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Taking the Lead in Cloud Adoption & Procurement:
A Quick Guide

by Frank Contrepois

It often seems that IT can use the cloud without interference until the invoice reaches a threshold. Going above that puts the spend on procurement and finance's radar. Buying cloud rarely fits into the governance processes for procurement and finance; incomprehension and frustration slow, or even kill, wider cloud adoption. Cloud vendors are technical powerhouses that don't fully understand their contracts' financial and procurement implications. It doesn't have to be like this. IT, procurement, and finance are on the same team, in different roles, with a common aim of success. IT departments often fall short of convincing finance and procurement that cloud will benefit the business. This *Executive Update* seeks to help IT better advocate for cloud. First, we offer a solution to cloud's most significant financial risk. Next, we translate some IT concepts into their financial equivalents.

First, Give Colleagues an "A"

Whenever there is frustration between departments over a cloud project, it is essential to start by giving the other side an "A." Assume all sides are doing their best to make the company a success, just as you are. Putting yourself in other people's shoes is an appropriate use of time and energy.

The Critical, Unresolved Problem of Overspend

While the cloud eliminates most past procurement risks, it adds an overspend risk that does not have a simple solution — yet! Cloud cost control is in its infancy. Indeed, it is impossible to set a firm maximum spend limit; you can be sure that the next invoice will exceed that limit. The same is somewhat true for electricity; although there is a finite amount of electricity you can use over your everyday consumption, there are no such limits to how much you can overspend in the cloud. For finance, using the cloud looks very much like providing a no-limit credit card without any serious supervisory capability.

Proving to procurement and finance that there is adequate cloud governance to protect the company from most cloud financial risks is IT's responsibility. Defining the metrics of control and success, however, is a collaboration between IT, finance, and procurement. New processes and visibility are necessary to extend the cloud beyond the IT department.

Toward a Solution: Cloud Center of Excellence

The best way to convince people of a solution is to involve them in its creation and implementation. A cloud center of excellence (CCoE) is a multidisciplinary cloud governance board with authority to define,

implement, and enforce a company's cloud computing standards. The CCoE helps set the foundations for cloud usage and provides a way to evolve the cloud outside of IT. In AWS's definition, a CCoE comprises two subgroups:

1. A cloud business office, representing the business stakeholders — both on requirements and financial oversight

2. A cloud engineering group, representing the technical aspects of cloud usage

Both groups work together to provide a holistic approach to the cloud. The CCoE helps create a harmonious move to the cloud, listening to all stakeholders while at the same time providing a center of authority capable of making decisions and enforcing them.

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IT Concepts in Financial Terms

The following statements represent the way IT often presents a concept. Each example in this section offers a more procurement-friendly version, followed by a brief explanation.

"Cloud Is Cheaper than On-Premise"

CAPEX and OPEX of cloud vendors are much lower than ours, and this allows them to offer attractive pricing.

Each year, cloud vendors buy billions of dollars of IT equipment, allowing for cost optimization of both CAPEX and OPEX. The savings are mostly transferred to end customers (you), thanks to ferocious competition among Amazon, Google, Microsoft, and others. AWS pushes the CAPEX optimization further by taking ownership of a big part of the IT supply chain by creating hardware (the Nitro virtualization system and, more recently, the Graviton processors).

"In Cloud Computing, You Pay for What You Use"

Computing has long been a commodity, and cloud vendors are the first utilities to provide that commodity at scale, with pricing per hour (called on-demand [OD]), similar to electricity.

Compute power has long been seen as a commodity, with the vendor's choice based mostly on existing contracts, relationships, and price. But when your business is not IT, having a data center and servers, and their associated costs, looks very much like deciding not to connect to the national grid, and instead buying and maintaining local generators. It is inefficient and soon will be a burden for the business.

Cloud vendors are the compute commodity's utilities and follow much of the electricity business model, with a pay-as-you-use (OD) tariff system charged by the hour (and sometimes by the second).

Caveat: Cloud computing as a utility is in its infancy, and each cloud vendor has its specificities, making it not as simple as electricity to switch between providers. I am confident that we will get there.

The cloud vendors follow the utility business model: high volume/low margin. This model requires vast up-front investments, many years of losses, and excellent services.

"Cloud Vendors Discount Their Prices Regularly"

Cloud vendors are incentivized to share any savings with their customers to allow for more volume and be cheaper than the competition.

Cloud vendors follow the utility business model: high volume/low margin. This model requires vast up-front investments, many years of losses, and excellent services. The substantial initial investment (often as much as US $10 billion) is why there are so few global players, each backed by a company with the cash (i.e., Amazon, Microsoft, Google, IBM, or Oracle).

"We Can Access Discounts by Buying Reserved Instances, Other Options"

By committing to using a certain quantity of cloud over a long period (i.e., forward-buying), you reduce risk for the cloud vendor, which in exchange provides discounts. There are other forms of discounts connected with the transfer of procurement risk from the cloud vendor to the customer.

The Risk/Reward Model of Cloud Discounts

This section describes the different forms of discounts available from cloud vendors in an effort to translate the cloud vendors' terms into well-known financial concepts. Each cloud vendor has an OD price list, which provides pricing for short-term usage (seconds or hours). OD pricing is the most flexible option for the user, as it is possible to turn things off to stop the spend. At the same time, however, OD is the riskiest option for the cloud vendor, as the hardware needs to be available (CAPEX and OPEX), even for brief usage.

Back in pre-cloud times, IT spend included lots of risks, including:

- **Very long-term risk** (15+ years) — selecting the right size for a new data center

- **Medium-term risks** — the amount of hardware needed (which often had a three-to-five-year life expectancy)

- **Short-term risks** — brand, configuration, and setup

IT spend would always be wrong, for one reason or another: the data center might be too small, a new technology might make the midterm investment obsolete, or sales simply would do so well that tech could not deliver as needed with what was available. The company's risks were enormous; getting it wrong had costly (and career) implications, and 20-year forecasts were always inaccurate. If the business has nothing to do with IT, you want to eliminate all those risks. One option is to transfer the risks to a specialist company for a price, which is what

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cloud vendors do. They take on most IT procurement risks themselves while still providing a better price point than going to smaller IT shops.

The concept of risk transfer is the foundation of most discounts in the cloud. The more procurement risks you take away from the cloud vendor, the more discount you get. And the more you help the cloud vendor forecast usage precisely, the more discount you get. OD pricing is the costliest method (although more flexible), and the more the risk moves from the cloud vendor to the customer, by making commitments, the deeper the discount available.

Commitment Options

Remember, a commitment is nothing but the economic concept of forward-buying: guaranteeing the payment of something up front to get a better price (see sidebar). Reserved instances or savings plans are hourly discount vouchers that, if not used, are wasted. The cloud vendor is certain to get the money for the resource, but it is on the user to consume the resource, usually by tuning something on. (*Note: a dollar in the bank today is more valuable than a dollar in the future, and it is always possible to access additional discounts by paying earlier.*)

The following are three examples of discounts available in the cloud:

1. **Nonflexible commitments.** Ensure the cloud vendor that a customer will pay for (and maybe use) computing power in a specific region for one or three years. Such a combination is rigorous and removes most of the cloud vendor's risks, allowing for the best discount.

2. **Flexible commitments.** The customer can change one or more parameters over time and get a slightly less deep discount. Any flexibility given to the customer is a risk that stays with the cloud vendor.

3. **Enterprise agreements.** A customer guarantees a level of spending in exchange for an overall flat discount. These agreements are not of great help to the cloud vendor's forecast; hence, they get lower values.

A Short Note to IT

To better communicate with a technical audience, cloud vendors use technical-sounding verbiage to describe reality as financial constructs. For example, reserved instances, savings plans, and various enterprise discounts are all types of forward-buying, where you commit in advance to something in exchange for a discount. Your finance colleagues will better understand if you refer to them instead as *forward-buying mechanisms* — simply the exchange of a guarantee to purchase in exchange for a discount. Any season ticket plan follows the same approach.

Spot Instances Are Slightly Different

Cloud vendors need to buy more hardware and resources than are necessary to keep the illusion of infinite flexibility. The consequence of this is that at any point in time, there are idle servers not generating revenues.

To incentivize the use of those idle resources, cloud vendors offer spot pricing, which is auction-based pricing providing 70%-plus discounts. Still, in exchange, the cloud vendor has the right to terminate any spot server with a two-minute warning. With reserved instances, the customer guarantees the cloud vendor to help forecast usage; a spot instance is about making the available stock accessible until needed.

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Volume Discounts Are Rare and Limited

A frequent cause of confusion is the assumption that buying more leads to better prices, which isn't the case in the cloud. Everyone gets the same OD price in the cloud, and most services don't offer any form of discount (volume or commitment), so buying more is not an effective way to get a better deal. Building cloud-native architectures and taking back some procurement risk is more efficient.

Concluding Thoughts

The IT department often finds itself in the position of leading a multidisciplinary initiative for wide cloud adoption. "Leading" implies convincing others to follow you. To do so, you need a mutual under-standing and a common language. Finance is perfect, but the bridge between the technical jargon and the financial world is not mature.

Building that bridge is left on the shoulders of a courageous few in IT. In this *Update*, I hope to have lit the spark of understanding and curiosity (so frequent in IT) for you to join this group of courageous ones and accelerate the movement toward cloud.

About the Author

Frank Contrepois is a Senior Consultant with Cutter Consortium's Business Technology & Digital Transformation Strategies practice. As a cloud expert, he has developed and implemented innovative solutions relating to cloud installation, configuration, customization, and integration. Mr. Contrepois is adept at incorporating a culture of continuous improvement and development to strengthen the people and processes of an organization. In addition to his role with Cutter Consortium, he is an executive with Cutter's partner, Strategic Blue, where he helps customers obtain the positive impact of high-finance methodologies applied to cloud economics. Previously, Mr. Contrepois served as Senior Director of Application Automation & Innovation with Virtustream, where he defined the strategy for an enterprise-class product that automates DevOps activities in the cloud/hybrid cloud. As Senior Technical Director at Virtustream, he designed solutions for cloud service providers and enterprise customers and led the DevOps team in managing the Virtustream cloud for EMEA (Europe, Middle East, and Africa). Prior to Virtustream, Mr. Contrepois was Cloud Orchestrator Architect for Cisco Systems Cloud Advanced Services, where he led a team of professionals with proficiency in consultancy, design, and end-to-end delivery of cloud solutions and served as an expert consultant for Cisco Intelligence Automation for Cloud. He holds a bachelor of science degree in IT engineering from Università degli Studi di Roma. Mr. Contrepois speaks French, Italian, English, and Spanish. He is an AWS Professional, Certified Scrum Product Owner, and a Certified ScrumMaster. He can be reached at experts@cutter.com.

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