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Public, private or a mix of both?

WHITEPAPER Cloud

There's no single answer—and there doesn't need to be.

Cirrus. Nimbus. Stratocumulus. Anyone who's ever looked upwards knows there's more than one type of cloud in the sky. But it takes an expert to know what each type does best.

And the same's true for clouds here on Earth—in server rooms, data centres, and colo facilities across the world. Increasingly, companies are discovering their ideal cloud computing solution can't be described with a single word—and are seeking a partner that understands them all.

So the goal of this guide isn't to recommend public, private, hybrid, or any one-size-fits-all solution. (And no guide should!) It's to help you find the one that matches your needs. And if that solution spans more than one type, to get the mix right—and fully flexible—from Day One.

Let's now define these different clouds, the benefits and limitations of each, and—most importantly—the situations where they work best.

PUBLIC CLOUDS: vast and welcoming

Most recognisable is the public cloud: home to most websites, Software as a Service applications, and online databases. It's huge, flexible, and—with Microsoft Azure and Amazon's AWS—some household names operate in this space.

1 Advantages

The greatest advantage of any public cloud is the way it can scale up or down to match your needs moment-by-moment, called "burst capacity". With in-house servers, your capacity may be fully utilised only at 9am, when everyone logs in; the rest of the day you're maintaining ten times more capacity than you need. In the public cloud, it's normal to pay only for what you use. And while public clouds are sometimes seen as "less secure", that's mostly a falsehood. Every public cloud has a bigger team of dedicated security professionals than most companies have in-house IT staff; after all, it's their job. Strong (even bank-level) encryption and authentication, combined with newer approaches like ZTNA (Zero Trust Network Access) are ideal for a world of BYODing (Bring Your Own Device) remote workers.

It's the same for another common concern: being locked into proprietary infrastructure. Cloud software methodologies (like containers) mean public cloud applications are far more portable than a few years ago. While performance and availability are competitive, too. (Many public clouds offer huge bandwidth and five-nines SLAs).

Overall, the public cloud is suitable for many more applications than most think. So for many companies, public clouds are an excellent choice. But there are some limitations.

2 Limitations

While some fret about migration hassles, this is less problematic than you might think. "Lift and shift" is available from both public and private cloud providers—but simply retrofitting your existing applications into a cloud model isn't the best way to go. The value comes in reshapingthose applications—even applying a whole new strategy—to make best use of cloud services. And that's just as viable in the public cloud as in a private one.

A more legitimate limitation is the contract with the cloud provider: the Service-level Agreement. Many SLAs don't offer fix times tight enough to enable 100% business continuity—your business, at least for a time, is in their hands. There's a similar situation with costs: paying for volume of data in and out means some applications—perhaps the ones you want—start to look very expensive. (Just because it's the public cloud doesn't mean it's always the cheapest option.)

At country level comes a more legitimate concern: the non-geographical philosophy of the public cloud. Many nations have laws about where their citizens' private information can be stored, and public clouds often can't commit to keeping client data in a fixed location. (Indeed, being borderless is the point.)

PUBLIC CLOUDS

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Where it works best:

Smaller companies like startups, firms needing to get innovations into the market fast, and companies without much physical infrastructure commonly use public cloud services—and many use nothing else. But where national regulations or data policies come into play, it may be time to look at other solutions. The good news: you don't have to give up the advantages of the public cloud to do so.

PRIVATE CLOUDS: precision and control

To a software developer, private clouds look much like public ones. They offer service on demand, economies of scale, burst capacity, and a pay-as-you-go cost model using services born on the web. But a private cloud isn't a "public cloud in the basement". Here's how the private cloud compares to its larger relative.

1 Advantages

A private cloud answers some common worries about security and legal compliance. Being private. It's generally dedicated to a single organisation. It's customised for a specific set of customer needs.

A private cloud may offer a SaaS application, but it'll be a private implementation of that SaaS, not the publicly accessible app open to the world. This gives the customer more control.

This can also make migrations easier, since the environment can be set up to receive the migrated data structures precisely. And, of course, complying with data residency requirements is easier to achieve when the cloud you're using stays in one place.

In general, think of the public cloud's limitations as private cloud advantages.

A private cloud is essentially your own real estate in the sky, with service levels and network costs that aren't defined or limited by an SLA. It's your playground, ready to perform the tasks you want.

2 Limitations

However, another way to view a private cloud is "like public, only less so". While it'll also offer capacity that shrinks or grows with demand and a large set of applications, it generally offers less of both.

And as custom cases, private clouds tend to be more expensive bang-per-buck.

But overall, a private cloud choice means a greater opportunity for fine-grained tweaking and tuning—and many companies find that worth paying for.

Especially for the most critical business applications, where a complete (and often custom-created) service wrap can be added.

PRIVATE CLOUDS

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Where it works best:

Larger MNCs (Multinational Corporations) and government departments are common users of private clouds.

(Analyst research (1) states 37% of government users cite control of data as a rationale.) For a range of reasons, private clouds are thriving.

HYBRID CLOUD SOLUTIONS: mixing and matching

While public and private clouds each carry advantages, mixing and matching—a **hybrid cloud**—can leverage both. The control and compliance of a private cloud is a fit for private customer data in one market; the vast capacity of the public cloud can serve customers everywhere. But some limitations remain.

1 Advantages

The more complex an organisation, the broader its needs when going cloud—and a mix of on-premises (or in-datacentre!) private cloud and planet-spanning public cloud services can answer them. But the key advantage of a hybrid model is how the mix interoperates. Authorised employees may use an app in the public cloud to view data in the private one, but they don't see the join. To a user, the hybrid is seamless, taking the best of both worlds.

2 Limitations

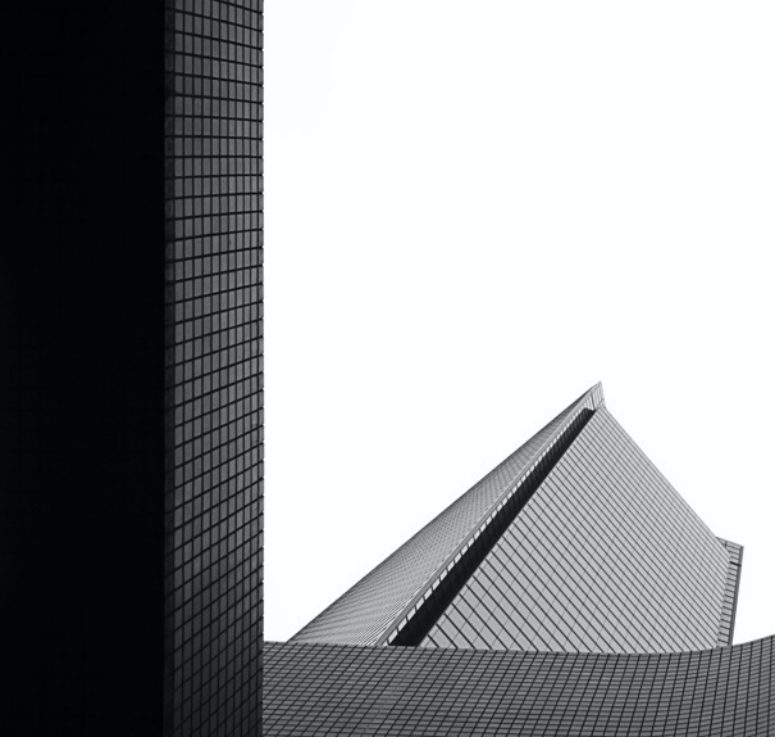
The main limitation of any hybrid model doesn't involve technology: it's the detailed understanding needed for effectiveness of what data and applications belong in each. Getting the mix wrong destroys the hybrid advantages: Garbage In, Garbage Out.

And as organisations change and evolve, that mix won't stay constant. So a hybrid cloud solution is a balancing act—meaning customers must devote resources to keeping that balance profitable.

Where it works best:

Where an organisation has a mixed set of needs, a hybrid cloud can be the most cost-effective choice.

For example, a bank may need to comply with data residency laws in its own country, yet offer an application not involving this data to its employees: the first dataset lives in a private cloud, while the application takes advantage of the public. Many large and complex organisations adopt such policies—and they work well.



MULTI-CLOUD SOLUTIONS: duplicating best practice

Finally, a note on **multi-cloud**—and how it isn't another term for hybrid. Multi-cloud solutions can also be a mix of a private and public clouds, but they include **multiple implementations** of each.

1 Advantages

A multi-cloud strategy can answer data residency requirements without needing a hybrid: a private cloud in each operating territory can comply perfectly. While companies in the same international group but with competing business units may prefer to use "their" cloud rather than sharing another's—even if the applications and business functionality are the same for both. Multi-clouds often answer such business realities.

2 Limitations

Operating as a set of separate clouds, a multi-cloud strategy loses some of the scale economies and capacities associated with public clouds (and increasingly with private). For MNCs with many units, however, this cost may be worthwhile for the greater control it gives each BU.

Where it works best:

Multi-clouds aren't about maximising technological efficiencies; they're about allocating control. The less integrated and more independent an organisation's BUs, the more sense a multi-cloud strategy makes for each operating unit. And for many such groups, they answer this goal.

CONCLUSION:

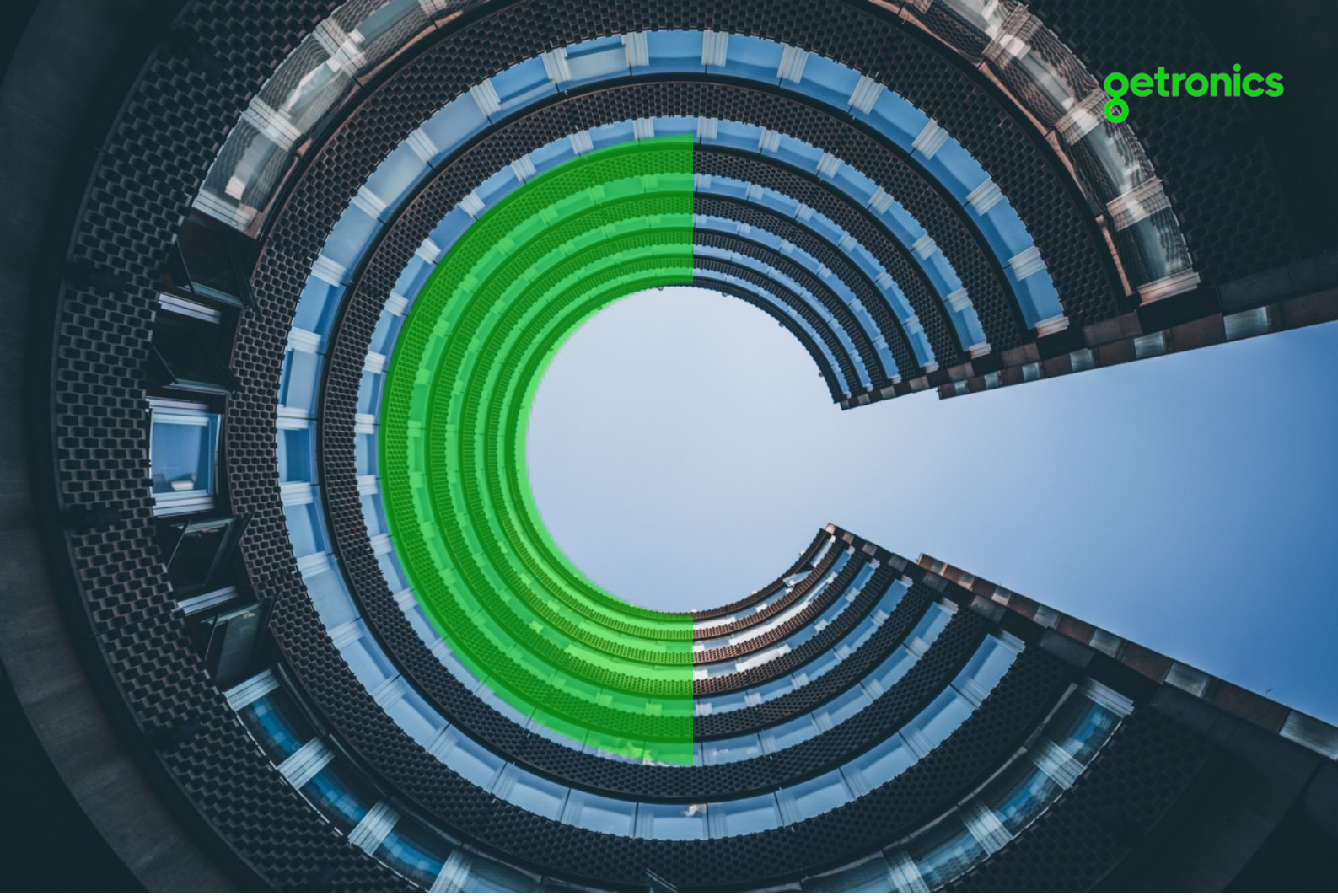
Find your Cloud

So: many types of cloud. But don't think of them as completely different technologies; they're more like different approaches, deploying the same best-of-breed applications and skills in varying circumstances.

All offer the same benefits across assorted environments. So don't let traditional worries about strengths and weaknesses deter you from finding the best solution. Public, private, hybrid, or multi, your answer is in the cloud.

Getronics, with over 2,000 developers and cloud experts, knows each type of cloud in detail—and can help you determine which one is right for your business to then start with your cloud journey.

See more at **www.getronics.com/services/cloud-services.**



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With over 3,700 colleagues across Europe, Asia Pacific, and Latin America, Getronics' vision is to reimagine the digital future, one customer at a time. We do this by leveraging an integrated and secure-by-design portfolio around **Digital Workplace, Business Applications, Smart Spaces, Multi-Cloud, Field & Onsite Support, Service Desk, Network Infrastructure, and Security & Compliance**, to serve our more than 1,800 customers in both public and private sector.

Getronics is the leading member of the Global Workspace Alliance. This unique model provides customers with consistent IT services across 185 countries, with one single point of contact and billing entity yet maintaining the local touch and flexibility of a local partner.

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