



A New Vision: Application Availability for the Always-on World

Making Fault Tolerant Technology a Reality for Every Organization

The always-on world is a wake-up call that every business must contend with or face the consequences. Consumers expect access to your business 24/7 for everything from researching your products to placing orders. Employees rely on applications to stay productive and get their work done. Businesses rely on automated systems and processes to keep operations running smoothly around the clock.

Technology has become pervasive in nearly all facets of our society and is the impetus of the always-on world. We now live in an “I want-it-now”, instant gratification culture that is driven by technology – a 24x7 global marketplace with an uncompromising demand for continuous operations supported by application uptime.

ALWAYS-ON BUSINESS REQUIREMENT

To remain competitive, today's businesses must meet the needs of the always-on world by being always-on businesses. The key to being an always-on business is Application Availability. Applications are your clients' doorway to your business; the tools for employees to do their jobs; and the engines that keep mission-critical operations up and running. Today's users need and expect uninterrupted application access. Without Application Availability, business can quickly come to a halt.

Unfortunately, the tools to keep critical systems running have not kept pace with the availability demands placed on businesses, leaving organizations at risk of downtime and data loss. The impact to both revenue and productivity are significant. Consider these statistics:

- Revenue loss per hour for midsize companies ranges from \$60,000 to as much as \$1,000,000, depending on industry. Productivity loss adds another \$4,000 to \$22,000 per hour. *(source: IDC)*
- Research on downtime for organizations over fifty people found the average loss per firm to be about \$356,000 per year, and this doesn't include brand impact or long-term efficiency effects. *(source: Coleman Parkes)*
- In smaller organizations, the risks are higher: smaller companies required on average more than 5.2 hours per incident to recover from application downtime and data loss vs. 3.2 hours for larger firms.

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TRADITIONAL AVAILABILITY APPROACHES HAVE NOT DELIVERED ALWAYS-ON RESULTS

Traditional availability approaches have not delivered the desired results for the always-on business. Fault tolerant solutions that offer continuous uptime are simply out of reach for most businesses, costing upwards of six figures and requiring specialized IT skills. At the other extreme, many companies simply rely on traditional backup and recovery methods to respond to downtime. Many organizations have been forced to settle for the traditional “High Availability” solutions that they deem “good enough.” But are they good enough? These are solutions that force organizations to react to downtime by trying to help speed up recoveries.

There have been two fundamental problems with this high availability model:

Businesses continue to settle for downtime in the event of failures because they have had no choice.

Problem #1: High Availability Solutions Do Not Prevent Downtime

The high availability solution approach is to react to failures and downtime by focusing on trying to speed up recoveries after an outage occurs. The method for years has been to try to reduce the outage window by recovering faster, rather than preventing the outage in the first place. When a failure occurs systems go down, applications become unavailable, business operations stop and IT staff is called upon to perform a recovery, which statistics show fail one-third of the time. Nevertheless, businesses continue to settle for downtime in the event of a failure because they really have had no choice.

The problem with this model is that it's too late. The system is already down and the business suffers the consequences. This downtime can have a huge impact on sales, business operations, employee productivity, and client satisfaction. This model is not built for today's always-on world.

Problem #2: Organizations Are Forced To Use Multiple Disparate Products

With the high availability approach, IT organizations are forced to purchase and manage multiple point products from multiple vendors to address their availability needs. Each vendor focuses on a piece of the availability workflow, and the IT staff must integrate this patchwork into one solution.



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This multi-vendor approach causes time-consuming headaches for IT staff, as these configurations are very difficult to manage and are therefore often more difficult to recover from outages.

GROWING RISK AND COMPLEXITY EXACERBATE THE PROBLEM

To add to the challenge, many IT organizations employ a service-oriented architecture to better leverage hardware assets. In this approach software components are shared across many applications. The availability challenge with the service-oriented architecture is that if one component goes down, multiple applications are affected. With the service-oriented approach, one component can become a single point of failure for many applications. So if, for example, a database goes down, it can impact many areas of the business. The distributed nature of the service-oriented architecture adds significant risk and complexity for organizations.

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BUSINESSES MUST MOVE TO A PREVENTION MODEL

To succeed in the always-on world, organizations must move from this reactive, recovery-based model where system downtime is a given, to a new prevention-based and holistic model, where downtime is prevented throughout the entire Application Availability workflow. The focus of Application Availability must keep applications up-and-running at all times, even during system failures. Downtime no longer is an option.

A NEW VISION FOR ALWAYS-ON APPLICATION AVAILABILITY

A philosophical shift in availability is taking place, being driven by the business requirements of the always-on world. Marathon is leading the way, with a new vision that Marathon calls “Application Availability.”

Marathon’s Application Availability vision is an integrated approach to effectively, simply, and economically build continuous, always-on operations into any organization, no matter the size or staffing levels. The goal is to ensure ongoing business operations by preventing downtime and data loss, regardless of localized failures or catastrophic disasters. Historically, this level of protection was neither economically feasible nor operationally practical for most organizations, leaving them vulnerable and at risk due to downtime.



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Marathon's Application Availability vision is comprised of five critical components that together will change the way organizations address availability:

The Five Pillars of Marathon's Application Availability Vision

1. Planning & prevention replace reacting & recovery
2. Business no longer has to compromise due to cost constraints
3. Holistic approach to availability & business continuity
4. Vendors begin to offer platform solutions
5. Availability becomes a strategic part of every IT decision

Let's review each of these in further detail:

1. Planning & Prevention vs. Reacting & Recovery

To meet the requirements of the always-on world, Marathon is leading a philosophical shift from a "Reaction and Recovery" availability model to a "Planning and Prevention" model. Rather than using solutions that help IT staff respond to outages by trying to speed up recovery times, Marathon's vision is to approach availability through strategic planning and prevention of outages. This Planning and Prevention approach is comprised of:

Assessment

A strategic and proactive planning model to assess all systems and applications ahead of time to uncover risks and put measures in place to minimize the impact of downtime.

Fault Tolerant Technology

Solutions must affordably and simply leverage fault tolerant technology to deliver continuous application availability through failures.

Scalability

Solutions must natively scale and work with all applications, regardless of computing demands, without the need for application-level customization or complex scripting routinely found in conventional availability offerings.

Hardware Agnostic

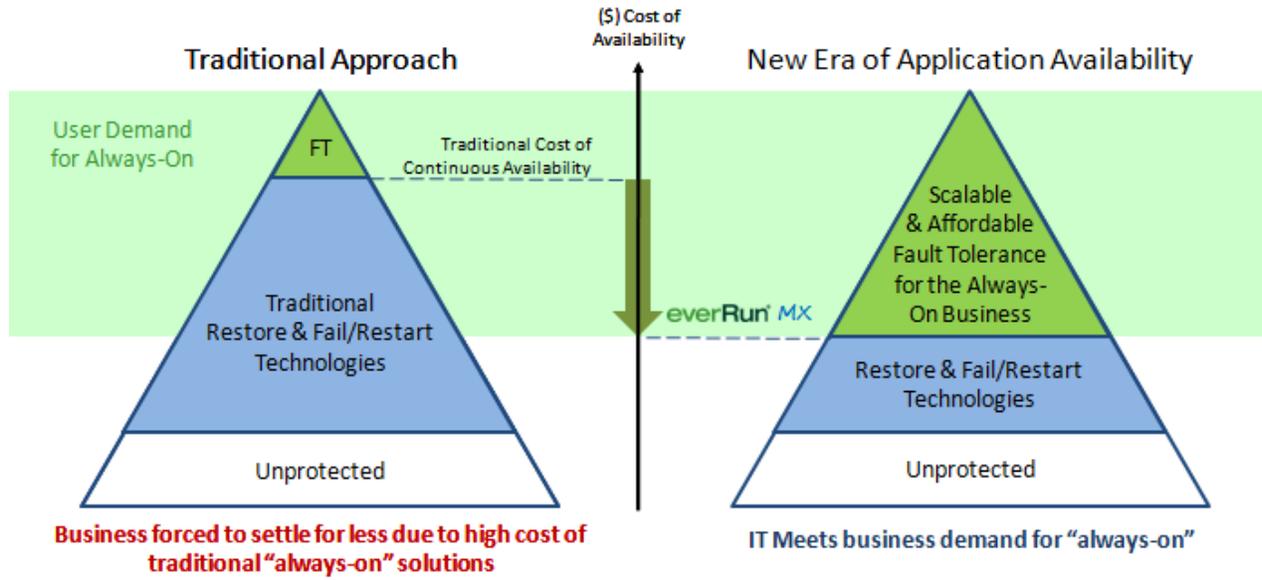
Solutions must also ensure hardware selection freedom by running on commodity servers and using any type of off-the-shelf storage, to help organizations save money and immediately leverage future hardware innovations.

Marathon is leading a philosophical shift from a "Reaction and Recovery" availability model to a "Planning and Prevention" model.



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Price Performance Breakthrough for Application Availability Enables Today's "Always-On" Business



Fault Tolerance for the Price of High Availability

Organizations with limited IT resources should not have to settle for downtime or data loss in the event of a failure.

2. Business No Longer Has To Compromise Due to Cost Constraints

Continuous availability has been neither economically feasible nor operationally practical for most organizations, leaving them vulnerable and at risk due to downtime. Most IT organizations simply have not had the resources, expertise or budgets to satisfy their organization's always-on requirements. This must change.

Organizations with limited IT resources should not have to settle for application downtime or the risk of data loss in the event of a failure. Application Availability solutions must be simple to use with minimal IT resources, and also affordable for organizations to acquire.



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Organizations must not only be able to compute through failures, but be able to do so without IT intervention or specialized skills. To make it so, solutions must be:

Software-based

Software solutions are easy to deploy and use by organizations with limited IT resources. Solutions should not require specialized hardware, and should work with all applications without customization or complex scripting routinely found in conventional availability offerings.

Automated

Solutions should not require operator intervention when failures occur. The system should run itself, synchronizing, monitoring, correcting and repairing problems in all components of the application environment to prevent downtime and eliminate risks associated with system, application, or virtual machine (VM) restarts and data recovery.

IT organizations should not be required to purchase and manage products from multiple vendors that were not designed to work together.

3. Holistic Approach to Availability & Business Continuity

To best serve customers, the industry needs to take an integrated and holistic approach to application availability and business continuity that addresses the entire availability “workflow.” The holistic approach should encompass both local continuous operation, as well as long-distance protection for recovering from catastrophes.

Such a solution should address four major areas:

1. Assessment

To conduct business impact and risk of application downtime. Prioritize plan of attack to address availability vulnerabilities, develop ROI and business justification required to address critical gaps.

2. Protection

To address all aspects of ensuring application availability and preventing data loss by applying protection at all points: local application availability, backup and archiving, and disaster recovery.



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3. Monitoring & Management

To conduct ongoing monitoring of the health of applications in terms of availability and performance and provide notifications before problems occur.

4. Optimization

Availability solutions begin to self-optimize based on business requirements and priorities, available resources, time of day, day of week or month, etc. Service Level Agreements are maximized with these solutions.

Vendors must provide complete platform solutions to solve the availability problem.

4. **Vendors Begin to Offer Platform Solutions**

For years, IT organizations have been forced to “cobble” together multiple point products from different vendors to address their availability needs. This is complex, expensive and unreliable. IT organizations should not be required to purchase and manage products from multiple vendors that were not designed to work together.

Vendors must begin to provide complete platform solutions to solve the availability problem by removing the complexity, risk, and economic constraints, so that no organization – large, small, local or remote – will have to settle for less. Platform solutions must protect all components in the application infrastructure, including servers, applications, storage data and the network.

5. **Availability Becomes a Strategic Part of Every IT Decision**

IT organizations must begin to make availability a strategic part of planning up front. Decisions must be made on critical applications needs, rather than, for example, what infrastructure may already be in house. Availability should be approached with best-of-breed availability solutions in mind.

As every application is launched, the mindset within the IT organization should be to think about availability along with other top considerations, such as security, stability, usability, etc.



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YOU NO LONGER HAVE TO SETTLE

We live in an always-on world. Each and every relationship your business enjoys has the potential to be a continuous presence. The always-on world is free from time and geographic restrictions. People can decide with whom they want to associate and when. The key to succeeding in the always-on world is Application Availability. Applications run your business. Applications matter the most to your employees and customers.

The good news is that you can now deliver to this always-on world. You can have continuous application availability without the risk of downtime. You can prevent interruptions and compute through failures, rather being forced to halt operations to perform a recovery after a failure.

You no longer have to settle. It's time to think about Application Availability in a brand new way.

To learn how to become an always-on business, contact Marathon today:

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