

**BACnet Errata**  
**ANSI/ASHRAE STANDARD 135-2010**  
**A Data Communication Protocol for Building Automation and Control Networks**

January 25, 2012

This document lists all known **errata** to ANSI/ASHRAE 135-2010 as of the above date. Each entry is cited first by clause, then page number, except where an erratum covers more than one clause. The outside back cover marking identifying the first printing of Standard 135-2010 is "Product Code: 86440 3/11".

Changes are indicated by using ~~strikeout~~ for text to be removed and **italics** for text to be added.

- 1) **Clause 20.1.2.11**, p.541. There is an extra "|" in the PDU Type field.

Replace

<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>
PDU	Type		SEG	MOR	SA	0	
<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>

With

<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>
PDU	Type		SEG	MOR	SA	0	
<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>	<del>---</del>

- 2) **Table 14-1**, p. 461. The "Requested Record Count" parameter should be aligned with "File Start Record".

**Table 14-1. Structure of AtomicReadFile Service Primitives**

Parameter Name	Req	Ind	Rsp	Cnf
Argument	M	M(=)		
File Identifier	M	M(=)		
Stream Access	S	S(=)		
File Start Position	M	M(=)		
Requested Octet Count	M	M(=)		
Record Access	S	S(=)		
File Start Record	M	M(=)		
<del>Requested Record Count</del>	<del>M</del>	<del>M(=)</del>		
<i>Requested Record Count</i>	<i>M</i>	<i>M(=)</i>		
...			...	...

- 3) **Clause 12.48**, p. 393. The description of the Date Pattern Value Object incorrectly mentions "time".

**12.48 Date Pattern Value Object Type**

...

Date Pattern objects can be used to represent multiple recurring dates ~~and times~~ based on rules defined by the pattern of individual fields of the date ~~and time~~, some of which can be special values like "even months", or "don't care", which matches any value in that field. Examples of possibilities would be: "every Thursday in May of any year", or "every day in May 2009".

- 4) **Clauses 13.5.1.2 through 13.5.1.7**, p. 435. These clauses should be numbered as subclauses of the preceding clause 'Argument'.

- 5) **Clause 13.5.1.10**, p. 436. This clause should be numbered as a subclause of the preceding clause, 'Result(-)'.

- 6) **Clauses 13.6.1.2 through 13.6.1.6**, p. 437. These clauses should be numbered as subclauses of the preceding clause 'Argument'.

- 7) **Clauses 13.7.1.2 through 13.7.1.6**, p. 438. These clauses should be numbered as subclauses of the preceding clause 'Argument'.
- 8) **Clauses 13.8.1.2 through 13.8.1.14**, p. 440. These clauses should be numbered as subclauses of the preceding clause 'Argument'.
- 9) **Clauses 13.9.1.2 through 13.9.1.14**, p. 443. These clauses should be numbered as subclauses of the preceding clause 'Argument'.
- 10) **Clauses 13.14.1.2 through 13.14.1.5**, p. 454. These clauses should be numbered as subclauses of the preceding clause 'Argument'.
- 11) **Clauses 13.15.1.2 through 13.15.1.7**, p. 457. These clauses should be numbered as subclauses of the preceding clause 'Argument'.
- 12) **Clause 16.6.1**, p. 499. The 'Argument' parameter should have its own clause heading, 16.6.1.1.

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

#### **16.6.1.1 Argument**

*This parameter shall convey the parameters for the UnconfirmedTextMessage service request.*

- 13) **Clauses 16.6.1.1 through 16.6.1.4**, p. 499. These clauses should be numbered as subclauses of the preceding clause 'Argument' (given a clause number by the preceding erratum).
- 14) **Clause 5.4.4.2**, p. 30. The SegmentedComplexACK\_Received transition is missing an obvious instruction to save the segment.

#### **5.4.4.2 SEGMENTED\_REQUEST**

...

##### **SegmentedComplexACK\_Received**

If a BACnet-ComplexACK-PDU that has sufficient security parameters is received from the network layer whose 'segmented-message' parameter is TRUE and whose 'sequence-number' parameter is zero and this device supports segmentation and SentAllSegments is TRUE,

then *save the BACnet-ComplexACK-PDU segment*; stop SegmentTimer; compute ActualWindowSize based on the 'proposed-window-size' parameter of the received BACnet-ComplexACK-PDU and on local conditions; issue an N-UNITDATA.request with 'data\_expecting\_reply' = FALSE to transmit a BACnet-SegmentACK-PDU with 'negative-ACK' = FALSE, 'server' = FALSE, and 'actual-window-size' = ActualWindowSize; start SegmentTimer; set LastSequenceNumber to zero; set InitialSequenceNumber to zero; set DuplicateCount to zero; and enter the SEGMENTED\_CONF state to receive the remaining segments. (The method used to determine ActualWindowSize is a local matter, except that the value shall be less than or equal to the 'proposed-window-size' parameter of the received BACnet-ComplexACK-PDU and shall be in the range 1 to 127, inclusive.)

- 15) **Clause 5.4.5.1**, p. 35. The ConfirmedSegmentedReceived transition is missing an obvious instruction to save the segment.

#### **5.4.5.1 IDLE**

...

##### **ConfirmedSegmentedReceived**

If a BACnet-Confirmed-Request-PDU whose 'segmented-message' parameter is TRUE, whose 'sequence-number' parameter is zero, and whose 'proposed-window-size' is greater than zero and less than or equal to 127 is received from the network layer and the local device supports the reception of segmented messages,

then *save the BACnet-ComplexACK-PDU segment*; compute ActualWindowSize based on the 'proposed-window-size' parameter of the received BACnet-Confirmed-Request-PDU and on local conditions; issue an N-UNITDATA.request with 'data\_expecting\_reply' = FALSE to transmit a BACnet-SegmentACK-PDU with 'negative-ACK' = FALSE, 'server' = TRUE, and 'actual-window-size' = ActualWindowSize; start SegmentTimer; set LastSequenceNumber to zero; set InitialSequenceNumber to zero; set DuplicateCount to zero; and enter the SEGMENTED\_REQUEST state to receive the remaining segments. (The method used to determine ActualWindowSize is a local matter, except that the value shall be less than or equal to the 'proposed-window-size' parameter of the received BACnet-Confirmed-Request-PDU and shall be in the range 1 to 127, inclusive.)

- 16) **Clause 12.49.13**, p. 403. The APDU\_Timeout property is incorrectly called Max\_APDU\_Timeout.

**12.49.13 Update\_Key\_Set\_Timeout**

This property, of type Unsigned16, indicates the maximum amount of time, in milliseconds, that the device will take to respond to an Update-Key-Set message. This value added to the device ~~Max\_APDU\_Timeout~~ *APDU\_Timeout* results in the amount of time that a Key Server shall wait for a Security-Response for an Update-Key-Set message. The use of ~~Max\_APDU\_Timeout~~ *APDU\_Timeout* is to allow for network delay; whereas the Update\_Key\_Set\_Timeout provides for the actual time the device will need to apply the keys to its key set.

- 17) **Clause K.1.1**, p. 848. The clause title, for some inexplicable reason, says "BLAH".

**K.1.1 BIBB - Data Sharing - ReadProperty-A (DS-RP-A) BLAH**

- 18) **Table L.7**, p. 881. The B-OD is missing the requirement for AE-N-A which is required by AE-VN-A.

Alarm & Event Management

B-AWS	B-OWS	B-OD	B-BC	B-AAC	B-ASC	B-SA	B-SS
AE-N-A	AE-N-A	<i>AE-N-A</i>	AE-N-I-B	AE-N-I-B			
AE-ACK-A	AE-ACK-A		AE-ACK-B	AE-ACK-B			
			AE-INFO-B	AE-INFO-B			
			AE-ESUM-B				
AE-AS-A	AE-AS-A						
AE-AVM-A	AE-VM-A						
AE-AVN-A	AE-VN-A	AE-VN-A					
AE-ELVM-A <sup>2</sup>							

- 19) **Table K.5**, p. 854. The Event Enrollment, Program, and Accumulator objects do not have a Present\_Value property and should be stricken from this table.

**Table K-5. Standard Properties That DS-M-A Devices Shall Be Capable of Writing**

Analog Objects, Binary Objects, Accumulator, Averaging, Loop, Multi-state Objects, Pulse Converter	Command, Event Enrollment, Program	Pulse Converter	Program	Accumulator	Loop
Present_Value Out_Of_Service	Present_Value	Adjust_Value	Program_Change	Value_Before_Change Value_Set Pulse_Rate	Setpoint

- 21) **Clause 21**, p. 627. BACnetShedLevel and BACnetShedState should be moved to the correct alphabetical position after BACnetSetpointReference.

- 22) **Clause 21**, p. 619. Some property identifiers are missing from the numerical order listing.

**BACnetPropertyIdentifier** ::= ENUMERATED { -- see below for numerical order

- ...
- -numerical order reference
- see *acked-transitions* (0),
- see *ack-required* (1),
- ...
- see *valid-samples* (146),
- see *window-interval* (147),
- see *window-samples* (148),
- see *maximum-value-timestamp* (149),
- ...

23) **Clause 21**, p. 619. *percent-relative-humidity* is out of order numerically.

**BACnetEngineeringUnits** ::= ENUMERATED { -- See below for numerical order

- ...
- see *cycles-per-minute* (26),
- ~~see *percent relative humidity* (29),~~
- see *hertz* (27),
- see *grams-of-water-per-kilogram-dry-air* (28),
- see *percent-relative-humidity* (29),
- see *millimeters* (30),

24) **Clause 21**, p. 571. *DeviceCommunicationControl-Request* should be move to its locally alphabetical position under *ConfirmedTextMessage-Request* on p. 572.

25) **Clause N.8.7**, p. 892. As indicated elsewhere, the *DisplayName* attribute is optional.

**N.8.7 DisplayName**

This ~~required~~ *optional* attribute is a string of printable characters ...

26) **HISTORY OF REVISIONS**, p. 997. The history is missing some entries.

Protocol		Summary of Changes to the Standard
Version	Revision	
...	...	...
1	7	<b>ANSI/ASHRAE 135-2008</b> A consolidated version of the standard that incorporates all of the known errata and Addenda <i>a, b, c, d, e, f</i> and <i>m</i> to ANSI/ASHRAE 135-2004.
1	7	<b>EN ISO 16484-5 2010</b> <i>This ISO standard contains the same technical content as Version 1 Revision 7 of ANSI/ASHRAE Standard 135-2008. It also includes all errata approved as of May 6, 2009.</i>
...	...	...

27) **Clause 21**, p. 580-582. In the numerical order section of the Error production, "missing required-parameter" should be "missing-required-parameter" and "register- foreign-device-failed" should be "register-foreign-device-failed".

28) **Clause 20.2.15**, p. 558. The encoded data is incorrect. Thursday should be X'04'.

Example: Context-tagged date value

ASN.1 = [9] Date  
Value = January 24, 1991 (Day of week = Thursday)

135-2010 Errata

Context Tag = 9  
Encoded Tag = X'9C'  
Encoded Data = ~~X'5B011805'~~ X'5B011804'