3850 Bird Road
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Coral Gables, Fl 33146

Backups

It is imperative that a full backup of your company's data be performed, verified and secured prior to the onset of emergency conditions. This is arguably the most important step in preparing your business for possible catastrophe. Below are the key points in ensuring your data is safe:

Customers with a media-based, onsite backup solution, such as tape or external hard drive(s), should prepare by doing the following:

1. Review the Full Backup job(s) to ensure all important data is included.
2. Run a full backup
3. Once the full backup is completed successfully, verify that the backup is good by performing test restores of multiple files and accessing them.
4. Store the media containing the full backup offsite, preferably at a fortified location, such as a Safe Deposit Box.

   VirtuWorks manages backups, and will perform items 1 through 3 above, for customers enrolled in our MSP Plus and Premium plans, at no additional charge. However, it is the customer's responsibility to store the media containing the full backup in a safe location. VirtuWorks DOES NOT offer media storage services.

Customers using the VirtuWorks Offsite Backup Solution have little to do in this regard. Your backups are monitored daily and verified regularly by VirtuWorks Technicians to ensure proper functionality. When a storm or other impending threat is identified, our staff follows internal procedures to further safeguard our customers' data. That being said, it is a good idea to review which files are being backed up to make certain no important files are excluded. A quick call with your VirtuWorks representative can help you identify if there are any discrepancies.

Customers using VirtuWorks' family of Cloud and Hosting Services, such as Velum Remote Office, Virtual Servers, and Hosted Exchange, can rest easy knowing that all data stored on our infrastructure is backed-up nightly, monitored constantly, and stored safely. Below are a few characteristics of our datacenter, as they relate to disaster resilience:

- On FEMA list of Critical Infrastructure
- Tier-IV class facility with redundant power and cooling infrastructure
- Datacenter floor built 32 feet above sea level
- Designed to withstand Category 5 hurricane level winds
- Seven-inch thick steel-reinforced concrete exterior panels
- Located outside FEMA 500-year flood zone
- 100% AC power SLA
- Redundant power vaults fed from two independent substations
- 14 Days of generator fuel on hand at all times
- 3,600 tons of redundant chiller backup capacity
- Electronic detection systems for managing and monitoring environmental systems

Gather Necessary Information

Knowing who to call and what to do, to get your business running again after a storm, can make the difference between Prepared and Panicked. For this reason, it's important to gather contact information and technical instructions in advance of an emergency. The list below will help remind you of what you should know:

VirtuWorks Contact Information

Main Phone: 305-265-0447 or 888-484-7881
(Press 4 for our emergency call-back system, if calling during non-business hours)

To make a service request: help@virtuworks.com or ebox@virtuworks.com (During non-business hours)

Please do not contact VirtuWorks Technicians directly, as your request may be mishandled or overlooked. Placing your request through our main phone number or service email addresses (above), will ensure that it is given the proper attention and priority in the queue.

Remote Access

Having handy the IP addresses, Domain Names, Ports and other information necessary to access your network remotely will allow you to conduct business from anywhere, in the event that you are unable to travel to your office after a storm. If you do not have, or are unaware of how to find this information, contact your VirtuWorks representative for help.

Passwords

Many people keep a list of passwords in a file on their PC or on a "Post-It" note underneath their keyboard. While these are bad ideas to begin with, the situation is compounded when the PC, "Post-it" note are lost due to storm damage. Write your passwords down or store them on a thumb drive and keep them in a safe place.

Forward Your Phones

After a storm, utility companies are flooded with emergency calls, and may not be available to make changes to your service. It is best to anticipate an interruption of your office phone service by having your main phone numbers forwarded to an answering service, remote office, or the cell phone of a designated member of your staff, a few hours before a storm is set to make landfall.

VirtuWorks VOIP and Hosted PBX customers are able to forward their phones to one or multiple numbers of their choice, using the Hosted PBX customer portal. This will ensure that, even if your office loses power and internet service, you can still receive your inbound business calls. Contact VirtuWorks for instructions on accessing the portal.

Packing up

Damage to office equipment caused by a storm can be minimized, in most cases, by taking a few simple precautions. We listed a few steps below to assist you. Please follow them in the order listed:

PC's

1. Check to make sure there are no important files stored on your PC (Desktop, My Documents, etc.) that are not included in the full backup. If there are, back them up to a thumb drive or other storage device and take them off site. Make a note to have them included in the Full Backup once things are back to normal.
2. Shut down your computer gracefully, using your operating system's "Shutdown" feature. DO NOT simply press the power button without shutting down.
3. After shutting down, unplug your PC, monitors, personal printers, phone and other devices from the wall. If your devices are plugged into a UPS, you may simply unplug and power-off the UPS.
4. If possible, CAREFULLY relocate any electronic devices to higher ground. If your PC, UPS or personal printer is currently on the floor or near a window, disconnect them and place them on top of your desk or a desk further away from the window. Be careful when moving your PC, as a sudden impact may damage the hard drive.
5. Depending on the likely severity of the storm and condition of your building, it may also be a good idea to cover your electronic devices with garbage bags, or other waterproof sheeting.

Servers / Server Rooms

1. Make sure a Full Backup has been run and verified, and that all work has ceased, as **the following steps will bring down your network**.
2. Shut down each server gracefully, using the operating system's "Shutdown" feature. DO NOT simply press the power button without shutting down. Servers and network equipment are likely plugged into one or more UPS'. Once the servers have been shut down, you may unplug and power-off the UPS'.
3. If possible, CAREFULLY relocate any servers or other network equipment currently located less than 3 feet from the floor to higher ground. Be careful when moving your servers, as a sudden impact may damage the hard drives and other sensitive components.
4. Depending on the likely severity of the storm and condition of your building, it may also be a good idea to cover your servers, server racks, and network devices with garbage bags or other waterproof sheeting.

Large Printers / Copiers

1. Power-off using the Power button
2. Unplug
3. Move to higher ground if possible. If not, remove paper from trays that are less than 3 feet from the ground.
4. Depending on the likely severity of the storm and condition of your building, it may also be a good idea to cover with garbage bags or other waterproof sheeting.

Lastly, it's advised place the electrical breakers that feed your office area in the "off" position, as a last step before leaving the office for the duration of the storm. This should only be done if the wiring in your building and the electrical panel is known to be in good condition. Consult the building owner if you are not sure.

After the Storm

Dealing with the after effects of a storm properly is just as important as having prepared. Below are tips on how to avoid problems while bringing your business back on line:

"Alternative" Power Sources

Damage to IT and other electronic equipment is commonly incurred after a storm through the use of alternative methods to supply power.

1. **DO NOT** use low-quality generators to power PC's, Servers, Monitors, Printers, or Network Devices. This equipment is highly sensitive and cannot withstand the power fluctuations inherent with these types of generators. Generators built for IT equipment employ specialized power conditioners and are expensive. If you have a generator, and are not sure if it can be used to power IT equipment, consult the manufacturer to verify its rated capabilities.
2. **DO NOT** run a single extension cord from your neighbor's office to an array of power strips in your office to power your IT equipment. This will cause similar power fluctuations to that of a generator, may also knock out your neighbor's power, and could start a fire.
3. **DO NOT** try to charge up your UPS' on a generator or your neighbor's power, run your IT equipment for a while until the battery runs out, and repeat. You will damage the UPS and your IT equipment.

Power Instability

Power in areas where it has been out for a significant length of time is commonly unstable for hours after being "restored." This is due to hundreds of air conditioners, refrigerators, and countless other high-consumption pieces of equipment coming online at the same time, overloading the grid. Powering on your IT equipment during this period of instability will likely result in damage. Be patient and wait for power to stabilize. It will take much longer to get back up and running if your equipment is damaged.

Powering Up

Once power has been stable for a few hours, and ONLY if your office has sustained no significant damage or flooding, follow the steps below to bring your office back online:

1. Remove garbage bags or sheeting from all electronic equipment.
2. Turn the electrical breakers that feed your office to the "On" position.
3. Walk around your office to check for smoke, sparks, fire or other signs of danger.
4. Carefully reposition your Server UPS' and PC UPS' in their proper place, plug them in, and allow them to charge for at least 30 minutes.

Equipment Relocation and Booting up

Following the below sequence of steps will help you in avoiding commons issues encountered when bringing a network online. If you are unsure about how this applies to your particular network, please contact your VirtuWorks representative.

1. Carefully reposition your Servers, PC's, Printers, Phones and Network Devices in their proper place.
2. If you have a Cable Internet or DSL Modem, plug it in first and wait 3 minutes.
3. If you have a Firewall or Router, plug it in next and wait 3 minutes.
4. If you have Switches, plug them in next and wait 3 minutes.
5. If you have a Domain Controller (Server), plug it in next, power it on and wait 5 to 10 minutes
6. Plug in any remaining Servers or Network Devices.
7. Plug in your PC's, Monitors, Printers and Phones and turn them on.

   Note: If any of these devices do not have a UPS, make a note to get one.

If you have followed the above procedure and are not able to connect to your server or the internet, please contact VirtuWorks to request service. Please DO NOT attempt to "Reset" your modem, router, or other network devices as this may result in the deletion of their configurations.

VirtuWorks Response

Following a storm, VirtuWorks typically receives a high volume of service requests. In these emergency situations, requests are handled according to Customer Plan Type, the order in which the request was received, and the severity of the issue reported. As always, we will do our very best to attend to each request as promptly as possible.

In Closing

We at VirtuWorks would like to thank each of our loyal customers for your continued business and wish you all a safe (and uneventful) hurricane season.

Sincerely,
The VirtuWorks Team