

# WSN

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# Network Management Requirements

## 1 NAMING

- low level: node addresses is typically application independent and location dependent.
- high level: usually application dependent and location independent.

## 2 LOCALIZATION

- Sensor nodes are distributed all over the place for sensing and data collection.
- It is usually helpful if the locations of sensor nodes are also known.

## ① Advantages

- some applications, such as tracking of objects, are highly location dependent
- location-based routing, which may also result in energy conservation is enabled
- knowledge of location usually enhances security
- locations are helpful for sensor network management and monitoring
- locations stimulate the creation of new applications
- sensor nodes that move can be controlled through knowledge of their location
- Applications with low-level naming and/or data-centric WSNs, knowledge of location information is absolutely necessary

## ① Maintenance

- The maintenance issue may involve actions such as replacing batteries, keeping connectivity and configuring sensor nodes.
- The maintenance activity is used to maintain normal operation of the entire network for as long as possible.

## ② Fault Tolerance

- Several factors can cause faults in network operation, including hardware and software error.
- Therefore, different schemes must be implemented to provide fault tolerance.
- Hardware backup schemes can be used to overcome hardware problems.
- Software techniques can be used to provide fault detection and fault tolerance for hardware