

# What is the difference between disaster recovery, high availability, continuous operations, continuous availability and business continuity?

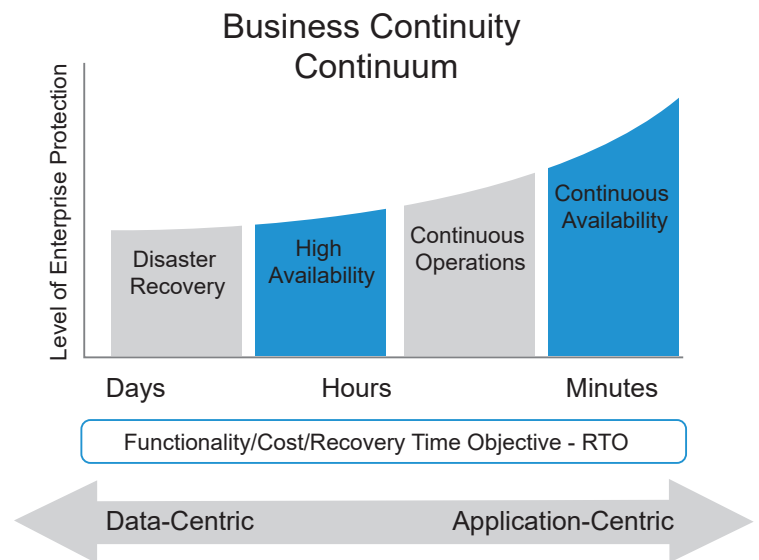
**Disaster Recovery (DR)** is the ability to handle site failures with minimal disruption to the business.

**High Availability (HA)** is the ability to handle application failures with minimal disruptions to the business. It is focused on continuous operations and recovery of server failures — eliminating both planned and unplanned downtime.

**Continuous Operations (CO)** is the ability to perform routine application and server maintenance and backups with minimal disruption to the supported business function. Focused solely on eliminating downtime associated with planned events.

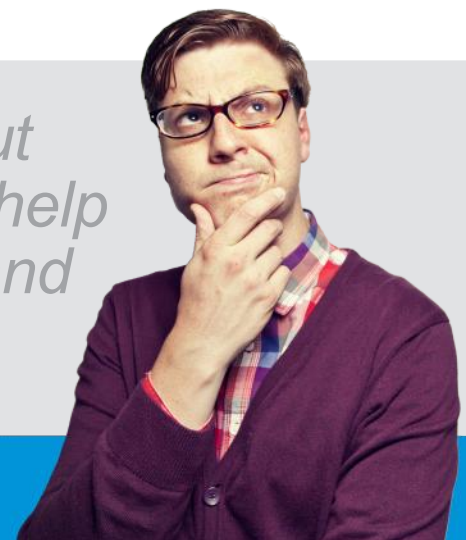
**Continuous Availability (CA)** means the nonstop availability of critical business functions. It is focused on eliminating planned and unplanned downtime as well as server, site and enterprise protection.

**Business Continuity (BC)** is focused not only on eliminating the risks of downtime to your IT assets, it includes the people and processes



to handle an unplanned event that affects the entire business or a region in which the business operates. Business continuity includes IT functions as well as the pre-arranged processes for alerting employees and customers to a disaster, the preparation and testing of disaster preparedness plans and the auditing of those processes to ensure effectiveness.

*Will being informed about issues in your business help you save on downtime and unplanned disruptions?*



## What is “business continuity?”

Business continuity encompasses an end-to-end view of a computing environment—including applications, data, servers, operating systems, processes and infrastructure—to ensure consistent, predictable access to any data or any applications wherever, whenever and however users require them.

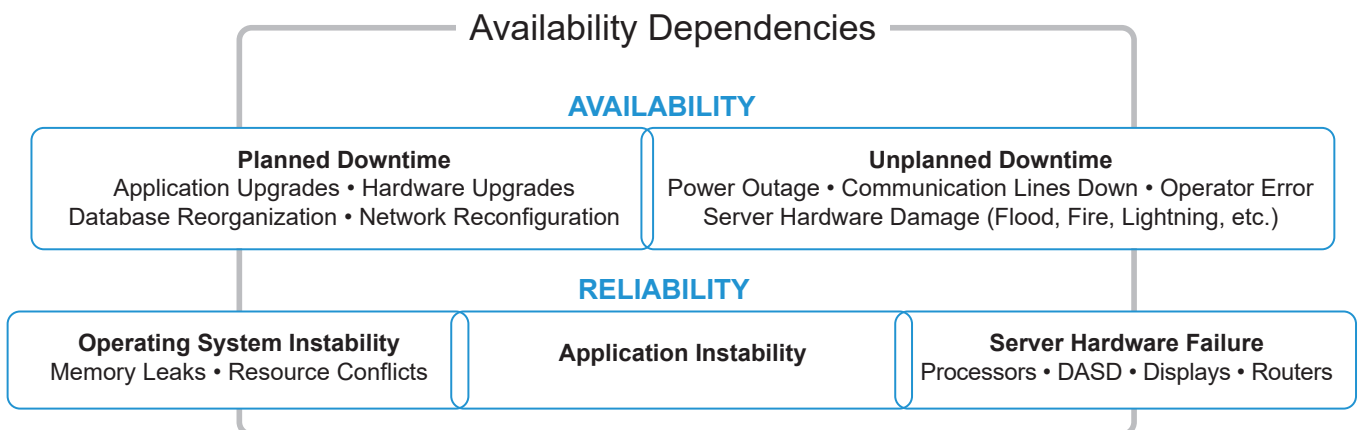
Business continuity does not mean keeping systems available 100 percent of the time. For example, a business that does not need its systems between midnight and 6 a.m. will not be concerned about downtime during those hours. However, achieving the level of optimum business continuity that’s right for your business means that data and applications identified as vital will be available during pre-specified critical hours—which may mean 24/7, 24/5, 20/7, 12/6 or any combination of hours and workdays that fit your business objectives.

## What is the difference between reliability and availability?

It is important to note that reliability and availability are not synonymous. Reliability refers to the mean time between failure and recovery of a hardware component. Availability means that data and applications are accessible by users when needed, without regard to what might cause their inaccessibility.

Reliability is, therefore, a component of availability, but, since most hardware is now very reliable, it may be less of a concern than other issues.

Addressing availability issues implies also addressing reliability issues, but only as a subset of the bigger picture. Significantly improving hardware and software reliability will only slightly decrease the total number of hours of downtime over the course of a year because, compared to other factors such as hardware, software and database maintenance, unreliable systems are responsible for only a small percentage of downtime. Significantly improving availability is possible only by addressing all causes of unavailability, including, but not exclusively, reliability.



## What is business continuity planning?

Business continuity planning takes a systematic, holistic view of the entire enterprise information infrastructure. The plan is designed to evaluate availability vulnerabilities, assess the magnitude and probability of the threats, and identify and implement solutions that provide a favorable return on investment.

Why systematic? Because in any business today it is no longer acceptable or “good enough” for only one application to be continuously available or to be protected by a comprehensive disaster recovery plan. You must consider the data and the networks that integrate with this application and that the application depends on.

Why holistic? Because the failure of any one element may make the whole environment unavailable. Therefore, focusing on a single component, such as just the disk drives, power supply or processors, will only marginally improve availability. For example, applications will not work without data and objects and vice versa. Your planning process should look at all data and all applications across the enterprise to determine your system-wide availability requirements. In this context, data does not mean just business data. It includes all of the security, middleware staging areas, data queues and other system data required to keep applications running according to specifications.

*Does downtime always play a role in your day to day business?*

## What is downtime?

Downtime is defined as any interruption in your IT processes—when users cannot use or access data, applications or networks.

There are two types of downtime:

- **Unplanned downtime**—Unpredictable events that cause an outage; usually related to power, natural disaster or human error. Unplanned downtime typically represents less than 5 percent of all downtime.
- **Planned downtime**—Planned downtime occurs when you purposely bring systems, databases, applications or networks down for maintenance or backup activities, including daily/weekly saves, batch jobs, database reorganizations, application and system upgrades, system maintenance, performance tuning and other activities.

The majority of downtime that a typical user will experience is planned downtime. With infrastructure and server reliability improvements occurring on a regular basis, the likelihood that a server will fail is decreasing over time.



# What are the most common downtime challenges to business continuity?

**Application and Database Backups**—One of the challenges in today’s IT community is to make application and server backups on a regular basis. Without backups, the business is exposed due to the inability to recover the business. Also, IT departments are faced with the problem of making multiple types of backups. A large “string” of backups can create problems when it comes time to recover from the backup tapes. Some exposures are present at the time of recovery. For example, if one set of tapes is bad, the recovery can only go as far as the last “good” set of tapes.

The main purpose for making backups is to be able to recover. If the backups are complex and unreliable, it defeats the purpose of making the backups at all.

Managing these backups requires downtime unless save-while-active technology is used. While this helps ease the requirement for the backup process, the objects on the tapes are not necessarily in sync. For example, a save of a complete library may not yield a complete backup because object locks could not be obtained.

Also, backups tend to be system focused. If a server fails, the entire server and its applications must be recovered simultaneously regardless of whether the application is critical to the business or not.

**Application and Server Maintenance**—Maintaining server and application PTF or release levels is important to maintaining a well-tuned IT environment. Many times, applying application and server modifications is put on the back burner until time can be

scheduled to perform the maintenance. Also, the maintenance often occurs on weekend or holidays, which limits access to vendor support and entails overtime expenses. Being able to stay current on releases is important to getting the best support from OS and application vendors.

In the same vein, it is also vital that a business perform routine server and application maintenance to maintain the performance of a server. Database reorganizations, IPLs and other routines must be executed on a regular basis. While the latest OS releases help reduce the need for frequent maintenance, it can’t be altogether avoided.

Unfortunately, performing application and server maintenance requires downtime, which is painful to the business.

## Sources of Unplanned Downtime: Disasters

### Natural Disasters

- Wildfires
- Floods & Flash Floods
- Hurricanes
- Tornadoes
- Thunderstorms & Lightning
- Snow, Ice & Winter Storms
- Heat Waves & Droughts
- Landslides & Mudflows
- Tsunamis & Other Tidal Actions
- Volcanoes
- Earthquakes

### Man-Made Disasters

- Home & Building Fires
- Hazardous Materials Accidents
- Terrorism
- Aviation Accidents
- Ship/Maritime Accidents
- Train/Railroad Accidents
- Riots/Civil Unrest
- Bridge Collapses
- Dam Breaks
- Nuclear/Radiological Accident
- Cyberattacks

## Summary

You should have an understanding of the basic ideas and issues involved in disaster recovery, business continuity and information availability. The next step is to complete the workbook questions on the following pages. Your answers will help you find solutions and get started on a solid business continuity plan.



# Workbook

The following is a list of questions you can answer when familiarizing yourself with your own HA/DR environment. Use the above information to determine specific answers and actionable plans.

1 What is the gross annual revenue of your organization?

2 What are your company's recovery point and recovery time objectives?

3 What tools or solutions do you already have in place to ensure business resilience?

4

How many employees would be affected by downtime?

5

How many hours per day are you open for business?  
How many days per year are you open for business?

6

Beside financial consequences, what would downtime mean for your organization?

7

What were the findings in your last downtime cost analysis?  
If you haven't performed a downtime cost analysis, why not?



8

Visit [visionsolutions.com/DowntimeCalculator](https://visionsolutions.com/DowntimeCalculator) to calculate the hourly cost of downtime. Write the results here.

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