

synnovation

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Beating the Odds

Leading an organization through a risk-laden environment is often a game of chance. But enterprise risk management can help your odds.

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Business Continuity in the Extended Enterprise
By Gregg Therikalsen, EMC Corporation

Global events and natural disasters have raised awareness for the necessity of IT disaster recovery.

Although there's seemingly continuous news coverage about these types of events, according to **Gartner Group, Inc.**, only 20 percent of unplanned IT outages are attributable to such external factors. Eighty percent of unplanned downtime is due to internal IT issues, such as operations errors and application failures.

In today's extended enterprises, with information flows among an increasing number of strategic suppliers, subcontractors, and vendors supplying outsourced services, there's an increased risk that an internal IT issue at any one supply chain member location can cause an IT outage that spreads across the entire chain.



Nevertheless, many enterprises have provided leadership in defining model disaster recovery and high availability solutions. We can learn a great deal by looking at how they approach business continuity. Leading firms are defining their business continuity programs by looking across their entire supply chains. In other words, they define end-to-end service availability in terms of the way transactions and information flow in the entire extended enterprise.

By taking a holistic approach, they identify and classify all critical applications and define related service level agreement (SLA) requirements uniformly across the information supply chain. Ultimately, this process leads to the effective creation of continuity solutions aligned with business requirements—helping to optimize costs and service levels.

Some of the key characteristics and strategies of the leading business continuity enterprises include:

- Extended supply chain approach to IT service levels, ensuring uniform service level commitments for all stakeholders
- Classification of applications and definition of related SLAs—to align with business requirements
- Investment in service level management and architectural standards, utilizing leading technology, such as automated workload balancing, and fail-over, fail-back processes
- Measuring, testing, and improving change management

A Holistic View of the Supply Chain

Historically, the correct approach to business continuity involved ensuring that enterprise applications had disaster recovery solutions. For example, an enterprise might not need to mirror file and print applications but would certainly need to remotely replicate data from financial and key operational systems.

With the explosion in outsourcing call centers, IT support, e-mail, and other critical business functions, IT departments have adopted a broader view of their applications and service level requirements. Taking this view requires identification and understanding of how all information flows across the supply chain.

One industry that has led the way in business continuity is financial services. Major financial institutions have large and complex IT infrastructures, and key applications such as check-clearing are often outsourced. Providing the right IT architecture to match service level requirements established for standard services across the industry is a long-accepted industry practice. Invest-



Jill Considine of the Depository Trust & Clearing Corp. wins the Six Sigma CEO of the Year Award as the Global Six Sigma Awards announces the finalists for the 2006 program.

ment in continuity solutions that meet these application SLAs and integrating them into the overall continuity solution ensures ongoing operations and revenues.

An example of a financial services firm that provides such shared services to meet the most demanding service levels is the **Depository Trust and Clearing Corporation (DTCC)**, which clears and settles millions of transactions every day for U.S. financial markets and exchanges. DTCC uses leading technology, including automated multi-hop data replication across thousands of miles, to create an integrated continuity solution—protecting all key applications across the IT continuum—with the ability to replicate and recover them within minutes. By making such investments, DTCC ensures that its vital services are as robust as those of its customers and partners in the financial services industry.

Keep in mind that your enterprise is or can be a significant element of another organization's supply chain, so at some point your most significant customers may be asking questions about your ability to survive.

Aligning Application SLAs with Business Requirements

While the financial services industry has long focused on business continuity programs and investments, how can firms in other industries with less stringent business requirements and less extensive IT budgets afford the investment in >>

North American and European customers now place as much importance on the protection and availability of e-mail as their financial systems—a significant change from a few years ago.

an improved business continuity program?

The old approach to business continuity was to provide high-availability IT infrastructure for a wide range of mission-critical applications. Unfortunately this strategy led to higher costs by using high-end solutions for tier-two applications, for example.

With pressure to reduce costs and optimize utilization, leading companies have forged partnerships between IT and lines of business, to classify applications based upon required business recovery point objectives (RPOs) and recovery time objectives (RTOs).

This exercise helps provide end-to-end service availability by

reviewing all applications within the supply chain continuum.

In fact, leading firms in a variety of industries have dedicated full-time business continuity teams and executive advisory teams to help prioritize risk management and recovery investments.

One company that has aligned IT with business requirements is **Liaoning Mobile**, a subsidiary of **China Mobile (Hong Kong) Limited**, the leading mobile services provider in mainland China. Liaoning Mobile owns a cutting-edge, highly intelligent network that provides all-around coverage, comprehensive functions, and services to 10 million mobile subscribers.

Liaoning classified applications and created RTOs for all major operations and applications to ensure improved and uninterrupted mobile service. RTOs for critical applications such as accounting, billing, call center, and IT range from two to 12 hours. In the event of a disaster, Liaoning can recover in two hours versus the three days previously required.

While many firms performed such assessments a few years ago, some applications have grown in business importance, and assumptions from these dated assessments may need to be revisited. For example, recent EMC research shows that North American and European customers now place as much importance on the protection and availability of e-mail as their financial systems, a significant change from a few years ago.

Defining the Right Solution

Once IT and lines of business have defined RPOs and RTOs, they must evaluate availability and recovery alternatives. This evaluation should include executive-level cost/benefit analysis of alternatives and a high-level implementation plan, including technical architectures, and high-level costs and benefits for each alternative.

Related activities should include:

- An architecture platform analysis for each application recovery tier based on a common modeling scope
- The evaluation of recovery technology alternatives
- The establishment of a high-level costing framework that aligns with application, business process, and recovery tiers

Among the categories of data protection to be considered are backup, archiving, multi-site replication, and application availability. Among the technologies to be considered are tape, virtual tape libraries, local and remote replication, and continuous data protection. Advancements in technology also include automated replication and products that enable multi-site replication.

Virtualization technologies can also help enable cost optimization and availability.

Once solutions are evaluated, the related infrastructure must be designed to optimize costs and service levels. Information lifecycle management (ILM) strategies, including tiered storage, can play a significant role in optimizing costs and meeting required service levels.

Measure, Test, and Invest in IT Change Management

In migrating to new continuity solutions, understanding application interdependencies is essential for success. For example, as applications evolve over time and get add-ons and patches, they need to be grouped together as business resource units in order to migrate and recover effectively. For example, today's enterprise resource management environments can have multiple core application modules and dozens of feeder applications running on hundreds of servers. Failure to define application interdependencies will result in the delay of effective continuity solutions for your enterprise.

Your business continuity vendor can help you define processes, procedures, and documentation for designing and implementing a solution. They can also help you classify applications across your supply chain continuum, and define proper SLAs.

Once your solution is in place, you should conduct recovery testing. A best practice is to conduct debriefs after all tests so that the results are widely known and appropriate action items are well understood.

Change management is critical to the ongoing success of business continuity solutions. According to the Gartner Group, investments in change management processes will have the greatest impact on IT service levels in the next two years.

Don't Forget Security

Gartner also includes investing in security as a business continuity best practice. Adopting an information-centric security approach can help secure information and related IT infrastructure to ensure high availability and to meet compliance requirements.

IT vendors such as EMC offer consulting services aimed at helping optimize costs and service levels for business continuity and related solutions, including consolidation and security. Be sure to use your supplier's services expertise and experience to optimize your own environment.

As you look at your business continuity challenges, ask the following questions:

- Have we classified applications across the supply chain continuum, including out-sourced applications?
- Are there gaps in our (or our partners') continuity plans?
- When did we last validate our availability and disaster recovery service level requirements with our business stakeholders?
- Have we defined business resource or application recovery groups, identifying application interdependencies, to enable continuity?
- Have we integrated our IT business continuity program with our enterprise risk management program to ensure that we're protecting against the most significant and highest-impact risks?

Ultimately, your security and business continuity solutions will help address the key service level requirements of your lines of business. Think about business continuity service levels across the entire supply chain continuum, taking an application-centric approach. This will ensure that you meet SLAs, optimize costs, and leverage existing and new capabilities. |s|

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Ten Steps to Success

Enterprises should go through a comprehensive process to plan, build, and manage IT systems. EMC has developed a 10-step continuity planning service framework to help customers at any stage of their business continuity program:

- 1 Assess service levels.
- 2 Define business requirements.
- 3 Evaluate availability and recovery alternatives.
- 4 Design the infrastructure.
- 5 Conduct implementation planning.
- 6 Test and implement technologies.
- 7 Develop recovery and fail-over plans.
- 8 Conduct recovery testing.
- 9 Develop and update the program.
- 10 Manage resources, improvements, and measurements.

