Substation Automation IT Needs

- Wireless communications:
  - enable introduction of new IEDs
  - provide required robustness
  - facilitate data integration
- Mobile agent computing:
  - facilitates use of distributed databases
  - enables integration of legacy systems
  - provides effective means of information exchange
Substation Automation IT Needs (continued)

• Real-time processing:
  - smart sensors
  - analog/digitals signals processing
  - “continuous” data processing

• Fault-tolerant architectures:
  - substation/device applications
  - distributed data bases
  - alternative communication paths
Data collection zones for protection functions in a typical transmission substation

- Data for line protection
- Data for transformer protection
- Data for bus protection