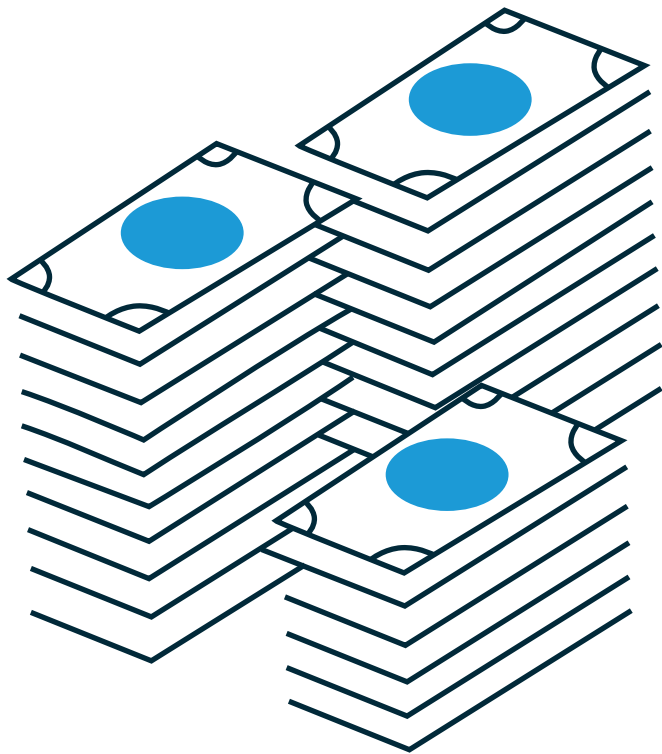datto

PREVENT POWER OUTAGE DOWNTIME

Businesses of all sizes can be impacted by a power outage, but for small to medium sized businesses (SMBs) in particular, a black out can be devastating. After all, a power outage equals downtime, which translates directly to lost revenue. SMBs are less likely to be able to absorb the impact of financial losses like an established, stable enterprise does. So, taking steps to mitigate the impact of power outages should be considered an essential part of business continuity and disaster recovery (BCDR) planning.

Power outages, a leading cause of business downtime today, are on the rise. According to the annual Blackout Report from power management company Eaton, the UK experienced a 19% increase in outages between 2014 and 2015, which affected a total of 2,564,827, lasting for an average of 50 minutes. Eaton claims that the number of incidents has been rising steadily for the last eight years. Even Datto's EMEA HQ has been affected, which we'll cover later.

This ebook will help you better understand the tools and strategies that businesses use to minimise the impact of power outages. You'll learn why power outages occur and why they are becoming increasingly common. You'll also learn about preventative measures that can reduce the impact of power outages on your business. Finally, you'll learn how these preventative measures alongside a robust data protection strategy can reduce the financial impact of an outage.

An outage can cost UK businesses over £57,000 per year, according to power management company Eaton

WHY POWER OUTAGES HAPPEN

According to Eaton's blackout report, power outages come from a wide variety of sources. The largest cause is faulty equipment - resulting in just over half of all blackouts, at 51% - followed by weather at 13%. Worryingly, the cause of 29% of blackouts is unknown. Outages cost UK businesses as much as £57,000 per hour, according to power management company Eaton, with the biggest disruption cited as a storm in the North East of Scotland in January 2015, when one million homes and businesses were left without power.

Steve Spicer, IT Segment Lead, UK, says that the spike in the number of outages highlighted by the Blackout Tracker report emphasises how fragile the UK power networks are becoming, increasing the need for businesses to develop an adequate power protection plan.

Dr Jenifer Baxter, Head of Energy and Environment at the Institution of Mechanical Engineers, and Lead Author of the report says: "The UK is facing an electricity supply crisis. [...] However with little or no focus on reducing electricity demand, the retirement of the majority of the country's ageing nuclear fleet, recent proposals to phase out coal-fired power by 2025 and the cut in renewable energy subsidies, the UK is on course to produce even less electricity than it does at the moment."

The grid is ill-equipped to keep up with today's needs, impacting millions of people, and costing millions of pounds each year. And this isn't an issue limited to the United Kingdom; according to the US Department of Energy (DOE), our cousins across the pond are facing up to the realities of climate change. 80% of US outages are caused by extreme weather, and blackouts are four times more likely than they were fifteen years ago.

Consider using cloud-based email and other applications, so users can easily work from home while your business is without power. Cloud-based file sync and share (FSS) services can give users access to files they need from anywhere, on any device. Not all outages are widespread regional events. Depending on the nature of your business, giving employees the ability to work remotely can be an effective method for returning business operations quickly.

While it is not yet a common cause of power outages, it is worth noting that cyber attacks have caused at least one large-scale power outage. According to Computer Weekly, tens of thousands of customers in Ukraine's Ivano-Frankivsk region were without power for several hours on December 25, 2015 following an attack on two regional power distribution facilities.

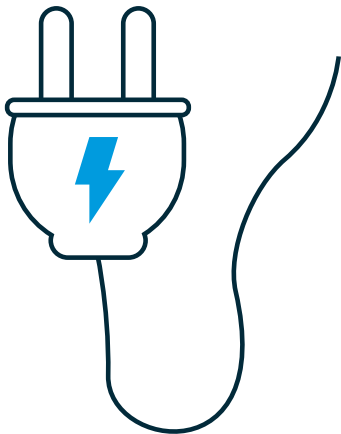## REDUCE DOWNTIME FROM POWER OUTAGES

The good news? There are a number of preventative measures that businesses can take to minimise the impact of power outages. Of course, the level of protection you require will be dictated by the specific needs of your business. So, it is important to evaluate your business' tolerance for downtime associated with power outages, and invest in preventative tools accordingly. In other words, there is no one-size-fits-all strategy for every business.

Power outages can last anywhere from a few minutes to multiple days depending on the cause of the outage. Short-term outages, obviously, will have have minimal impact—especially if there there is no damage to facilities or equipment. Long-term power outages, such as those resulting from severe weather, require planning to ensure that business operations can resume within a reasonable timeframe.

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Businesses are impacted by power outages in different ways. Obviously, without power, electronic equipment is inoperable. But, more importantly, power outages can cause devastating damage to a business's IT systems, which can significantly increase downtime after power is restored. This is because electronic devices,

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UPS and surge protection

An uninterruptible power supply (UPS) is a device that ensures computer systems can stay on temporarily in the moments following a power outage, so they can be shut down gracefully to avoid losing data in RAM. They also provide surge protection, to ensure that electrical current irregularities do not damage computer components.

There are a wide variety of UPS devices available today, and a number of things to consider when selecting one. When evaluating a UPS, start with the needs of the protected systems, such as:
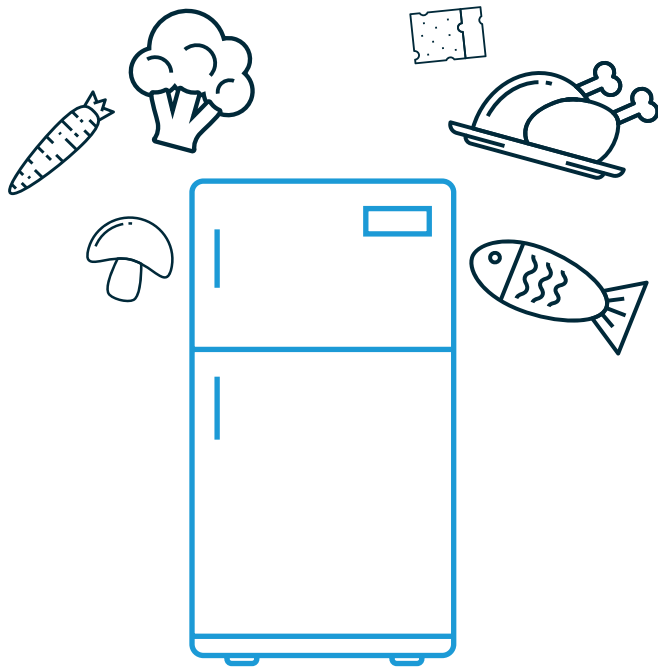
- Number of devices supported
- Types of devices (e.g., desktops, servers, networking equipment, other electronics, etc.)
- Power requirements for each device

You'll also want to consider specific UPS functionality. For example, many devices offer features such as:

- Automatic graceful shutdown of protected devices
- Customisable shutdown commands
- Power save mode
- Battery life notification

Pricing for UPS devices varies widely, and is largely dictated by the factors outlined above. Choosing the right device requires a careful consideration of your needs so you don't overspend. These devices can represent a significant investment. That being said, be careful not to underestimate your needs.

Data protection solutions, like Datto, allow businesses to access the critical applications they need to conduct normal business operations even when their on premises systems are down without power.
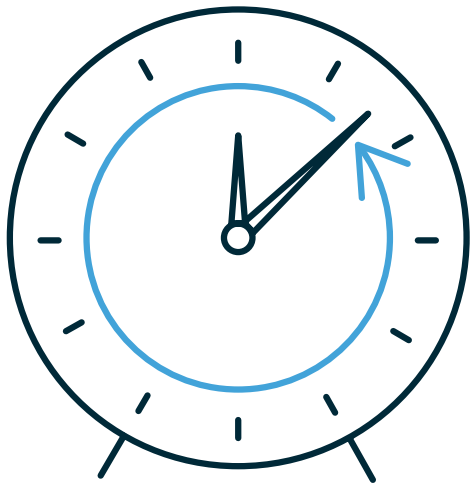
Generators

Not every business requires dedicated generator power. For example, most businesses can tolerate the downtime associated with a short-term power outage. Also, many office buildings have standby generators that companies can rely on. However, if your business has specific requirements that necessitate a generator, such as a restaurant that relies on refrigerators for perishable goods, there are a number of things to consider.

First, you'll have to calculate the minimum wattage for your generator. To do this, you need to take an inventory of the equipment you need to power, add up the wattage, and multiply by 1.5 to account for the extra power necessary for equipment startup. There are also a wide variety of generator wattage charts available to help you determine the right generator for your business. Depending on your power needs, there are two types of generators to consider—portable and standby.

Portable generators are typically lower in cost and wattage than standby generators. They typically run on gasoline and must be manually started and plugged into an electrical sub-panel following an outage. Standby generators on the other hand are much more expensive, run on natural gas or propane, and are directly wired into a switch in your electrical system. They are designed to automatically turn on when power is cut.

When it comes to backup, it's important to understand two concepts: recovery time objective (RTO) and recovery point objective (RPO). RTO is the amount of time that it takes to get a system restored following a failure or disaster event. RPO is the point in time to which data can be restored following the event.

HOW TO AVOID DATA LOSS FROM A POWER OUTAGE

Avoiding data loss from a power outage is straightforward—you need a secure, second copy of your critical business data in a separate location that you can easily access in case your primary systems are damaged due to power loss or other data disasters. For businesses, backing up data is a fundamental part of responsible entrepreneurship. But, backup can mean a lot of different things. The approach that you choose to protect your data will have a dramatic impact on the speed and success of your recovery.
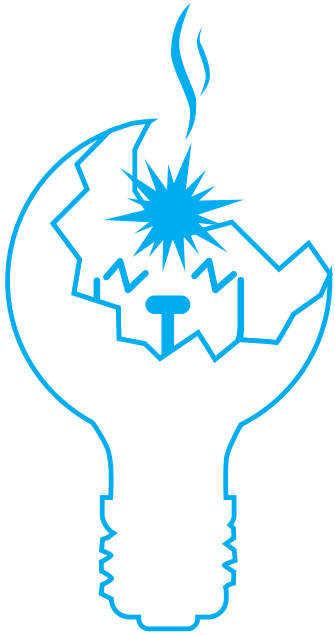
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When it comes to power outages, a solution that offers low RPO essential. Here's why: Let's say you perform a backup at 6pm every night. If a primary server was damaged in a power outage and failed at 5pm the following afternoon, your RPO would be 23 hours. Any data within that timeframe would be lost.

Modern backup solutions, like Datto, take incremental backups of business data continuously throughout the day—some as often as every five minutes—to deliver very low RPO. They also allow users to run production workloads from the backup server or in the cloud while restoring primary operations for low RTO.

If you are choosing a backup solution today, this type of functionality should be a serious consideration. Traditional backup methods can not deliver the low RTO and RPO of today's backup software and services. The ability to run applications from a cloud backup is particularly useful to prevent downtime during a long-term power outage. Data protection solutions, like Datto's, allow businesses to access applications they need to conduct normal business when on premises systems are without power.

All the other building's tenants sent their staff home. Not Datto, however - we practise what we preach.

LIGHTS OUT AT BROOK DRIVE

As we mentioned earlier, even Datto's old EMEA Headquarters at 100 Brook Drive in Reading, in the South East of England, has suffered from a power outage! Unsuprising when you realise that this region experiences more blackouts than anywhere else in the country, representing 19.4% of outages.

During routine maintence to Datto's shared office building in August 2014, an A/C Engineer received an electric shock. As a result, Health & Safety shut down power to the entire building. This remained off for 48 hours.

All the other building's tenants - which included tech companies and a bank - sent their staff home. Not Datto, however - we practise what we preach.

Datto hired a conference room in an adjacent building on the business park. Corporate servers were booted in the Datto Cloud, as was the IP Telephony Server with a VPN tunnel for IT Telephones. In less than an hour, the EMEA team was up and running again with minimal disruption to our customers.

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CONCLUSION

Power outages don't discriminate. They hit businesses of all shapes and sizes, in any region or industry. Black outs result in billions of pounds in losses per year. SMBs in particular are vulnerable to downtime and financial loss from a power outage and should take the appropriate steps to mitigate the impact of this type of event as highlighted above.

The steps you take to prevent downtime from power outages will largely be dictated by the specifics of your business. At a minimum, you should protect your electronic equipment against power surges and ensure they can shut down properly in the event of an outage. Cloud apps can help some businesses, allowing employees to work from home (as long as they have power). Backing up data should also be considered essential, in case the the above measures fail. You may need to invest in a generator. If you do, be certain that you size it properly for your power requirements.

With proper planning, you can greatly minimise the impact a power outage will have on your operations. Determine the amount of power outage downtime your business can tolerate, and build your strategy around that.

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