Use Case S4: Detailed Description

Use Case Name: Monitor Dew Point Data
Scenario: Record Daily Dew Point Extremes
Brief Description: With the System running, the System records the dew point extremum data–the minimum and maximum dew point–from the calculated dew point data.
Actors: System
Related Use Cases:
Use Case S13: *The System Shall Save Dew Point Extremum*
Stakeholders: Local and National Weather Bureaus and individuals monitoring local weather data.
Preconditions: The System is running, the dew point data is calculated (see *Use Case S4–Calculate Dewpoint*). The extremum dew point data values are initialized: -999.9 for max, 999.9 for min.
Postconditions: The extremum dew point data (minumum and maximum) are noted and coverted to three units (Celsius, Fahrenheit, Kelvin).

Flow of Events

System	**One Wire Temperature Sensor**
	1. Return requested temperature and humditiy data measured
2. Calculates the dew point (See *Use Case S4–Calculate Dew Point*)	
3. Records the date/time of the current dewpoint measurement.	
4. Compare the current dew point against both the minimum and maximum.	
5. Record the current dew point as an extreme if it is less than or equal to the minimum or greater than or equal to the maximum.	
6. Record the date and time for *event 5*	

Exception Conditions
1a. If either the One Wire temperature or the hygrometer sensor stops working, then the System changes neither the minimum nor maximum values.
1b. If either the One Wire temperature or the hygrometer sensor returns an error, then the System changes neither the minumum nor maximum values.
1c. If the One Wire Network breaks, then the System changes neither the minumum nor maximum values.
4a-5a. If the data has changed from the previous messurement (must be compared), the dew point extremum are reset to the default values and compared for the new date.