

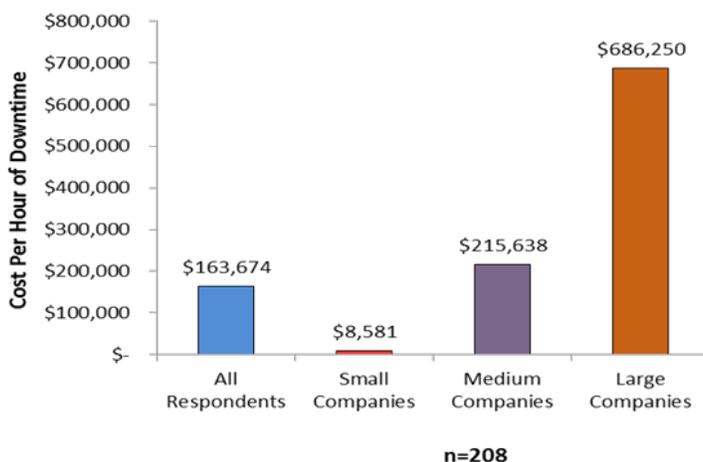
August 2013

## Downtime and Data Loss: How Much Can You Afford?

Aberdeen recently conducted a survey of IT professionals focused on the plans and processes that organizations adopt for continued business operations and recovery in case of a disaster. The May 2013 survey, [IT Business Preparedness: A Combination of Business Continuity and Disaster Recovery](#), found that Best-in-Class companies determine recovery time objective (RTO) and recovery point objective (RPO) in support of their business continuity and disaster recovery initiative.

Business continuity (BC) and disaster recovery (DR) programs are important for every business to have in place, regardless of size, industry, or geographic location. Aberdeen's study found that the average cost of downtime per hour was a staggering \$163,674 (Figure 1). Before organizations purchase technologies and develop processes to mitigate the number and length of downtime events, companies need to understand the needs of their businesses. Determining the RTO and RPO of critical applications allow IT departments to propose the procurement of proper technologies to meet these objectives, thus avoiding the catastrophic consequences of prolonged downtime and extensive data loss. This Analyst Insight will focus on the steps to take in determining RTO and RPO.

Figure 1: Large or Small, Downtime Hurts



Source: Aberdeen Group, May 2013

### Analyst Insight

Aberdeen's Insights provide the analyst's perspective on the research as drawn from an aggregated view of research surveys, interviews, and data analysis.

### Definitions

**Recovery Time Objective (RTO) planning** is the amount of time that a business intends to restore or make available a process or application after interruption.

**Recovery Point Objective (DR) planning** is the maximum amount of acceptable data loss, measured in time.

### Definitions

**Business continuity (BC) planning** is focused on disaster prevention, allowing a company to survive and continue business operations during a natural or man-made crisis.

**Disaster recovery (DR) planning** is focused on the process of restoring the necessary components of the IT infrastructure, if BC and high availability processes failed or were never in place.

## Determining Best-in-Class

Best-in-Class criteria for this report was determined by ranking top performers that had the least number of downtime events, the shortest time experienced per event, the least time to recover per event, the shortest length of time to recover, and the highest percentage rate of critical application availability. Aberdeen’s study found that the Best-in-Class recover from downtime events faster than Industry Average and Laggard performers. The Best-in-Class were able to recover 100% of their operational functionality in 1.13 hours, Industry Average recovered in 5.18 hours and Laggards took over 27 hours to become fully functional (Table 1).

### Best-in-Class Criteria

The Best-in-Class for the purposes of this report were determined by the following criteria:

- √ Limited downtime events
- √ Limited time per event
- √ Limited recovery time
- √ Longest downtime event
- √ Critical application availability

**Table 1: Determining the Best-in-Class**

Metrics n=208	Best-in-Class	Average	Laggard
Number of downtime events in last 12 months	0.56	2.26	3.92
Average amount of downtime per event in last 12 months	0.16 hours	1.49 hours	17.82 hours
Longest downtime event	0.21 hours	4.78 hours	43.71 hours
Critical application availability	99.90%	99.62%	99.58%
Length of time to recover from last downtime event	1.13 hours	5.18 hours	27.11 hours

Source: Aberdeen Group, May 2013

## First Things First: Calculate the Cost of Downtime

To determine your RTO, an organization has to evaluate its Maximum Tolerable Downtime (MTD). MTD is the amount of time that can be tolerated before an unavailable application or service causes irreparable harm or fatal consequences for an organization. This is not an easy task. Obviously there is no experience of events that led to the fatal demise of your organization to compare. Collaboration between management and IT needs to happen. Companies have to ask themselves how long they can experience the loss of a particular application before it causes them to go out of business. But, before you can answer that question, companies have to know the cost of downtime for each of their critical applications.

## Downtime Calculation

**Cost of Downtime Per Hour:** Cost per hour of downtime is calculated by adding labor costs per hour to the revenue lost per hour.

- *Labor Cost Per Hour of Downtime* — Company A has revenue of \$1 billion and 2,500 employees; average annual employee benefits are \$85,000 per employee and each employee works 40 hours per week. An outage affects 80% of the workforce, resulting in an \$82,000 per hour cost for labor during an outage.
- *Revenue Lost Per Hour of Downtime* — Company A is a global company, deriving revenue five days a week. Assuming an outage affects 50% of revenue, revenue lost per hour equals \$57,000.
- When combining the two figures above, we discover that the total cost to Company A for one hour of downtime is approximately \$139,000.

Earnings before interest, taxes, depreciation, and amortization for company A was 5%. Management has determined that an acceptable loss of revenue from availability issues with this application is 0.01%, so the maximum tolerable downtime (MTD) is 52.63 minutes.

## Determining RTO

An organization must involve all stakeholders to determine their recovery time objective. By definition, RTO cannot be longer than MTD because that would mean that the business has failed before the application can be restored. Therefore, it is measured in cost to the organization to make applications highly available. The shorter time objectives equal higher costs to the organization. A company that can live with RTO measured in days as opposed to seconds can take its time to set up a new server, install the application, and upload associated data. The organization that requires returning operations within minutes, on the other hand, must engage more expensive processes and technologies to accomplish their goal. Aberdeen's study found that 73% of Best-in-Class organizations determined their RTO per application, while only 45% of industry Average and 35% of Laggard organizations established their objectives.

### Aberdeen Methodology

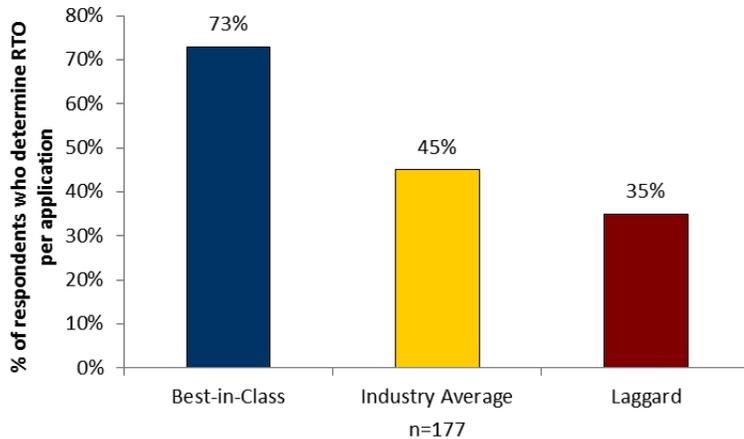
The Aberdeen maturity class is comprised of three groups of survey respondents. Classified by their self-reported performance across several key metrics, each respondent falls into one of three categories:

- √ **Best-in-Class:** Top 20% of respondents based on performance
- √ **Industry Average:** Middle 50% of respondents based on performance
- √ **Laggard:** Bottom 30% of respondents based on performance

“Know the cost of the consequences of not being ready — stakeholders tend to balk at the perceived high cost of preparedness, until they are shown the cost of response / recovery.”

~ IT Manager, More than \$1.5 billion Canadian Utility Company

**Figure 2: Best-in-Class Determine RTO per Application**



Source: Aberdeen Group, May 2013

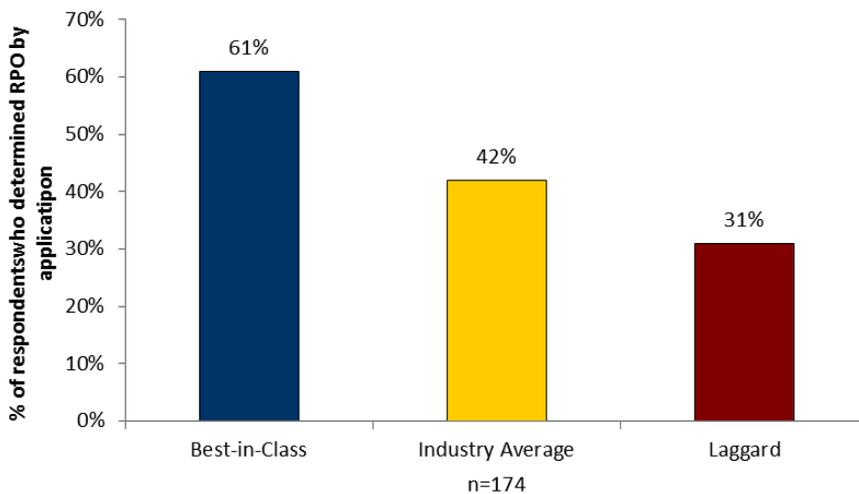
### Determining RPO

A company must also involve all key personnel when determining the amount of data it is willing to lose, but remember that this number is based more on common sense than financial analysis. Consider an organization trying to determine RPO for their order entry system. This company keeps hard copies of each order for five days, which gives them the ability to restore the data manually. Therefore their RPO would be five days and give them the ability to use very cost effective data-restore technologies compared with an organization that cannot afford to lose any data.

“Of all businesses that close down following a disaster, more than 25% never open their doors again.”

~ Insurance Information Institute

**Figure 3: Best-in-Class Measure Data Loss**



Source: Aberdeen Group, May 2013

## Conclusion: RTO and RPO, Important First Steps

Establishing recovery time and recovery point objectives are important first steps in planning your business continuity strategy. Aberdeen's June 2013 report [\*Business Continuity and Disaster Recovery: Don't Go it Alone\*](#), provides additional actions to take, but none are more important than knowing your RTO and RPO.

“Make sure you ask the question, ‘What could go wrong and what’s the worst that can happen?’”

~ IT Consultant, More than \$200 Billion, US, Energy Company

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Related Research	
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<a href="#"><i>Cloud Storage: Lower Cost and Increase Uptime</i></a> ; April 2013	<a href="#"><i>Steps to Take Before Choosing a Business Continuity Partner</i></a> ; January 2013
<a href="#"><i>Lessons From Sandy: Business Continuance vs. Disaster Recovery and Why Organizations Need Both</i></a> ; January 2013	
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