



**White Paper**  
**SearchYourCloud**



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## Introduction

Over the last few years, cloud computing has become an increasingly attractive proposition for both personal and business users. The ability to access applications and services via the internet “on demand”, without the need to purchase and maintain expensive hardware or software can be compelling. According to a recent report released by market research firm Forrester Research, the global cloud computing market is expected to grow from \$40.7 billion to \$240 billion by 2020.

Despite this momentum, concerns are routinely raised regarding the protection and privacy of data held in these services - and security remains the most significant issue associated with cloud computing.

This paper explores the origins of these security concerns and positions the Simplexo SearchYourCloud technology. SearchYourCloud has been developed as a proof-of-concept to showcase the unique Simplexo remote information access architecture which protects against unauthorised access to personal or business data.

## The growth of the public cloud

One of the challenges in any discussion about cloud computing is the vast array of services now being promoted under this one umbrella term. Gartner defines it as a type of computing in which "massively scalable IT-enabled capabilities are delivered 'as a service' to external customers using Internet technologies."

On the one hand, cloud computing encompasses social networks such as Linked In, Facebook, Twitter etc ; on the other, business services such as hosted CRM, ERP or finance systems and in between, services such as hosted email, cloud storage and file sharing sites.

Despite these apparent differences in scope and target market, however, there are some common characteristics of these “public cloud” services:-

- Services are delivered via shared computing resources and infrastructure
- Data is stored and managed by the service provider on behalf of the user/subscriber
- Data is typically stored in a shared environment alongside data from other customers
- Individual user accounts are protected via a user id / password

The fact that the service provider retains responsibility for the management and protection of the data is part of the appeal. Businesses and users can leave this to the provider and not have to worry about it themselves. However, this means that there needs to be trust placed on the supplier that information will not be exposed, and prospective users need to satisfy themselves of the privacy and data protection policies adopted by their chosen partner.

In order to protect the raw data, encryption is almost universally used. This is an effective, if not wholly flawless, method of securing the data. The primary threat arises from a situation where a user id/password is compromised, and unauthorised access to user data becomes possible. For example, a recent error by an employee of Dropbox caused a temporary security breach that allowed any password to access any user account. In other highly publicised security breaches, hackers have obtained personal data from the likes of Sony, Google, Salesforce.com etc.

So what can be done to improve the security of these cloud services?

### **Simplexo – security beyond encryption**

We believe Simplexo has the answer in the form of our “SearchYourCloud” technology. SearchYourCloud permits data from one or more computers or mobile devices to be synchronised to a common (encrypted) cloud storage repository from where it can be securely accessed from a tablet, smart-phone or web browser. It is designed to provide users with fast and secure access to their important information, without exposing their file contents to the risk of unauthorised access. This is achieved in a number of ways.

1. We have designed the technology to make sure that a user has NO direct access to the file store. Although the contents are encrypted versions of their own files, we do not expose the file system to direct access through a browser or other client.
2. No direct network or IP-level connection is established between the client and the data store. Instead, all messages are routed through an intermediate Simplexo connection-broker.
3. Our technology does not use conventional user authentication, meaning there is no direct link between a user and the documents in the store. Additionally, there is no centralised database containing user details, and no cached user credentials on the client or servers.
4. Access to information is facilitated through an advanced search function which utilises a full-text index for rapid and accurate results.
5. The patent-pending search technology is unique in allowing a user to search for the contents of a file, whilst not storing the file or its contents in the index.

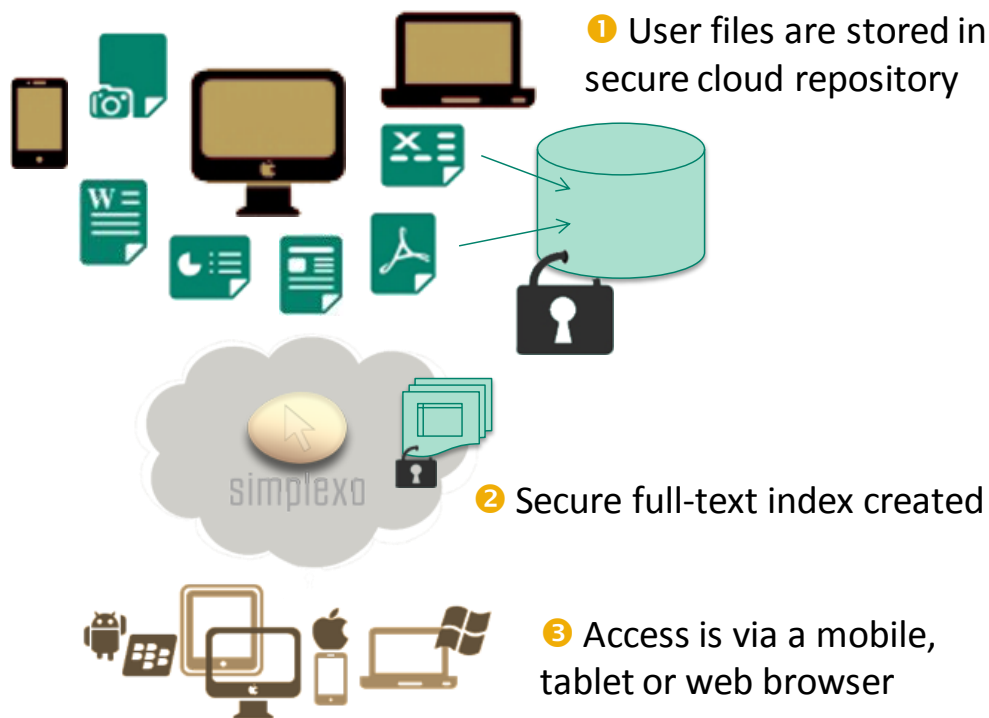


Figure 1 - SearchYourCloud architecture

The particular characteristic of the SearchYourCloud which is unique is the methodology used to create and query the full text index. This provides for fast, inclusive and accurate search results whilst never storing the actual file contents in the index or exposing the data to security threats. There are no direct URLs exposed for the file, file contents or store and delivery of the file is done through the Simplexo connection broker to the client.

**This ground-breaking technology has wider potential for securing databases, proprietary IT systems and other forms of computing service.**

### **Secure remote information access**

The underlying technology behind the SearchYourCloud architecture also has broader value and is adaptable enough to be used for applications such as remote access to corporate data and private cloud services.

Many large enterprises are finding that existing employee remote access solutions and remote working policies are under threat from so-called consumerisation of IT. Employees are demanding access to corporate data from their own mobile devices such as the iPhone, iPad or Galaxy tab. Traditional methods of providing secure remote access to corporate data such as Virtual Private Networks (VPN), two-factor authentication and biometrics are considered outmoded, and they are both expensive and difficult (or not impossible) to deploy on these new mobile form factors.

As a direct consequence of the high costs involved, many organisations have also traditionally only deployed remote access technology to a small sub-set of their employees. However, according to a recent IDC Market Analysis Report, the worldwide mobile worker population is set to increase to 1.2 billion by 2013, accounting for 35% of the workforce.

In this context, SearchYourCloud represents an innovative, scalable and cost-effective method of delivering remote access to any mobile or web browser platform, with the following benefits:-

- No direct connection between client device and data store
- No exposure of files/data store to the internet
- No persistent connections and no local storage on client
- Full text search index without storing file contents
- Support for multiple email accounts per user
- Direct connectivity to services such as Exchange, SharePoint
- Option to create additional 3<sup>rd</sup> party data connectors
- Web client supported on iPhone, iPad, Android, Blackberry 6 etc

### **Simplex: fresh thinking**

Simplexo is resolutely focused on developing innovative and ground-breaking technology. Our software can be embedded, integrated and implemented by 3rd parties such as carriers/mobile operators, systems integrators and software providers. We also partner with companies which have in-house IT development/integration expertise, and which wish to utilise our technology to solve current technical and/or business challenges.

The Simplexo technology can be used as a front-end access method for existing private or public cloud services, or as the backbone to deliver new services. In either capacity it delivers a new information access paradigm that promises to revolutionise the way in which users access their critical data in the cloud.

To learn more, visit the Simplexo website – [www.simplexo.com](http://www.simplexo.com) – or contact

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