

# Cloud and Service-Oriented Computing using Dataly Application

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**Abstract** – Nowadays, Data Storage is Everything. Service-Oriented Computing (SOC) is the computing change that uses services for developing applications/solutions for problems. To create the service model, SOC depends on the Service Oriented Architecture, which is a way of re-organizing software applications and infrastructure into a set of interacting services. Smartphones performance and functionalities are improving with time on both the hardware and software side. However, power consumption is a critical concern in all aspects. This research introduces memory optimization through middleware transformation service, which converts the AOS to SOA, and results will increase significant power saving for mobile application by reducing the memory access counts. It extended the battery life by minimizing its use. This research also shows new updated features of Dataly will prove a boon for internet users and replace the old methodology of recharging the internet plan.

**Key Words:** Web Services, Software, Monitoring, Availability, Organisations, Clouds, Data Saver, Storage, Optimization, VPN

## 1. INTRODUCTION

Service-Oriented Computing (SOC) is the computing that utilizes services as fundamental elements for developing applications/solutions. Services are self-describing, platform-agnostic computational elements that support the rapid, low-cost composition of distributed applications. Services allow organizations to expose their core competencies programmatically over the Internet (or intranet) using standard (XML-based) languages and protocols and should implement via a self-describing interface based on open standards.

## 2. TRUTH ABOUT CLOUD COMPUTING

When many people upload files to the cloud server, we tend to think it will be there forever, ready for downloading and access with single click command, or at least when a user has a good internet connection. However, the truth about the cloud is that it is actually just a bunch of other hard drives, and files are only accessible as long as the provider stays in business. The data formats in which data is saved are still used by existing software. Besides, keeping all those files at fingertips takes a lot more thought and effort than may have considered.

## 3. CLOUD COMPUTING

Cloud Computing is the on-demand computer services, especially data storage and computing power, without direct active management by the user. The term usually used to describe data centres available to many users over the Internet. Cloud Computing can be both Public as well as Private. Cloud Computing takes all heavy lifting crunching & processing data away from the device you carry around or sit and work. Companies that provide cloud service enable users to store files and applications on servers and then access all the data through the Internet. It means the user is not required to be in particular, allowing the user to work remotely.

## 4. TYPE OF CLOUD

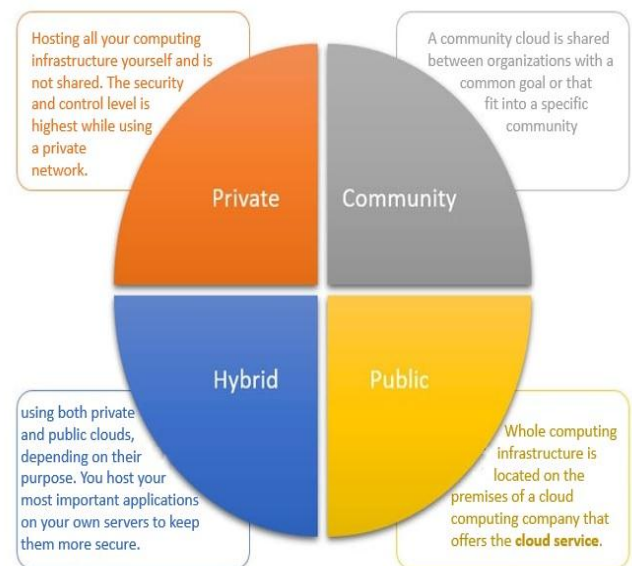


Fig -1: Types of Clouds

## 5. TYPES OF CLOUD SERVICES

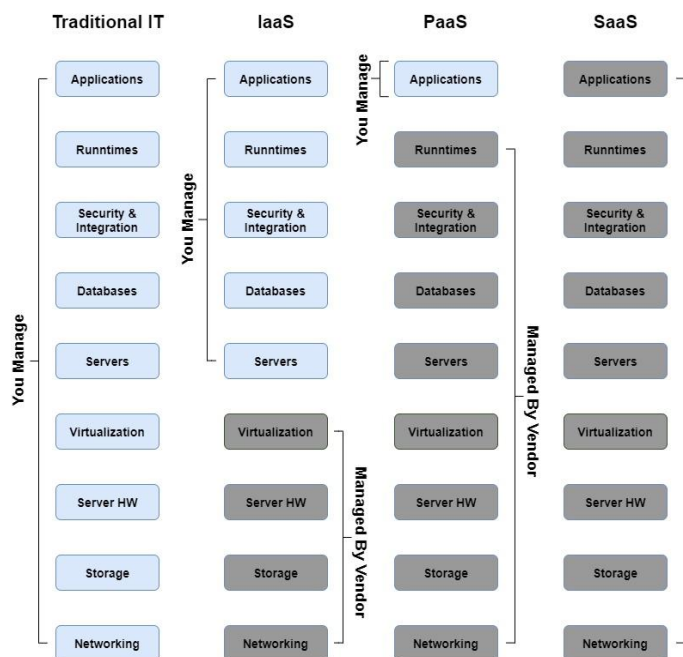


Fig -2: Types of Cloud Services

## 6. Features of Cloud Computing

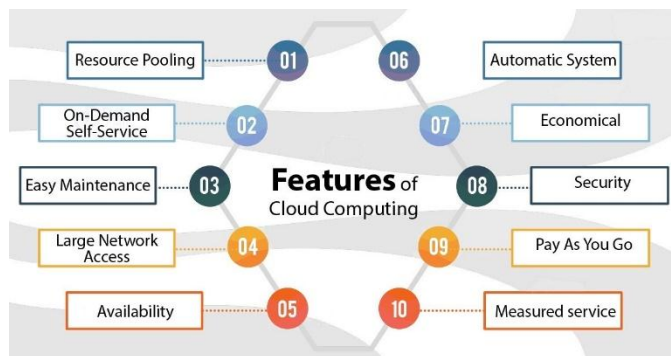


Fig -3: Features of Cloud Computing

## 7. DATA SAVER APPLICATION

### 1) Information

Mobile data (Internet) use is costly and even more so where data plan costs are not affordable by all. The data saver feature can be turned on or off by the user. App developers should use an API to check if Data Saver mode is on. If its on, the developers can handle the situation by tuning their applications for low- or no-data access. End-users benefit as they will be able to control the apps which can access the data in the background and can also access the data only while in the foreground. That ensures desired background

data exchange when Data Saver is on per-user control.

### 2) Important Features

1. Saves Valuable data when you don't need other app consuming the mobile data.
2. You can always control the data usage & let's block the background process of many apps that are not currently in use.
3. It offers a bedtime mood that automatically turns off the data connection at the night time.
4. Save your internet data for emergency use & gives you an alert before the end of your data package.
5. Daily use limitations for your convenience and integrated with data limiting facilities.
6. Also, providing you with the guest mode on hosting data sharing that lets you control your data use.

### 3) Overview of Dataly

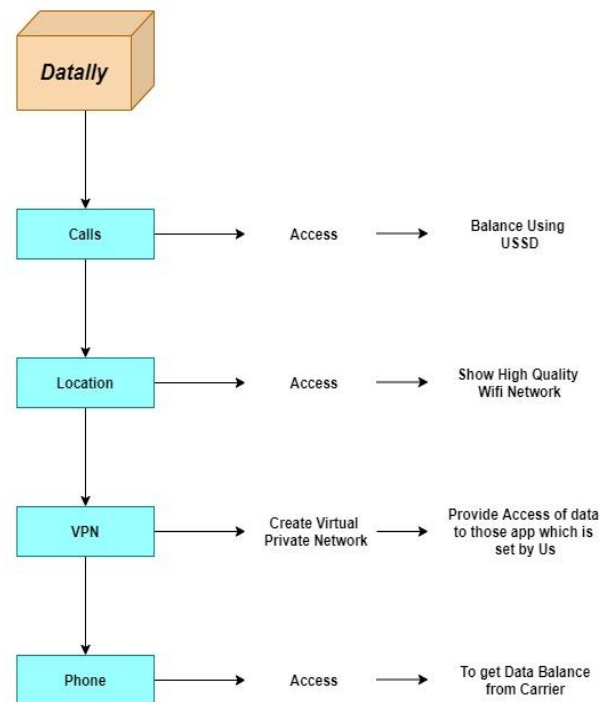


Fig -4: Overview of Dataly

### 4) Features and Controls of Dataly

#### 1. Data Saver

Save up to 30% mobile data through controlling usage on an app-to-app.

#### 2. Data Saver Bubble

Center and Front controls allow seeing real-time application usage and block application's data usage when things get out of control.

**3. Data Usage Metrics**

It provides data usage, including trends over time, usage history, and per-app usage.

**4. Personalized Recommendation**

It prompts a popup window to rate wifi networks, usage highlights, and reminders to turn off the data saver.

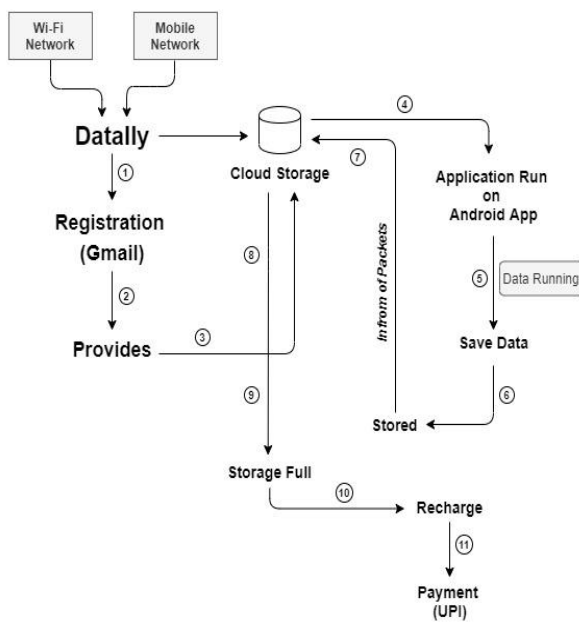
**5. Wifi Finder**

It helps to find the strongest wifi networks nearby with details like distance and speed.

**5) Exclusion criteria for Datally from play store**

1. Gives the power to Disable Default apps
2. It provided the power to limit applications activity [It against the policies of android].

**6) Datally with Update Feature**



**Chart -1:** Flow Chart of Datally App with Update Feature

**7) Working of Datally**

1. With this updation, Datally can be once again come back to the play store with new features.
2. Below is the overall working schema of Datally with an updated feature.
3. As soon as the user downloads the Datally
4. User is allowed to create an account by signup

5. After successfully registered. Whomsoever be, the user will be provided with a cloud storage of 2 GB.
6. As there are plenty of apps running on the devices which consume the Data pack at the end leads to scarcity of data pack. Previously Datally used to save the Data of the user while surfing the Internet or watching videos at the high quality. But this keeps the data when the user connects to the mobile data pack. The new feature will work even with wifi connectivity.
7. When there is a strong wifi network spotted, then the app will automatically get connected to the wifi network spot when it is allowed permission. It will not only connect but will make a Secure VPN connection to protect device confidential data during the connection with wifi.
8. The user, when surfing over the Internet or watch high-quality videos or downloads stuffs. Then Datally will save half of its data to the cloud storage in the form of data packets. And this cloud storage goes on filling up data packets until the provided storage of 2GB is overflow its capacity.
9. Once the provided capacity fills up totally, then the Datally will ask the user to recharge the mobile data pack by giving a different schema of an internet plan.
10. For example :
  - Plan 1: 500MB for 30 rupees 15 days with 3g speed.
  - Plan 2: 1GB for 55 rupees 30 days with 3g speed.
  - Plan 3: 1.5GB for 45 rupees 15 days with 4g speed.
  - Plan 4: 2GB for 65 rupees 30 days with 4g speed.
11. According to the user need the plan can be activated by doing UPI payment or any other mode of payments.
12. Once the payment is successful, the provided storage of 2GB will automatically get free up
13. For example :
  - Plan 1 gets activated, then the cloud storage will be 1.5GB 500MB will be free up from a total capacity and starts filling up once again the user starts surfing over the Internet.

14. This is a repetitive process, and it will be beneficial for the user as well for the internet provider.
15. Even it will replace the activity of scratching the internet card and activating the plan by entering 15 digits number, which is an old method carried till the current dates.

## 8. CONCLUSIONS

This new updated features of Dataly will prove a boon for internet users. It'll replace the old methodology of recharging the internet plan of 15 digits with an online reusable internet plan with different modes of payment alternatives. The involvement of cloud storage is a more significant benefit for Dataly application.

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