LOM 10GBASE-T Shipments



All data used with permission Seamus Crehan, Crehan Research.

# Global IP Traffic Growth, 2010–2015

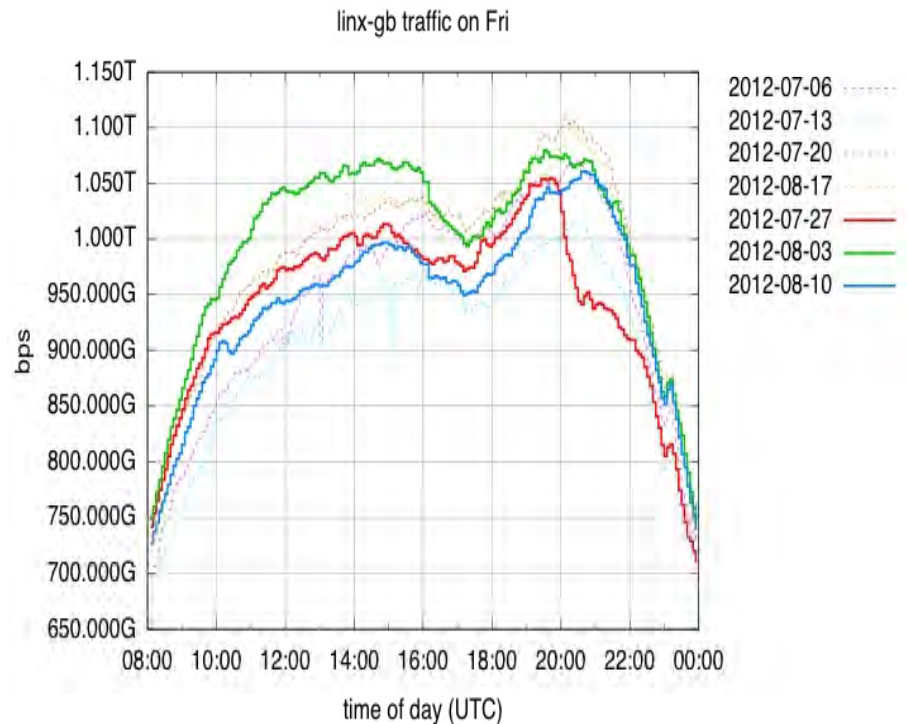
Regional contributions to the Zettabyte journey



Source: nowell\_01\_0911.pdf citing Cisco Visual Networking Index (VNI) Global IP Traffic Forecast, 2010–2015,  
[http://www.ieee802.org/3/ad\\_hoc/bwa/public/sep11/nowell\\_01\\_0911.pdf](http://www.ieee802.org/3/ad_hoc/bwa/public/sep11/nowell_01_0911.pdf)

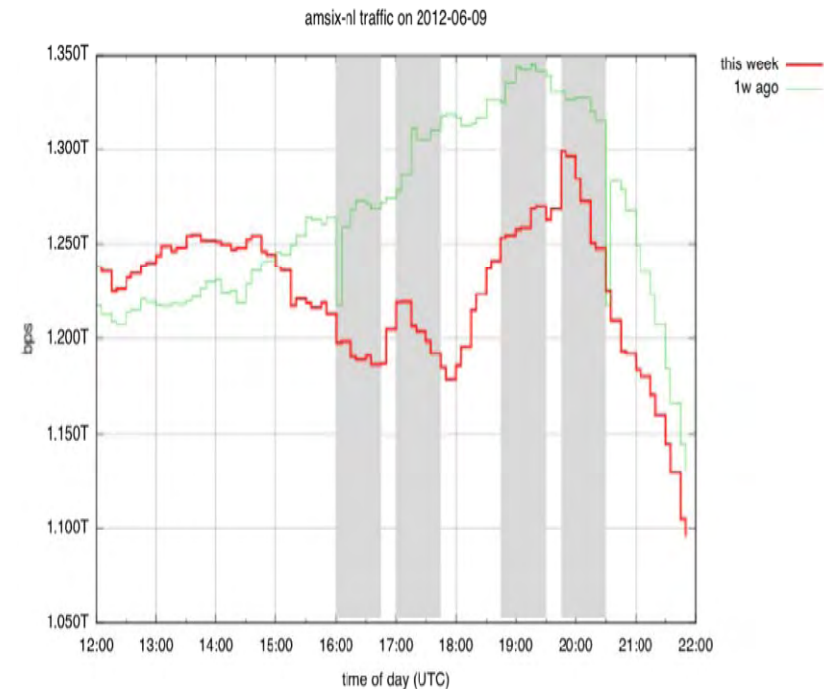
# Examples - Events Drive Terabit Traffic

## 2012 Summer Olympics



Source: <https://labs.ripe.net/Members/fergalc/internet-traffic-during-olympics-2012>

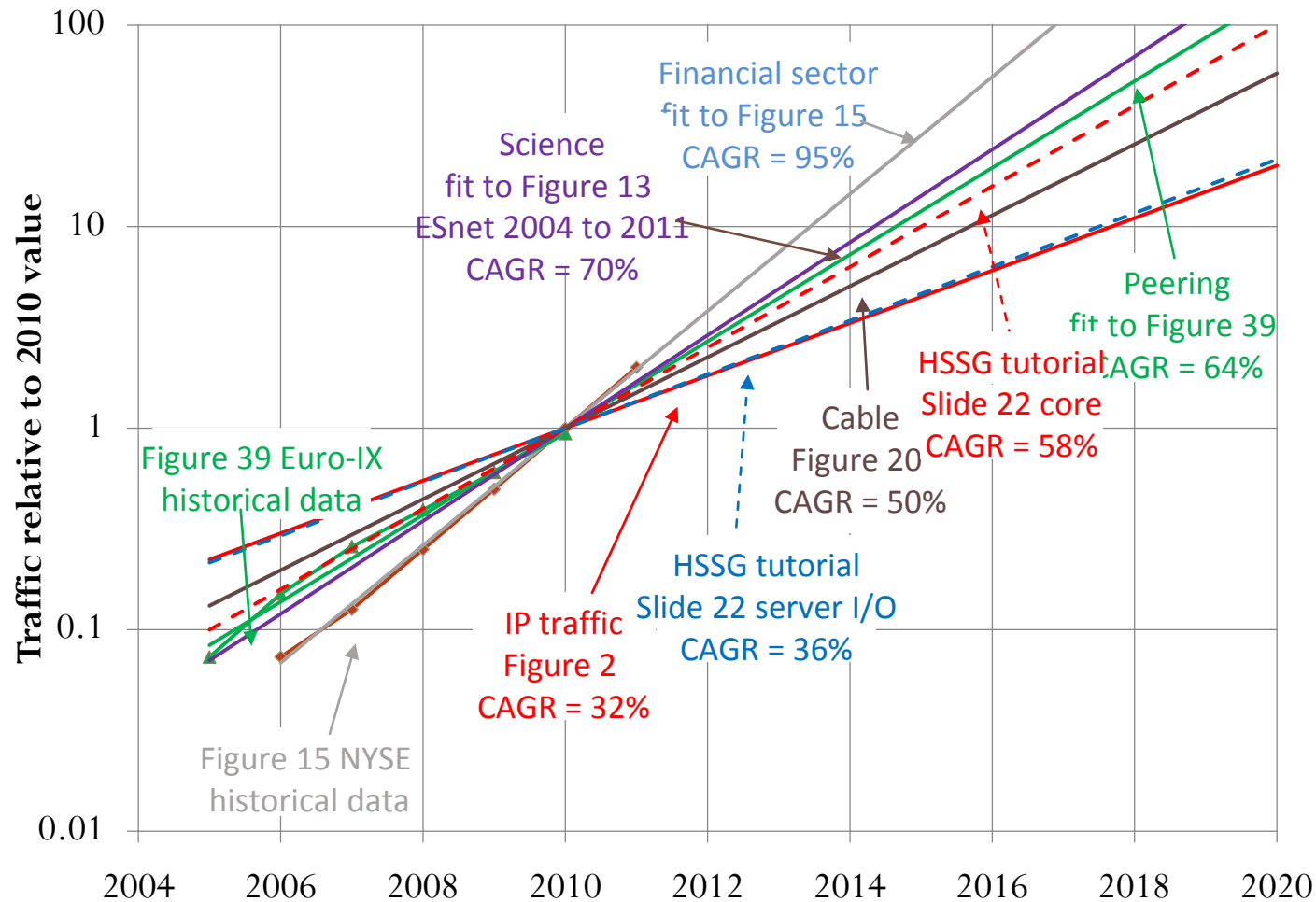
## After First Round of Euro 2012 Matches



Source: <https://labs.ripe.net/Members/fergalc/internet-traffic-after-first-round-of-euro-2012-matches/AMSIXNL.png>

Thanks to Bijal Sanghani, Euro-IX.

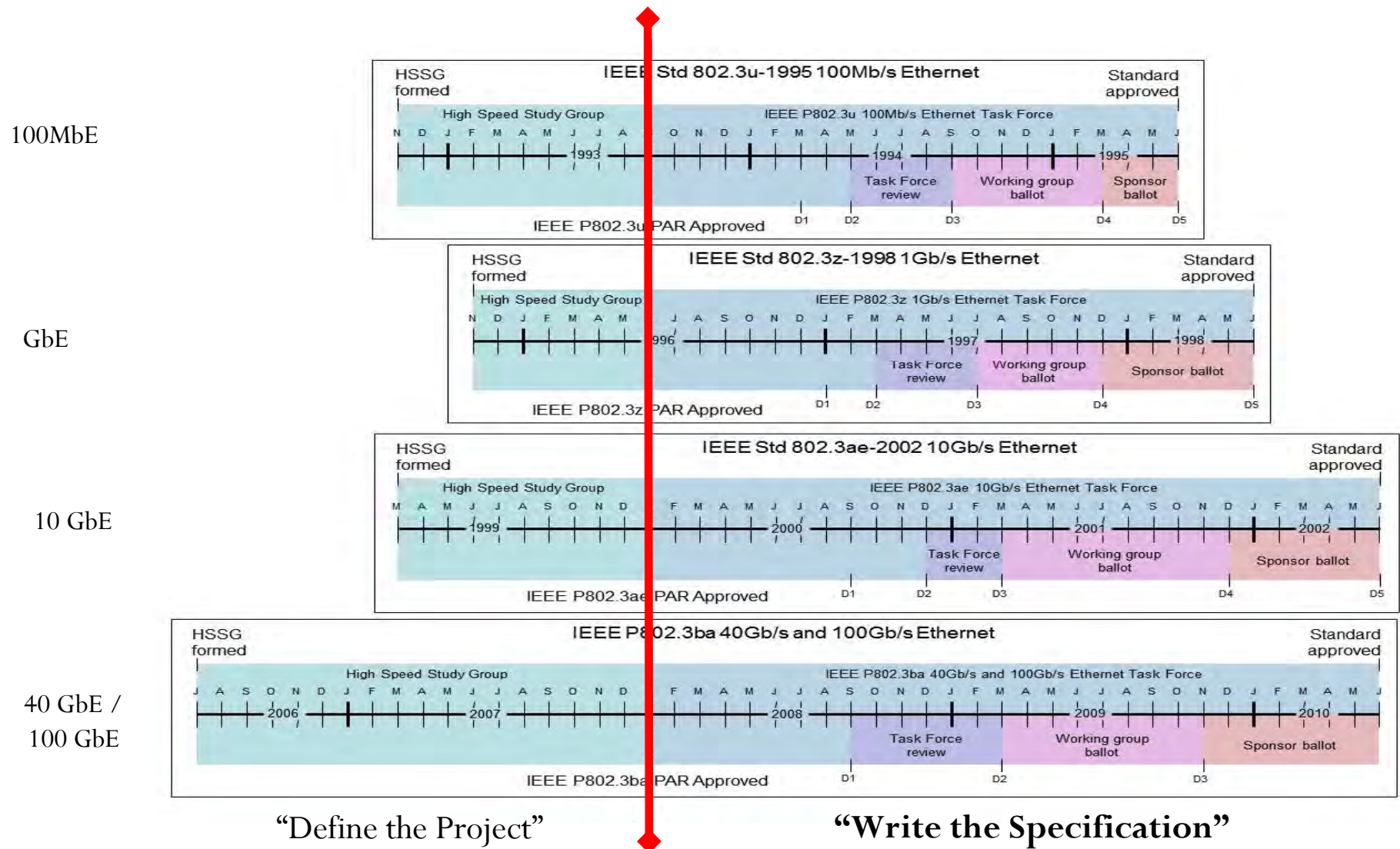
# Findings of IEEE 802.3 BWA Ad Hoc



Source: [http://www.ieee802.org/3/ad\\_hoc/bwa/BWA\\_Report.pdf](http://www.ieee802.org/3/ad_hoc/bwa/BWA_Report.pdf)



# Next Speed of Ethernet - Previous Projects



Slide used by permission from David Law.

# Observations

- Standards Development:
  - Approximate Total Timing: 2 to 4 years
    - Study Group: 6 mos – 18 mos
    - Task Force: 1.5 yrs – 2.5 yrs'
- Observed examples of data exceeding average growth rate capacities in mid 2012!



# Thank You!