



How much downtime can you afford?

As transaction volumes rise, so does the risk of revenue losses caused by downtime

A decorative graphic consisting of numerous thin, parallel green lines that form a wavy, horizontal shape across the lower half of the page.

A Kabira guide to ensuring availability and reducing risk
of business losses

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How much downtime can you afford?

As a Business leader, do you know what the cost would be to your business if your transaction system suffered an outage? A recent Forrester Research survey found that 67% of enterprises either did not know or could not provide an estimate of the financial cost of IT downtime to their business. Other studies indicate that business executives and their IT counterparts aren't always in sync when it comes to confidence in their transaction systems' ability to function and retain key data and applications in the event of an outage.

Today, keeping mission-critical applications online is as much a matter of business planning as it is a function of IT. Business leaders in real-time high-speed transaction-oriented industries must regard their IT systems as risk factors for potential business losses.

Quantifying hourly losses

Companies that rely entirely on technology – such as online brokerages, trading platforms and e-commerce sites – face hourly downtime risks of \$1 million or more, particularly if customers cannot complete online transactions.

Calculating the business cost of a system outage

Follow this simple formula:
Number of transactions per hour x percent of affected transactions x average profit per transaction x duration of downtime = impact of downtime

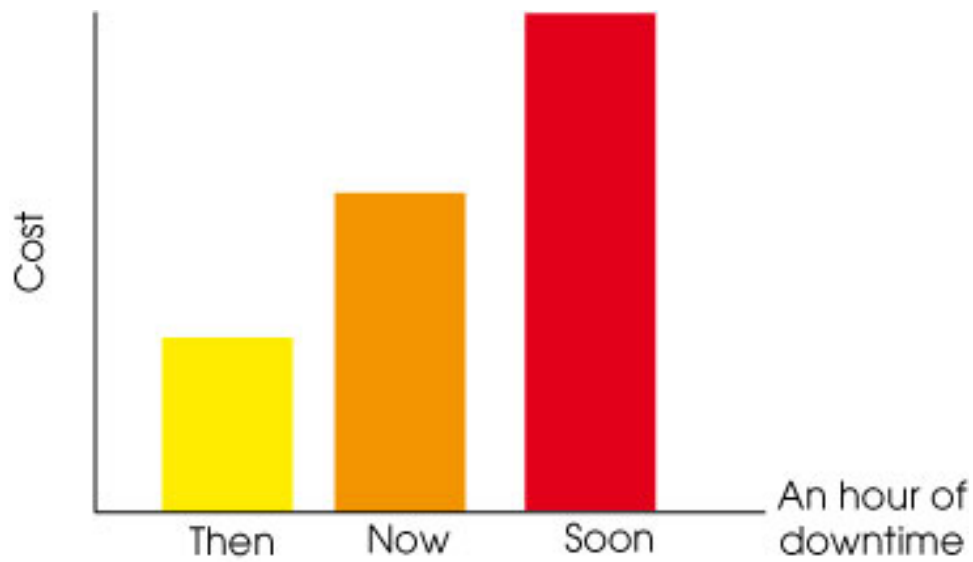
*From "How to Quantify Downtime"
By Tom Pisello and Bill Quirk,
ITManagementNews.com, 3-11-4004)*

What is the actual business cost of a system outage? Consider this:

- Overall downtime can cost large enterprises an average 3.6% of annual revenue. *Doing the math, that means a loss of \$36 million per year, per \$1 billion in revenue.*
- Network downtime caused by security attacks costs large enterprises an additional 2.2% of annual revenue per year.
- Just rebooting a server from a single network outage incident can take up a company's entire allotment of allowable downtime for the year, destroying SLAs.
- Statistics show that a company that experiences a computer outage lasting for more than 10 days will never fully recover financially, and that 50 percent of companies suffering such outages will go out of business within 5 years.

You can determine the real business costs associated with system downtime by establishing potential revenue loss from an outage and then comparing it to the cost to implement a High Availability system and a plan for business continuity.

This Guide offers concrete ways to assess the risks and consequences of system outage, and provides important steps your company can take to prepare for and mitigate system failures.



Same event, greater risk

Categories of Loss Associated with Outages:

- Direct revenue
- Productivity
- Market share
- Consumer confidence
- Brand equity
- Company stock valuation
- Penalties for unmet SLAs
- Data or application recovery/replacement costs

Assessing the Consequences of Downtime

Consider these questions to help determine the level of availability acceptable for your company's transaction system:

- How long can you sustain an outage before revenues or other critical business areas are affected?
- What is the cost of *application* downtime? Factor in required hours of operation plus direct and indirect revenue (such as increased productivity, reduced labor costs) generated by the application. Consider the importance of the application to the business. Compare this to overall annual revenue to determine the application's business value.
- Would failure of any application affect your core business?
- What other systems or organizations would be adversely impacted by an outage of any duration?
- Is it as important to protect applications as it is to protect data? What is the value of each application to your business?
- What is your recoverability tolerance? After a system outage, how quickly must you recover access to data and continue business operations?

It Can't Happen to Us... Can it?

In the past two years, some very high profile transaction-oriented companies suffered network outages lasting hours to a day, or longer. Each outage affected thousands or millions of customers, incurred revenue losses and may have yielded important ground to competitors. Some of the companies whose systems failed are leaders in their industries: Tokyo Stock Exchange, Amazon.com, WalMart, Research In Motion and Intuit. What happened?

When mission-critical services go dark, it is typically because the transaction processing architectures in place are unable to sustain availability when parts of the system are stressed beyond capacity to function. The situations that can create these intolerable stresses include intensive volumes, spikes in peak customer usage, hardware failure, network outages or software issues such as bugs or installation of upgrades or patches. Each situation can create a point of failure that may result in millions of dollars lost from an overall system outage.

Therefore, system high availability depends upon three things: having the scalability, capacity and performance resources necessary to manage all events, all the time, so that your overall system does not go down after component failure.

These elements are more critical to business uptime than ever before, because the digital transaction world has introduced extremely high volumes and increased complexity of services onto systems that are also being tasked to operate 24 X 7, in real-time.

Legacy mainframes and hybridized systems that rely on technology developed for the pre-digital age will continue to see their risk of service failure rise dramatically.

While recent improvements in hardware and network technology have increased reliability, the risk to system availability has shifted to application failure. For example, an Infonetics Research study found that application problems were the single largest source of downtime in the study group, causing 30% of annual downtime hours and 32% of downtime cost, on average. Software failure was the leading cause of application downtime (36% of cost on average).

Kabira: Proven Technology Keeps Digital Revenues “Always on”

Transaction system architectures developed in the 1970s or 1980s required specific hardware and software configurations to provide fault tolerance and availability. Problem is, digital transaction processing presents challenges that were not on the horizon when high availability legacy systems and even hybridized open systems were developed.

Today, there is another option for implementing a highly available transaction processing system. Kabira Technologies’ platform architecture and payment solutions were designed in the digital age so they are built to meet the volume, capacity, scalability and reliability needs of real-time high-speed transaction processing in the digital milieu.

Kabira software is vendor- and system-agnostic so that it can integrate with any combination of existing software and hardware systems.

Kabira enables you to safely meet transaction volume needs, including peak times, and provides the best alternative to traditional High Availability solutions. How? Kabira is designed to protect both data and applications against hardware, software or network failures – without using expensive hardware or complex clustered systems. Kabira also lets your system scale without requiring additional hardware configurations.

Benefits of Kabira Highly Available Transaction Processing Software

- Endows data and applications with up to five “9s” availability
- Preserves investment: no need to rip and replace existing system. Place Kabira on the front end of an existing system to begin processing all new services and provide a non-disruptive transition from legacy applications and systems
- Built for integrating diverse financial services equipment, networks and systems; easily modified to support new products and services
- Increases transaction speed (benchmarked at 2048 TPS on a single CPU commodity hardware machine)
- No interruption of data OR application availability in case of failure; all failures are transparent to users and all transactions complete, due to Kabira’s sub-second latency

Conclusion

Ensuring system availability demands that enterprises take a business approach to IT. Consider risk reduction strategies and implement the best software, the best fault-tolerant architecture, best practices and strategic planning to minimize outage occurrence, frequency and impact on your business bottom line.

A simple way to calculate immediate loss of revenue for transaction-based business systems: Multiply the average number of transactions during the busiest hour by the average value per transaction (value of the business per hour). Compare to the cost of implementing a highly available system built to data and applications always on, with no interruption in service in case of a component or system failure. For example, an online enterprise processing 2,000 sales transactions per hour at its busiest, with an average value-per-transaction of \$50 would lose \$100,000 per hour if the system were unavailable.

Corporate Headquarters – USA
1850 Gateway Drive, 5th Floor
San Mateo, CA 94404
USA
Tel: 650 931 3700
Fax: 650 931 3799

Kabira Technologies – France
11, rue Scribe
75009 Paris
France
Tel: +33 1 44 51 70 90
Fax: +33 1 44 51 00 80

Kabira Technologies – UK
2nd Floor, The Eclipse
5 Bath Road
Slough Berkshire SL1 3UA
United Kingdom
Tel : 44 (0) 1753 787200
Fax: 44 (0) 1753 787272

Kabira Technologies – Japan
Shibuya Mark City W22F
1-12-1, Dogenzaka,
Shibuya-ku, Tokyo 150-0043
Japan
Tel: +81-3-4360-5456
Fax: +81-3-4360-5301

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