# Network Standby Standardised Definitions

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Paris, France

**Intertek | CLASP | Lawrence Berkeley National Laboratory**

# Context

- Discussed in detail at past Network Standby Workshops
- SEAD project on Standardised Definitions with Intertek, LBNL and Digital CEnergy included stakeholder consultation and analysis of all approaches
- No consensus on agreed set of definitions reached so far
- Time to move theoretical discussions to practical solutions and next steps
- Aim today is to seek agreement on a variety of definitions and what to do with them

# Importance of Definitions

- Different terms and definitions for low power modes in different policies, regions, and contexts confusing for policy community and stakeholders
- Routinely used terms in different
  - **Topic areas**: named modes, mode categories, mode characteristics, power levels, test procedure results
  - **Contexts:** energy policy, test procedures, technology standards, user interfaces
  - **Terminology systems:** minimum power mode, standby as a mode, standby as a condition, sleep paradigm

# Proposal for Next Steps

- Agree a glossary of terms and definitions
  - Can capture different uses for different contexts
  - For reference by policy makers and stakeholders
  - Can be updated as and when needed to capture new or revised terms and definitions
- Host glossary of terms and definitions in an online library / database
  - On CLASP website (S&L Database, Publications)
  - With links to SEAD, IEA and 4E websites and other relevant or interested spaces

# Overview of Proposed Terms/Defs

| Proposed Terms | Term Intentions and Proposed Definitions |
|---|---|
| **Network Standby** | *Term used as the Topic Area of technologies, policies, etc*<br>1. Any state where the energy using product is connected to a mains power source and at least one network function is activated (such as reactivation via network command or network integrity communication) but where the primary function is not active.<br>***OR***<br>1. General topic area around energy use of low power modes with network connectivity. |
| **Networked Standby** | *Used as the horizontal policy approach term*<br>"Condition" of a device in a low power mode with network connectivity. |
| **1. Low Power Networked Standby**<br>***OR***<br>**1. Minimum Power Network Standby** | *Condition of a product in standby with network capability power management requirements*<br>A condition where the equipment is connected to a power source, is also connected to an operational network and provides only the following functions, which may persist for an indefinite time:<br>• A reactivation function, or reactivation function and only an indication of enabled reactivation function; and/or<br>• Information or status display;<br>• Maintenance of network integrity at the minimum level necessary to satisfy the protocols for the type of network used, but no data forming part of the product's primary or secondary functions is transmitted;<br>• The ability to change the mode or to reactivate at least one of the primary functions of the product via an external signal sent from the network. |

| Proposed Terms | Term Intentions and Proposed Definitions |
|---|---|
| **Minimum Power Mode** | *IEC 62301*<br><br>Lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when an appliance is connected to the main electricity supply and used in accordance with the manufacturer's instructions. |
| **Standby** | *Term used as the Topic Area of technologies, policies, etc*<br><br>Topic area of Low Power Modes |
| **1. Standby Mode**<br><br>***OR***<br><br>**1. Standby Condition** | *IEC 62031 Ed.2*<br><br>Any product modes where the energy using product is connected to a mains power source and offers one or more of the following user oriented or protective functions which usually persist:<br>• To facilitate the activation of other modes (including activation or deactivation of active mode) by remote switch (including remote control), internal sensor, timer;<br>• Continuous function: information or status displays including clocks;<br>• Continuous function: sensor-based functions. |
| **Network Mode(s)** | *IEC 62031 Ed.2 Network connectivity with or without power management functions*<br><br>Any product modes where the energy using product is connected to a mains power source and at least one network function is activated (such as reactivation via network command or network integrity communication) but where the primary function is not active. |
| **Sleep** | *Horizontal end-user term, applied on a vertical basis and which varies per product, and may or may not include network connectivity*<br><br>A basic power state between on and off for electronic devices. |

# Discussion and Agreement

- Need to discuss and agree:
  - Appropriate term
  - Appropriate intention
  - Appropriate definition
- Other Terms & Definitions requiring agreement

# Discussion and Agreement

**Network Standby:**

*Term used as the Topic Area of technologies, policies, etc*

1. Any state where the energy using product is connected to a mains power source and at least one network function is activated (such as reactivation via network command or network integrity communication) but where the primary function is not active.

***OR***

2. General topic area around energy use of low power modes with network connectivity.

# Discussion and Agreement

**Networked Standby**

*Used as the horizontal policy approach term*

"Condition" of a device in a low power mode with network connectivity.

# Discussion and Agreement

**Low Power Networked Standby *OR* Minimum Power Network Standby**

*Condition of a product in standby with network capability power management requirements*

A condition where the equipment is connected to a power source, is also connected to an operational network and provides only the following functions, which may persist for an indefinite time:

- A reactivation function, or reactivation function and only an indication of enabled reactivation function; and/or
- Information or status display;
- Maintenance of network integrity at the minimum level necessary to satisfy the protocols for the type of network used, but no data forming part of the product's primary or secondary functions is transmitted;
- The ability to change the mode or to reactivate at least one of the primary functions of the product via an external signal sent from the network.

# Discussion and Agreement

## Minimum Power Mode

*IEC 62301*

Lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when an appliance is connected to the main electricity supply and used in accordance with the manufacturer's instructions.

# Discussion and Agreement

**Standby**

*Term used as the Topic Area of technologies, policies, etc*

Topic area of Low Power Modes

# Discussion and Agreement

**Standby Mode *OR* Standby Condition**

*IEC 62031 Ed.2*

Any product modes where the energy using product is connected to a mains power source and offers one or more of the following user oriented or protective functions which usually persist:

- To facilitate the activation of other modes (including activation or deactivation of active mode) by remote switch (including remote control), internal sensor, timer;
- Continuous function: information or status displays including clocks;
- Continuous function: sensor-based functions.

# Discussion and Agreement

## Network Mode(s)

*IEC 62031 Ed.2 Network connectivity with or without power management functions*

Any product modes where the energy using product is connected to a mains power source and at least one network function is activated (such as reactivation via network command or network integrity communication) but where the primary function is not active.

# Discussion and Agreement

## Sleep

*Horizontal end-user term, applied on a vertical basis and which varies per product, and may or may not include network connectivity*

A basic power state between on and off for electronic devices.

# Other Definitions for Consideration

- Network
- Network Integrity
- Network Port
- Network Connection
- Network Availability
- Protocol
- Resume time to operation
- External trigger / reactivation
- Edge device
- Network infrastructure device
- Wireless Access Point
- Portable
- Transportable

# Next Steps

- Summary of agreed terms and definitions
- Discussions and responses will be recorded
- Recommendations incorporated in a SEAD policy brief and reviewed by IEA, IEA 4E, SEAD and interested stakeholders
- Agreed glossary posted online (CLASP?) and linked to by SEAD, IEA, 4E websites

# Thank You!

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