



10 Recommendations for Storage Managers to Prepare for Future Pandemics



Storage Managers have always needed to adjust their storage strategies to protect against new threats. Terrorism made IT planners create contingencies for something beyond natural disasters, and ransomware made them prepare for something other than hardware failure. COVID-19 has made the impact of pandemics a reality, and we need to prepare for future outbreaks. There are 10 critical steps storage managers need to take to prepare for future pandemics.

From a personal perspective, the best protection from the expected next wave of the virus is to take precautions regarding hygiene, to improve health, and to physically distance ourselves as much as possible. Professionally, every organization must check to see if its enterprise storage is ready for the next wave of the COVID-19. There are unique demands placed on storage infrastructure during work-from-home orders, and preparation is key to maintain economic health.

Pandemics are a different type of disaster. In most disasters, your data center is either destroyed, or parts of it are non-functional. Pandemics leave the data center operational, but now people can't access it. During a self-quarantine or lockdown, organizations become "lights out" for weeks or months at a time. Storage Managers need not only react to the impact of the current COVID-19 pandemics but also plan for future incidents.

10 STEPS STORAGE MANAGERS NEED TO TAKE TO PREPARE FOR COVID-19'S SECOND WAVE

Step 1 - Lower Storage Infrastructure Costs

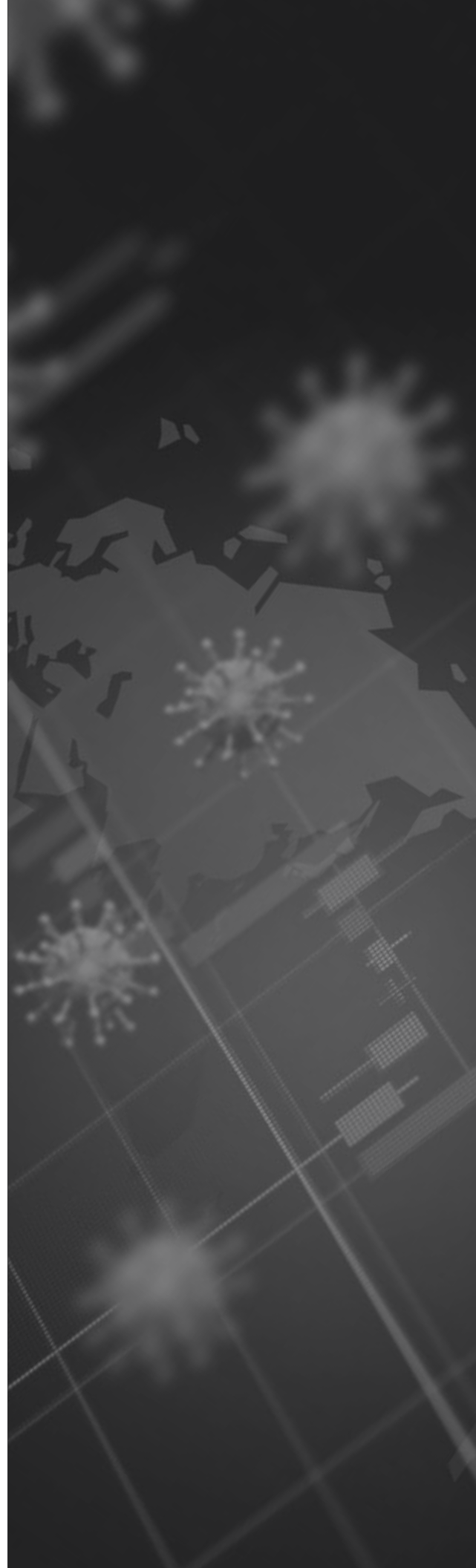
The most severe impact on the organizations of the current COVID-19 wave is financial. The aftermath of the first wave and preparing for future pandemics requires two areas of focus:

A. Lower pricing now - The field of storage is critical for organizations, and no company can afford to compromise data quality. At the same time, there is no doubt that storage infrastructure is an area where organizations can cut IT spending significantly. The proper time to find the right storage system, that can maintain data quality and lower pricing, is now, not during the next pandemic.

Recommendation 1: Every organization should prepare by checking with new storage vendors that offer storage infrastructure at lower prices (both upfront and long-term) without compromising on data quality or application performance.

B. Transparency of Pricing – We are now facing the ultimate example of doing more with less. As a result, there's no time to go through exhaustive and frustrating vendor negotiations, especially when the IT department doesn't know, in advance, storage infrastructure requirements. At the same time, storage vendors may demand higher prices during stressful times, or temporarily, desperately, lower pricing.

Recommendation 2: Every organization needs to find a storage vendor who publishes pricing. That way, prices can be compared easily and without the need to enter into protracted negotiations. IT professionals can then establish budgets with a complete understanding of the upfront and long-term costs.



Step 2 – Improve Data Protection

The risk of data loss is higher during work-from-home orders. Cybercriminals have more time to create ransomware and develop new ways to breach your organization. At the same time, work-from-home means that storage systems need to run with failed hardware for more extended periods without impacting performance or risking data.

- A. Improve Protection from Media Failure - One of the significant limitations of the RAID Protection is the need to be physically present to replace the disk to get back the health status. Global hot spares may provide temporary relief but also need immediate replacement.

Recommendation 3: Every organization must prioritize storage managers' health and choose storage that does not require anyone to be physically present to manage the RAID. Virtual RAID solutions enable this to happen. They allow the storage systems to run for weeks with failed drives, without impact performance and maintaining drive redundancy.

- B. Improve Protection Intervals and Recovery Times – Because of increasing incidents of cybercrime and potential mistakes made by work-from-home employees, Rapid protection and recovery is a crucial requirement. Snapshots, assuming there are no limitations on the number taken or the time retained, are an ideal answer to these challenges. When there is a need to recover a prior version of a volume, the time it takes to access is critical, especially during a pandemic. If recovery requires the use of several different systems and the risk of integration between systems, that is unacceptable.

Recommendation 4: An organization should prefer a storage system that can keep an unlimited number of snapshots for an indefinite time without impacting performance. The value of having dozens of secondary copies of each volume in the same storage system as multiple versions of the data are instantly available without using numerous disconnected systems.

Step 3 – Declare Hardware Independence

During COVID-19, many manufacturers closed their offices in light of the government's directives or personal decisions. We can expect that in future pandemics, governments and organizations will make shutdown decisions even faster and with greater authority. Limited access has significantly more implications on hardware vendors than it does for software vendors.

A. A hardware manufacturer requires employees in their factories to build systems. A stay-at-home order shuts these businesses down. If an IT department limits itself to just one hardware brand, and if the hardware manufacturer they use shuts down, the flexibility to use another hardware brand is needed.

Recommendation 5: Every organization has to select a storage infrastructure solution that can work with different hardware manufacturers. The solution also needs to mix various components when necessary. This flexibility means IT departments won't face a hardware shortage if one of its manufacturers closes its offices or raises its prices. They can move to an alternative manufacture with ease.

B. The ability to add additional storage protocols without the need to purchase a unique storage system for each use case. A storage system for each protocol or use case means multiple points of exposure to hardware shortages.

Recommendation 6: Every organization has to choose a storage system that offers all types of protocols - block, file, and object - and can use them on the same drives within the same storage system.

Step 4 – Require Zero Touch Remote Service

One of the significant challenges of pandemics is the lack of access to the data centers and the ability to physically reach the storage systems. There are several challenges that storage operators and managers need to deal with:

A. Remote operation – It is essential to prepare for a potential second wave with a storage solution that allows remote installation, management, and maintenance (including from tablets) by storage administration.

Recommendation 7: Every organization should make sure that its storage system can be installed and fully managed remotely.

Step 5 – Be Ready to Scale Rapidly

Many organizations have managed to find ways to broaden their activities, specifically during COVID-19, and need to supplement storage in terms of storage capacity and additional performance. Also, between waves of pandemics, there may be periods of rapid growth. There are two challenges IT departments need to address to scale when movement is restricted:

A. The ability to rapidly expand capacity - Having storage vendor technicians go to data centers to expand storage causes two limitations. First, the necessity to coordinate IT staff and storage vendor personnel, when most people are at home. Second, the exposure of employees of the company to the technician who is not able to socially distance. There is also a risk from the technician visiting other data centers.

Recommendation 8: Organizations should verify with the storage manufacturer that it does its data technician/engineer is not required to be physically present in their data centers during upgrades or maintenance.

B. The ability to rapidly add performance - IT needs to quickly improve performance by adding drives to the system, without, at the same time, having to upgrade the servers/appliances. Since upgrading is complicated in general, and all the more so during a pandemic, when resources are low, there's no need to take upgrade risks that can cause other problems when simply adding drives will deliver the same result.

Recommendation 9: Every organization should make sure it can increase its performance by only adding drives without requiring an overall upgrade to storage processing power or RAM.

THE VERY FIRST STEP - PREPARE OUR FAMILIES

The most crucial step is to prepare our families and ourselves. COVID-19 has put much-added stress on families. Everyone is worried about finances, health, and the future. Like in any challenging situation in life, preparation is key to success. Mentally preparing ourselves for the risk of a future pandemic can help us get through the physical challenges as well.

Recommendation 10: Every organization has to analyze the challenges that each employee has to deal with and give guidance for a healthier lifestyle.



CONCLUSION

COVID-19 has required us to work from home, while keeping our companies running smoothly and answering to the needs of customers. This is clearly not an easy feat. COVID-19 is the first pandemic that has had such a widespread impact. Because of its uniqueness, there has been a high degree of patience as people and organizations made their way through the new normal. There will be less patience and time to respond if a future pandemic hits. Organizations need to prepare now so they can quickly transition between work-from-home and work-from-work realities.



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