

Practical Assured Big Data Analytics in the Cloud

Challenge:

- Analytics in public cloud
- Ensure data privacy in the face of hackers

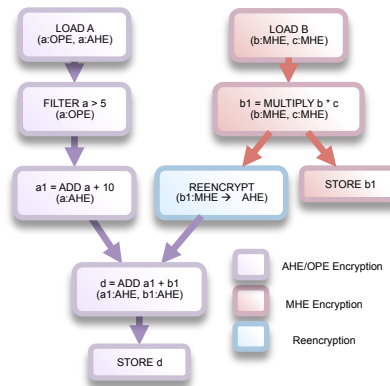
Solution:

- Practical techniques
 - Partially homomorphic encryption
 - Byzantine fault tolerant replication
- Program analysis to infer efficient application

All about the data...
But programs need love too!



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Crypto black boxes

Program analysis

Scientific Impact:

- Applying crypto/sec primitives requires expertise
- Automation simplifies application vastly
- No more excuse for no privacy support

Broader Impact:

- Cloud computing among major IT paradigm shifts of recent decades
- Many use cases for clouds currently impossible
- Many small/medium size companies, even large ones or government can leverage cheap cloud resources