

**INTERPRETATION IC 135-2008-21 OF
ANSI/ASHRAE STANDARD 135-2008 BACnet® -
A Data Communication Protocol for Building
Automation and Control Networks**

Approval Date: May 25, 2011

Request from: Carl Neilson (cneilson@deltaccontrols.com), Delta Controls, 17850 56th Street, Surrey, BC V3S 1C7.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 135-2008, Clauses 12.25 (pages 259 and 281), relating to Timestamping of Trend Log records.

Background: Records in Trend Log and Trend Log Multiple objects include a timestamp that indicate, as per Clause 12.25.14, "The local date and time when the record was collected." This language is ambiguous as to whether the timestamp of the record is the time at which the object starts the attempt to retrieve the data value, or the time at which it receives the data value.

There are other properties, `Align_Intervals`, `Interval_Offset` that impact when records are collected. The existence of these properties appear to indicate that the time that a record is collected is important. The question is whether it is important that the collection occurs at these special offsets, or that the timestamps of the records end up being aligned for ease of consumption.

If the timestamp marks the time at which the logging object starts its attempt to retrieve the value, then the timestamps will reflect the interval and interval offset constraints.

If the timestamp marks the time at which the value is placed in the `Log_Buffer`, then when logging remote properties, the timestamps will not reflect the interval and interval offset characteristics of the configuration.

In the normal operation of the system, the two timestamps are effectively equal in accuracy given that neither represents the exact time at which the value is extracted from the monitored object. When device binding, or route determination is required, the time at which the value is place in the buffer would be more accurate.

Another aspect to consider whether the `Log_Interval` is the time between the start of an attempt and the next start of an attempt to acquire data, or whether it is the time from when a sample is placed in the log and the next start of an attempt to acquire data.

As there may be a delay between when a timer expires and when the controller is able to act on the expiration of the timer, the log may not start at the absolute time indicated by `Log_Interval`, `Align_Intervals`, and `Interval_Offset`. When the log is configured to align intervals, does the timestamp indicate the indicate the time at which the log is supposed to start the attempt to acquire the data sample, or should it reflect the actual time that the log starts the attempt to acquire.

Interpretation: The timestamp reflects the time at which the logging object is scheduled to start its attempt to acquire the data sample(s) based on the values of Log_Interval, Align_Intervals and Interval_Offset, and thus the timestamps of successive polled records will be Log_Interval hundredths of seconds apart.

Question: Is this interpretation correct?

Answer: Yes.