

Trust and Pricing

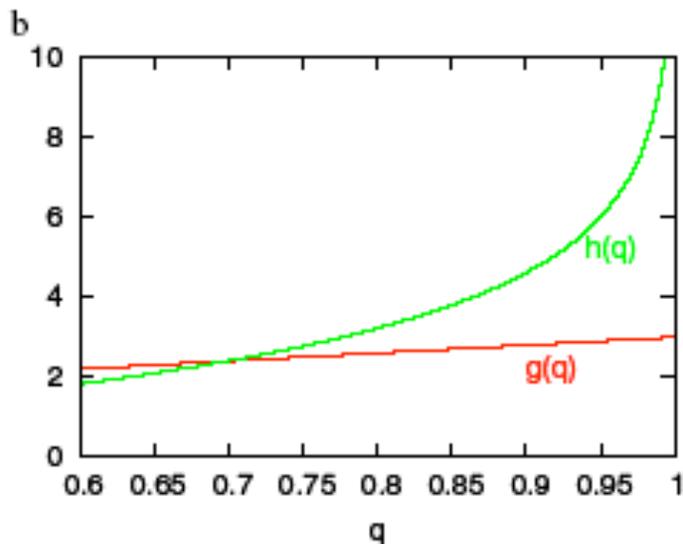
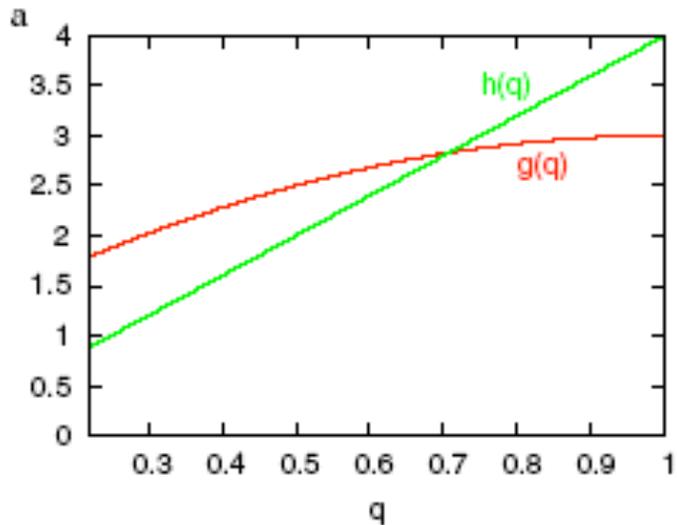
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trust through pricing

Huberman 'Solving the QoS Problem':

- negotiate about 'q', the probability the contract is met
- pricing and penalty depending on 'q'
- if you do the pricing and penalty right, you achieve 'truth telling', i.e.,
 - there is no benefit for a provider to lie about the QoS it can achieve

trust through pricing



enforces truth telling in this setting, but...

- provider must expose the pricing curves to customer
- what stops the provider from not putting effort in
- provider can make up curves
- who would negotiate based on 'q'

trust in SLA negotiation

approach:

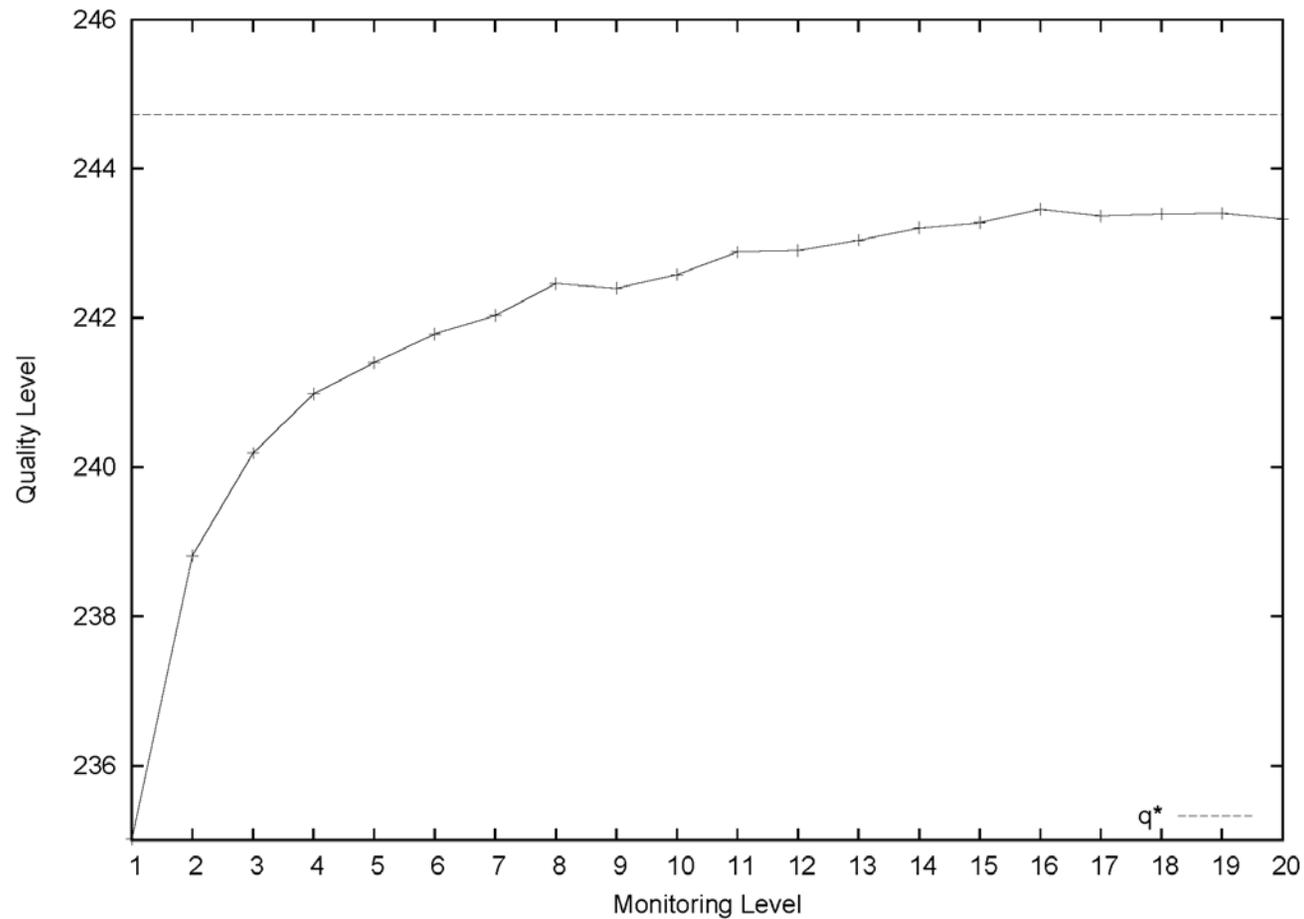
deal with trust, i.e., include 'distrust' in your decision-making:

- reformulated the problem in more natural terms
- enhanced formulation with probabilistic representation of uncertainty associated with statistical estimation and behavioural uncertainty
- enhanced formulation with probabilistic representation of uncertainty associated with lack of trust

(Chris Smith)

$$EU_c = u(q) + \int_0^v f_c(v) \cdot h(q) dv - g(q)$$

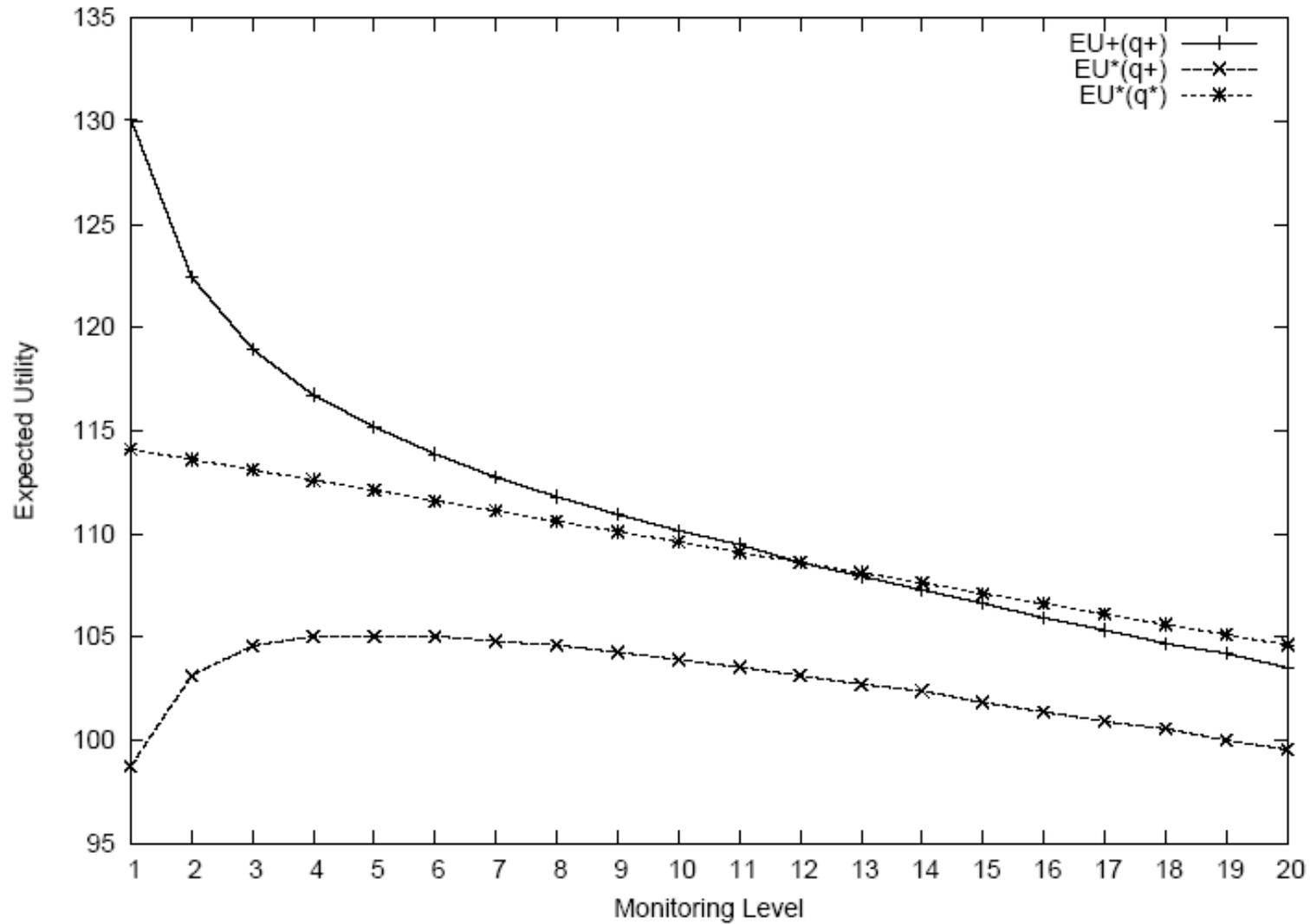
Results



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results >>

cost of uncertainty



conclusion

- enforcing truth telling through pricing in customer/provider model still has some open issues
- alternative is dealing with distrust in the SLA negotiation
 - reformulated utility models to deal more naturally with QoS based SLAs
 - demonstrated the cost of uncertainty
 - demonstrated how to compute optimal offered QoS when including uncertainty
 - want to do the same for distrust by customer—expect similar graphs as monitoring uncertainty