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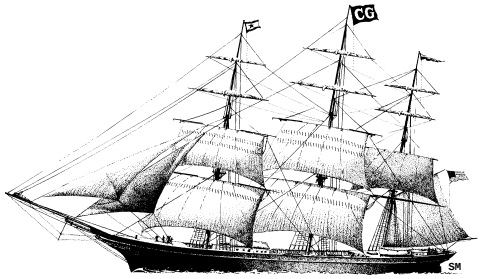

Navigating Information Technology Horizons℠

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Security and Availability — The Mathematics of Information Protection

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Data Security

When you read a news story about another data breach that exposes thousands or millions of people to privacy violations or financial fraud, what is your reaction? Maybe it was a corporate backup tape lost in transit, or a laptop stolen from a governmental agency, or an unscrupulous university employee copying data for sale to the highest bidder. Maybe the data included names, home addresses, social security numbers, and credit card numbers. Whatever the details, the information was valuable and private and could inconvenience or harm individuals if it falls into the wrong hands.

That could have been me. How many more of these incidents go unreported? Oh, no, I received a notification in the mail – it was me! What will happen to my finances and credit? That organization should have been more careful to protect the data. Aren't there laws that regulate this? Should I pursue legal remedies?

The public is aware of these major data exposures because they have been reported frequently in the press. Their reaction is shifting from shock and disbelief to, well, frustration and anger. Compounding the situation are the millions of people in the U.S. each year who are victims of identity theft, which costs the economy tens of billions of dollars and untold amounts of time untangling the damage to bank accounts, credit, tax liabilities, and criminal records. The pressure is building. Data security is not merely an abstract, technical issue, as if we are discussing the price of tea in China. It is increasingly personal, emotional, and political. **People want to be protected, and they want to know someone will be held accountable if they are not.**

Moreover, technologies that mitigate these threats, like encryption and authentication, are commercially available. Organizations that handle sensitive information ought to deploy a solution to protect it.

Data Availability

When you hear about an incident of data unavailability that causes a hiccup in business operations or even an outright business failure, what is your reaction? Maybe the problem was due to a computer system failure, corrupted database, or site outage from a natural disaster. The truth is, you may not feel as strongly or personally about data availability as about security (unless you are a business owner or manager), but the issue is equally important.

If security ensures the integrity and confidentiality of data, availability ensures data remains accessible and is not lost. Enterprises need continuous access to data in order to operate, because they are so dependent on IT. Imagine trying to get by at work without e-mail,

the Web, and enterprise applications! Data availability is essential to business continuity. It keeps an enterprise going, delivering goods and services to its customers, complying with industry regulations, and staying financially sound.

In the area of data availability, multiple technologies are also available, including backup to tape, backup to disk, snapshot copies, remote replication, and continuous data protection (CDP). Each has particular capabilities and strengths for protecting and recovering vital information.

The Logic of Information Protection

All of this speaks of a new mathematical equation around which the IT industry is forming: Security plus availability equals information protection. In other words, **security and availability are flipsides of the same coin of information protection.** Enterprises and individuals need and want both.

What does this suggest in practical terms? Individuals should choose to do business with enterprises that take information protection seriously. If not, the lax handling of this asset could come back to bite you, either directly or indirectly.

Enterprises should expect their IT vendors to deliver solutions that address data security and availability. You need both to keep the business going. These solutions will ideally be comprehensive, integrated, and easy to manage. However, it will be a while before real-world solutions attain this level of integration and maturity.

Finally, IT vendors should continue to develop and enhance technologies for comprehensive information protection. This is the need of the hour, and the world is looking to you for solutions.

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Michael Fisch **is Director of Storage and Networking for The Clipper Group.** He brings over ten years of experience in the computer industry working in sales, market analysis and positioning, and engineering. Mr. Fisch worked at EMC Corporation as a marketing program manager focused on service providers and as a competitive market analyst. Before that, he worked in international channel development, manufacturing, and technical support at Extended Systems, Inc. Mr. Fisch earned an MBA from Babson College and a Bachelor's degree in electrical engineering from the University of Idaho.

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