Stop overspending in AWS

A guide from Zen

Understanding cost challenges

As we embark on the road to economic recovery, tough financial decisions need to be made. If saving cash has quickly become your business priority, investment will fall and belt tightening will become the norm for a while.

We know it's easy to get caught up in the day to day, without having time to look up from your desk, never mind look at the bigger picture, but sometimes it can help to step into your CFO's shoes every now and again.

In fact, taking time to understand some common cost challenges and how they can be overcome can help to save your business a significant amount.

But when it comes to cloud spend, it can be easy for costs to spiral without you even knowing.

Made mistakes? Yes, and we've learned from them

Having delivered cost optimisation reviews for organisations big and small, we're sharing our key learnings for free, so you're saving already!

Are you making any of these mistakes now?

If so, don't be embarrassed, it's easily done.

We've listed some of the most common cost challenges that we see...

1 Don’t be overgenerous

When it comes to operating your resources in a cost-effective manner, our mantra is **‘turn it off, reserve it and monitor it’**.

The best way to save money in AWS is to make sure you’re only running the resources you need. Simple right? Yet this is one of the most serious cost challenges that businesses face.

If you’re running instances when you don’t need to or you’re overspeccing unnecessarily you could be spending significantly more money for no gain.

But how do you ensure that you’re operating in the most cost-effective way? That’s where the above mantra comes in.

Turn it off

If you’re running resources that can be turned off, this is perhaps the number one way to save costs in AWS, but it’s also the one that most people and teams forget about.

An example might be if one team only needs access to an instance between 9-5, Monday to Friday. That leaves a lot of time when your resources are going unused – and a lot of time where you could be saving easy money. **AWS Instance Scheduler** lets you control this process automatically, **saving you up to 70%** when compared to running your instance 24 hours a day.

One to watch carefully too, we’ve seen customers rack up thousands of pounds in costs unknowingly due to simply forgetting to turn off test environments. So remember those too, and if you’re likely to forget, monitor everything!

Reserve it

Effectively, this is all about scheduling and reserving the resources you need. And that starts with appropriate provisioning. It’s important to consider the right size to configure your resources – instance size, disk size, performance - essentially having the lowest cost resources that still meet your requirements.

If you know what level of demand you need to meet (and when), scheduling resources or using reserved instances can help to save a good amount of cash. Reserved instances save up to 72% against on-demand pricing – which could be quite a staggering saving.

Monitor it

Knowing when to turn resources on or off, when to schedule and knowing how much resource to reserve are all dependent on having a robust monitoring environment. It can be quick and easy to make changes in AWS but how do you know whether your instances are overspecced or you’re operating in the most cost-effective way?

Aside from Zen offering a free Well Architected Review, we recommend tools like CloudWatch and Trusted Advisor to help.

2 Rightsizing

We've briefly touched on right sizing, but this important topic really does deserve a section of its own.

As we've mentioned, it helps to think of right sizing as applying the lowest cost resources that still meet the requirements of your workload.

Unfortunately, there's not a button for it. It is very much an iterative process, so you're unlikely to find the right size at day one and never have any need to change (in fact, never changing is inadvisable). But through continual review and monitoring you'll be properly reserving the right sized instances – and making cost savings in the process.

By carrying out a cost benefit analysis – even a basic one – you can ensure that your time and effort is spent on making changes and optimisations where you're most likely to get a good return. There's little point spending hours or days optimising something that might return a few dollars savings a month – you'd probably be better off putting that time to better use elsewhere. Our advice is to look at the top three or so AWS services where you're spending the most money and focus on those.

Perhaps the best time to carry out a right sizing review is when there's a notable change in usage patterns (which you'll be able to identify through CloudWatch), when a new AWS service is released or when there's a price change.

Cost benefit analysis

For example, we've found that new families of EC2 instances are generally cheaper than the older generations – an obvious trigger to conduct a review and determine whether you could be getting the same or better performance for less money.

And remember to keep an eye on all the components of your resource. That means not just the CPU and memory but also network and disk usage and beyond.

In our experience, this knowledge of every facet is vitally important. We've previously helped customers who have spent vast amounts on increasing instance sizes with little benefit when the fix lay in a simple change elsewhere.

3 Choices, choices...

You're trying to operate cost effectively and you know the importance of right sizing, but the success or otherwise of your cost saving efforts will ultimately be determined by the decisions you make.

One important first step is to understand purchasing options. Just choosing the right type of instance for your needs can make a huge difference.

We won't go into great depth here but, briefly, your AWS purchasing options consist of the following:

On-demand instances

For short term, unpredictable workloads where interruption and unavailability aren't an option, on-demand instances are a great choice for a few weeks or maybe months. When you're able to commit for much longer, on-demand instances are not recommended. There's no long-term commitment, but there's also no discount.

Reserved instances

Giving you all the hardware you'd get with an on-demand instance, a reserved instance requires a one or three-year commitment from you, and you'll save up to 72% when compared to the on-demand equivalent. And with a scheduled reserved instance – if time of day or day of the week is not important – you can make greater savings still by reserving the instance for particular times (overnight or weekends, say).

Spot instances

In our experience, spot instances are a great way to save money – **up to 90% against on-demand costs**. And because AWS have made it so easy and seamless to bring spot instances into your workload, they're a really viable option. Spot instances are ideal for testing or batch processing – really, anything bursty that you don't mind being slightly susceptible to interruption. Just remember that AWS can terminate your spot instance at any time with a two-minute termination warning!

Managed services

This is another option that many users don't think about. We don't want to get salesy but managed services through AWS Advanced Consulting Partners like Zen or even Amazon themselves remove the responsibility for patching, backups and general maintenance into the hands of others, freeing up your team to spend more time on business-critical issues. Wherever it makes sense for your business, we recommend using managed services.

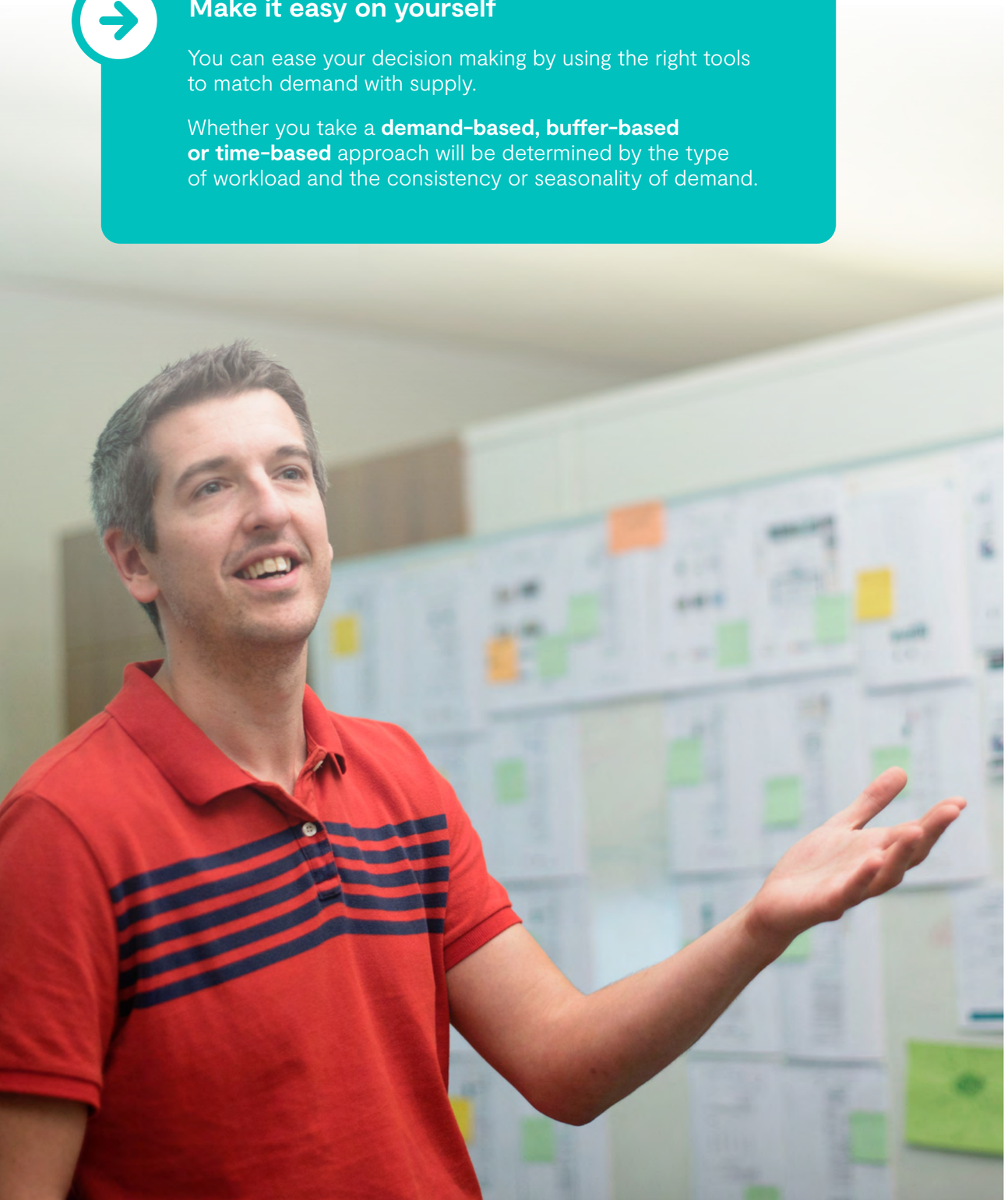
Geography

Another easily overlooked decision is where your workloads are hosted. Some workloads need to be hosted in a particular region, but others don't. If it doesn't matter where in the world your workload is, take a look at the prices of other regions. It could be an easy way to make some real savings.

Make it easy on yourself

You can ease your decision making by using the right tools to match demand with supply.

Whether you take a **demand-based, buffer-based or time-based** approach will be determined by the type of workload and the consistency or seasonality of demand.



Demand-based

Typically, demand-based scaling fits best in meeting the changeable demands of web traffic. As traffic enters your load balancer, auto scaling can ensure that you're always running at the right capacity.

That auto scaling by the way is determined by your own predetermined parameters. We recommend using CloudWatch to help ensure your requirements are accurately mapped.

Buffer-based

When there's no urgency over a given workload, we would recommend you use buffer-based scaling instead. If you can afford to wait before you process that workload, a service like AWS Batch can scale out your resources and processes at a time that works best for you.

Time-based

With time-based scaling, you can ensure that your instances scale up to meet a known trend (seasonal or weekly demand for example), then ramp down for lower costs at all other times.

We're here to help

There's so much more to say about AWS cost optimisation, from developing a thorough understanding of the tools and services available, to properly measuring your spend, tagging, service limits, policies and beyond.

The best place to start though is a with a free cost optimisation analysis from Zen. We'll thoroughly review your AWS environment, providing advice on what improvements you can make and how you can make them.

For more details on AWS cost optimisation from Zen or to book your free cost optimisation analysis, get in touch.

For more details, give us a call on **01706 902 579.**

More cost optimisation resources

- Four steps to achieving cost savings in AWS, click **here.**
- Zen's free cost optimisation service, click **here.**
- Minimise wasteful spend in AWS, click **here.**

Who is Zen?

24,000
Business customers

Independent technology service provider

+76
Net Promoter Score

91%
Customer satisfaction as rated by the ICS

1,500
Mid-market customers

30+
experienced, accredited experts

AWS well architected partner

Global launch partner for EC2 for Window's server

Certified B Corporation
B-Corp

Microsoft Workloads specialist

6+
years as AWS advanced consulting partner

zen.co.uk/business
solutionsales@zen.co.uk
01706 902 579