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NEWS & ANALYSIS

Data Centers: Mission Critical Areas in the COVID Pandemic

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The COVID-19 breakdown has brought the world and economy to a massive slowdown and with no to less human interaction, the digital chain of communication has become much crucial to sustain than ever before. Ironically, the current circumstances have actually led to people communicating more. With a quarter of the world's population on lockdown, 'digital' is the preferred mode of communication.

Large Data Centers have been grouped under the mission critical category since they are the backbone of banking, telecom, large firms, consultancies, and even small businesses where you need to communicate on a much higher basis. With employees and businesses practicing a work-from-home regime Servers have become a lifeline them during this lockdown. Similarly the rise in entertainment needs during starting from lockdown 1.0 to now 3.0 has increased the demand for data centers. Thus, the well-being of the IT infrastructure during this COVID-19 is of utmost important to keep your communication afloat without interruptions.

But, data centers in itself requires a lot of manual vigilance for difficulties erupting out of some known and some unknown threats that, if gone unnoticed, can result into a huge data losses, corruption of files, data centre burn…eventually leading into breaking the communication chain. Here, a CIO or a CTO's role in ensuring the upkeep of a sever and IT room becomes much more important. Because, the consequences when a date centre stop functioning are serious. Our lives will come to a standstill and there is likely to be

chaos all around. Thus, maintenance and upkeep of Data Centers, either at company owned sites, co-location sites or server rooms to ensure 100% uptime and reduce downtime to minimal is the goal of all CIOs and the CTOs. The uptime classifications of data centers as prevalent is Tier I, Tier 2, Tier 3 and Tier 4 specifying the acceptable uptime going up to 99.99%.

Let us simplify this for easier understanding into sub-points:

What is at stake?

With the current situation, keeping data centers free of harmful corrosion has become more challenging. This can be categorised under the 'unknow threats' that are neither known, nor understood as a result no precautions generally taken to avoid this.

It is about this 'unknown' cause… the impurity in the air, the corrosive gases present in the ambient air , we will focus today .There are gases like H_2S ,SO_2,NO_2, NH_3, Cl_2 etc. ever present in the air, more so in the swanky offices which have come up on landfills, e.g. Malad (Mind Space) in Mumbai, or next to sewage drain, areas in Noida, or simply near a high traffic zone, almost every pocket in the major towns.

Excessive corrosion often leads to electronics warranty non-compliance, circuit board failure, ghost signalling, and even complete failure of electronics components. Put simply, data center corrosion increases the potential for downtime and raises maintenance demands, both of which can significantly hurt the bottom line and break the communication backbone that is critical to so many sectors today.

What should be done?

These gases and other corrosive impurities are usually "sucked" in through the aircon systems, as we all know, data centers need to be kept cool. Once inside the server rooms and data centers, these gases cause micro corrosion in the PCBs resulting the PCBs to fail and thus, cause downtime. The best way to handle this massive problem is to ensure that the corrosive gases are filtered out by using Gas phase filtration systems.

The gas filtration systems efficiently remove the airborne molecular contaminants causing corrosion in electronic/electric circuits, bad odour and harmful gases from the atmosphere housing critical systems, such as data centers, server rooms, research labs, diagnostic systems and cold storage from environment housing critical systems.

How does it minimise the risk?

It is best to check the level of corrosivity in the air in the server rooms and types of gases present with an Atmospheric Corrosivity Monitor and then use Data Center Gas Phase filtration systems to filter out these corrosive gases before they damage micro circuitry of PCBs . Easy to implement but the right and timely diagnosis is important. Just like many essentials taken into consideration while designing, managing, upgrading a server room or data center, it is important to have Gas Phase Filtration Systems to be on the list of essentials to avoid downtime nightmare and replacement costs.

Protecting the Datacom equipment and servers from any potential contamination threat is a vital step in ensuring the good health and continued viability of your Datacom equipment and servers. The ultimate solution to corrosion lies in Gas Filtration, which involves passing the contaminant-laden air stream through a gas adsorbent impregnated with neutralizing chemicals placed in a properly designed housing. This situation of corrosion in server rooms or data centers can be minimised or avoided if the center is equipped with a gas filtration system.

A simple step towards preparing for the future can ensure the health of our data centers in the long run. Not just today, the data is like natural oil and should be persevered in the best possible manner.

(The author is Director of Bry-Air and the views expressed in this article are his own)

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