

Policy and Technology

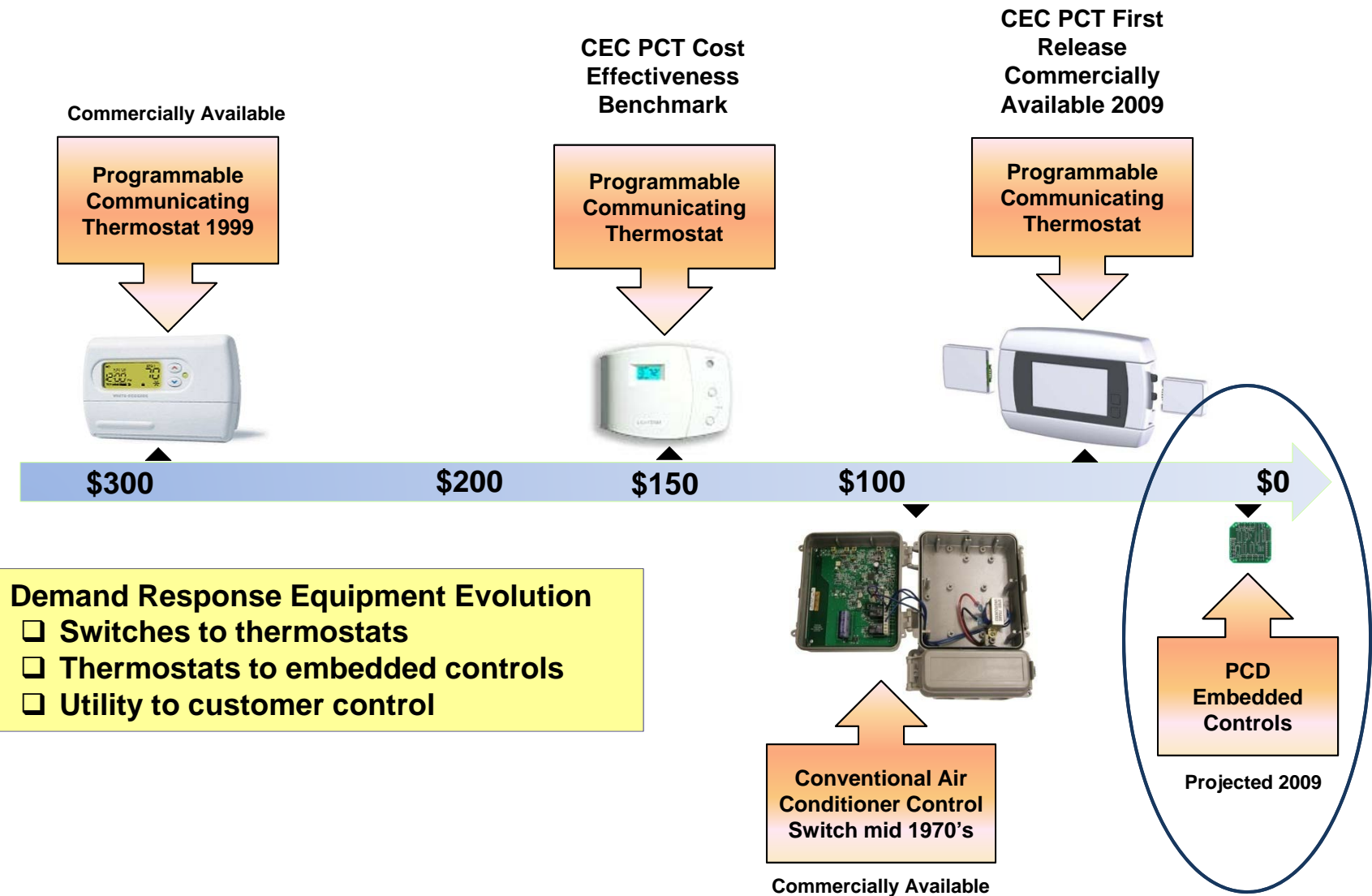
WHAT vs. HOW



1. Are **technologies** available at reasonable costs today to support customer choice, dynamic tariffs and price response?
2. Can we future proof **technology** choices in order to avoid stranding customer and utility investments?
3. Does **technology** have to wait for a single communications protocol?
4. Should we leave the **technology** choices solely up to the utilities?

1. Can **policy** avoid unintended consequences?
2. Should **policy** be deferred until standards are in place?
3. What **policy** questions affect technology choices?
 - Utility programs vs. open-market initiatives
 - Utility-owned vs. customer-owned equipment
 - Utility control vs. customer choice
4. Can we specify the **WHAT** without knowing the **HOW**?

Technology: Evolution to Low-Cost Device Control



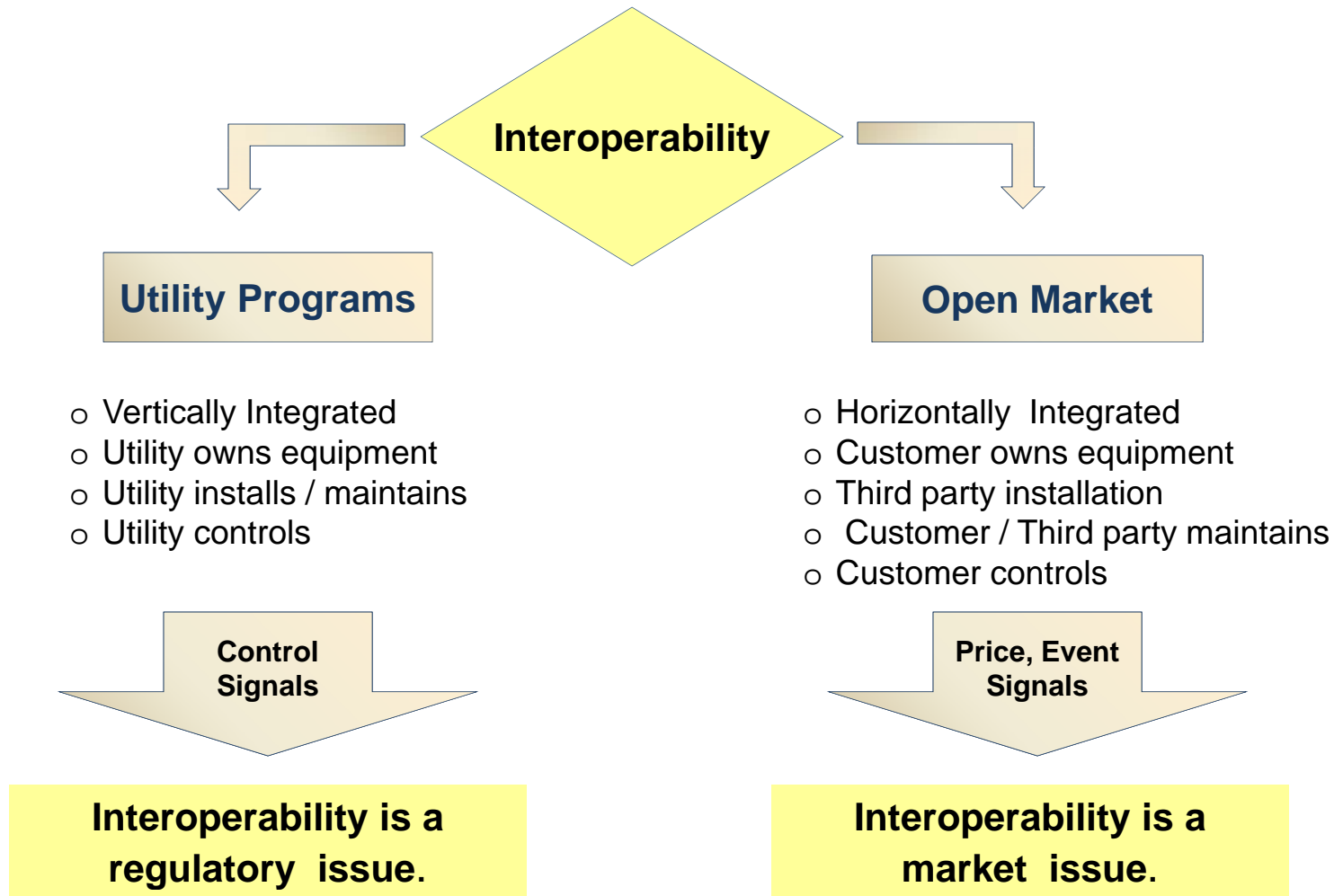
“The ability of a system or product to work with other systems or products without special effort by the customer.”¹

- 1. Exchange meaningful, actionable information between two or more systems across organizational boundaries**
- 2. Assure a shared meaning of the exchanged information**
- 3. Achieve an agreed expectation for the response to the information exchange, and**
- 4. Maintain the requisite quality of service in information exchange (i.e. reliability, accuracy, security).”²**

1. Docket No. PL09-4-000, 126 FERC 61,253, 18 CFR Part Chapter 1, Proposed Policy Statement and Action Plan, March 19, 2009.
2. Interoperability Path Forward Whitepaper, p.1-2, 2005, GridWise Architecture Council.



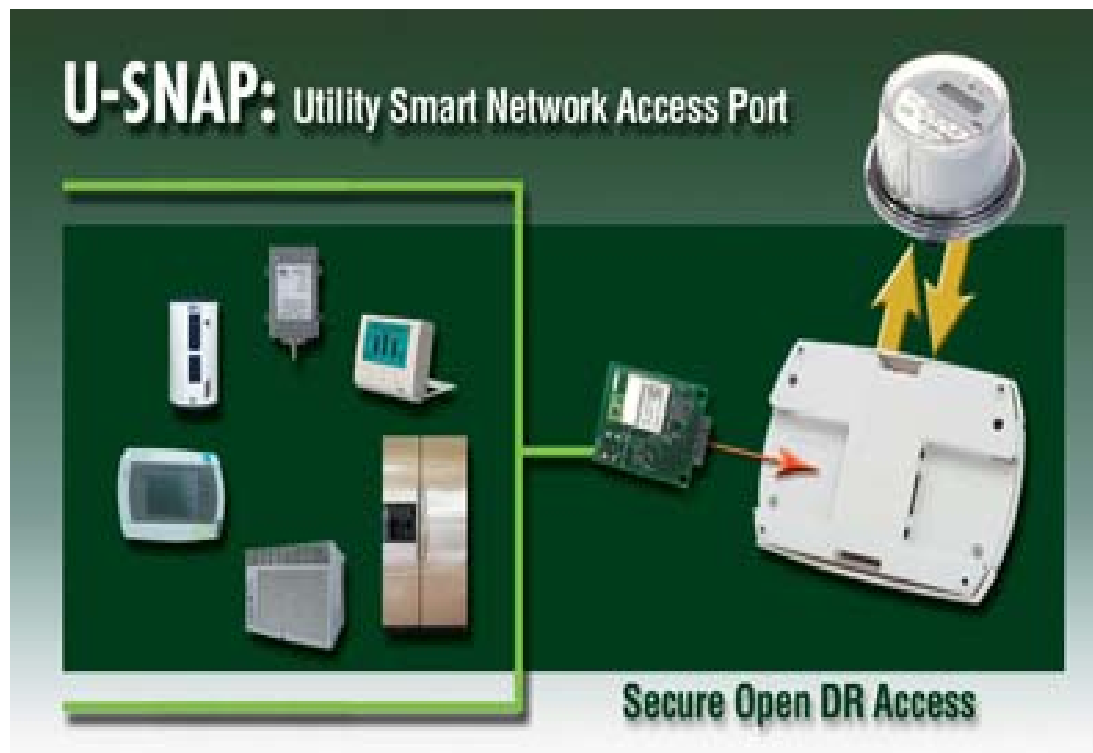
Policy: Interoperability Defined





Technology Example: U-SNAP

- The **U-SNAP Alliance** is an open industry association developing de-facto standard for connecting energy aware consumer products with smart meters.
- The Alliance will create and publish a standard, establish testing and certification procedures for product conformance and educate consumers, utilities and vendors on the benefits of the standard.
- Alliance membership is comprised of utilities, manufacturers, consultants and other parties interested in developing or deploying the standard. For more information, or to find out how to join the Alliance, please visit www.usnap.org



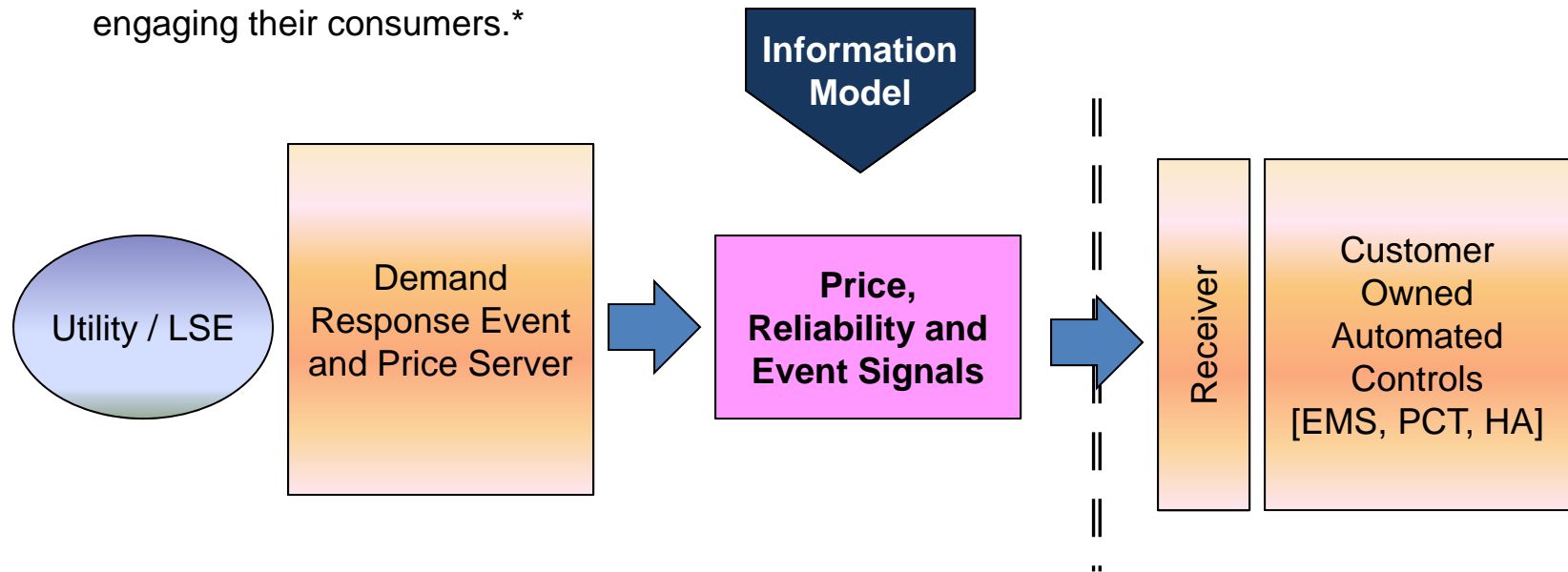
PCT With Expansion Port Interface (rear)





Policy Example: OpenADR

The **OpenADR** standard outlines specific communication models that use the Internet to send DR signals to end-use customer systems. The standard, initially developed for commercial and industrial applications, may be leveraged in residential settings to reduce cost, promote interoperability among DR technologies and allow utilities and energy providers to better manage pricing and critical load issues while actively engaging their consumers.*



*"Tendril Achieves First Open ADR Compliant Platform", January 29, 2009, <http://www.tendrilinc.com/2009/01/tendril-achieves-first-open-adr-compliant-platform-2/>