

## Panel statement IEA 4E workshop on Network standby, May 7 , 2012.

- The panel theme is : ***Long term target for networked standby and how to get there***
- There is no single answer to this, because Networked standby is used by widely different products and applications and for many different network types.
- Let me focus on the high-performance products, as these are often seen by regulators as bottlenecks for achieving low power levels.
- And let me focus on IT products, as we have panellists with outstanding expertise on HAV and broadcast receiver products.
- What are these high performance IT products ?
- Those are : desktop-PC's, multifunctional & productive office imaging equipment and network projectors. All of these are used by professionals and by groups of workers. They are equipped with high processing performance, relatively high active power, and large amounts of on-board memory.
- All 3 of these items are consuming energy when the product is in a network standby mode, because they are needed to get the product awake and ready in the shortest possible time when a user needs it.
- Still, we do not consider all of the named products "professional products", because they are used in common office environments and there they are ubiquitous.
- It seems justified to reduce the networked standby power level of high performing IT products.
- We need to find energy-efficient alternatives for the processing performance, the memory and the active power.
- One important step towards alternatives is the usage of a proxy, a tiny processor that takes over the network connection function from a product when it goes to sleep. This was defined by an Ecma working group in the standard ECMA393.
- The proxy itself may be very energy efficient, because it can be designed to carry out a very limited set of simple tasks.
- On the other hand, it allows to shut down large parts of the main product, apart from the memory.
- The proxy also allows to shut down the main power supply, supposing that a cost-effective dedicated power supply can be created for it.
- Coming back to memory: currently the most widely used RAM memory hardware is a bottleneck in achieving low power levels in sleepmode.

- Alternatives seem to be available, but still are more expensive and have a lower lifetime, making them not useful for high performance products.

In terms of timeline, now what are we talking about ?

- High-performance products can currently achieve power levels of 8-10 W with available components.
- By optimizing power architectures, in 2017 the high-performance products will be able to stay below 6W, though this requires drastic redesigns, that are to be initiated today. It also requires phasing out high performing products that are currently on the market.
- Beyond 2017, it is impossible to predict when all high-performance products can achieve even more ambitious network standby levels and what these will be.
- Many frontrunner products, especially mobiles will be able (and currently are able) to achieve much more ambitious levels, because they can afford to offer less performance and much less memory, combined with an intelligent power supply design.
- It is not justified to compare these frontrunner products with the high-performance products.
- Moreover, these very popular mobile products are presenting a lot of user convenience and value, because a number of tasks are offloaded to the higher performing products, that have the processing power and the memory to do these.

My message to you is: do not focus on the single target for network standby, but incentivize the usage of highly efficient mobile products. The market and the strive for user convenience will drive energy efficiency for those products.

At the same time, incentivize the optimal use of high performance IT products by professionals, by groups and communities of workers, by which efficiency can be achieved through load balancing and intelligent power management, using proxy technology.

Common industry standards and voluntary energy efficiency labels (used in GPP schemes) are the best instruments to achieve energy efficiency for high-performance products.