magritte

this is not a pipe

Checkpoint 1

Agenda

- Goals
- Context
- Demo
- Background
- Technical presentation
- Questions

Goals

- Characterize analytics-in-the-cloud
- Illustrate key features, advantages and benefits
- Identify target market
- Propose revenue model

Who wants analytics in the cloud?

- Quant who wants to implement a model of oil price effects on stock performance
- Small business owner who wants to model oil price effects on logistics and profit margin
- Quant who wants to implement a model a signaling regime at single cell and cell population levels
- IT professional who wants to implement a model of impact of feature roll out at single user and network levels

What is a compelling offering?

These users will be concerned with how easy it is to

- build the model
- to supply the model with data
- modify the model
- change the data
- manage models and data sets
- track the *provenance* of data *and* model
- integrate with existing infrastructure

What is a compelling service?

More sophisticated users will be concerned with how easy it is to

- provision resources to guarantee SLA-like uses
  - performance, availability
  - checkpointing and recovery
- revise deployment to consider
  - bringing model to data vs data to model

Technologies involved

Oil price shocks to market

VAR + MA statistical models

pipes UI

pipes UI

pipes to Gems Compiler

Quark

javascript

ajax

hibernate

jruby + rails

scala

CAL

browser

MySQL

JVM

Comparison to other technologies

	Performance	Availability	Adoption	Compositionality
Google spreadsheets				
Yahoo Pipes				
Wolfram Alpha				

Comparison to other technologies

Next generation features!

	Search using models	Search models	Social technologies	Provenance
Google spreadsheets	👎	👎	👎	👎
Yahoo Pipes	👎	👎	👎	👎
Wolfram Alpha	👍	👎	👎	👎

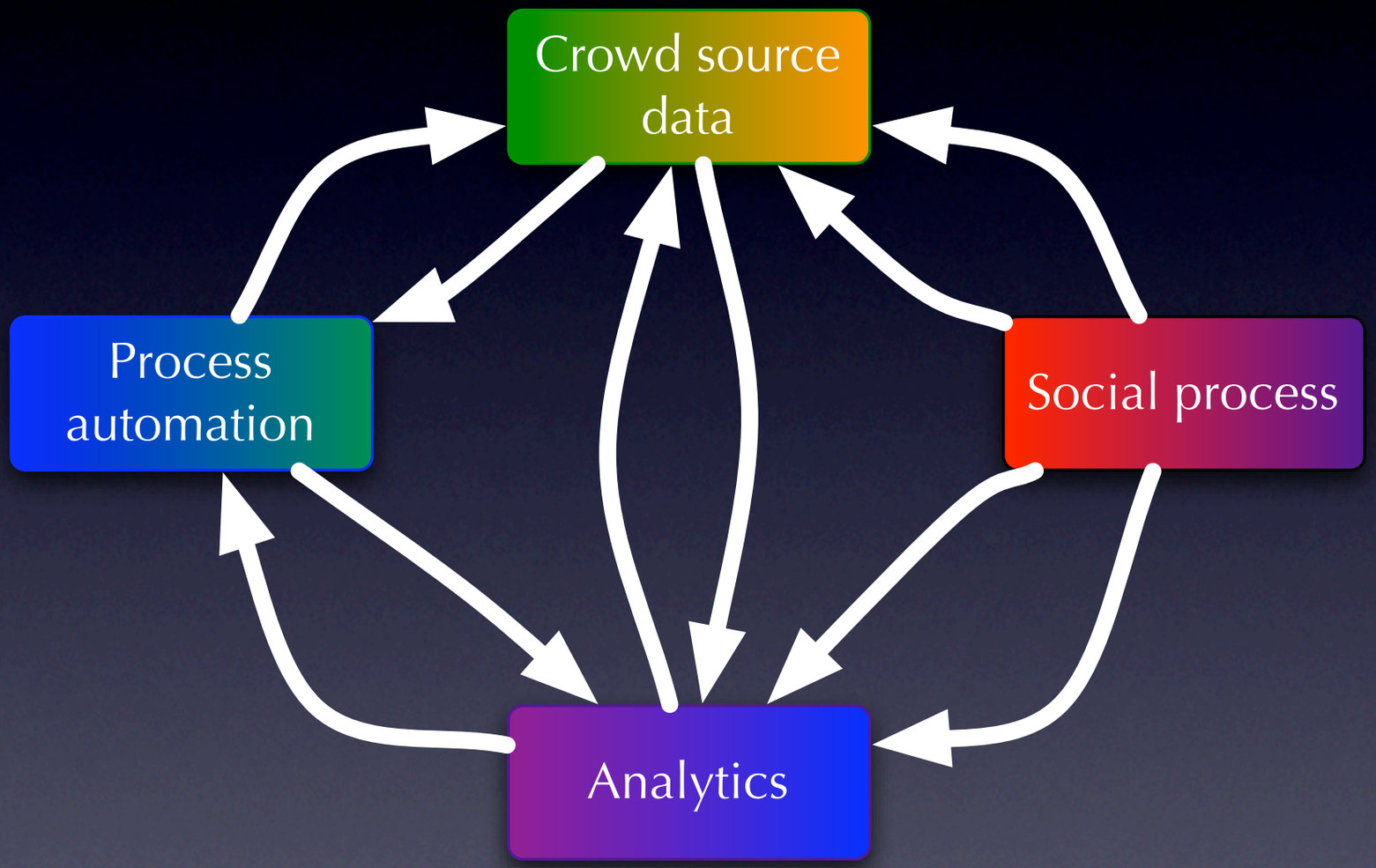
Legacy statistical modeling technologies

- You don't get even 1 degree of separation into this investigation without running into S+ and the open source version R
- These functional languages are the warehouses of computational finance and bioinformatic models
- CRAN is the primary reason these markets still exist

Future statistical modeling technologies

- Computational finance is driving a re-tooling in terms of modern functional languages and environments
  - Haskell, OCaml, Scala, F#
- DSL-based vertical efforts are driving abstractions above this infrastructure
  - PMML

A virtuous ecosystem



Proposal

- Build a best of breed PaaS
  - Take the best of Bespin, Pipes and GoogleAppEngine
  - Add functional programming model with full support for SELECT-FROM-WHERE
    - *Import rich model library*
- Include collaborative technologies *in context*
  - People want to and need make decisions in context
  - This creates a sticky experience
- Use this as the basis to introduce new search capability

commodity

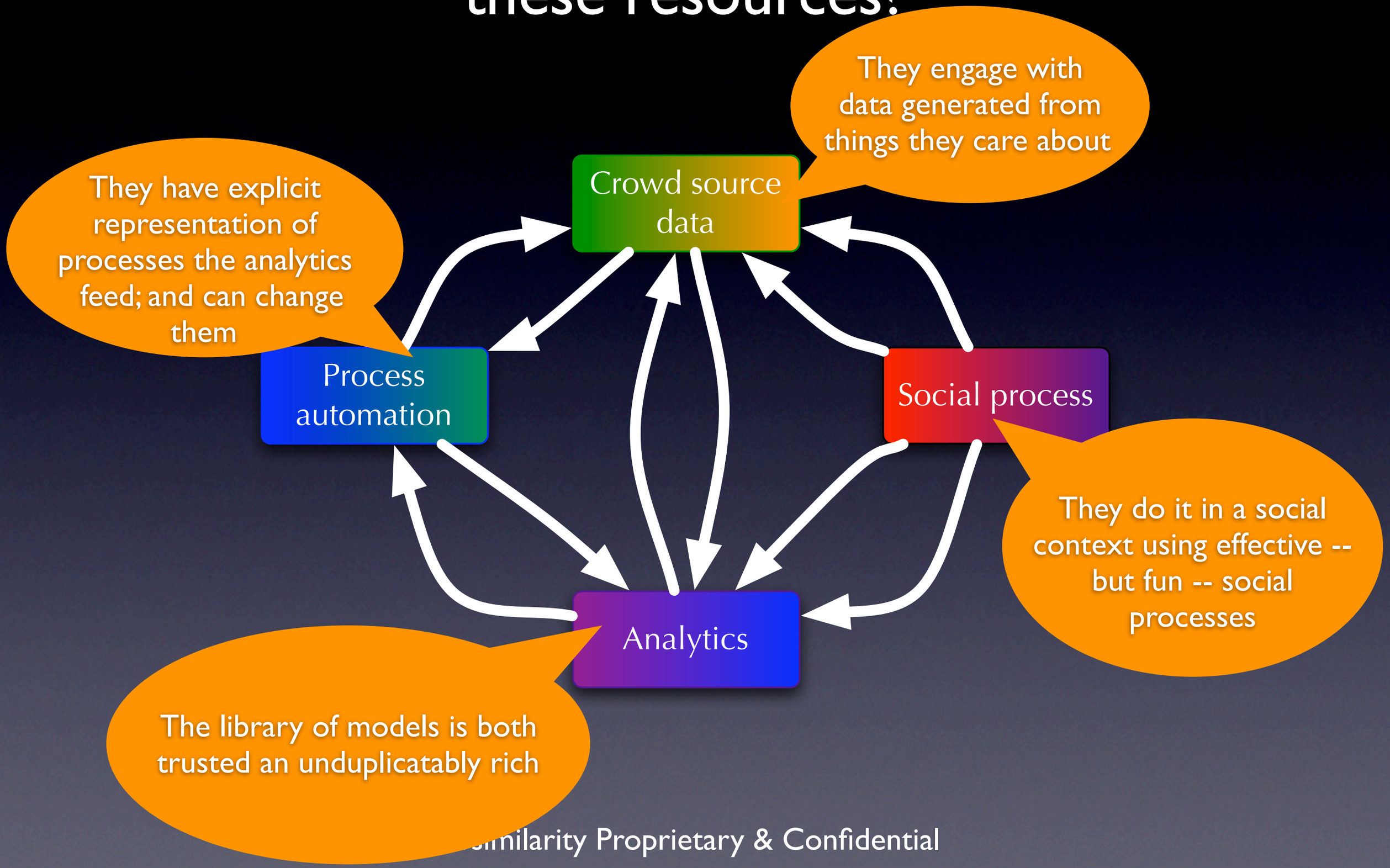
still a commodity

not yet commodity

Proposal - revenue model

- Tiered service
- Just as with S3/EC2 users pay on the basis of resource consumption which comes down to a cost for
  - bandwidth+storage+compute time
  - plus additional service fees which can also include consulting on everything from model design to optimization
- App store
  - Users can distribute components, providing an additional revenue stream

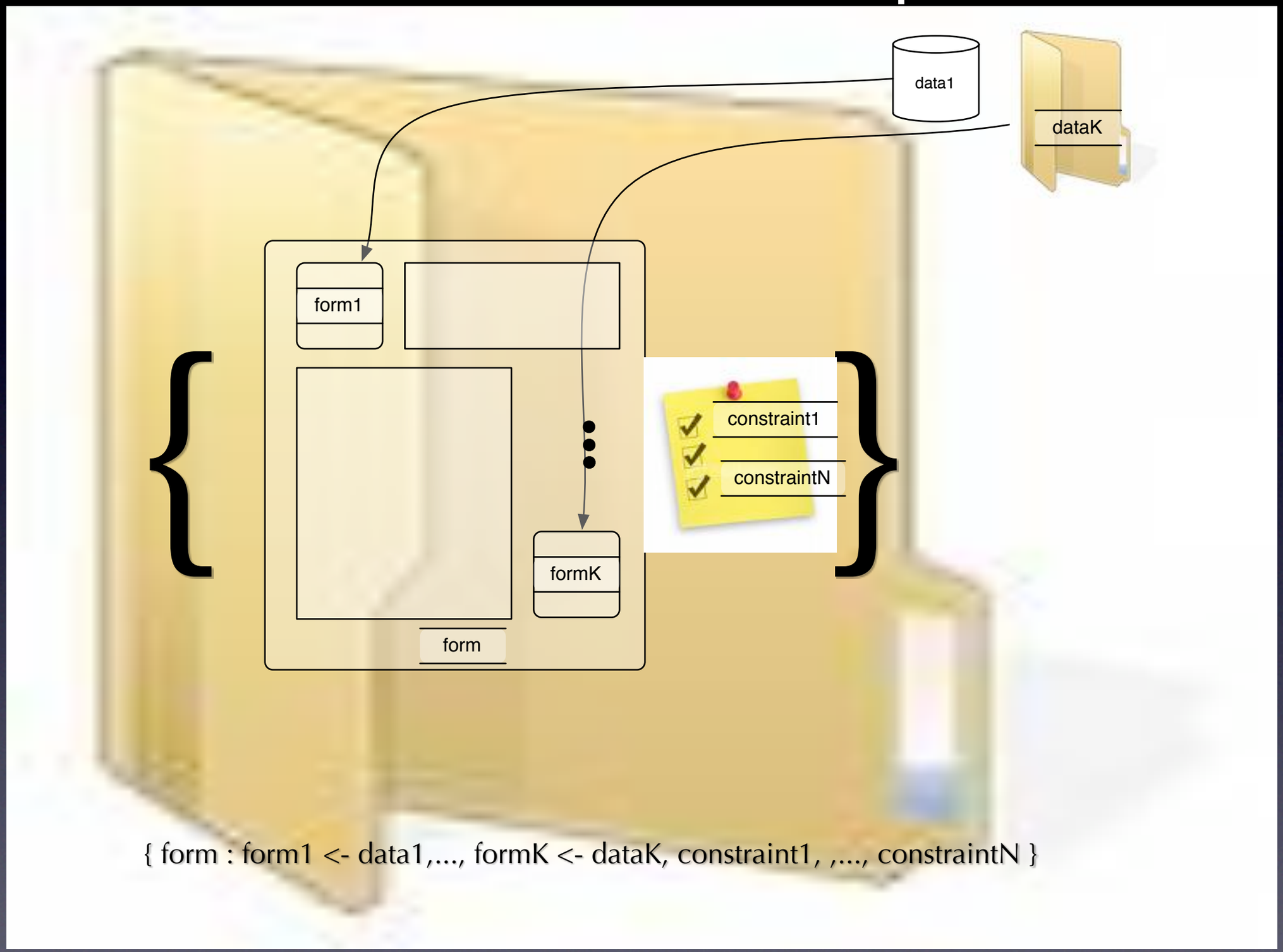
Why do they pay premium prices for these resources?



questions?

backup

An effective visualization of comprehensions



{ form : form1 <- data1,..., formK <- dataK, constraint1, ,..., constraintN }