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Cloud Computing 101:

**The Ultimate Guide
for Tech Marketing Writers**

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About this Paper

Let's start with a few assumptions about who you are and why you're reading this ebook. The first assumption is that you're a writer—or a digital marketer, content marketer, tech marketing professional, or a rising tech blogger. Or, if you're not already a professional B2B writer, you have the appropriate writing skills and are seeking freelance writing work. As you'll see below, talented tech writers are both in demand and in short supply.

The second assumption is that you're curious to know if writing about cloud computing or cloud products is something you can actually do. Hopefully, this guide will help reassure you that, even without a lot of tech expertise, you're capable of writing high-quality articles about anything from DevOps to cloud migration to cybersecurity.

* * *

The first thing to understand is that you have a very valuable tool literally at your fingertips: your honed communication skills. There are a lot of people out there with technical expertise. There are a lot of people out there who understand the cloud. There aren't a lot of people who are gifted communicators, that is, skilled at getting a point across in a clear, compelling way to a mainstream audience.

This ebook will introduce you to the main cloud industry players, as well as to the language they speak. Plus, we'll share some tried-and-tested secrets to creating articles that speak directly to tech professionals on the ground, working with the technology, or mid-level managers at tech companies.

You already know how to write; now, you need to convert that ability into delivering sophisticated tech articles that provide value to readers, especially technical readers. But don't be afraid—this ebook will show you that you actually already have the skills to do this.

Obviously, this is just one book, and it's a short one, so it won't be the be-all and end-all of writing about cloud computing. But it will ideally give you a solid foundation to write effectively about cloud computing, and, as a bonus, help give you the confidence to believe that you can do it.

Opportunities in Cloud Writing

There are many opportunities opening up for people who can skillfully and meaningfully write about the cloud, making this the perfect time to start expanding your skills and taking your writing in a technical and cloud-based direction.

Your primary client base will be tech industry vendors—large and small companies that have products to offer in the very crowded cloud-based application market.

These companies and brands need writers who can communicate their mission and put their products in the lead. In this ebook, we'll help you get to know these companies and their goals so that you can help them get where they're trying to go.

Goals of Cloud Writing

Depending on how mature their marketing efforts is, many of these companies are already producing content as a means of establishing their brand. They want to make a name for themselves within the industry and stand out as a distinctive voice. Second, they want to come across as thought leaders, driving the industry rather than jumping on a bandwagon. And finally, as in every industry, they want their content to attract organic traffic, with the ultimate goal of converting that traffic into sales leads. The way to accomplish this last goal today is to win at the content marketing game, which means delivering lots of fresh, high-quality, high-value blogs, white papers, and ebooks.

That's where you come in.

Guess What? You Already Understand Cloud

Now here's the really good news: You already know what the cloud is and does, even though you might not think you do.

Almost everything you do online these days is completely dependent on the cloud. Three examples of cloud-based applications that you might already be using on a daily basis include Netflix, Kindle, and Google Docs. Each of these applications has taken a traditional product or service (movie rentals, book buying, word processing) and made it run on the cloud.

In previous eras, if you wanted to watch a movie, you might have rented a DVD or downloaded a file to your local hard drive. Today, Netflix serves up TV shows and movies

straight from the cloud to 203.67 million subscribers, letting them watch whatever they want—instantly. For US subscribers alone, that adds up to 527 billion terabytes per month. This kind of scale and volume are where cloud truly excels - along with the flexibility to accommodate a constantly shifting and unpredictable number of viewers at any given time.

Books have been with us for millennia, but Kindle has made reading far less cumbersome by moving books into the cloud. You don't have to find them, carry them around, or save your place; and thanks to Amazon's recommendation engine, it's even easier to find interesting new titles to read. And then there's Google Docs, which has taken word processing and moved it into the cloud. This has meant that you can collaborate on documents with colleagues within the same office—or anywhere else in the world. Another benefit, of course, is that you never have to worry about losing your documents since they're all backed up in the cloud instantly.

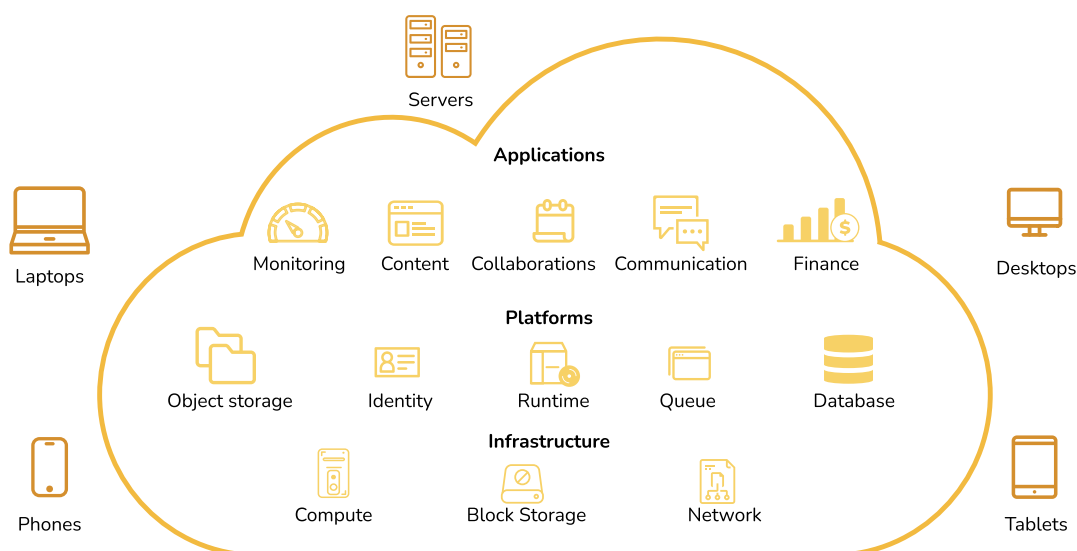


Figure: The range of services and applications that are offered in the cloud, along with the types of devices accessing them. Note that this figure omits Internet of Things, the myriad cloud-connected devices - smart watches, video cameras, even medical devices - that are rapidly becoming commonplace worldwide.

*All of these examples prove one thing:
 You're already an expert cloud user.*

But to understand the cloud enough to write about it from a B2B perspective, you'll need a bit more of a detailed understanding. Since the cloud is everywhere, there are more and more companies catering to cloud businesses and service providers. To understand what these businesses offer and why, it helps to take a step back in time, just a few years, and learn how they got to where they are today.

■ The Evolution of Cloud

Your desktop or laptop computer has built-in storage in the form of a hard drive (HD) or solid-state drive (SSD). This is the point from which all companies started out at the dawn of the PC and Mac computer: each person had a personal computer, where they stored their own work. If they wanted to share files, they would usually have to move these to an external storage device or disk, a physical process that was time-consuming and often complicated by a confusing hodgepodge of document standards. Collaboration wasn't simple under this model.

As computing became ubiquitous in every single field, it became clear that computers were not being used optimally. Things weren't centralized enough, standardized enough, or secure enough for people to work together productively. So the next evolution was **client-server computing**.

With this model, most of the important data was stored somewhere on the company premises, on a designated computer called a server (making all the other computers clients). When a client user needed to access a file, they could retrieve it from the server; if they made any changes, these would go back to the server. In this model, the server is protected with firewalls, VPNs, and other security measures, and backed up regularly, protecting the company from data loss and downtime. Many organizations still operate this way today, although they may have large banks of on-premises servers and a very large number of clients.

A big drawback of this model, especially for businesses, is that it lacks flexibility. There will always be multiple users accessing a single server, but there is no way to predict exactly how many users there will be at any given time. For instance, a retail website may have several hundred customers per day, but that number could go up into the thousands on Black Friday. With the single-server model, if there are too many users making demands, the server or servers can get bogged down and stop working efficiently. In practical terms, this could mean thousands of shoppers unable to complete their purchases and abandoning their carts -- leaving the retailer in the red on what should have been the busiest shopping day of the year.

In the past, to combat this problem, retailers would simply have to cross their fingers and hope their servers were robust enough to keep limping along under this type of extraordinary demand. Often, they weren't.

Then, along came the cloud, which evolved the client-server model into the next generation. You still have a “server,” but it’s not located on the company premises, nor is it necessarily just a single computer. Instead, the “server” is actually a data center, a dedicated building with banks of servers. This can be geographically close to the clients, but it doesn’t have to be (although geographic proximity is sometimes desirable in order to reduce latency or delays in transmission between end users and the data center).

Why the Cloud?

There are many advantages of a cloud-based model, including:

- *Lower maintenance for the company’s IT staff: software patching and upgrades are handled automatically, and there’s no hardware to maintain, either*
- *Improved resilience thanks to off-site disaster recovery for all business-critical data*
- *Lots of potential security benefits (although the cloud may also open up new vulnerabilities).*

Keep in mind that in this ebook, the intention is to give you the basics to build your confidence and get started. So we won’t be overloading you with too much information on these benefits all at once.

One primary benefit, looking back at the Black Friday example above, is the cloud’s potential for massive scalability and adaptability. Scalability also lets organizations use—and pay for—cloud access dynamically. If companies are running a website with on-premises servers, they must buy and maintain as many servers as they anticipate they’ll need at their site’s busiest time. If the demand on their servers exceeds this prediction, the site could crash. Cloud-based infrastructure, on the other hand, allows administrators to allocate more virtual servers dynamically during busier times, then scale down when things get quiet, leading to massive cost savings. And this can be done relatively easily with just a few lines of code, calling cloud vendor APIs to start up or kill thousands of virtual server machines to fulfill demand on the site at any given time.

¹ [“The Cloud: a Strategic View”](#)

The scalability of a cloud-based model also means that a business that today might have 50 employees and a single dedicated virtual server can expand to thousands of employees, offices worldwide, and millions of online customers, all accessing hundreds of virtual servers. This type of growth can be achieved almost seamlessly, as their cloud capacity expands to suit their needs.

cloud scaling : two models

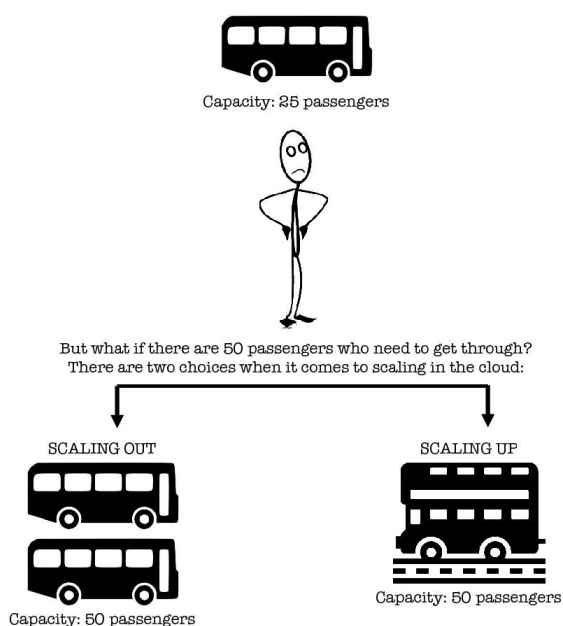


Figure: Two primary scalability models when it comes to taking advantage of additional resources in the cloud. While expanding costs money, it costs far less than it would if a company had to buy additional computers, or larger computers for their on-premises data center.

However, perhaps a more important advantage of cloud, from a business perspective, is that cloud requires a very low up-front infrastructure investment. Returning to the Black Friday example, if a company wanted to buy as many on-site servers as they would need to handle the maximum possible demand, this would take a massive up-front expense, known as capital expenditure (CapEx, or just CAPX, in business terms). Not only does this represent a huge sunk cost, but it also limits the company's ability to pivot in future, because they have committed so much money to this model. Not to mention maintaining suitable physical premises for that kind of infrastructure, along with depreciation on the investment.

Cloud, on the other hand, has a low barrier to entry, and the potential to limit what companies are paying to only the resources they are actually using. That means that in November, they would pay much more due to Black Friday, but would be able to save these costs in a slower month, like February (unless they were a flower delivery service, in which case, because of Valentine's Day, they'd pay more in February and less in November!). This type of payment is generally referred to as operating expenditure (or expense), and abbreviated as OpEx.

It's important to note that cloud is not a panacea, and does come with its own costs, including the cost of migrating data and applications and training team members. There is also the potential for inefficiencies and overspending. Organizations must choose pricing plans carefully and allocate resources intelligently to keep costs in check.

Nevertheless, many companies have found that the dynamic nature of cloud helps them plan to scale and shift their businesses in ways that traditional on-premises server models never could.

It's important to note that the cloud model hasn't totally replaced the on-premises server model—yet. Perhaps someday it will, but for now, because on-site servers are still useful in many cases, most organizations haven't given them up entirely. The on-premises model offers two distinct advantages when it comes to control over security and regulatory compliance, and for companies in certain industries, like healthcare or banking, these considerations must take precedence. Thus, many companies use a combination of cloud-based computing and on-premises servers known as a hybrid solution.

■ Cloud Writing Basics

What the cloud means when you're writing for B2B

When you interact with the cloud, your experience exists in the B2C of the cloud. You are the consumer (C), and Kindle, Netflix, or Google, is the business (B).

As a consumer, you demand access to your books from anywhere, and Amazon Kindle does its best to provide you with that access as seamlessly as possible to create the ultimate end-user reading experience. A smooth, seamless, lag-free user experience is the primary B2C goal in the cloud. But there's a lot going on behind the scenes to make that possible.

Every company operating in the cloud, whether large or small, has a few basic goals:

- *Streamline delivery of their product or service*
- *Develop or iterate their product or service to become even better*
- *Protect their assets and data and those of their users*
- *Save costs and operate as efficiently as possible*
- *Automate any of these processes wherever possible*

Take Kindle, for example. They need to provide end users with fast, seamless access to books on demand while also ensuring that client information, especially valuable information like credit card and identity data, remains secure. They are continuously improving their e-readers' hardware and firmware, as well as using automation to speed up the development cycle, including at the user end. For instance, they update your reading library in the background without interrupting your user experience.

Know Your Client

Writing B2B cloud content, you will be creating content that is useful behind the scenes to people like developers or system architects at companies like Netflix, Kindle, Google, and the many other companies--some large, some small--offering cloud-based solutions to end users.

- **Cloud Content Client Example #1:** A company sells cybersecurity solutions for business networks. Remember, protecting their data and their users' data is one of the major goals of companies working in the cloud.

A company selling products that promise to simplify this complicated task is going to need content, from web pages and presentation decks to blog posts and white papers, aimed at decisionmakers and centered around this important goal.

- **Cloud Content Client Example #2:** A company provides cloud-based payroll services. For this organization, the goal of achieving fast data transfer with high levels of security and regulatory compliance is going to be very important.

Working for this client, you will be creating content that emphasizes in part these aspects of the client's services, along with the ease of use for their customers that comes with cloud-based data sharing and collaboration.

- **Cloud Content Client Example #3:** A company provides cloud-based enterprise resource planning (ERP) solutions for large and enterprise-scale businesses.

This organization is going to want to promote themselves through content you create, most likely centered on their feature-rich environment, powerful reporting capabilities, and other benefits for their end-user customers.

Remember: in all these examples, you will be creating content for the B2B company targeting potential leads and not necessarily for the end users of a product. So you'll want to understand the challenge this B2B company claims to solve. You'll also want to understand the personas of the target audience. Decision makers within these end-user companies are the ones who will be reading the content you write for companies like the three cloud-based businesses mentioned here. So let's take a look at some of the personas you'll be writing for.

Target Audience

So who's going to be reading your material? You should always write with a particular target audience in mind, and in this section, we're going to dissect a few key personas, the types of individuals who may be looking for quality content. These will be your audience when you're writing about the cloud.

Personas

The following personas are listed in order of their general hierarchy within the organization. In some cases, the person you'll be trying to reach is a manager, while in others, it will be a practitioner, meaning they are actually working hands-on with the technology you'll be describing. That can be daunting, but don't let it stop you. When you're working hand-in-hand with tech experts to create content, you'll be able to provide value even to technical readers. In addition, these definitions depend on the size of the organization. In some companies, managers also operate as practitioners - or may wear several hats at once.

- C-Suite. The Decision Maker, "Signs the Check"

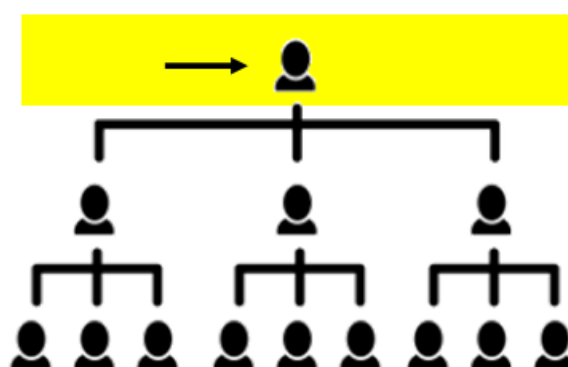


Figure: The C-Suite Decision Maker (Corporate structure hierarchy © Silviu Ojog, the Noun Project)

The first persona who's going to be reading your content is a higher-level executive looking to make decisions with a company-wide perspective. This person isn't necessarily looking for a specific product to meet a specific need. And she's not the one who's going to be using a product or service on a daily basis.

Instead, this person is looking at things from a global perspective. They're hoping to take their company in a particular direction and looking for solutions that fit in with their company's overall direction, along with its long- and short-term goals.

Job titles for this persona might include chief information officer (CIO), chief technology officer (CTO), and even perhaps chief financial officer (CFO), given that every tech decision comes with a price tag.

This is also important to know because when it comes to writing for this persona, one of the primary factors you need to look at is return on investment (ROI). Beyond a concrete ROI, this persona is focused on budgets, market expansion, and other global organizational outcomes. Case studies work well for convincing this persona that you have a handle on the big picture.

■ Director, "Build and Optimize Operations"

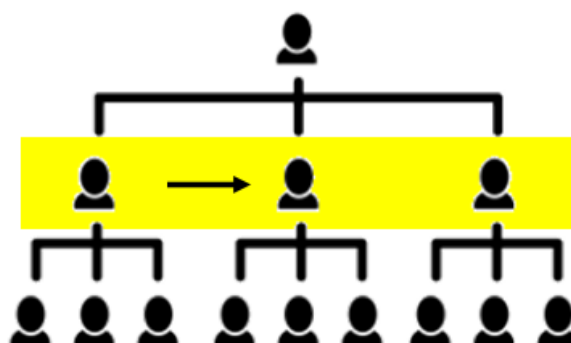


Figure: The Director (Corporate structure hierarchy © Silviu Ojog, the Noun Project)

The next persona that you'll be writing for is at a slightly lower level. This is someone who works with IT, probably manages an IT department, and who has staff reporting to them. They carry a great deal of responsibility as the "sandwich level"; squeezed between the C-suite and the hands-on practitioners reporting to them, and they are in many ways answerable to both.

Job titles for this persona could include IT director or manager, security director, or cloud architect.

This persona's most important role, as far as content creation is concerned, is translating high-level C-suite goals into practice and execution by their teams. They may be highly experienced tech people with multiple skills, including actual hands-on capabilities and a big picture overview of the whole environment. They are key to accessing the C level when it comes to decision making, and have the power and authority to champion your client's brand within their organizations.

This person bears the responsibility of making decisions for their entire department. In smaller organizations, they may be responsible for overseeing the entire organization, but in larger organizations, these roles are fragmented. Since one director is most likely not responsible for the entire decision-making spectrum, they're going to need to work with other departments. This means they'll be looking for compelling solutions that promise to save their team work and help them operate together.

Products that help teams stay coordinated are another good angle for this persona. The concept of getting more done with fewer resources can have a major impact at this level. Convincing a director that you're serious ensures that they'll share your content with higher-ups as well.

■ Practitioner, "Get the Job Done"

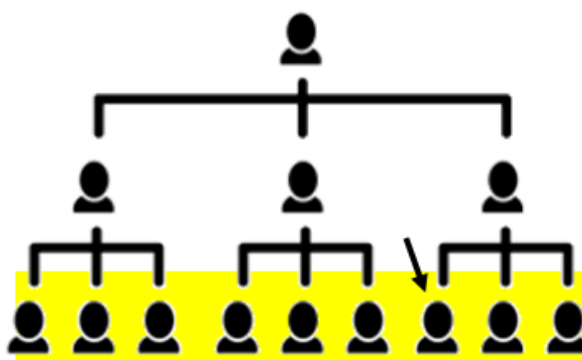


Figure: The Practitioner (Corporate structure hierarchy © Silviu Ojog, the Noun Project)

Finally, the most hands-on persona you're going to be writing for, and not coincidentally, the highest in technical expertise, are the actual people making it happen: the practitioners. These are the people on the ground who are going to be actually using the product or service your client is selling. So they have a deep-seated interest in making sure it's designed with their needs in mind and a powerful incentive to choose what they consider the best possible product for the job.

Job titles for this persona could include DevOps, operations, developer, engineer, cloud architect, security practitioner, data engineer, and many more.

The practitioner's areas of interest overlap with those of the middle managers: They're interested in finding simpler, clearer, more efficient, and more optimized ways to do things they're already doing. They don't necessarily have a lot of decision-making power, but as an audience, they can lend a ton of authority to your brand. If your information is bookmarked, shared, and tweeted by a trusted practitioner, it's certain to be heard higher up where budget decisions are made as well.

Keep in mind that this persona probably has the highest level of technical expertise, meaning they know what all of these systems actually look like, deep into their inner workings. So when you're ready for this particular audience, you absolutely must make sure you know what you're talking about. Write accurately and very much to the point, because a practitioner is looking for solutions. Creating content directly for the practitioner is crucial from a business perspective. While it seems as if this persona has the least buying power, many organizations operate on a model of "bottom up adoption." If a B2B company's content is great, for instance, they've provided a how-to guide that saved the practitioner's time, they will keep the brand in mind. When the subject comes up, they will mention the brand name to their colleagues as well as to their managers, and when a purchasing decision is being made, they will lead the push to purchase a product from a company they consider highly expert and a brand leader in their field.

For example, if an IT data security specialist has a technical issue they are trying to solve - perhaps rolling out a security patch - they will Google "how-to" and get a link to your B2B client's site. On the site, they may see two options: a thorough and well-written detailed DIY guide walking them through the steps to download and apply the patch - or a pitch to do the same thing more easily with the client's product, along with a link to a free trial so they can get started right away. Even if they don't try out the product immediately, and choose to follow the DIY option, they'll appreciate the help and potentially share the link with others, along with keeping your client's site in mind as a trusted source of expertise. With the help of this ebook, and by working hand-in-hand with subject matter experts, you will be able to reach each one of these target personas. The key is leveraging your communication skills, even when you don't have detailed hands-on experience with all the technology you're writing about. You contribute writing skills; subject matter experts contribute hands-on expertise.

Universal Pain Points

Although in the previous section, we looked at three distinct personas who are going to make up your audience, it's also helpful to keep in mind the goals mentioned above, which are universal to all companies operating in the cloud, large and small: Streamline delivery of their product or service, develop or iterate their product or service, protect their assets and data and those of their users, save costs and optimize wherever possible, and, of course, to build in automation to as many of these processes as possible.

You can also think of these as “pain points,” and they offer you a chance to hook readers with genuinely helpful content that will appeal across one or more of the personas mentioned above. Products and services that address these universal pain points will appeal to a very broad spectrum of readers. Although every company will already have an existing solution to address all of these pain points, your role in creating content is to identify problems with existing solutions and then ultimately highlight ways of addressing one or more pain points better than the reader is currently doing.

The definition of “**better**” for each of these may change over time and under different circumstances. For example, 20 years ago, “tighten security” might have meant a firewall. Today, it might mean a distributed security solution that actively scans the entire network. But the universal pain point hasn't changed. Every reader, at every level, will sit up and take notice if you can convincingly offer them a route to better security.

In practical terms, every one of your reader personas is looking for solutions that can help them protect themselves and their organization, whether that is against cybersecurity breaches or data loss. Every one of these personas is looking for solutions that can help them get their data out; in the case of Netflix, they want to get those TV shows onto your screen as quickly as possible. Every persona is also looking for solutions that are going to help them iterate their products, continuously improve their product, and streamline the development cycle. And, of course, they're all constantly looking for automation—shortcuts that let them save time and effort on repetitive processes. Automation, in particular, is an area that will grow even more over the next few years.

So, from among these four pain points, you can choose the content you're creating. And that pain point will serve as a hook to help bring readers in and understand why they should read your content—and ultimately, why they should consider spending money on your client's product or service.

Types of Content

When it comes to creating content for the cloud, there are a few types of writing that you'll be expected to produce. These include:

- *Blogs*
- *Whitepapers*
- *Presentation Decks*
- *Press Release*
- *Social Media*
- *Audio, video, and other multimedia content*
- *And any other information that's going to be included in a client's website or landing page (such as documentation, wikis, support pages, and so on)*

In this ebook, we're mostly going to be concentrating on blogs—the bread and butter of the content world. Blogs are generally quick and easy to read, although there are also longer blog posts that provide more in-depth information.

While we're on the subject of length, keep in mind that a blog post shouldn't be long just for the sake of reaching a target word count. When you're creating a longer blog post, perhaps one that will serve as a pillar page or serve as an anchor for the client's entire content library, it should be because you're tackling a meatier topic.

The length of a blog post should always be in line with the depth of the topic you're covering. For a quick treatment of a simple topic, you'll probably want a shorter post. That doesn't mean it can't be useful—it absolutely should be. Even a short blog post can deliver a powerful punch of value without wasting readers' time. And if you are able to offer a ton of value in a more concise piece, that post will not only get read, it will be shared, bookmarked, and appreciated.

Why Blogs?

If you are hired to write blog posts, there are four reasons your client needs content.

First, they want to get their name in front of practitioners. This is known as bottom-up adoption. Remember, the practitioner is that lowest-level persona, the people who are actually dealing with the cloud environment on a daily basis. If you're providing them with useful content, you're increasing the possibility that their company will ultimately choose your client's product or service.

Another reason your client needs content is to build brand awareness. They want to make a name for themselves within their space and get the word out that they have a solution to offer. They also want to communicate who they are and what kind of values they speak to. That's where the brand concept comes in.

Your client may also want to build up their site content in order to generate leads, which can ultimately pay off through lead conversion into a viable user base.

And finally, what it all comes down to is making money. Good quality content pays off, that is, delivers a positive ROI. Written content, particularly blogs, can have a very high return on investment because it can perform all of the above tasks at once: target practitioners, build a brand, and generate leads, all of which can help take your client's organization in the direction it hopes to go.

The key here, of course, is [content that provides authority, authenticity, and consistency.](#)

■ The Content Journey

Let's get hands-on with a concrete example of creating content that appeals to the reader personas described above in a very simple format. Your content is essentially a journey taken by a user (in this case, a reader). Just as with user journeys in other areas (particularly a company's website), the goal is to guide the reader through three key stages:

- 1. Awareness**
- 2. Possible solutions**
- 3. The vendor's product capabilities (in this case, your client's)**

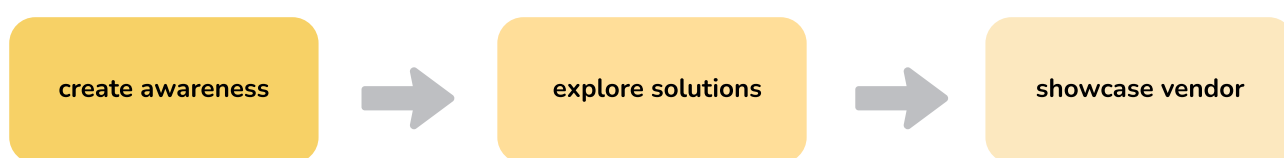


Figure: The reader journey through a typical B2B cloud vendor blog post. Take an example from the healthcare services field.

Take an example from the healthcare services field. Here, your reader is an IT manager for Company B, which creates cloud-based billing and claims software. She's received instructions from the executive level to start preparing for a new regulatory compliance standard for data privacy—similar to other standards like GDPR in Europe and CCPA in California. Your reader is looking around for information, beginning, perhaps, with some very basic questions about what the new regulation requires.

Your client in this example is Company A, a cloud access security broker (CASB), meaning they create software to patrol and enforce security policies. Your client wants to convince this IT manager that their product will help her organization attain compliance and protect its own clients' private data.

Awareness

To guide this reader through the three required steps mentioned above, you'll want to start by introducing some basic awareness. In this case, you'll answer her initial questions about the new regulation, what it involves, and perhaps some of the "bad stuff," e.g., the penalties for not complying with the regulation. Fear can be a powerful motivator, but it's best to not use it too often because negativity can also drive away readers. You can strike a balance between presenting realistic concerns and offering reassuring solutions, as we'll see in the next section.

Solutions

Once you've offered this assistance to the reader, you can introduce some solutions to her problem. This will be a combination of one or more pain points related to the topic. Looking back at the universal pain points above, two primary goals here are protecting her organization and users, as well as delivering her organization's product or service with a minimum of downtime and interruption.

Since our focus is quality content, rather than spam, your goal here, if possible, is to introduce a range of solutions to genuinely help the reader make an informed decision. In this section of the journey, try to be as fair and balanced as possible, while carefully positioning your client's product category among the other possible solutions. It is also helpful at this stage to examine specific factors that appeal to your reader. For this mid-level persona, you'll probably want to communicate the idea that the ideal solution will be a time- and effort-saver that will help her business' IT operations stay coordinated and work as a team.

Client's Product Capabilities

Finally, with the reader armed with all the necessary information and primed to make a decision, it's time to introduce your client's product and the call to action. This isn't a TV commercial, and in today's IT world, a hard sell isn't usually welcome. But if you've done a good job of setting up the information you've provided and laying out the potential solutions, your client's product and its features and benefits should have a natural appeal—it's been designed for this reader to use, after all.

The call to action in this type of article should also appeal to the reader and her sense of professionalism, rather than being an explicit "Buy Now!" link. Instead, you can link to areas of the site where she can learn more about the product, compare packages and pricing, read a case study, or watch a video, all of which help establish your client's brand and authority on the topic.

While this is just one example, from one industry, it's possible to imagine roughly this same type of reader journey taking place in any number of industries. Financial services, automotive, technology, healthcare, and government are all sectors that are moving more and more to the cloud, meaning you'll be more and more in demand if you can help take readers—and their wallets—on that journey toward your clients' products and services.

The Cloud Market Landscape

Major Cloud Players & the Differences Between Them



Today's three major cloud players are—in order of size—Amazon (AWS), Microsoft (Azure), and Google (Google Cloud Platform).

In terms of market share, a [2019 study of organizations using the cloud](#) showed that Amazon's AWS dominates the market, with a near-universal user base of 97% (among those companies using the cloud). Meanwhile, Azure claimed 35% of the market, and Google took 24% (these numbers don't add up to 100% because many organizations use solutions from multiple cloud providers).



Figure: Magic Quadrant for Cloud Infrastructure and Platform Services

Amazon Web Services

Amazon web services (AWS) has worked its way to the top with an approach of “becoming everything to everybody.” They’ve created hundreds of useful products, services, and tools to make cloud adoption a no-brainer. Examples of this tactic include the hugely popular Simple Storage Service (S3), which simplifies data storage and retrieval in the cloud; database tools like Aurora,; and Lex, which harnesses the familiar Alexa technology to let users create their own intelligent voice and text interfaces in the cloud. Storage, data-crunching, and artificial intelligence are just three of the many areas in which AWS is innovating.

Azure

Azure seems to excel primarily in two areas. First, it inherited Microsoft’s ease of use, so it will seem familiar and comfortable to administrators used to working with Microsoft product suite in all of its incarnations over the years. It will also exude a comfortable familiarity to programmers who have cut their teeth in Microsoft programming environments, offering natural cloud extensions for Visual Studio and frameworks like NET.

However, the second factor that sets Azure apart is its interoperability. Where AWS at times seems determined to drive competition out of the marketplace, Microsoft has often demonstrated its willingness to respond to accommodate multiple and complex environments that mix cloud, on-premises, and hybrid solutions. Azure also brings together solutions from multiple providers through its Azure portal. And, of course, Azure integrates seamlessly with other Microsoft systems, creating the healthiest possible hybrid IT environment with the least work toward migration. All these benefits can reduce companies’ initial investment in the cloud and allow them more freedom moving forward.

Google Cloud Platform

It may seem that as a distant third, Google Cloud Platform (GCP) has a long way to go to catch up to either of the other two providers. But in fact, GCP has a number of factors going for it. For one, it was born in the cloud and to some extent helped forge user expectations in terms of cloud-based computing when it comes to data warehousing, insights, and analytics - as you would expect from a cloud platform created by Google. GCP’s Big Query provides real-time and predictive analytics for customers like UPS, who benefit from the ability to predict and manage peak load periods.

Second, in terms of openness, GCP has shown its willingness to adopt open-source standards and tools, making it easy to develop applications and adapt existing ones for GCP. GCP also allows integration of cloud products with its standard productivity tools, making it easy to mine and share data - for instance, Anthos lets organizations smooth their cloud migration with a simplified hybrid environment pathway. Plus, the GCP pricing model is based on actual use, which can save money in the long run since it offers optimized discounts based on combined actual usage. This differs from Azure and Amazon, which are more rigid in their price points.

Other players in the cloud arena include IBM, Alibaba (the top cloud provider in China, although it hasn't expanded much as of this writing), Dell/VMware, HP, and Cisco.

While all of these providers are very different, most organizations ultimately go with a combination of providers—drawing on the strengths of each. Working with a combination of more than one cloud provider is one component of a hybrid-cloud solution, as will be seen in the next section.

Public vs. Private Cloud (and More)

You'll hear a lot of talk about the advantages and disadvantages of a cloud environment. While at first it seems as if the main options are public and private, you'll actually find a nearly infinite variety of combinations, especially as the cloud continues to evolve. In addition to public and private (based on offerings like AWS Outposts and Azure Arc that allow companies to bring cloud on-site for a higher degree of control), you'll also find hybrid environments which integrate private and public (where one is an extension of the other) and multi-cloud environments, which generally consist of organizations using multiple public cloud offerings (usually AWS and Azure) in parallel. Let's explore some of these basic terms in a little more detail.

■ Public Cloud

Think of the public cloud as being like a restaurant run by one of the Big Three cloud providers discussed above. When hungry diners arrive (i.e., IT workloads) at the restaurant, they're seated according to how many people are in their party:

a group of 20 will get a bigger table (i.e., servers) than a party of two. Of course, a public cloud is a very big restaurant, which, although not infinite, can expand greatly so that almost nobody is turned away. Diners can even treat the restaurant like their own home. However, the essence of public cloud is that they must share resources, like waiters and restrooms, with other diners (i.e., multi-tenant IT environments).

This is a great option since the IT organization doesn't need to embark on a lengthy purchasing process for physical hardware (such as servers). Instead, simply using a credit card, they can enter the public cloud vendor portal and with a few clicks purchase several hours of one or more virtual server on-demand with no long term commitment (i.e., OPEX). These physical resources reside off-premises, outside the organization's physical location, in a location determined by the public cloud vendor.

■ Private Cloud

Extending our restaurant analogy a little further, we can look at private cloud as offering a more exclusive dining opportunity. Diners choosing this option will be certain they have the waiters' undivided attention (i.e., exclusive use of servers), can order custom dishes (i.e., customizing applications), and ensure that their meal will not be interrupted or disturbed (i.e., greater control over security)..

In practice, the term "private cloud" generally refers to one of two varieties.

The first kind of private cloud can be located on-premises, based on hardware owned by the organization. This would be the equivalent of opening a dining room for the exclusive use of your company. You can choose the décor and the menu, and you have exclusive use of resources. In comparison to the public cloud, the organization will have to invest in building the physical infrastructure (CAPX) and be able to build the cloud platform that will enable the organization's end user to request and allocate resources independently. This model probably offers the greatest degree of security and control, but the trade-off is that it's both expensive and very high-maintenance. The company must purchase all the computers it needs to create its cloud, plus take care of this equipment, keep it secure and so on.

For these reasons, the term "private cloud" more commonly refers to a "roped-off" area hosted by a cloud provider, most often one of the three discussed above, for the exclusive use of an organization. This variety of private clouds can be compared to reserving one specific area of a restaurant for your private party. Nobody else is allowed to sit at the tables you have reserved; in terms of the cloud, this means your organization's data is completely separate from every other organization's data (the organization is the only single tenant within the reserved data center) . The advantages of this model are that the cloud provider sets up and maintains the physical computers and network and offers some degree of security.

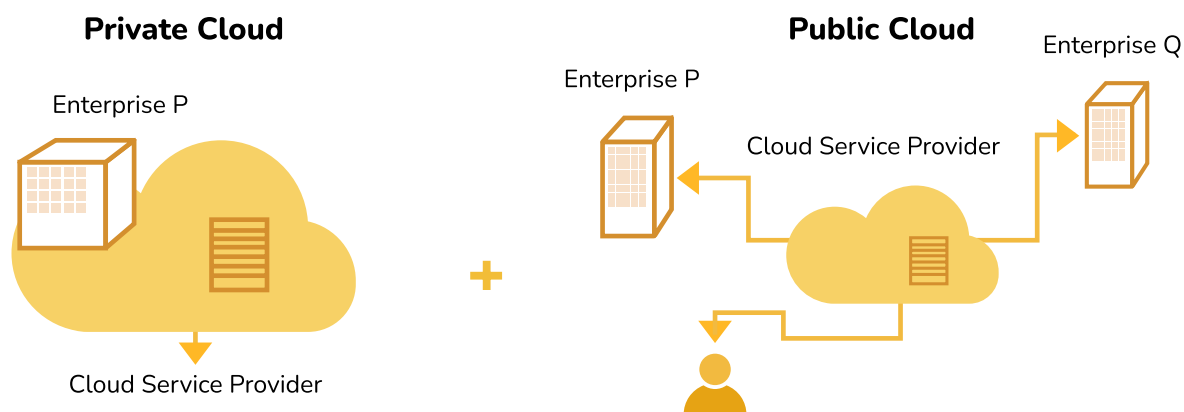


Figure: Private cloud vs Public cloud model

■ Hybrid

The **hybrid cloud model** combines a private and public cloud, often also integrating and coordinating an organization's legacy and specialized on-premises hardware. Continuing the restaurant analogy, this might represent the office kitchenette. You wouldn't take guests there for lunch, but for microwaving soup you've brought in from home, it will do fine. For larger groups or important guests, you would take them to a restaurant (in this case, either a public or private cloud). For various reasons, it's not always feasible or worthwhile to move certain computing tasks to the cloud. While this means there will be on-premises systems to maintain, the trade-off is often worthwhile -- for instance, to meet tighter security required in sensitive industries such as healthcare (though, increasingly, public cloud is able to meet these needs). In addition, the hybrid model allows some use of a private cloud while saving on costs by using a public cloud in other areas.

■ Multi-Cloud

Finally, the multi-cloud model, within our restaurant analogy, represents a very large group, some of whom want burgers, while others are vegetarians and prefer pasta. The restaurant is thus more like a mall's food court, where each person chooses food from a different kiosk, then everybody sits together in a common dining area. It's easy to see how this model introduces complexity yet can also provide benefits not offered by any of the above solutions. For example, a multi-cloud environment may provide an easy route to complying with regulations that require offshore data backups. Multi-cloud can also integrate multiple business units within a large enterprise using different clouds. This situation which may develop naturally (one unit using Microsoft technologies may naturally prefer Azure while others may find AWS to be a more organized and mature cloud service) or come about as

a result of a merger or acquisition. And in some cases, multi-cloud allows organizations to take advantage of financial incentives from one provider or another (Azure often provides more discounts and credits to startups than AWS does).

All of the major cloud providers offer some degree of integration, letting organizations control their own chosen combination of on-premises, public cloud, private cloud, hybrid cloud, and multi-cloud. For example, Google Anthos gives organizations a way to create policy and manage a range of environments, both in the cloud and on-premises. Not all are equal in terms of the level and ease of integration; and simplicity of integration is often a key factor in selecting a primary cloud provider.

■ Talking the Talk

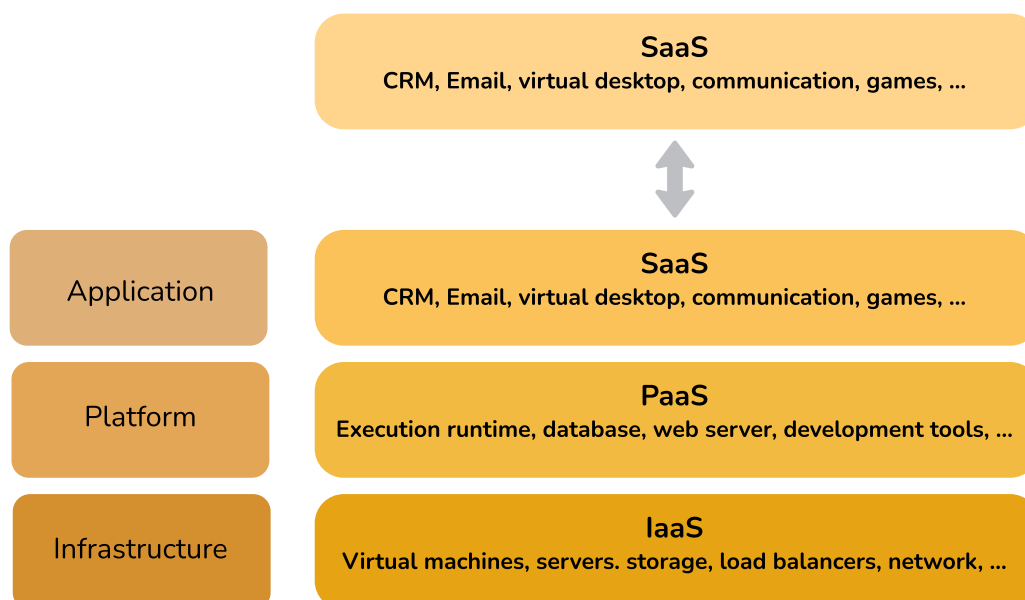
Though it can be hard to believe at first, the language of the cloud is mostly English, even with its jargon, product names, and abbreviations to navigate at first.

As-a-Service: The Stack at the Heart of the Cloud

When we're talking or writing about cloud computing, we usually refer to one of three main services, all ending in "aaS," which stands for "as a service." These services can be imagined as layers in a building:

- Infrastructure-as-a-Service (IaaS) is the "foundation" layer, typically referring to the three main IT components: Compute (i.e., servers), Storage (i.e., disks) and Network (i.e., LAN, WAN). This layer is controlled exclusively within the organization by IT admins, DevOps engineers, and cloud professionals, starting servers, and handling these essential functions like starting and linking servers (networking), along with provisioning disks. The vendor provides "only" the hardware, giving these users have independent control over their virtual infrastructure building blocks (servers, load balancers, networks, object stores, etc.)
- Platform-as-a-Service (PaaS) is the "basement" layer, where the utilities are stored that underlie and support end-user applications, like development tools, web server software, or database utilities, all hidden from the end-user's view.
- Software-as-a-Service (SaaS), sometimes also known as application-as-a-service, is the upper layer, which is usually the only part of the cloud that end users experience. It includes the apps users access to get at their information in the cloud, like Dropbox, Gmail, Salesforce, or one of the many other cloud-based apps.

Think of SaaS as the tip of an iceberg, with both of the other layers running beneath it and holding it up. The following diagram shows how these levels build on each other, along with examples of available functions at each level.



As mentioned, SaaS is the primary level that the end user experiences. However, since you're going to be writing for the B2B market, your target audience is not the end user. Instead, you will target the companies working somewhere in the middle, those that build cloud-based applications to sell to end users. Therefore, you'll need to familiarize yourself with some of the lower-level concepts and terminology that are hidden from end-users' view.

■ A Cloud Glossary to Get Started

Key concepts in communicating with professionals working at these levels include:

- **Provisioning** refers to setting up a virtual computer and its parameters, such as the operating system, for whatever applications are going to be run on it.
- **Instances** refer to each virtual system provisioned. For applications that require more computing power (referred to as "compute"), more instances of an identically provisioned system can be "spun up" as needed. Since cloud cost is usually based directly on the number of instances, administrators generally want to keep this number at the minimum needed to handle workloads without interruption. Instances that are not needed are terminated.

- **Image** refers to a standardized template for a virtual computer. Instances are created based on images. Depending on what an instance will be used for, its image could be a basic, clean setup with just an operating system, like Linux or Windows, or a more complex setup with multiple applications already installed and ready to run on a virtual system.
- **Virtual machines/ containers** are two different approaches to optimizing the use of cloud resources and speeding up the runtime of applications. Virtual machines contain operating system information, making them larger, slower, and more complex. Containers are smaller and self-contained—as the name suggests—and can be used across operating systems; but these can quickly grow too complicated to manage. This has spawned a variety of orchestration software, such as Kubernetes, to help companies manage their container needs.
- **Deployment** refers to rolling out an application on a system that has already been provisioned.
- **Orchestration** refers to provisioning multiple different virtual systems, typically using a tool that provides some degree of automation.

All of these factors combine to create probably the greatest selling point of cloud-based computing—**scalability**. Because it allows an organization to create brand-new “computers” at the click of a button—or through automated processes that don’t even need human intervention—an organization can scale up or down as needed. While there is a cost for this 24/7/365 availability, organizations are only paying for services used (through different providers’ models), making for a very compelling business case.

■ DevOps: The Heart of the Cloud

DevOps is, at its core, a software development methodology used by developers to create applications for end users. DevOps is an evolution of traditional software development that streamlines and integrates the activities of development (programming and testing) with those of operations (building, testing, and releasing).

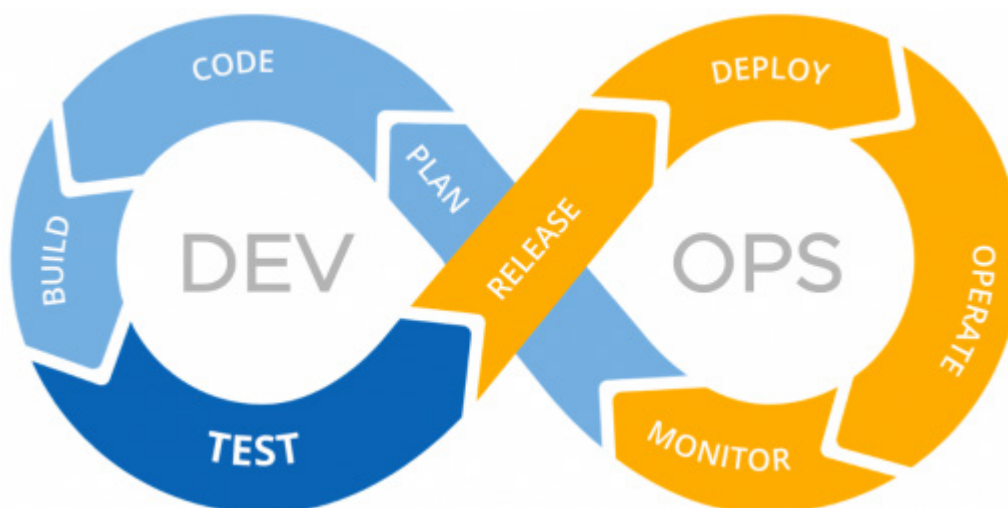


Figure: A figure-8 symbol is often used to represent the continuous and iterative nature of the DevOps development-release cycle.

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A DevOps approach has many advantages including, most importantly, increasing the speed at which meaningful changes are available to the end user. It also allows for tighter monitoring and logging of team performance, as well as automating certain key processes, such as building and testing following code changes.

Beyond the core benefits of DevOps, this model allows for the integration of security as part of quality assurance into the application lifecycle. Because the DevOps model breaks down the traditional silos of development and operations, unifying and streamlining these core functions, it's easier to bring security considerations into the mix, a combination sometimes known as DevSecOps.

The ideas behind DevOps integrate a number of different practices, including Continuous Integration and Continuous Delivery (usually known together as CI/CD). Essentially, in a CI/CD environment, any time code is changed, it is automatically built and deployed to a testing environment and, later, to a production environment. This can be done daily or even hourly when many changes are being made. Such integration and delivery processes were historically very resource-intensive, but the automation provided by DevOps has sped things up and eased the IT workload; this in turn ensures that meaningful changes and fixes reach end users much faster.

■ Digging Deeper

While we've laid out some of the basics of cloud technology and terminology, we've mentioned throughout this book that you don't have to understand everything. That's because of what we'll now be exploring in this section. Here, we'll introduce you to the most important tool in your toolbox when it comes to creating cloud-based content: **subject matter experts**.

We've said all along that you're a writer—you're not expected to be a cloud expert. Your creativity and ability to communicate are what matter; these are your key contributions. But when it comes to some technical details on a wide range of cloud topics, nobody expects you to tackle these on your own.

Subject Matter Experts

Your goal shouldn't be to simply create more noise; you should always strive to create value-added content, meaning articles that actual tech people are going to pick up and read, bookmark, and save.

So how do you accomplish this? Well, you need to start with some basic knowledge, including a simple working knowledge of what the cloud is, how it works, and some standard terminology. Some of this is included in this ebook, and some you'll acquire on your own. From there, you'll need to work with subject matter experts, who will act as your guide to creating winning cloud content. Earlier, we explained that this ebook is about creating B2B content, meaning you're writing not for end users but for the companies delivering products and services to end users. But the B2B arena can actually be divided up into two different areas: **B2D, business to developer**, and **B2E, business to expert**. These are essentially the two areas you're writing for: the developers and experts on the business end of the cloud. And because you're targeting developers and experts, you need to begin with **expert-based authoritative content**.

There's no one right way to work with subject matter experts. If you write for the same client long enough, you'll eventually get into a rhythm and develop more comfort and confidence approaching experts they send your way in order to ask them whatever it is you need to find out. In the following section, we'll look at a few different ways you can create authoritative content by working together with a subject matter expert.

■ Writer + SME = Success

As already mentioned, there's no single right way to work with subject matter experts, or SMEs. Every writer will develop their own variety of techniques, and every client may also have a preference in terms of how you locate and work with these experts.



Here are three basic models for working with SMEs:

- *SME writes, writer edits*
- *Writer researches and writes, then fact-checks with SME*
- *Writer interviews SME, then drafts the article*

Each of these ways has its advantages and disadvantages. For instance, if the SME is writing the content, it's probably going to be very solid technically, but may not communicate as clearly as it should. And there's always a chance the writer won't understand the intentions and will need to rewrite some sections. If the writer starts out by researching and writing on their own, the article may not go in the right direction, or may end up too basic for the audience they're trying to reach. And with the writer interviewing the SME, readers may not understand the responses, or the writer could make a mistake in communicating points the SME was trying to make.

The model that you use may change over time. For instance, you may start with a model where the SME is actually writing some of the content themselves. Over time, as you ramp up and become familiar with their field and industry, you can take over some of the writing and maybe even start generating your own ideas for topics to cover in future posts. This will make you invaluable to your clients.

In all of these models, you're probably not going to get perfect copy in a single cycle. Generally, after you're finished writing the content, you'll want the SME to look it over to be sure you haven't made any egregious errors—something that will happen less and less as you gain experience—as well as make sure that it resonates for technical readers within your target industry.

■ Finding SMEs

You're probably wondering where you're going to find SMEs, and we'll address that in a minute. You'll also need to know which sites and sources are authoritative for you to conduct research on your own, a topic we'll talk about in the next section.

First, it's helpful to understand what the SME gets out of helping you. In fact, there are a few tangible benefits for SMEs. You're giving them a chance to express their opinion (everybody loves feeling like their opinion counts), and they should be happy to have an opportunity to influence their field if they feel passionate about what they do. You'll also be giving them the opportunity to share lessons learned or pet peeves. And finally, in some cases, you may actually be quoting them or their company by name, which is another way of providing recognition and authority.

The best source for finding an SME is actually your client. This probably will not be the person assigning your tasks, but there's probably someone else on their team who could work with you to help create content with just the right degree of technical substance. Another source might be one of their users—a great source if you're creating a case study; you could interview someone from that organization about how your client's product or service has changed their way of doing business.

Looking at our earlier example from a previous section, let's say you're hired by Company A, a cloud access security broker (CASB), which creates software to patrol and enforce security policies. Their user is Company B, a company that creates cloud-based billing and claims software. One potential SME is someone from Company A who knows the ins and outs of their product and are happy to talk about the benefits it offers. But if you want to capture more of the user experience, a spokesperson from Company B might be willing to speak about the process of adopting Company A's service and the benefits it has offered their company.

■ The Most Important Thing

The most important thing to remember when working with an SME is that they are the SME, not you. You don't have to be; that's why you're working with them in the first place. So, when you're working with one, you need to be able to ask questions and have them clarify anything you don't understand.

There will almost certainly be times when you're speaking to an SME and suddenly feel out of your depth, like you don't understand some basic details. Don't pretend to understand, because you need to have that knowledge in order to create winning content. Instead, ask questions based on your current understanding. Try not to test their patience by asking simple questions you could answer easily through Google or a basic familiarity with your client's website. But if the SME seems to be getting impatient with your questions, just explain that you want to make the content as clear, approachable, and usable as possible.

If, in the end, they've explained something a few different ways and you still don't understand, it's time to put things on hold. Do a little more research into the topic on your own. You could also try finding another SME with the same company, in case you feel there is a language or communication barrier.

■ Making Your Way in the Cloud

What comes to mind when you think of the cloud? Hopefully, if you've made it this far, what comes to mind is **YOU**.



The cloud is still a new and unfamiliar field for many writers, and it's begging for someone with your writing skills to clearly communicate its products and services. Whether you're sharing those ideas in the form of case studies, white papers, blogs, or landing pages, your

words will be front and center. Understanding the basic dimensions of the industry, the B2B personas who'll be reading your content, and the major pain points of those personas will help you speak directly to your readers. Dip your toe in their world by skimming headlines for major players, names of technologies, and buzzwords. Hang out in the spots your audience does—GitHub, Stack Exchange, IT forums—and read IT and computer security sites like Computer Weekly, InfoWorld, and CIO. As with any type of journey, it's a lot easier once you learn the language!

Obviously, a short ebook can't give you everything you need to know, but we hope we've given you enough encouragement and practical information to get started. If you're a writer interested in freelancing for IOD, get in touch with us on LinkedIn. Or if you're a tech marketer in need of tech marketing content or tech marketing writers, [we can help with that](#), too! Best of luck and happy cloud content creation!

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