



ENERGY STAR®

**Set-top Box
Specification Revision**

Draft 2 Stakeholder Meeting

4 October 2010

Agenda



1. Welcome / Goals

Katharine Kaplan, US EPA

2. Draft 2 Specification Changes: Summary & Discussion

Steve Pantano, ICF International

Tom Bolioli, Terra Novum

3. Manufacturer Partner Commitments Discussion

Katharine Kaplan, US EPA

4. Service Provider Partner Commitments Discussion

Katharine Kaplan, US EPA

5. Wrap-up & Conclude

Katharine Kaplan, US EPA

Product Spec: Definitions



- “Advanced Video Processing” includes an explicit list of protocols that meet the definition and intent of the allowance
 - H.264/MPEG 4 or SMPTE 421M
- “Home Network Interface” includes an explicit list of protocols that meet the definition and intent of the allowance
 - IEEE 802.11 (WiFi), MoCA, or HPNA.
- The “additional tuner” adder has been re-named “multi-stream” to permit IP boxes that offer similar functionality without physically separate hardware to qualify for an allowance

Product Spec: TEC Allowances



- Typical Energy Consumption (TEC) allowances have been updated based on a review of additional stakeholder data and feedback
- Rules for application of additional functionality allowances to base types have been updated per further review of current product feature sets and energy performance
 - Thin-client base type eligible for HD, Home Network Interface, Advanced Video Processing, & Removable Media Player
- Proposed specification levels for Version 3.0 now split the difference between current requirements (Version 2.0 Tier 1) and the Version 2.0 Tier 2 proposal for 2011
- Based on recent stakeholder input, Cable, Satellite, and IP base type allowances from the July 7 proposal have been increased to allow ample availability of qualified models

Product Specification Changes

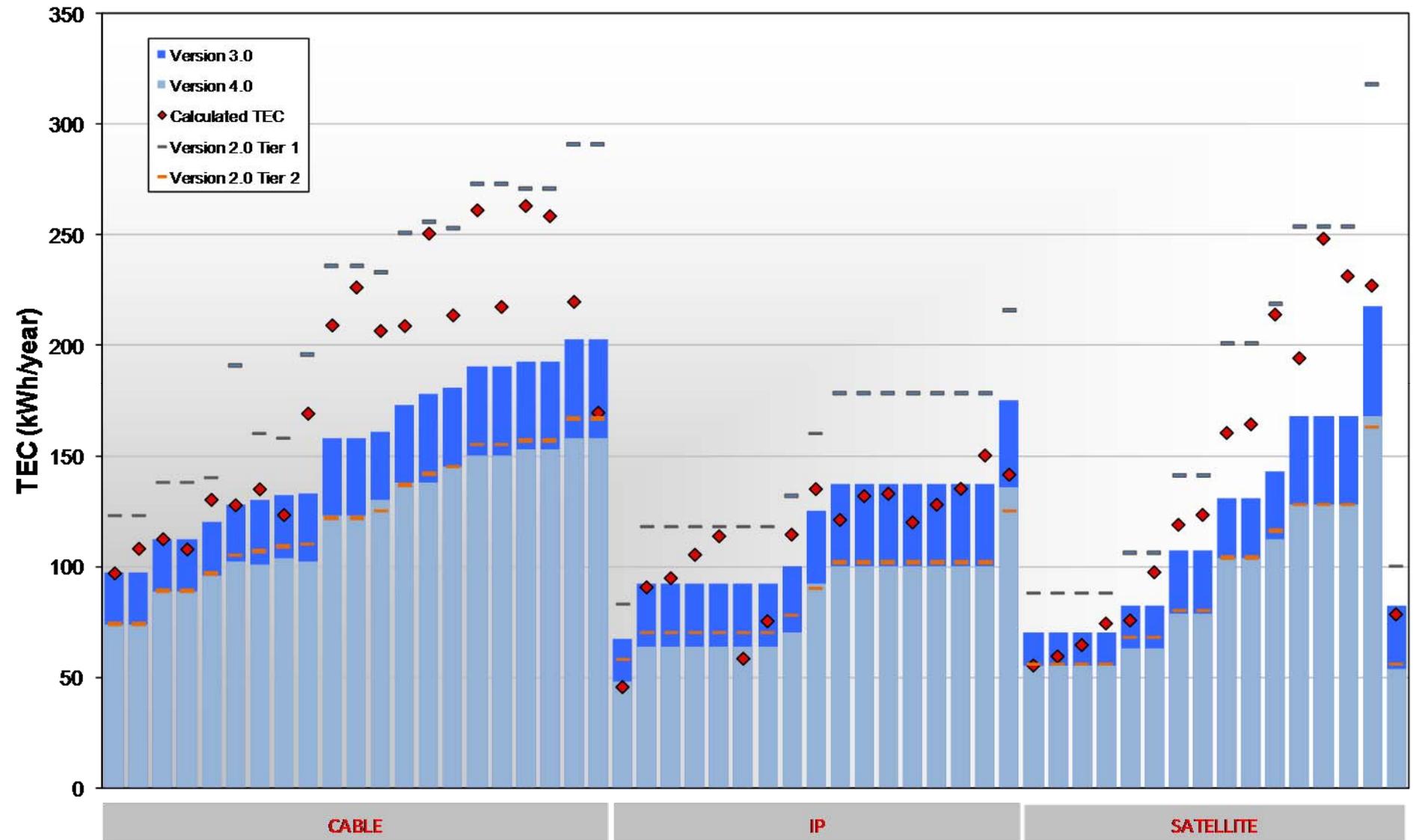


Base Functionality	Version 3.0 Allowance (kWh/year)	Version 4.0 Allowance (kWh/year)
Cable	60	50
Satellite	70	55
Cable / Satellite DTA	35	24
Internet Protocol (IP)	45	35
Terrestrial	22	18
Thin-client / Remote	35	25
Additional Functionality	Version 3.0 Allowance (kWh/year)	Version 4.0 Allowance (kWh/year)
Advanced Video Processing	12	8
CableCARD	15	15
Digital Video Recorder (DVR)	45	36
DOCSIS®	20	15
High Definition (HD)	25	16
Home Network Interface	10	5
Multi-room	40	35
Multi-stream – Cable/Satellite	16	13
Multi-stream – Terrestrial/IP	8	6
Removable Media Player	8	8
Removable Media Player / Recorder	10	10

Note: Highlighted allowances have been increased from the 7/7/2010 proposal.

ENERGY STAR STB Data Analysis - CBL+SAT+IP

(Qualified Products as of 1-Jan-10)



Product Spec: Thin-clients



- Allowances have been selectively modified to promote multi-room deployments. Under the Version 3.0 proposal:
 - Baseline: 3 TV home with 3 HD DVR Cable STBs
 - **Example Scenario #1:** Use a central DVR multi-room box and 2 full-featured remote boxes with no DVRs
 - Savings potential of 92 kWh/year (17% better than baseline)
 - **Example Scenario #2:** Use a central DVR multi-room box with 2 true thin-client remote boxes
 - Savings potential of 172 kWh/year (31% better than baseline)
- Savings potential exists in all multi-room scenarios. Switching to true thin-client remote boxes offers maximum savings
- Proposed service provider benefit: Each true Thin-client STB purchase counts as 1.5 purchases towards the annual commitment

Product Spec: Deep Sleep



- Intent is to encourage manufacturers to implement the capability for lower-power Sleep states in a manner that will not adversely impact customer experience
- Dual incentives intended to facilitate greater availability of these energy saving options:
 - Proposed service provider benefit: Each purchase of an STB with **Deep Sleep capability** counts as 1.5 purchases towards the annual commitment.
 - Proposed manufacturer benefit: For STBs with **Deep Sleep functionality enabled by default**, a modified TEC equation may be used for qualification.
- EPA will continue to promote Deep Sleep, potentially through new requirements in future revisions to the specification

Partner Commitments



- Service Providers
 - Proposed monthly pro-rated purchase requirement for the first year of partnership
 - Purchase requirement maintained at 50% of new boxes (new purchases only)
 - Fleet requirement set at 25% of total fleet (new or refurbished boxes)
 - Responsible for ensuring that product qualification is maintained for boxes deployed in the field
- Manufacturers
 - May label boxes sold to non-Partner service providers if hardware meets requirements under all circumstances (hardware-, software-, and operation-independent)
 - Must meet TEC requirements assuming 24/7 On Mode operation
 - Responsible for product qualification via CB process

Product Spec: Verification & Test



- Changes to all ENERGY STAR specifications were proposed by EPA on September 14
- Refinements and formatting changes have been included in Draft 2, as follows:
 - Added a “Product Family” definition to establish which products can be qualified and labeled under a single qualified product submission
 - Standard specification effective date language
 - Standard significant digits and rounding language
 - Applied a consistent format, added several equations to clarify requirements, and numbered individual requirements

Enhanced Testing & Verification



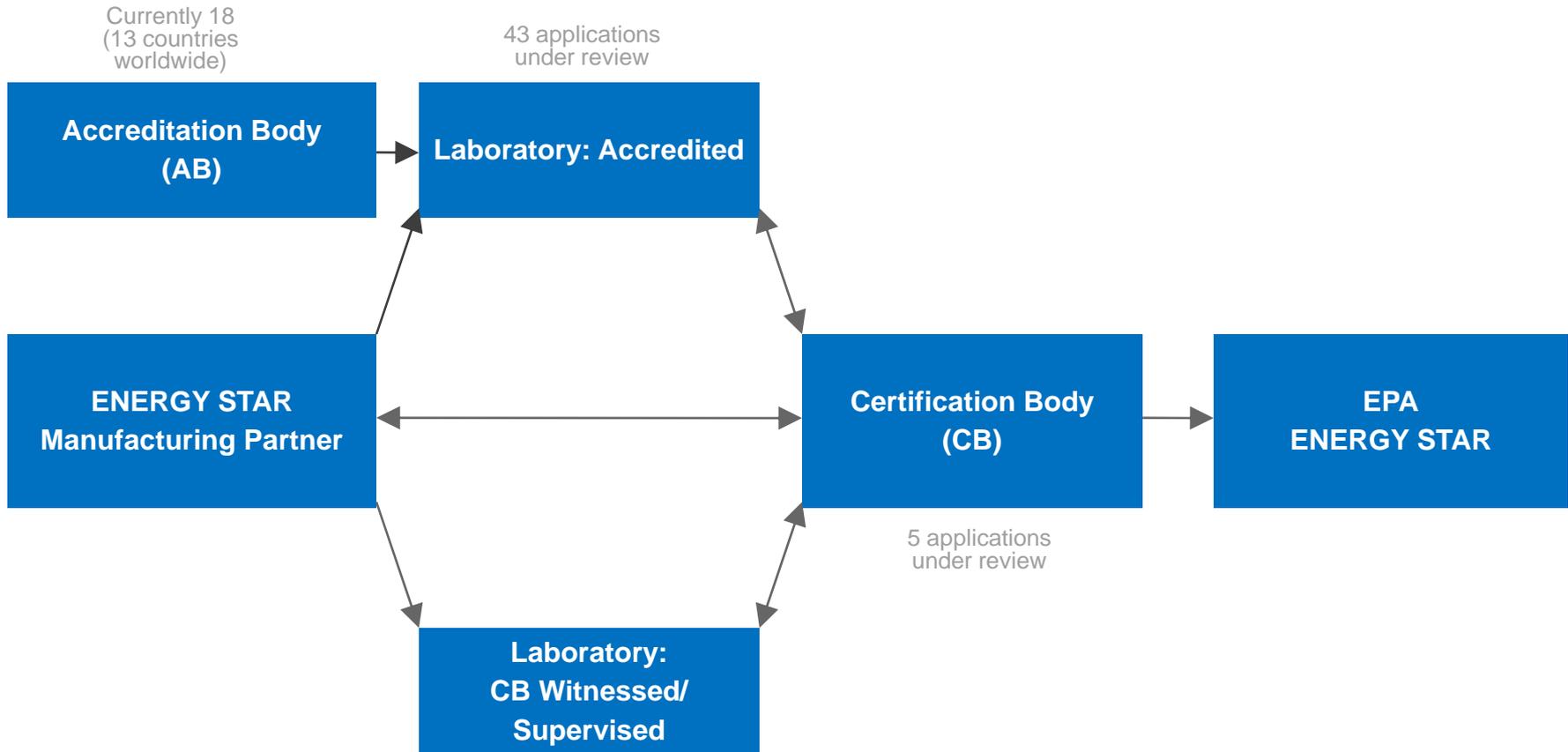
- Through more than 15 years of shared effort, EPA and partners have built a brand of real value
- Products must continue to deliver on efficiency promises for brand value to be maintained
- Recent scrutiny of voluntary programs:
 - Inspector General Reports at EPA and DOE
 - Government Accountability Office ENERGY STAR Investigation

Enhanced Testing & Verification



- Establish EPA-recognized accreditation bodies (ABs), certification bodies (CBs), and laboratories
- Require third-party certification of test data prior to qualification and labeling
- Perform verification testing to ensure that qualified products continue to meet requirements over time

Qualification Flowchart



Certification Body Roles



- Product Performance Certification
 - Verify test lab credentials and compare data to product specs
 - Notify manufacturers of results. If qualified, provide EPA with data for the Qualified Product List
 - Evaluate product changes for impact on qualification status
- Verification Testing
 - Approximately 10% of qualified models per year
 - Off-the-shelf or 3rd-party product procurement
 - Testing at an EPA-recognized 3rd party laboratory
- Challenge Testing

Manufacturer Test Lab Roles



- CB may accept test data from a witnessed or supervised manufacturer test laboratory (WMTL/SMTL)
- Lab must operate in accordance with ISO/IEC 17025, and test products per relevant ENERGY STAR test methods

ET&V Implementation



- Partners will be invited to recommit to new Partner Commitments via MESA in mid/late October
- New partner commitments effective December 31, 2010. New product requirements effective with Version 3.0 STB specification
- In discussion with international partners regarding their testing/verification plans
- Beginning January 1, 2011:
 - New products must be tested in an EPA-recognized lab, and their test reports reviewed and certified by a recognized CB
 - Currently qualified products will NOT need to be retested. As specifications are revised, products will need to be tested per the new requirements

Next Steps for STBs



- Visit the STB Product Development Web site at www.energystar.gov/RevisedSpecs
- Send comments on Draft 2 and this presentation to STBs@energystar.gov by Friday, October 22
- Contact ENERGY STAR with further questions or comments

Open Discussion



Questions?

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