

PowerDsine

Power over Ethernet

Amir Lehr
PowerDsine Ltd.

amirl@powerdsine.com

Power Over Ethernet

- Delivery of power and data communications to network terminals (e.g. Ethernet Telephones).

Successful Ethernet Telephony should be...

- Productive
- Cost Effective
- Require minimal infrastructure upgrades
- Reliable, Reliable...

The Need

- Simplified installation
 - Ethernet telephones require two connections, one for data communications and another for power
- Cost effective power back up solution
 - Telephones are expected to work during power failures
- Standards solution

Benefits of Power over Ethernet

- Delivery of backed up power from network hubs to terminals (e.g. Ethernet telephones)
- No need for external AC power adaptors
- Only a single cable connection per terminal

Technical Challenges

- Safety & physical power limits
 - Link power limitations
 - Safety standards requirements
- Power source noise may degrade link S/N
- Power feeding transformer may degrade link balance
- Power source output stage changes termination impedance - effect on link attenuation

Technical Challenges

- Power source noise may disturb analogue audio circuitry
- NEXT & Alien Crosstalk
- Data communication may affect power regulation circuitry
- Overall system power & thermal budget