

## Safe Harbor

Statements made during all analyst day presentations and question and answer sessions concerning Juniper Networks' business outlook, future financial and operating results, strategic direction, product and technology development plans and overall future prospects are forward looking statements that involve a number of uncertainties and risks. Actual results could differ materially from those anticipated in those forward-looking statements as a result of certain factors, including: economic conditions generally or in the networking industry; changes in overall technology spending; the network capacity requirements of service providers; changing market requirements; the timing of orders and shipments; manufacturing and supply chain constraints variations in the mix of products sold; customer perceptions and acceptance of our products; litigation; and other factors listed in our most recent report on Form 10-K filed with the SEC. All statements made during these presentations and sessions are made only as of today. Juniper Networks undertakes no obligation to update the information presented during these presentations and sessions in the event facts or circumstances subsequently change after the date of this meeting.

In addition, certain historical Non-GAAP financial information will be presented today. For reconciliation of such measures to comparable GAAP measures, please visit our website at

[http://www.juniper.net/company/investor\\_relations/index.html](http://www.juniper.net/company/investor_relations/index.html) and click on the link entitled "Analyst Day 2008 – Non-GAAP reconciliations".



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# Pradeep Sindhu

CTO, Founder & Vice Chairman

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# Part I:

A green circular graphic with a white border and radiating lines, containing the text "The Vision".

## The Vision

# A Paradigm Shift

We are in the early stages of a paradigm shift in the global information infrastructure, driven by *the escalating cost of geographical distribution, strong user preference for simplicity, and an increasingly capable network*

# Juniper's Founding Vision: *“Connect Everything, Empower Everyone”*

**All** information sources and sinks on the planet will be connected into **a single high-performance global network** simply because this maximizes their utility and in doing so enriches every aspect of the human condition

# Juniper's Founding Vision: *"Connect Everything, Empower Everyone"*

**All** information sources and sinks on the planet will be connected into **a single high-performance global network** simply because this maximizes their utility and in doing so enriches every aspect of the human condition

Immediate requirements on the network:

**SCALE**



**PERFORMANCE**



**RELIABILITY**



**SECURITY**



# The Elements of Information Processing

Information systems are recursive enumerations of two basic elements

**Any-to-Any  
Connectivity**

**2x every  
year**

**Computation  
and Storage**

**2x every  
1.05 years**



# The Elements of Information Processing

Information systems are recursive enumerations of two basic elements

## Any-to-Any Connectivity

Human Language  
Books  
Telephones  
Radio & Television  
Fax Machines  
VCR's  
Programming Languages  
Computer Instruction Sets  
Internet Protocol  
SOAP/XML

**2x every  
year**



**2x every  
1.05 years**

## Computation and Storage

Human Brain  
Calculating machines  
Text Processing  
Simulation & Modeling  
Manufacturing & Control  
Business Applications  
Office Automation  
Organization & Search  
Personal Productivity  
Entertainment & Multimedia

**A fully connected network maximizes an information system's power**

# The New Information Infrastructure

**Global High-Performance Network  
(any-to-any at scale)**



# The New Information Infrastructure

**Clients  
(billions)**



**Global High-Performance Network  
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# The New Information Infrastructure

**Clients  
(billions)**



**Global High-Performance Network  
(any-to-any at scale)**



**Super Data Centers  
(thousands)**



# Global High-Performance Network

Key enabler of the New Global Information Infrastructure

## SCALE



Connect billions of clients, thousands of super data centers

## PERFORMANCE



Support any communication application

## RELIABILITY



Be available 100% of the time

## SECURITY



Secure everyone from threats by anyone



# Clients

- **Widely different scales**
  - Small (individuals)
  - Medium (homes)
  - Large (businesses)
- **Specialized to the needs of users**
  - Always connected
  - Minimum *unique persistent state*
  - Common access method
  - For human users:
    - Highly interactive
    - Easy to use
    - Mobile
    - Lightweight

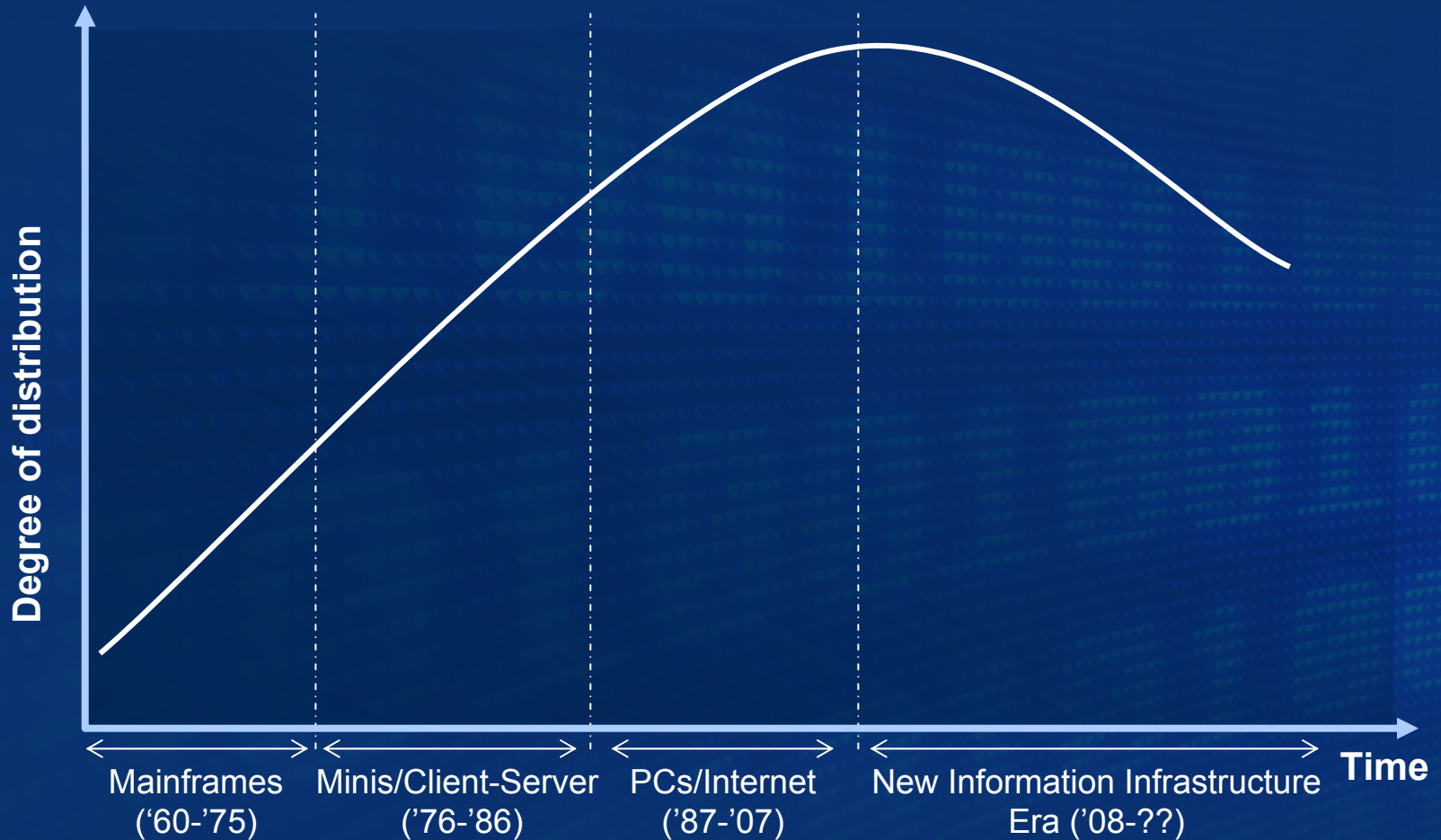


# Super Data Centers

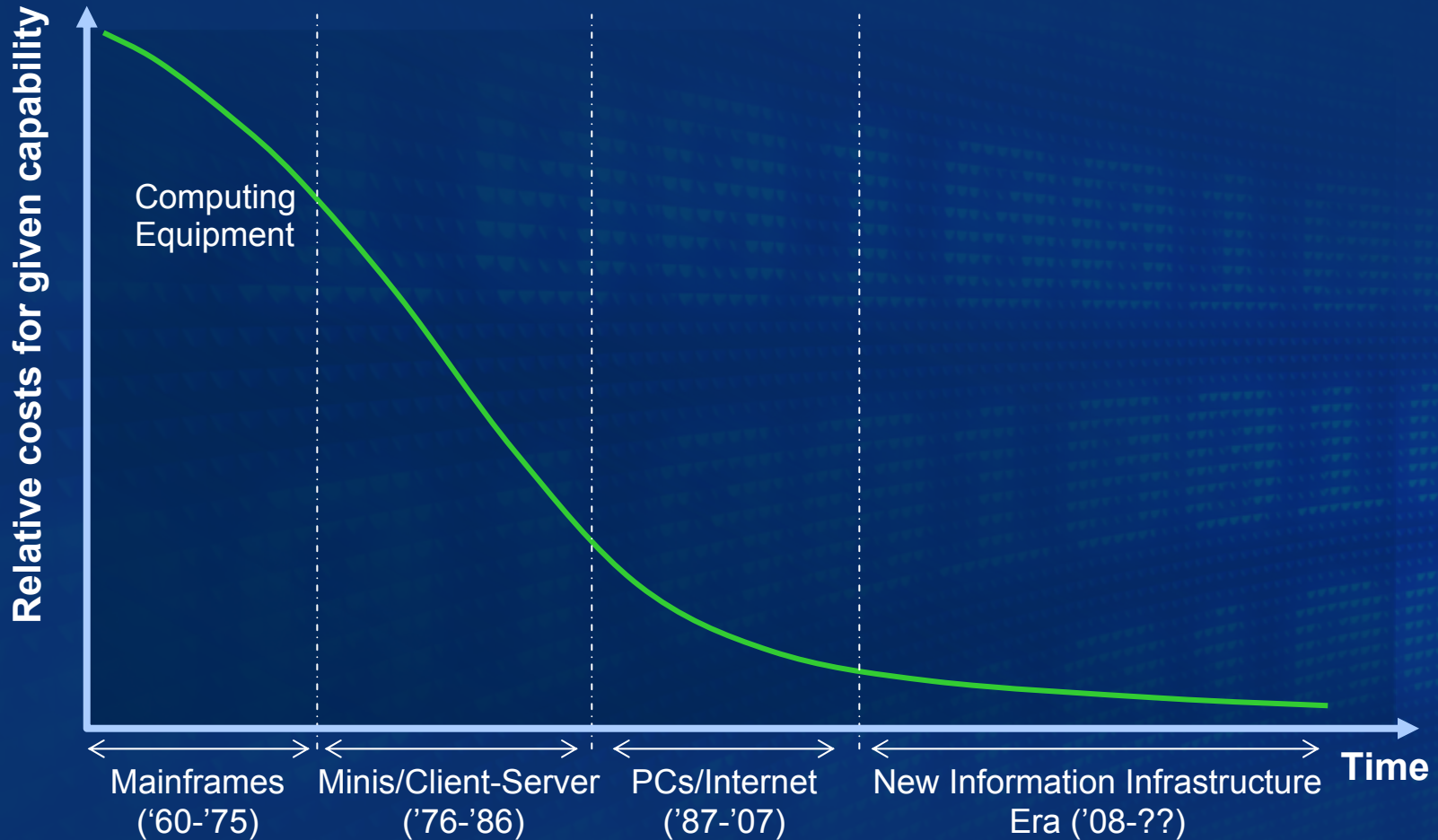
- **General-purpose information utility:**  
intended to serve *all* clients
  - Large scale
  - Virtualized
  - Fully automated
  - Dynamic
  - Disaster resilient
  - Highly efficient
  - Highly secure
  - Highly reliable
  - Multi-application



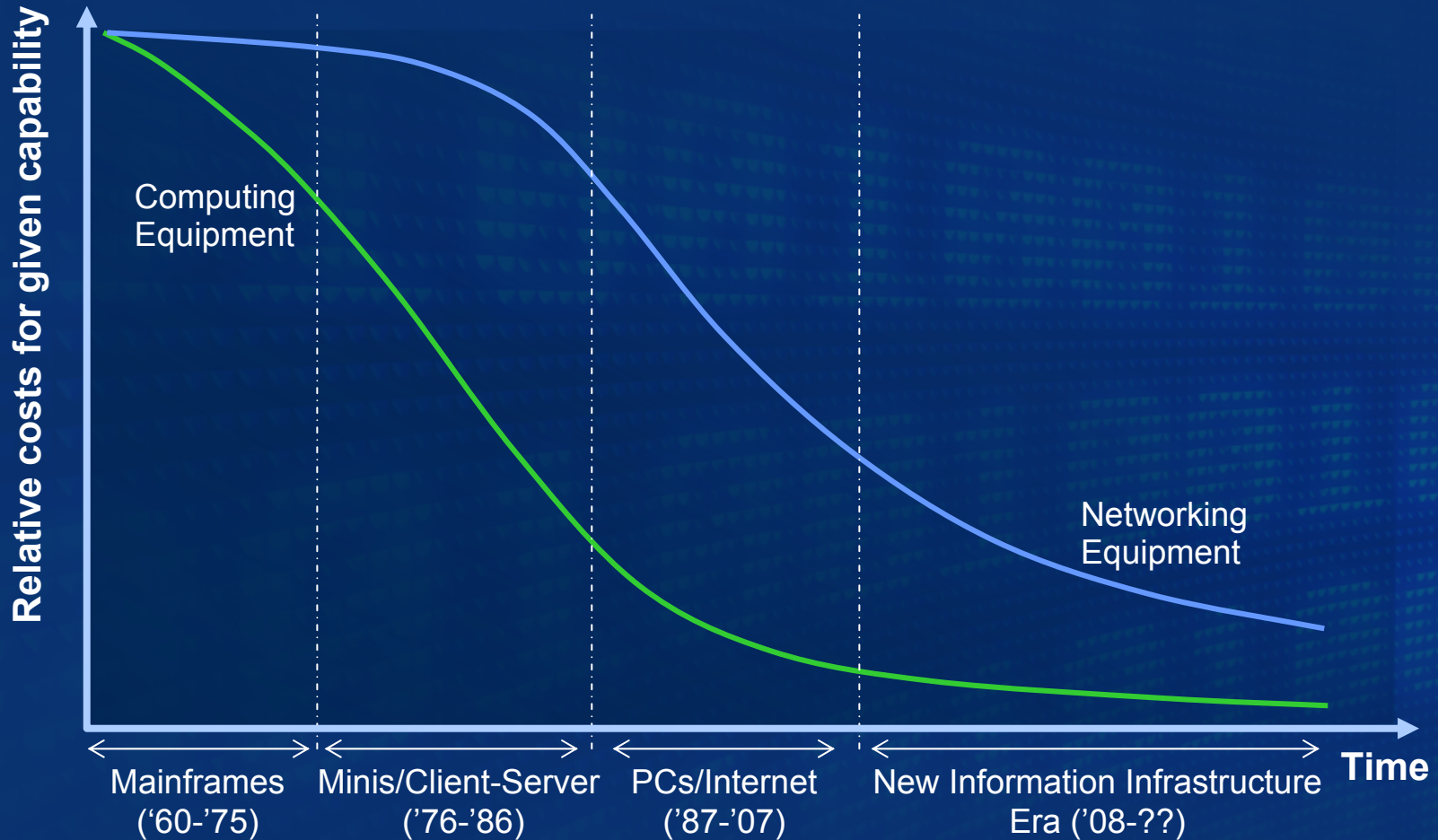
# So Why Now?



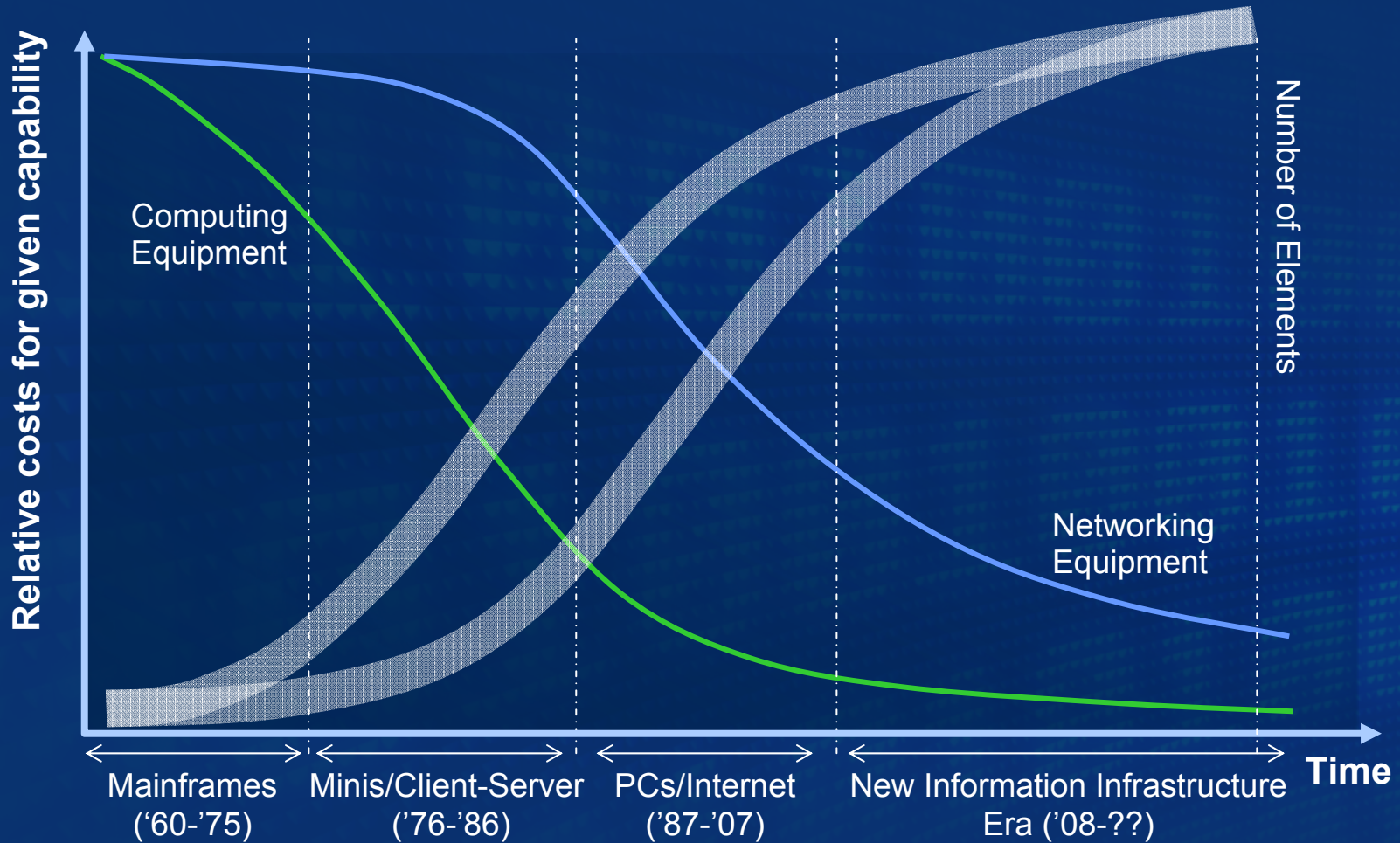
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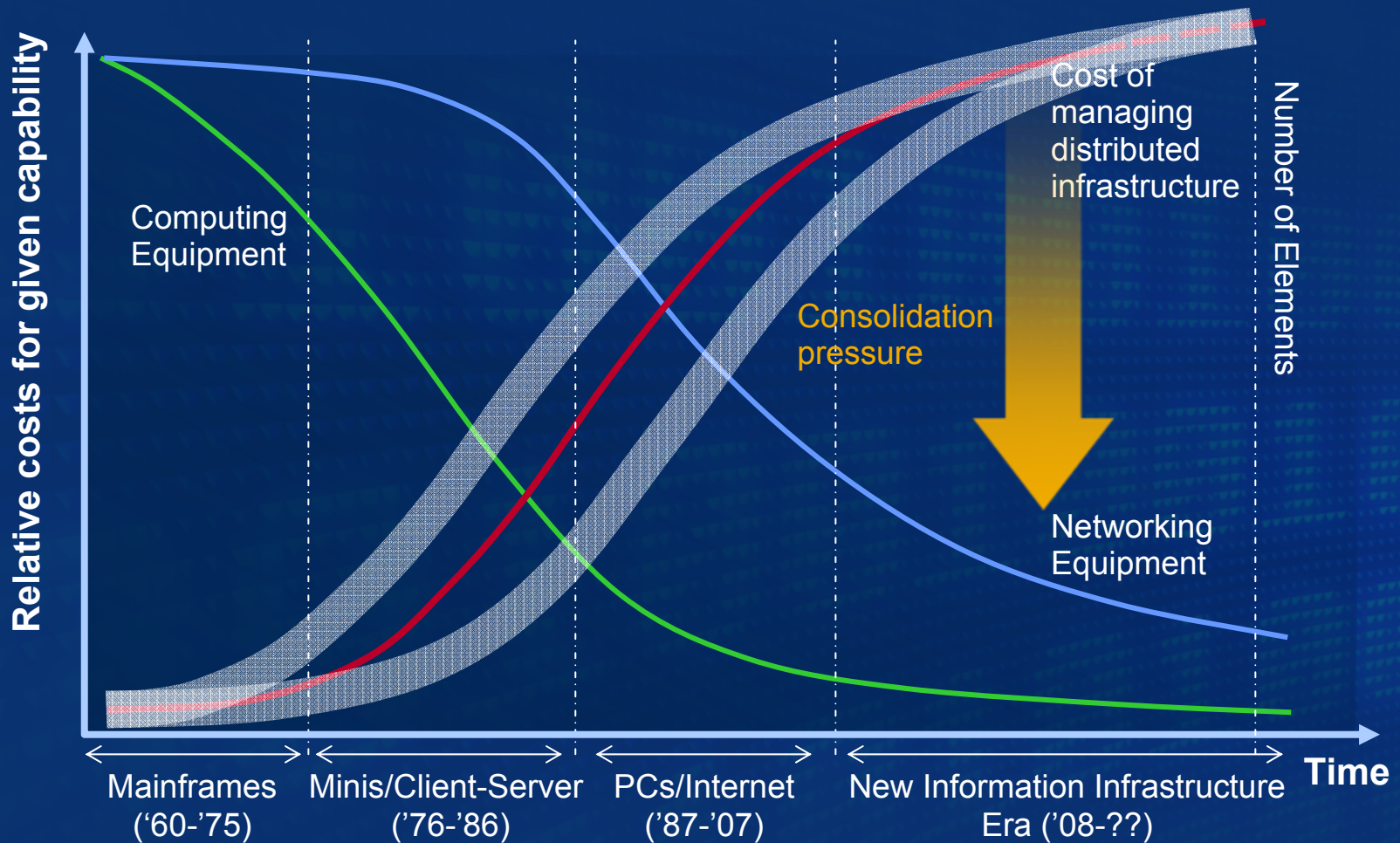
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# The Forces Driving Consolidation

## Economics:

Distributed infrastructure  
is expensive to:

Operate

Utilize efficiently

Secure

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## Users:

Have strong preference for

Simplicity

Ubiquity

Uniformity

Convenience

# We Need Two Technology Advances

1

**A single, scalable, cost-effective network purpose-built for connecting equipment inside data centers**

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2

**A single system for managing, allocating, and operating the resources in a data center**

# We Need Two Technology Advances

1

**A single, scalable, cost-effective network purpose-built for connecting equipment inside data centers**

2

**A single system for managing, allocating, and operating the resources in a data center**

**Second problem is easier once the first is solved!**

# Juniper's Role in the NGII

- The leader in defining the vision, architecture, and open standards for the NGII

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- The leader in defining the vision, architecture, and open standards for the NGII
- The leading supplier of routing, switching, and security solutions for three high-performance markets:

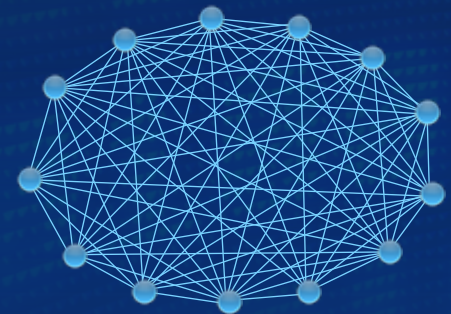
## Service Providers



## High-Performance Enterprises



## Super Data Centers



# Part II:



## Juniper's Technology Strategy

# A View of Product Development

## Market

Set of products customers **actually need**, not what they say they want!

# A View of Product Development

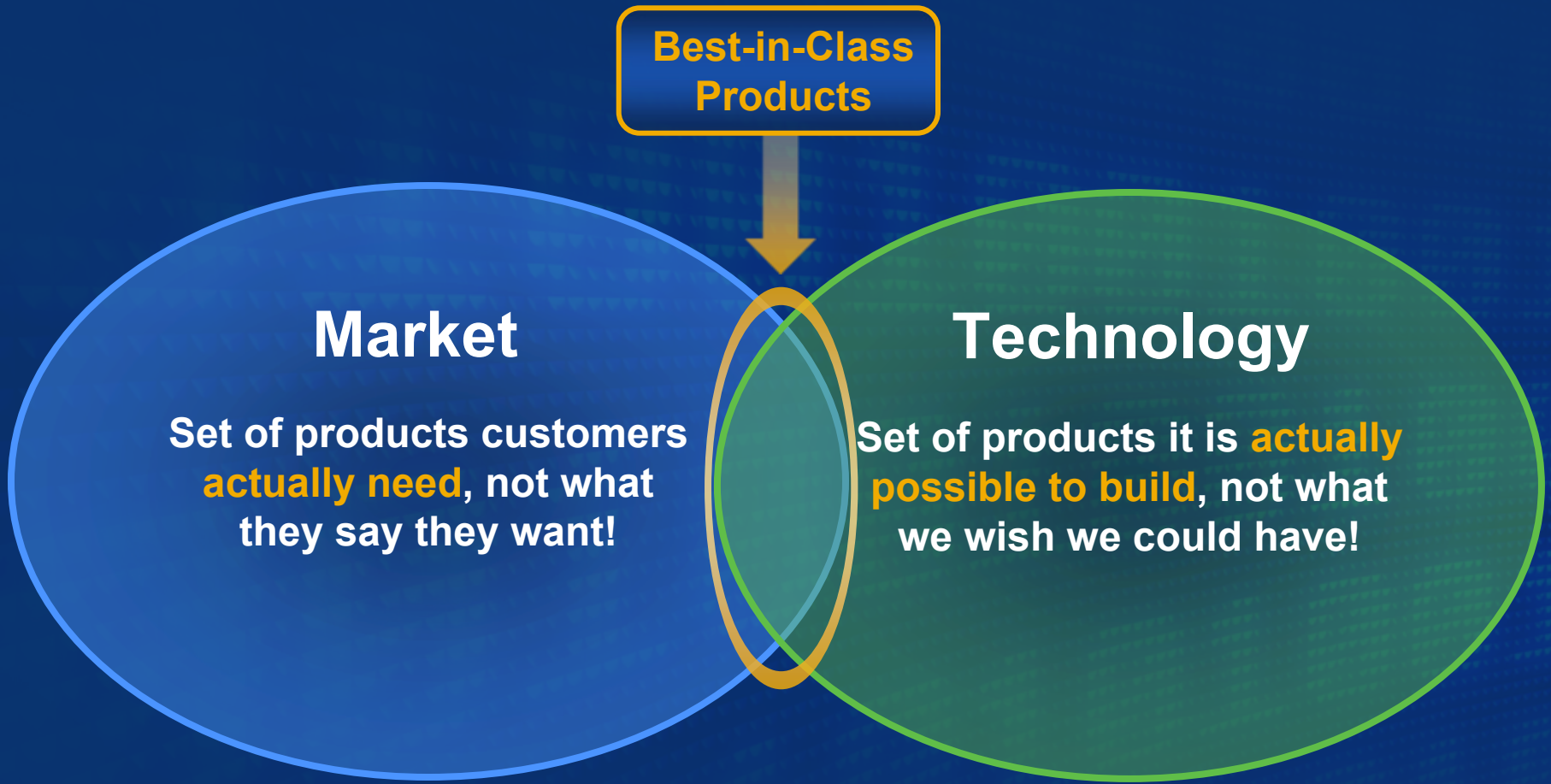
## Market

Set of products customers **actually need**, not what they say they want!

## Technology

Set of products it is **actually possible to build**, not what we wish we could have!

# A View of Product Development



# Engineering Discipline

**System**

**Software**

**Silicon**

**Testing**

# Engineering Discipline



# Engineering Discipline

**Execute Relentlessly**

**Solve hard problems once; leverage everywhere**

**Innovate Broadly**

**Architecture   Design   Development   Validate & Test**

**System**

**Software**

**Silicon**

**Testing**

# Engineering Discipline

Focus on the fundamentals of high-performance networking



**Execute Relentlessly**

Solve hard problems once; leverage everywhere

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**Testing**

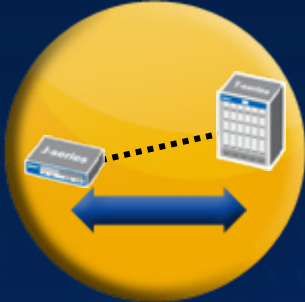
# Avoid the Mistakes of Legacy Companies



- **Mind-boggling complexity**
  - For customers
  - For developers
- **Slow product development**
- **Poor reliability**
- **Low rate of innovation**
- **New OS for each product**

# The Power of One: JUNOS

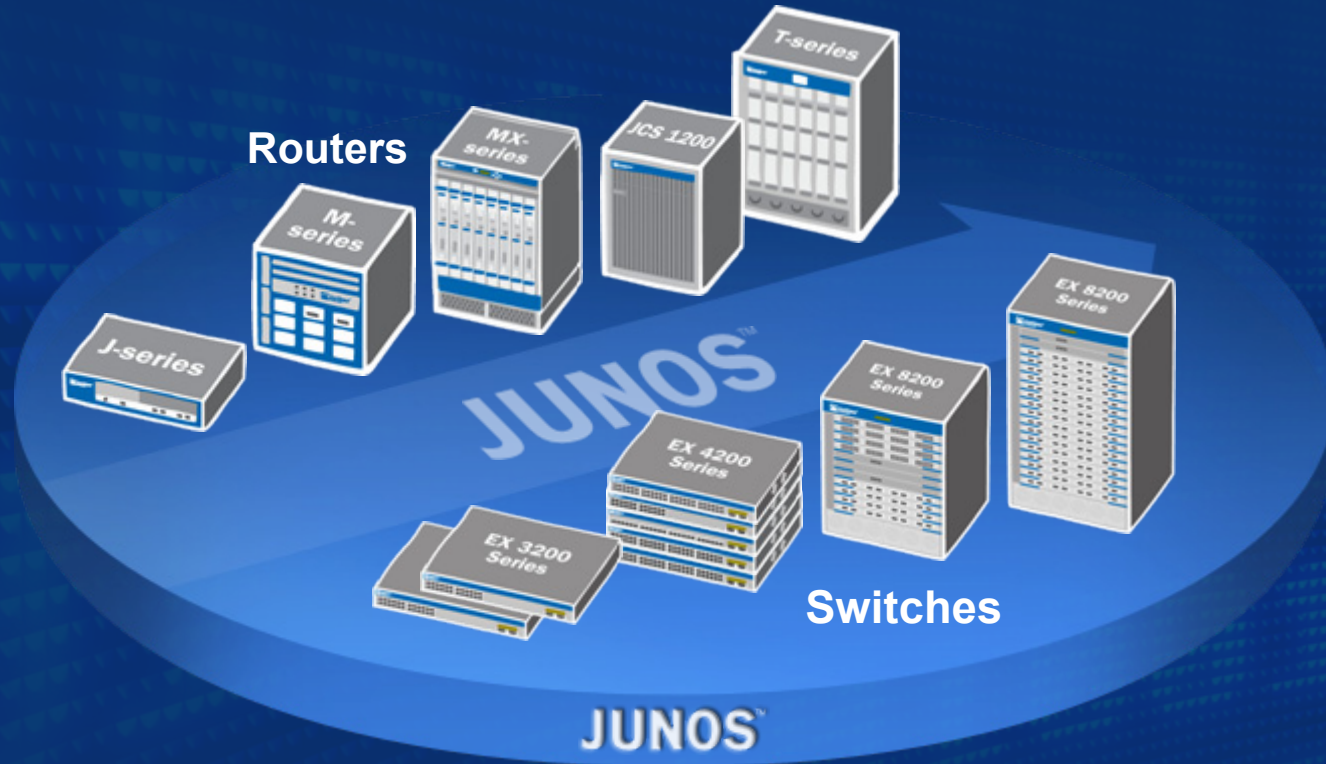
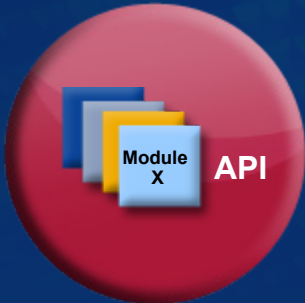
One OS



One Release



One Architecture



# Principle of Single Universal Mechanisms

**In a system where mechanisms evolve with limited resources one universal mechanism will eventually always dominate**

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In a system where mechanisms evolve with limited resources one universal mechanism will eventually always dominate

Mechanism	Field of Operation
DNA	Architecture of life
English	Human Languages
C	Systems Programming Language
Windows	Computer User Interface
X86	Computer Instruction Sets
IP/Ethernet	LAN Communications
IP/MPLS	WAN Communications

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This principle underlies the evolution of the Internet itself and guides the development methodology at Juniper

# Insights Are Fine But We Must Execute!!<sup>1</sup>

1<sup>st</sup> Multi-terabit router      1<sup>st</sup> BBE Router with 32K interfaces      1<sup>st</sup> ATM OC-48 interface  
 Point-to-multipoint LSP's      1<sup>st</sup> 160G Router      1<sup>st</sup> Embedded DHCP with Integrated AAA  
 1<sup>st</sup> Modular OS      #2 High-End Enterprise Routing      1<sup>st</sup> Line-rate 40G interface  
                                          33% of Core SP Routing      BFD      Thought leadership via Infranet  
 1<sup>st</sup> Complete IPv4/IPv6/MPLS forwarding in HW      1<sup>st</sup> Line-rate 10G interface      1<sup>st</sup> SSL VPN  
 1<sup>st</sup> 30Gbps FW      1<sup>st</sup> Line-rate BBE Router      1<sup>st</sup> Fair Scalable Fabric      1<sup>st</sup> Implementation of Service Interfaces  
 #2 High-End FW      1<sup>st</sup> 40G Router      1<sup>st</sup> Line-rate 2.5G interface      41% of BB Edge Routing  
 1<sup>st</sup> Integrated CAC & service selection      1<sup>st</sup> Hierarchical Transaction Oriented Configuration  
 1<sup>st</sup> 12Gbps FW      1<sup>st</sup> Modular Interfaces      Leading Application Acceleration Technology  
 1<sup>st</sup> Real-time service management      1<sup>st</sup> Hierarchical per-customer QoS  
                                          Predictable high-quality SW development      1<sup>st</sup> Line-rate 10GE interface  
                                          #1 in SSL VPN      1<sup>st</sup> 640G Router      1<sup>st</sup> XML based configuration  
 1<sup>st</sup> Inter-domain VPLS      1<sup>st</sup> Separation of data & control      Magic Quadrant Leader: SSL, FW, VPN  
                                          Predictable high-quality HW development      1<sup>st</sup> Graceful restart      1<sup>st</sup> Virtualized FW  
 1<sup>st</sup> True carrier-class IP      #1 Standards based Radius/AAA Server      27% of Edge SP Routing  
                                          1<sup>st</sup> B-to-B SOAP interface for router policy control      1<sup>st</sup> L2 Over MPLS      1<sup>st</sup> Active HA FW  
                                          1<sup>st</sup> production IPv6 systems      Fast reroute      1<sup>st</sup> GMPLS  
 30% of Total SP Routing      1<sup>st</sup> 4Gbps FW      1<sup>st</sup> 1Gbps FW      1<sup>st</sup> integrated FW/VPN/IDP  
 Fully Automated Testing      1<sup>st</sup> Full dynamic subscriber auto-provisioning      1<sup>st</sup> ATM OC-12 interface

<sup>1</sup> Claims not independently verified by a third party

# Insights Are Fine But We Must Execute!!<sup>1</sup>

AND IN OUR

12 YEAR

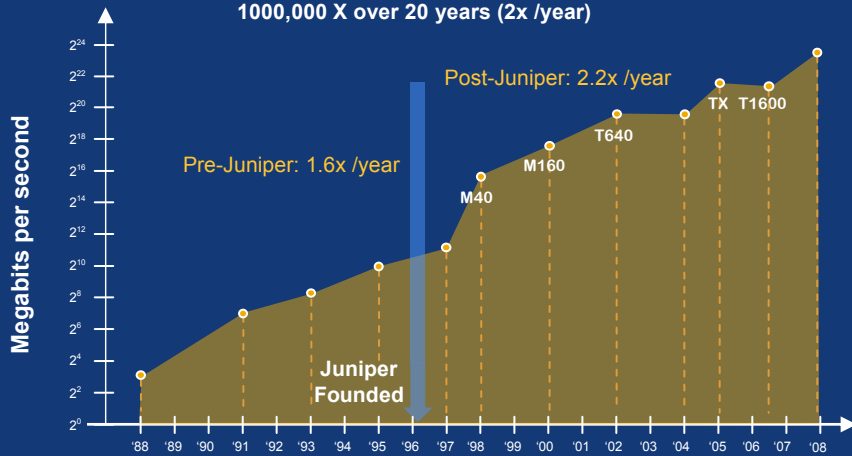
HISTORY, WE HAVE!

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# System Performance 1988-2008

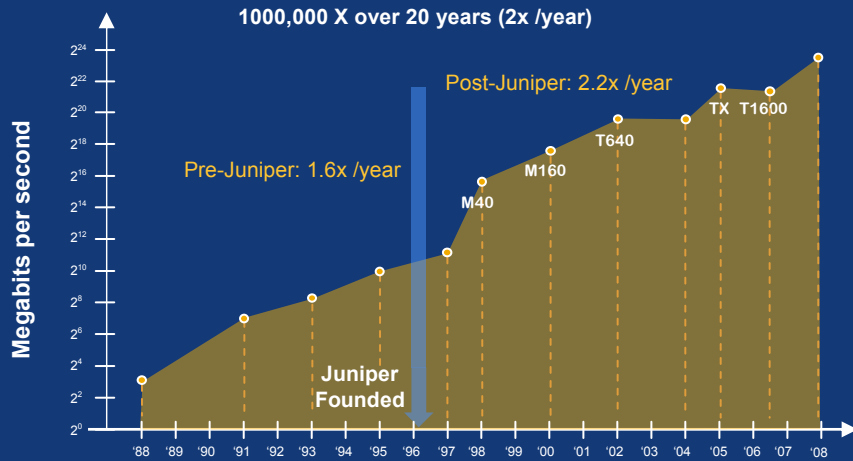
## Router Performance 1988-2008

1000,000 X over 20 years (2x /year)

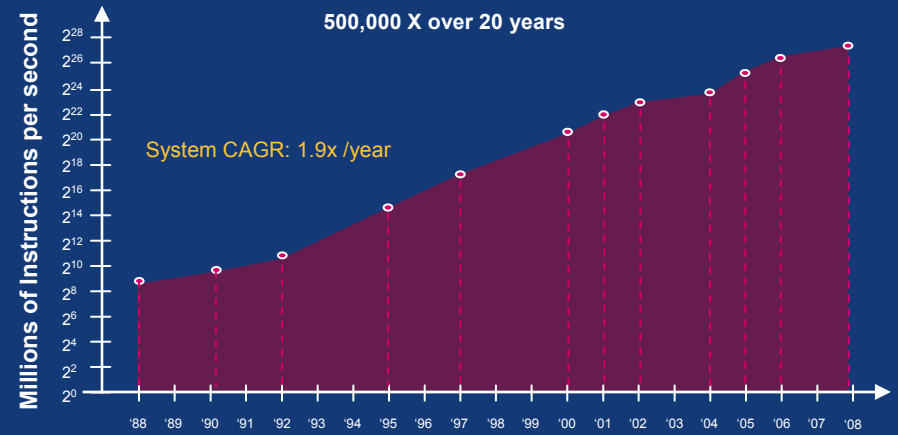


# System Performance 1988-2008

## Router Performance 1988-2008

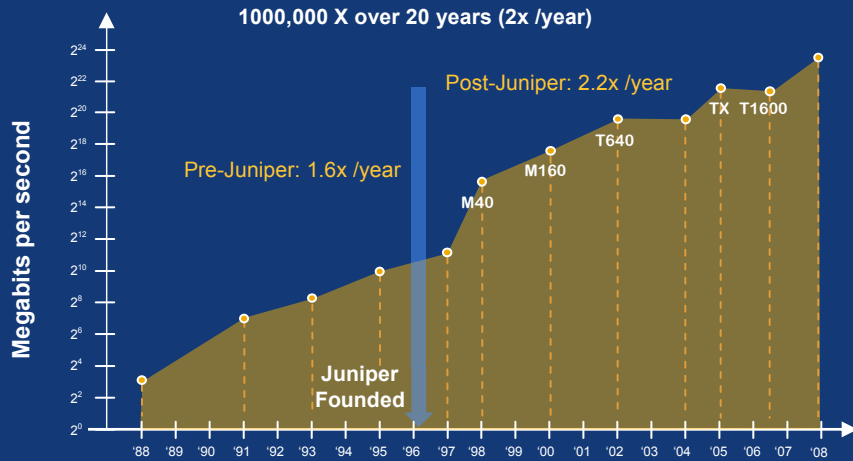


## Computer Performance: 1988-2008

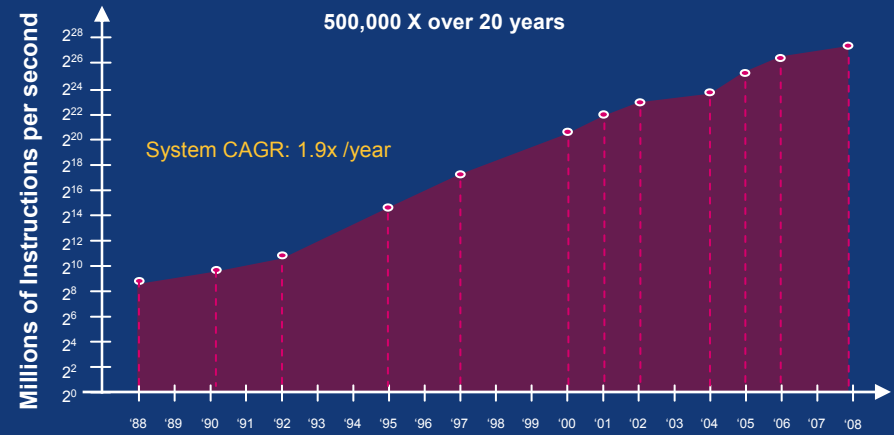


# System Performance 1988-2008

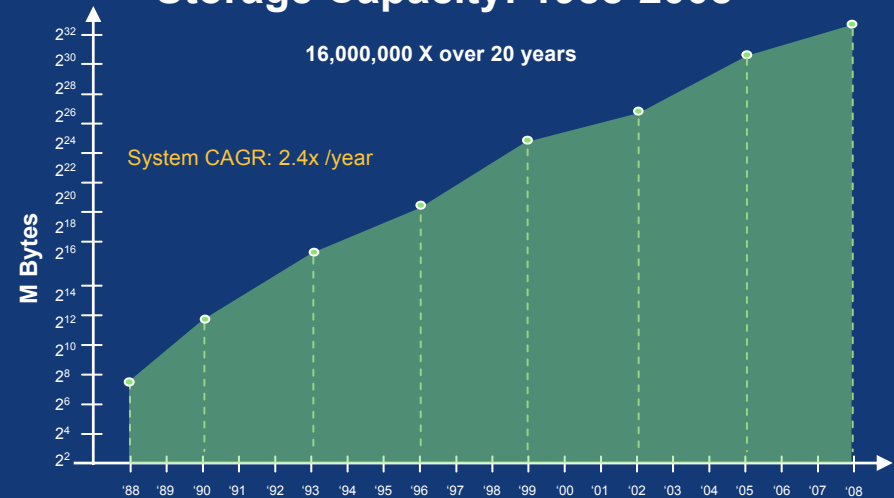
## Router Performance 1988-2008



## Computer Performance: 1988-2008



## Storage Capacity: 1988-2008



# Conclusions

**The global information infrastructure is in the early stages of being re-architected**

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**High-Performance Networking** will be central to the implementation of this new architecture

**High-Performance Networking** is at the core of Juniper's competency



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**Innovation @ Scale**

**Thank You**

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