

The Shift to IT-as-a-Utility: Theory, Present, Future

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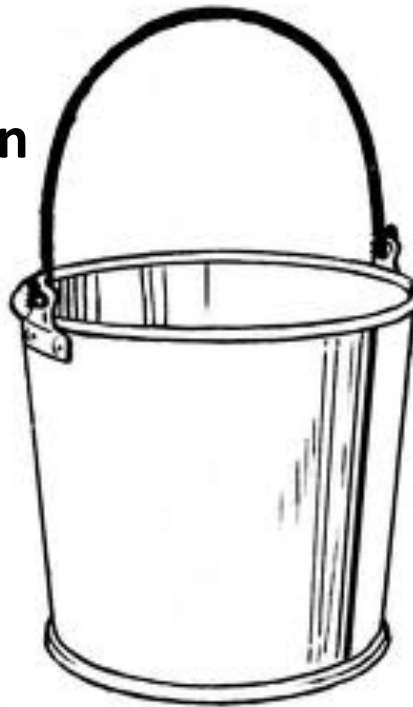
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The Theory

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The Bucket of Water Logic

**Do you want to pay me by
the size of the bucket or
how much water you have in
the bucket?**



**The answer is always - for
the amount of water you
have in the bucket.**

Why? Water is a Utility

Examples in Mastering Utility Supply



In the Digital Economy, IT (infrastructure) is the fuel
that drives the engine

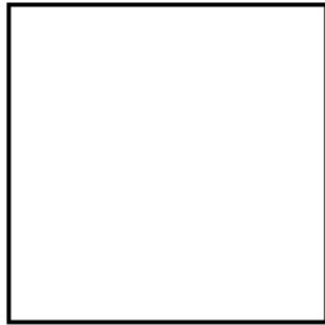
The thing that can drive agility, growth, and differentiation

Or not

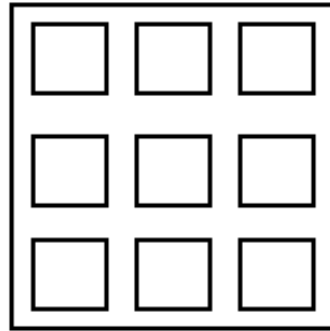
Defining an IT Utility

- Michael Rappa outlined what he sees as the defining factors of an IT utility in 2004 in the IBM systems journal:
 - Necessity
 - Reliability
 - Usability
 - Utilization Rate
 - Scalability
 - Service Exclusivity
 - Metering Usage (pay as you consume)

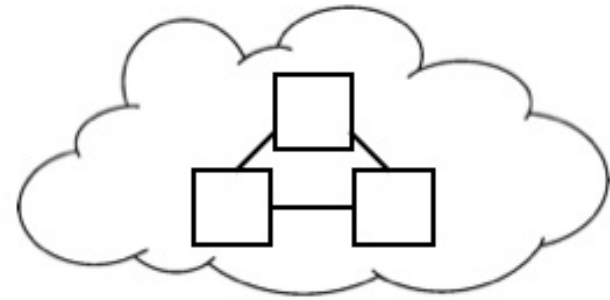
The Evolution of IT



Servers



VM's



Instances

We have solved for all of the criteria but usage based metering...

Taking One More Step

- The TBM journey solves a huge number of problems
- Utility analytics will take it one (giant) leap forward
 - Usage, not allocation
 - Establish a management KPI you can use for tracking change, planning investment, and procuring services
 - KPI benchmarking & indexing
- How to be an IT service provider

The Present

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Broadcloud Inc

- Bespoke provider of Security and Infrastructure Services
- Customer demands highly differentiated services
- Needed a method to:
 - engage customers to develop customized solutions
 - quantify price points that make sense for the customer before investing heavily in R&D
 - leverage existing investments to improve margins and lower costs
 - dynamically manage the demands and needs of highly disparate groups of users across a standardized (as much as possible) infrastructure stack

Use Case 1: [NFL.com](https://www.nfl.com)

- Requirement to provide real-time, dynamic content to over 80 million visitors each Sunday
- Ultrahigh performance requirements
- Infrastructure dispersed across seven data centers nationwide
- High-capacity bandwidth and strict security requirements



Use Case #2: Online Backup Company

- Requires a large volume of machines during online training sessions
- Each machine requires a large amount of storage associated with each training session
- At the end of each session Machines need to be replaced with new images

Use Case #3: Credit Card Company

- Load requirements exceed 1500% of baseline during the holiday season
- Zero downtime requirement
- Strict PCI compliance requirements

Use Case #4: Government Healthcare Org

- Constantly changing development and testing requirements for research stacks
- Required multiple templates of similar deployments
- Required highly flexible performance requirements

What does the future hold?

Standardization

- The establishment of a commercial standard for compute consumption measurement changes everything:
 - Standardization
 - Embedded Vendor Support
 - Baselines & Comparables
 - Best Practices for use
- TBM must play a foundational role in the establishment of such standards and best practices

Evolving Markets for Infrastructure



- Improved Business Case
- Price Competition
- Custom Capabilities

Spot Markets

- Price Discovery
- Standardization
- Basic Risk Management
- Market Power & Transparency

Derivative Markets

- Future Price Visibility & Cost certainty
- Risk Management (both futures and options)
- Regulatory Control
- More Choice

Unstructured Markets



An abundance of data, driving improved decision making

Thank You

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