

# The Industry Perspective

- Standards:
  - What can be shared? to move from multiple niche market to an infrastructure that can support a diverse set of
    - Hardware infrastructure
    - Software infrastructure
  - Virtualization/Open Platform
- How can existent infrastructure be leveraged?
- Social and environmental implications

# The Industry Perspective

- Education
  - Depth and breath: they are both needed
  - System level understanding of problems
  - Engineering ethics
  - Software:
    - Parallelism: Distributed, multi-threaded, ...
    - Data volume: Giga and Tera are daily words
    - Interfaces: make systems that can be used

# General Comments

- Detection:
  - Need to move from a single molecule, clean sample to the complex, “contaminated”, real life environment
  - Need to extend detection range to cover full logarithmic scale to accomplish bio-mimetic capabilities
  - Need to extend “shell life” to practical limits
    - Grow and shed?
  - ...
  - When will we see something that detect “any” foul smell?

# General Comments

- Design/Test:
  - Tool capabilities – respond to a diverse set of needs
  - Move from point tools (TCAD, specific) to a design perspective
  - Testability: From self test of components to system level validation
- System Level
  - The complete picture is a must (there is enough research/proof of principle on components) – but – will it work?
    - Materials, interfaces, processes, data management, performance, capacity

# General Comments

- Transmission/Processing
  - What needs to be processed locally? what needs to be transmitted? What needs to be stored?
- Interfaces:
  - Do more remotely – less invasively
- Security
  - Privacy, intrusion, ...