



OF CLOUDS AND PIZZA

BY JOE HOEGLER

With so many different cloud “as-a-service” models, it can be challenging to understand them all. Did you ever think that pizza could help? By the way, who doesn’t like pizza?.

When considering “the cloud,” most service provider offerings can be categorized into one of three areas: Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), or Software-as-a-Service (SaaS).

- **IaaS** involves hosting infrastructure services, virtual machines, and more on hypervisors hosted by the cloud service provider and not hosted within a colocation facility or data center that the firm operates.
- **PaaS** involves the same components as IaaS but abstracts further to providing middleware, runtime libraries, database engines, and other development services to allow a firm to build applications hosted by a cloud service provider.
- **SaaS** involves an application fully hosted and maintained by the cloud service provider – all the firm needs to do is consume and pay for the application service.

"Your IaaS provider packages all those ingredients for you, thereby allowing you to build a solution on top of it."

How can pizza help to simplify technical definitions of cloud services? The popular [infographic](#) has been circulated on the Internet and is one that Kraft Kennedy referenced during our recent [ILTA Roadshow – Delivering the Cloud Infrastructure Easy Button](#). Before we get started, we are not going to debate the merits of New York vs. Chicago styles of pizza although it would be fun to work that into a comparison of major cloud service providers. First, consider traditional on-premises infrastructure that a firm would deploy and maintain themselves. On-premises

would be similar to buying all of your pizza ingredients at a grocery store, assembling that pizza yourself, using your own oven with electricity/gas to cook it, and serving that pizza with soda on your own dining table. Seems simple, right?

If you consider IaaS, this analogy centers around buying your favorite premade pizza from the grocery store, cooking it in your own oven, and serving with soda on your own dining table. It may seem a little counterintuitive that electricity/gas and an oven are not considered hosted infrastructure in this analogy but, instead, the hosted infrastructure framework

on which you build your pizza service are the ingredients – the cheese, toppings, sauce, etc. – or the physical servers, storage, networking, etc. that comprise your IaaS provider’s solution. Your IaaS provider packages all those ingredients for you, thereby allowing you to build a solution on top of it – your desired lunch or dinner. You then build your virtual machine servers and applications – or cook the pizza in

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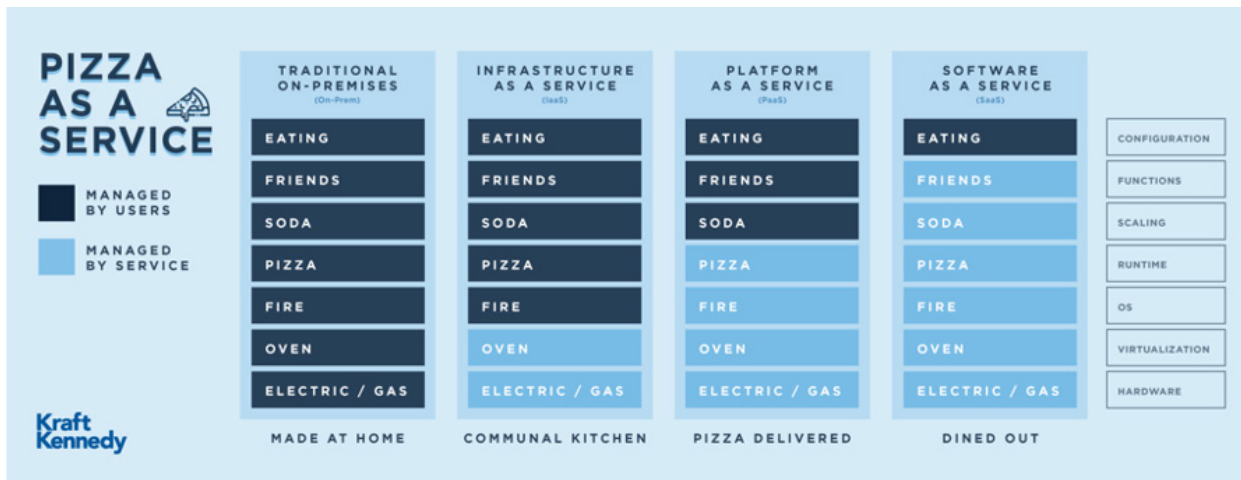
your oven and present it for consumption – based on the capabilities that have been provided by your IaaS provider.

PaaS is not something frequently seen in the legal vertical but, with the availability of on-demand scalable web services and cloud database engines, this category of cloud offering will likely increase in popularity. With PaaS, the pizza analogy centers around delivery. The pizza is assembled, cooked in someone else's oven, and brought to your home, ready to be eaten. All you must do is provide the soda and serve on your dining table. You are responsible for the presentation of the pizza and the drink – in technology terms, you are responsible for the application with which a user interfaces (the served pizza on your dining table) and the data associated with that application (the soda that supported the pizza you served).

There are many SaaS solutions that law firms consume today. The most common ones are Exchange Online for email, cloud accounting systems, cloud document management systems, etc. In the pizza world, with SaaS, you visit your favorite pizza place and all you

have to do is stuff your face full of delicious crust, cheese, and sauce and pay your bill on the way out. Your favorite pizza place assembled the pizza, cooked it in their oven using their electricity/gas, and served it to you with soda on their dining table. You did not need to provide anything for the meal except for yourself to consume it and your wallet to pay. It's the same with a SaaS cloud model – you are responsible only for using the application or service for whatever purpose it was intended and paying for your consumption of that SaaS solution.

Another way this can be considered is illustrated below. The analogy components remain largely the same but with some of them shifted to better align with what many people would think as infrastructure components. For example, the utilities one would associate with preparing a pizza (the electricity/gas) and appliance used to cook the pizza (the oven) are equated to the “utilities” associated with hosting virtual servers and applications (the physical server hardware, storage, and networking) and the “appliance” used to host virtual servers and



applications (the virtualization hypervisor). Furthermore, this different analogy highlights key reasons why firms consider moving servers and applications to cloud platforms.

In an IaaS platform, firms desire to keep control over their virtual servers and applications, perhaps even building their own applications to meet their specific needs. That said, they do not want to manage the technology plumbing – the physical servers, storage, networking, etc. With pizza, this is the same as making your favorite pizza with all of your premium ingredients, homemade sauce, and all the toppings you want but then bringing it to a pizza place to use their coal-fired oven for the most authentic taste. You did not want to buy and maintain that coal-fired oven yourself but rather leverage it when needed to give you the best possible results for your pizza. This alternate analogy also includes a key aspect of cloud services that is absent from the original one – consumption. In a SaaS model, an end user must only consume whatever service or application is presented. The firm is responsible for payment, but the end user is who consumes the service. In the original pizza analogy, there was no indication of anything that the end user would do. In the alternate analogy, eating the pizza (truly consumption) is the only responsibility assigned to the end user.

Regardless of the analogy used, comparing cloud platforms to pizza can be an entertaining and effective way to explain the key differences between those platforms and make you hungry at the same time. **ILTA**



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