



From Triple Play 1.0 to Multiplay 2.0

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Before we start: The industry has come along way ...

We May All Be Wrong !



"I think there is a world market for maybe five computers."

— Thomas Watson, chairman of IBM, 1943

"Computers in the future may weigh no more than 1.5 tons."

— Popular Mechanics, 1949

"There is no reason anyone would want a computer in their home."

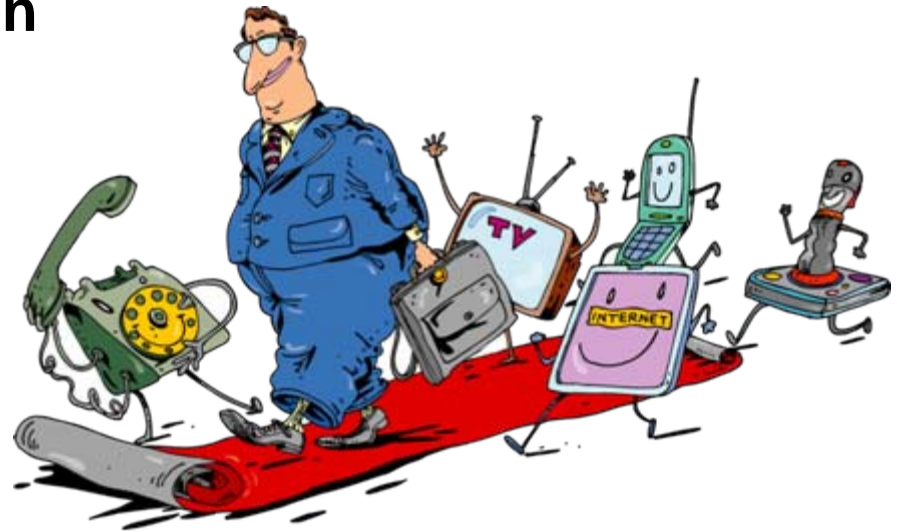
— Ken Olson, president of Digital Equipment Corp., 1977.

"640K (of memory) ought to be enough for anybody."

— Bill Gates, 1981.

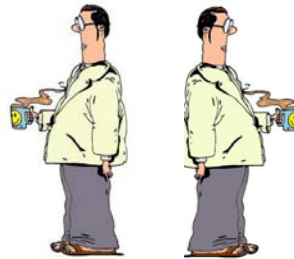
Winning the Consumer

- Consumers – What Do They Want?
- The Broadband Market Evolution
- Multiplay: ARPU Generation
- IP-TV and advertisements
- Profitable solutions
- Customer references



The NGN Proposition A 'My Network' Experience

One Size
Fits All



Mass Customized
Experience

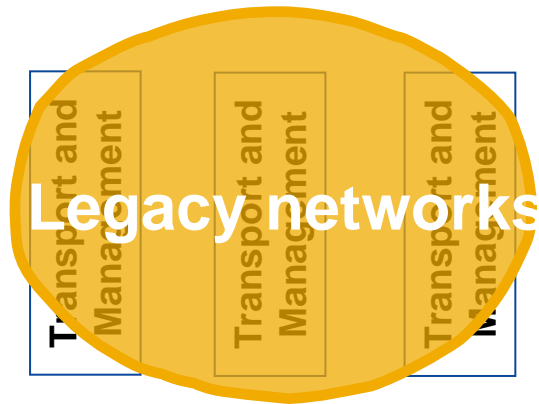
Static

Unlocking the Power of the End User

On demand, on the move
'My personal channel'
Search and Rank
'Broadcast yourself'
Any screen, any device

Real Time

An Agile, Open and Custom Architecture



Agile

- New service rollouts in weeks, not years

Open

- Best-of-breed selection
- Application-driven policies

Custom

- Assured delivery of real-time services
- Personal services at scale

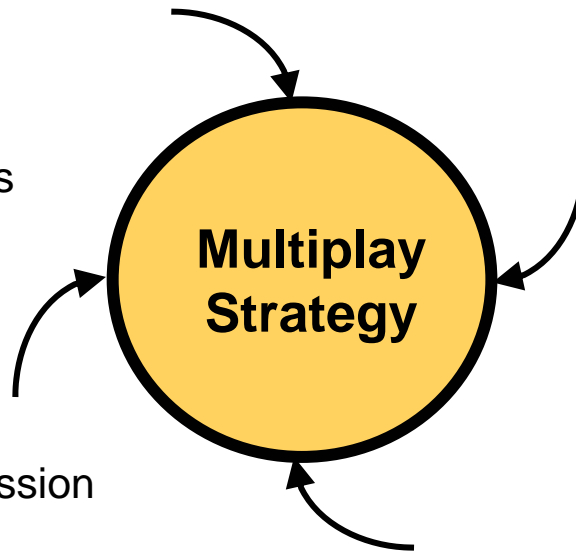
Market Dynamics

Applications

- Internet
- Voice
- IPTV, video
- Content sharing
- Mobility
- Music downloads
- Gaming

Economics

- Cost of Transmission
- Cost of Routing
- Cost of Storage
- Cost of producing service
- Cost of operating the network



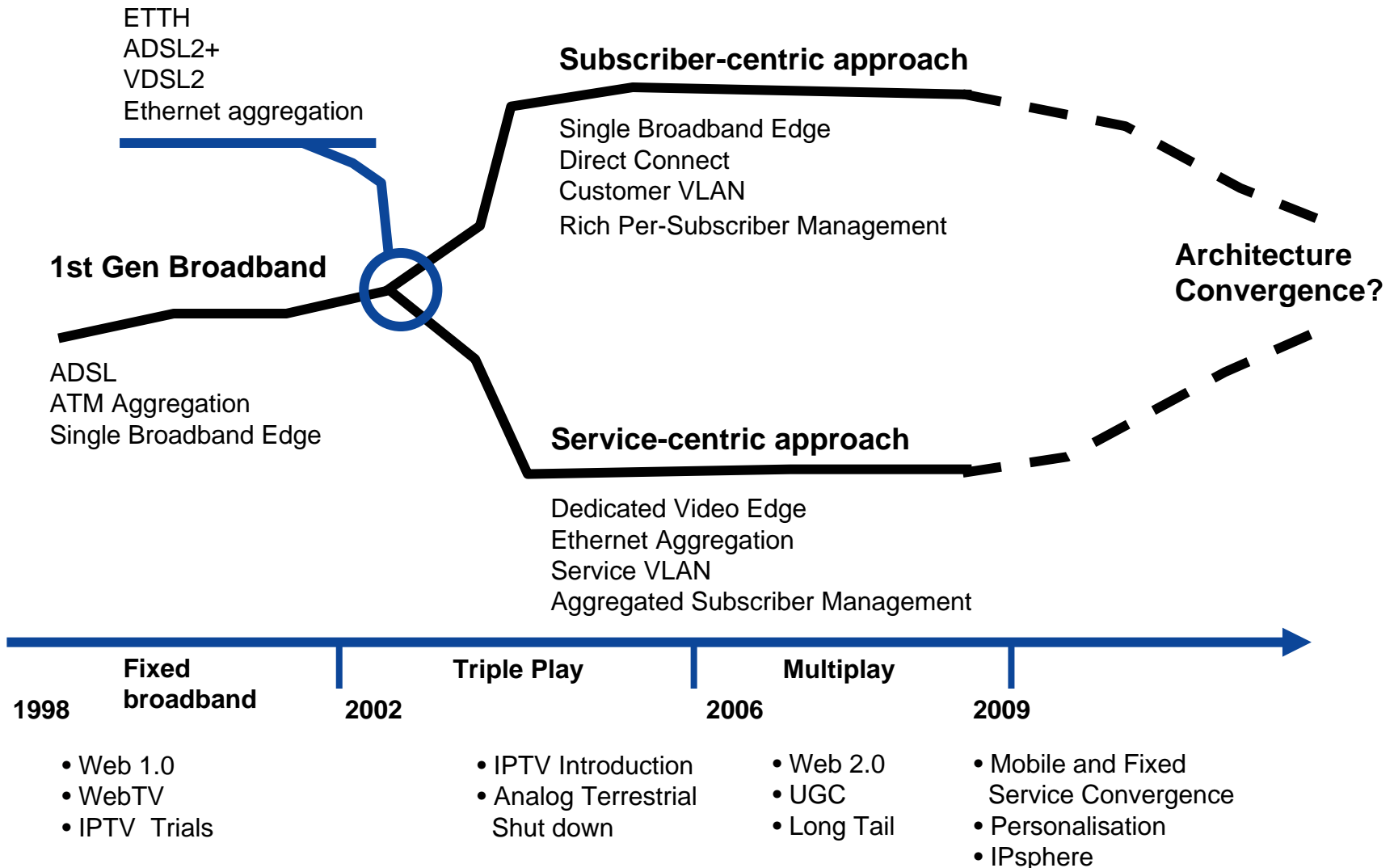
Competition

- ISPs
- Telco
- City carriers
- Cable operators
- Satellite operators
- Content publishers
- Portal operators (Google, Joost)

Technology

- DSL, FTTx, DOCSIS
- P2P
- Unicast & multicast
- Tispan, IMS, PCMM & IPsphere

Supporting the Options



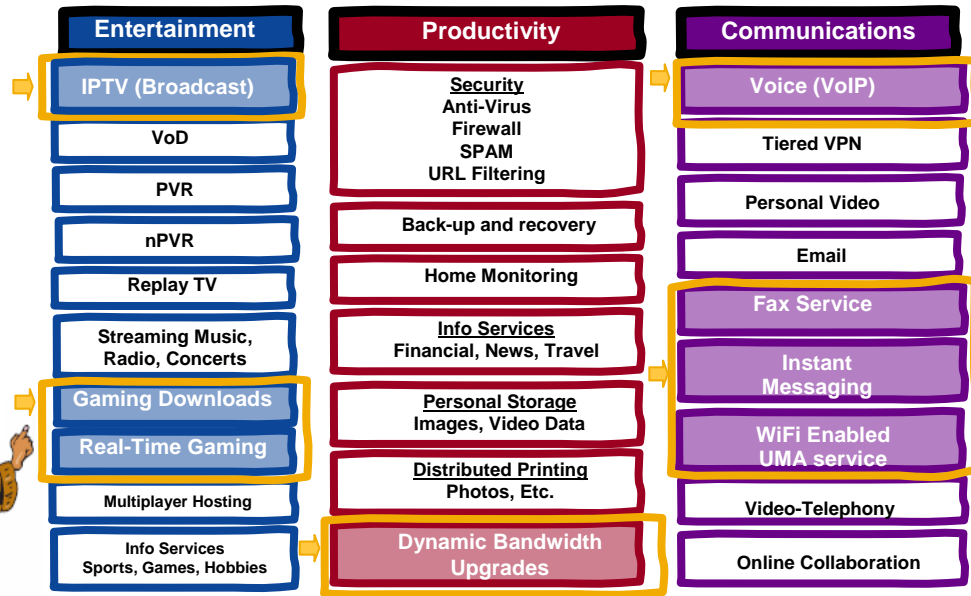
What makes a killer application?

- **The golden 3C's rule**
 - Content
 - Connectivity
 - Consumption
- **And 2 more (often forgotten)**
 - Cultural context
 - Competition
- **Success samples**
 - iTunes/iPOD
 - Itunes (mp3 files) + broadband + Ipod (user i/f)
 - Mobile
 - P2P/UGC content + mobile network + phone (user i/f)

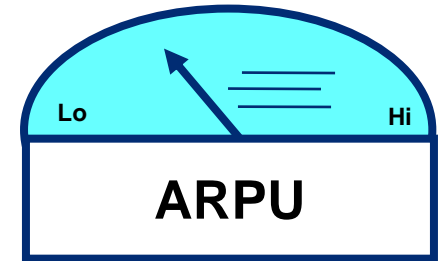
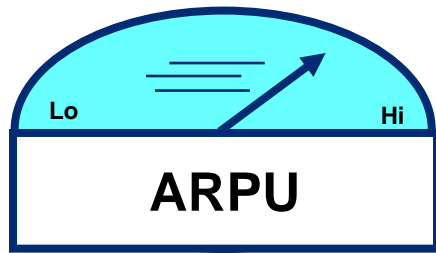
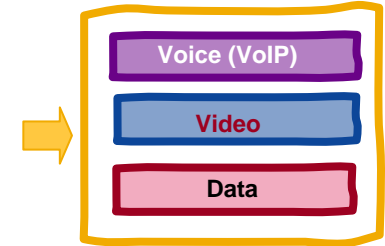


Be ready for whatever is thrown at you!

Maybe the killer application doesn't exist. What about a killer environment?



Vs. All Or Nothing Bundle



Juniper Multiplay: Choice + Consistent Delivered Quality = >\$\$

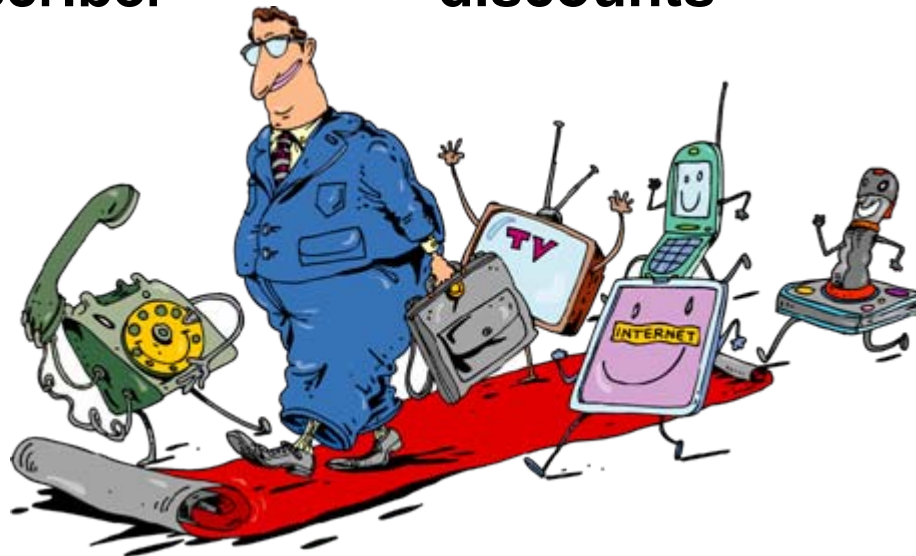
Multiplay Advantages

Operators

- More potential revenue per subscriber
- Attractive to more subscribers
- Increased subscriber loyalty

Subscribers

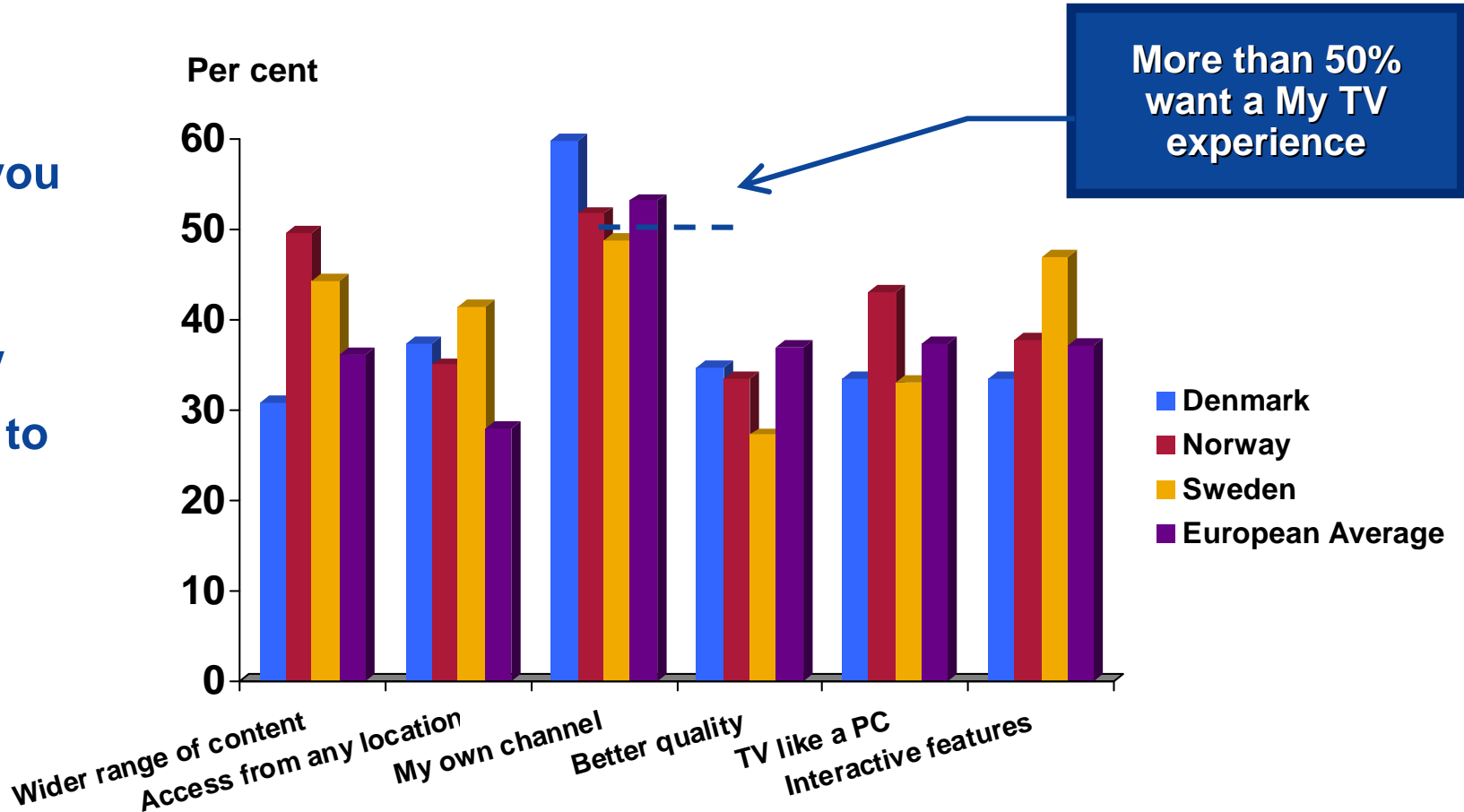
- Get services they desire
- Change bundle whenever desired
- Lower price due to bundle discounts



IPTV = MyTV

Personalization key as consumers switch on

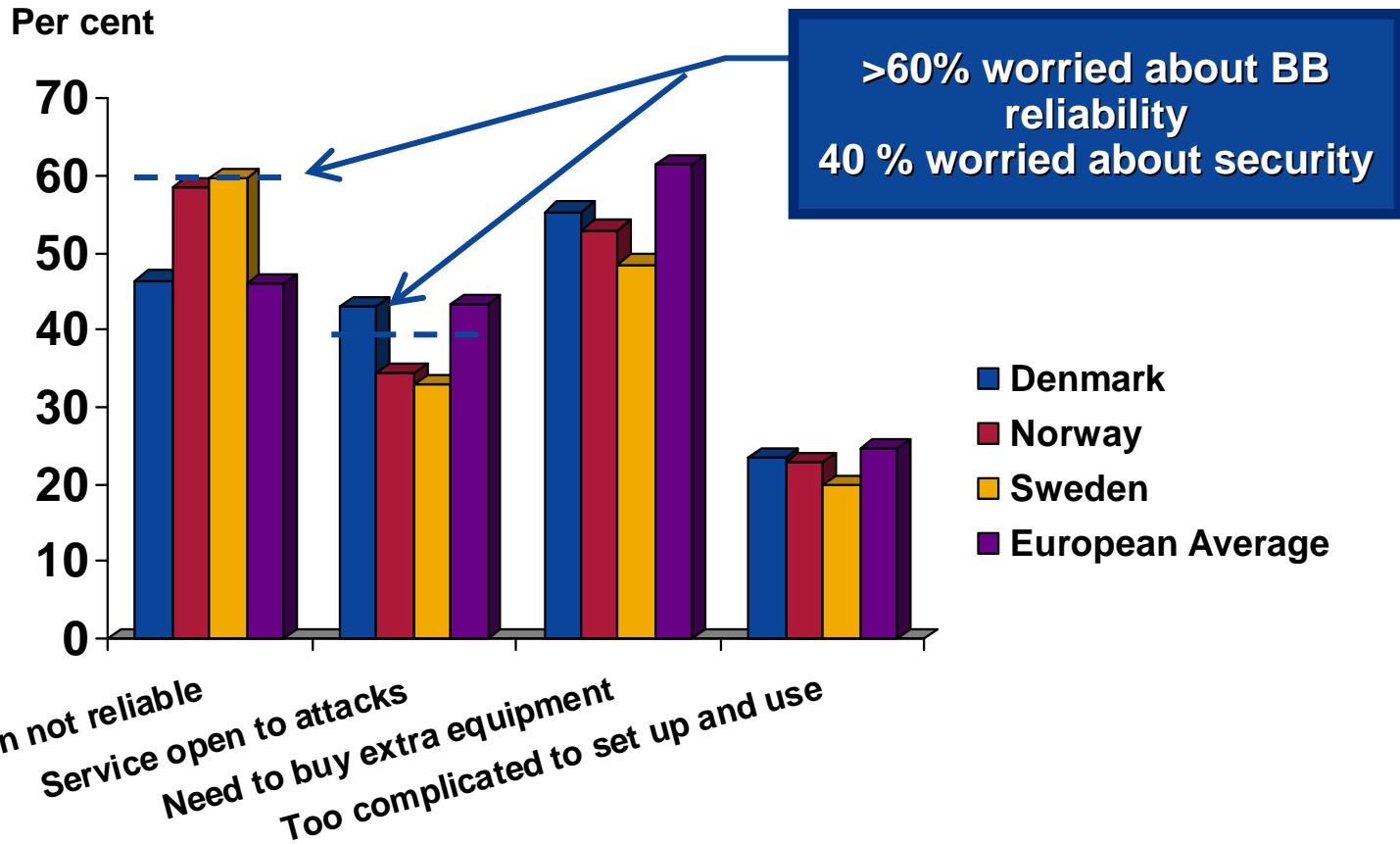
What would you change about your TV service to make it better?



Source: Juniper Networks IPTV survey, May 07

The quest for quality

IPTV currently associated with poor Internet experience



What are your main concerns about receiving TV over broadband?

Source: Juniper Networks IPTV survey, May 07

Key IP-TV Survey Findings

”Personalised Experience !”

- Ala carte channel package
- Advanced search tools & custom program guides
- The end of random channel surfing, No more zapping

”Content with quality”

- Quality is an expectation, not a service.
- IPTV needs to break away from its association with early Internet experience
- Broadband can deliver!

”Time for Bandwidth”

Telcos and ISPs are in a good position. However, as bandwidth issues are resolved, the competitive landscape will be increasingly be defined by brand association.

What do we expect from broadband video?

**“The Web infrastructure...
doesn't scale. It's not going
to offer the quality of service
that consumers expect”**

— Vincent Dureau, Google's head of TV technology, Feb 2007

Why IPTV Advertising

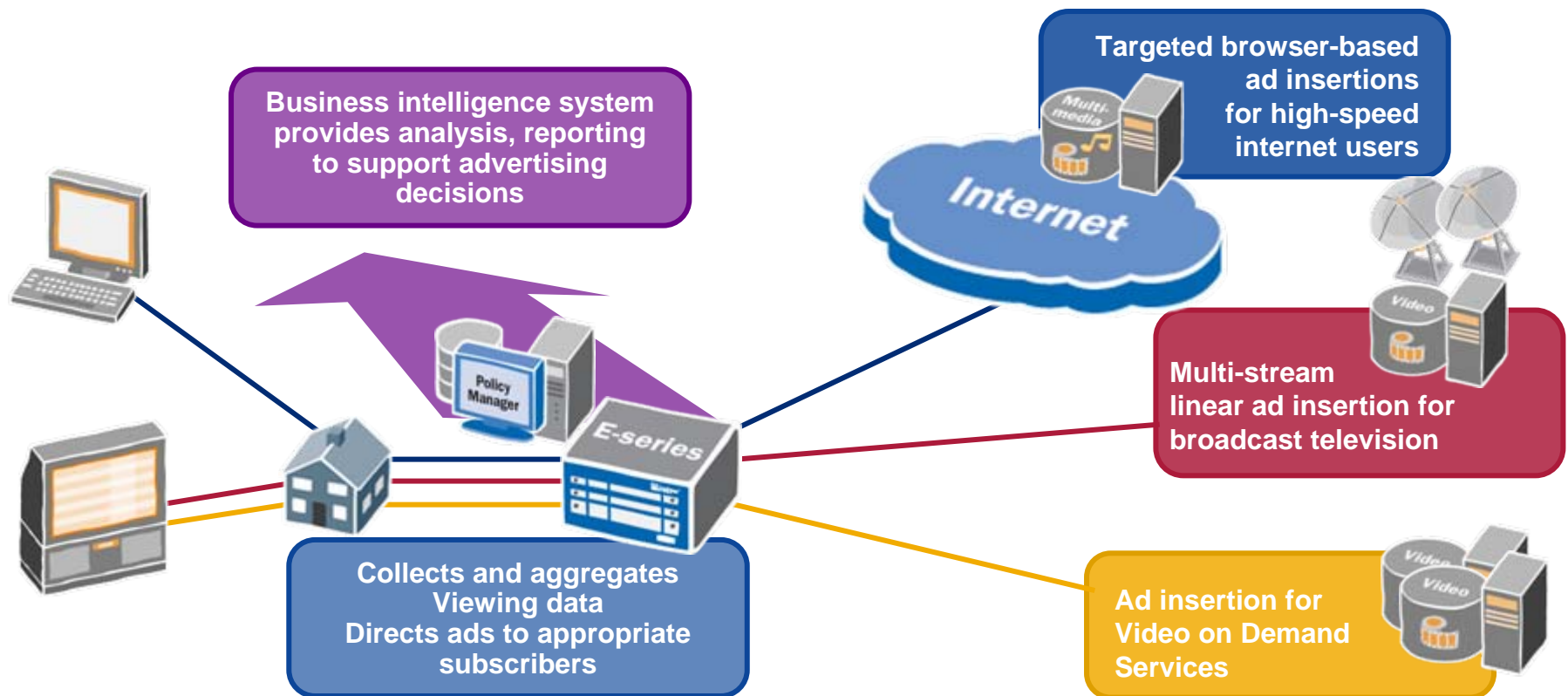
- **On-line ads has changed advertisers view on measurement**
 - Want rating on commercials watched, not TV programs
 - Current national TV rating systems can not provide the correct level of detail

- **Moving away from ‘carpet bombing’**
 - Targeted ads more relevant to end user, and more effective to advertisers.
 - Local language, demographic context, personal preferences increase relevance to the end-user.
 - Diverse regions and languages can be better accommodated
 - Real data collection improves ability to sell in all markets

IPTV: Measurability is a key differentiator to other TV platforms

Open Multiplay Advertising Solution

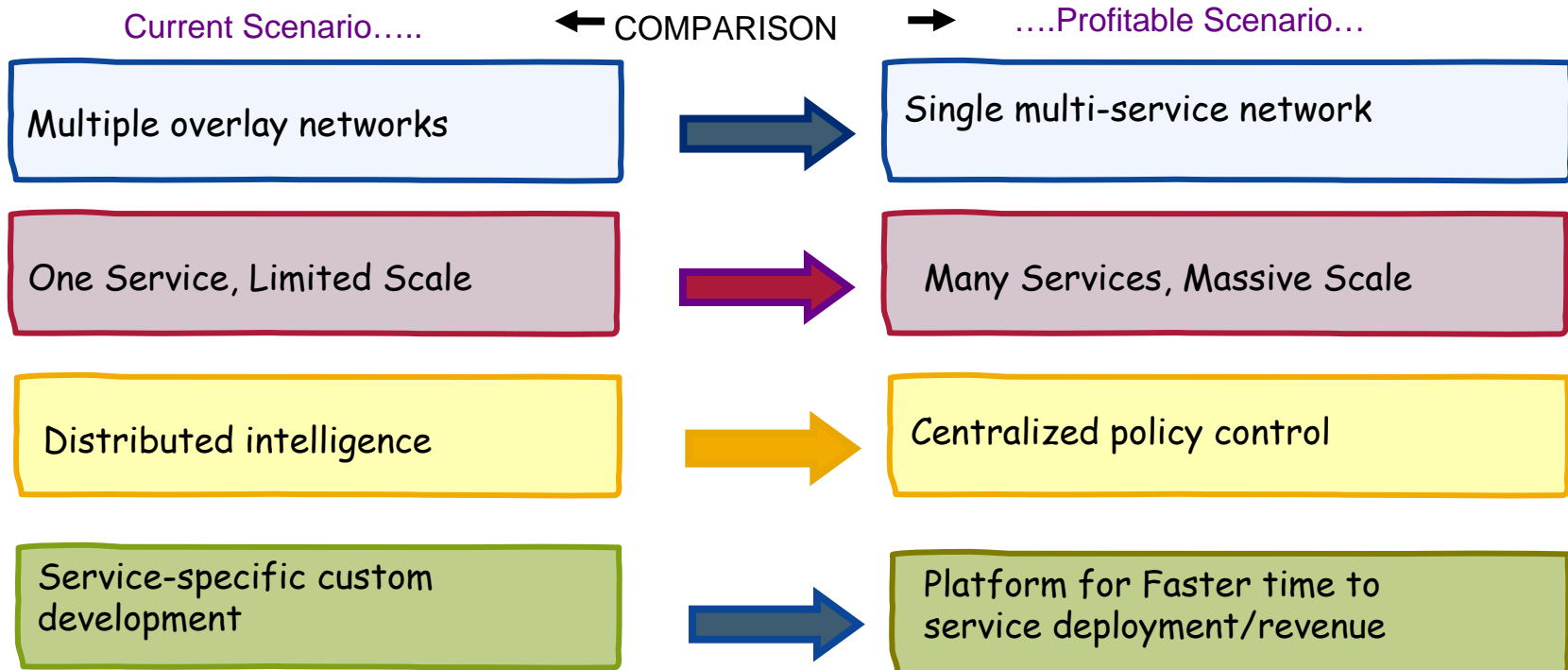
- Unique combination of per subscriber service-awareness and open ecosystem of partners
- Combination of E-series-enabled network knowledge and partnerships enables providers to leverage addressable ads



Building Profitable Solutions

Technology has a direct impact on the bottom line:

- Enabled flexible bundle of services
- Self provisioning?
- Auto configuration of new subscribers
- Reduced TTM for new services
- Scales to support more subscribers
- Provides a secure and assured quality of experience, reduced churn



Challenges on Converged Network Infrastructure for Service Delivery

- Assured service quality of experience
- High network availability
- Single infrastructure for multiplay and future services
- Any starting point - simple evolution, grow ARPU
- Per subscriber control
- Simplified network commission, subscriber management and service provisioning
- Scalable design for growth and change
- Security against attack

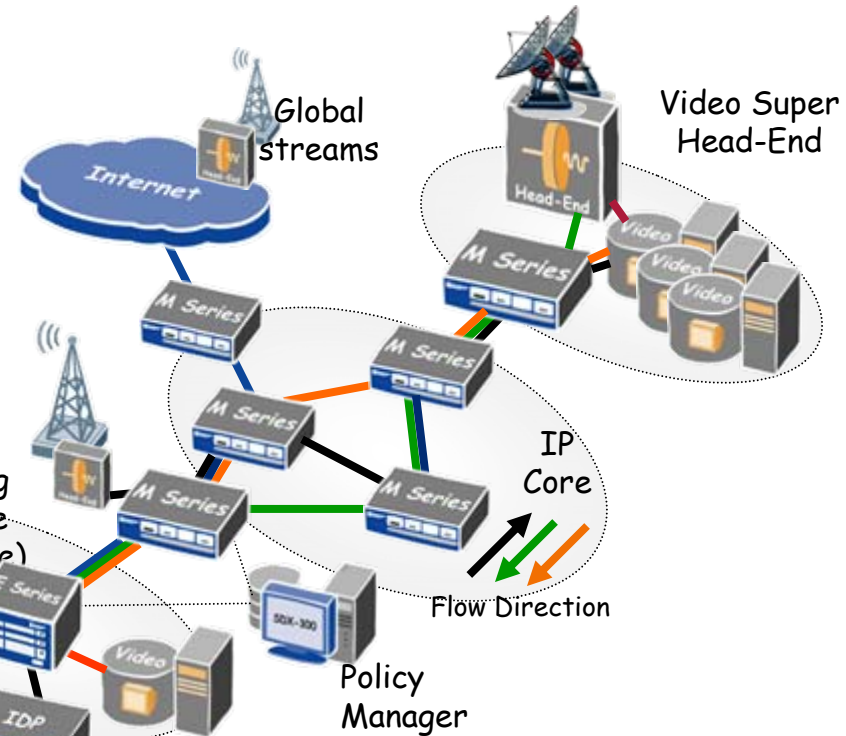
Architecture needs:
agile, open and customizable



Juniper's Open IPTV and Multiplay Solution

- **Core Routers**
 - T- and M-series
- **Edge Routers**
 - E-Series (BSR)
- **Policy Manager**
 - SDX-300
- **Security**
 - NS 5xxx/ISG
 - Steel-Belted Radius
- **Data Center Optimizers**
 - DX

Video security session



- **Allows simple access**
 - Open to multi-vendor/easy migration
- **Provides flexible content sourcing**
 - Source from any VSO or Head-end

Enables multiple priority service subscriptions /sub
 Enables fine grained per subscriber control

Juniper's IPTV Leadership

- 6 of Top 10 IPTV deployments in the world
- Accounting for almost half of the IPTV subscribers worldwide
- Continued state-of-the-art deployments: from the largest to smallest providers



Summary

Customers :
Understand their desires
Give them the power



Any Service, To Anyone, At Any Time

**Lesson learned -
Customers are willing to pay for convenience**

Juniper *your* Net™