Mobile/Handheld Products Group

intel

Proposed 1394a Power Management

Preliminary Presentation to 1394a Working Group

March 17-18, 1997

Problem Statement & Background

1394 has multiple important uses in PCs

- **Use for interconnect *and* intraconnect**

1394-1995 isn't power-friendly enough

- **Mobile and "green" desktop systems**
- **-1995 specs OK for CE & non-"green" PCs**
- ***Can't use 1394 in mobile* without changes**

Issues aired at 2/97 "Power Rangers meeting

- **Spec OK (or minor changes) in most areas**
- **2 big issues: suspend, power distribution**
- **Changes in 1394a- avoid compliance woes**

Suspend/Resume

Current spec leaves PHY on

- **Lowest node power ~1W**
- **Total mobile-PC suspend power ~100 mW!**

Proposal greatly lowers PHY consumption

- **New proposal**
- **New signaling mode**
- **Allows wake-up event propagation, *but***
- **No packet signaling in suspend**
- **Requires new “suspend” packet and PHY**
- **Signal redefinition in suspend (⇒ in 1394a)**

Mobile Cable-Power Distribution

Current spec allows sourcing up to 60W

- **Mobile PCs can source 2W/port on battery**
- **Mobile "wrinkles": AC/DC, docking**

Proposal gives mobile cable-power model

- **Uses existing proposal as basis**
- **Bounds PC power-sourcing**
- **Covers self- & cable-powered devices**
- **Describes PC power behavior in suspend (meshes with suspend/resume proposal)**
- **Most/all within .a; must assess possible protocol changes (⇒ in 1394a)**