

PHILIPS

Success Factors for Open Standards,
particularly AVC

IBC supersession, Amsterdam, September 12, 2004

The life of standards

“The art of progress is to preserve order amid change and to preserve change amid order....”

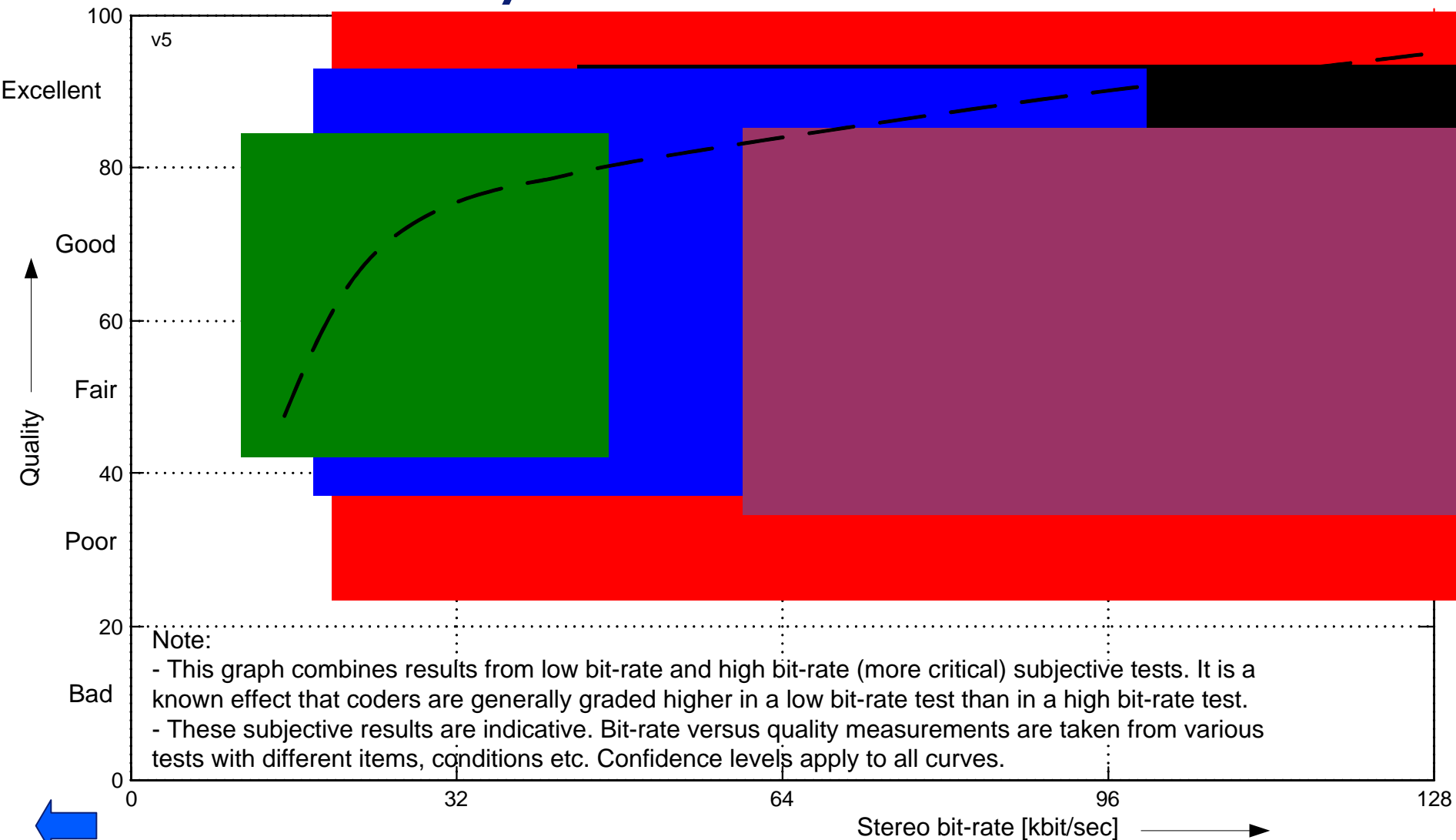
Alfred North Whitehead,

Mathematician, Philosopher, UK, USA, 1861-1947

Windows of opportunity - I

- Technology progresses
 - Moore's law, not just for processing
 - New markets open up, e.g. Internet
- What was once impossible, becomes feasible
- A standard partially freezes evolution
 - Although evolutionary improvements still possible
 - E.g. improved MPEG-2 encoders
 - Required to create large installed base
 - Economy of scale; many established players and vested interests
- At some point the new opportunities outweigh the inertia and critical mass of an established format

AAC Efficiency



Windows of opportunity - 2

- Timing and scope are of the essence
 - ***Too early***: impossible to get critical mass
 - Immature, expensive, no real market need
 - ***Too little***: not enough differentiation against established format
 - E.g. MPEG 4, part 2 ?
 - ***Too late***: obviously somebody else will have established itself

Disclosure as a basis for progress

"To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

US Constitution, I, viii
August 18, 1787

Nature of an Open Standard

- Driven by Commercial Requirements
- Early and full disclosure
 - Allows others to build on contributions
- Open competition
 - Anyone can offer a contribution
 - Provided willingness to play by the rules
 - Mergers of partial solutions are possible
 - Competition in marketplace once standard established
 - Leads to rapid quality improvement within standard bounds
- “Objective” criteria
 - Shoot-outs based on same set of source materials
 - To check competing contributions and select the best solution that meets Commercial Requirements

Challenges of Open Standards

- Pre-competitive
 - Steer clear of anything that even smells remotely like cartel
- Complex, slow process
 - Many involved, across value chain, also direct competitors
- “Designed by Committee”, many options, profiles, toolbox
- Interoperability
 - Many players, ambiguities, options, plugfests, test suites
- Licensing
 - Pooling is encouraged, very visible process
 - Perception might be that proprietary formats are “for free”
 - But now license pools are forming for e.g. VC-9, DRM reference model
 - Typically RAND conditions enforced by standard bodies
 - Even “forced licensing” is legally possible, as last resort
 - Benchmarked against “pool” portfolio

Concerns about AVC ?

- Video quality ?
 - No known alternative has richer toolbox
 - If not using certain tools would lead to better video, as some have claimed, then this can be emulated with AVC
 - Rich toolbox will drive further quality improvement in the field, once standard is deployed, by encoder evolution
- Complexity ?
 - Indeed slightly more complex decoder
 - But what does that mean on a scale of 10 years of Moore's law?
 - Software decoders possible on today's CPUs.

What about AVC ?

- ✓ Market needs
 - Mobile screens, HDTV, IP-delivery
- ✓ Large enough differentiator against predecessor
 - MPEG-2 dates back ten years
- ✓ License available
 - Pools have formed and have announced terms
- ✓ Solutions available
 - See booth 574 in hall 1, www.avc-alliance.org
 - Many company booths, all over IBC

