ISO/IEC SC25/WG3 Meeting

Zurich: 15-18 September 2003

- Structured Cabling Systems -

report for IEEE 802 by Alan Flatman

40 Experts 17 Nations

Highlights

- residential cabling now a 2nd FCD
- industrial cabling 1st draft in 2H04
- WAP cabling guide issued as DTR
- cabling EM performance project
- offer to augment Class E/F cabling

ISO/IEC 24702
Industrial Premises Cabling

- development co-ordinated with other groups:
  - » ISO/IEC, CLC, TIA cabling groups
  - » IEC cable and connector groups
  - » IEC Process Control System group
  - » ODVA (Open DeviceNet Vendors' Association)
  - » IAONA (Indus Autom'n Open Network Alliance)
  - » ProfiBus International (incl. "Ethernet IP")
- TIA propose changes for "industrial Ethernet"
  - » improved channel balance
  - » improved receiver CMR
  - » no action taken at meeting

ISO/IEC 24702
Industrial Premises Cabling

- industrial environment IT + process control
- new architectures for industrial equipment
- new components for harsh environments
- max channel length increased to 10 km to support 1/10GBE on large industrial sites
  - » OF-5000, OF-10000
- shorter channel lengths for POF/HCS fibre
  - » OF-25, OF-50, OF-100

ISO/IEC 24702
Industrial Premises Cabling
Environmental Classification

	Class I (commercial)	Class II (light industrial)	Class III (heavy industrial)
Mechanical	M_1	M_2	M_3
Ingress (IP rating)	I_1	I_2	I_3
Climatic	C_1	C_2	C_3
Electromagnetic	E_1	E_2	E_3

- environmental classes may be mixed (eg $M_1I_2C_3E_2$)
- environmental classes apply to cabling + containment
- MICE requirements are fulfilled by component choice and channel requirements are met "by design"
- only EMC immunity applies, not RF emission
  - » EFT, ESD & radiated planewave (mag. field TBC)
- detailed mapping of vertical sector needs in annex

ISO/IEC TR 24704
Cabling Guide for Wireless Access Points

- site propagation survey recommended
- additional cabling as grid in/on ceiling
- grid spacing is recommended to be 12m
- represents approx 15% extra pre-cabling
- cabling to be Class D (Cat 5e) minimum
- elec power may be provided remotely
- local power required when using fibre

Electromagnetic Performance of Cabling

Problem:

- need to define cabling for industrial environment
- need to manage alien crosstalk for high bit rates
- need to specify electromagnetic performance

Solution:

- new project to define generic approach to cabling EM performance (irrespective of construction)
- reviewing relevant parameters & test methods
- solution to comprise balance and/or screening
- Ethernet signalling specs to provide a foundation

Future Meetings

Industrial Cabling	10-12 December 2003	Paris, France
ISO/IEC SC25 WG3	23-27 February 2004	Bordeaux, France
Residential Cabling	28 Feb - 02 Mar 2004	Bordeaux, France
ISO/IEC SC25 WG3	21 - 24 June 2004	Hokaido, Japan
ISO/IEC SC25 Plenary	25 June 2004	Hokaido, Japan

Questions?