management software developments 2003-2008

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2003

2003

in 2003 some were claiming the following:

- software for services and solutions
  - management is just another application
  - grid provides right ‘single abstraction’
  - utility computing ➔ increased manageability

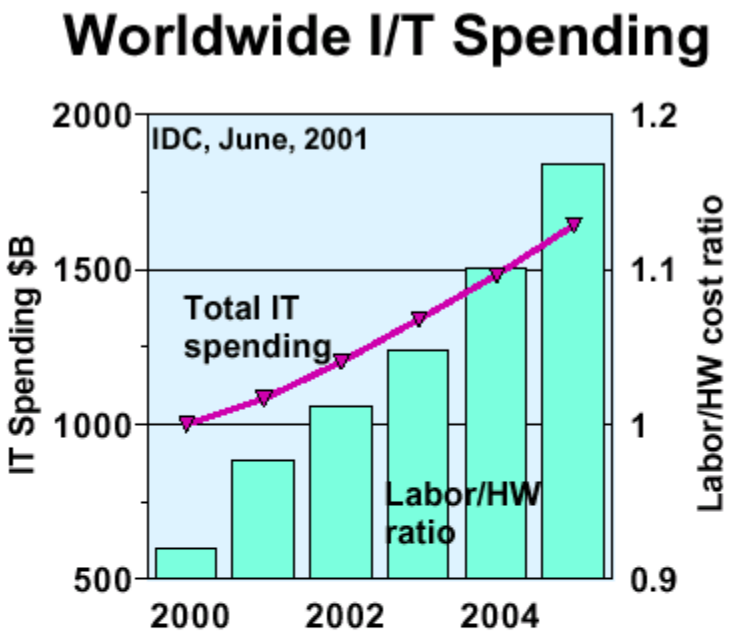
- point solutions
  - WSMF
  - grid (OGSI)
  - utility computing

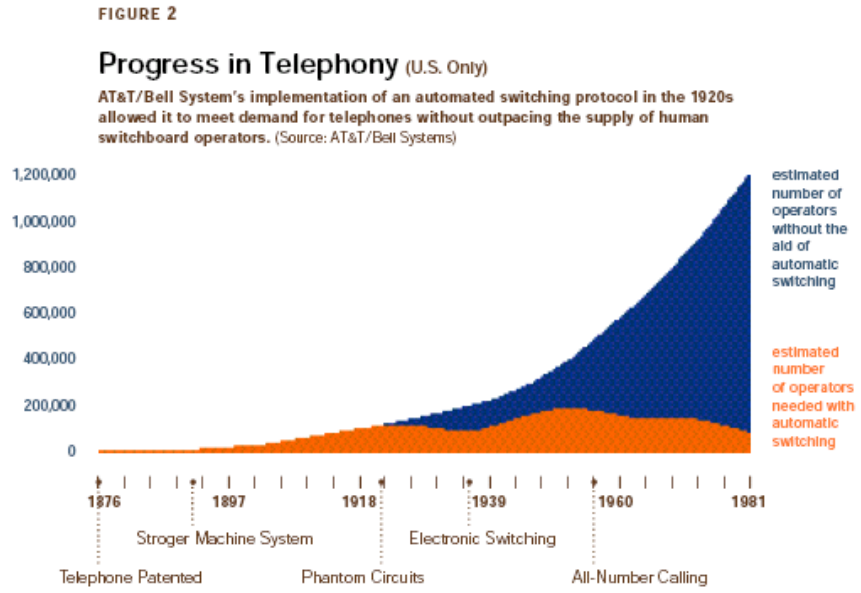
did it hold true?

+ relation to SOA

explanation of 2003 vision

costs of owning and operating IT will go through the roof





- **In storage segment, labor cost is already dominant.**
  - **labor/HW cost ratio approaching 3X***

we'll need the population size of the US to manage the world's IT

* based on $120K/person, storage HW @ $120K/TB with 4 year life and 2001 ITCentrix survey result of 0.83 person-year/TB

other IT director stories

- Sainsbury's buys back £550m IT operations
- €1.3bn SchlumbergerSema deal sealed
- Offshoring 'will cost UK £5.7bn and 250,000 jobs by 2010'
- Peter Cochrane's Uncommon Sense: Blind purchases

IT director .comment

- The Executive Question: Offshoring
- Leader: Shame on the IT giants running sweatshops
- The Director's Cut: 10 smart ways to make an IT department an asset – not a cost
- Leader: It's worse than a virus and more annoying than spam

more

silicon.email newsletters

IT/Business Security

☑ News, comment, & analysis on the latest technologies to keep your business secure

Daily News

$600m Irish bank deal completes HP mega-deal hat-trick

April 15 2003

by Ian Fried

Outsourcing now the top way the company adds employees

Hewlett-Packard is in the final stages of negotiating with Bank of Ireland on an outsourcing deal worth about $600m.

The seven-year deal, which would involve the bank transferring about 500 of its technology employees to HP, is the latest in a string of high-profile wins for HP's services unit. Last week, the company announced large deals with Ericsson and Procter & Gamble.

HP and the Bank of Ireland are currently finalising the terms of the deal, which HP said on Monday will be the largest IT services arrangement in Ireland to date. HP will be responsible for managing the bank's desktops, servers and mainframes as well as the company's networks and printers. HP Services also will provide some customer support and consulting and integration services.

"We have now begun exclusive discussions with HP and, subject to successful negotiations and due diligence, will appoint them as the supplier of our IT services for a period of seven years," said Cyril Dunne, group CIO at Bank of Ireland.

The Irish bank is already a big HP customer, having purchased a NonStop system, high-end Alpha systems, ProLiant servers as well as desktops and storage gear from the Palo Alto, California-based company. HP also already provides some professional and customer support services to the bank.

HP has touted managed services, in which it helps other companies run their technology infrastructure, as its strongest growth opportunity in its services business.

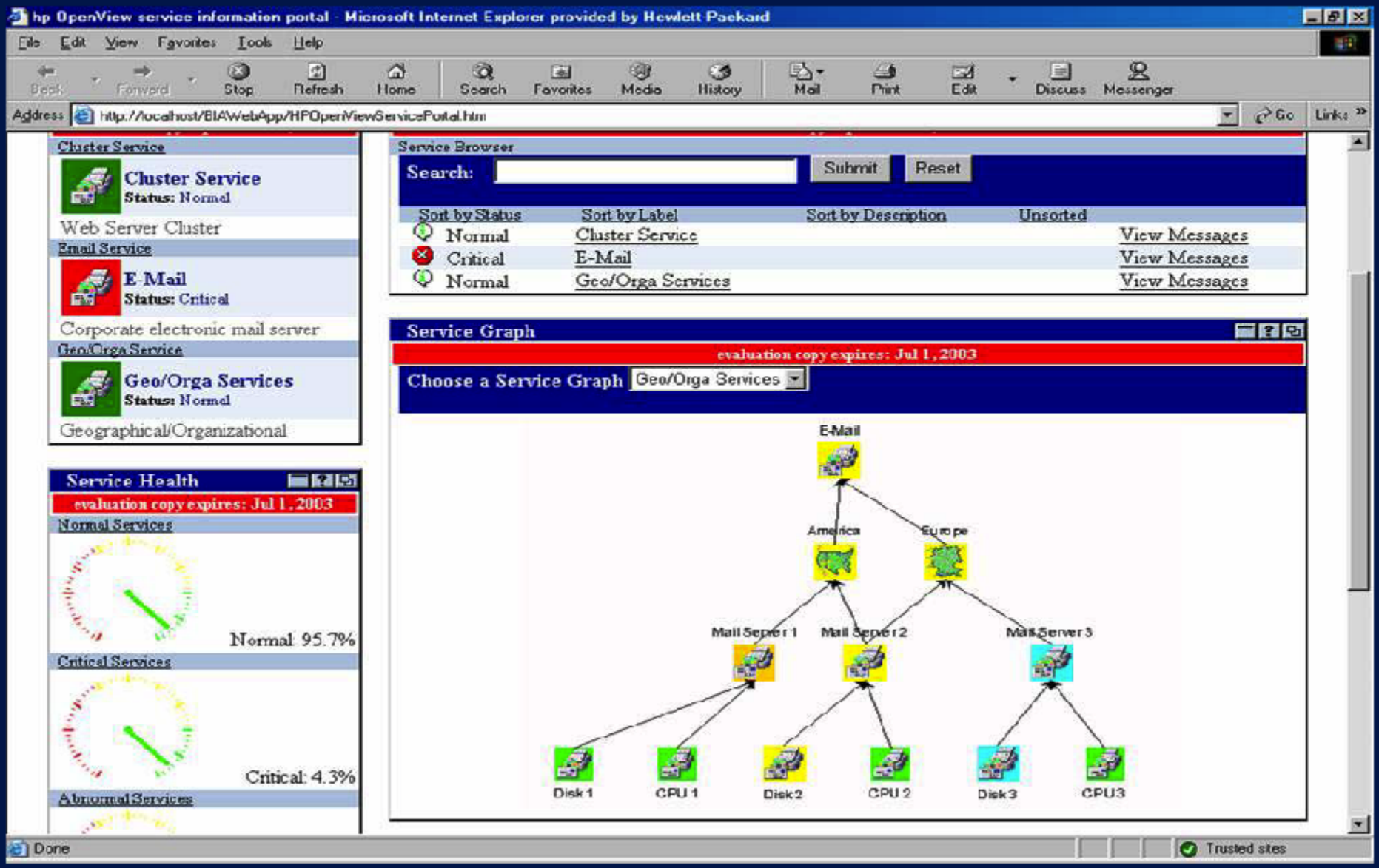
In an interview, HP Services head Ann Livermore noted that this win, like the deals with P&G and Ericsson, came against archrival IBM.

software for services

- hide heterogeneity
- reusable components
- leveraging existing software/skills
- tools
- remote
- standards

- management as just another application
- grid service as common and open abstraction
- utility computing as added value that also helps management
- standards

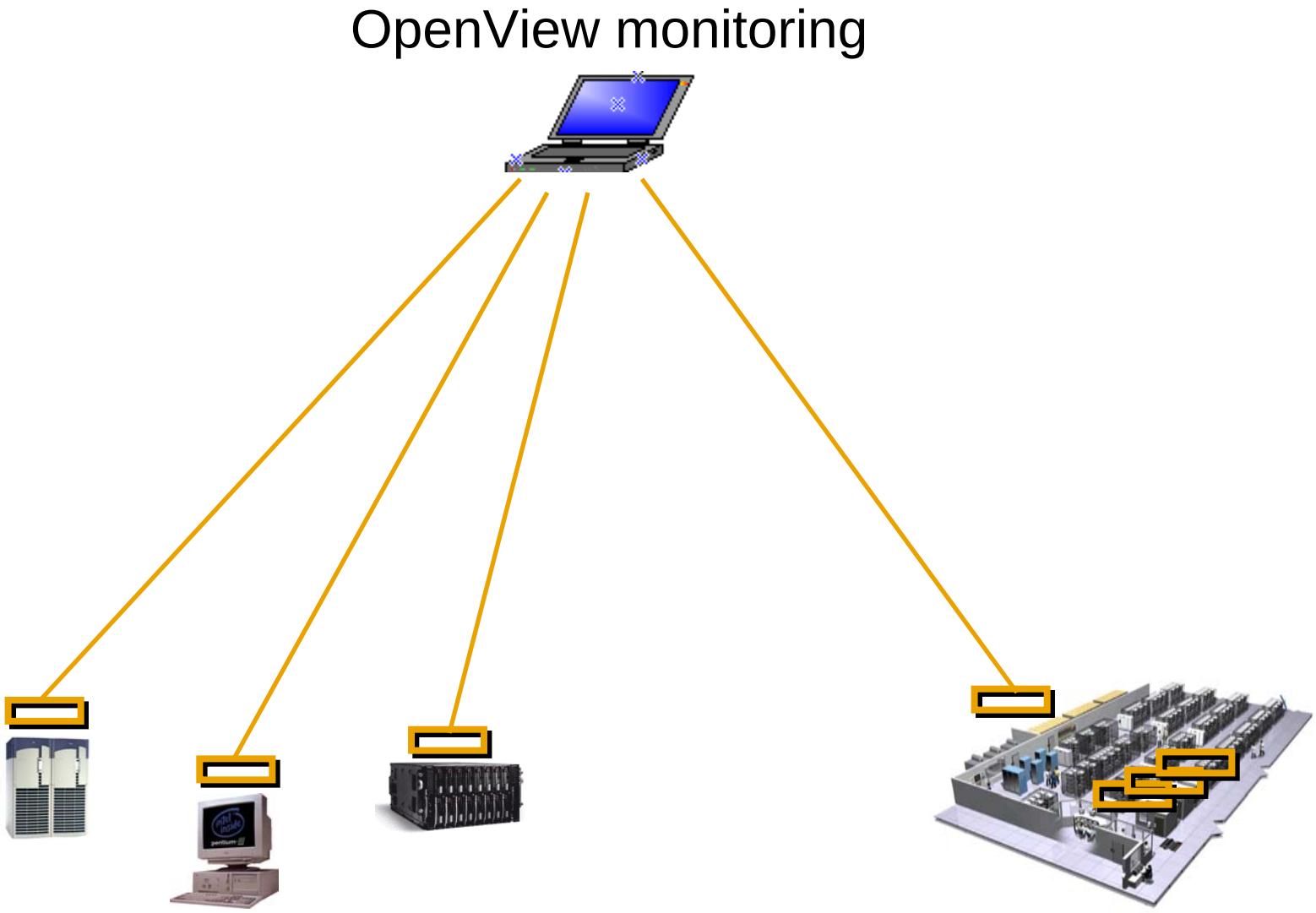
Management Console: HP OpenView



the vision versus old-style SW

OpenView monitors IT

everything has an SNMP agent

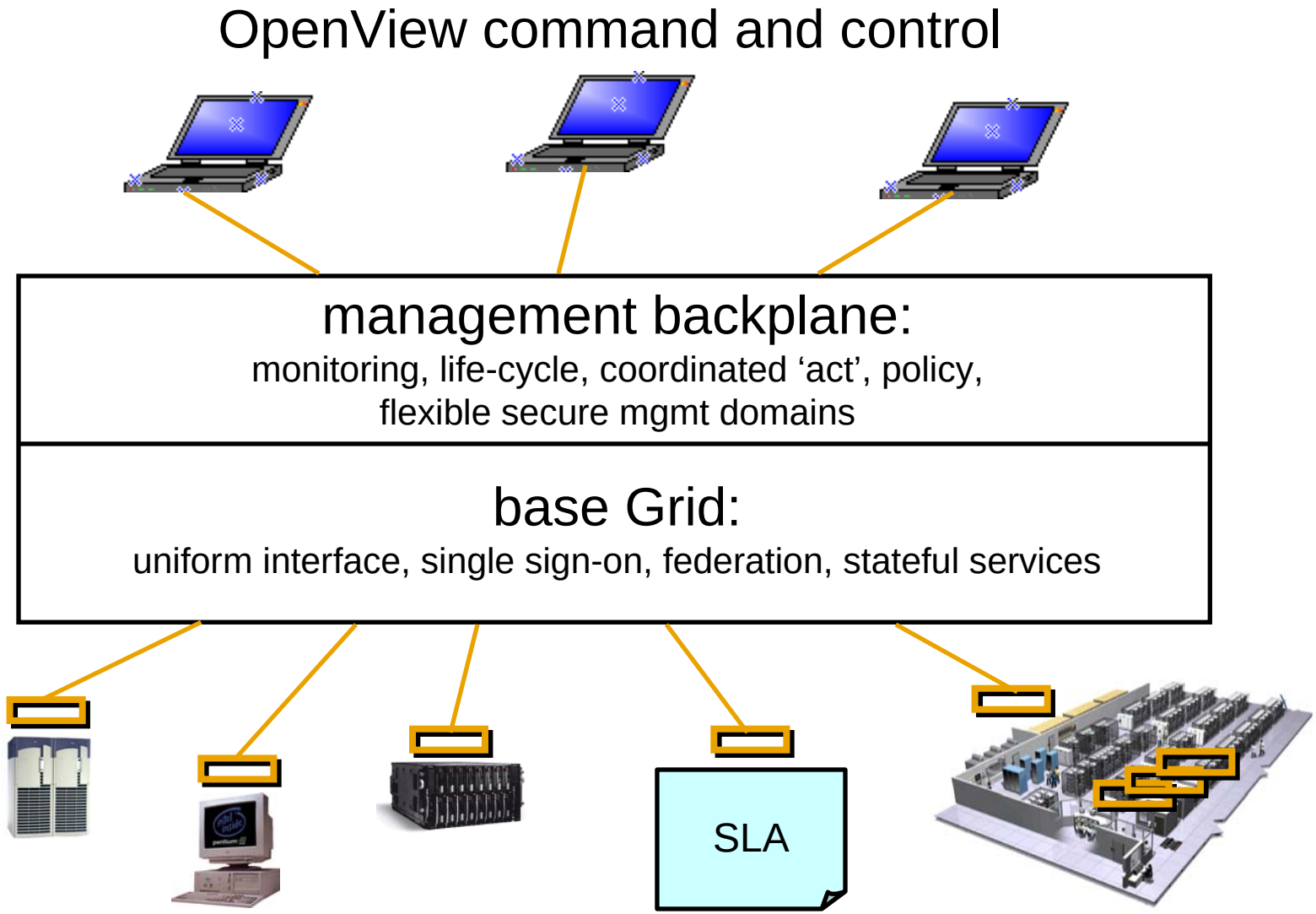


the vision versus old-style SW

OpenView orchestrates IT

HP value-add management leverage Grid, other web services

everything is a Grid service



2008

basis web services management standard accepted

established management-related standards

- Web Service Distributed Management for information exchange (OASIS)
- WS-Agreement for SLAs (GGF)
- WS-Policy, SAML basic standards (W3C et al)
- CDDML for deployment description (GGF)
- ...

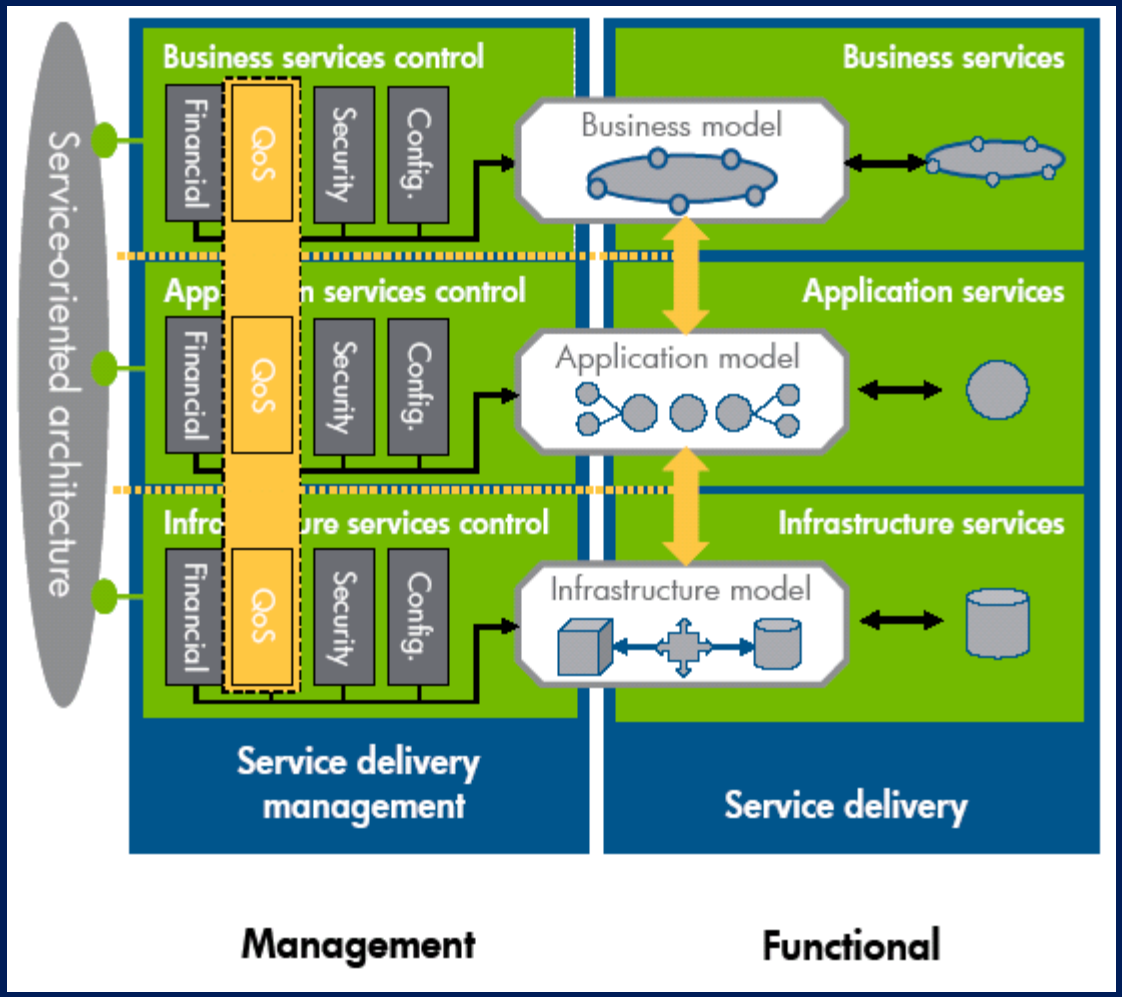
web services work, even in terms of performance...

management as ‘just another application’

- management continues to move ‘up the stack’
- service-orientation used everywhere—in a very general sense

just another application is perhaps too strong, but:

- base of device monitoring
- growing importance of SOA applications for management



what does SOA mean in this context

SOA: not particularly scientifically/academically advanced, but:

- independent functionality for services
- published interfaces

in essence:

- reengineering of existing software for reuse

and in the future

- designing for services

no implications for particular implementation (eg. web services)

how did grid software do?

OpenView orchestrates IT

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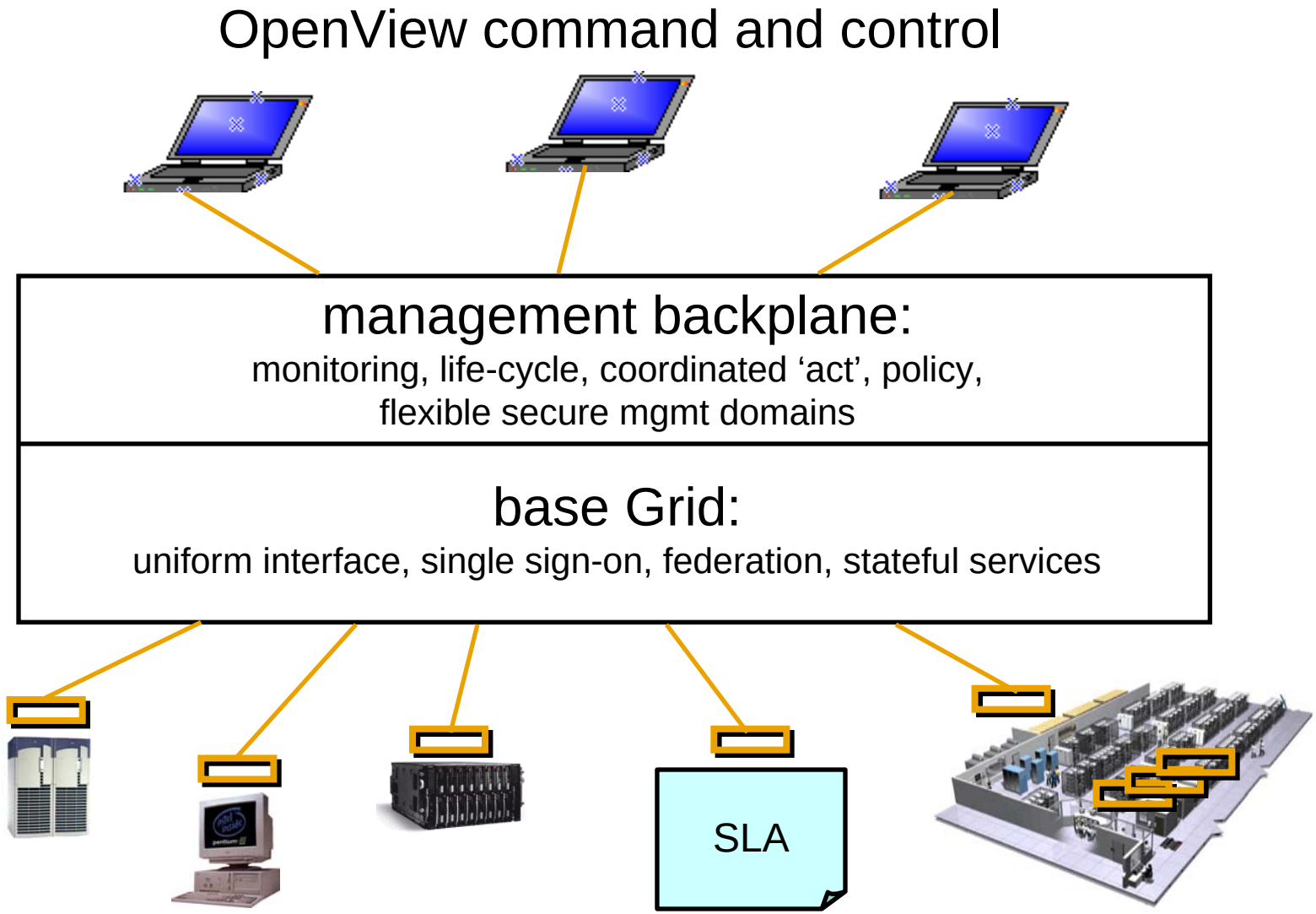
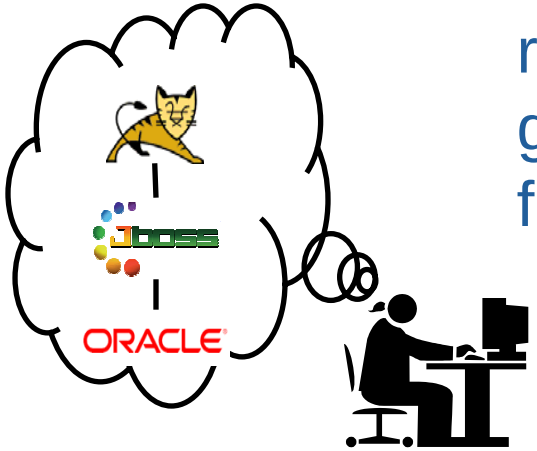
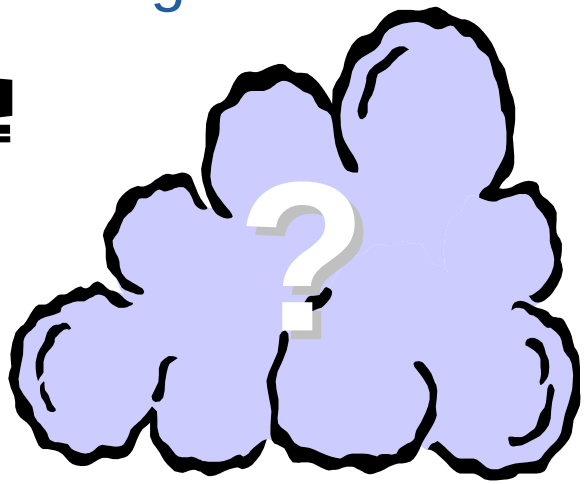
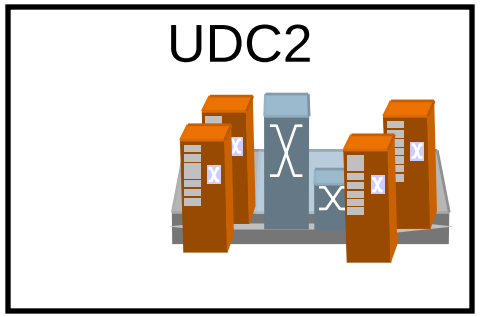


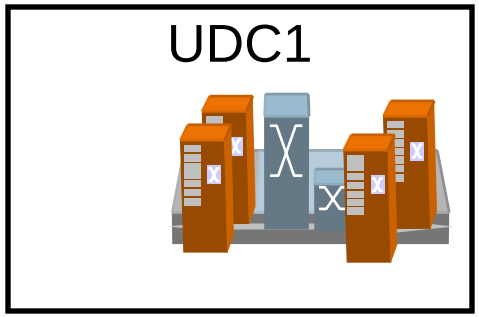
utility computing from customer perspective

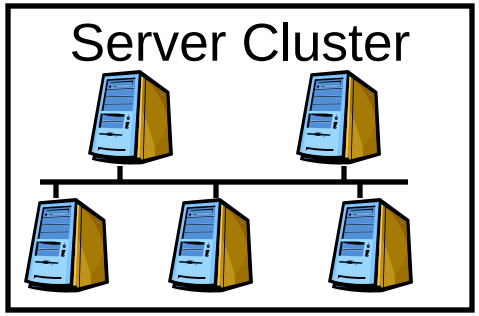


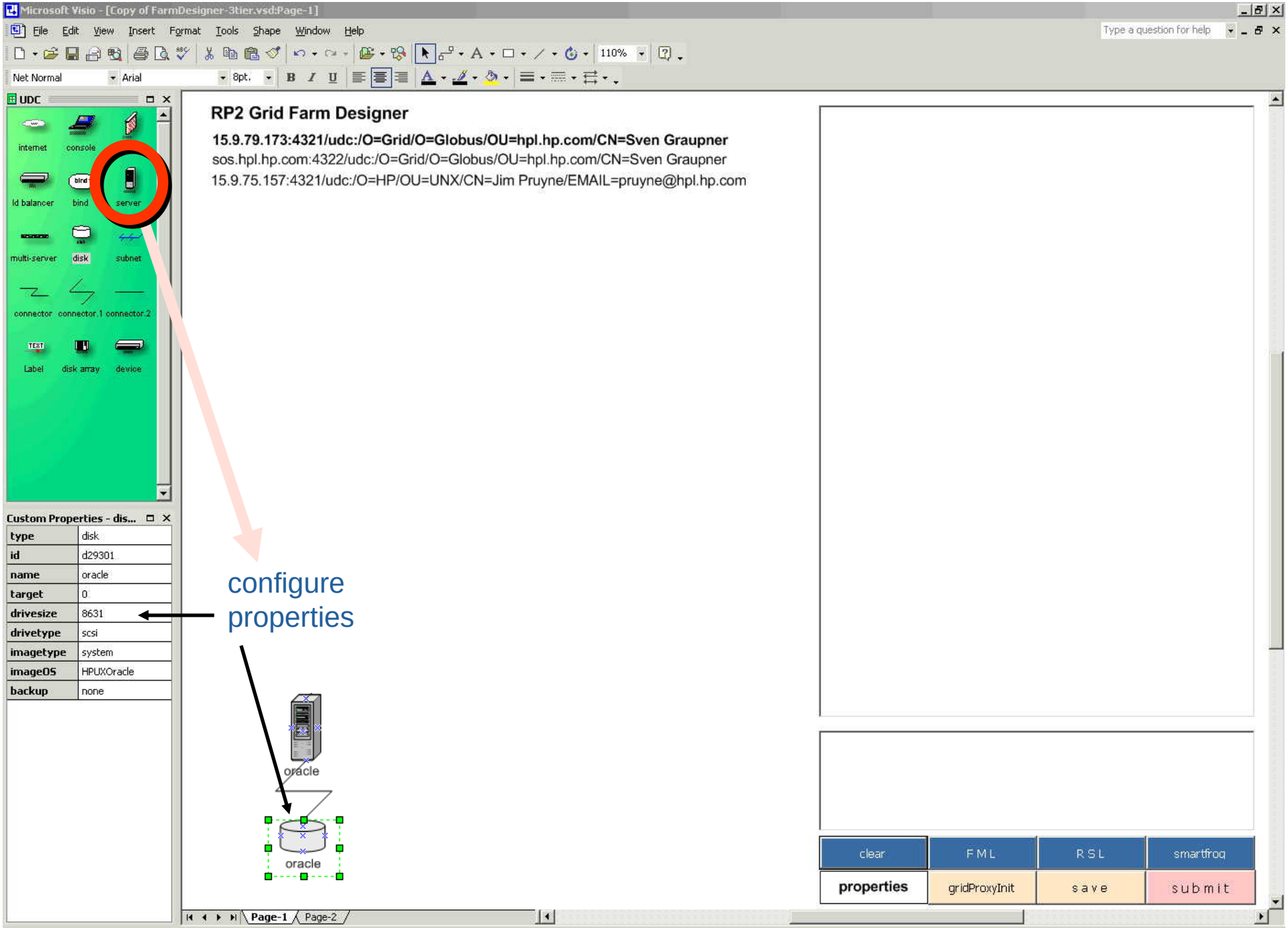
reserving resources
getting resources
flexing resources

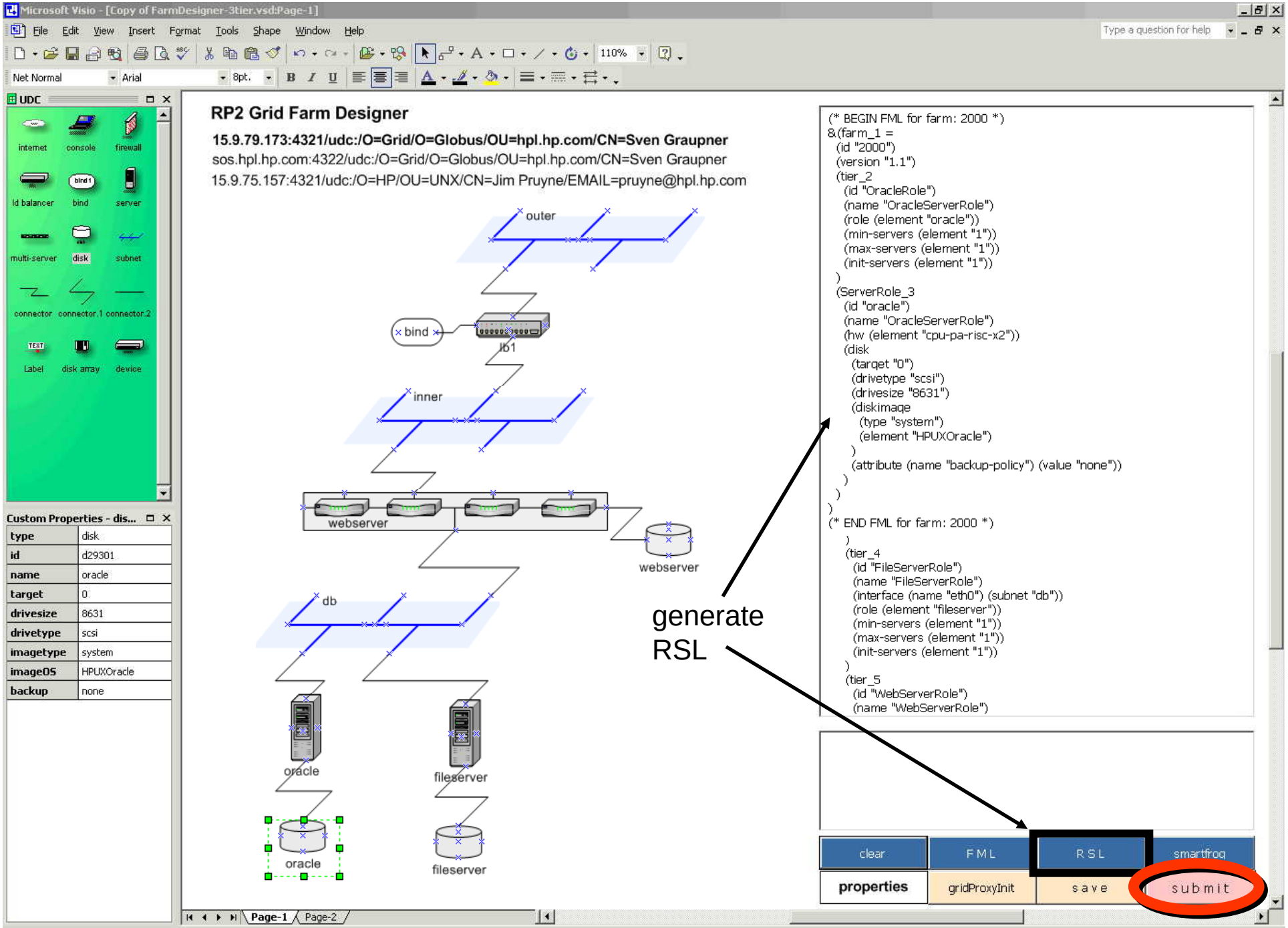












utility computing for operators

utility computing has great potential to improve operations:

- better utilization of resources (flexing)
- better tools for setting up applications
- new business models, better accountability

need something that is open, extensible, uniform, …

standards strategy for grid based management backplane

cloud computing

ever had a £ 0.20 credit card bill? (in fact $ 0.37)

that's cloud computing!

Amazon:

- SOAP interfaces
- REST interfaces

not so different from the HP management vision

but no grid standards involved...

how about REST

REST: Representational State Transfer

- uniform interface (think HTTP)
- stateless

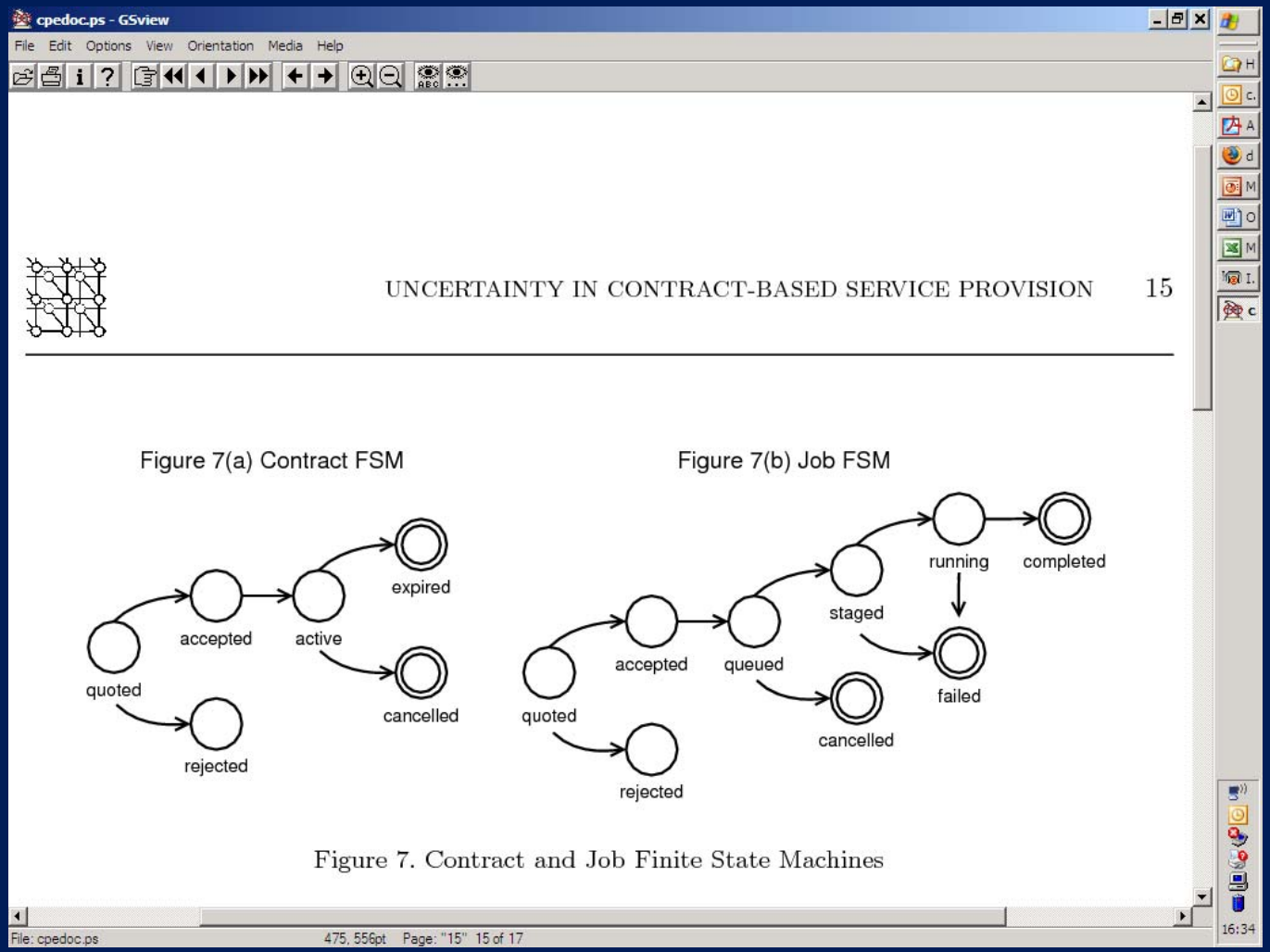
two perspectives:

- as a reaction against web services standardisation
- as continuation of the success of the web

REST for management (monitoring!)

Solution	Positive	Negative
SNMP (3.1)	-Simple syntax -Minimal processing	-Inflexible state representation -Limited semantics
CIM-XML (3.2)	-Exhaustive semantics	-Object-specific state representation -Convoluted syntax -Excessive processing
WSRF (3.3)	-Flexible state representation -Explicit semantics	-Verbose syntax -Excessive processing
REST (4)	-Flexible state representation -Simple Syntax -Minimal processing	-Implicit semantics

we build everything in REST



REST: undoubtedly the right choice for researchers

where are we now?

as predicted in 2003

- web service accepted
- basic standards have emerged and are used
- SOA real, although in a restricted incarnation

but the odds are against:

- further acceptance/proliferation of standardised grid/utility computing

and instead:

- proprietary software solutions a la Amazon, Google
- REST as implementation paradigm

conclusion

did we fall for the same trap again, and shouldn't we know by now that:

- manageability as technology driver is a losing proposition
- reality forces us to treat management as an afterthought: market forces do not allow otherwise (in enterprise computing)
- functionality-focused REST and proprietary win out over middleware with integrated management
- keep an eye on IT staffing numbers: eventually, we'll all be researching manageability redesign of all our systems (SOA is a case in point...)

references

references:

- recent paper Leymann et al on REST vs Web Services
- Ian Foster very eloquently on cloud computing at http://ianfoster.typepad.com/blog/2008/01/theres-grid-in.html
- interesting workshop coming up during OOPSLA: Workshop on Empirical Studies of Web Services Architecture (The REST-SOAP Debate in Numbers)
- all standards have their own web pages

see my Newcastle home page for:

- REST management software (with Chris Smith)
- state-machine based REST implementation of SLA lifecycle mechanisms, forthcoming in grid journal
- 2006 IEEE Services Computing Contest winner for dependability in SOA
- architecture book chapter on SLAs in software
- look for policy-based information rights management software in the future