

### Time synchronised networks

Up until now distributed real time systems have usually been based on fieldbuses, but switched Ethernet is now an option. This is partly due to features such as: bandwidth, possibility of prioritisation and industrial specification of network equipment. However, also because Ethernet equipment prices have dropped.

Variable delay (latency) in a switched network means that data sent from nodes can be affected by different delays. This is due, among others, to the current load on the network. The accuracy of time synchronised transfer mainly depends on the following factors:

1. Variable network delay depends on: network load, speed, packet size and the architecture used in switches
2. The preferred protocol is of minor significance bearing in mind the above conditions, however we recommend SNTP/NTP as these are standards with few limitations.
3. Time stamping of incoming and outgoing data packets is done as close to the hardware as possible, i.e. on the lowest layers of the OSI-model.

