

# Measured values cycling check

## Module description

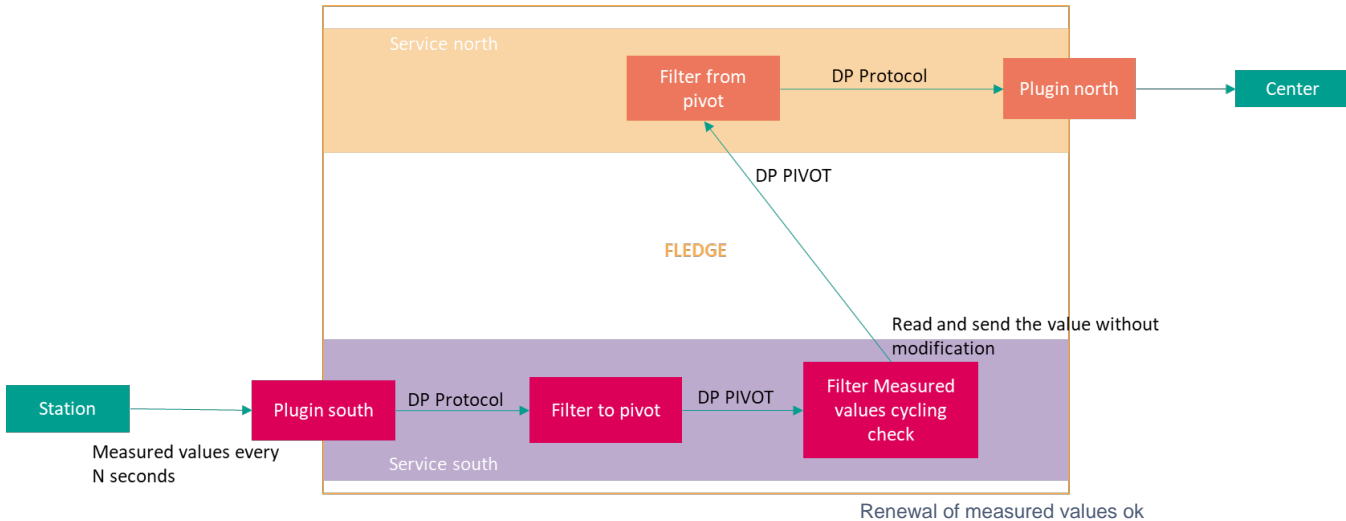
The south service receives measured values from the station cyclically according to a predefined period.

The period is configurable (30 seconds by default). A measured value is detected as not renewed if it has not been received during the cycling period.

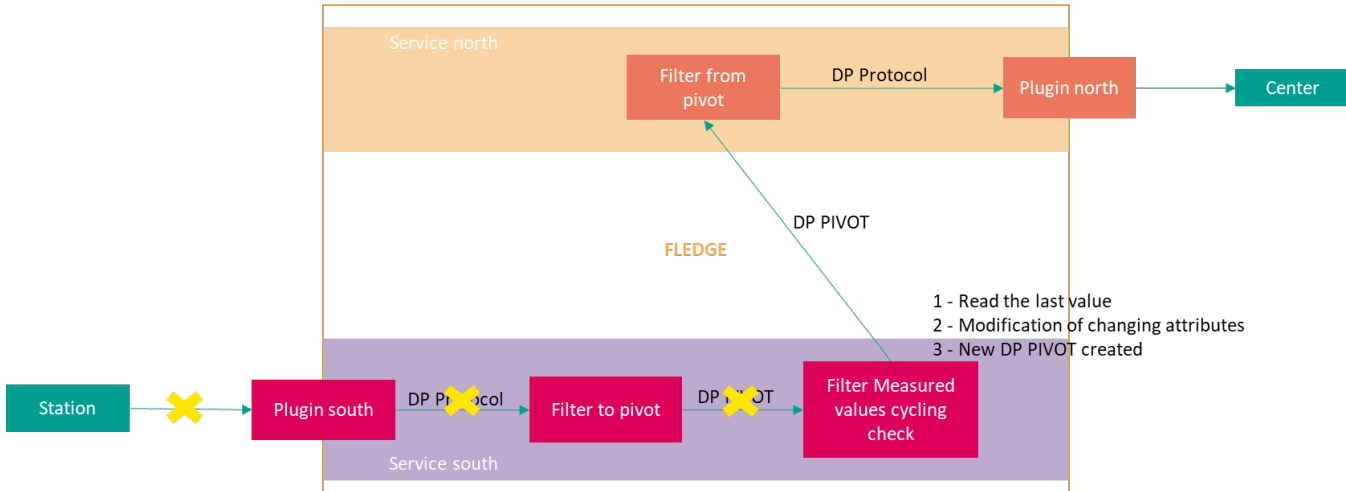
Following the detection of its non-renewal, it is positioned to "questionable" and the "OldData" flag is to true and sent to the controlling centers only once through the north service.

When a new measured value is received again from the station, the measured value is then sent with its new value with the corresponding quality and timestamp.

### Measured values cycling OK:



### Measured values cycling failed:



## Configuration

Attribute	Description	Expected values	Mandatory
check_period	cycling check period, in seconds	default = 30	Yes

## Configuration JSON structure

```
{
  "check_period":{
    "description":"cycling check period in seconds.",
    "type":"integer",
    "default":"30",
    "order":"1",
    "displayName":"Check period"
  }
}
```

## Filtering rules

R1: The measured values cycling check applies only after receiving a first measured value.

R2: The measured values cycling check applies only to measured values with a "cyclical" cause of transmission.

R3: Outside the scope defined by R1 and R2, readings are passed through without any check or change.

## Data processing

### Input

This filter plugin expects readings to be a pivot model measured values datapoints.

It uses the identification (attribute "*PIVOT.GTIM.Identifier*") of the datapoint to obtain the context of the measured value in order to :

- Update the date of reception of the measured value,
- Know which measured value to read again in order to send the non-renewal message at the end of the timer.

The module uses the data *PIVOT.GTIM.Cause.stVal* (at "cyclic") to determine if the measured value is configured as cyclic.

### Output

In case of non-renewal detection, the last measured value received by the module is re-read and the following values are overwritten :

- *PIVOT.GTIM.MvTyp.q.DetailQuality.oldData* is set to "true"
- *PIVOT.GTIM.MvTyp.q.Validity* is set to "questionable"
- *PIVOT.GTIM.MvTyp.q.Source* is set to "substituted"
- *PIVOT.GTIM.MvTyp.t.SecondSinceEpoch* is set to current gateway timestamp
- *PIVOT.GTIM.MvTyp.t.FractionOfSecond* is set the fraction of the current gateway second
- *PIVOT.GTIM.TmOrg* is set to "substituted"
- *PIVOT.GTIM.TmValidity.stVal* is set to "valid"
- *PIVOT.GTIM.Cause.stVal* is set to "3" (Spontaneous)

If the timestamp of the gateway is unreliable then:

- *PIVOT.GTIM.MvTyp.t.TimeQuality.clockFailure* is set to "true"
- *PIVOT.GTIM.TmValidity* is set to "invalid"

If the timestamp of the gateway is **is not synchronized with the external UTC time** then:

- *PIVOT.GTIM.MvTyp.t.TimeQuality.clockNotSynchronized* is set to "true"
- *PIVOT.GTIM.TmValidity* is set to "invalid"