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Authentication

- Integrity: is the item retrieved the same as the one inserted?
- Soundness: was an item in the answer previously deleted?
- Completeness: is there a missing item in the answer?

Confidentiality

- Does the responder see the data?
- Does an eavesdropper see the data?
- Standard encryption techniques can be used
- Not addressed in this talk

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Benefits and Applications

Benefits

- Centralized trust:
 - Users trust only the source
- Distributed service
 - Responders serve as authentication caches on the network
- Low deployment cost
 Responders do not need secure installations
- Resiliency to denial-ofservice attacks
 - The source does not answer queries

Applications

- Investing
 - Data: stock quotes
 - Source: NASDAQ, NYSE
- Credit Cards
 - Data: valid card numbersSource: Visa, AmEx
- Public Key Infrastructure
 - Data: Web server certificates
 - Source: Verisign, Entrust
- Intrusion Detection
 - Data: fingerprints of OS files
 - Source: Microsoft, Sun

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