16.7   TimeSynchronization Service

The TimeSynchronization service is used by a requesting BACnet-user to notify a remote device of the correct current time. This service may be broadcast, multicast, or addressed to a single recipient. Its purpose is to notify recipients of the correct current time so that devices may synchronize their internal clocks with one another.

16.7.1   Structure

The structure of the TimeSynchronization service primitive is shown in Table 16-7. The terminology and symbology used in this table are explained in 5.6.

Table 16-7. Structure of TimeSynchronization Service Primitive

Parameter Name	Req	Ind
Argument	M	M(=)
Time	M	M(=)

16.7.1.1   Argument

The 'Argument' parameter shall convey the parameters for the TimeSynchronization service request.

16.7.1.1.1   Time

This parameter, of type BACnetDateTime, shall convey the current date and time as determined by the clock in the device issuing the service request.

16.7.2   Service Procedure

Since this is an unconfirmed service, no response primitives are expected. A device receiving a TimeSynchronization service indication shall update its local representation of time. This change shall be reflected in the Local_Time and Local_Date properties of the Device object.

No restrictions on the use of this service exist when it is invoked at the request of an operator. Otherwise, the use of this service is controlled by the value of the Time_Synchronization_Recipients property in the Device object. When the Time_Synchronization_Recipients list is of length zero, a device may not automatically send a TimeSynchronization request. When Time_Synchronization_Recipients list is of length one or more, a device may automatically send a TimeSynchronization request but only to the devices or addresses contained in the Time_Synchronization_Recipients list.

16.8   UTCTimeSynchronization Service

The UTCTimeSynchronization service is used by a requesting BACnet-user to notify one or more remote devices of the correct Universal Time Coordinated (UTC). This service may be broadcast, multicast, or addressed to a single recipient. Its purpose is to notify recipients of the correct UTC so that devices may synchronize their internal clocks with one another.

16.8.1   Structure

The structure of the UTCTimeSynchronization service primitive is shown in Table 16-8. The terminology and symbology used in this table are explained in 5.6.

Table 16-8. Structure of UTCTimeSynchronization Service Primitive

Parameter Name	Req	Ind
Argument	M	M(=)
Time	M	M(=)

16.8.1.1   Argument

The 'Argument' parameter shall convey the parameters for the UTCTimeSynchronization service request.

16.8.1.1.1   Time

This parameter, of type BACnetDateTime, shall convey the UTC date and time.

16.8.2   Service Procedure

Since this is an unconfirmed service, no response primitives are expected. A device receiving a UTCTimeSynchronization service indication shall update its local representation of time and date by subtracting the value of the 'UTC_Offset' property of the Device object from the 'Time' parameter and taking the 'Daylight_Savings_Status' property of the Device object into account as appropriate to the locality. This change shall be reflected in the Local_Time and Local_Date properties of the Device object.

No restrictions on the use of this service exist when it is invoked at the request of an operator. Otherwise, the initiation of this service by a device is controlled by the value of the Time_Synchronization_Recipients property in the Device object. When the Time_Synchronization_Recipients list is of length zero, a device may not automatically send a TimeSynchronization request. When Time_Synchronization_Recipients list is of length one or more, a device may automatically send a UTCTimeSynchronization request but only to the devices or addresses contained in the Time_Synchronization_Recipients list.