

# Data and Components Availability

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**Abstract -** Data availability is term used by computer manufacturers and service providers. It is basically used to create service level argument and service contracts. Which give an assurance the service. Data availability provide implementation of service and procedures as response from someone's request that data is present at any condition. For achieving this, data duplication is very essential and also widely used in industry along with other storage management technologies. Data center is where data is usually stored. If anything unnatural happens like scam, virus, hacking attempt can cause serious data loss. Meanwhile component unavailability is issue mostly face by beginners and low level designer, as they usually have low budget and less experience in the field. But sometime big manufacturers can face such problem too, due to increasing demand of specific part like silicon board. Or some part which only required for specific type of production

**Keywords -** History, inventions, future predictions.

## I. INTRODUCTION

Even though data availability and Components Availability is Very Different From Each Other. The term Availability is Existing information or Service is accessible for people or not. So in term of Database, if Data is available can user Access it. If they can't it Create situation called Data unavailability Same with Component Availability, Components required for production should available at Stock. If the specific component has zero stock, it creates components unavailability which is obstacle for Manufacturer Company. Data availability is insuring of data when it's required the most. It provides the extent to which data is usable to end users and application. Meanwhile, component availability is another critical issue in business. Not having focus on component availability can cause stopped production or late production, missing opportunities. On top of that we need to make sure components required are actually available at stock when we need them.

## II. BACKGROUND

- **Data availability**

Data should ideally available at certain level of performance in different situations which can be achieved through redundancy. Redundancy is just a duplication method so if one system fails it can have backup. In today's world a customer expect quick access to data on internet or server. Ideally nothing should stand between you from delivering data to customer. High data availability is critical to business as

it provides efficiency to business as well as security regulation

- **Component availability**

Components availability also have an impact on service availability. For Service to be provided every components that has contribution to for completion of service must be available.

- **Problem Definition**

1. **Data Availability:**

One of the main obstacles of data availability is failing Host server which compromise data quality. In this case redundant host server can be used temporary Storage failing is another challenge in manufacturing Industry. As data is stored in ROM or flash Memory as we know it has limitation. Any problem occurs to this storage can cause unavailability of data in servers and Application.

Ideally Data Shouldn't be stored at One centre as we Used to do. Instead now Data is stored over a network or server. So if any network failure occurs, data get lost. Data quality is another issue that can lead to data Unavailability. Even data Even data is available, it has no practical use if it has quality issue. Sometime Data is available but it may not support other Environment or System. This kind of issue also leads to data unavailability. It could also take long time for transferring of data to different location.

2. **Component Availability:**

As technology is growing at very rapid speed, demand for electronic Components ultimately increased. One of most important part of component system is semiconductor. Which is required for almost every manufacturing process?

Demand for these components is always high. This can cause situation such As component shortage  
Massive expansion of IT companies, automotive industrial markets are seen Over a last decade.  
However, as demand increasing, we haven't kept balance of producing this Components especially semiconductors.

### III. SOLUTION APPROACH

#### 1. Data availability:

- Technically we can't solve problem of data availability for single user out There. As it required constant interaction with the client.
- Normally, for such situation an Incentivized watchtower network Like PISA is used. This network basically are array of data which contain back up data for specific number of users Mostly companies avoid trusting such third party for data handling. But solution for risking of losing data one mandatorily have to such kind of constructs.
- So avoiding from data loss, we must prevent it from happening in first Place. So every part of your data needs to back up in frequent interval of time.
- Proactively checking server every now and then also eliminates possibility of Data loss and ensures data availability.

#### 2. Component Availability:

- Having accessed to supply chain is always beneficial for manufacturing Company. As supply data is direct relation with distributor. So we can control our supply management to prevent component shortage.
- It is recommended to select component product at early stage of design Phase. And should check availability of components multiple time.
- You should always have an alternate solution for component you are using. If any part look like out of stock or unavailable alternate part is always better option and it prevent delay in project development.

### IV. CONCLUSION

As we already discuss, the availability of data, information management are important factor in data analysis. As technology rapidly changing, more and more organization outsourcing their information to servers. Assurance of cloud data its privacy, its availability is extremely important as it depends upon data quality and cloud storage. Many methods to counter data unavailability but in doing so we shouldn't compromise data quality. Best way is to prevent it from happening by taking necessary steps and precaution  
As for components availability, according to data analysis- it is beneficial to have high redundant

hardware availability rather than paying large amount of money at time of agreement with supplier. Technology grows every day, as result demand for component required will keep on increasing. We have to keep pace on demanding and production of this products/components.

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