

Clause 30 Management Additions for 1000 Mb/s

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28-January-1997

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Outline

- Background
- Issues relating to 1000 Mb/s
- Suggested approach
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- Classes, Packages, and Capabilities
- Summary

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Background

- 802.3u (100BASE-T) consolidated
 - Layer Management for DTEs (clause 5)
 - Repeater management (clause 19)
 - MAU management (clause 20)into one consistent clause (clause 30)
- Subsequent projects (e.g. 802.3x and 802.3y) have performed updates to clause 30
- Management information must remain consistent at all operating speeds

Issues relating to 1000 Mb/s

- Some aspects of the attribute definitions in clause 30 may require changes to include 1000 Mb/s operation
 - Counter increment rates
 - Extension of enumerations
 - Some mods to behavior
 - New attributes?

Suggested approach

- Continue to work within clause 30
- Update as necessary to include 1000 Mb/s operation
 - Revise counter increment rates
 - Extend enumerations as necessary
 - Modify behavior as necessary
 - Add new attributes as necessary
- Do not take on “global” 802.3 management issues within 802.3z
 - GDMO
 - Reconciliation with IETF
- Add management for Buffered Distributor system and Link Configuration

Containment

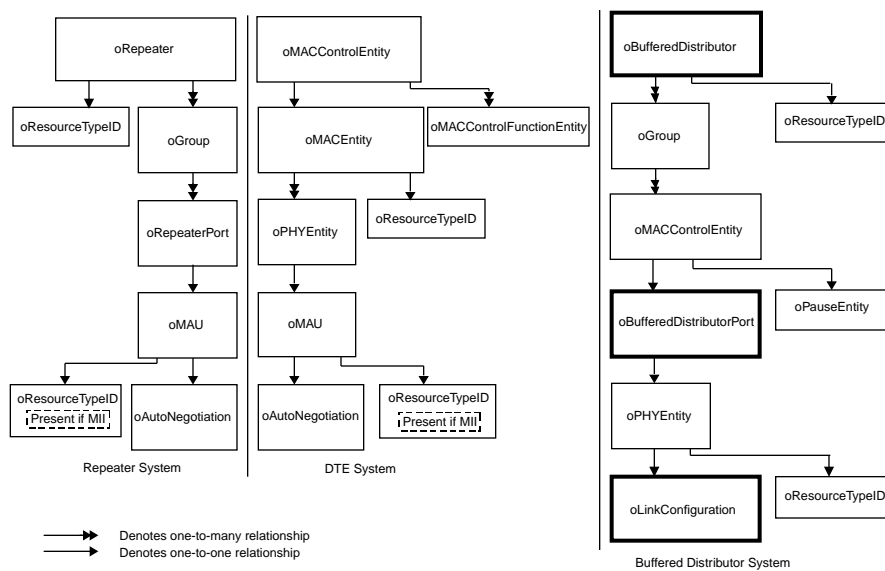


Figure 30-3—10/100/1000 Mb/s entity relationship diagram

Classes, Packages, and Capabilities

■ oBufferedDistributor

Table 30-1—Capabilities

		DTE	Repeater	MAU	Buf Distr
		Basic Packages (Mandatory)			
		Mandatory Packages (Mandatory)			
		Recommended Packages (Optional)			
		Optional Packages (Optional)			
		Array Packages (Optional)			
		Exclusive Deferral Packages (Optional)			
		Multiple PHY Packages (Optional)			
		100-Mbps Monitor Capability (Optional)			
		Basic Control Capability (Mandatory)			
		Performance Monitor Capability (Optional)			
		Address Tracking Capability (Optional)			
		100-Mbps Monitor Capability (Optional)			
		Basic Packages (Mandatory)			
		MAU Control Packages (Optional)			
		Media Loss Tracking Packages (Conditional)			
		Broadband DTE/MAU Packages (Conditional)			
		Full Capability (Conditional)			
		100-Mbps Monitor Capability (Optional)			
		Auto-Negotiation Packages (Mandatory)			
		Basic Packages (Mandatory)			
		Port Status Control (Mandatory)			
		Port Statistics (Optional)			
		Link Configuration Packages (Mandatory)			
oBufferedDistributor managed object class					
aBufDistrID	ATTRIBUTE	GET			X
aBufDistrType	ATTRIBUTE	GET			X
aBufDistrGroupCapacity	ATTRIBUTE	GET			X
aBufDistrHealthState	ATTRIBUTE	GET			X
aBufDistrHealthText	ATTRIBUTE	GET			X
aBufDistrHealthData	ATTRIBUTE	GET			X
aBufDistrGroupMap	ATTRIBUTE	GET			X
aBufDistrTotalIsolatedPorts	ATTRIBUTE	GET			X
acResetBufDistr	ACTION				X
acBufDistrNonDisruptiveSelfTest	ACTION				X
nBufDistrHealth	NOTIFICATION				X
nBufDistrReset	NOTIFICATION				X
nBufDistrGroupMapChange	NOTIFICATION				X

Classes, Packages, and Capabilities

■ oBufferedDistributorPort

Table 30-1—Capabilities

		DTE	Repeater	MAU	Buf Distr
		Basic Packages (Mandatory)			
		Mandatory Packages (Mandatory)			
		Recommended Packages (Optional)			
		Optional Packages (Optional)			
		Array Packages (Optional)			
		Exclusive Deferral Packages (Optional)			
		Multiple PHY Packages (Optional)			
		100-Mbps Monitor Capability (Optional)			
		Basic Control Capability (Mandatory)			
		Performance Monitor Capability (Optional)			
		Address Tracking Capability (Optional)			
		100-Mbps Monitor Capability (Optional)			
		Basic Packages (Mandatory)			
		MAU Control Packages (Optional)			
		Media Loss Tracking Packages (Conditional)			
		Broadband DTE/MAU Packages (Conditional)			
		Full Capability (Conditional)			
		100-Mbps Monitor Capability (Optional)			
		Auto-Negotiation Packages (Mandatory)			
		Basic Packages (Mandatory)			
		Port Status Control (Mandatory)			
		Port Statistics (Optional)			
		Link Configuration Packages (Mandatory)			
oBufferedDistributorPort managed object class					
aBufDistrPortID	ATTRIBUTE	GET			X
aBufDistrPortAdminState	ATTRIBUTE	GET			X
aBufDistrBufferOverrun	ATTRIBUTE	GET			X
aBufDistrIsolateState	ATTRIBUTE	GET			X
aBufDistrNumIsolates	ATTRIBUTE	GET			X
aBufDistrMulticastFramesXmittedOK	ATTRIBUTE	GET			X
aBufDistrMulticastFramesRecvdOK	ATTRIBUTE	GET			X
aBufDistrBroadcastFramesXmittedOK	ATTRIBUTE	GET			X
aBufDistrBroadcastFramesRecvdOK	ATTRIBUTE	GET			X
aBufDistrFramesXmittedOK	ATTRIBUTE	GET			X
aBufDistrFramesRecvdOK	ATTRIBUTE	GET			X
aBufDistrFrameCheckSeqErrors	ATTRIBUTE	GET			X
aBufDistrInRangeLengthErrors	ATTRIBUTE	GET			X

Classes, Packages, and Capabilities

oBufferedDistributorPort (cont)

Table 30-1—Capabilities

			DTE	Repeater	MAU	Buf Distr
			Basic Package (Mandatory)			
			Mandatory Package			
			Recommended Package (Optional)			
			Optional Package (Optional)			
			Any Package (Optional)			
			Exclusive External Package (Optional)			
			Multiple PHY Package (Optional)			
			100-Mbps Monitor Capability (Optional)			
			Basic Control Capability (Mandatory)			
			Performance Monitor Capability (Optional)			
			Address Tracking Capability (Optional)			
			100-Mbps Monitor Capability (Optional)			
			Basic Package (Mandatory)			
			MAU Control Package (Optional)			
			Media Loss Tracking Package (Conditional)			
			Broadcast DTE MAU Package (Conditional)			
			MII Capability (Conditional)			
			100-Mbps Monitor Capability (Optional)			
			Auto-Negotiation Package (Mandatory)			
			Basic Package (Mandatory)			
			Port Status and Control (Mandatory)			
			Port Statistics (Optional)			
			Link Configuration Package (Mandatory)			
oBufferedDistributorPort managed object class (cont)						
aBufDistrFrameTooLongErrors	ATTRIBUTE	GET				X
aBufDistrFrameTooShortErrors	ATTRIBUTE	GET				X
aBufDistrSymbolErrorDuringPacket	ATTRIBUTE	GET				X
aBufDistrOctetsXmittedOK	ATTRIBUTE	GET				X
aBufDistrOctetsRecvdOK	ATTRIBUTE	GET				X
aBufDistrKnownBadSymbolsXmitted	ATTRIBUTE	GET				X
aBufDistrLastSourceAddress	ATTRIBUTE	GET				X
aBufDistrSourceAddressChanges	ATTRIBUTE	GET				X
acBufDistrPortAdminControl	ACTION					X
acBufDistrInitializePort	ACTION					X
acBufDistrPortSelfTest	ACTION					X

Classes, Packages, and Capabilities

oLinkConfiguration

Table 30-1—Capabilities

			DTE	Repeater	MAU	Buf Distr
			Basic Package (Mandatory)			
			Mandatory Package			
			Recommended Package (Optional)			
			Optional Package (Optional)			
			Any Package (Optional)			
			Exclusive External Package (Optional)			
			Multiple PHY Package (Optional)			
			100-Mbps Monitor Capability (Optional)			
			Basic Control Capability (Mandatory)			
			Performance Monitor Capability (Optional)			
			Address Tracking Capability (Optional)			
			100-Mbps Monitor Capability (Optional)			
			Basic Package (Mandatory)			
			MAU Control Package (Optional)			
			Media Loss Tracking Package (Conditional)			
			Broadcast DTE MAU Package (Conditional)			
			MII Capability (Conditional)			
			100-Mbps Monitor Capability (Optional)			
			Auto-Negotiation Package (Mandatory)			
			Basic Package (Mandatory)			
			Port Status and Control (Mandatory)			
			Port Statistics (Optional)			
			Link Configuration Package (Mandatory)			
oLinkConfiguration managed object class						
aLinkConfigID	ATTRIBUTE	GET				X
aLinkConfigAdminState	ATTRIBUTE	GET				X
aLinkConfigRemoteSignaling	ATTRIBUTE	GET				X
aLinkConfigAutoConfig	ATTRIBUTE	GET-SET				X
aLinkConfigLocalAbility	ATTRIBUTE	GET				X
aLinkConfigAdvertisedAbility	ATTRIBUTE	GET-SET				X
aLinkConfigReceivedAbility	ATTRIBUTE	GET				X
acLinkConfigRestartAutoConfig	ACTION					X
acLinkConfigAdminControl	ACTION					X

Summary

- Management for 1000 Mb/s operation should be handled the same way as management for Full Duplex and 100BASE-T2
 - Update clause 30
- Do not attempt to solve “global” 802.3 management issues in 802.3z
- Buffered Distributor system and Link Configuration can be added to clause 30