

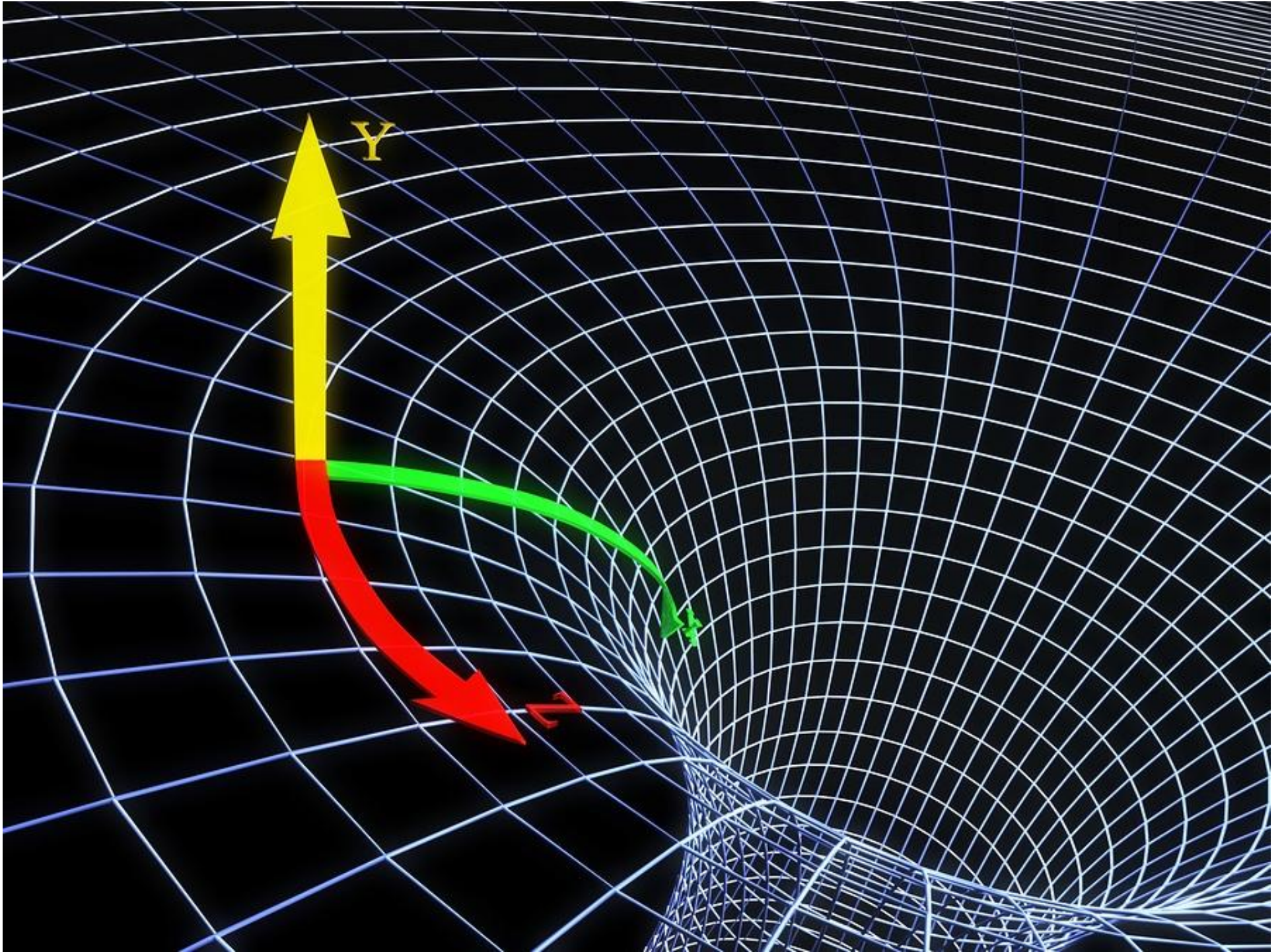


Why data centres are cost black holes



Cost black holes

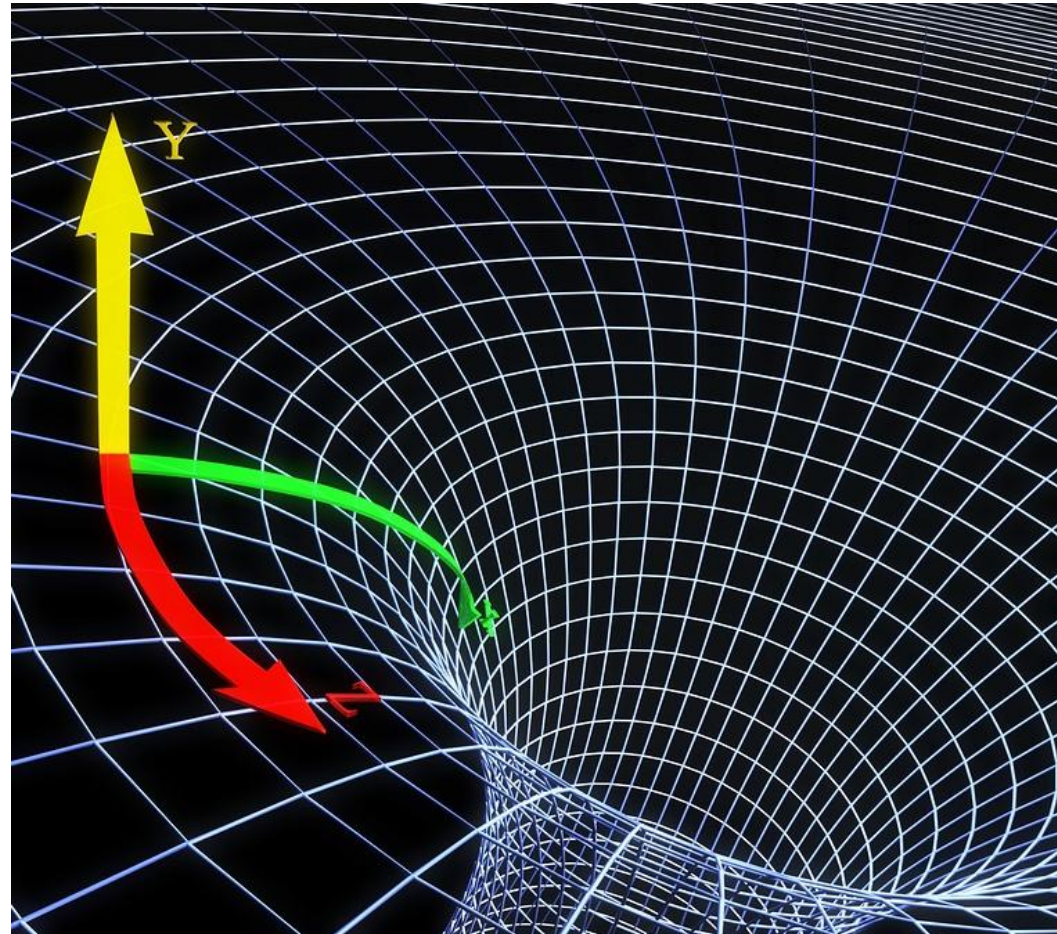
- “ An analogy
- “ Driving factors
- “ How these impact cost
- “ What do we do?





Properties of a black hole

- “ Consume matter
- “ Event horizon
- “ Accretion disk





Cost black holes

“An analogy

“Driving factors

“How these impact cost

“What do we do?



Driving technology factors

- “ Moore's law
 - Commoditisation
 - Falling price
 - Performance rising faster than power efficiency
- “ Desktop apps
 - More complex server apps
- “ Rapid development of IT equipment and shorter lifetime
 - New strains on the data centre
 - Shortening data centre life
- “ Virtualisation has decreased the working life of IT equipment
 - Breaking the link between an application and its server
 - Increasing the effective cost of the IT equipment



Driving business factors

- “ Rising dependence upon ICT services
- “ User demand for features
- “ Increasing software complexity
- “ User expectation of short delivery times
 - You can have it now in a cloud
- “ Perceived reducing costs are driving price elasticity
 - Increasing both demand and total cost.



Environmental factors

- “ Power availability
- “ Medium term energy problems
 - LCPD, grid congestion
 - Energy security
- “ Carbon
 - Direct cost
 - Legislation
 - Reputation



Operational factors

- “ Increase dependence on ICT
 - More resilient data centre and IT infrastructures
- “ Expanding volumes of data
 - Large, expensive shared storage systems.
- “ Server virtualisation driven by
 - Power constraints
 - Space constraints
 - Low utilisation



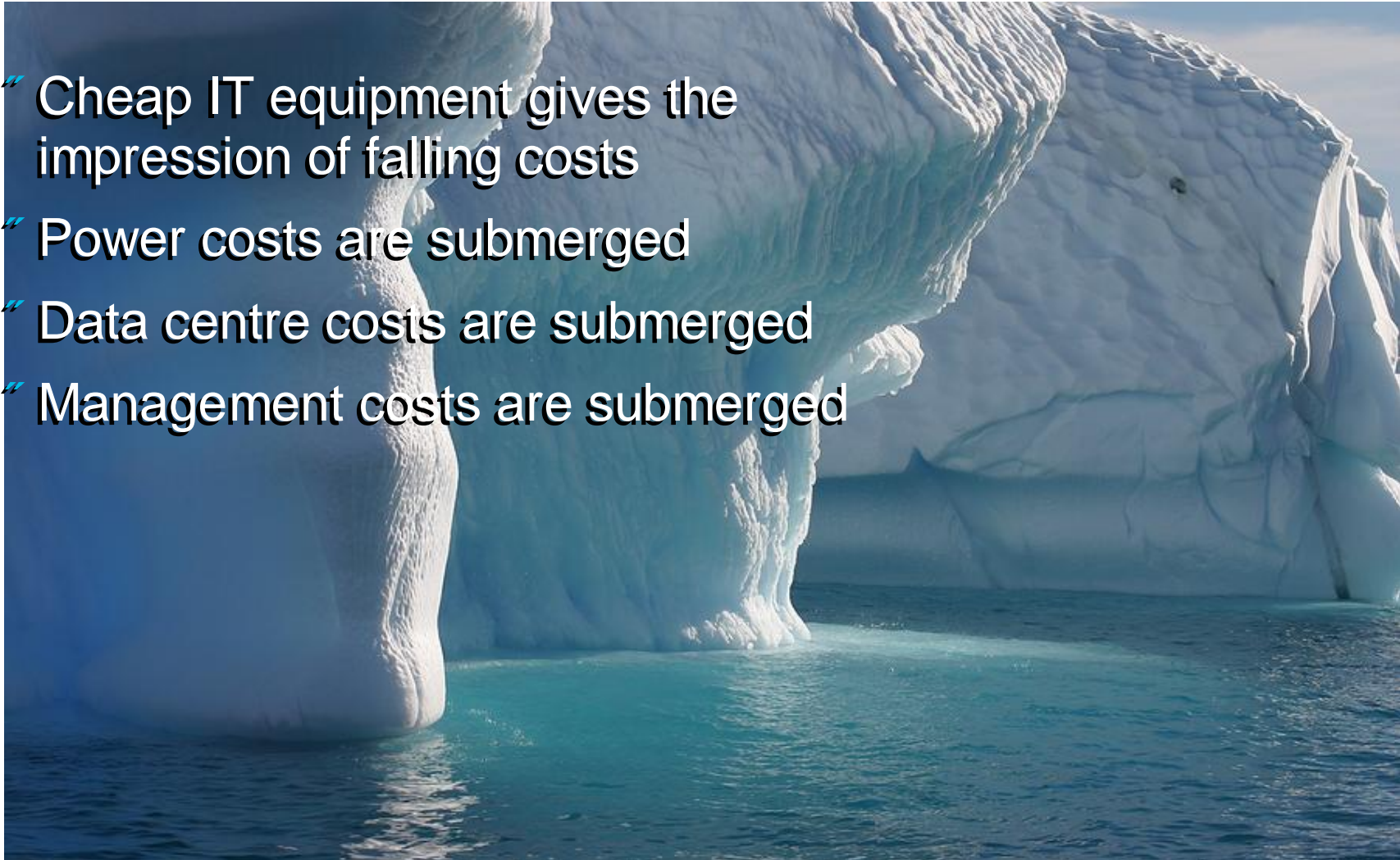
Cost black holes

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Submerged cost

- “ Cheap IT equipment gives the impression of falling costs
- “ Power costs are submerged
- “ Data centre costs are submerged
- “ Management costs are submerged

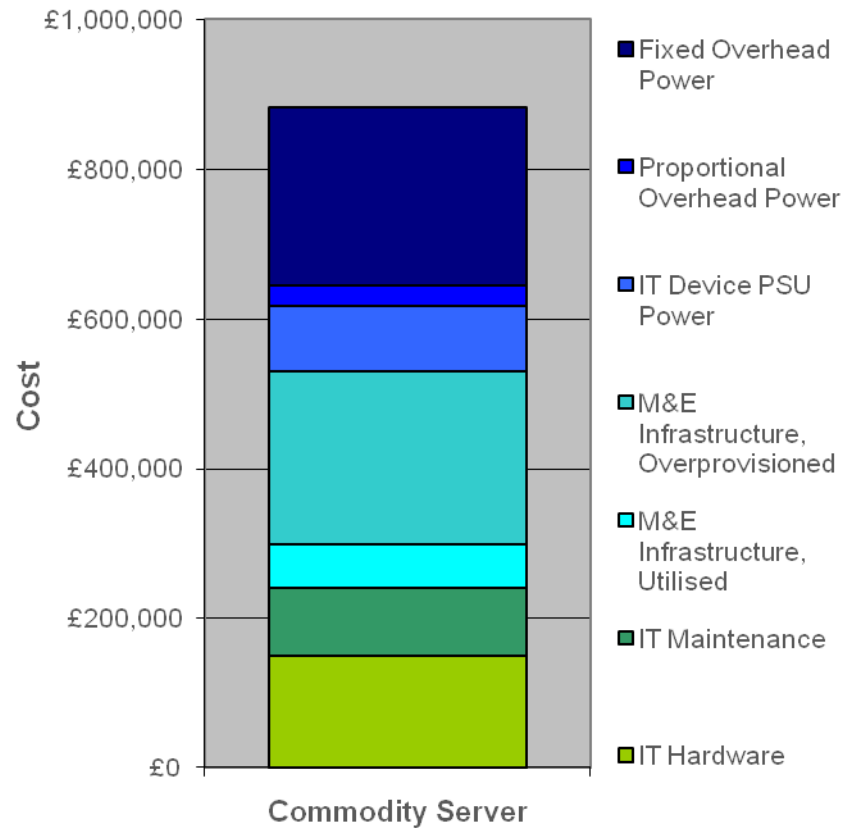




Submerged cost

- “ The balance of costs has changed
- “ Cost of power
- “ Data centre infrastructure

Overall Server Cost



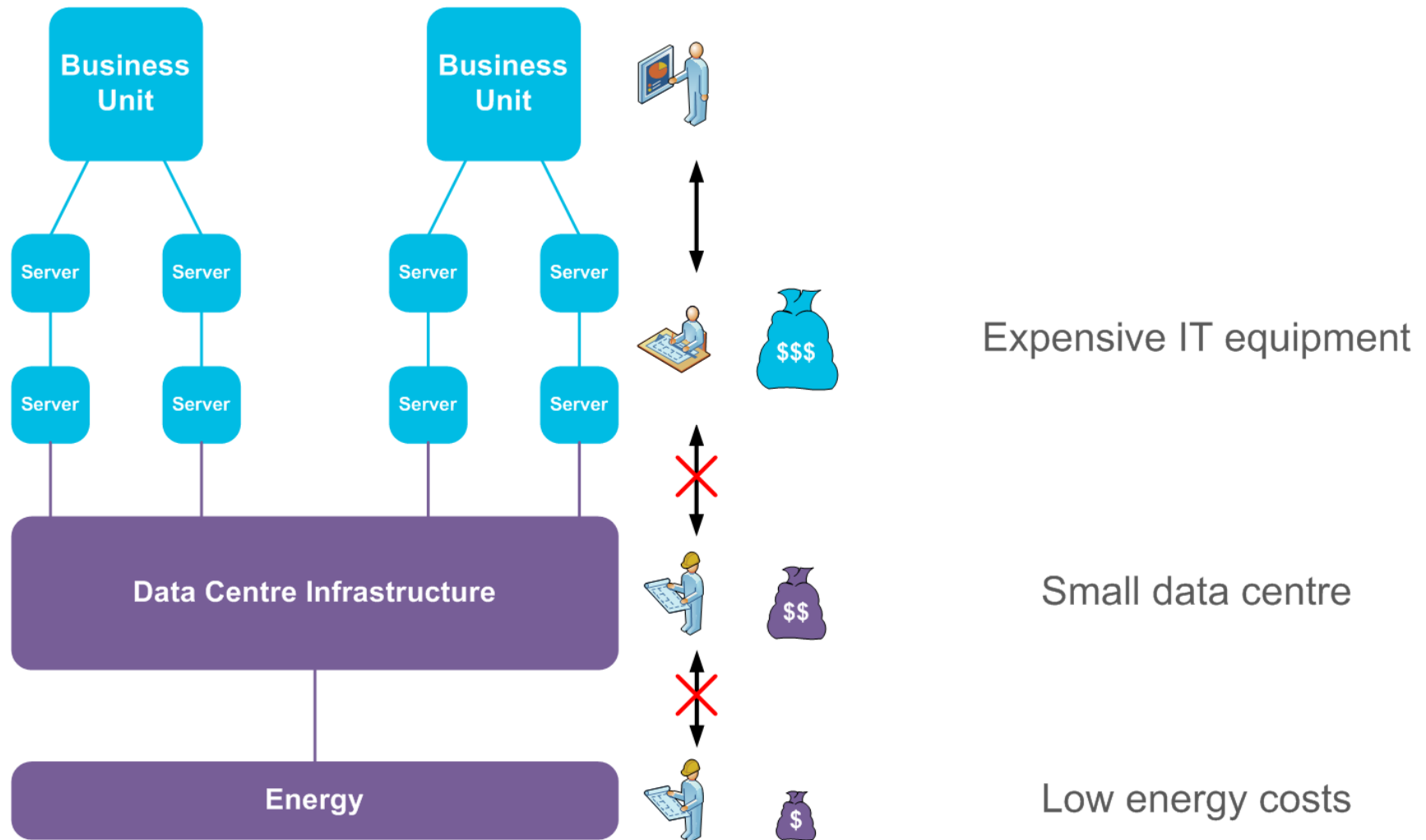


Submerged cost

- “ New costs associated with managing % virtual infrastructure+
- “ The data centre is no longer an asset
- “ Available capacity is not a good thing

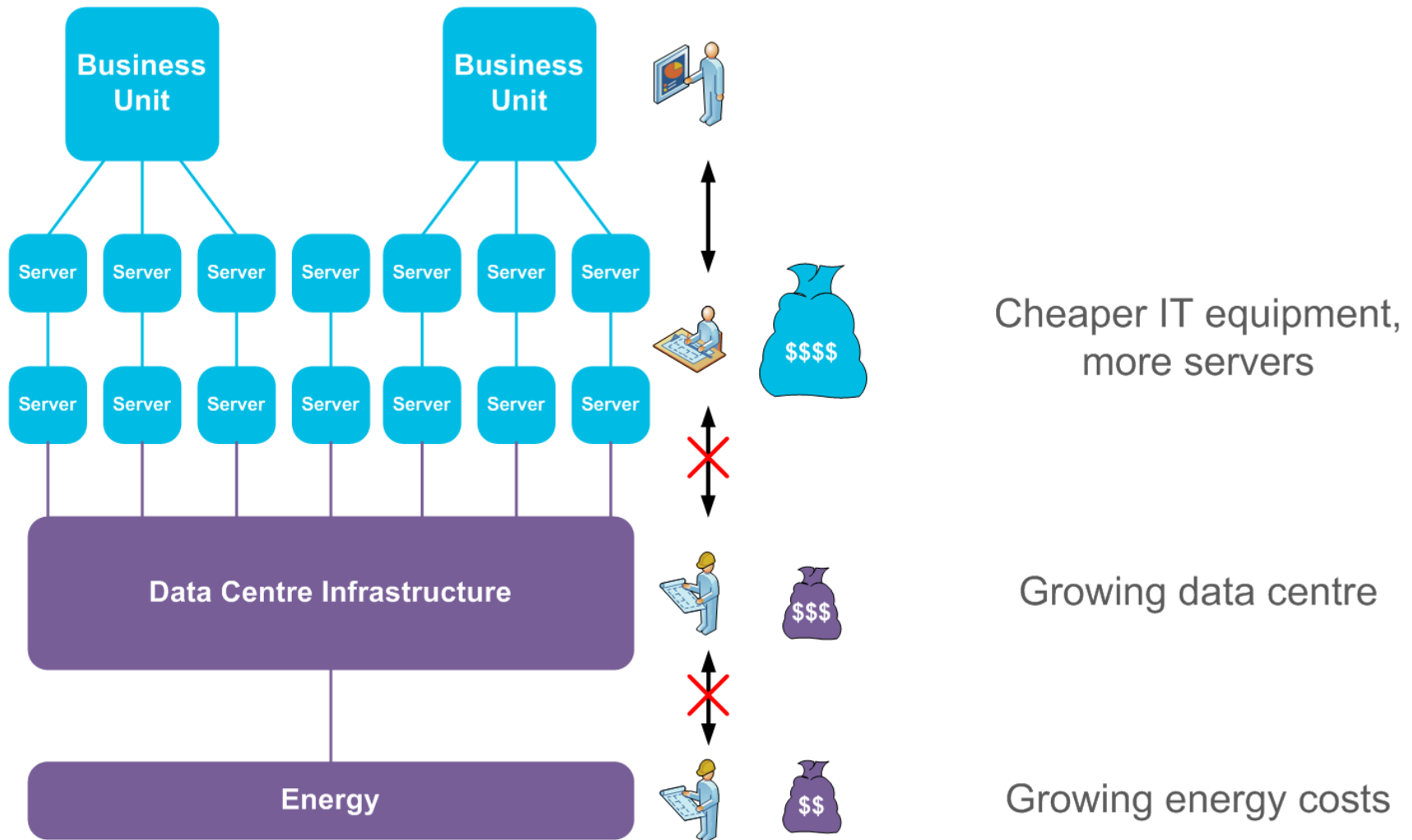


How did we misplace these rising costs?



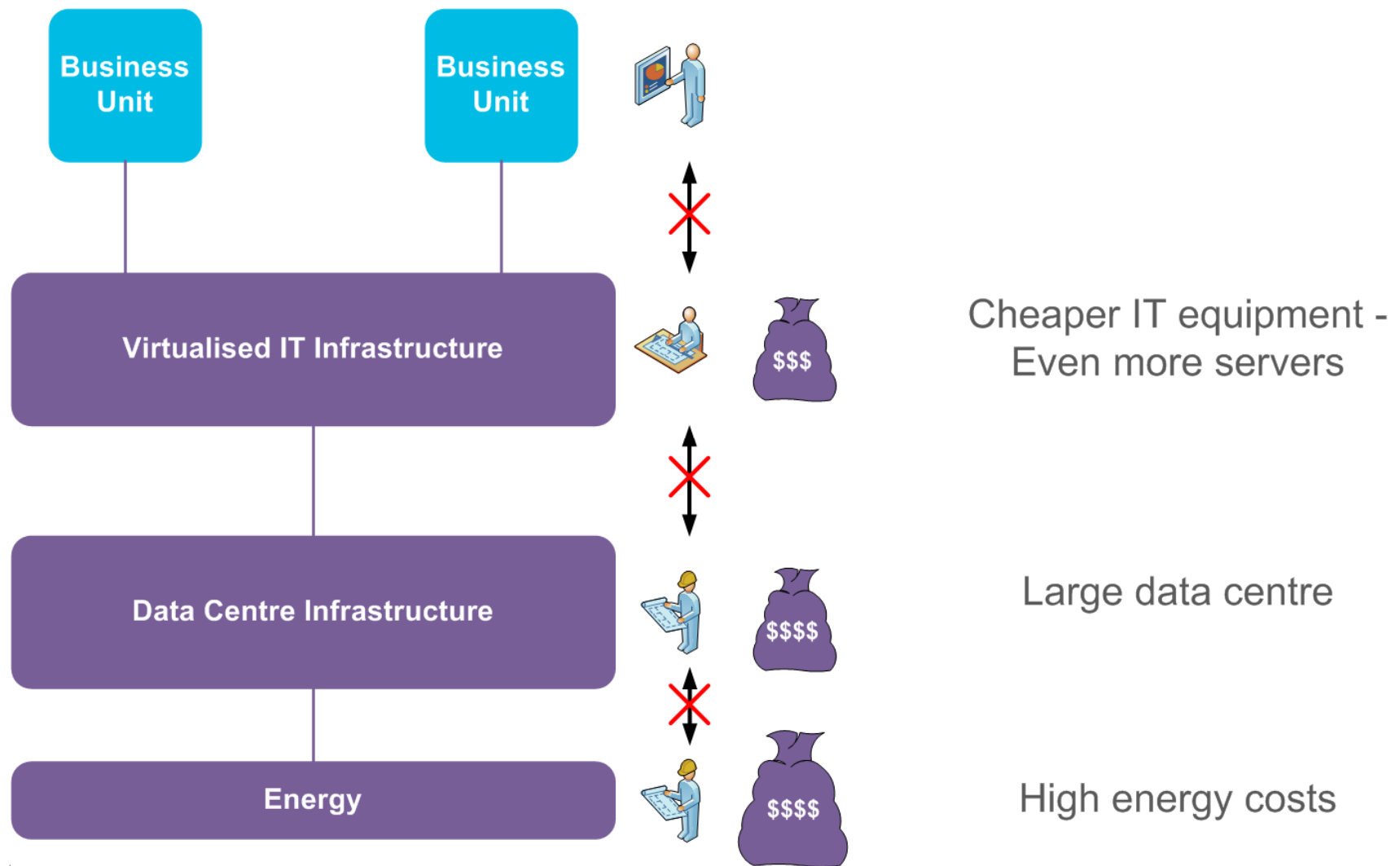


How did we misplace these rising costs?





How did we misplace these rising costs?





Failure in ICT – Business relationship

- “ Individually justified and sensible decisions
- “ Led to a substantial issue
- “ We cannot assign the rising costs to;
 - Services
 - Business activities
 - Users
- “ ICT is now operating as a planned economy
- “ Costs, reduced by virtualisation and shared services
 - Now come in large steps
 - cannot be attributed to any specific service or business activity



Failure in ICT – Business relationship

- “ Allocation formulas are increasingly unacceptable
- “ Attempts to meter power for energy chargeback don't work
 - Fixed and variable costs
 - Infrastructure and energy
 - How do you meter a moving virtual server?
- “ Businesses are unable to make clear environmental cases for ICT activity
 - how much did the logistics platform save?



Threat of Cloud

The cloud is everything the corporate data centre isn't

Rapid deployment

No capital

No commitment

No carbon

Cloud providers

Will take the easy and cheap to deliver services

Leaving an estate of ageing applications and rising cost



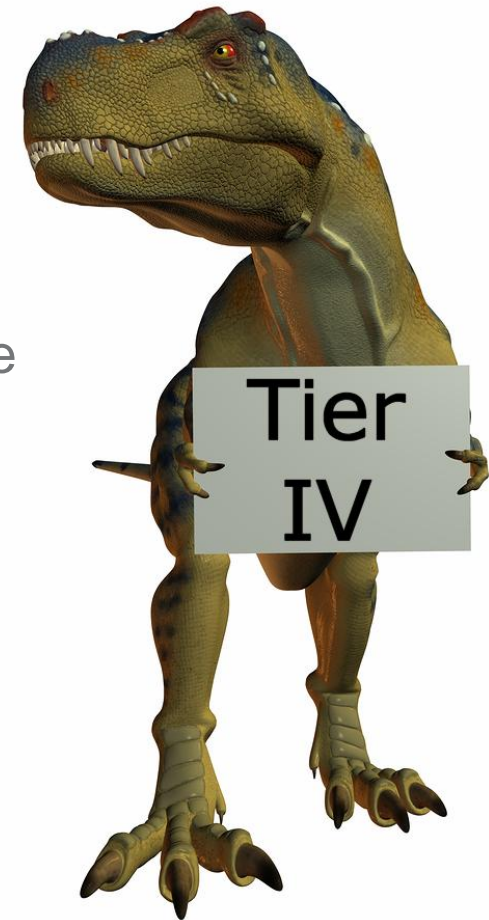
Cost black holes

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What do we do?

- “ Build a modern data centre
 - Matched to business demands
 - Don't allow 5% to fix the cost of the other 95%
 - Understand the effective and economic lifetime
 - Monolithic % Tier X+ data centres are out
 - Modular split tier are in





What do we do?

“ Balance

Cost

Risk

Capacity

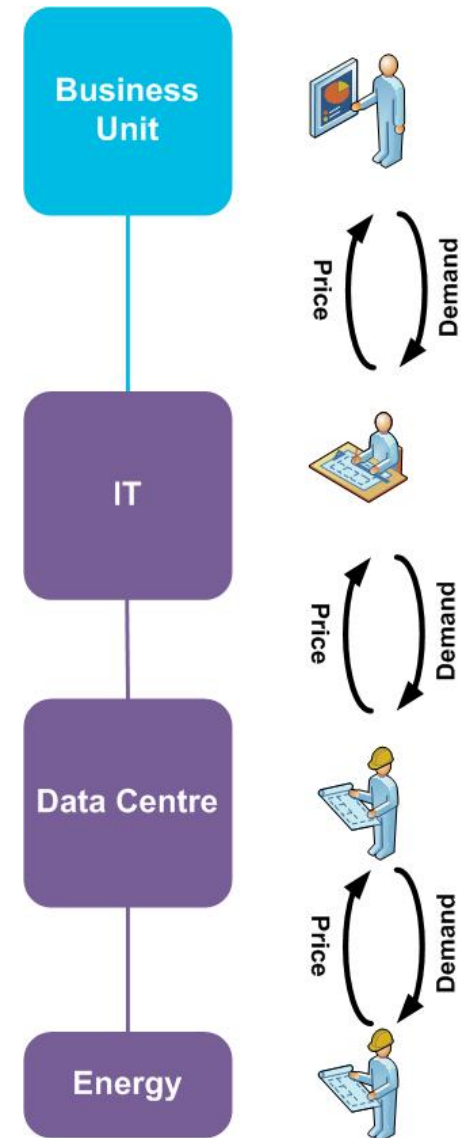
Internal / External

“ Physical and logical infrastructures cannot be optimised or managed separately



What do we do?

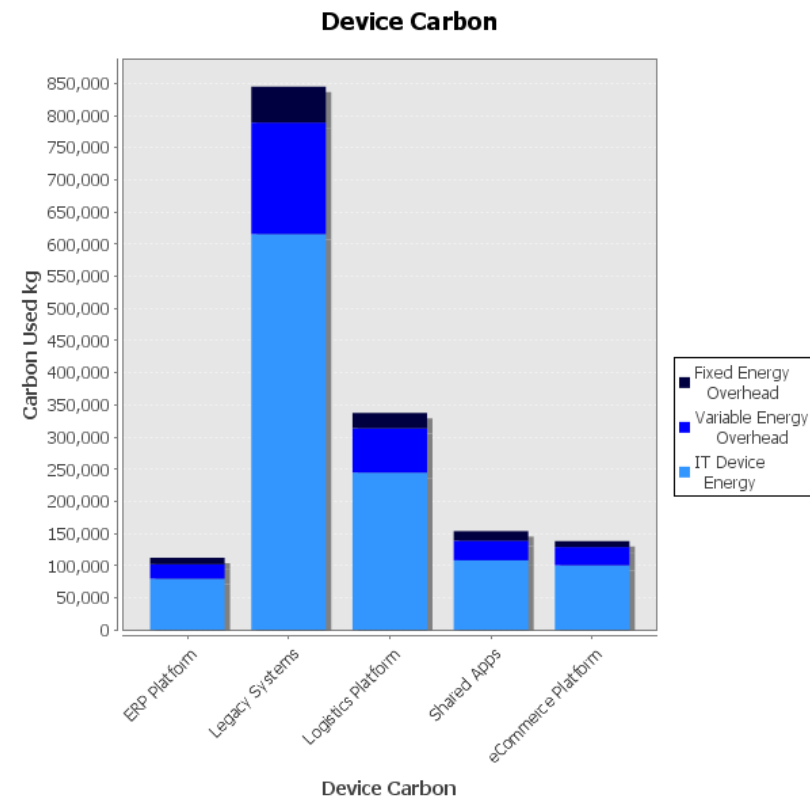
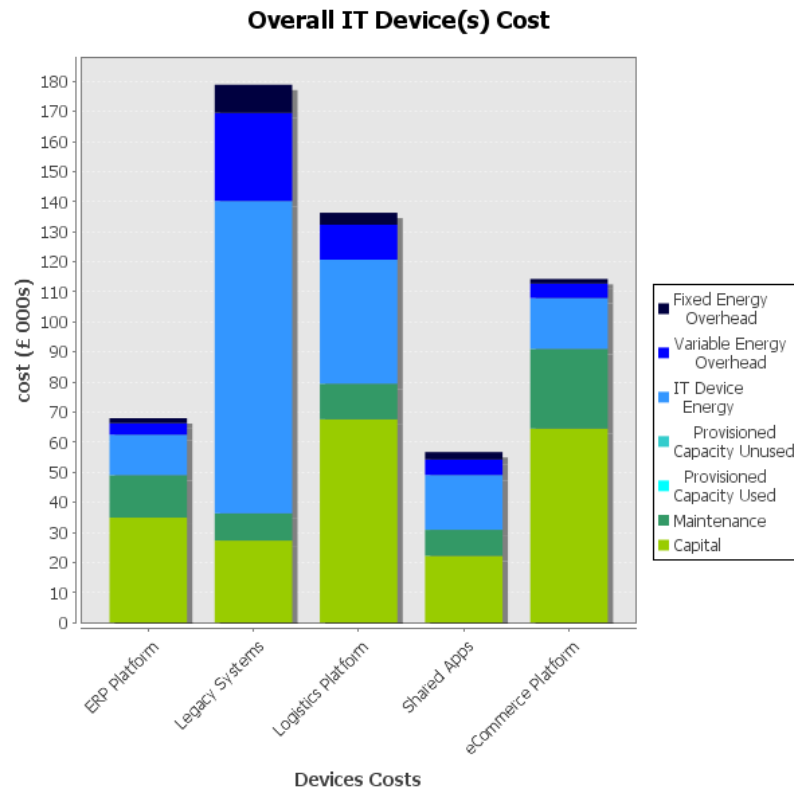
- “ Develop real cost accounting
- “ Economics will tune ICT to the business
- “ Each layer provides differentiated services at differentiated costs
- “ Direct application of costs drives user behavior change





What do we do?

Costs flow up & Information flows down



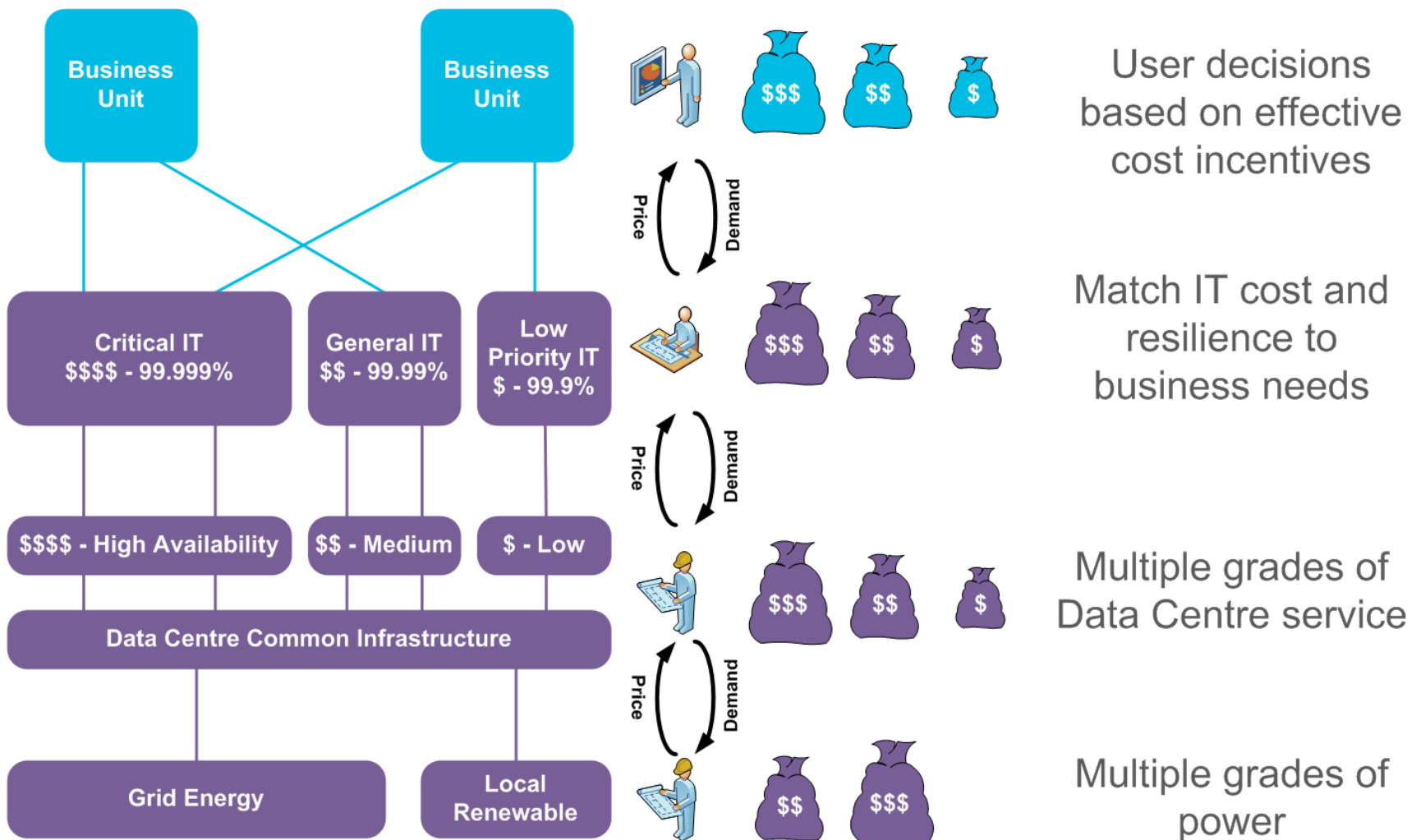


Cost black holes

- “ Costs vary with supply and demand
- “ Capacity starts to manage itself
- “ Risk can be properly managed
- “ External providers are easier to integrate



Cost black holes





Cost black holes

Thank You
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