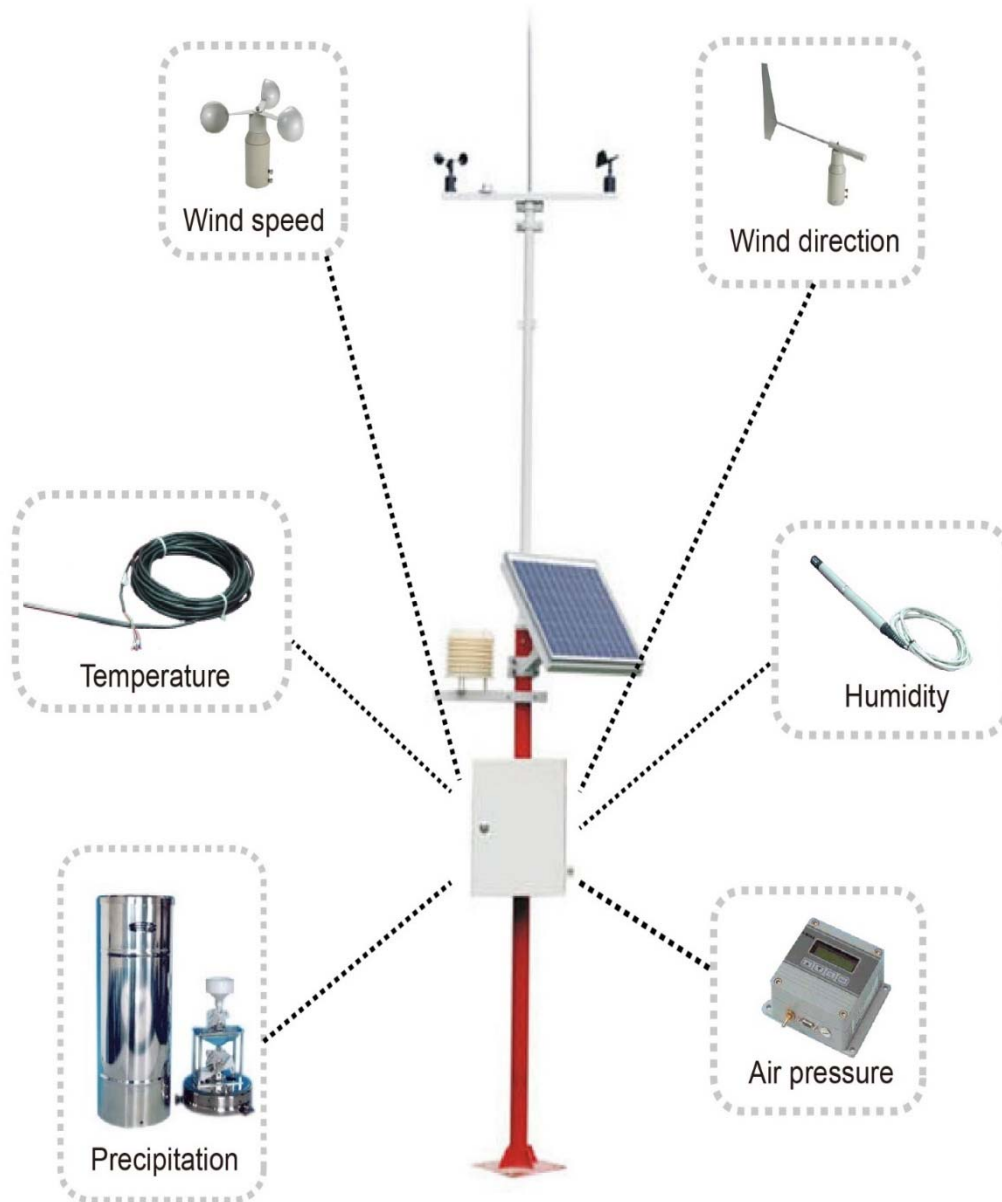


# An intelligent framework of Automatic Weather Station

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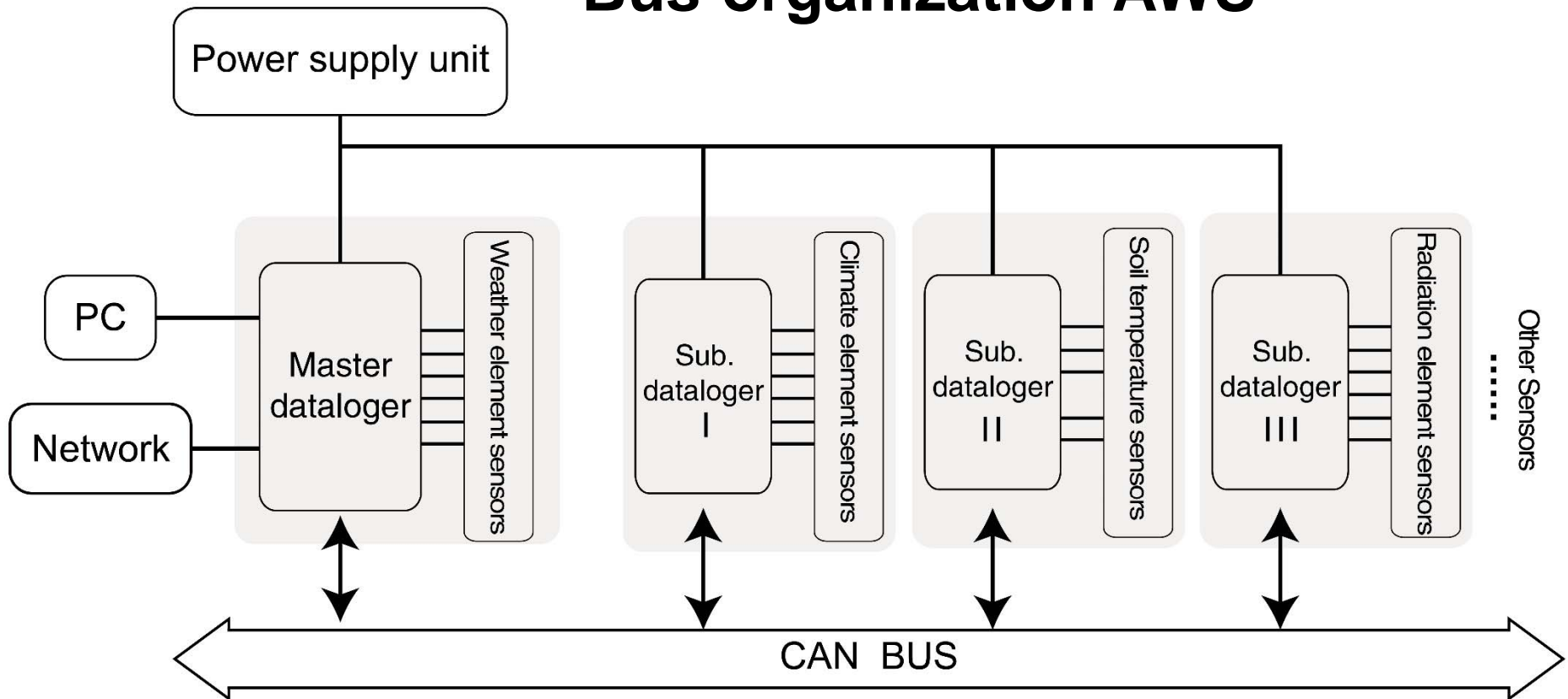
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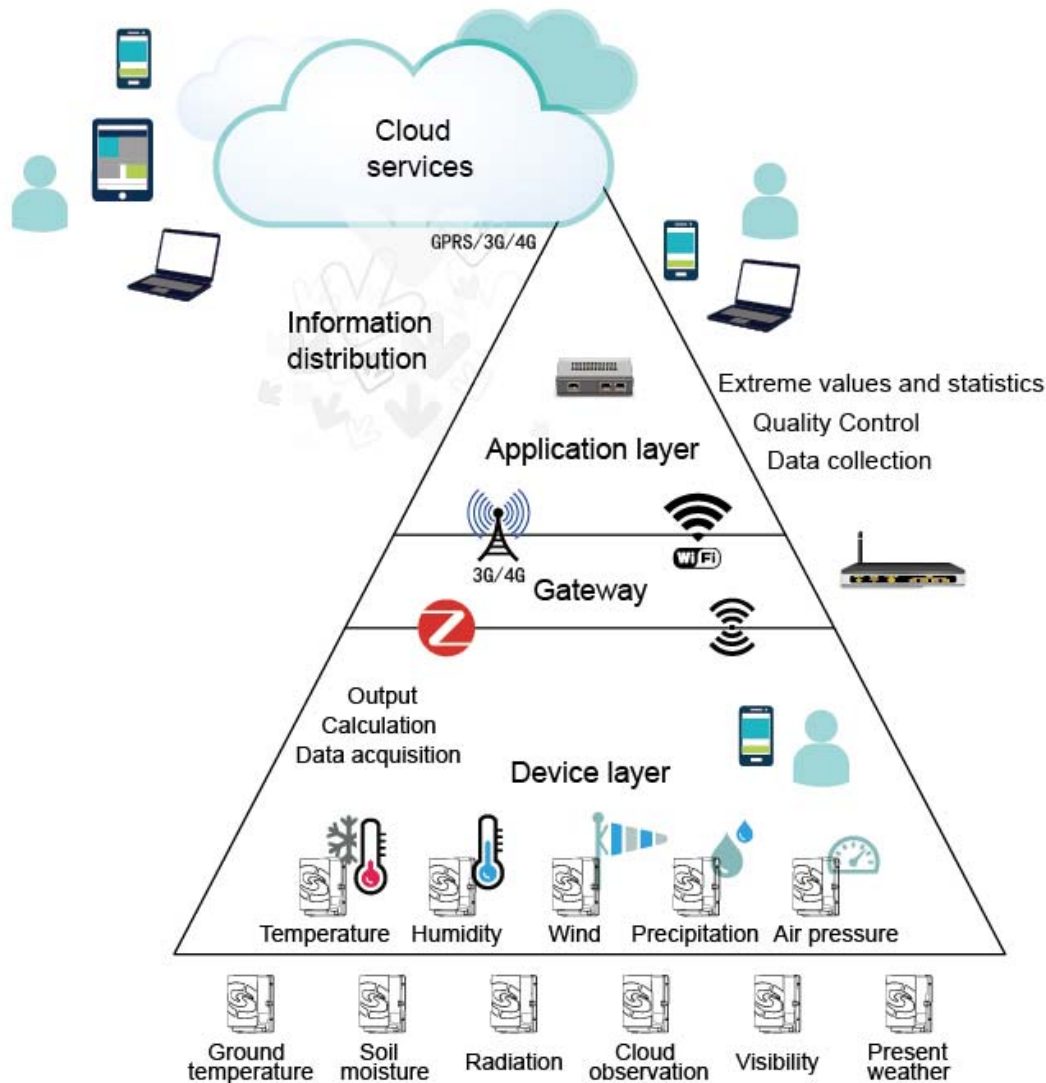
## Traditional AWS

- Composed of datalogger and sensors.
- Datalogger is central to such a framework.
- Every sensor acquisition channel is consistent.
- It's hard to extend new observation elements.

## Bus-organization AWS



- Use a master datalogger to connect multiple sub-dataloggers.
- Flexibility of sensor access is greatly enhanced.
- Inconvenience of maintenance and high use-cost.

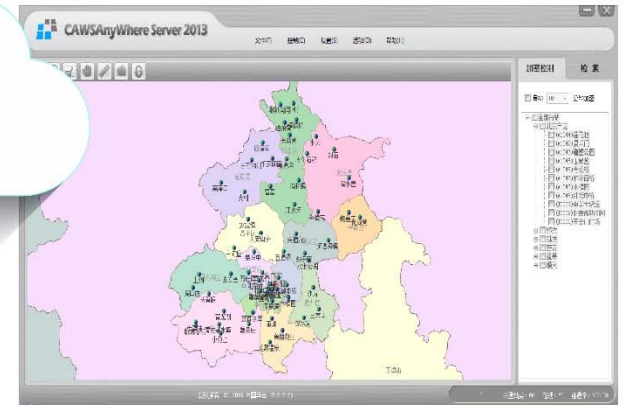


## Intelligent AWS

- The system is divided into application layer and device layer by gateways.
- Device layer contains a large number of intelligent networked sensor units.
- The application layer can enable users to interact with the device.
- The use of WSN technology and IEEE1451 standard.



CAWSmart  
Cloud



CAWSmart weather station, Data Collection Center software and applications

# Smart sensors



# Field Test (2016-2017)



**Changsha Test Base**



**Liaoning Kazuo station**

# Conclusions

- ◆ Intelligent observation technology is likely to change the management mode and business layout of the automatic weather observation system operation. Qualitative leap could happen especially in the areas of automation, unattended, and metrological verification. These changes can significantly improve the effectiveness and accuracy of meteorological observations, and meanwhile dramatically reduce labor intensity.
- ◆ Based on WSN, the surface comprehensive observation system has features of high reliability, low power consumption, improved expansibility and controllable cost. With such a system, various observational data of surface meteorological elements could be obtained and stored in nearly real time. By integrating a large number of such observational systems, we could have a new technical solution for the construction of massive earth observation system.



# Thank You



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