The UFMG view on future Internet testbeds

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Future Networks

- **Onivalent** computing: **ubiquity + dependability + evolvability**
- **Autonomic computing**
- Wireless edge nodes: **WiMax, WiFi, Bluetooth**…
- A networked physical world: **sensor networks**
- Heterogeneous **ad hoc and mesh networks**
  - OLPC project: computers where no infrastructure is available
  - Extended coverage on structured networks
  - On-the-fly networking on critical situations
- The network is the computer: **grid computing**
  - Integration of grids and sensor networks

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Testbeds

- Most of the testbeds are focused on wired networking
- Lack of a mobility and data communication models for emerging networks (opportunistic, mesh, Ad hoc…)
  - Real users on the network
    - Large-scale high speed networks suitable for grid computing (Giga RNP)
    - Rollout of WiMax (e.g. school Internet backbone) and mobile WiMax towers
  - Create *Spec-like* tests: qualitative → quantitative
- "General purpose" nodes with software-defined radios and replaceable protocol stacks **(Vision)**

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The Computer Science Department

- Established in 1976
- Top Six in Brazil (CAPES ranking)
- Faculty: 42
- Administrative, technical and engineers ~ 120
- Graduate program
  - 160 students enrolled (95 MSc + 65 PhD)
  - 595 MSc degrees awarded since 1975
  - 65 PhD degrees awarded since 1991
- Partnerships with Google, HP, FIAT, IBM, Lucent, Nokia, among others
- Academic partners: LIP6, INRIA, UCLA, Oxford, U. of Ottawa, Stanford, Carnegie-Mellon, …

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