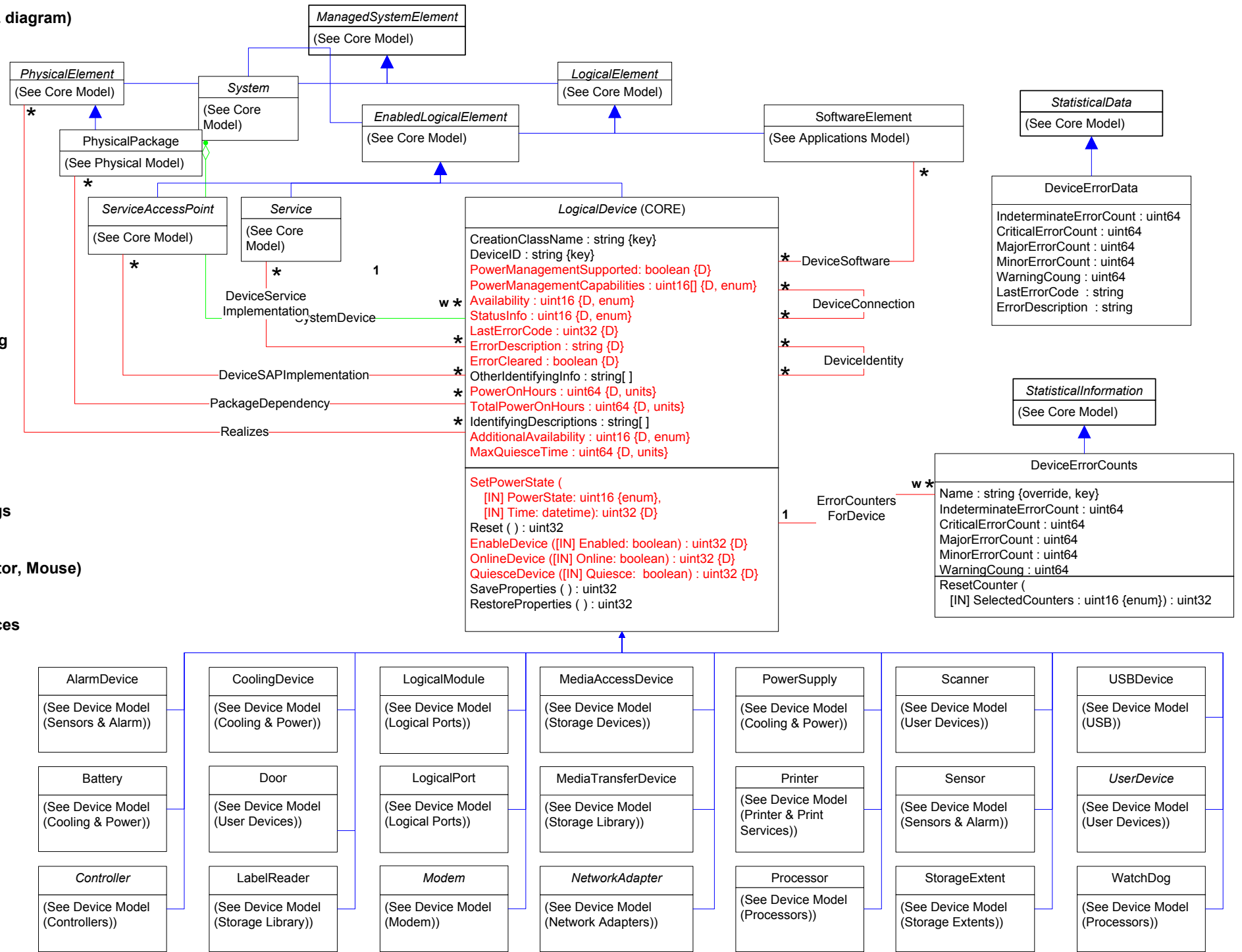











Title : Device Specification 2.10 (UML diagram)  
 Filename : CIM\_Device.vsd  
 Author : DMTF Core Schema WG  
 Date : 07/07/2005

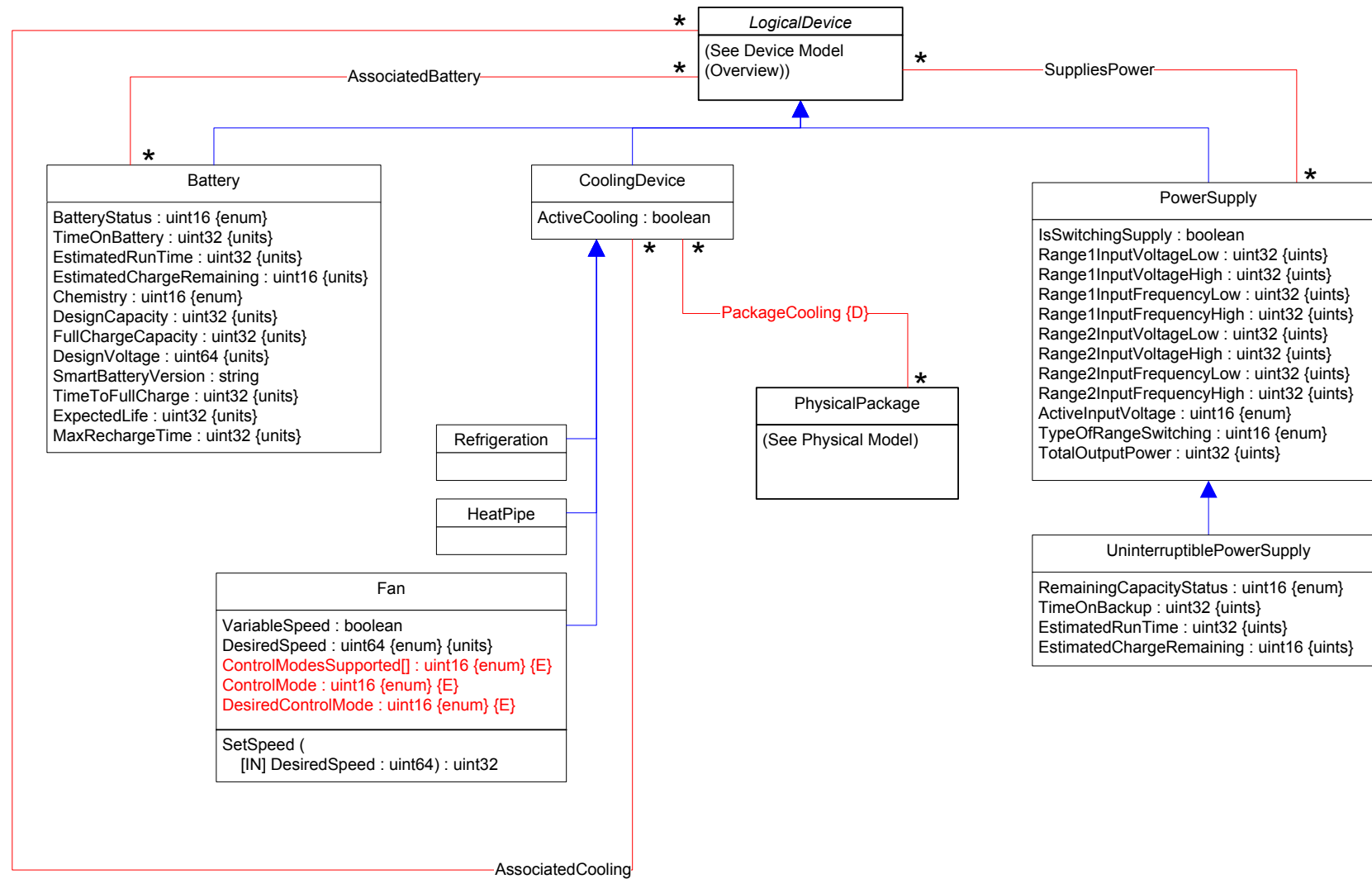
Page 1 - Overview  
 Page 2 - Cooling & Power  
 Page 3 - Processors  
 Page 4 - Controllers  
 Page 5 - Video Controllers  
 Page 6 - PCI Controllers  
 Page 7 - Logical Ports  
 Page 8 - Ports 2  
 Page 9 - Logical Port Group  
 Page 10 - Protocol Controllers  
 Page 11 - Network Adapters  
 Page 12 - Fibre Channel  
 Page 13 - Fibre Channel Services & Zoning  
 Page 14 - InfiniBand  
 Page 15 - Storage Devices  
 Page 16 - Storage Multipath  
 Page 17 - Storage Extents  
 Page 18 - Storage Extents 2  
 Page 19 - Storage Name Binding  
 Page 20 - SCC Extent Model  
 Page 21 - Storage Services  
 Page 22 - Storage Capabilities and Settings  
 Page 23 - Storage Statistics  
 Page 24 - Storage Library  
 Page 25 - User Devices (Keyboards, Monitor, Mouse)  
 Page 26 - Memory  
 Page 27 - Modems  
 Page 28 - Printers, Print Jobs, Print Services  
 Page 29 - Sensors & Alarm  
 Page 30 - USB & Disk Group  
 Page 31 - Device Sharing  
 Page 32 - Dependency (1) [A - Ba]  
 Page 33 - Dependency (2) [D - Pi]  
 Page 34 - Dependency (3) [Po - S]  
 Page 35 - Association Hierarchy  
 Page 36 - Aggregation Hierarchy  
 Page 37 - Association Deprecation  
 Page 38 - Aggregation Deprecation

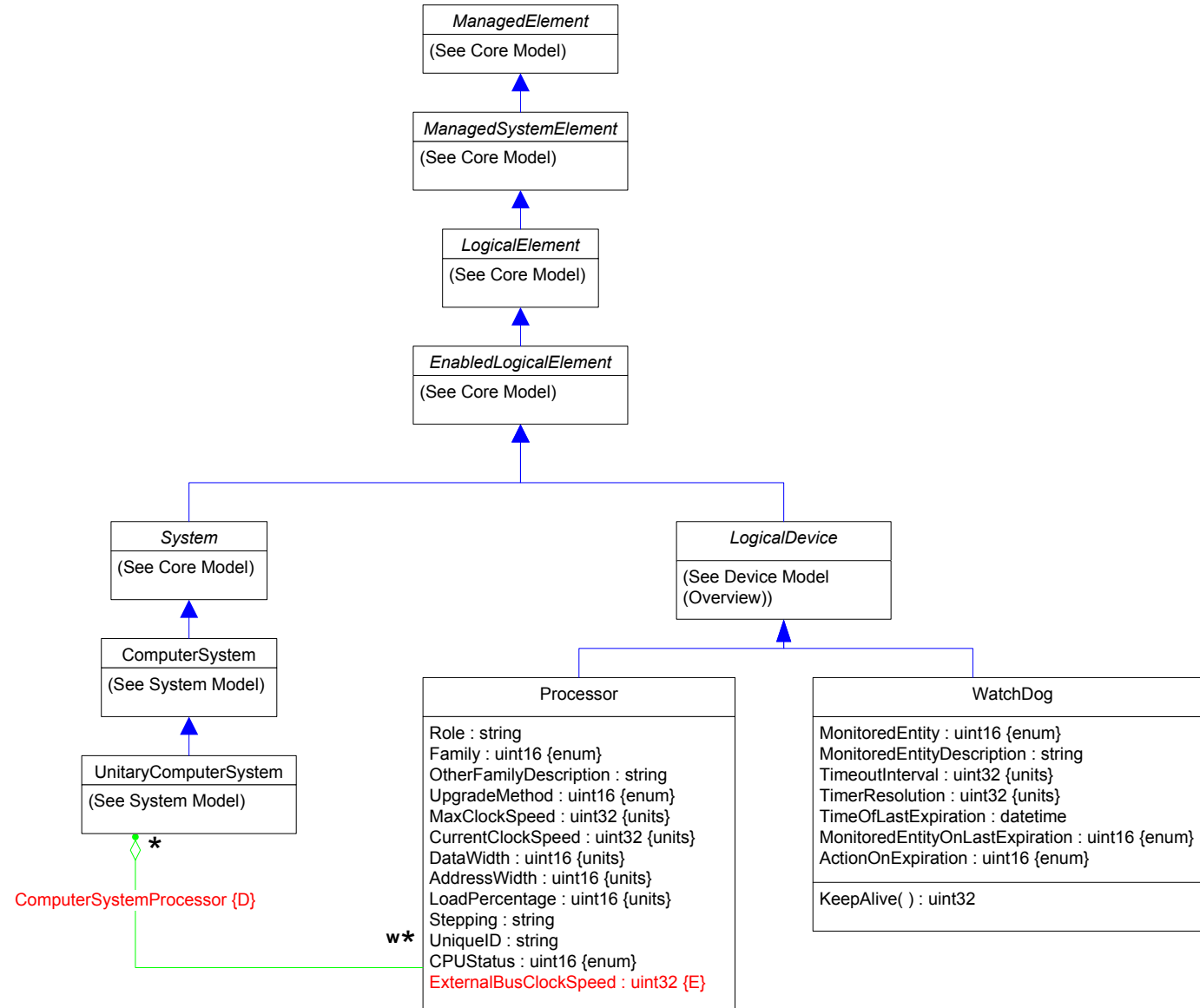
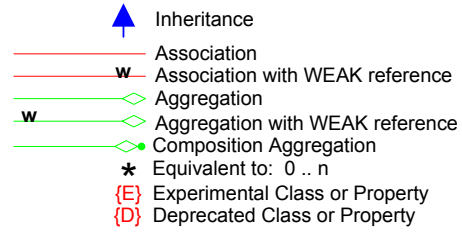


- Association
- w Association with WEAK reference
- ◇ Aggregation
- w◇ Aggregation with WEAK reference
- ◇ Composition Aggregation
- ★ Equivalent to: 0..n
- {E} Experimental Class or Property
- {D} Deprecated Class or Property

## Page 2 - Cooling & Power










-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0..n
-  Experimental Class or Property
-  Deprecated Class or Property

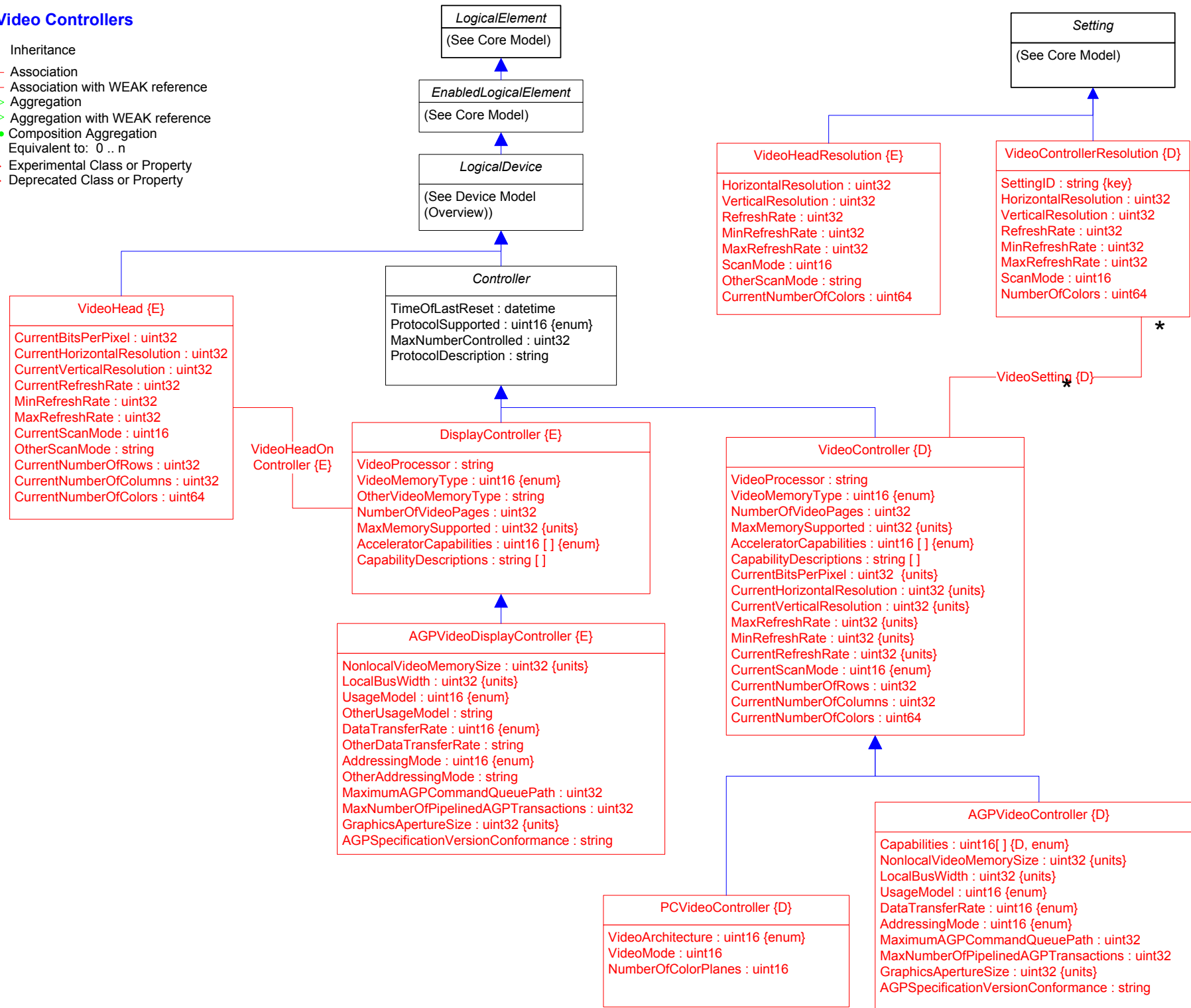




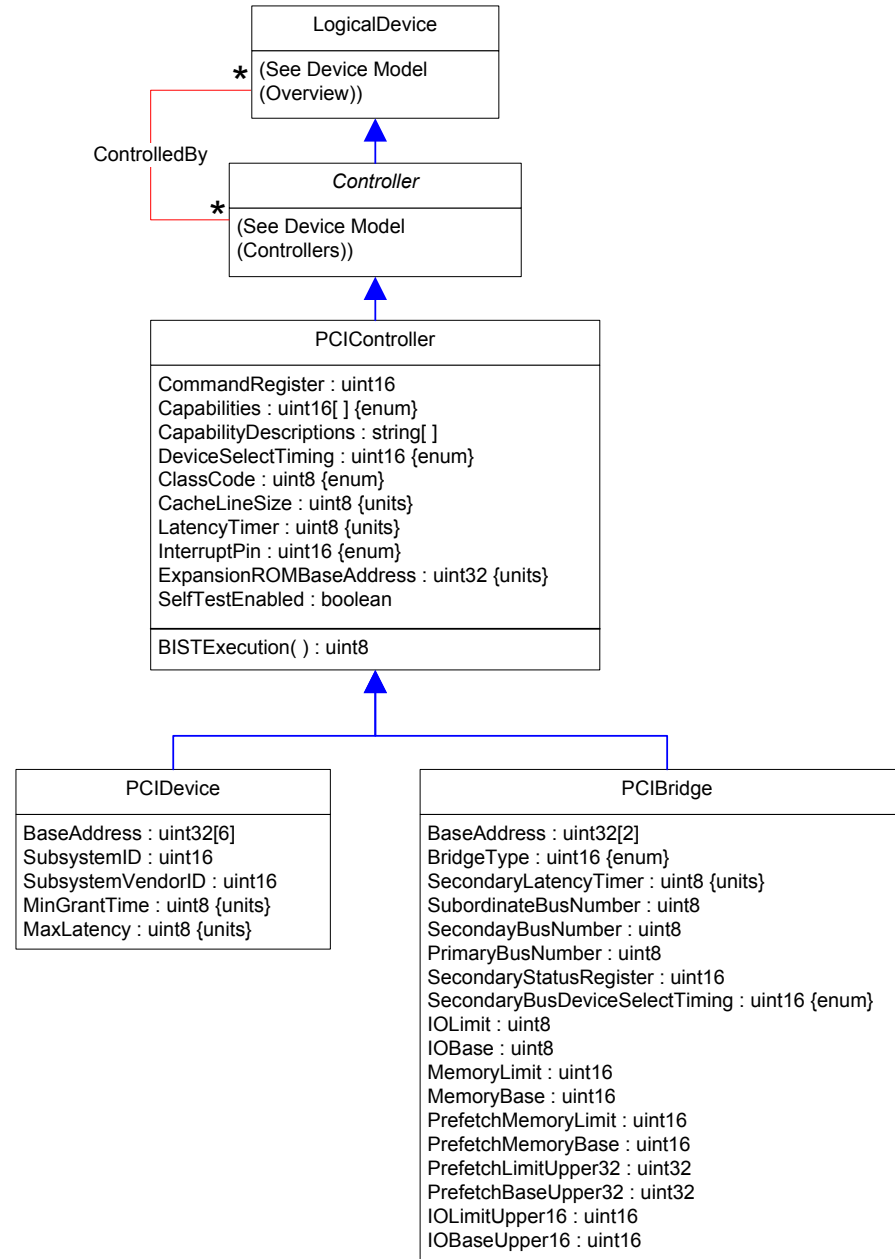
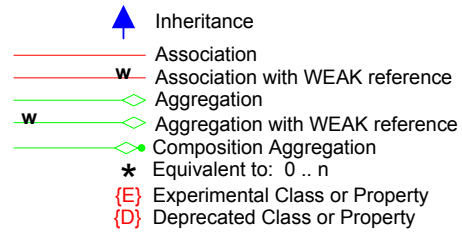


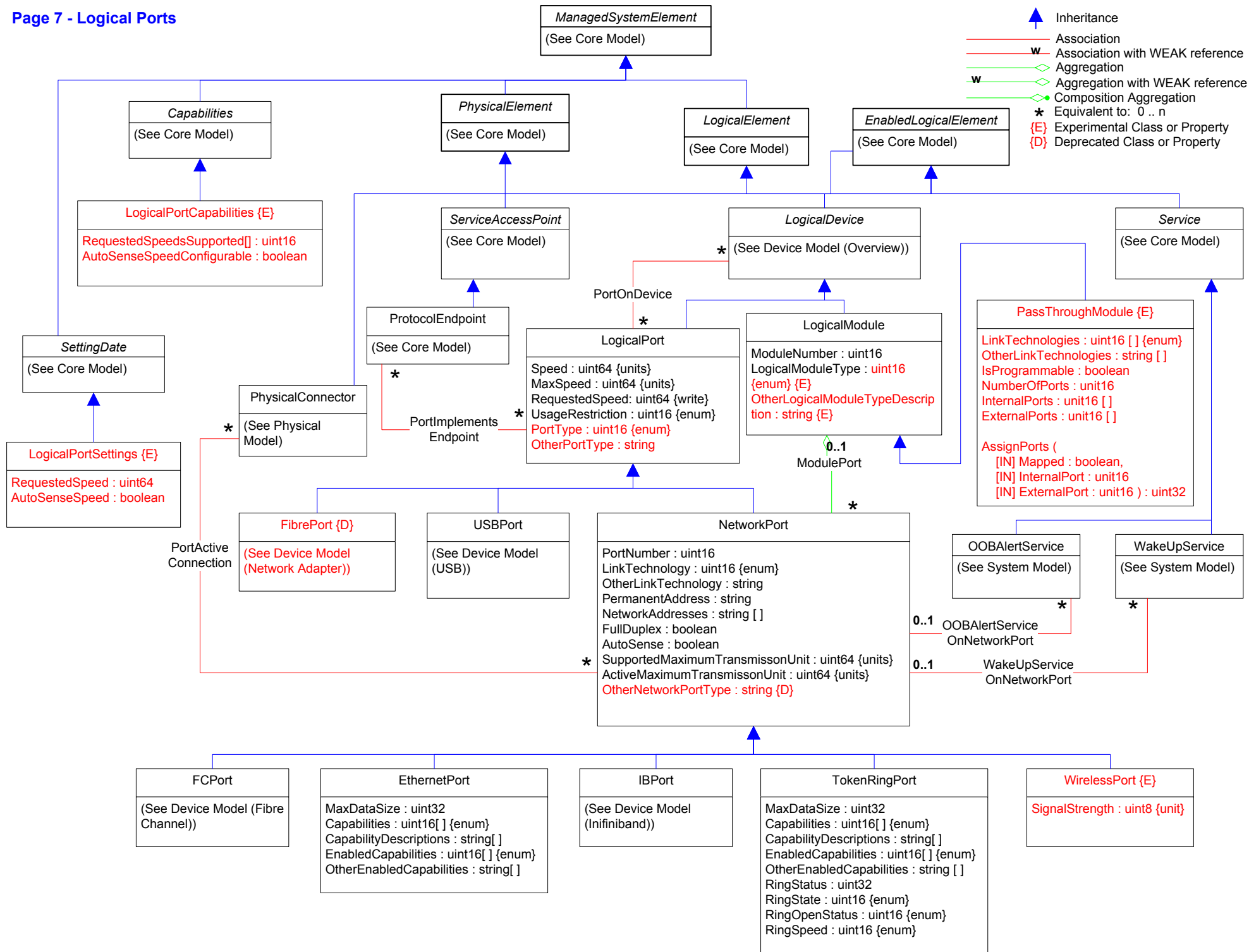
Page 5 – Video Controllers

-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0..n
-  Experimental Class or Property
-  Deprecated Class or Property



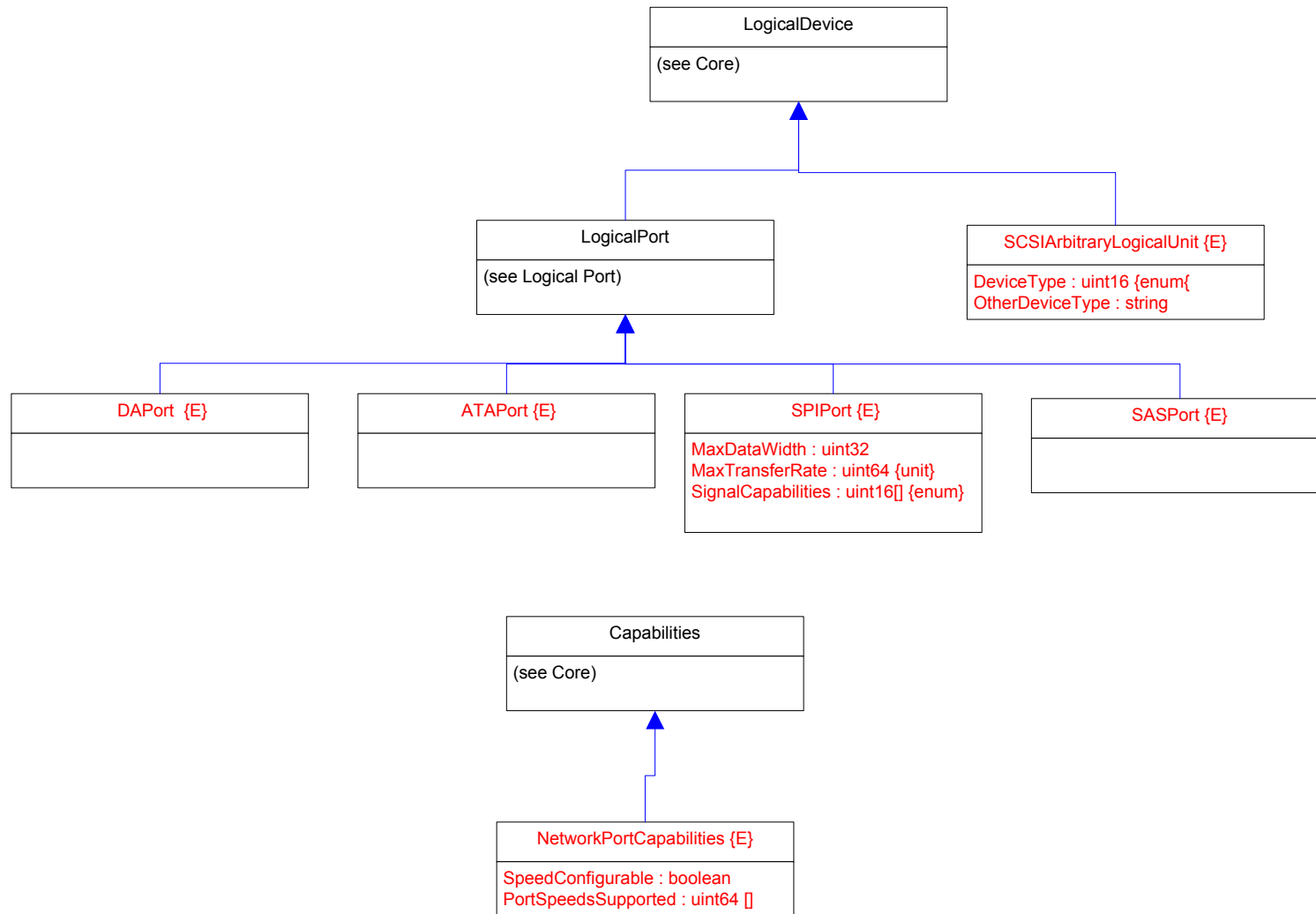
## Page 6 - PCI Controllers








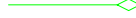
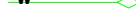




Page 8 – Ports 2

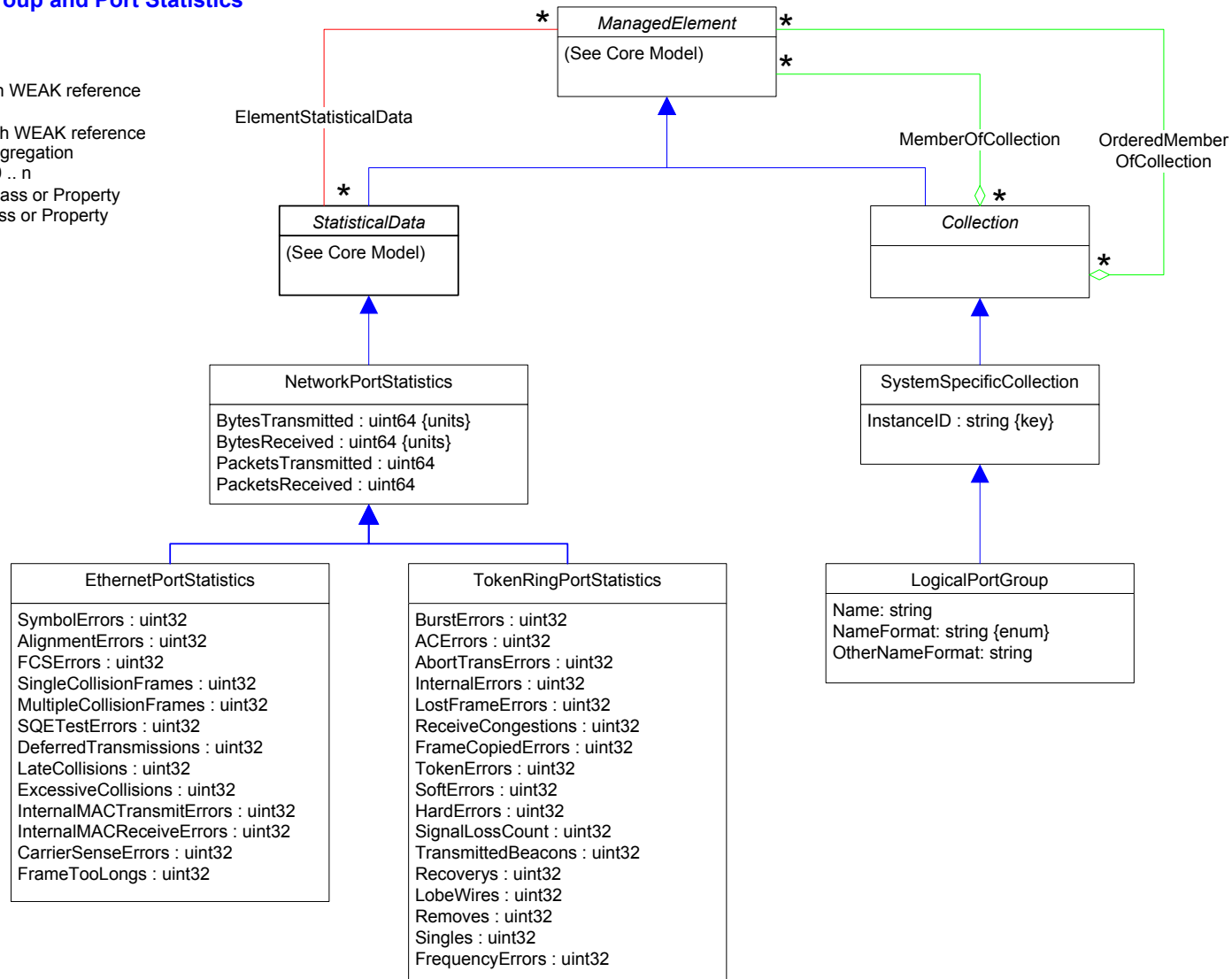
- ▲ Inheritance
- Association
- w Association with WEAK reference
- ◇ Aggregation
- w◇ Aggregation with WEAK reference
- ◇● Composition Aggregation
- ★ Equivalent to: 0 .. n
- {E} Experimental Class or Property
- {D} Deprecated Class or Property

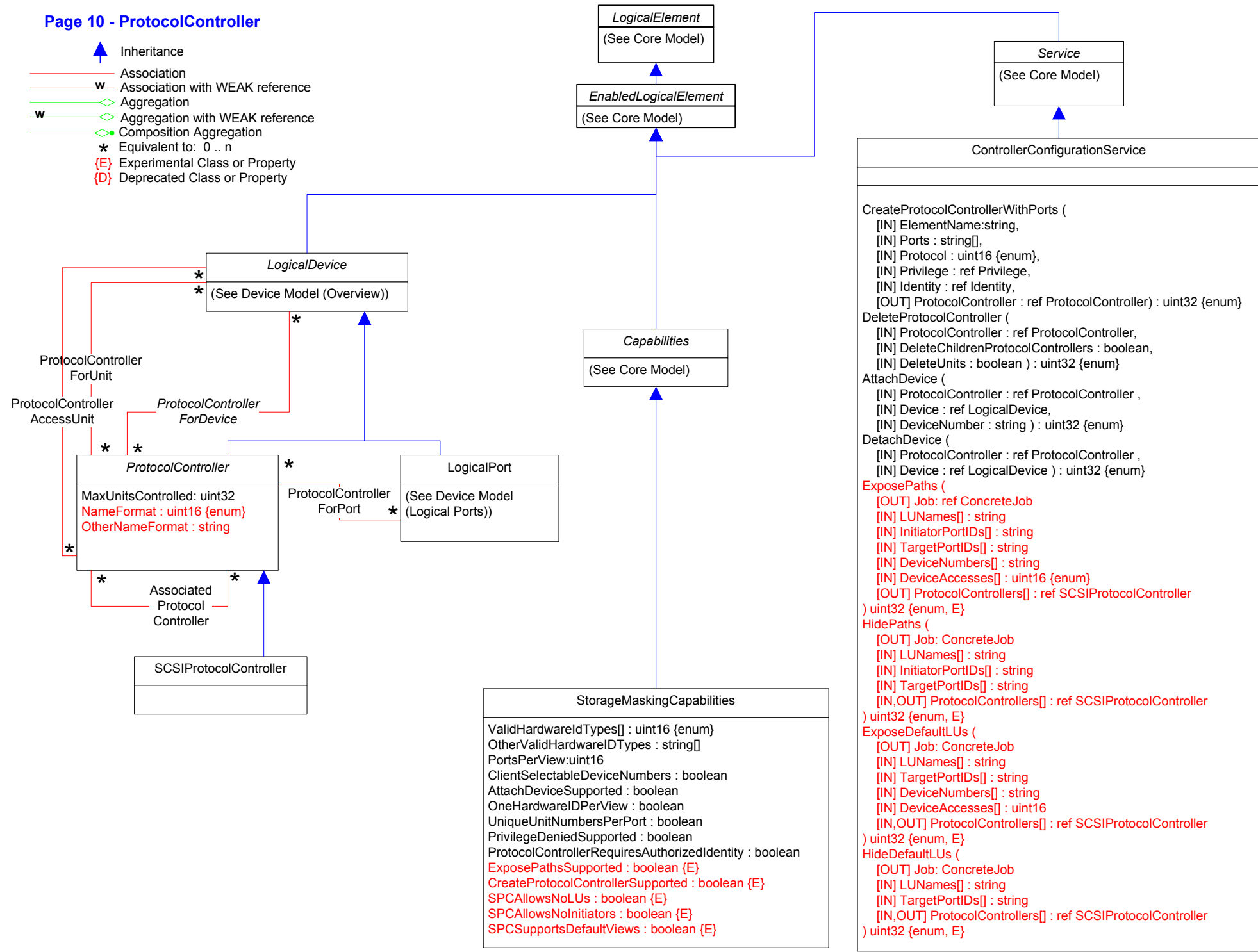
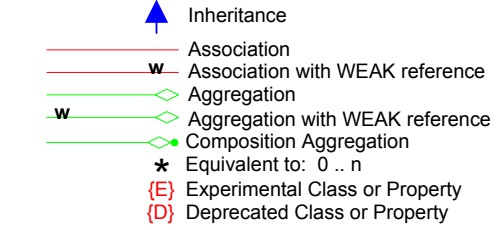




Page 9 - Logical Port Group and Port Statistics

-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0 .. n
-  {E} Experimental Class or Property
-  {D} Deprecated Class or Property














```

ControllerConfigurationService

CreateProtocolControllerWithPorts (
  [IN] ElementName:string,
  [IN] Ports : string[],
  [IN] Protocol : uint16 {enum},
  [IN] Privilege : ref Privilege,
  [IN] Identity : ref Identity,
  [OUT] ProtocolController : ref ProtocolController) : uint32 {enum}
DeleteProtocolController (
  [IN] ProtocolController : ref ProtocolController,
  [IN] DeleteChildrenProtocolControllers : boolean,
  [IN] DeleteUnits : boolean ) : uint32 {enum}
AttachDevice (
  [IN] ProtocolController : ref ProtocolController ,
  [IN] Device : ref LogicalDevice,
  [IN] DeviceNumber : string ) : uint32 {enum}
DetachDevice (
  [IN] ProtocolController : ref ProtocolController ,
  [IN] Device : ref LogicalDevice ) : uint32 {enum}
ExposePaths (
  [OUT] Job: ref ConcreteJob
  [IN] LUNames[] : string
  [IN] InitiatorPortIDs[] : string
  [IN] TargetPortIDs[] : string
  [IN] DeviceNumbers[] : string
  [IN] DeviceAccesses[] : uint16 {enum}
  [OUT] ProtocolControllers[] : ref SCSIProtocolController
) : uint32 {enum, E}
HidePaths (
  [OUT] Job: ConcreteJob
  [IN] LUNames[] : string
  [IN] InitiatorPortIDs[] : string
  [IN] TargetPortIDs[] : string
  [IN,OUT] ProtocolControllers[] : ref SCSIProtocolController
) : uint32 {enum, E}
ExposeDefaultLUs (
  [OUT] Job: ConcreteJob
  [IN] LUNames[] : string
  [IN] TargetPortIDs[] : string
  [IN] DeviceNumbers[] : string
  [IN] DeviceAccesses[] : uint16
  [IN,OUT] ProtocolControllers[] : ref SCSIProtocolController
) : uint32 {enum, E}
HideDefaultLUs (
  [OUT] Job: ConcreteJob
  [IN] LUNames[] : string
  [IN] TargetPortIDs[] : string
  [IN,OUT] ProtocolControllers[] : ref SCSIProtocolController
) : uint32 {enum, E}
  
```

Page 11 - Network Adapters

-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0..n
-  Experimental Class or Property
-  Deprecated Class or Property

**FCAdapterEventCounters {D}**

ABTSFramesReceived : uint64  
 ABTSFramesSent : uint64  
 FBSYsReceived : uint64  
 PBSYsReceived : uint64  
 PBSYsSent : uint64  
 FRJTsReceived : uint64  
 PRJTsReceived : uint64  
 PRJTsSent : uint64  
 PRLsRejected : uint64  
 PRLOsRejected : uint64  
 ABTSFramesRejected : uint64

ResetCounter ([IN] SelectedCounter : uint16) : uint32

**FibrePortEventCounters {D}**

PLOGIsReceived : uint64  
 PLOGIsSent : uint64  
 EOFAbortsReceived : uint64  
 EOFAbortsTransmitted : uint64  
 PLOGOsReceived : uint64  
 PLOGOsSent : uint64  
 PLOGIsRejected : uint64  
 PLOGOsRejected : uint64

ResetCounter ([IN] SelectedCounter : uint16) : uint32

**DeviceStatistical Information**  
 (See Core Model)

**LogicalPort**  
 (See Device Model (Logical Port))

**FibrePort {D}**

AddressIdentifier : uint32  
 SupportedPortTypes : uint16[ ]  
 PortTypeVersions : string[ ]  
 EnabledPortTypes : uint16[ ]  
 EnabledVersions : string[ ]  
 CurrentPortType : uint16  
 CurrentVersion : string  
 AliasAddresses : uint32[ ]  
 LossOfSignalCounter : uint64  
 LossOfSyncCounter : uint64  
 CRCErrors : uint64  
 InvalidTransmissionWords : uint64  
 FramesTooShort : uint64  
 FramesTooLong : uint64  
 ElasticityBufferUnderruns : uint64  
 ElasticityBufferOverruns : uint64  
 ReceiverTransmitterTimeout : uint64  
 BypassedState : uint16  
 ConnectedMedia : uint16

**FibrePort ActiveLogin {D}**

**FibreChannelAdapter {D}**

MaxFrameSize : uint64  
 SupportedCOS : uint16[ ]  
 FC4TypesSupported : uint16[ ]  
 FC4VendorUniqueTypes : uint16[ ]  
 CurrentFC4Types : uint16[ ]  
 CurrentFC4VendorTypes : uint16[ ]  
 Capabilities : uint16[ ]  
 CapabilityDescriptions : string[ ]  
 ReceiveBufferErrors : uint64  
 ReceiveEndErrors : uint64  
 ResourceAllocationTimeout : uint64  
 ErrorDetectTimeout : uint64  
 Class1SequencesSent : uint64  
 Class2SequencesSent : uint64  
 Class3SequencesSent : uint64  
 Class4SequencesSent : uint64  
 Class2OctetsReceived : uint64  
 Class2OctetsTransmitted : uint64  
 Class2FramesReceived : uint64  
 Class2FramesTransmitted : uint64  
 Class2DiscardFrames : uint64  
 Class3OctetsReceived : uint64  
 Class3OctetsTransmitted : uint64  
 Class3FramesReceived : uint64  
 Class3FramesTransmitted : uint64  
 Class3DiscardFrames : uint64  
 ParityErrors : uint64  
 FrameTimeouts : uint64  
 BufferCreditErrors : uint64  
 EndCreditErrors : uint64  
 OutOfOrderFramesReceived : uint64

**PhysicalConnector**  
 (See Physical Model)

**NetworkAdapter {D}**

PermanentAddress : string  
 NetworkAddresses : string [ ]  
 Speed : uint64  
 MaxSpeed : uint64  
 FullDuplex : boolean  
 AutoSense : boolean  
 OctetsTransmitted : uint64  
 OctetsReceived : uint64

**EthernetAdapter {D}**

MaxDataSize : uint32  
 Capabilities : uint16[ ] {enum}  
 CapabilityDescriptions : string[ ]  
 EnabledCapabilities : uint16[ ] {enum}  
 SymbolErrors : uint32  
 TotalPacketsTransmitted : uint64  
 TotalPacketsReceived : uint64  
 AlignmentErrors : uint32  
 FCSErrors : uint32  
 SingleCollisionFrames : uint32  
 MultipleCollisionFrames : uint32  
 SQETestErrors : uint32  
 DeferredTransmissions : uint32  
 LateCollisions : uint32  
 ExcessiveCollisions : uint32  
 InternalMACTransmitErrors : uint32  
 InternalMACReceiveErrors : uint32  
 CarrierSenseErrors : uint32  
 FrameTooLongs : uint32

**TokenRingAdapter {D}**

MaxDataSize : uint32  
 Capabilities : uint16[ ] {enum}  
 CapabilityDescriptions : string[ ]  
 EnabledCapabilities : uint16[ ] {enum}  
 RingStatus : uint32  
 RingState : uint16  
 RingOpenStatus : uint16  
 RingSpeed : uint16  
 BurstErrors : uint32  
 ACErrors : uint32  
 AbortTransErrors : uint32  
 InternalErrors : uint32  
 LostFrameErrors : uint32  
 ReceiveCongestions : uint32  
 FrameCopiedErrors : uint32  
 TokenErrors : uint32  
 SoftErrors : uint32  
 HardErrors : uint32  
 SignalLossCount : uint32  
 TransmittedBeacons : uint32  
 Recoverys : uint32  
 LobeWires : uint32  
 Removes : uint32  
 Singles : uint32  
 FrequencyErrors : uint32

**LogicalDevice**  
 (See Device Model (Overview))

**Service**  
 (See Core Model)

**OoBAAlertService**  
 (See System Model)

**WakeUpService**  
 (See System Model)

0..1 OoBAAlertServiceOn  
 \* NetworkAdapter {D}

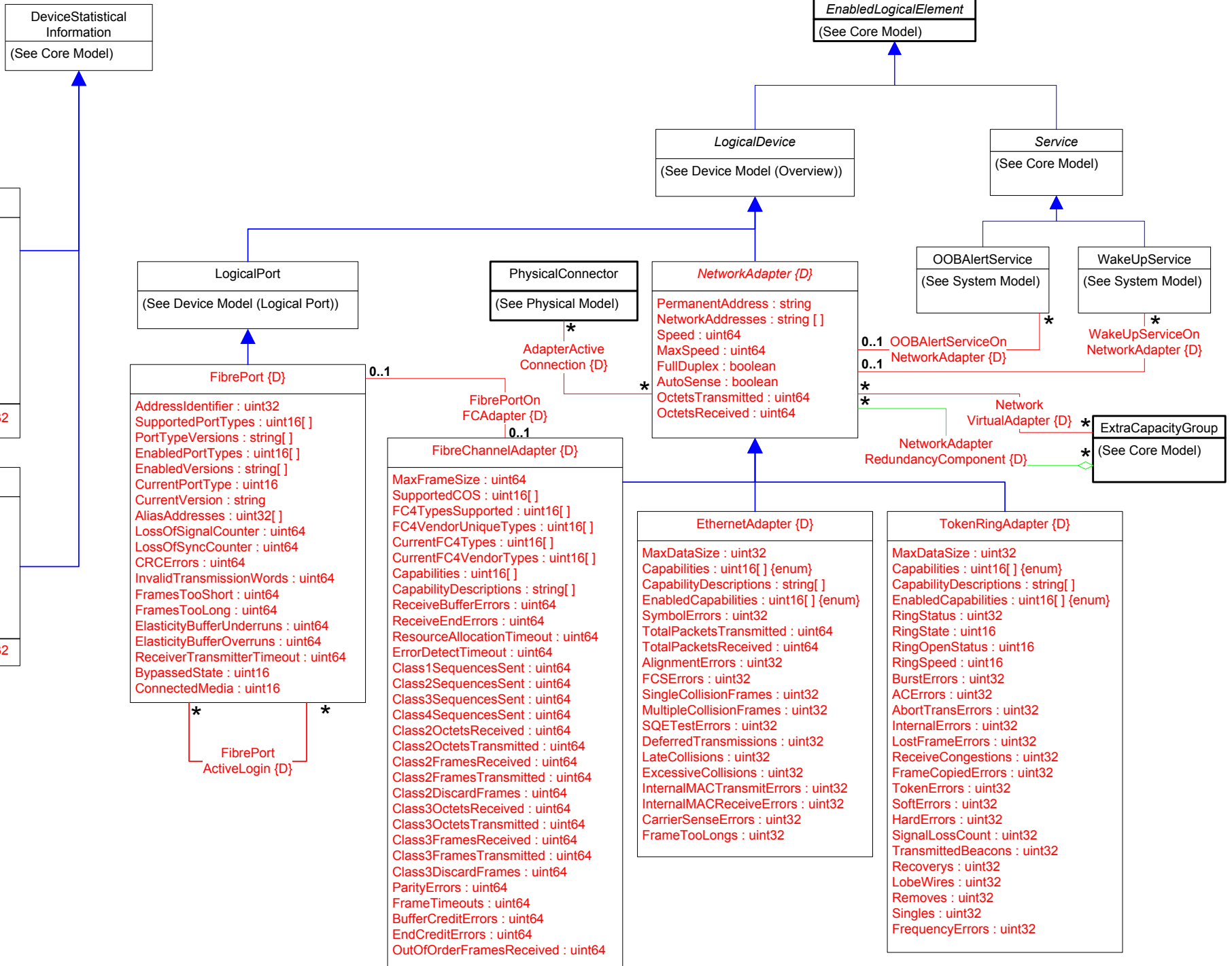
\* WakeUpServiceOn  
 \* NetworkAdapter {D}

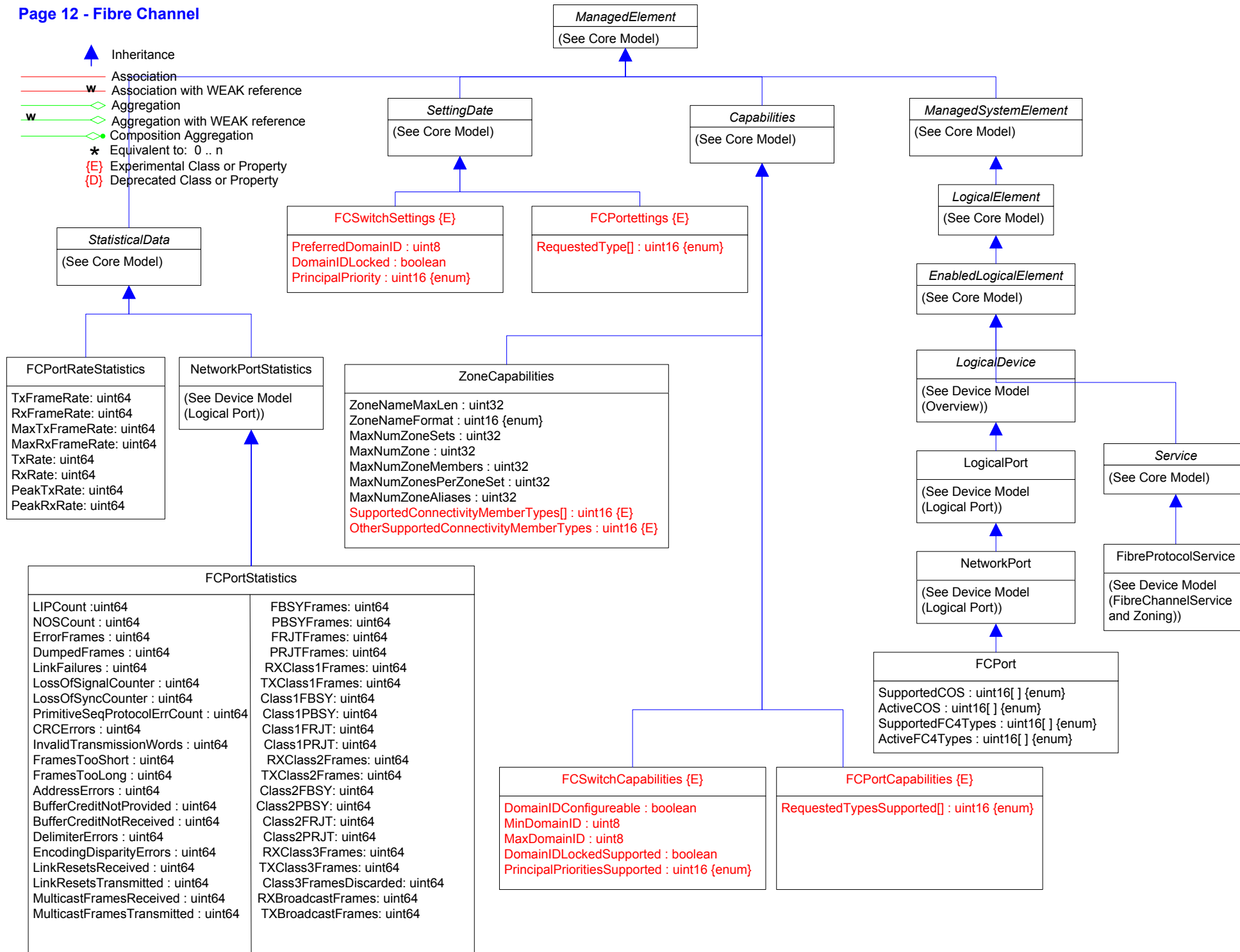
\* NetworkAdapter RedundancyComponent {D}

\* VirtualAdapter {D}

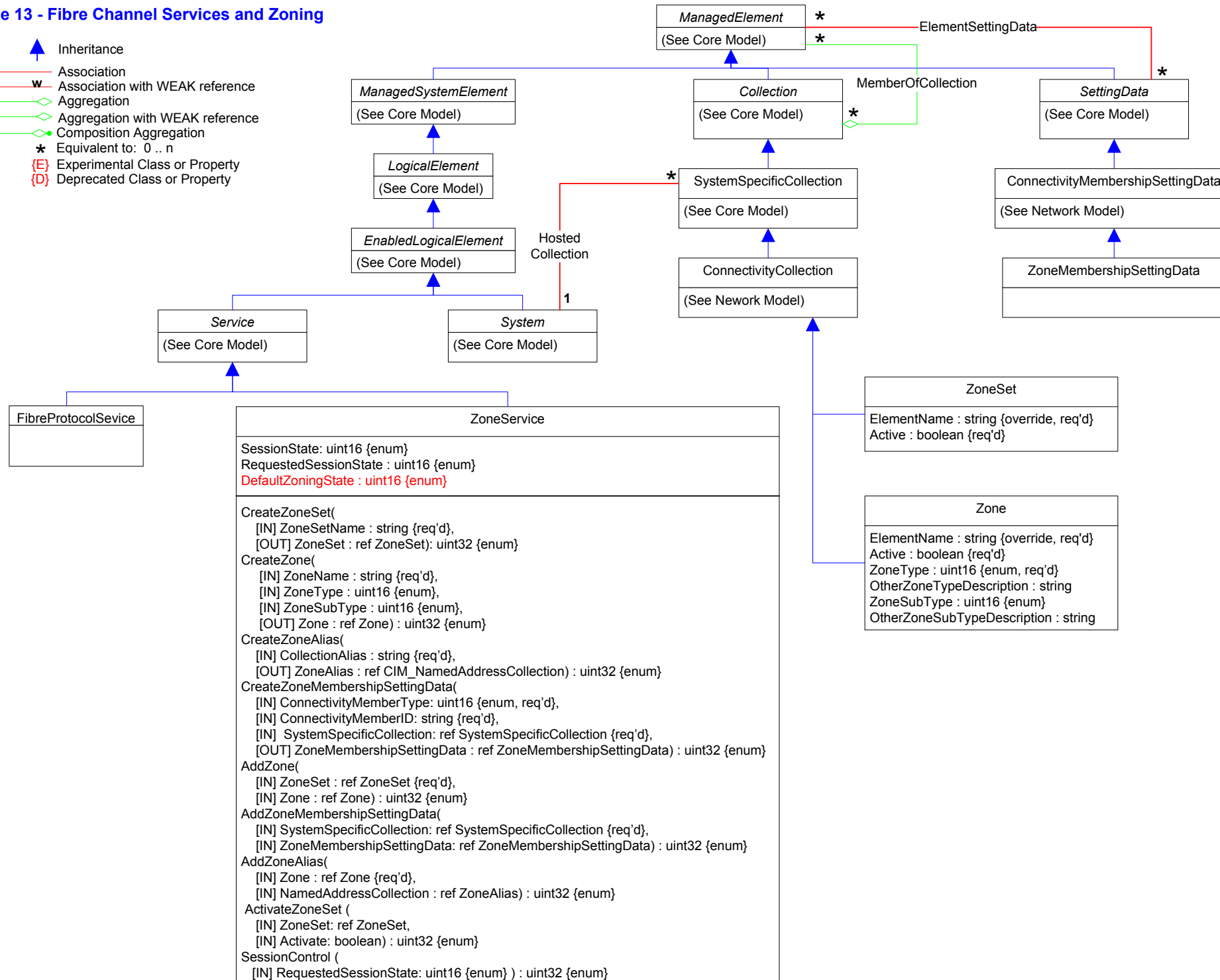
\* ExtraCapacityGroup  
 (See Core Model)

**EnabledLogicalElement**  
 (See Core Model)



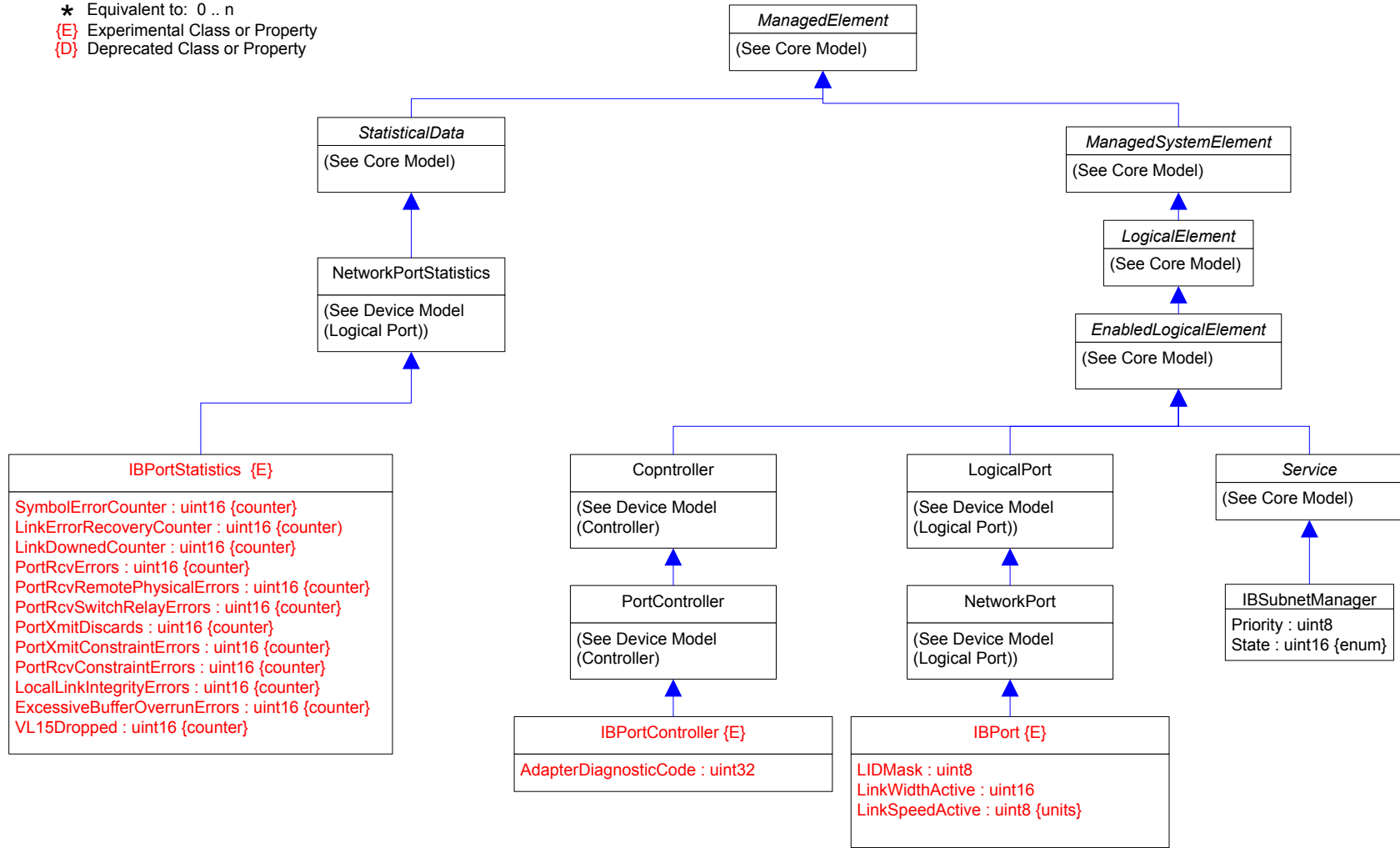


- Inheritance
- Association
- Association with WEAK reference
- Aggregation
- Aggregation with WEAK reference
- Composition Aggregation
- Equivalent to: 0 .. n
- Experimental Class or Property
- Deprecated Class or Property



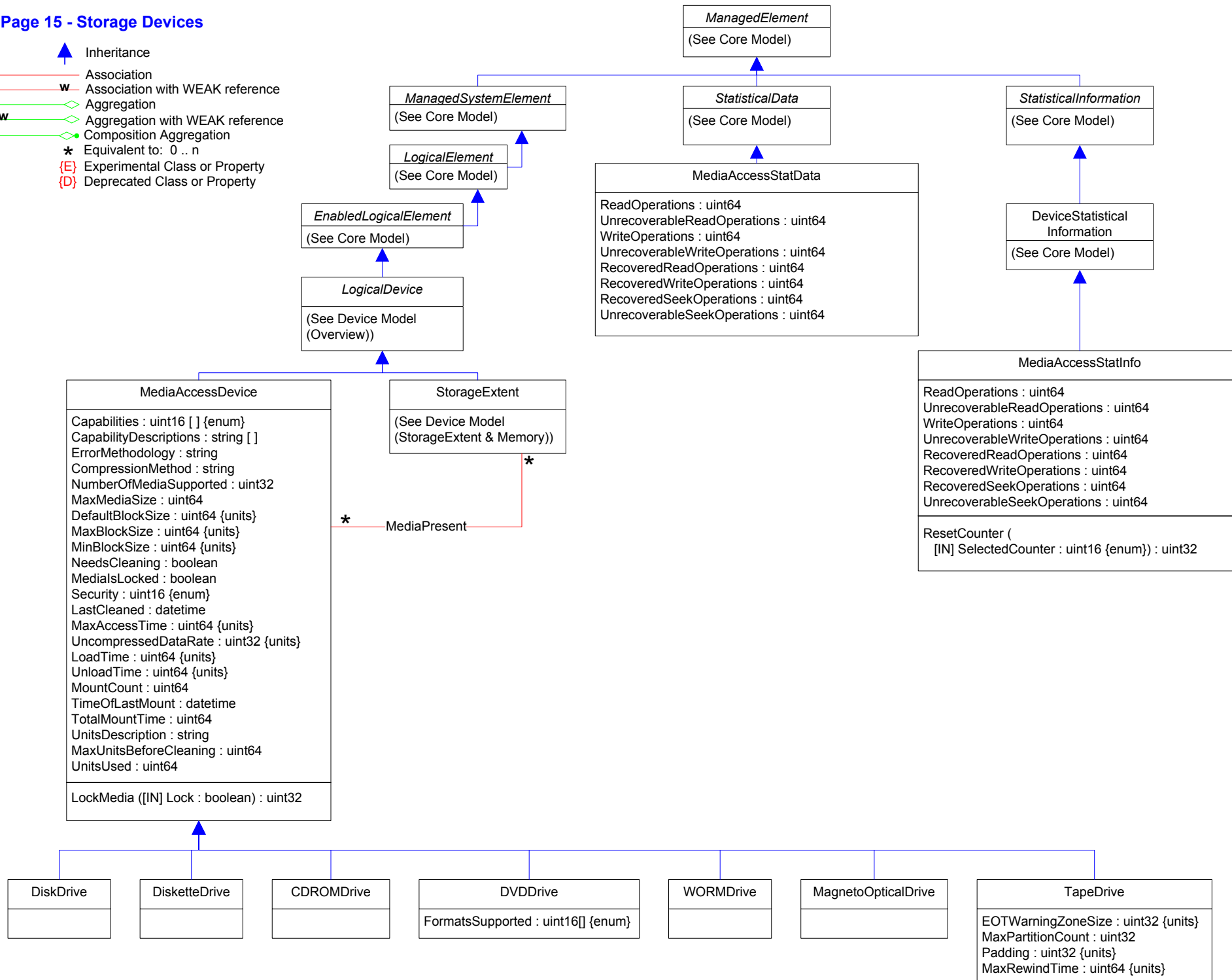
Page 14 - Infiniband

- ▲ Inheritance
- Association
- w Association with WEAK reference
- ◇ Aggregation
- w◇ Aggregation with WEAK reference
- ◇ Composition Aggregation
- ★ Equivalent to: 0 .. n
- {E} Experimental Class or Property
- {D} Deprecated Class or Property












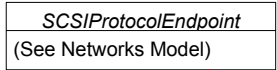
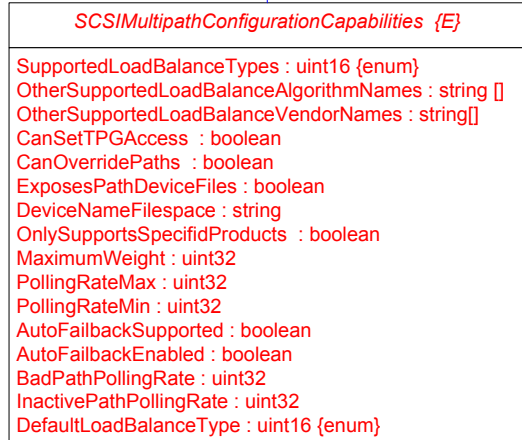
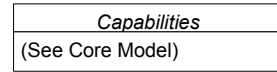
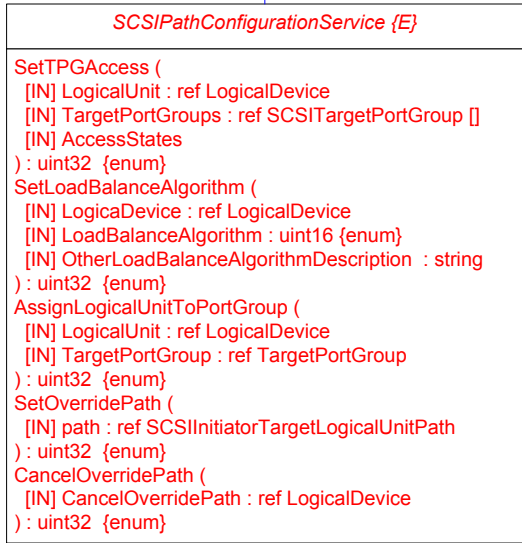
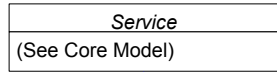
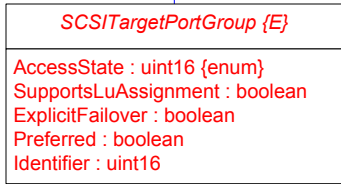
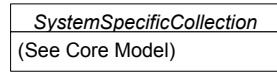
Page 15 - Storage Devices

- ▲ Inheritance
- Association
- w Association with WEAK reference
- ◇ Aggregation
- w Aggregation with WEAK reference
- ◇ Composition Aggregation
- ★ Equivalent to: 0 .. n
- {E} Experimental Class or Property
- {D} Deprecated Class or Property

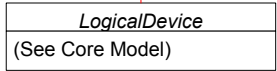


Page 16 - Storage Mutipath

-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0 .. n
-  {E} Experimental Class or Property
-  {D} Deprecated Class or Property




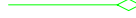
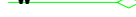






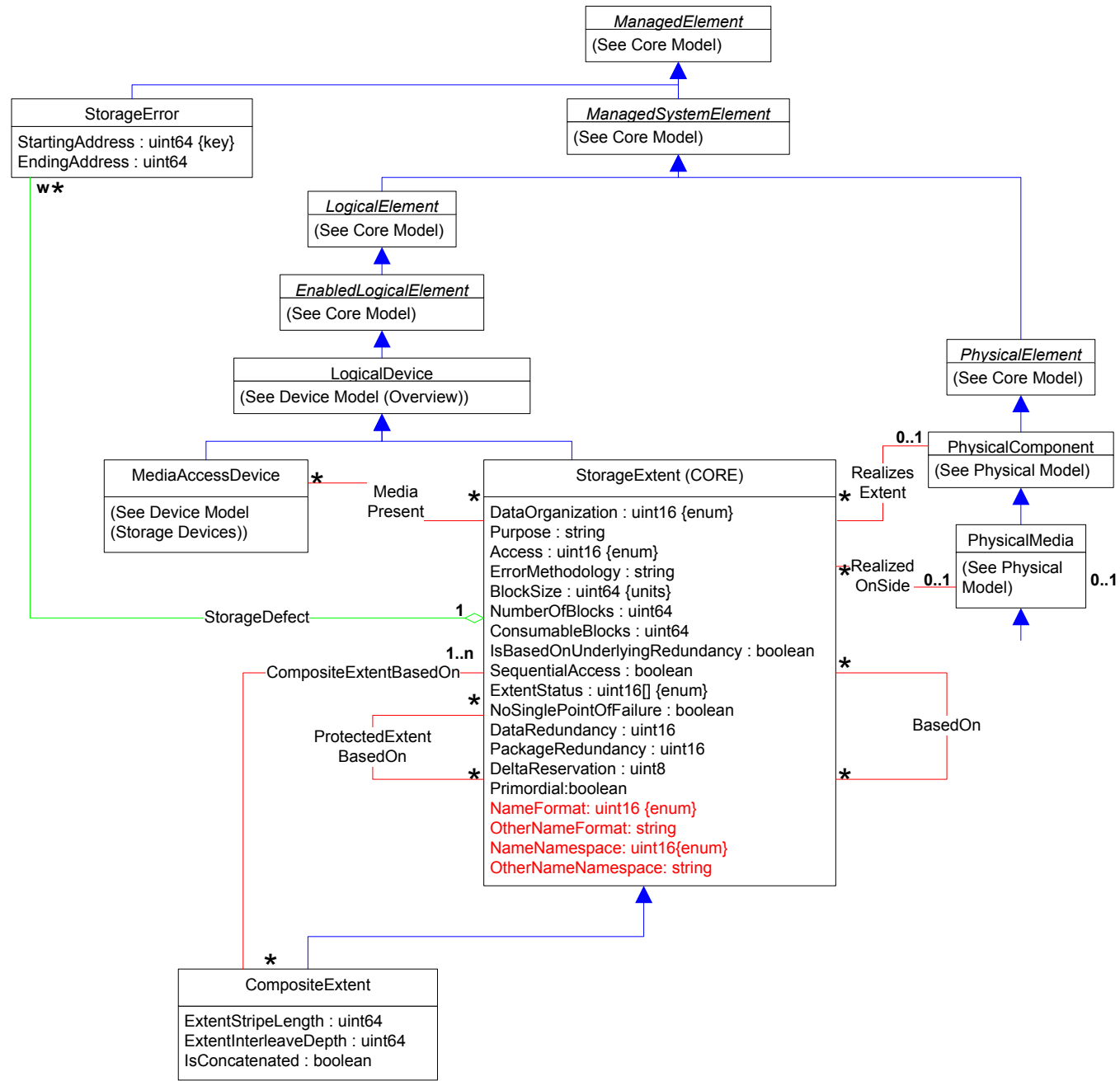
SCSIInitiatorTargetLogicalUnitPath {E}

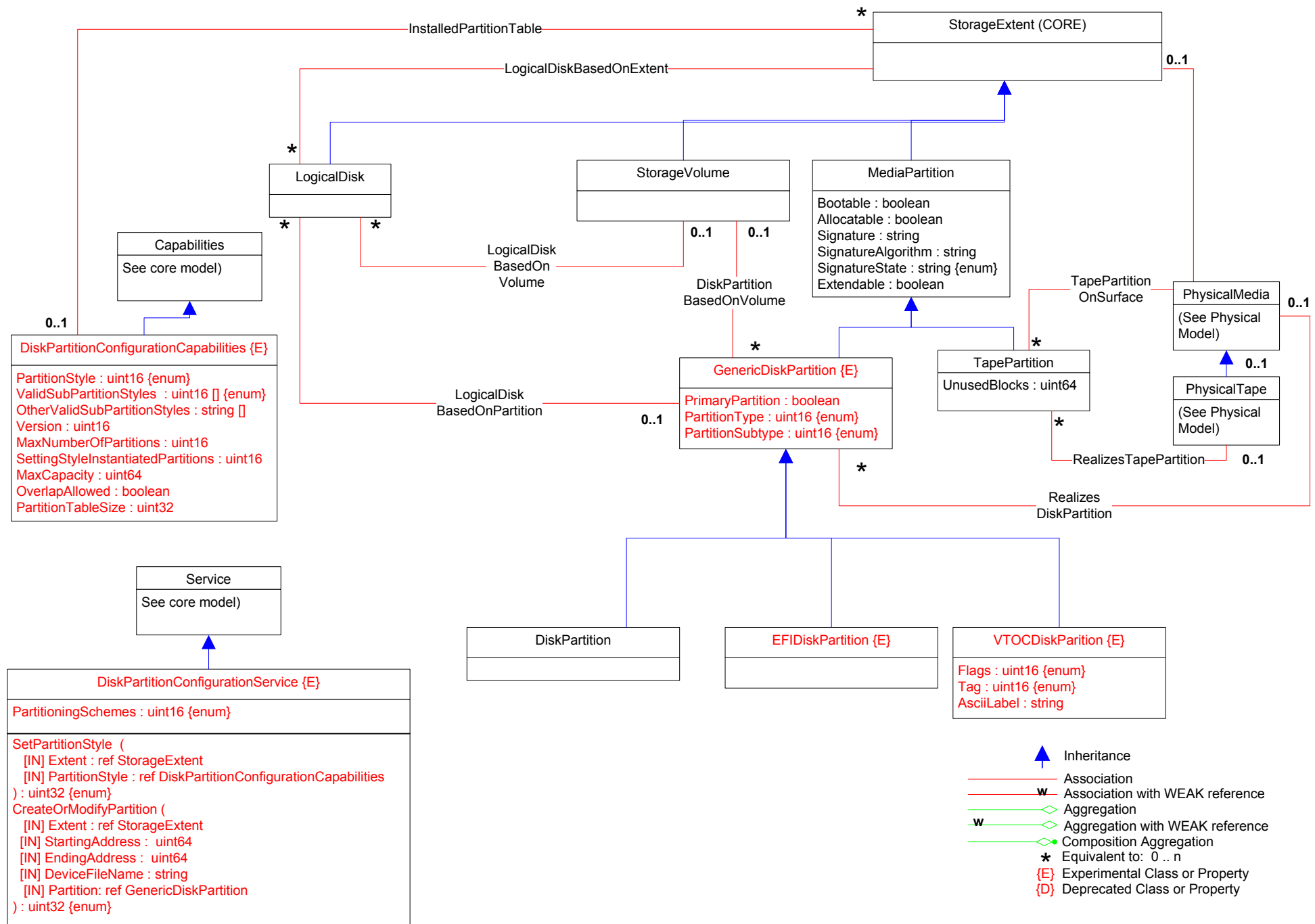













Page 17- StorageExtent

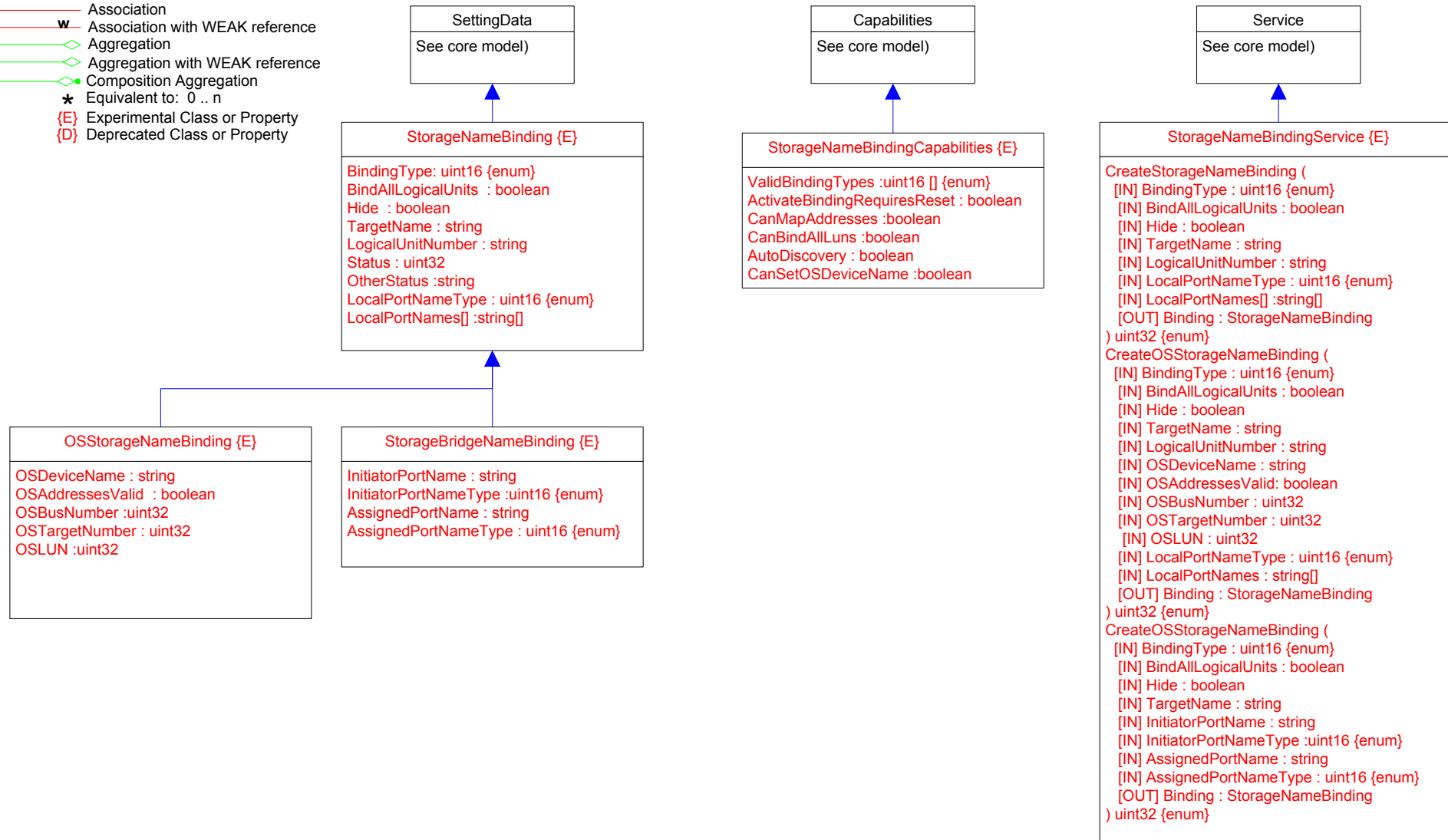
-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0 .. n
-  {E} Experimental Class or Property
-  {D} Deprecated Class or Property





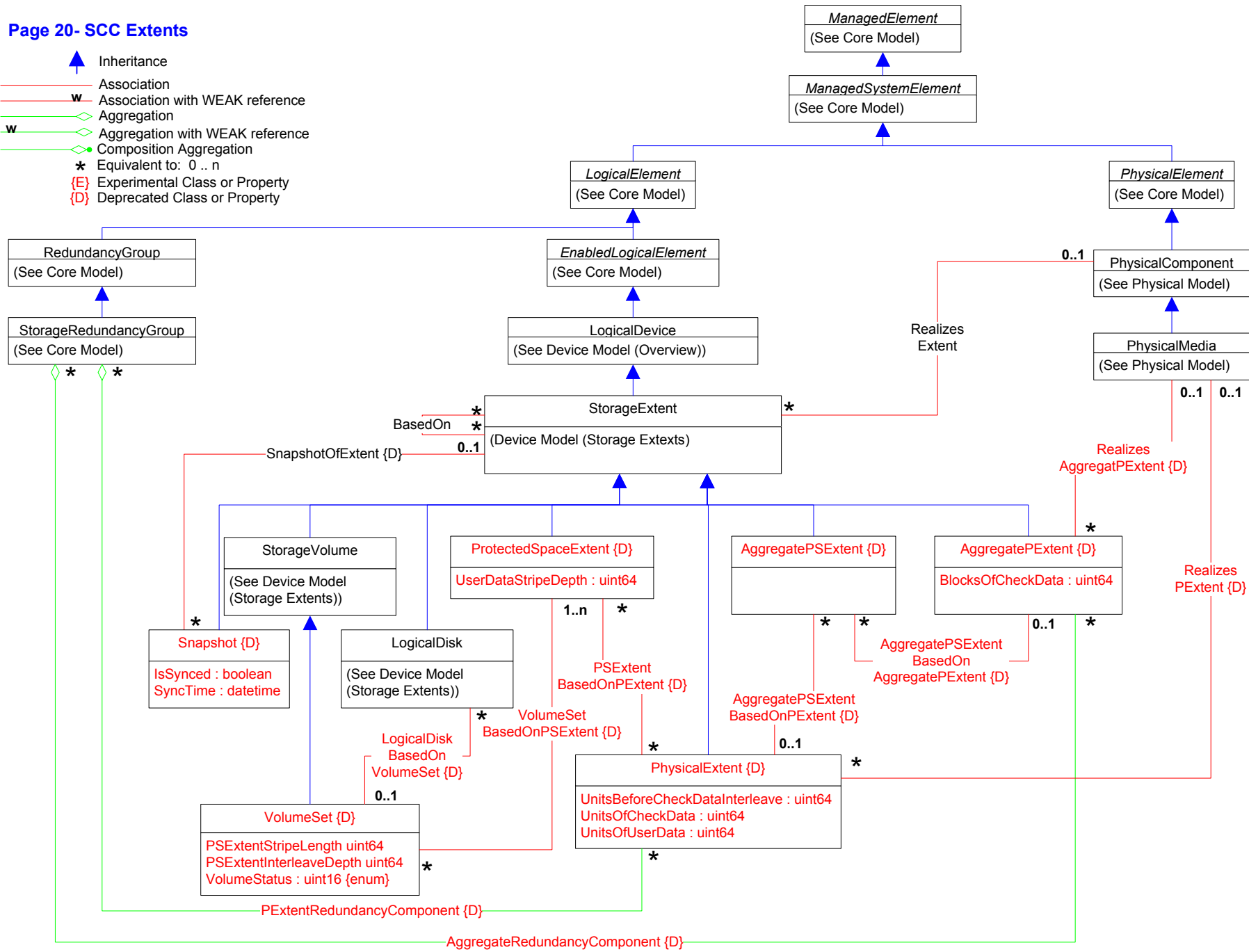
Page 20 - Storage Name Binding

-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0 .. n
-  {E} Experimental Class or Property
-  {D} Deprecated Class or Property



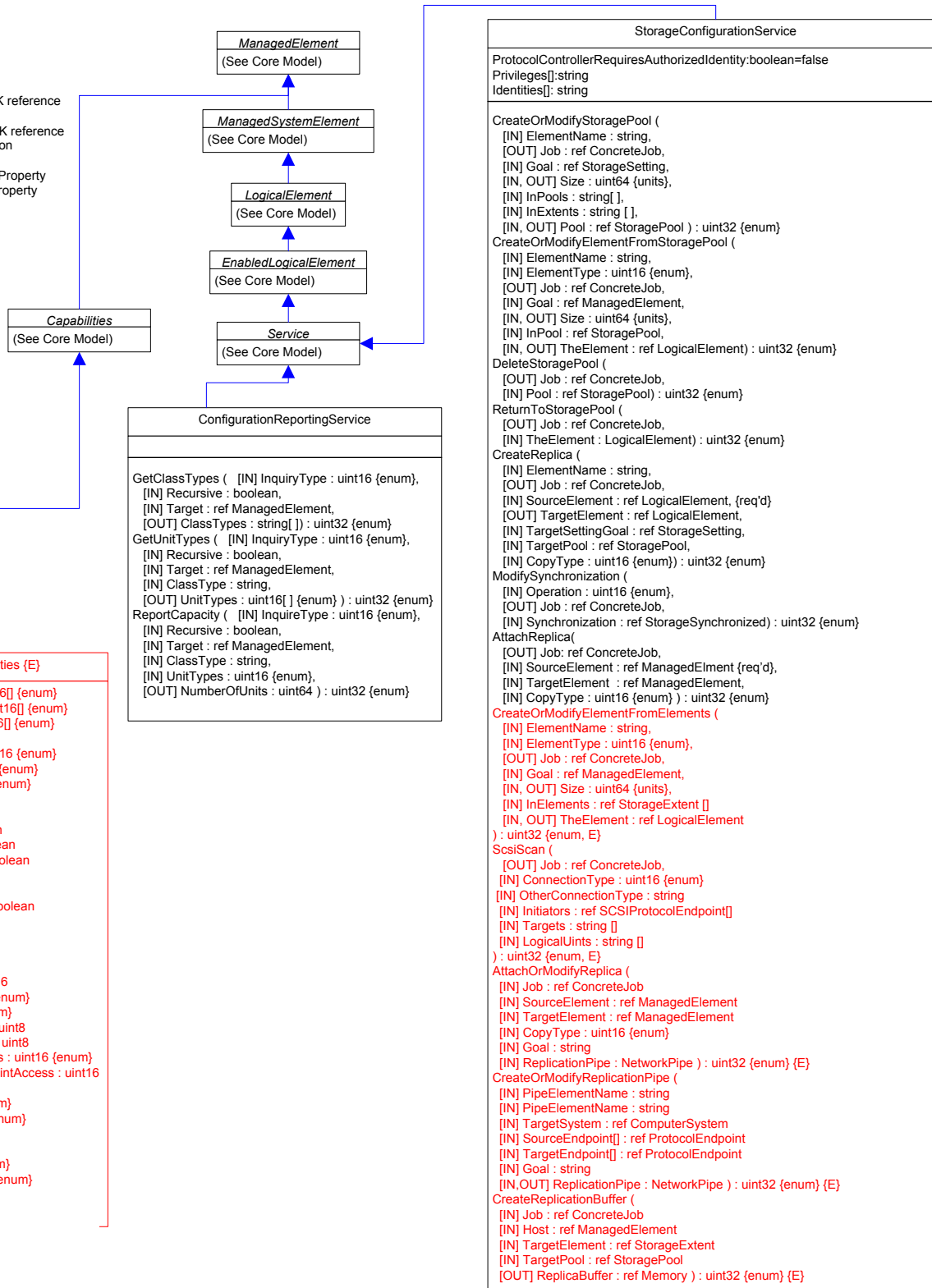
Page 20- SCC Extents

- Inheritance
- Association
- Association with WEAK reference
- Aggregation
- Aggregation with WEAK reference
- Composition Aggregation
- Equivalent to: 0 .. n
- Experimental Class or Property
- Deprecated Class or Property



Page 21 - Storage Services

- ▲ Inheritance
- Association
- w Association with WEAK reference
- ◇ Aggregation
- w Aggregation with WEAK reference
- ◇ Composition Aggregation
- ★ Equivalent to: 0 .. n
- (E) Experimental Class or Property
- (D) Deprecated Class or Property



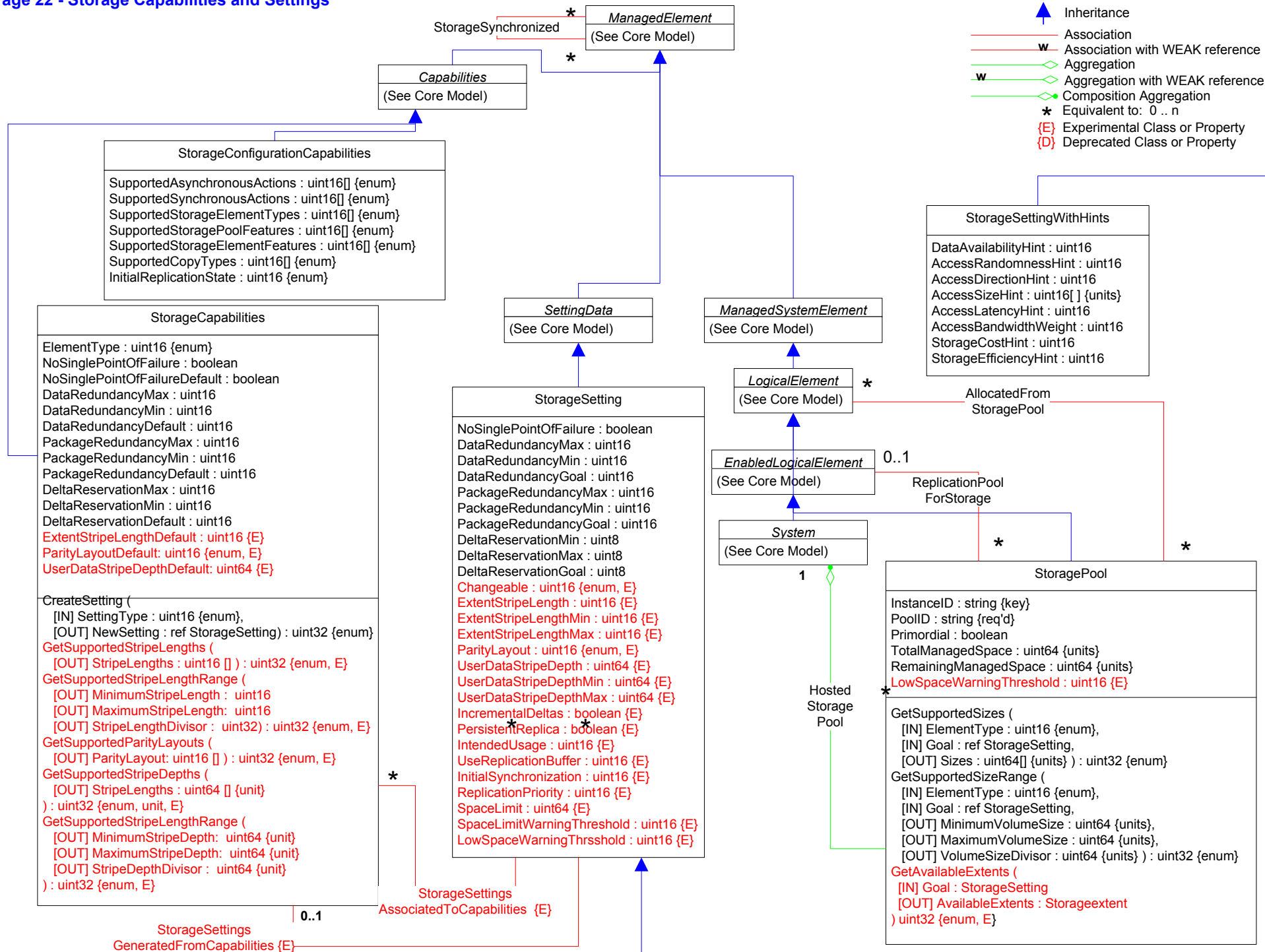
**StorageReplicationCapabilities (E)**





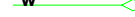




SupportedSynchronizationType : uint16 {enum}  
 SupportedAsynchronousActions[] : uint16 {enum}  
 SupportedSynchronousActions : uint16 {enum}  
 InitialReplicationState : uint16 {enum}  
 SupportedSpecializedElements[] : uint16 {enum}  
 SupportedModifyOperations[] : uint16 {enum}  
 ReplicationHostAccessibility : uint16 {enum}  
 HostAccessibleState[] : uint16 {enum}  
 SpaceLimitSupported : boolean  
 SpaceReservationSupported : boolean  
 LocalMirrorSnapshotSupported : boolean  
 RemoteMirrorSnapshotSupported : boolean  
 IncrementalDeltasSupported : boolean  
 PersistentReplicasSupported : boolean  
 BidirectionalConnectionsSupported : boolean  
 MaximumReplicasPerSource : uint16  
 MaximumPortsPerConnection : uint16  
 MaximumConnectionsPerPort : uint16  
 MaximumPeerConnections : uint16  
 MaximumLocalReplicationDepth : uint16  
 InitialSynchronizationDefault : uint16 {enum}  
 ReplicationPriorityDefault : uint16 {enum}  
 LowSpaceWarningThresholdDefault : uint8  
 SpaceLimitWarningThresholdDefault : uint8  
 RemoteReplicationServicePointAccess : uint16 {enum}  
 AlternateRemoteReplicationServicePointAccess : uint16 {enum}  
 DeltaReplicaPoolAccess : uint16 {enum}  
 RemoteBufferElementType : uint16 {enum}  
 RemoteBufferHost : uint16 {enum}  
 RemoteBufferLocation : uint16 {enum}  
 RemoteBufferSupported : uint16 {enum}  
 UseReplicationBufferDefault : uint16 {enum}  
 PeerConnectionProtocol : string

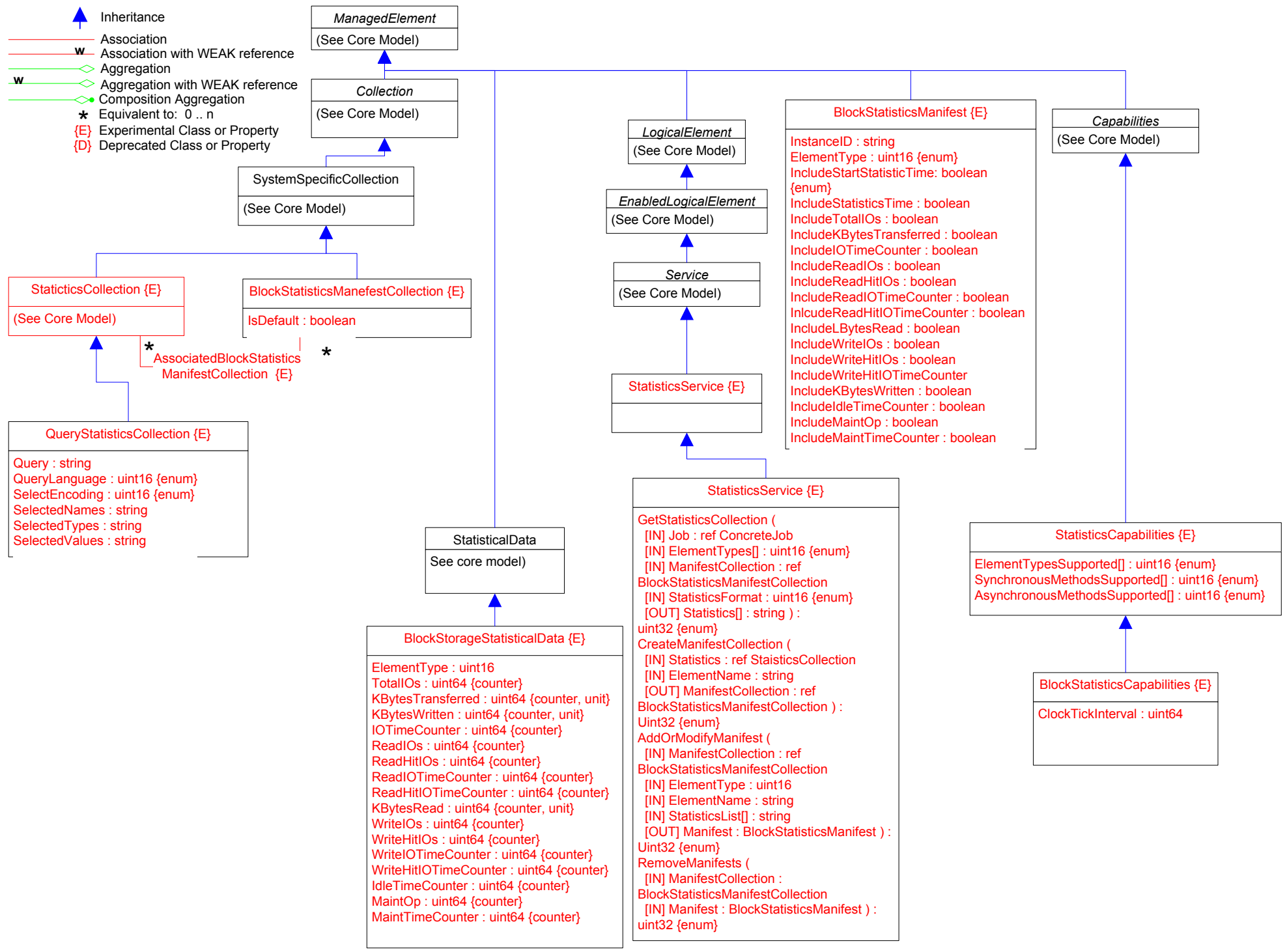
**StorageConfigurationService**

ProtocolControllerRequiresAuthorizedIdentity: boolean=false  
 Privileges[]: string  
 Identities[]: string

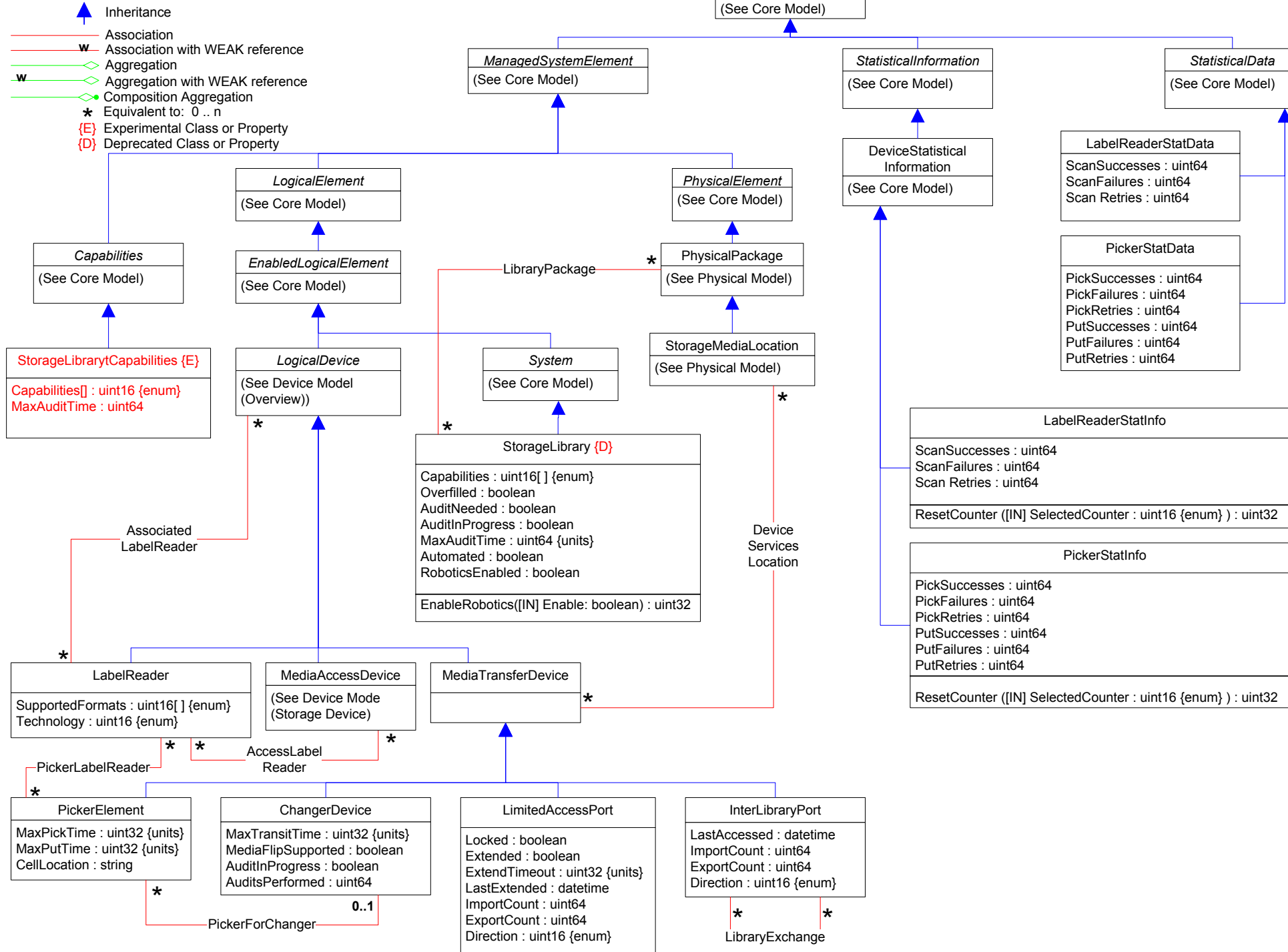
CreateOrModifyStoragePool ( [IN] ElementName : string, [OUT] Job : ref ConcreteJob, [IN] Goal : ref StorageSetting, [IN, OUT] Size : uint64 {units}, [IN] InPools : string[ ], [IN] InExtents : string[ ], [IN, OUT] Pool : ref StoragePool ) : uint32 {enum}  
 CreateOrModifyElementFromStoragePool ( [IN] ElementName : string, [IN] ElementType : uint16 {enum}, [OUT] Job : ref ConcreteJob, [IN] Goal : ref ManagedElement, [IN, OUT] Size : uint64 {units}, [IN] InPool : ref StoragePool, [IN, OUT] TheElement : ref LogicalElement ) : uint32 {enum}  
 DeleteStoragePool ( [OUT] Job : ref ConcreteJob, [IN] Pool : ref StoragePool ) : uint32 {enum}  
 ReturnToStoragePool ( [OUT] Job : ref ConcreteJob, [IN] TheElement : LogicalElement ) : uint32 {enum}  
 CreateReplica ( [IN] ElementName : string, [OUT] Job : ref ConcreteJob, [IN] SourceElement : ref LogicalElement, {req'd} [OUT] TargetElement : ref LogicalElement, [IN] TargetSettingGoal : ref StorageSetting, [IN] TargetPool : ref StoragePool, [IN] CopyType : uint16 {enum} ) : uint32 {enum}  
 ModifySynchronization ( [IN] Operation : uint16 {enum}, [OUT] Job : ref ConcreteJob, [IN] Synchronization : ref StorageSynchronized ) : uint32 {enum}  
 AttachReplica ( [OUT] Job : ref ConcreteJob, [IN] SourceElement : ref ManagedElement {req'd}, [IN] TargetElement : ref ManagedElement, [IN] CopyType : uint16 {enum} ) : uint32 {enum}  
 CreateOrModifyElementFromElements ( [IN] ElementName : string, [IN] ElementType : uint16 {enum}, [OUT] Job : ref ConcreteJob, [IN] Goal : ref ManagedElement, [IN, OUT] Size : uint64 {units}, [IN] InElements : ref StorageExtent [ ], [IN, OUT] TheElement : ref LogicalElement ) : uint32 {enum, E}  
 ScsiScan ( [OUT] Job : ref ConcreteJob, [IN] ConnectionType : uint16 {enum}, [IN] OtherConnectionType : string, [IN] Initiators : ref SCSIProtocolEndpoint[ ], [IN] Targets : string [ ], [IN] LogicalUints : string [ ] ) : uint32 {enum, E}  
 AttachOrModifyReplica ( [IN] Job : ref ConcreteJob, [IN] SourceElement : ref ManagedElement, [IN] TargetElement : ref ManagedElement, [IN] CopyType : uint16 {enum}, [IN] Goal : string, [IN] ReplicationPipe : NetworkPipe ) : uint32 {enum} {E}  
 CreateOrModifyReplicationPipe ( [IN] PipeElementName : string, [IN] PipeElementName : string, [IN] TargetSystem : ref ComputerSystem, [IN] SourceEndpoint[] : ref ProtocolEndpoint, [IN] TargetEndpoint[] : ref ProtocolEndpoint, [IN] Goal : string, [IN, OUT] ReplicationPipe : NetworkPipe ) : uint32 {enum} {E}  
 CreateReplicationBuffer ( [IN] Job : ref ConcreteJob, [IN] Host : ref ManagedElement, [IN] TargetElement : ref StorageExtent, [IN] TargetPool : ref StoragePool, [OUT] ReplicaBuffer : ref Memory ) : uint32 {enum} {E}



-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0..n
-  {E} Experimental Class or Property
-  {D} Deprecated Class or Property












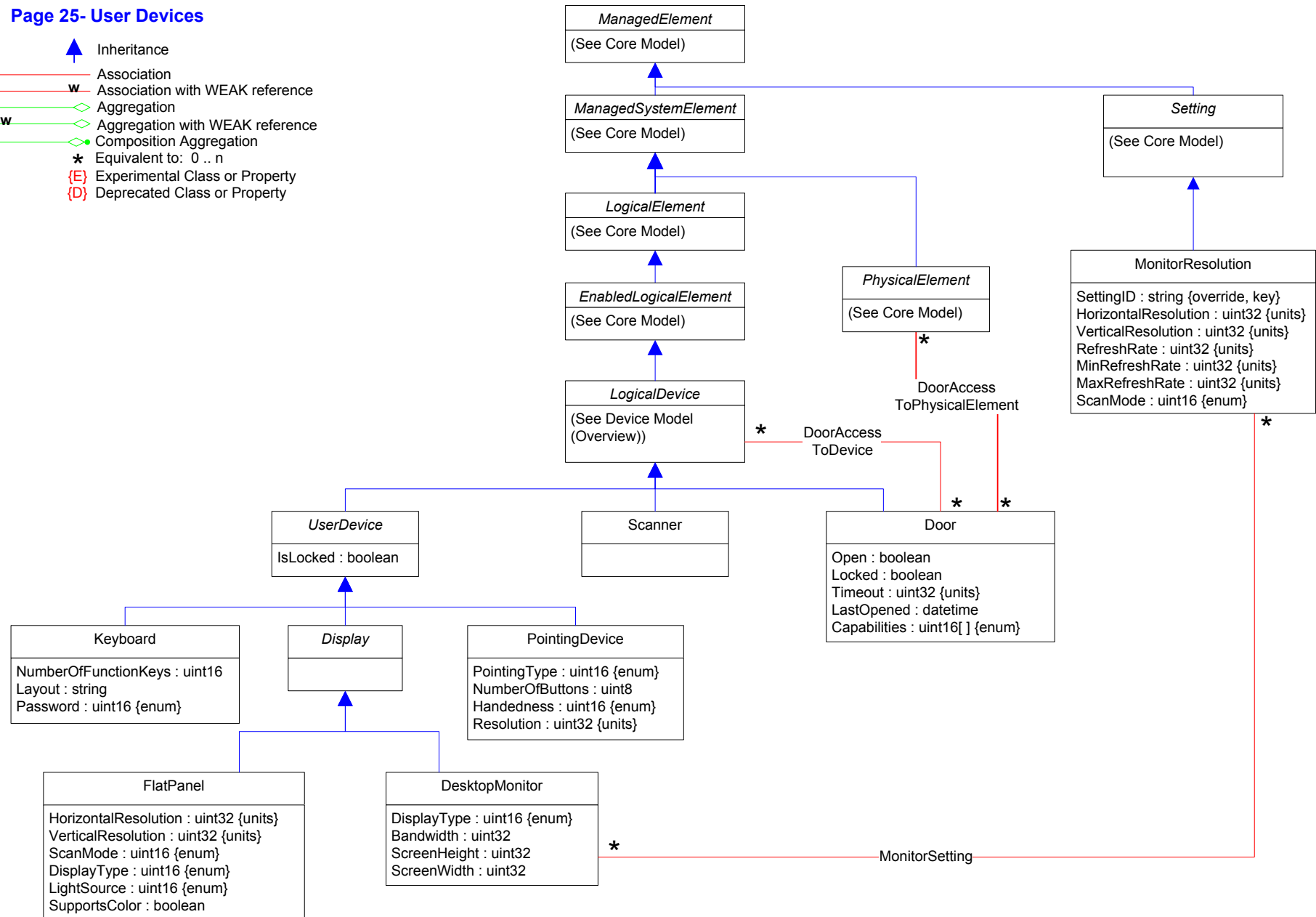
Page 24- Storage Library












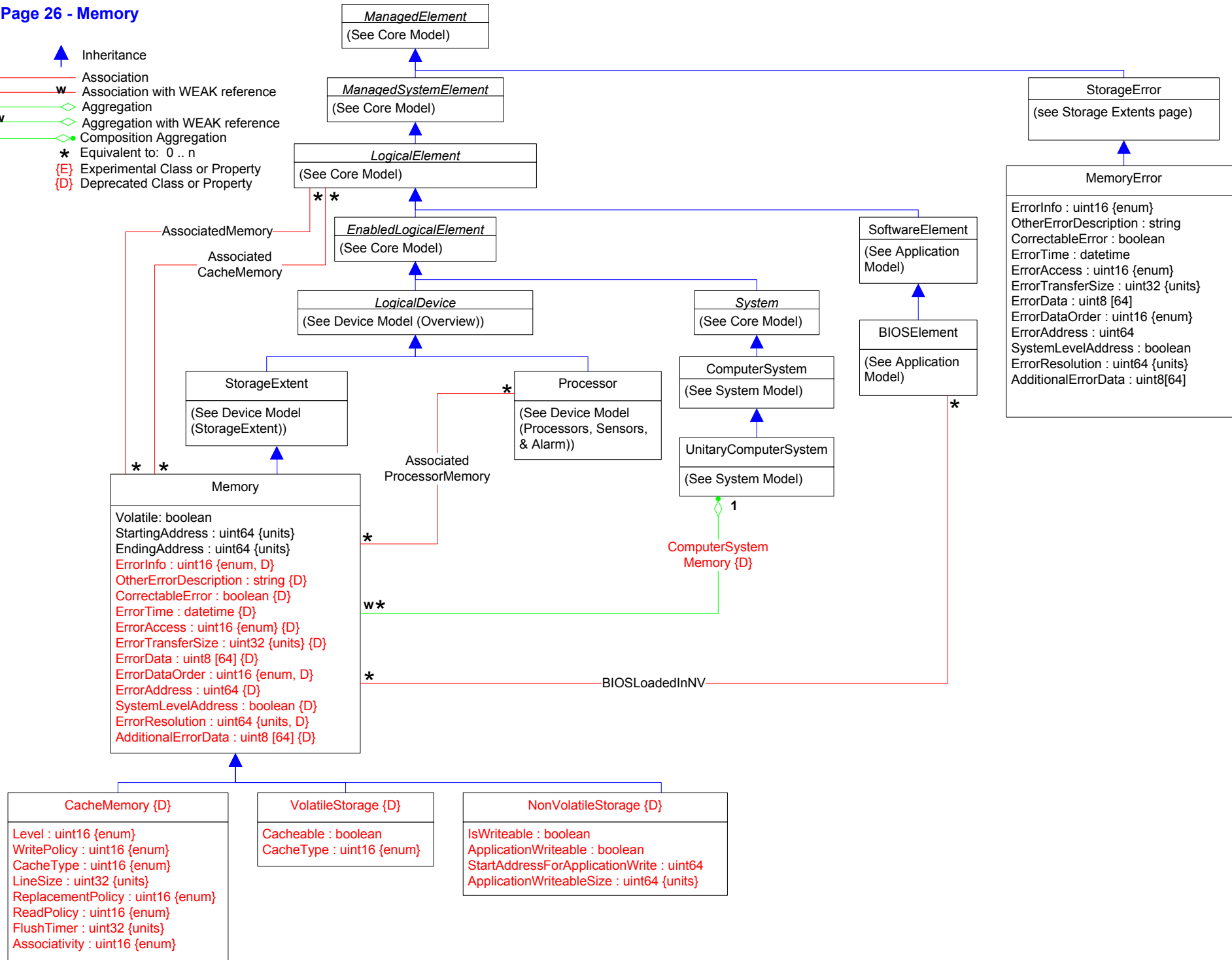


Page 25- User Devices

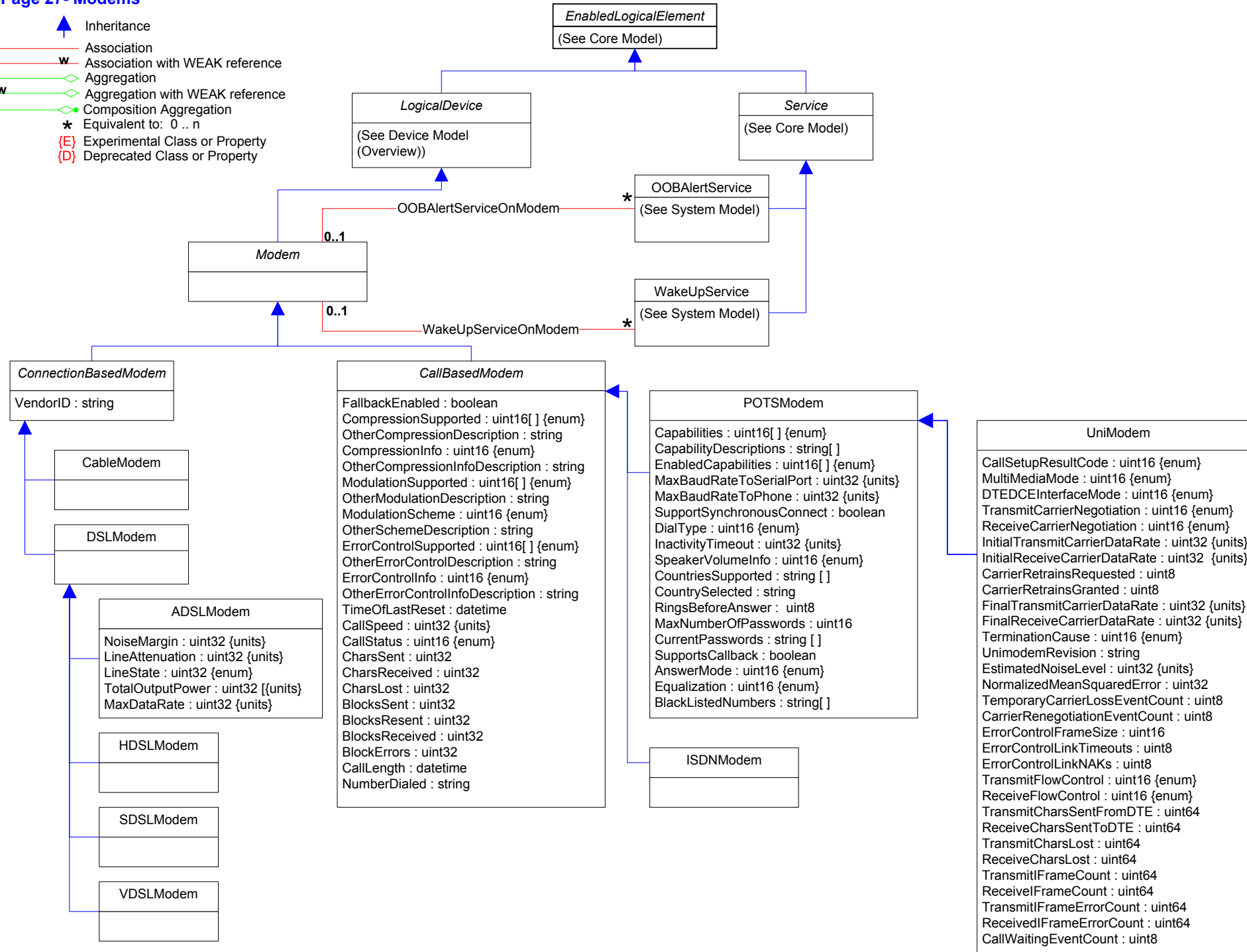
-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0 .. n
-  Experimental Class or Property
-  Deprecated Class or Property



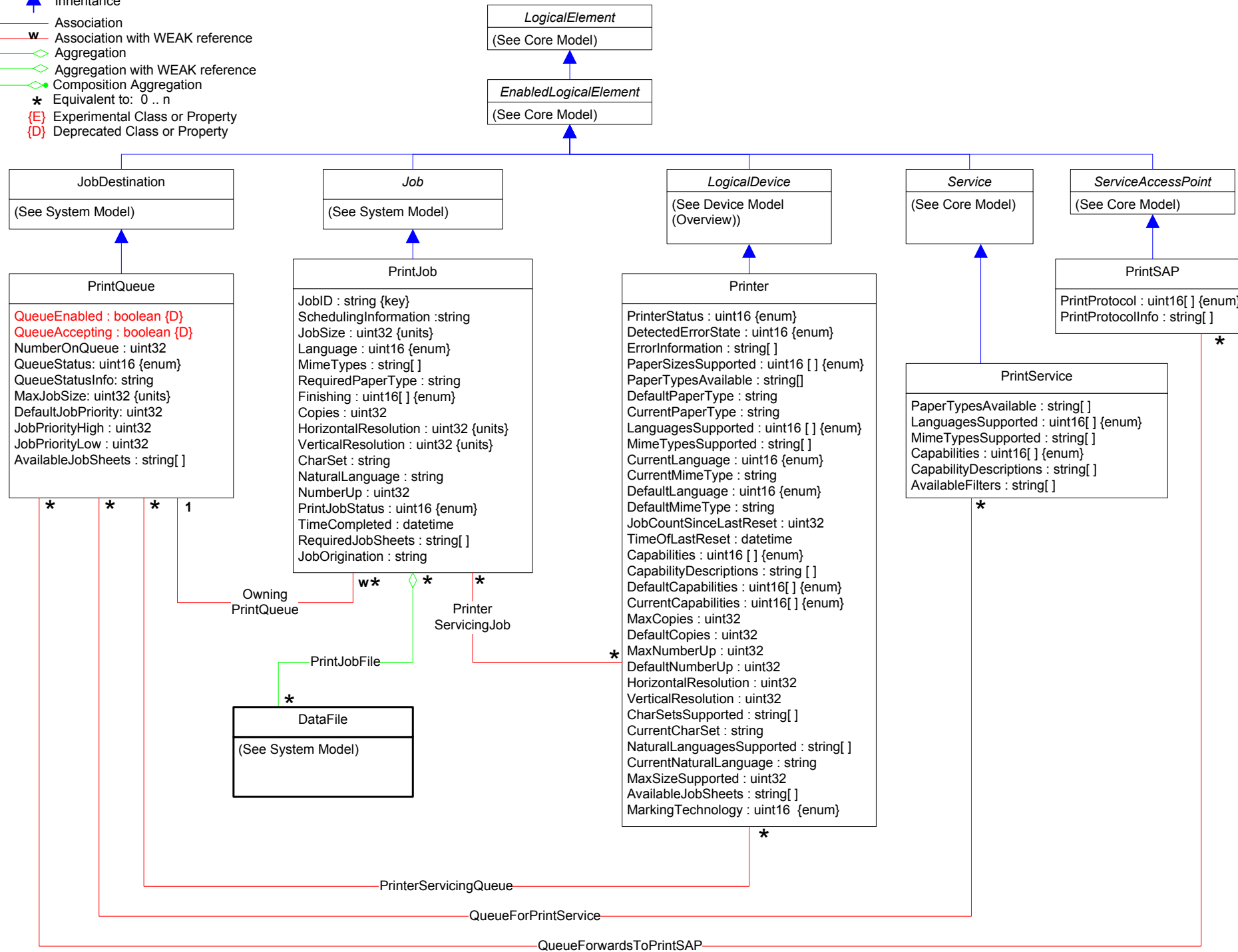
-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0..n
-  Experimental Class or Property
-  Deprecated Class or Property












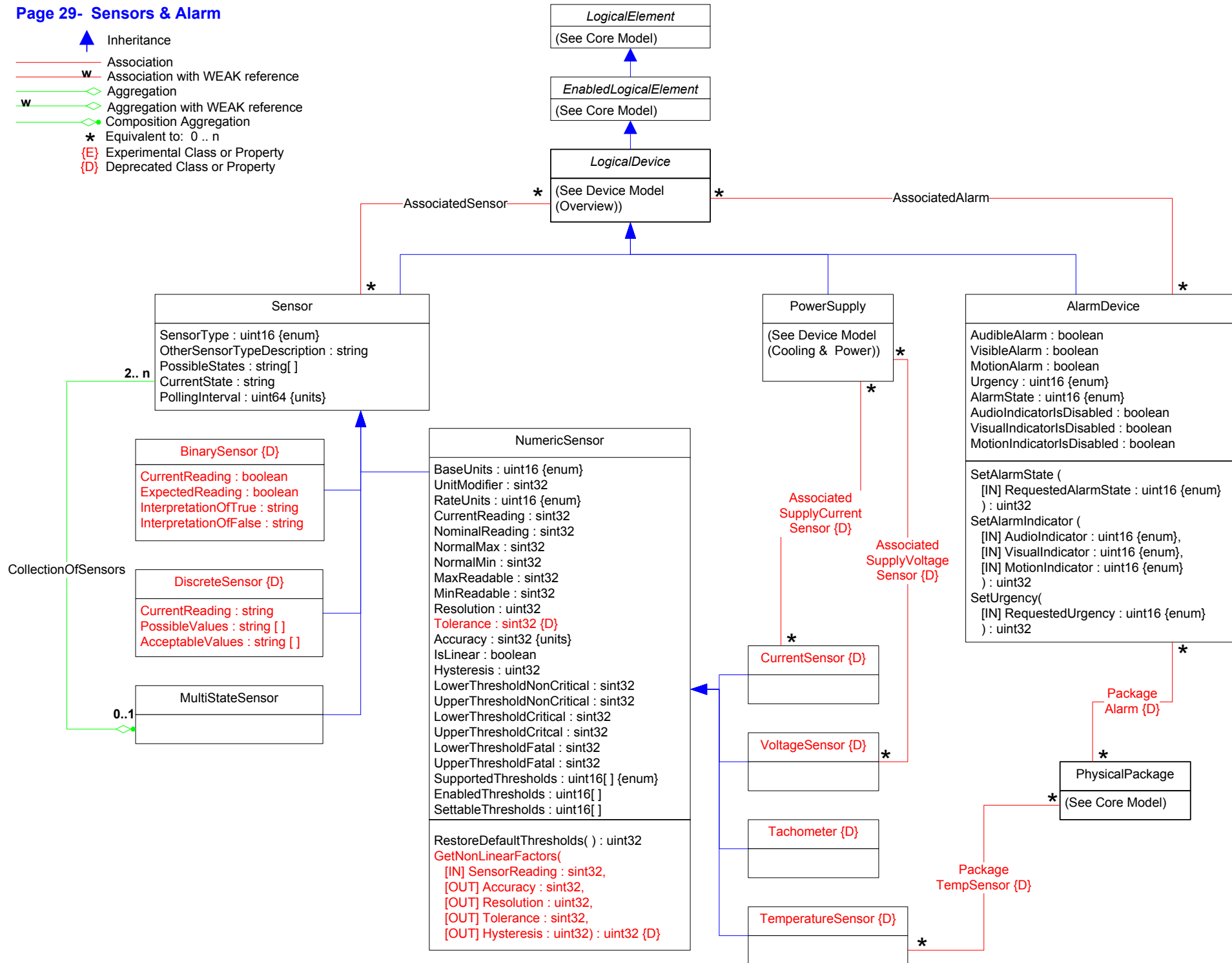
- ▲ Inheritance
- Association
- w Association with WEAK reference
- ◇ Aggregation
- w◇ Aggregation with WEAK reference
- ◇ Composition Aggregation
- ★ Equivalent to: 0..n
- {E} Experimental Class or Property
- {D} Deprecated Class or Property










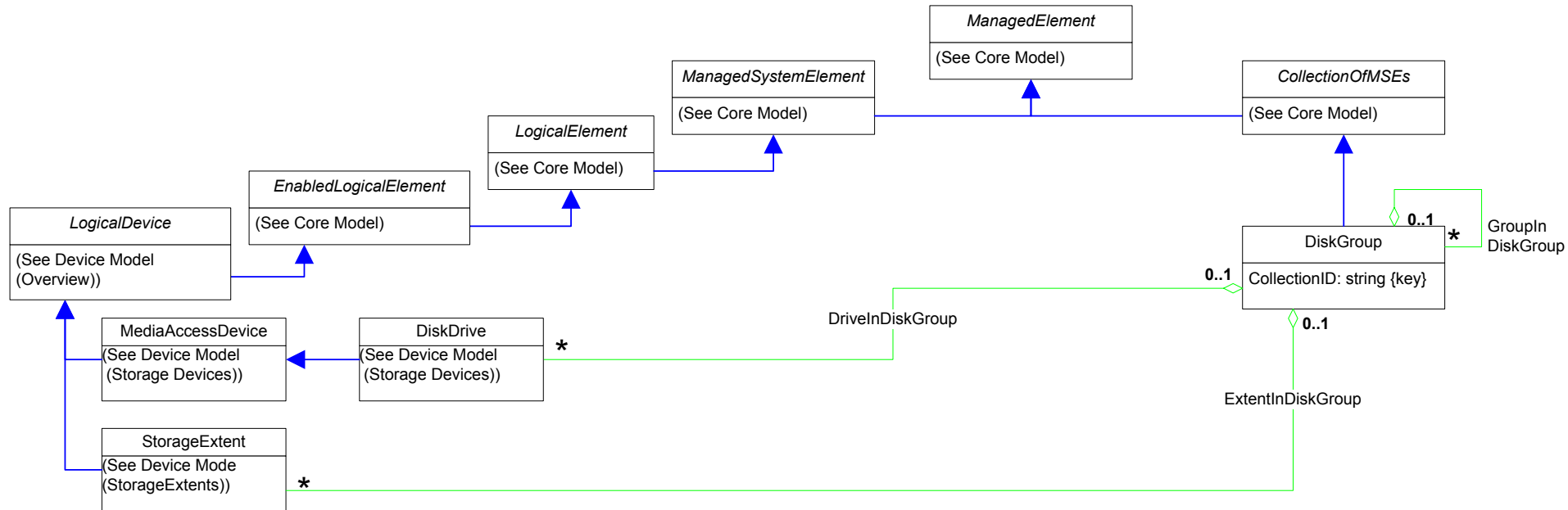
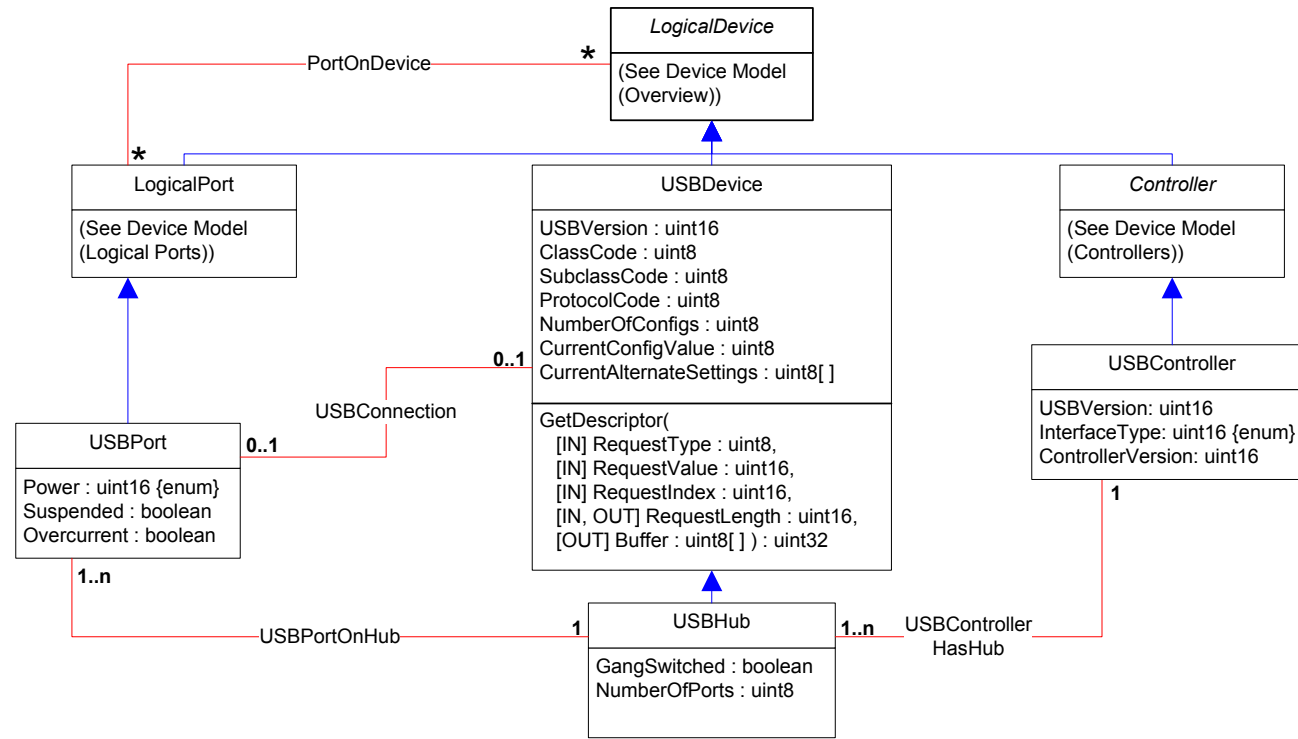
- ▲ Inheritance
- Association
- w Association with WEAK reference
- ◇ Aggregation
- w◇ Aggregation with WEAK reference
- ◇ Composition Aggregation
- \* Equivalent to: 0..n
- {E} Experimental Class or Property
- {D} Deprecated Class or Property










-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0 .. n
-  Experimental Class or Property
-  Deprecated Class or Property

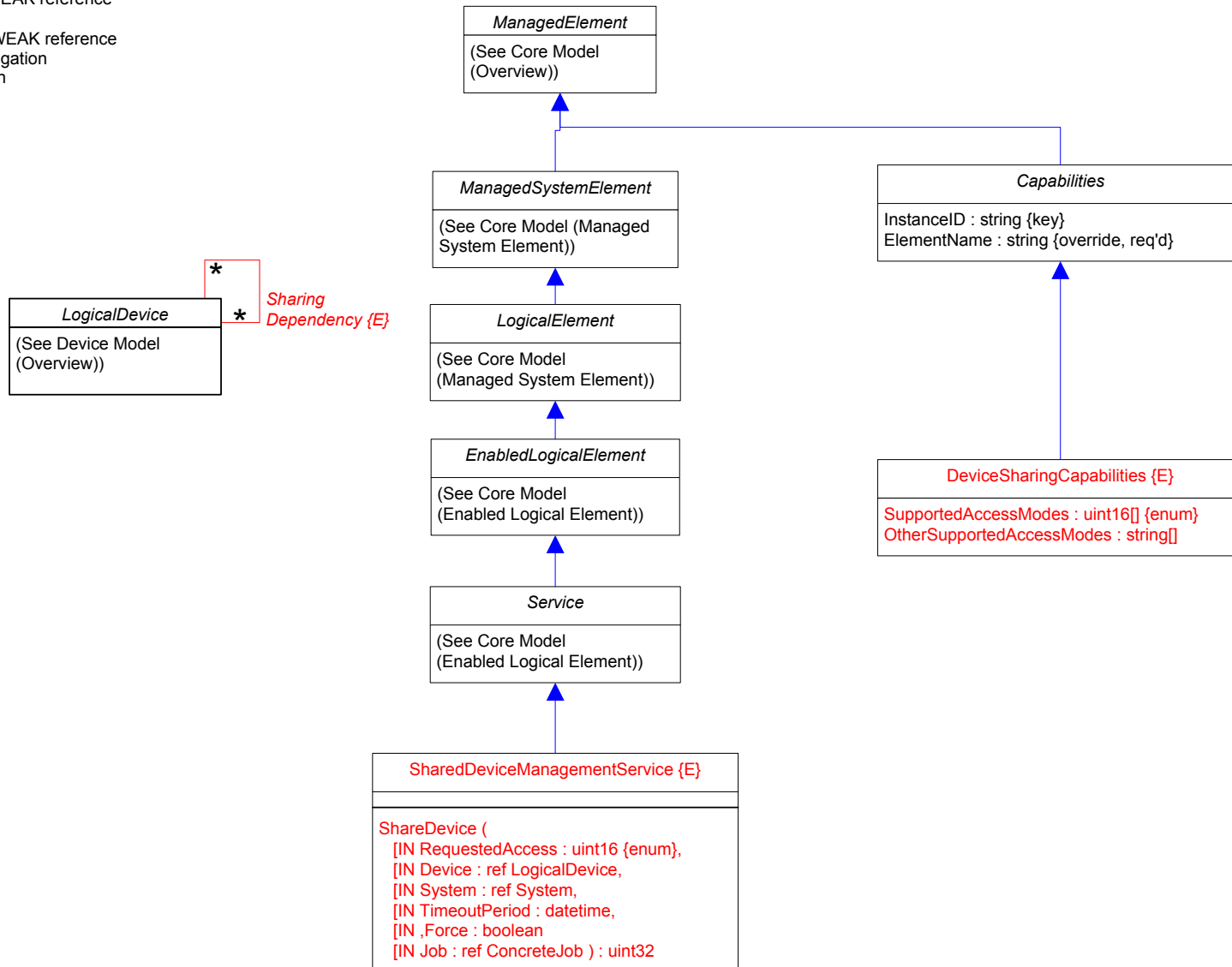


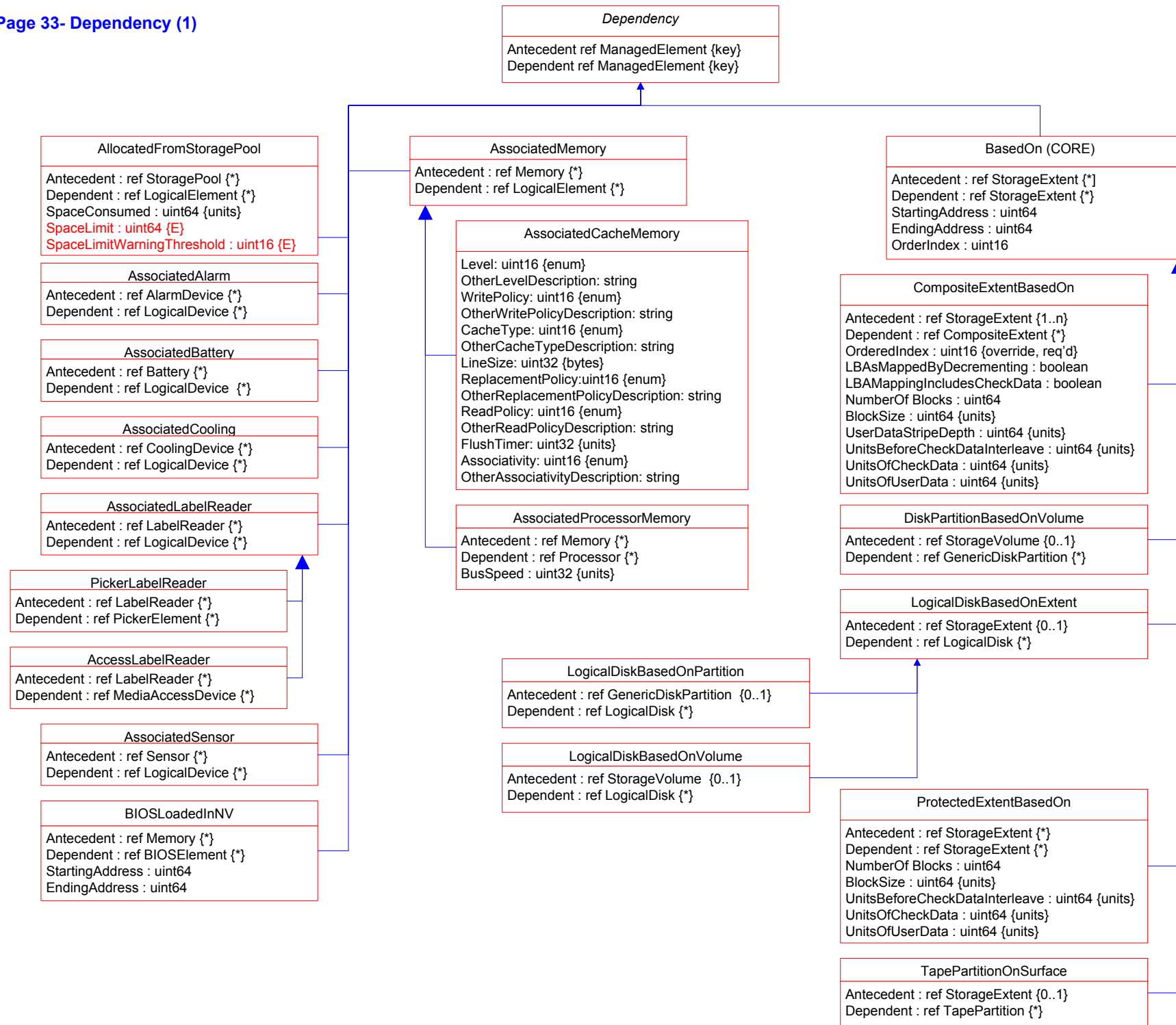
-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0 .. n



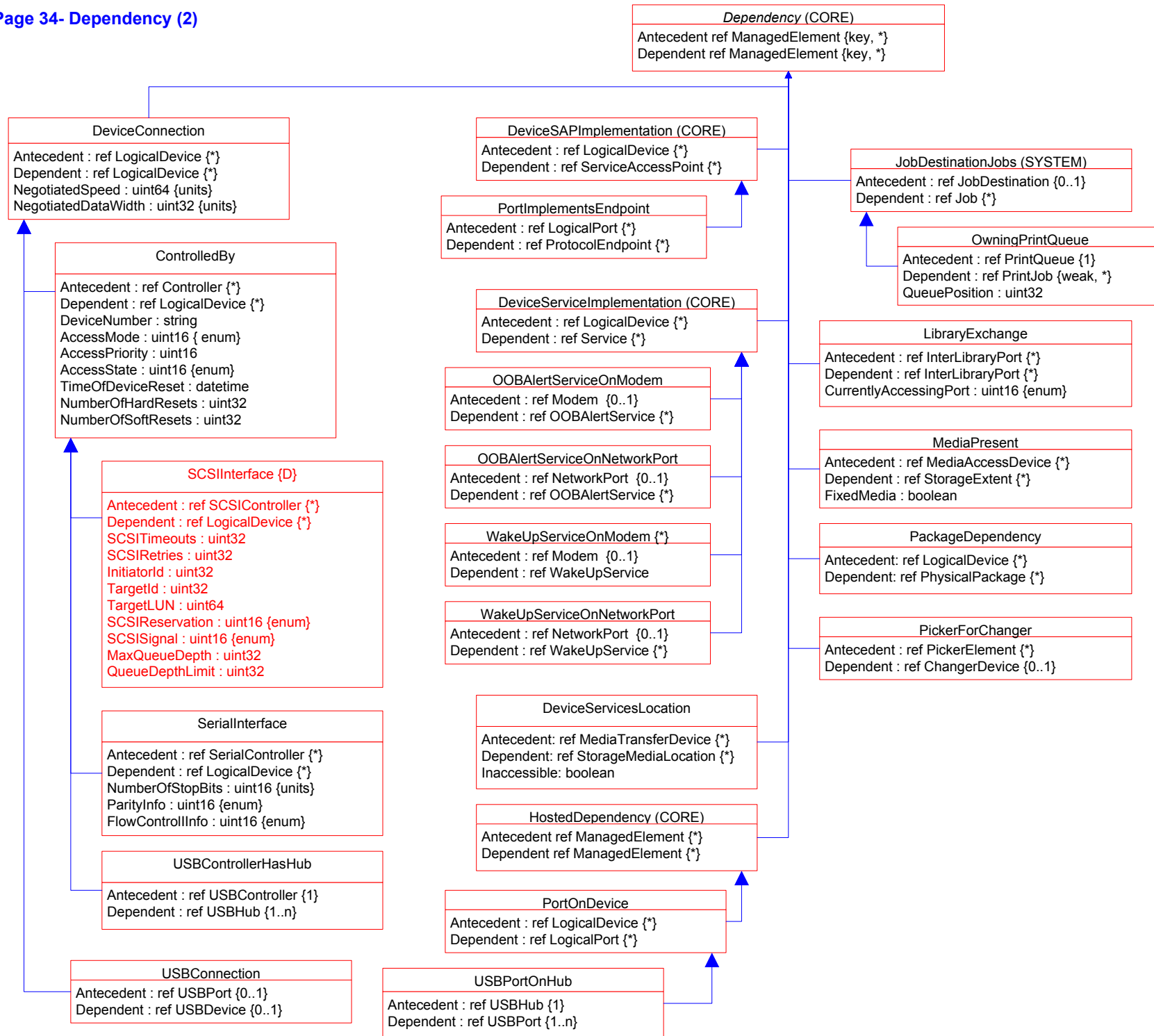
Page 32- Device Sharing

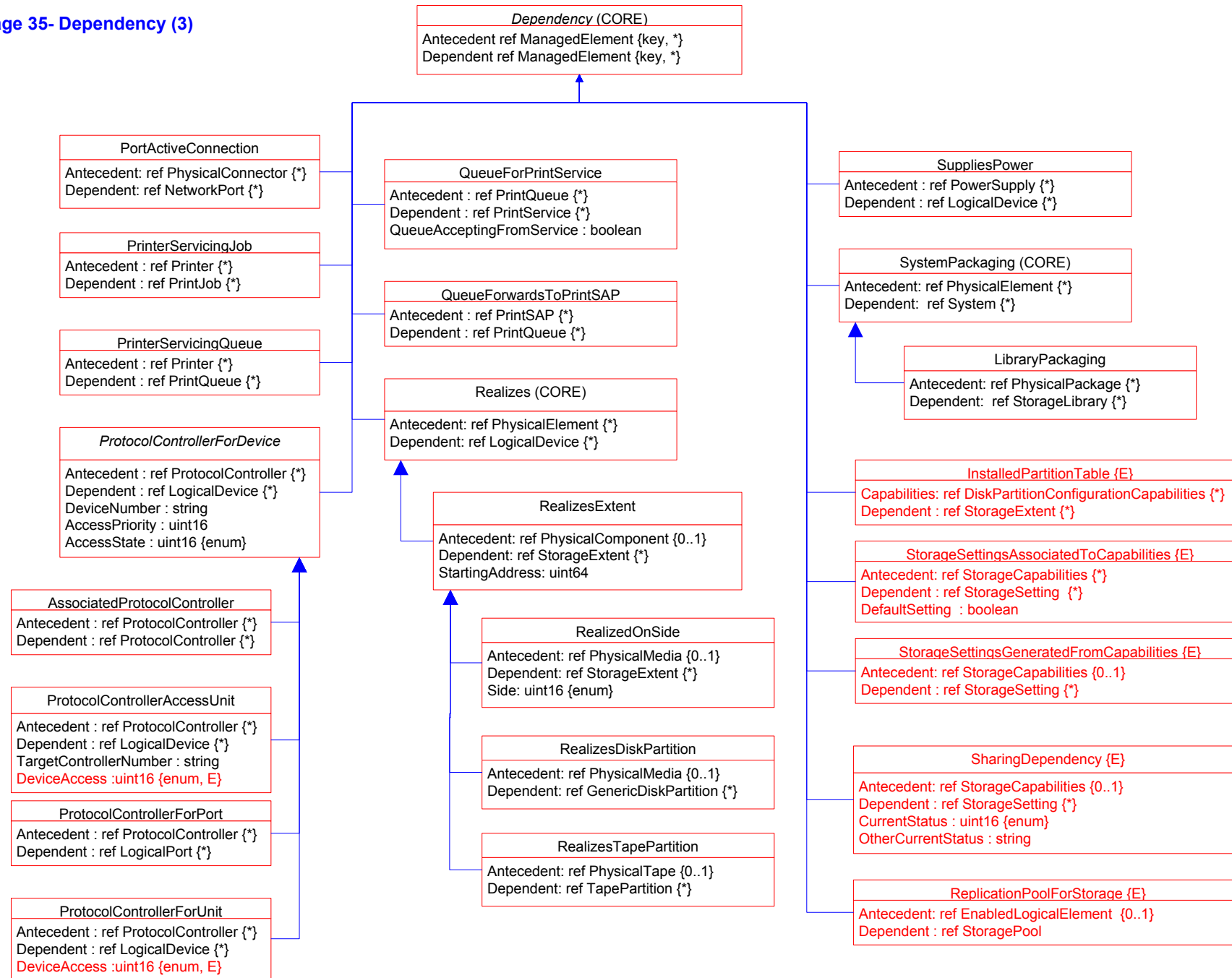
-  Inheritance
-  Association
-  Association with WEAK reference
-  Aggregation
-  Aggregation with WEAK reference
-  Composition Aggregation
-  Equivalent to: 0..n



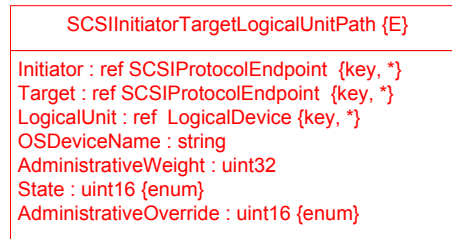
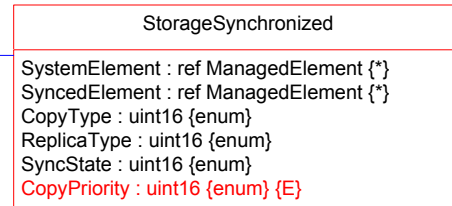
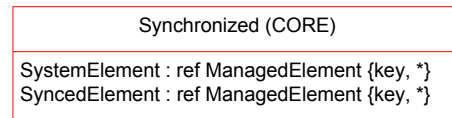
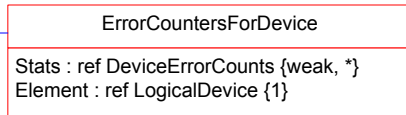
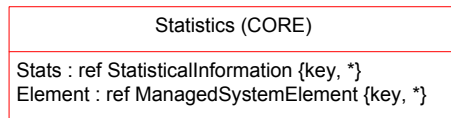
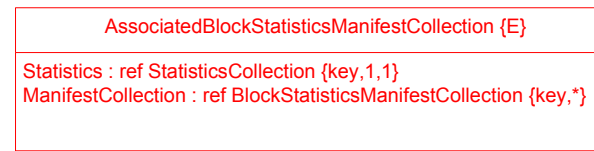
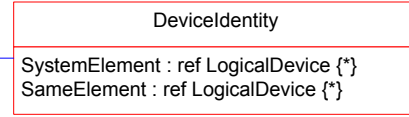
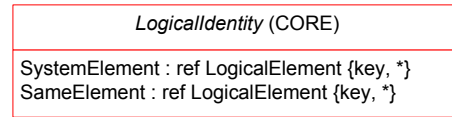
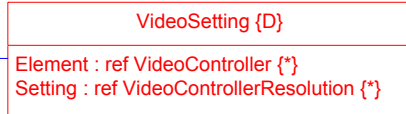
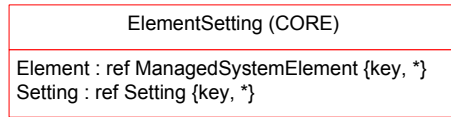


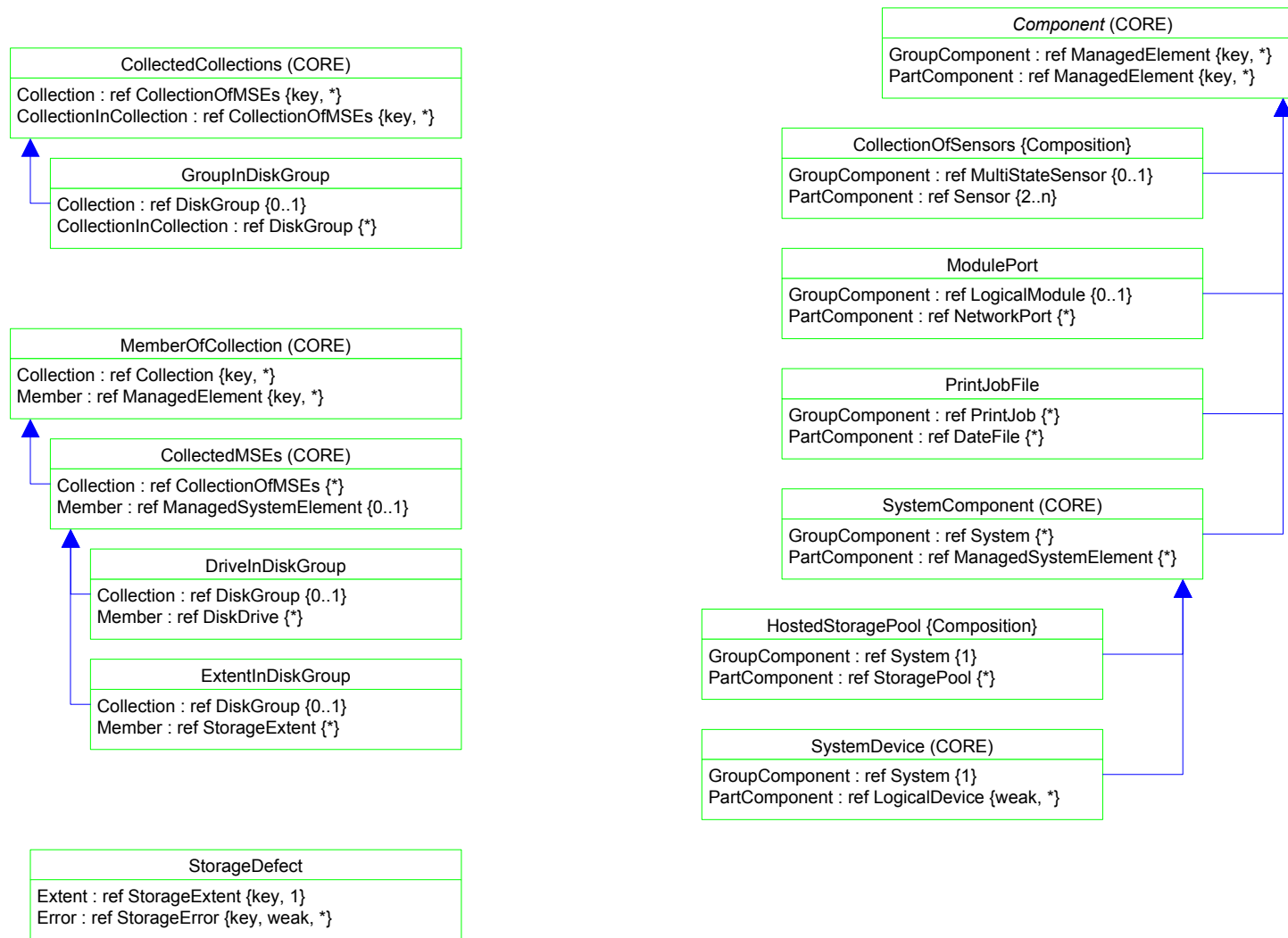


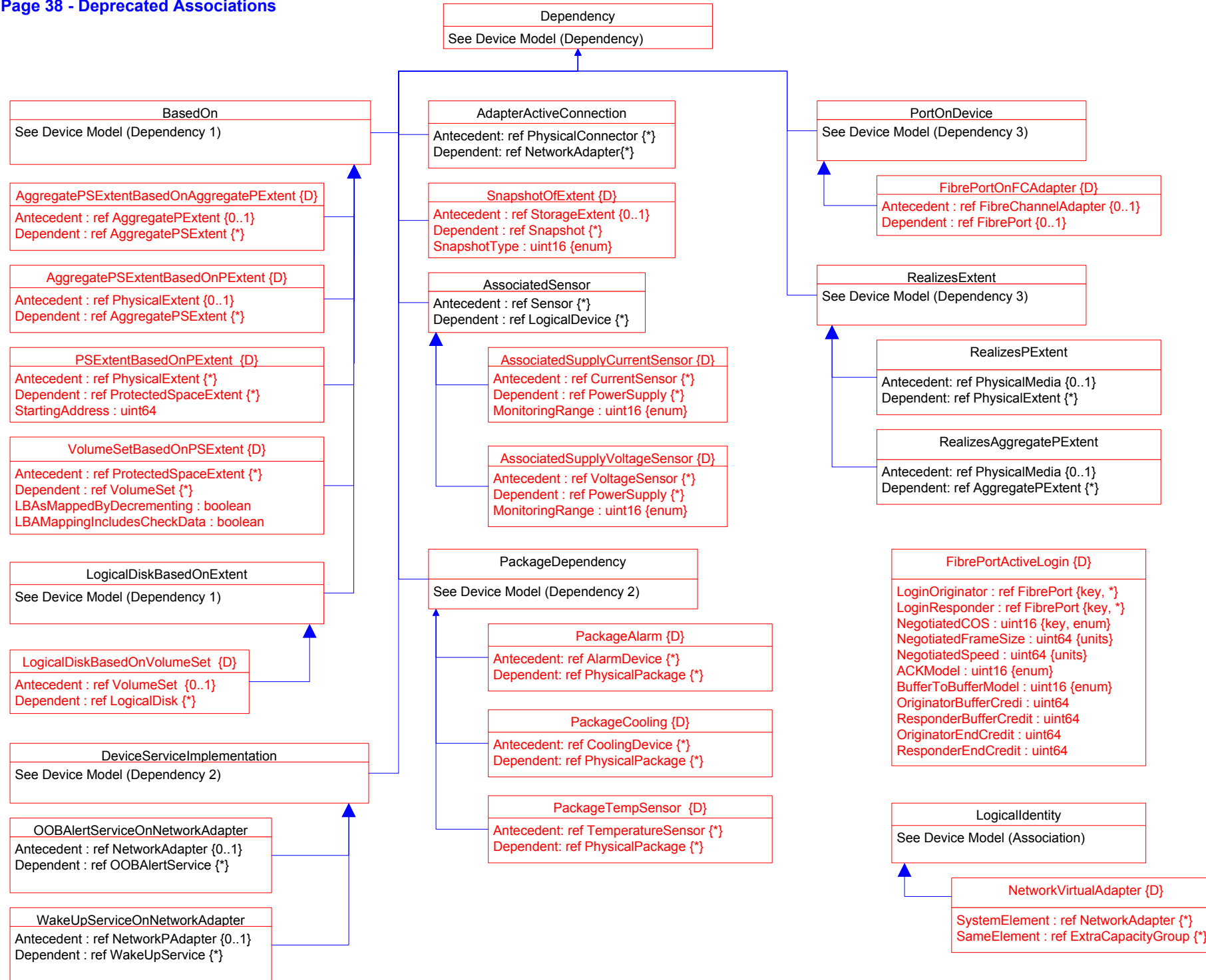




Page 36- Association Hierarchy







Page 39 - Deprecated Aggregations

