

The state of audio networking



How big is networked audio?



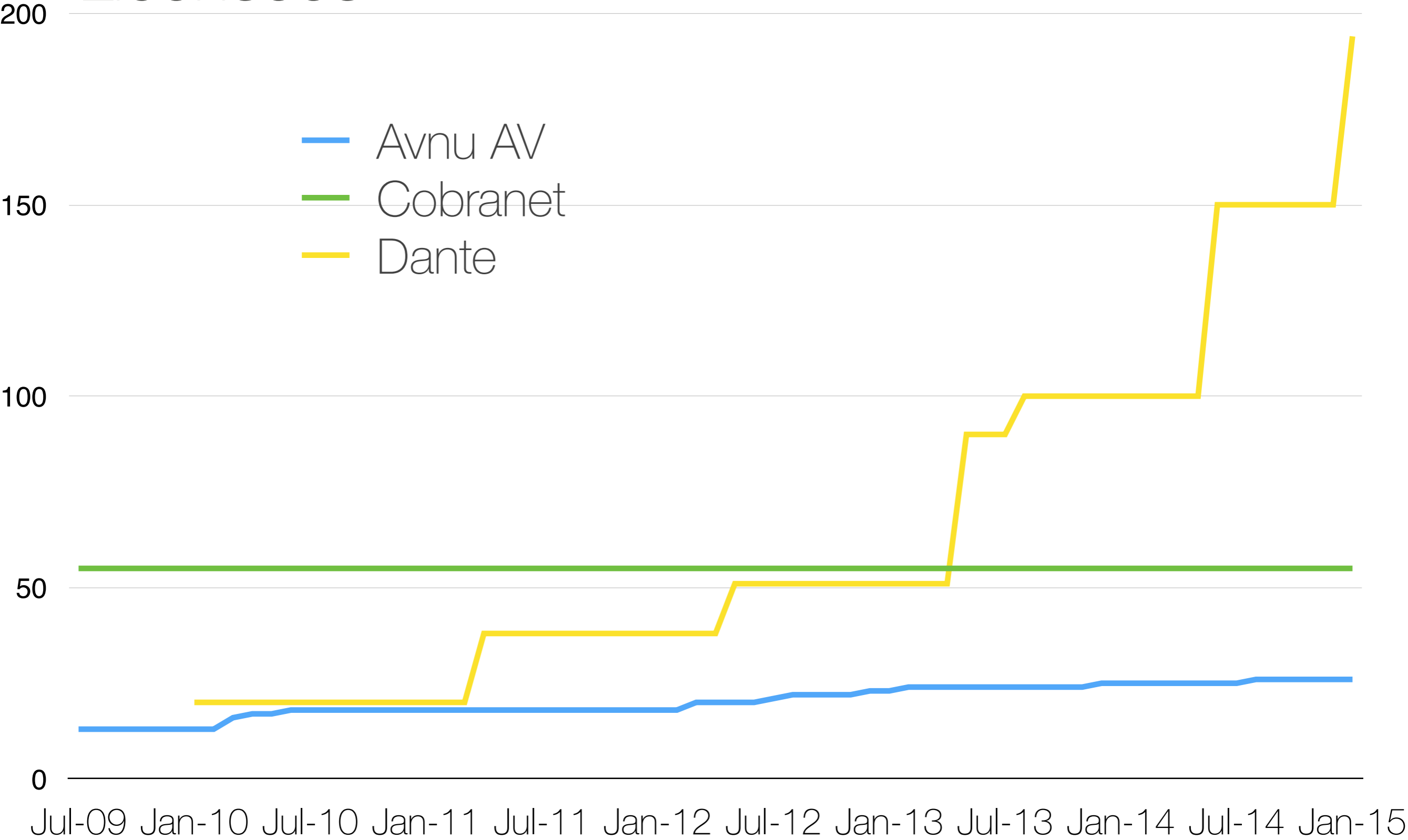
We don't know !

Nobody knows !

What don't we know

- Product sales volume
- Product sales price
- Product sale profit
- Where most products are used
- Was it a networked application?
- Success of the project

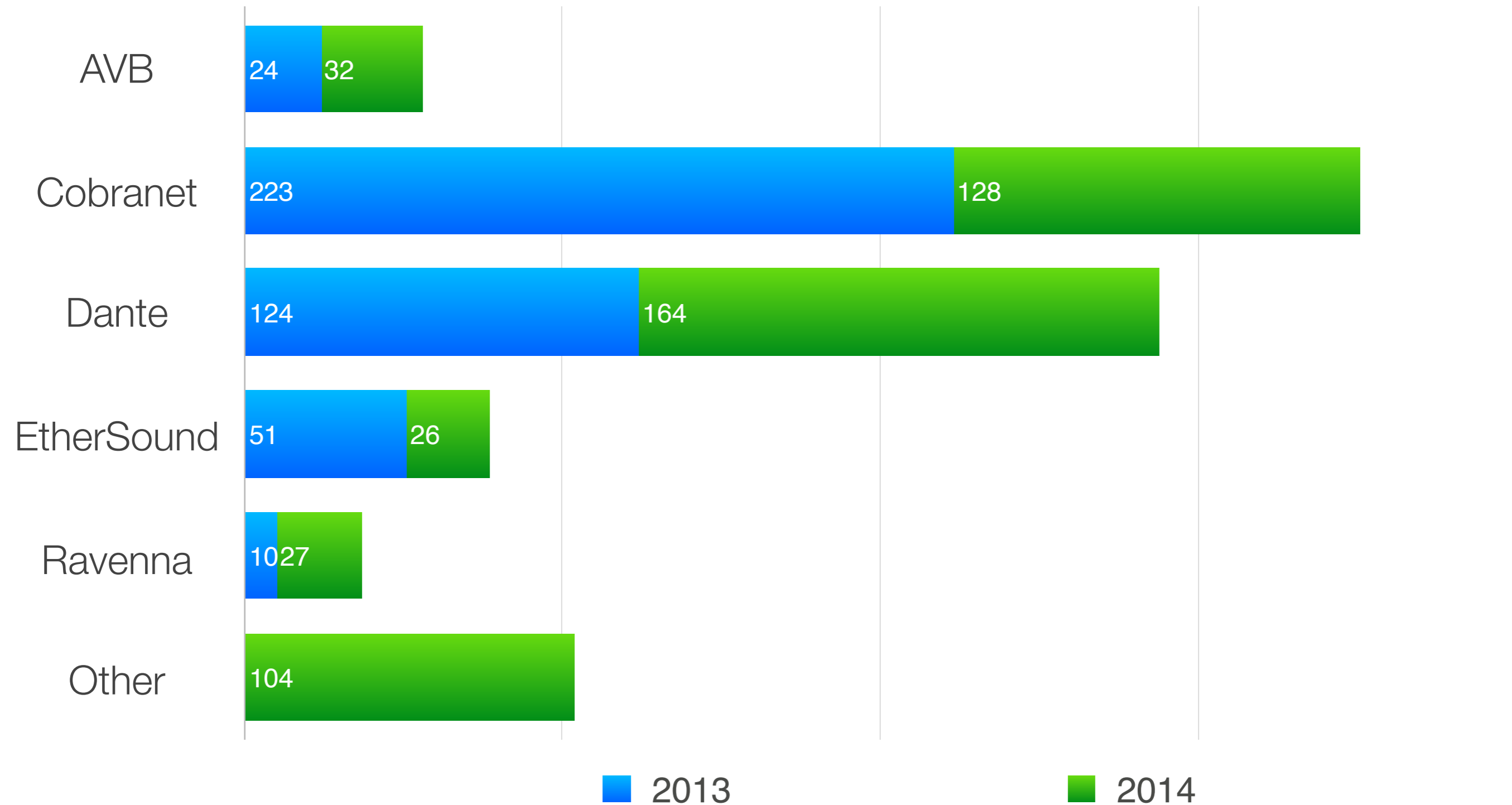
Licensees



Our research

- From an end-user point of view

Products



Caveats

- It's a small data set
- One product line skews data significantly
- Do we know enough about discontinued products?
- Is it *really* shipping?

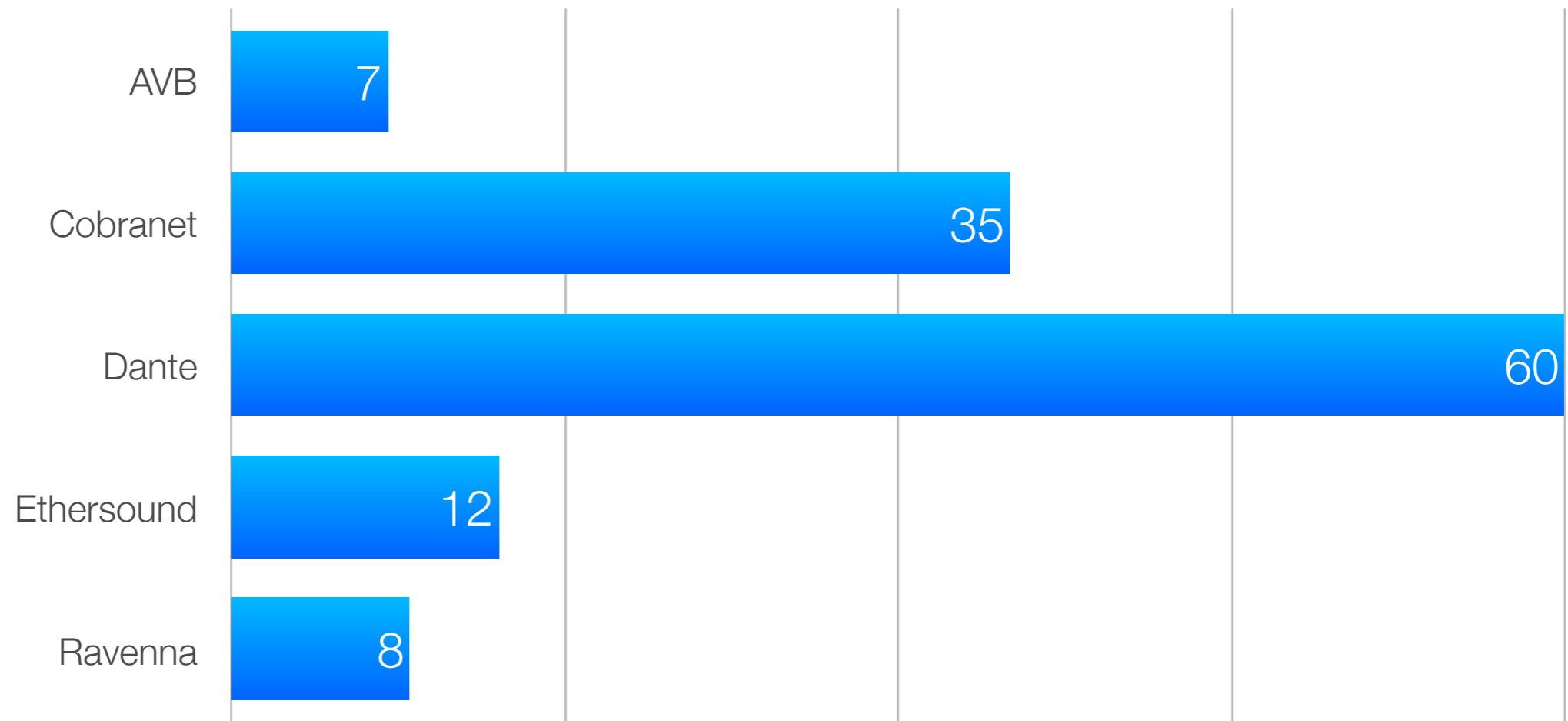
Skewed data

- 32 of 56 AVB products are two manufacturers
- 53 of 66 CobraNet loudspeakers are one manufacturer
- 25 of 104 CobraNet amplifiers are one manufacturer

Interfaces, Transport and software

- Interfaces are product enablers
- Software is one product but unlimited applications
- Transport category will eventually decline

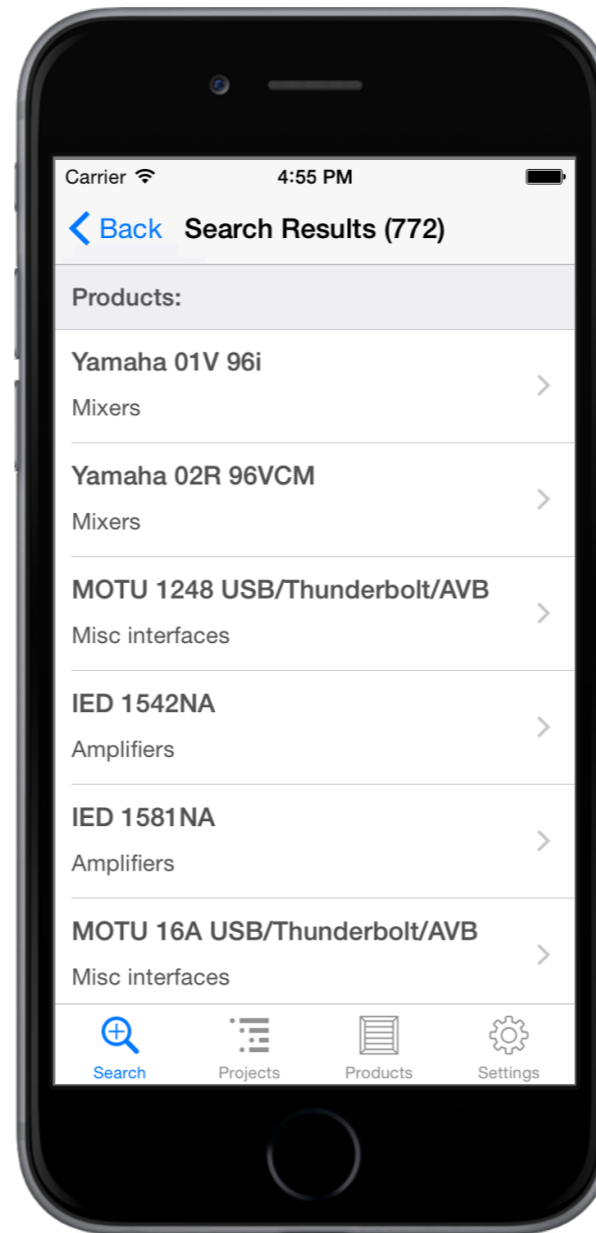
Manufacturer activity



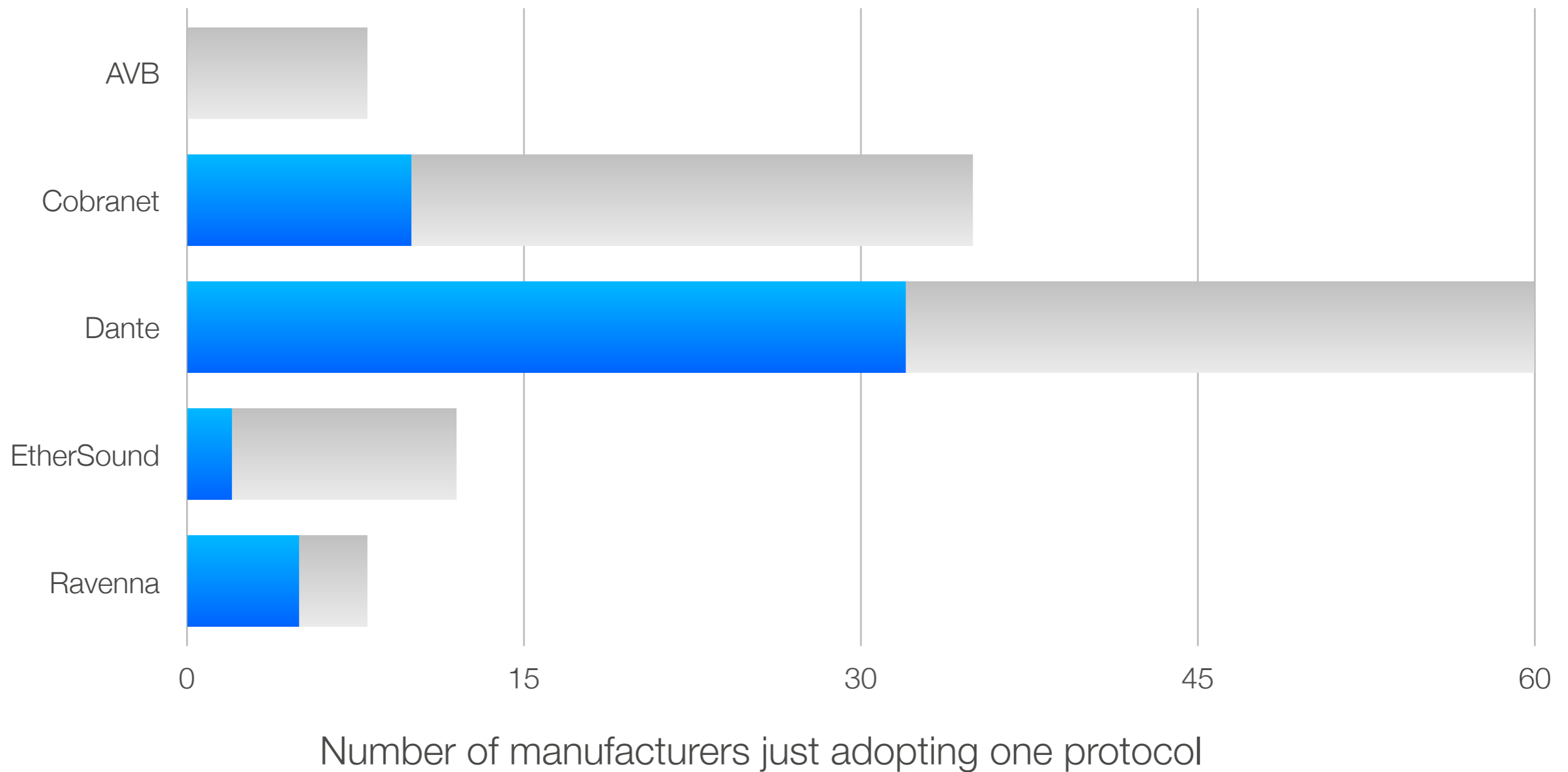
How many manufacturers shipping for each protocol?



Networked Audio Devices App



Protocol Loyalty



AES67

- Currently 52 products
- 340+ once Dante becomes AES67
- Q1 2015 approx 50% of all products will be AES67

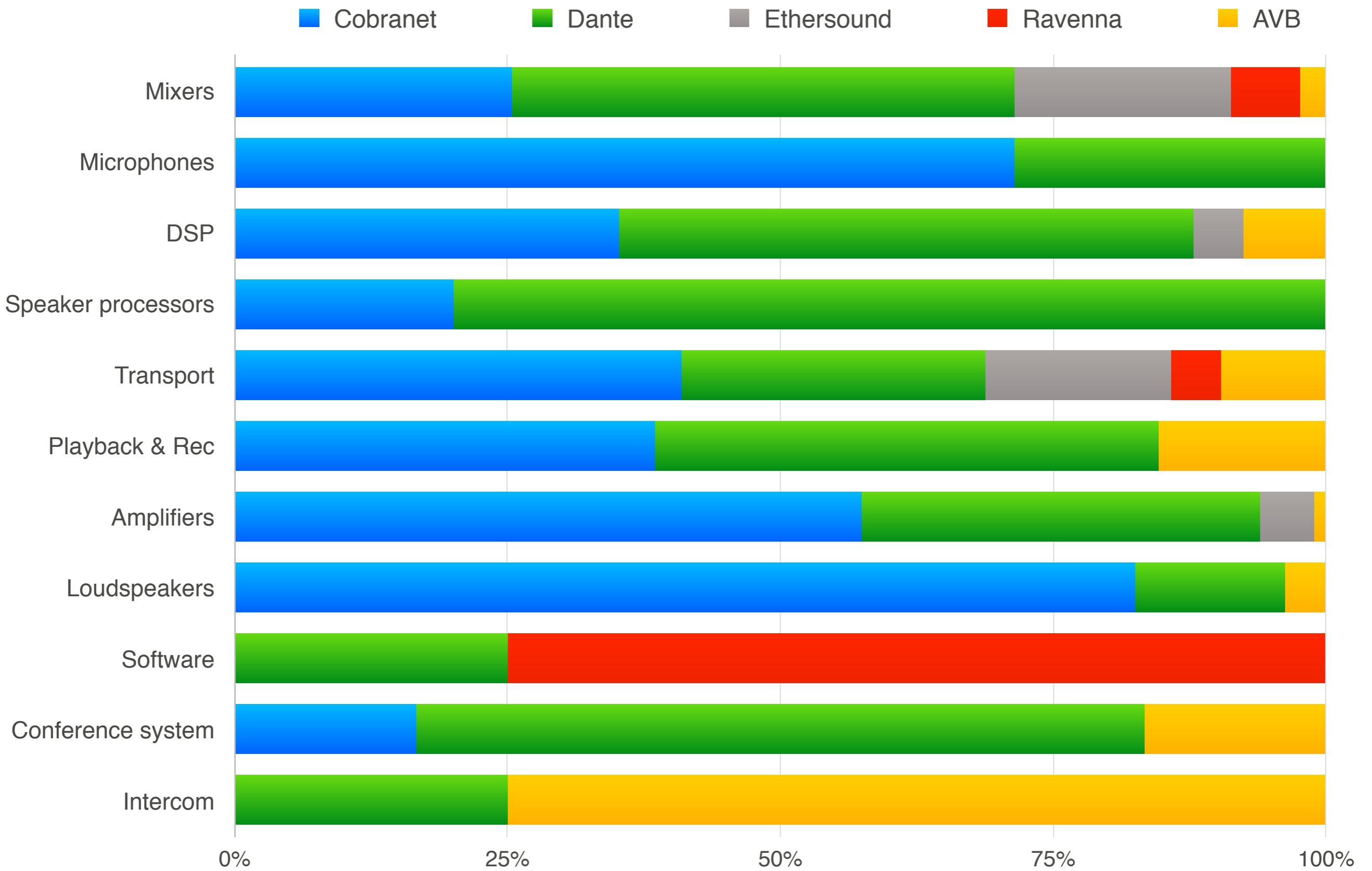
AES67 Growth

Positives

Dante
Ravenna
Q-Lan
Livewire
Layer 3

Negatives

Cobranet
AVB
Layer 2



A tiny proportion of projects

- Too difficult to do
- Lack of true interoperability between products
- Still a pro-audio niche

White paper on audio networking

- Release date 17th February 2015

What is the networking business?

- It can be tracked like any other new business
- New technology has both invention and a new business model
- Networking technology is a product that needs development and support

Protocols are not standards

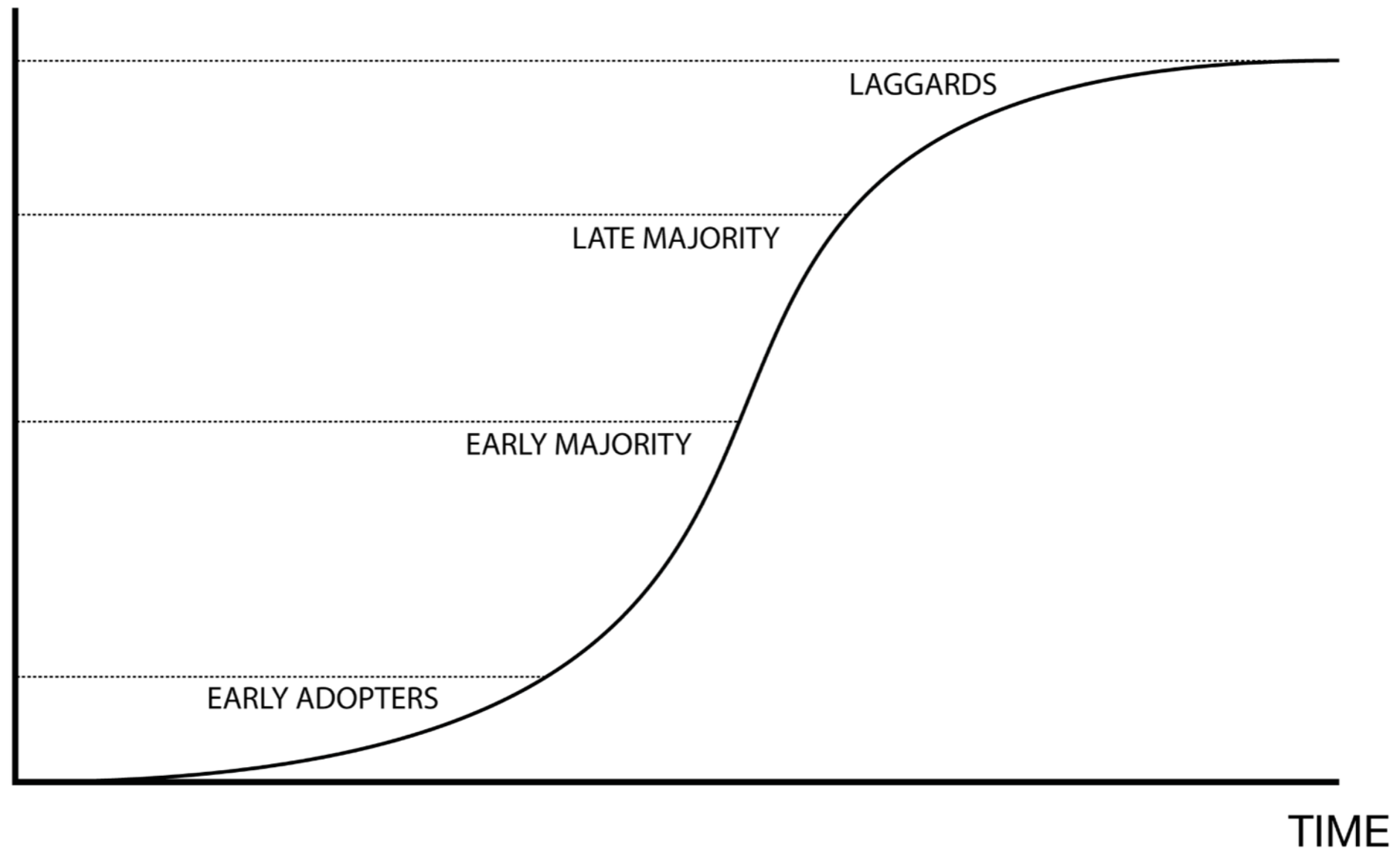
- Protocols are products
- Protocols are ecosystems
- Protocols should not be standards
- Protocols should use standards as building blocks to allow interoperability

Technology development

- All new technology has an adoption curve
- Several phases of adoption

Typical adoption curve

PENETRATION



Industry development

- Integrated
- Modular

Integrated

- 'One stop' solutions
- Complete control over the user experience

Modular

- Multi-supplier solutions
- Based on standards

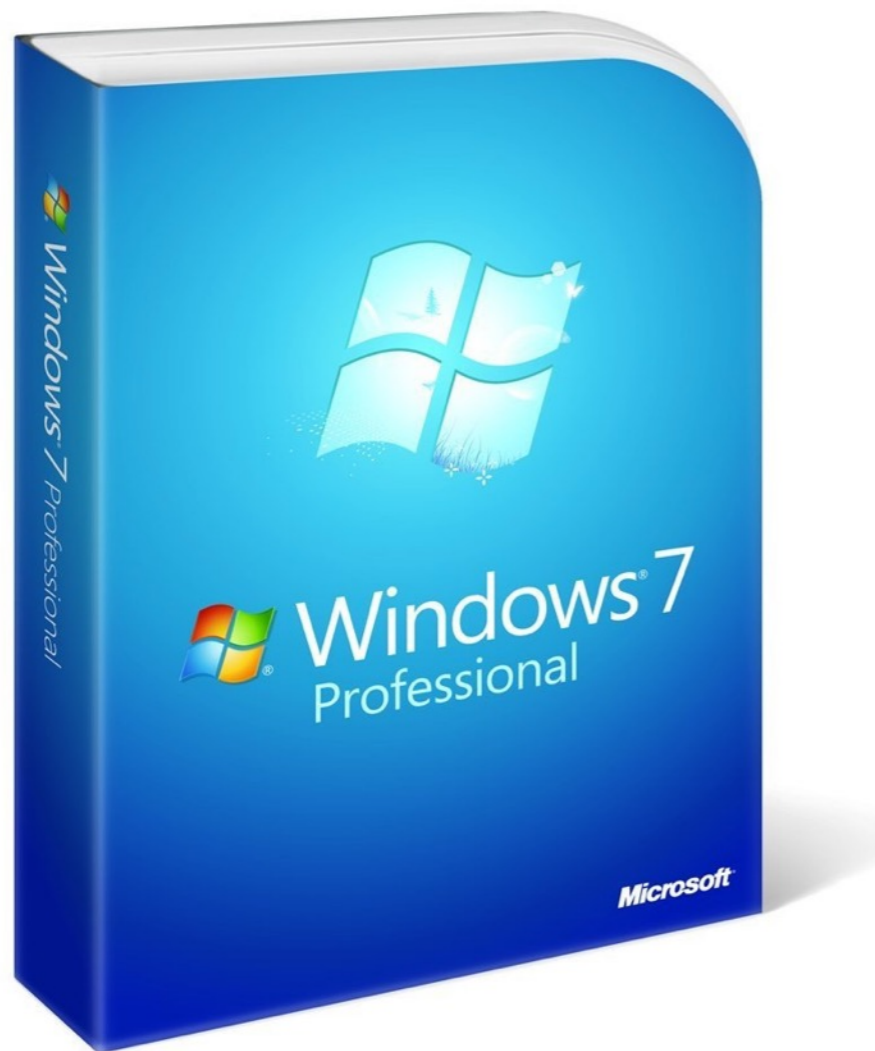




Mainframe integrated
computing

Desktop modular computing





Microsoft captured value at a different part of the chain



Apple failed during the modular phase
until miniaturisation, aesthetics and simplicity helped them recover

Types of standard

- De facto - private companies
- De jure - committees and consortia



Product support

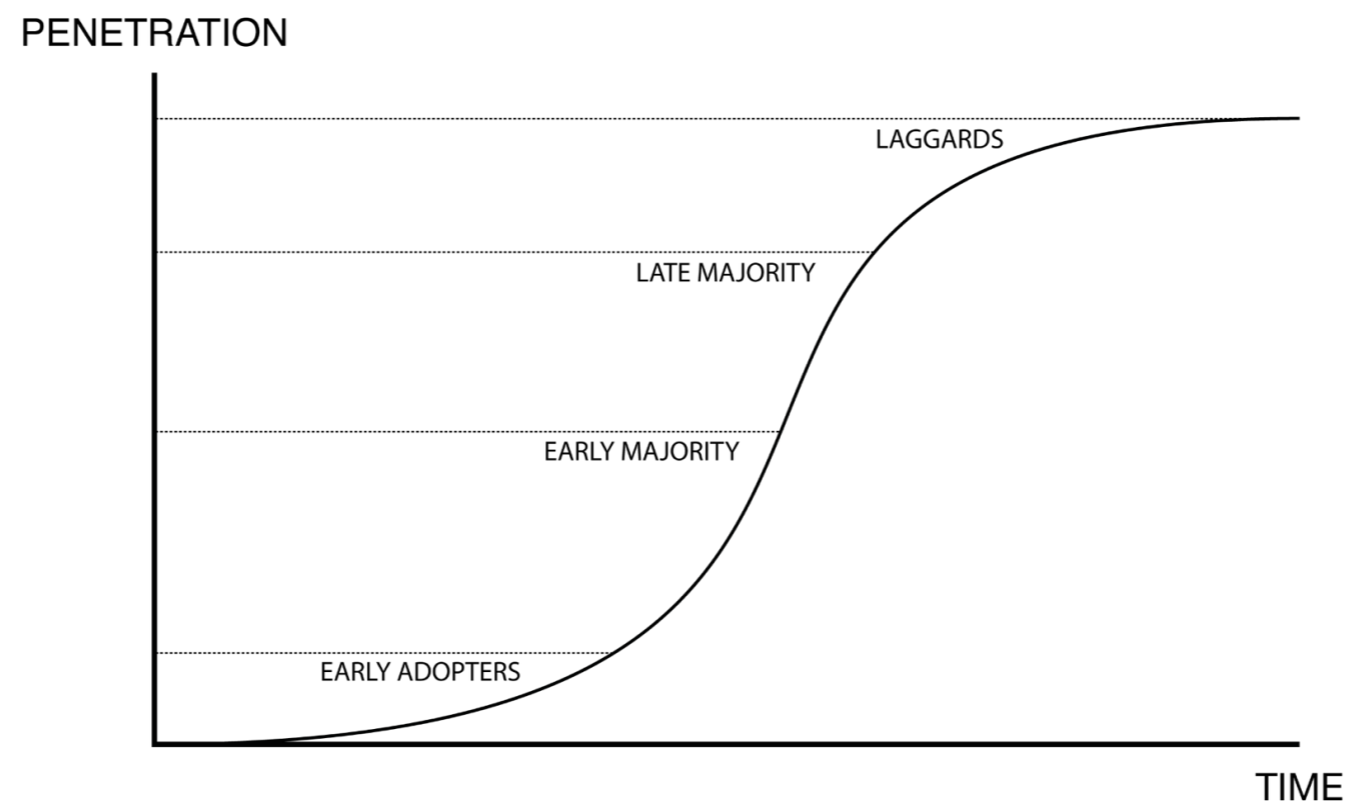
- Difference between standard and a product
- Learn, adapt and develop against standards interoperability testing
- Dante carry out bug fixes

Product development

Product	Year
Dante Legacy Module	2008
Dante Virtual Soundcard	2009
Dante Brooklyn	2010
Dante Brooklyn II	2011
Dante PCI-e card	2011
Dante Ultimo 2x2	2013
Dante HC	2014
Dante Ultimo 4x4	2014
Dante Via	2015 (likely)

Tracking adoption

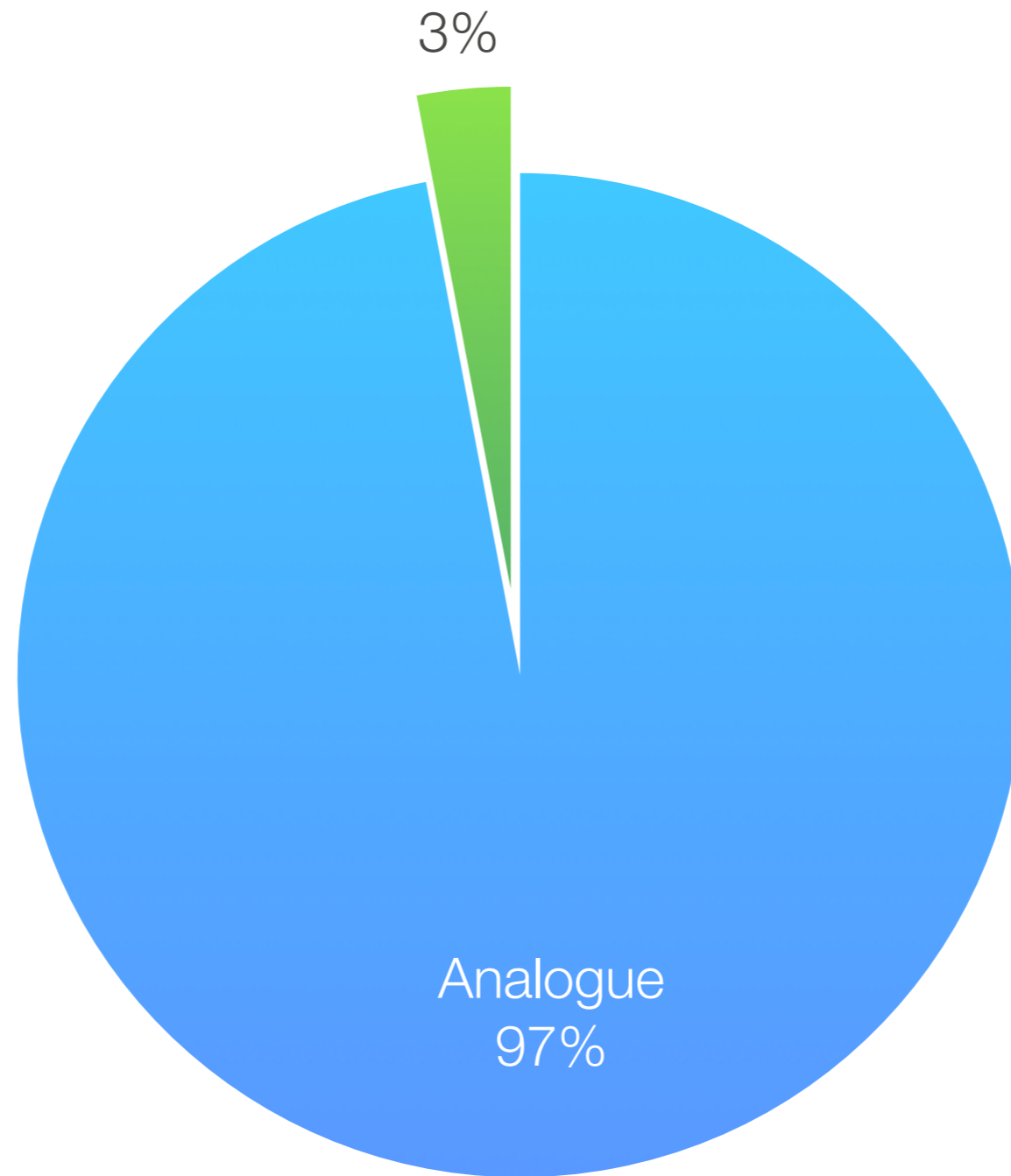
- Audio networking is 18 years old
- We don't know where we are on the adoption curve
- Perhaps 1 to 3% of projects?



The real competition

- There is no audio networking turf war
- Analogue is the real competition
- Non-consumption is the greatest challenge with any new technology
- All audio will be networked in the next few years

The real competition



The network effect

- AES67 will grow whole market

Where is Dante?

- Offering an integrated solution
- Can evolve into modular phase with AVB and AES67 support
- Becoming the de facto standard

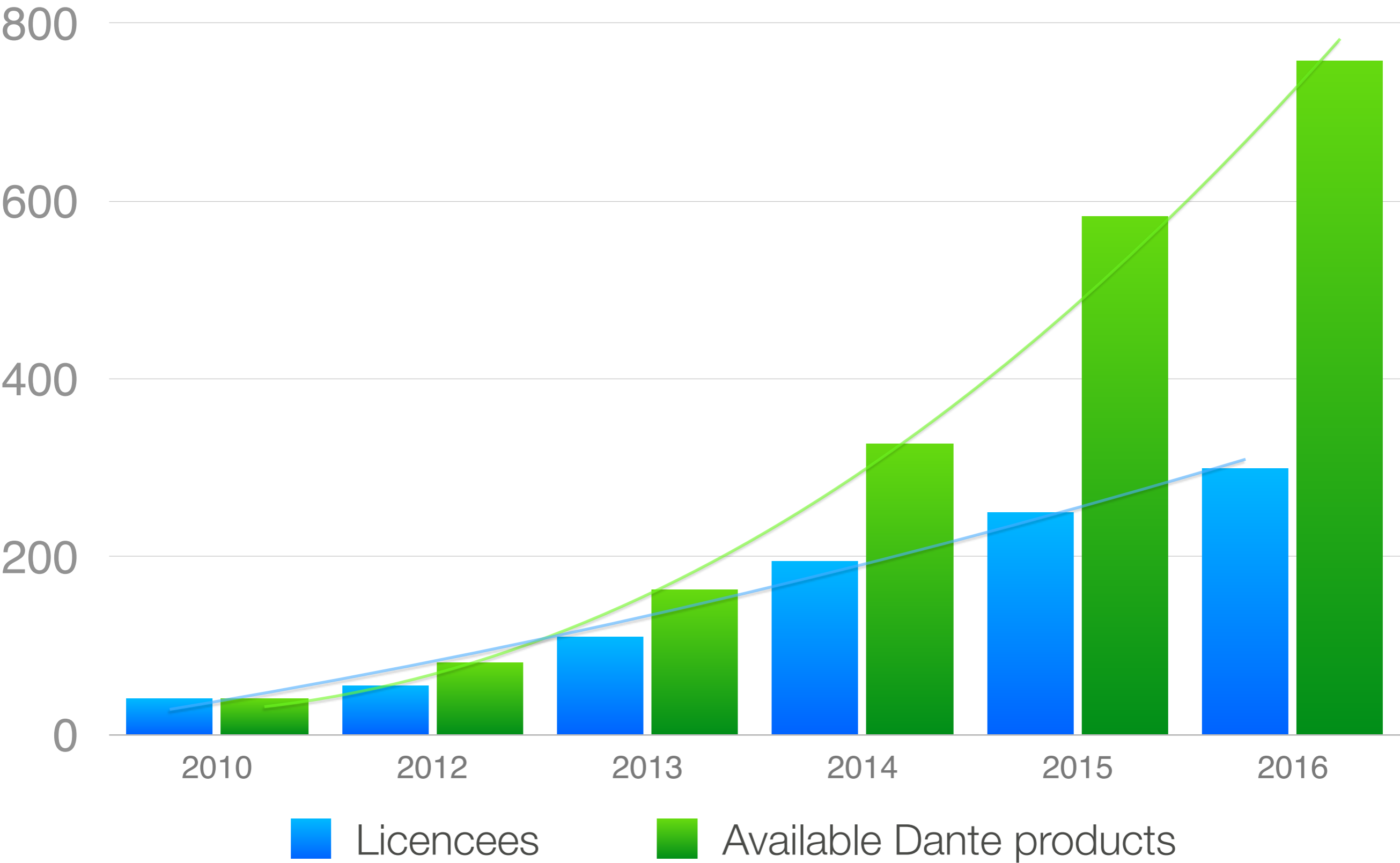
The competition

- Lack of commitment from others
- Have invested more in networking in the past decade

Dante sales growth

	Hardware sold (% YoY growth)	Channels sold (% YoY growth)
2012-13	34%	10%
2013-14	125%	93%

2015 and beyond



■ Licencees ■ Available Dante products

Who controls the market

- 100 people have decided to adopt audio networking
- 60+ have opted for Dante

Will control points change?

- Initially a few control points create a virtual monopoly
- Later, consumers wrestle control of that decision away from manufacturers

Conclusions

- We need more data
- Read our white paper

Summary

- Audinate are market leader
- Planning to evolve if they need to
- Dante makes a profit for its customers
- Competitors are slow to market, diminishing or focussed on a niche
- Adoption will increase rapidly