Knowledge as a Service (KaaS)

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Personal Computer Role: Back to the Past

- **1980**: Dumb Terminal
- **1990**: Lightweight
- **2000**: Powerful Desktop
- **2010**: Limited
- **2020?**: Lightweight Mobile Devices
What have we gained in 30 years?

• Capacity and Speed
  – Tb instead of Kb
  – GHz instead of Mhz
  – GIPS instead of kIPS (instructions per sec)

• Better utilization of resources
Knowledge as a Service (KaaS)

- “Institutional memory”
- Includes parts of Software As a Service (SaaS) and Infrastructure as a Service (IaaS)
- Can be integrated with other institutional data
- Accessible by all stakeholders having permissions
  - Both public and private access
KaaS Characteristics

- New cloud instances start with some memory/experiences of others
- Faceted representation in ontologies
- Documentation, software, workflows, VM, and place-based knowledge - all accessible on-demand using common search
KaaS Examples

• Geospatial functions available
• Question answering system
• Workflow
  – For example, steps required to solve a particular type of spatial decision support problem
• Classroom lessons
  – Bundled lesson plans, data, software, etc.
Future Prospects

• KaaS requires teamwork between cloud providers and domain specialists
• The domain specialists must take the initiative to make KaaS possible
• Represents a revolution in delivery of customized services