

Portland



Salt Lake City



San Jose



Panasonic Electric Works Laboratory of America

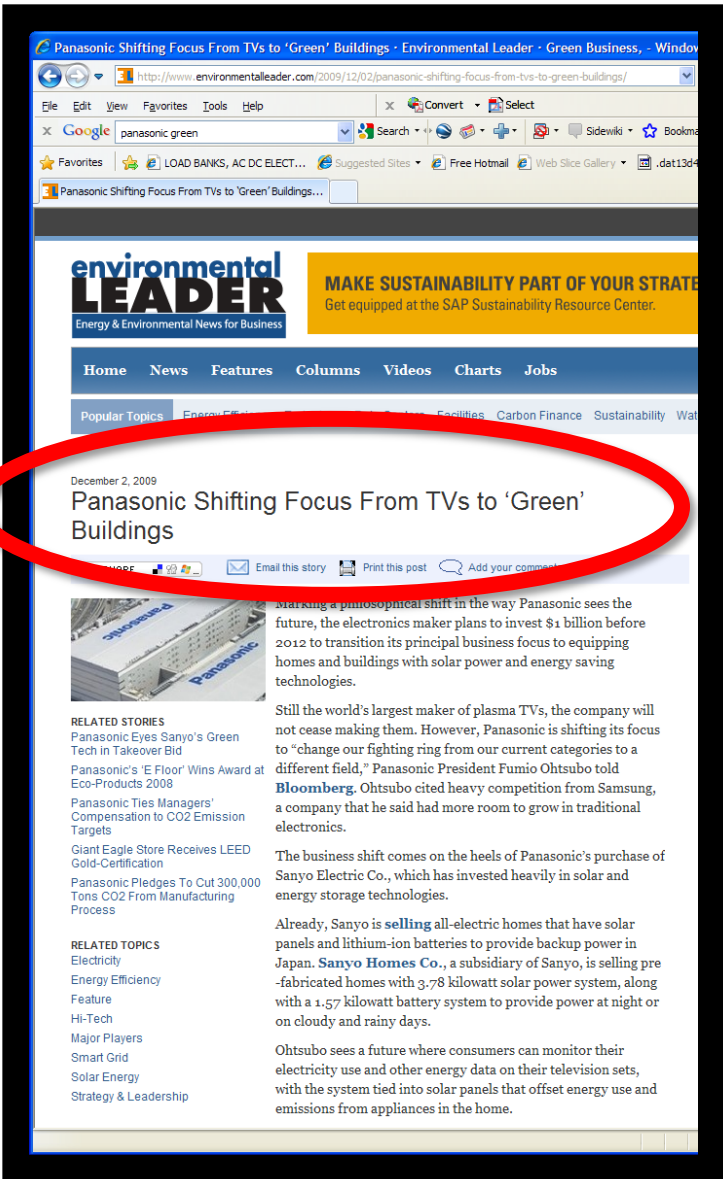
The Smart Grid: a Panasonic Perspective

IEEE GlobeComm 2009

December 3, 2009

Todd Rytting

President & CEO, Panasonic Electric Works Laboratory of America



- Panasonic announces “green” emphasis
- Will spend \$1Billion by 2012
- Acquisition of Sanyo brings
 - Solar Panels
 - Battery systems
 - Prefabricated Electric Homes
 - 3.8 kW Solar
 - 1.6 kW Battery storage
- Combined with existing products and initiatives
 - Home and building energy management



Network Technology

Providing the Living Space Solution by Panasonic

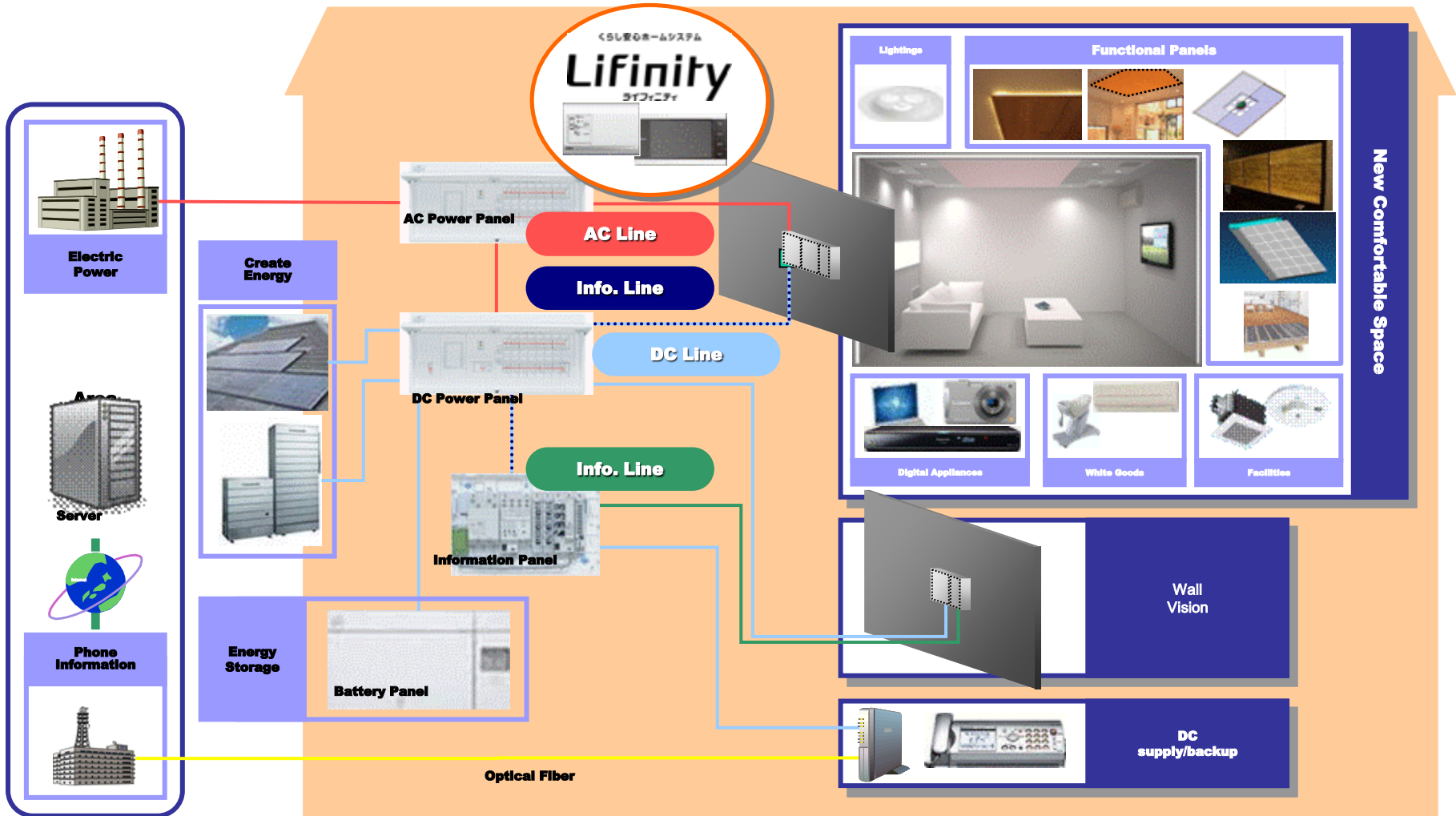


**Environment control
technology**



**Housing equipment
& building products
technology**

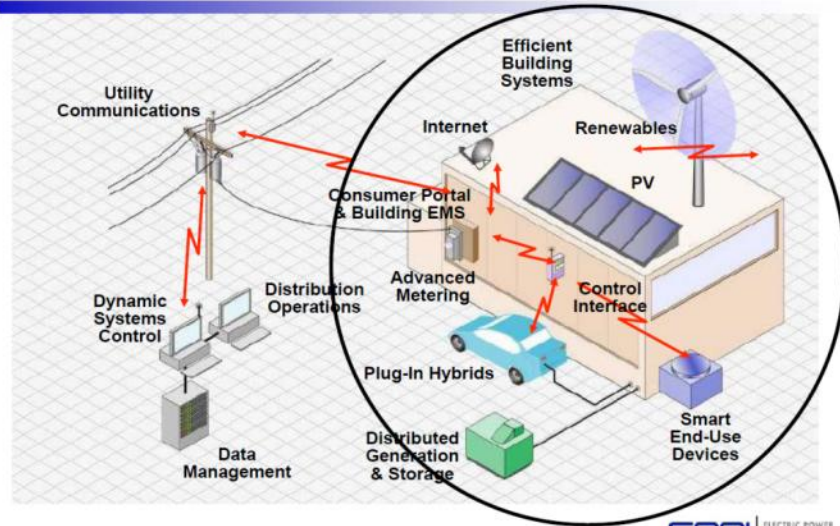




- The Smart Grid will interact with the home
- We must insure it is a constructive interaction



Smart Grids and Local Energy Networks

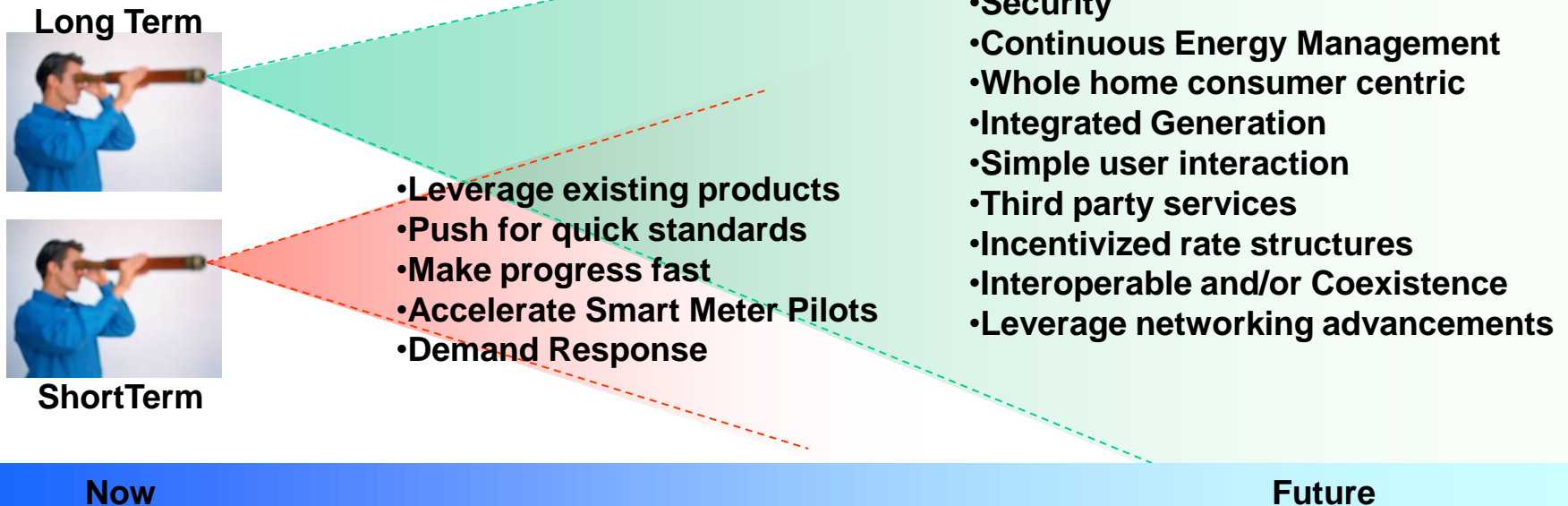


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- Short-Term focus is on existing directions
 - Protect existing investments
 - Continue existing pilots and implementations
 - Jockey for position and market share
- Long-Term focus is on complete vision
 - Accomplishing the vision of EISA Smart Grid Definition
 - Fulfilling the concepts that are coming from DOE
 - Satisfying customer requirements





Telephony Online, "Grid Week: DOE Secretary Chu on fighting consumer smart-grid resistance" by Sarah Reedy, September 21, 2009

*“To assuage consumers who are resistant to changing their habits, energy savings in the home has to be incredibly simple”, he stressed. **Much like a point-and-shoot camera** that lets consumers simply push a button to take a picture, but **possess the ability to do much more embedded in the device**, the in-home device for energy management must no more complex than a button – one that says “saver, super saver and guilty as charged; this is how I want to live my life,” he joked. Real-time pricing will lead to demand response and, if done right – meaning consumers are given the right tools, like this “magic button” – energy costs will be driven down, Chu said.”*



Telephony Online, “Grid Week: DOE Secretary Chu on fighting consumer smart-grid resistance” by Sarah Reedy, September 21, 2009, http://telephonyonline.com/business_services/news/doe-secretary-chu-smart-grid-20090921/

- If the objective = Point and Shoot Camera....



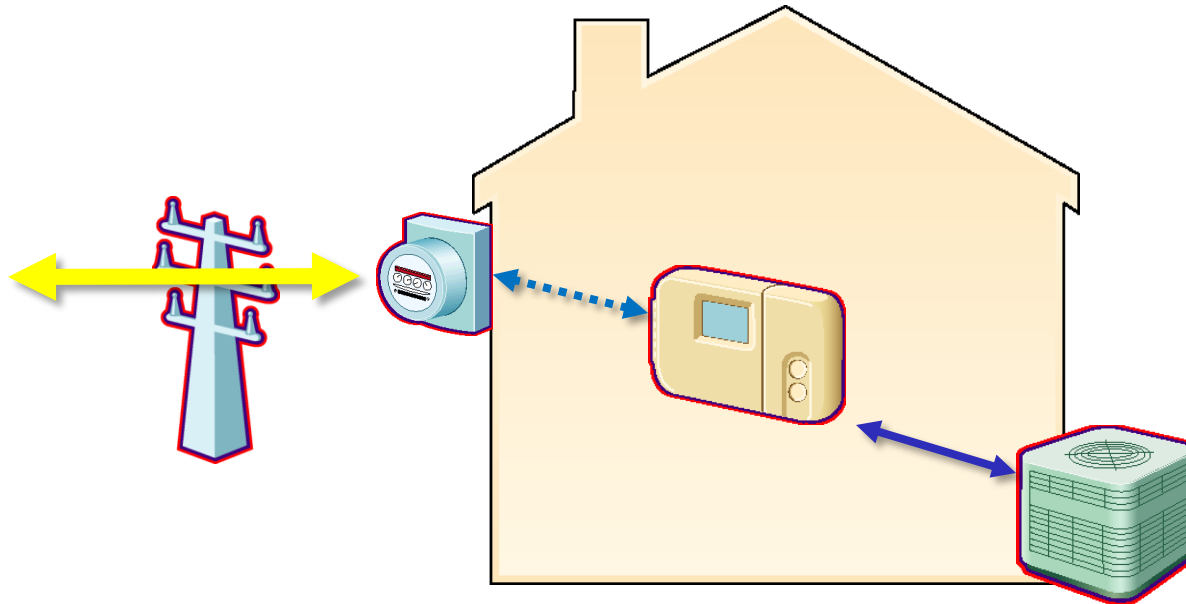
Short-term focus may meet
short-term requirements



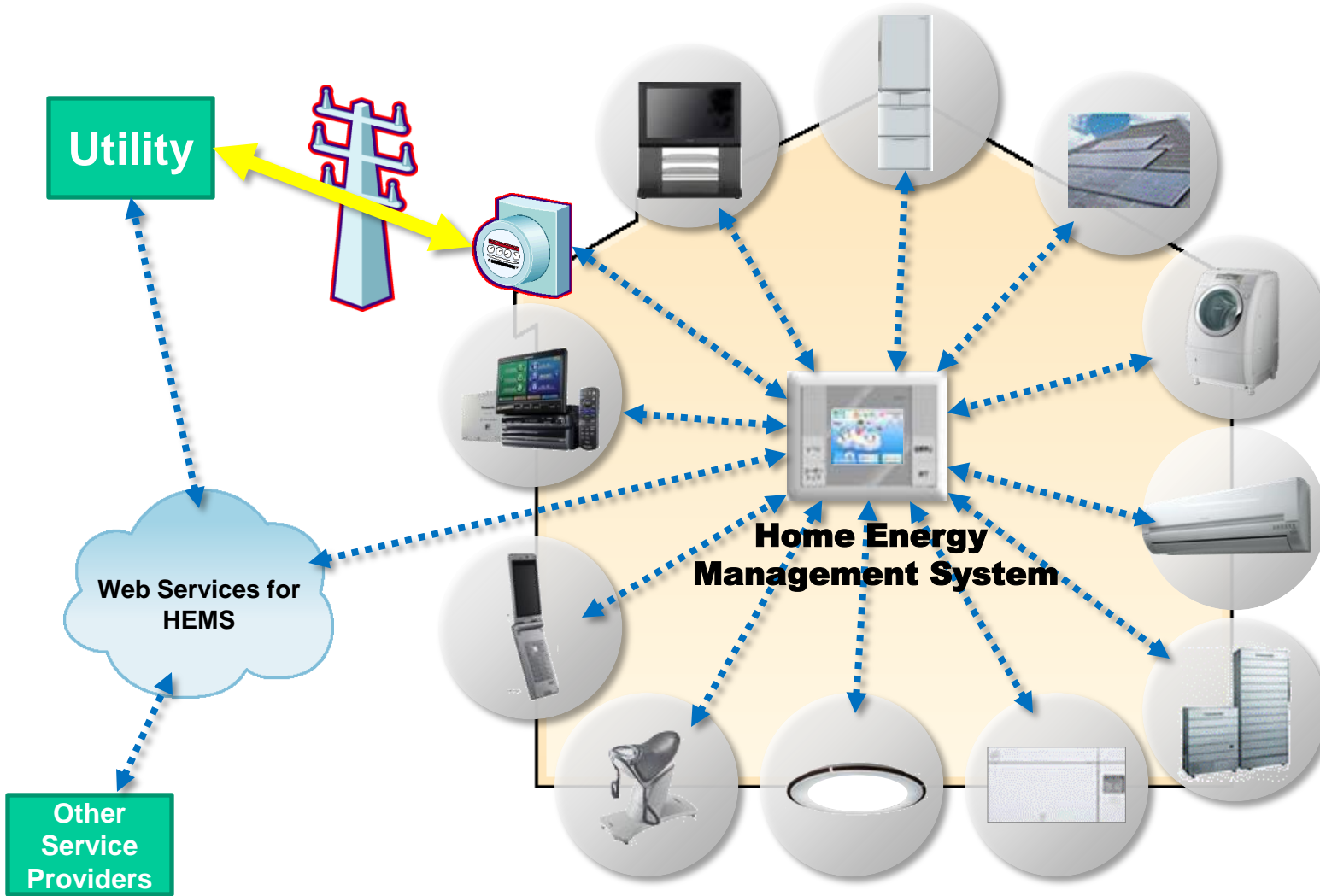
Long-term perspective
achieves the larger vision



Utility



Short-term focus may meet
short-term requirements



**Long-term
Perspective
achieves the
larger vision**

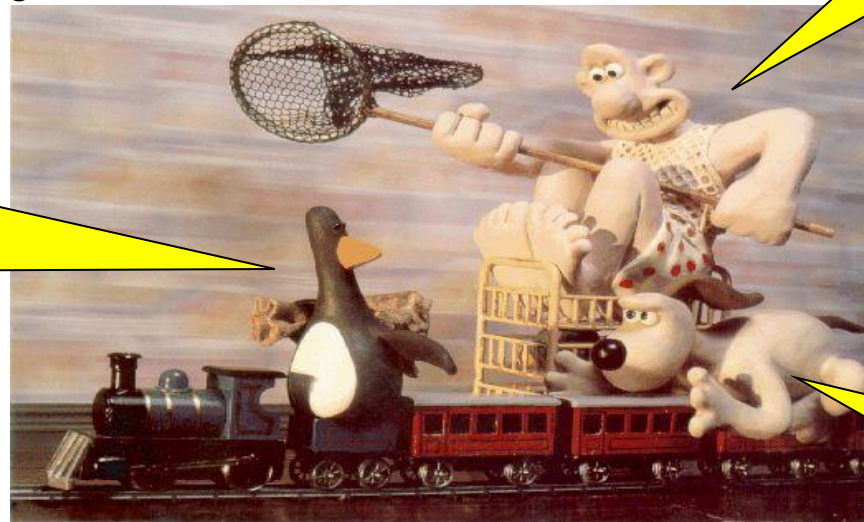
- A Panasonic Perspective
 1. Develop a long term vision
 - Look beyond existing smart meter pilots
 2. Leverage existing infrastructure
 - Communication **MUST** Coexist
 - Synergy with other consumer-related industries
 3. Implement appropriate and interoperable standards
 4. Information must be simple, understandable, appropriate
 5. Consumer controls the home
 - Ownership, privacy, access
 6. Need pricing & rate structures to incentivize consumers



The Challenge Facing the Smart Grid

- There is a lot of work to do
- We want to make progress as fast as possible
- We can't wait till tomorrow to develop the standards we needed yesterday
- It is like:
 - Being on a train
 - Chugging along as fast as possible
 - While laying tracks at the same time

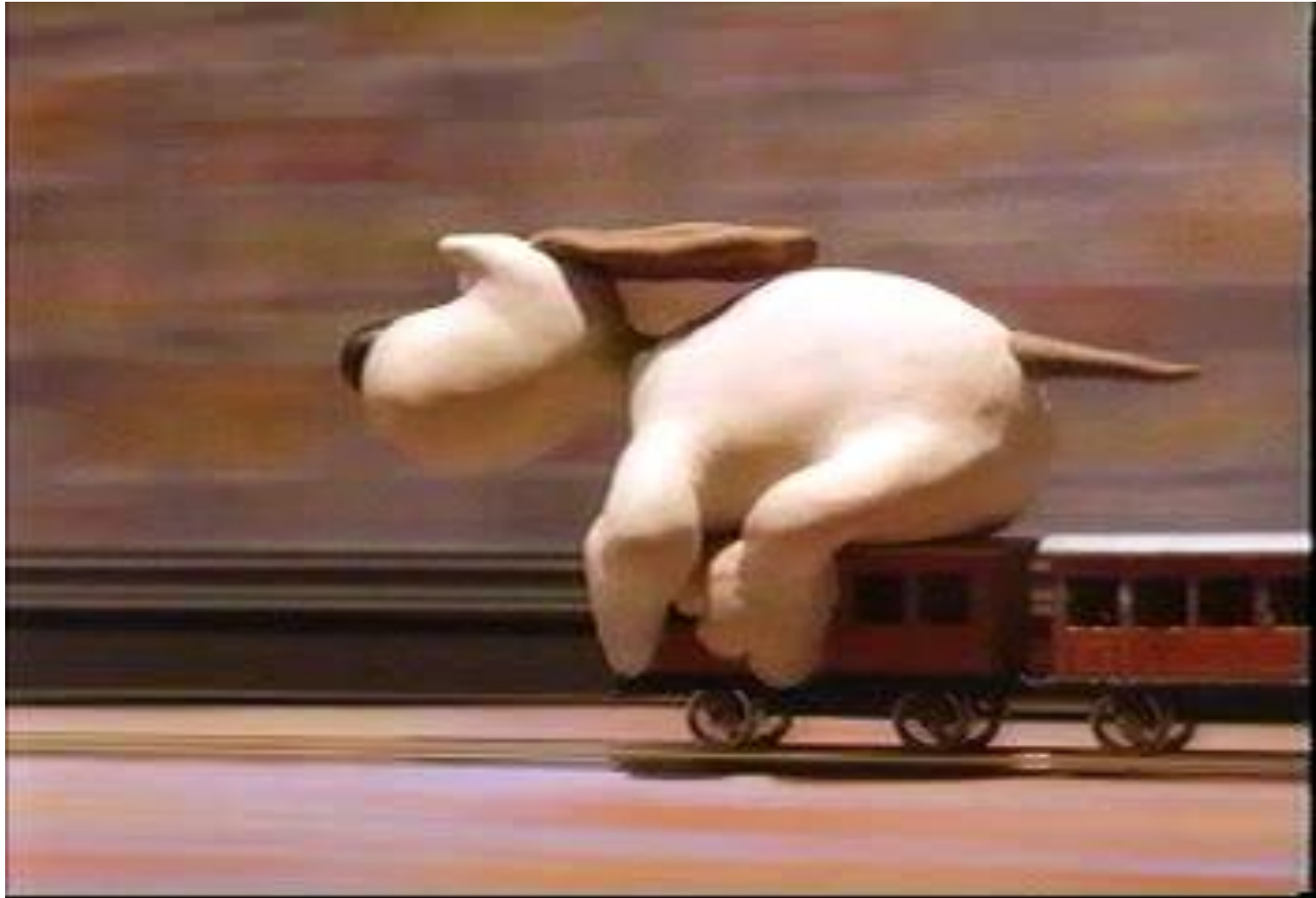
**Penguin
(The bad guy –
he tries to steal
the treasure)**



**Wallace
(The Boss)**

**Gromit
(The very
smart Dog)**

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Wallace & Gromit: The Wrong Trousers © Aardman Animations 1993



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Todd Rytting
Panasonic Electric Works Laboratory of America
trytting@pewla.us.pewg.panasonic.com

