

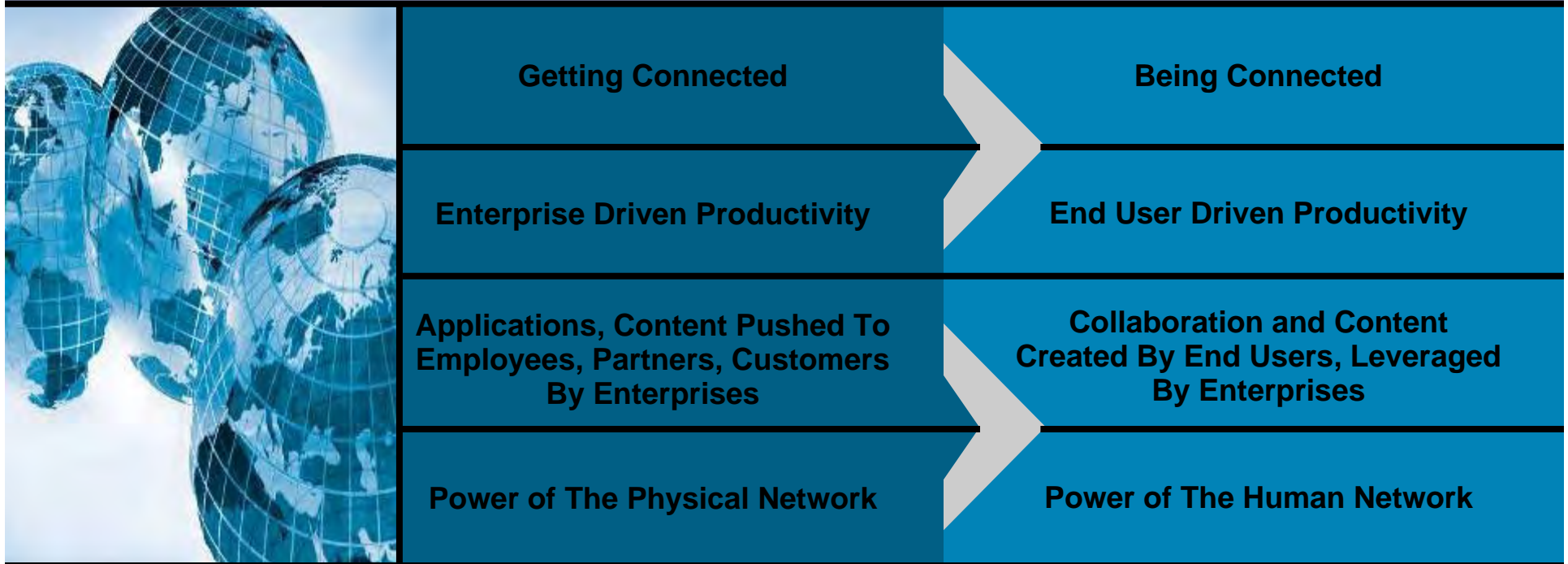
The Media Enabled Network – and the Role of AdvancedTCA and MicroTCA

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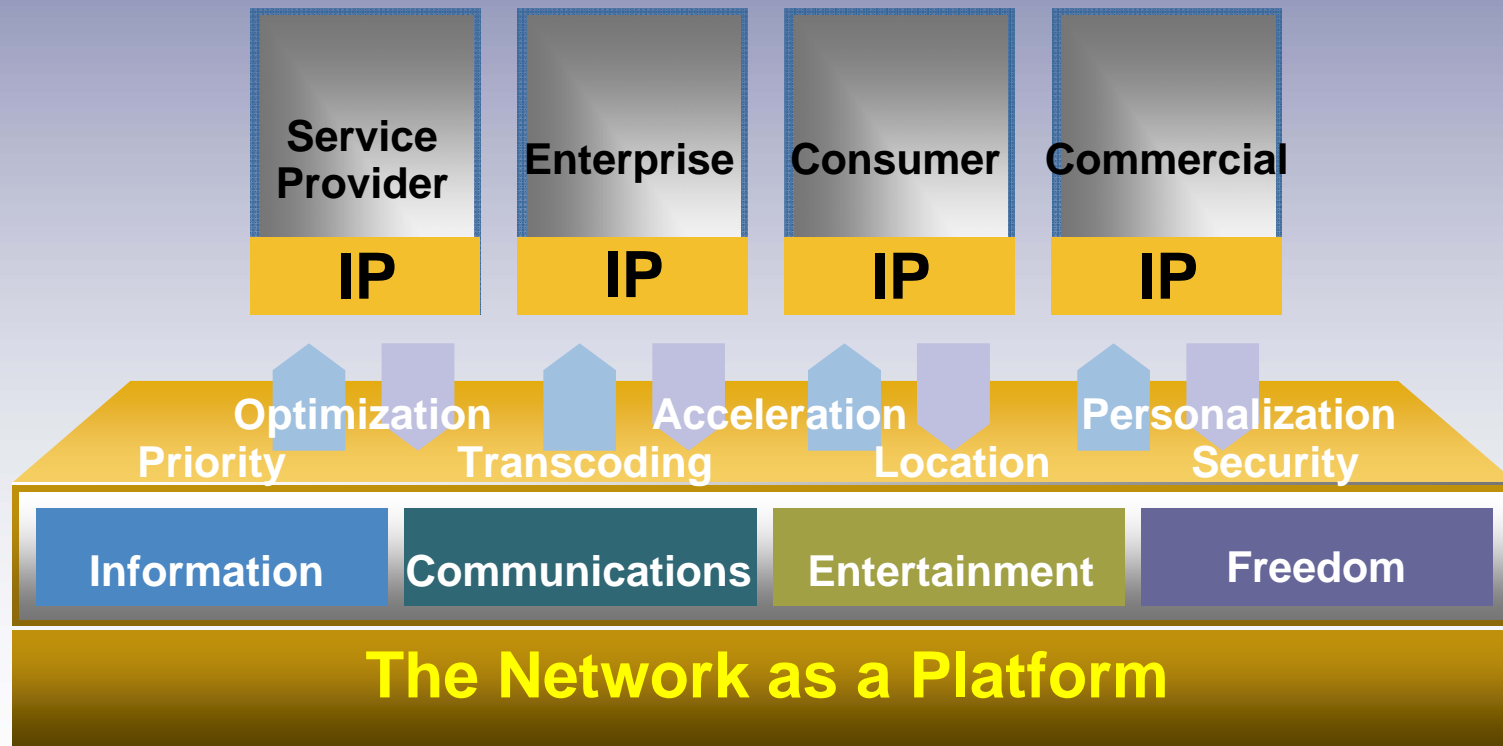
- **A Vision for the Network:**
 - Collaboration
 - The Future of IP Networks
 - Media in Networks
 - The Future of the Datacenter
- **How AdvancedTCA and MicroTCA Help Realize the Vision**
 - Common Platforms
 - Proprietary vs. Standard Platforms
 - Development Cost Savings
 - Application Example: The Media-Enabled Network
 - Control Processing, Packet Processing, & Signal Processing
 - Where AdvancedTCA and MicroTCA Fit in the Vision
- **What We Need From the Marketplace**
 - Improved Capabilities (Power, density, throughput, reliability, etc.)
 - Improved Supplier Ecosystem (innovation, competition, time to market, cost, longevity)
 - Advancement in the standards (enabling next generation designs)
- **Conclusions**

1990's

Today



The Future of IP Networks



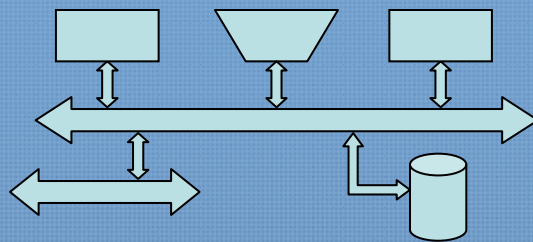
Media in Networks



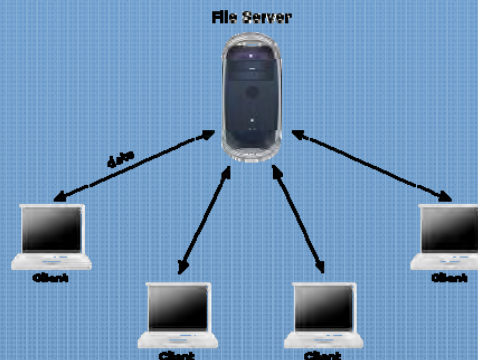
- Collaboration
- Unified Communications
- Telepresence
- Business Video
- Entertainment
- Virtualization

Computer Architecture

Mainframe -> Mini -> Micro



Client - Server



Grid - Cluster - Web



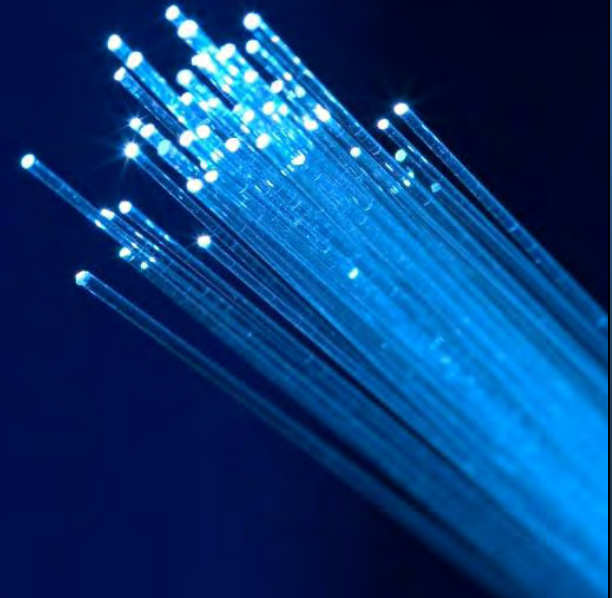
Next-Gen Virtualized Data Ctr



Future Outlook

Single Backplane in the Data Center

Data switches provide
Physical Virtualization
& Computer Services



- Platforms Defined
 - Platforms are common multi-use collections of hardware, software, and support systems.
- Platform Elements
 - Hardware: Chassis, board, modules
 - OS
 - Middleware
 - Algorithms
 - Stacks
 - Test suites
 - Support infrastructures

- Common design of common elements
 - Reduced application development costs
- Catalog of pre-designed elements
 - Faster time to market
- Extensively tested elements
 - Better product quality and lower risk
- Less work on infrastructure
 - More resources doing application feature richness
- Higher element volumes
 - Lower cost basis
- Fewer element types
 - Reduced factory and inventory expense
 - Reduced field support costs
- Multiple functions integrated into a few boxes
 - Reduced OpEx

Proprietary vs. Standard Platforms



Proprietary Platforms

- Can be optimized for a specific set of applications
- The owning company has direct control of who builds elements
- Easier to keep trade secrets

Standard Platforms

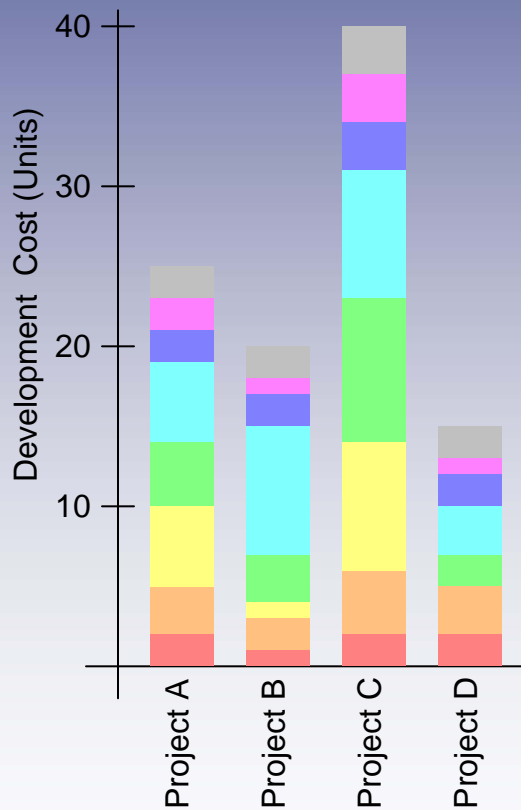
- Created by a democratically elected standards body with diverse perspectives
- Standards are very well documented and validated
- Rich COTS ecosystem
- Time/Cost to market
- Enables rapid prototyping
- Competition and industry-wide volume can drive the element prices down

Company-Wide Development Cost Savings (Dramatization)



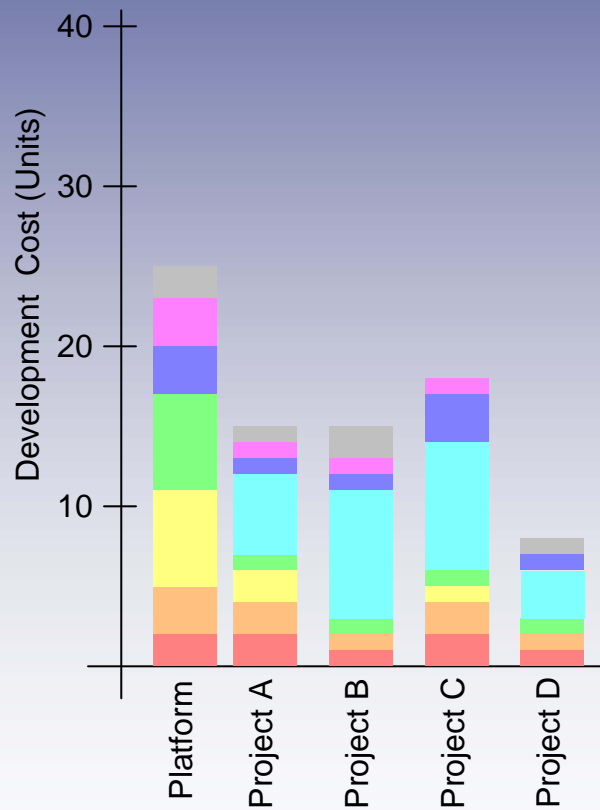
Without Common Platform

(100 units of total development cost)



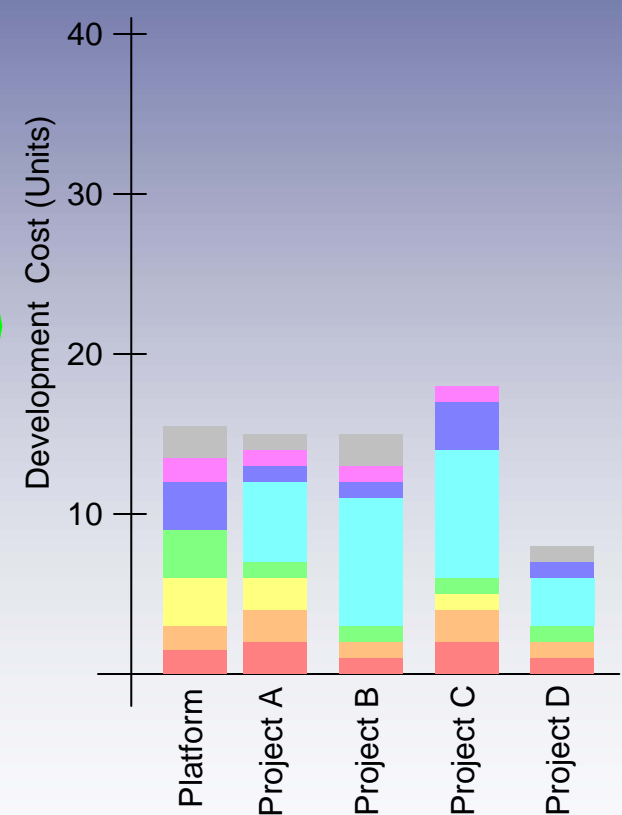
With Proprietary Platform

(85 units of total development cost)



With Standard Platform

(75 units of total development cost)



■ - Marketing
 ■ - Architecture
 ■ - HW Design
 ■ - Core SW
 ■ - App. SW
 ■ - Integration
 ■ - Factory
 ■ - Support

Application Example: Media Enabled Network

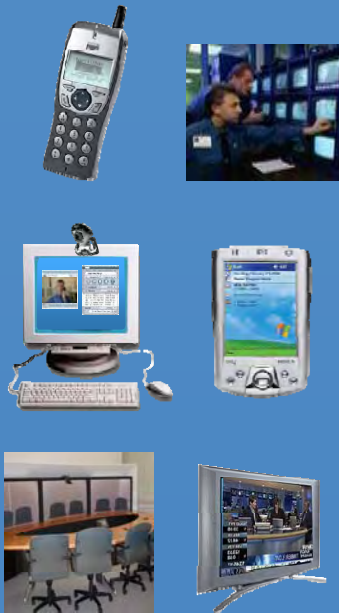


Through To

Connecting
Devices and
Users

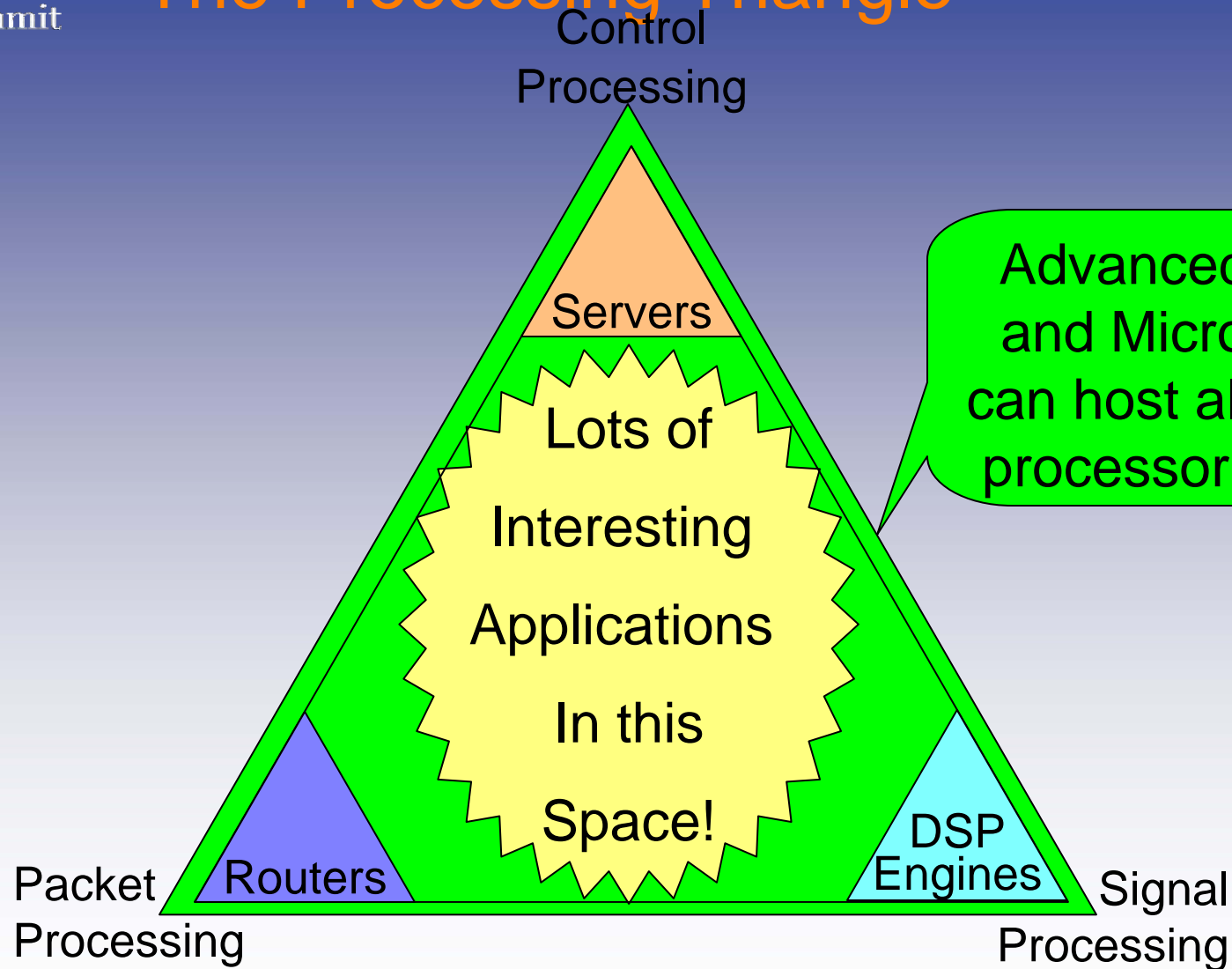
Intelligent
Services in the
Network

Any Content,
Anywhere,
Anytime

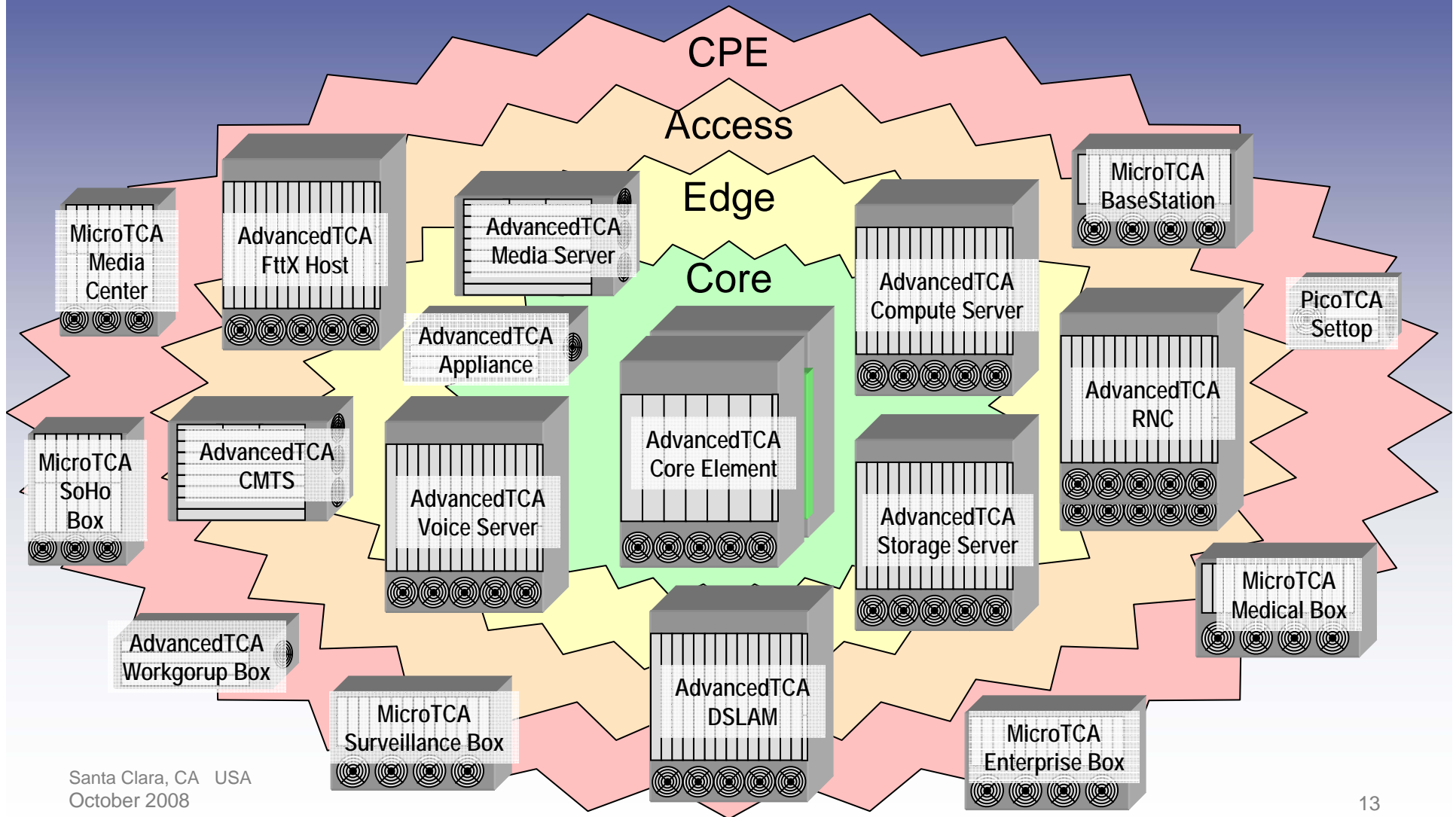


- IPTV
- Mobile Video
- Personal Video
- Desktop Video
- TelePresence
- Consumer Video Phone
- Surveillance
- Personal Security
- Nanny Cams

Solution Space: The Processing Triangle



Where AdvancedTCA and MicroTCA Fit in the Network



What We Need From the Marketplace



- Improved Technical Capabilities:
 - Power
 - Density
 - Throughput
 - Reliability

What We Need From the Marketplace



- Advancement in the standards enabling next generation designs
 - Higher speeds
 - Packaging Options
 - Mitigate the 'telecom tax'

What We Need From the Marketplace



- Improved Supplier Ecosystem:
 - Innovation
 - Competition
 - Time to market
 - Longevity
 - Signal processing solutions
 - Flexible Business Models / IP Licensing
 - Quality
 - Cost

- Standard platforms have compelling benefits
- Success strategy:
 - Higher power density
 - Higher backplane bandwidth
 - Lower cost
 - Better support for data centers
 - Flexible business model
- *Don't compete with the customer!*

Thank You