NTT-Sponsored Research in Cryptography and Information Security, and Algorithmic Development

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Project Overview

• Covers a broad range of topics in security, complexity, and algorithms.
• Particular focus on:
  - distributed cryptographic protocols
  - electronic voting
  - quantum computation
  - probabilistic property checking
Progress Report (to 6/99)

- New cryptographic primitive (verifiable pseudo-random functions) fully characterized.
- EVOX electronic voting software improved, demonstrated, used.
- New and surprisingly efficient algorithms for classical problems (such as insertion in an ordered list) on a quantum computer.

Research Plans
(for next six months)

- Develop threshold encryption schemes secure against chosen-ciphertext attack.
- Improve scalability and security of electronic voting.
- Developing more efficient search algorithms for quantum computers.