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Guidance on Practice for LAN Design

GP 59-60

BP GROUP
ENGINEERING TECHNICAL PRACTICES

Foreword

This is the first issue of Engineering Technical Practice (ETP) GP 59-60. This Guidance on Practice (GP) is ordered to indicate the considerations that shall be involved during the design phase of a local area network (LAN) Amoco (ACES).

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1. Scope

This GP document provides guidance on practice for designing a Local Area Network (LAN). The boundaries of this document are to the Wide Area Network (WAN) termination device (e.g. a router) and do not include any other connections to non-BP entities. Guidance on connectivity to third parties and or WANs should be provided by separate documentation.

2. Normative references

The following normative documents contain requirements that, through reference in this text, constitute requirements of this technical practice. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this technical practice are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

BP Engineering Technical Practices (ETP)

GP 59-30	Guidance on Practice for Inter-Facility Connectivity Selection
GP 59-62	Guidance on Practice for Structured Horizontal Cabling System
GP 59-63	Guidance on Practice for Fibre Cable Plant Design

Institute of Electrical and Electronics Engineers (IEEE)

802.1d	Standard for Local and metropolitan area networks Media Access Control (MAC) Bridges
802.1p	LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization
802.1q	Virtual Bridged Local Area Networks
802.3af	Power over Ethernet

3. Definitions / Abbreviations

AToM Any Transport over MPLS – Cisco implementation of mapping Layer 2 technologies (like Ethernet & ATM) onto MPLS

Etherchannel Based on Port Aggregation Protocol (PAgP) – Bonds up to 4 Ethernet links into a single large link. Uses hardware addresses to load share individual links

HSRP Hot Standby Routing Protocol – Cisco proprietary virtual routing interface for high availability

MIB Management Information Base – SNMP library defining what information can be remotely collected. Most useful information is vendor specific

MPLS Multi-Protocol Label Switching – a way of tagging frames to allow flexible routing within a network of switches

Network Design Layers Core, Distribution, Access, and Server (see Figure 1)

NOC Network Operations Centre

OSPF Open Shortest Path First – Robust standards-based interior routing protocol

