

Managed Control of Composite Cloud Systems

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Outline

- ① UNM Informatics
- ② Usage Management and Cloud Systems
- ③ Example Systems

Areas of Study

Our group:

- *UNM Informatics*: Information security, theory, and architectures; this work is specific to information security
- *Usage Management*: Control of how an artifact is used, covering everything *after* access as well as controlling access itself

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Acronyms:

- *UM*: Usage Management
- *PMR*: Personal Medical Record (this is also electronic, in this case)

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 - Retention
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Organizations should control what they pay for

- Systems
- Data
- Records

Problems

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How we can automate control and enforcement

- *Combine*

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Surprisingly difficult...

- *NP-Complete*

Simple generalized SLAs are equivalent to *SAT*

- *Multiple Providers*

Difficult constant factors related to latency, etc.

Single Provider, Feedback

Single Provider, Feedback with UM

Multiple Providers

Conclusions