

the *Availability Digest*[™]

Volume 6
Issue 1

- - - *achieving 100% uptime*

January 2011

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A Legitimate Infection

Is your PC unknowingly hosting foreign software that is communicating with other computers around the world? It may well be and with your unwitting consent.

The recent Skype outage featured in this month's [Never Again](#) article has exposed the fact that Skype may have hijacked your computer to be a node in its network. Skype provides free telephone service via its worldwide peer-to-peer IP network of hundreds of thousands of "supernodes." The trouble is, one of those supernodes may be your PC.

"Infection" and "hijacked" may be terms that are too onerous to apply to Skype's use of your computer. After all, though a search of Skype's web site brings up no description of supernodes, Skype's End User License Agreement, which I am sure you have all read, states that "Skype ... may utilize the processor and the bandwidth of [your] computer ... for ... communication between Skype ... users." It goes on to say that Skype can give no warranties for the protection of your privacy nor for the integrity of your computer resources.

It's nice to have a free service. But it's also nice to know what is really behind the offer.

Dr. Bill Highleyman, Managing Editor

Never Again

Skype Holiday Present – Down for a Day

Just as businesses were winding down for the holidays and families were busy making plans to get together, the popular Skype Voice over IP (VoIP) telephone service went quiet. From the morning of Wednesday, December 22nd, customers were unable to place calls for over a day.

We expect absolute reliability from our telephone services. To understand how an outage of this magnitude could have happened, we must first understand the architecture of Skype's network. This network is a distributed peer-to-peer network in which hundreds of thousands of supernodes provide directory service and routing. The only thing is – your computer may be a supernode. Skype installs its VoIP supernode servers on any customer PC that is not behind a firewall.

What if you don't want to be a supernode? Skype provides a switch to turn off this capability. The only problem is, it is buried in the Registry.

Skype's outage shows once again the bottom line of disaster planning for businesses. If there is a technology upon which you depend, you had better have a plan as to how you will continue in business when that technology fails.

[-- more --](#)

Best Practices

How Do Your Readiness Plans Stack Up?

Unfortunately, business-continuity planning and disaster recovery are often at the bottom of the priority list when it comes to tight budgets. How are you doing in getting the support you need to build effective business-continuity and disaster-recovery plans? If you are one of those "top management" guys, are you doing your bit to ensure that your company will survive the ultimate disaster?

An interesting insight into these questions can be obtained by comparing the state of your readiness plans with those of your peers. Annual *Readiness* surveys by The Standish Group provide this capability. The Standish *Pinpoint* surveys study a number of enterprise questions. They represent the inputs of about 300 top managers from small, medium, and large companies.

These surveys show that the IT state of readiness is improving as time passes and as application services become more critical to the survivability of the enterprise. However, in many cases, half of the surveyed companies still have a ways to go in key critical areas. They include failover testing, staff training, and staffing redundancy.

[-- more --](#)

Availability Topics

Hypoxic Fire-Prevention Systems

Why drown your servers in water or damage your disks with an explosive release of fire-suppressing gas when you can prevent a fire in the first place? That is the role of an hypoxic fire-prevention system. These systems maintain an oxygen level in a computer room that is below the level required to sustain a fire but which is at a safe level for humans.

Air as we know it is a mixture primarily of two gases – oxygen and nitrogen. Normal air contains 21% oxygen, 78% nitrogen, and 1% of other gases such as carbon dioxide. This combination is kind to both humans and fire. But reducing the oxygen percentage to 16% creates an air mixture that is still kind to humans but is death to most fires. This is the basis of hypoxic fire-prevention systems.

There continues to be some concern about the safety of these systems so far as humans are concerned. However, the consensus seems to be that they are safe for healthy humans who are not required to perform physically exhausting work in the hypoxic environment. Several recommendations exist to identify those individuals who may be susceptible and actions to take to protect them.

[-- more --](#)

The Availability Matrix

Companies need to minimize the number of technologies in which their data-center personnel must be knowledgeable. On the other hand, the myriad applications that data-center system administrators must support depend upon a wide range of technologies to meet the differing availability SLAs (service level agreements). Depending upon the application, SLA requirements can range from seconds to days for recovery times and for the allowable risk of lost data.

Recovery time objectives (RTOs) and *data-loss recovery point objectives (RPOs)* do not come in handy pairs. Numerous combinations can occur, each being satisfied by a different system configuration. Fortunately, the technologies required to meet various RTOs and RPOs are independent. Therefore, the choice of technologies required to satisfy a given SLA can be reduced to a simple matrix – the *Availability Matrix* – in which one axis represents RTO solutions and the other axis represents RPO solutions.

With the Availability Matrix, staff can easily present the data center's capabilities to the user community to choose the appropriate availability solution. The Availability Matrix also allows technical staff to make informed decisions when additional capabilities must be added to satisfy more stringent SLAs.

[--more--](#)

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