



## Understanding the YOUnite Enterprise<sup>®</sup> Interchange

### White Paper

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#### Abstract

This paper provides an overview of the YOUnite Enterprise Interchange market opportunity and how the Interchange works. Included are a description of the data inaccuracy problem and the opportunities associated with it, market related statistics and observations, a high-level technical description of how the YOUnite Enterprise Interchange works and how YOUnite improves the overall networking experience and revenue opportunities associated with Telco data services. We will then point to where more information can be found to further your knowledge of the YOUnite Enterprise Interchange.

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## Introduction

The YOUNite Enterprise Interchange is a flexible platform independent, scalable, and cost-effective solution that allows companies to create a secure personal information data exchange to enable an entity (business or individual) to securely distribute and control access to personal information with complete customizable permissions without having to store that information on a centralized server.

This white paper explains the importance of distributed infrastructure technology to companies that seek to grow revenue by becoming a center of a revolutionary global information interchange through a system enabling distributed sharing of personal information. This paper highlights the unique patent-pending capabilities of the YOUNite Enterprise Interchange.

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## The Problem

### Identity Information Inaccuracy

As the world becomes increasingly interconnected, the need for the information owner to manage accuracy and maintain control of their personal or identity information across multiple platforms, devices, enterprise systems and social networks is becoming more and more critical. Today, it is impossible for individuals and organizations to ensure that their identity information is accurately updated and propagated to all institutions, business entities and individuals.

Identity Information drives the digital world and there is a massive problem to be solved with keeping it accurate. Data inaccuracy can lead to losses in productivity, increases in operating expenses and the potential for fraudulent activity. Moreover, the inability to control access to identity or personal information can also lead to data inaccuracy and fraud.

### For Businesses

In an increasingly competitive global economy, information is critical to doing business and maintaining relationships. An enormous amount of personal data is transacted on a daily basis. Businesses are using information about individuals to help provide a better customer experience, customize web pages and send catalogs or offers tailored to individual's specific interests or purchasing history. Businesses also use your information on a for-profit basis to facilitate unsolicited phone calls and mail, both physical and electronic. Every day addresses and e-mail addresses are bought, sold, traded and even stolen. A recent study by the Chubb Group of Insurance Companies noted that one in five Americans have been victims of identity fraud.

Businesses lose enormous amounts of time and wasted productivity trying to manage and accurately update information. The cost of customer support, updating and correcting inaccurate data, lost business opportunities, and lost personal and professional contacts is enormous. While applications such as Salesforce.com or other business applications provide a repository for data, they don't solve the fundamental problem of its accuracy. Nor do they necessarily keep the data up-to-date or control distribution seamlessly to multiple systems and devices in a distributed and networked world. These applications help manage certain information and relationships on a micro/local level, but do not solve the problem on a macro/global level. The YOUnite Enterprise Interchange provides the mechanism to enable businesses and individuals to connect islands of personal information as well as to manage and customize access to that personal information seamlessly.

### In Our Personal Life

Personal Information is not limited to text – names, addresses, phone numbers, email addresses, IDs, account numbers, reports, documents, preferences, but can take any form – photo albums, videos, music, graphics, blogs and/or conversations. In the event that any of the information changes or the

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permissions to access the information changes, an individual is required to manage these changes across numerous devices, systems, networks and business relationships. This is not only time consuming, but can create opportunities for data to become lost or even corrupted.

Social networks have enabled sharing of personal content, but the ability to control access is limited to broadly defined categories of basic relationships, such as “Friends” or “Not Friends”. These environments simply don’t allow for individualized privacy (access control). By too broadly defining relationship access to personal content, there is an increased potential for identity theft and a limited ability to maintain privacy. The notion of selective sharing of personal content solves this problem.

### Market Data

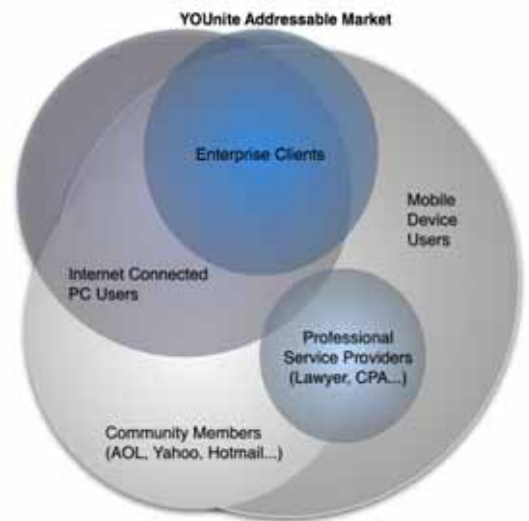
#### Markets

Since YOUNite, Inc. is creating a new Information Management and Exchange market segment, analysis of its target market sub-segments provides a glimpse into its potential. Market adoption will accelerate as the value to businesses and customers becomes apparent, grows, is relied upon, and becomes expected.

In most of the cases, these segments overlap, which means they are not necessarily additive. Instead, they are subsets of a single very large overall market as the see diagram shows.

Target Markets include:

- Transactional/Identity Data Vendors (~\$20 Billion Annually – US Only)
- Carriers (~1.6 Billion Subscribers Worldwide)
- Corporations (~5 Billion Employees Worldwide)
- Professionals (~500 Million SME's Worldwide)
- Networked Individuals (~ 390 Million Worldwide)
- Online Communities (~10-15 Billion Members Worldwide)



Transaction/Identity Data Vendors (Equifax, Experian, TransUnion) spend between 1-7% of revenue annually on data tools and is a \$200 million to \$1.4 billion market annually in the U.S. alone. The revenue potential from transactional processing of millions of request per year in the other segments is very large indeed.

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### *Hyperconnected*

According to IDC<sup>1</sup>, a global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets, the increasing importance of communications and connectivity in our daily lives has created an addiction to sharing information on a continual basis. IDC refers to this as being hyperconnected.

Hyperconnectivity will have a profound impact on enterprises, creating significant opportunities in providing information securely and reliably and ensuring that this connectivity is productive. IDC surveyed approximately 2,400 individuals in 17 countries and found the following:

- 16% of the global information workforce is already “Hyperconnected,” with estimates as high as 40% in the near future.
- The hyperconnected depend on the devices and applications that make them hyperconnected; the supporting technology is mission critical.
- The average hyperconnected individual uses at least seven devices to access the network and nine connectivity applications. It will be imperative for enterprises to create a strategy and architecture for unified communications and data management.
- Tomorrow’s workforce and individuals will increasingly expect a robust hyperconnected environment.

The YOUnite Enterprise Interchange will enable solution and service providers to reap the benefits of being in the middle of an information interchange like VISA is to financial institutions and the NYSE is to equities and bonds.

### *Advertising Revenue – Social Networks*

UK social networking sites’ ad spending is expected to reach \$533 million by 2012, according to eMarketer’s recently released “UK Social Network Marketing: Ad Spending and Usage” report. Some 11 million people, or 30% of UK Internet users, spent time at sites like Bebo, MySpace and Facebook, eMarketer estimates. Though social sites account for only a tiny portion of UK online ad spending (3.4% in 2008), social-network ad spend will rise 77% this year to \$225 million, eMarketer projects. Spending in 2012 will have increased 148% over 2008 levels

### *The United States Postal Service*

A 2004 USPS Task Report indicated that the mail facilitates nearly \$900 billion in annual commerce, representing an enormous transaction medium. Up to 33% of the 200 billion pieces of mail sent out annually cannot be delivered due to incorrect addresses. With an estimated “in the mail” cost at \$0.50/piece, this represents \$30 billion in wasted annual revenue. Class-A mail is not endorsed

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<sup>1</sup>

The Hyperconnected: Here They Come!; A Global Look at the Exploding “Culture of Connectivity” and Its Impact on the Enterprise (May 2008)

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for forwarding, resulting in 25 billion pieces of Class A mail being thrown out by the USPS due to incorrect or incomplete addresses. Undeliverable-as-addressed mail costs the USPS nearly \$1.5 billion annually in forwarding costs, driving up the cost of postage and other services.

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## The Opportunity

The Future of Personal Information Management, Access and Control

YOUnite makes it possible to seamlessly exchange, share, and update data in a controlled and secure way. It creates a distributed data sharing mechanism upon which a Global Information Exchange can be built.

### **Professionals Need Control**

Internet Connected Professionals a sub-group of internet-connected people whose customer database or client list is their primary source of income. This list would include professionals such as lawyers, accountants, medical professionals and consultants. There are over 500 million small to medium sized enterprises worldwide. They have customer communication, personal information management, CRM, data privacy, security, and accuracy needs similar to large corporations, but cannot afford dedicated IT departments. Contact information to clients as well as vendors is vital. YOUnite will work with applications providers and turn key solutions providers to address this market segment.

### **International Users Have Heightened Need**

People from different countries have very specific needs when it comes to management and storage of their personal information. Many countries have strict policies about access and control of information. YOUnite' patent-pending architecture provides a unique and valuable solution to this problem. With YOUnite Enterprise, you are now able to distribute the storage of data for people of different countries to within their respective countries. Similarly, YOUnite can be deployed so that both corporate data and individual identity information is only stored on servers located in the companies or within individuals' countries.

### **Businesses and Organizations MUST Maintain Control**

For an information exchange to work for organizations it is imperative that the exchange be distributed (the information be kept on their own servers and client devices). A centralized approach (where all users, businesses and organizations keep their data on a single set of central servers) cannot work by definition since businesses and organizations have fiduciary responsibilities surrounding the privacy of their own data.

Large corporations have over 5 Billion employees worldwide, with growing competitive pressures to be more efficient and productive in the global economy. They are geographically dispersed, have mobile workforces, customer relationship and vendor management needs as well as human resource issues to manage on a daily basis. These corporations must control access to their data, while ensuring its accuracy, security and privacy. In addition, large corporations need to manage multiple devices provided to employees and enable data access and support between home

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and work computers, laptops, mobile phones and PDAs. All of this can be facilitated by the deployment of the YOUNite Enterprise Information Exchange. Some specific examples include:

- Database vendors organize, store, sort, and retrieve data, but they do not solve the fundamental problem of its accuracy. These inaccuracies highlight an enormous problem and cost in data healing, add significantly to customer service costs, and lead to identity theft and business fraud. YOUNite is a solution which can be applied to any pre-existing relationship between individuals, individuals and businesses or business and business that require both accurate and specific data provided in both directions without becoming one or the others store of the data. A decentralized approach allows data to be kept locally under the control of the owner and seamlessly updated to users of that data reducing costs, and eliminating inaccuracies.
- Enterprise software vendors have applications that in some manner require accurate connection information from individual employees such as HR, Payroll or smaller Customer Relationship Management (CRM). The YOUNite Enterprise Interchange can facilitate this connection. Other applications include notifications for software updates, special promotions, sales notifications and confirmations, recall notices and safety notifications.
- Call centers will no longer need to process Change of Address (COA) requests via the phone, which are often prone to inaccuracies due to human error. Databases and web-interfaces can now be designed without a COA feature.
- Customer relationship management will improve, because businesses will always have the most current information about their customer base facilitating accurate contact and relevant market offers.
- YOUNite can provide the transport and permissions layer for collaborative work environments. Collaborative applications, where individual pieces of information are being worked on simultaneously, require the latest versions to be readily available and accessible. YOUNite's ability to understand ownership of this information and knowledge of when it was last changed can facilitate this real-time accuracy, thereby avoiding potential errors and wasted verification time.

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## The Solution

YOUnite® is an exciting new technology that can help reshape the face of personal information management. YOUnite® has created a platform that enables solution and service providers to create an information interchange with which virtually any device, client or system can interact. Solutions and services can connect to the interchange, make connections to other users and set permissions to information and files they own. Past attempts to create an interchange have forced all parties to store their information on a single set of centralized servers, but with YOUnite®, the customer controls where their information is stored. YOUnite's transactions in-flight are encrypted data and only reside on the YOUnite Enterprise Interchange servers until such time as delivery is confirmed. Once delivery of data is confirmed, the data is expunged.

The YOUnite Enterprise® Interchange enables solution providers to create solutions that allow their customers to maintain complete accuracy of their information. They decide who can have access to their information as they choose by the use of a peer-to-peer distribution model and proven public-key encryption to enable secure data transmission to only those contacts authorized by the user.

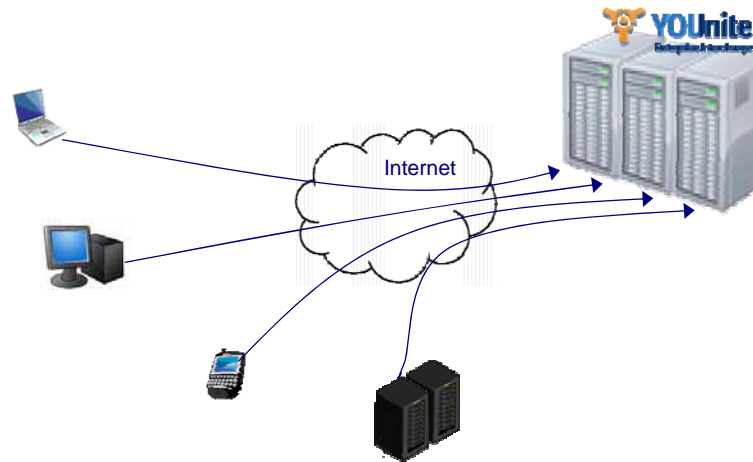
Given the increasing amounts of fraud and other security threats, YOUnite® was architected with security as a paramount concern. YOUnite® is not a security vendor, but we fully understand the importance of securing information and personal data. The YOUnite Enterprise Interchange is not a security product, but it is a secure product.

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## How YOUNite Works

The YOUNite Enterprise Interchange (the interchange) is a server infrastructure that allows a multitude of clients to connect and share information based on the permission settings set by the owner of the information. Servers, services, devices and clients connect to the interchange via REST APIs. YOUNite Inc. hosts an interchange or the interchange technology can be licensed and deployed by others.

Virtually any device or service that supports REST and XML can connect to the interchange.



*Figure 1 High Level View of the Interchange*

Information exchanged between users and organizations in the Interchange can be attributes (e.g. phone numbers, email addresses, shirt sizes, and travel preferences) as well as blobs.

The flow of information between users is not limited to C2C but can include B2C and B2B. For example, a user can share their home addresses with their bank and the bank can share the phone numbers associated with the products the consumer is using as well as the location of the closest branch office.

It is often easiest to understand how YOUnite enabled clients and the Interchange work together if a simple scenario is described.

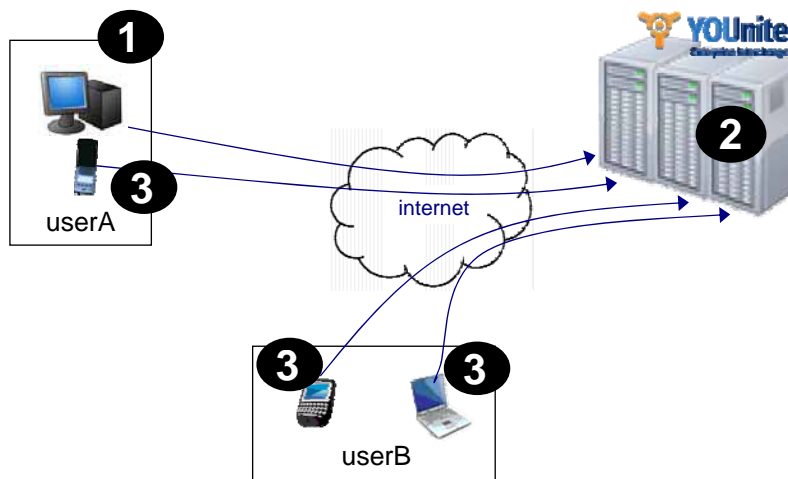


Figure 2 Simple Scenario of clients and interchange

Assume there are two users with two devices that are YOUnite enabled. UserA has shared his mobile phone number with userB. When (1) userA changes his mobile phone number on one of his devices, YOUnite checks the permissions associated with the change and forwards it to the (2) Interchange. The Interchange generates the (3) appropriate transactions for not only both of userB's devices, but userA's other devices as well.

As more users and clients are added, the Interchange becomes a large permissions engine.

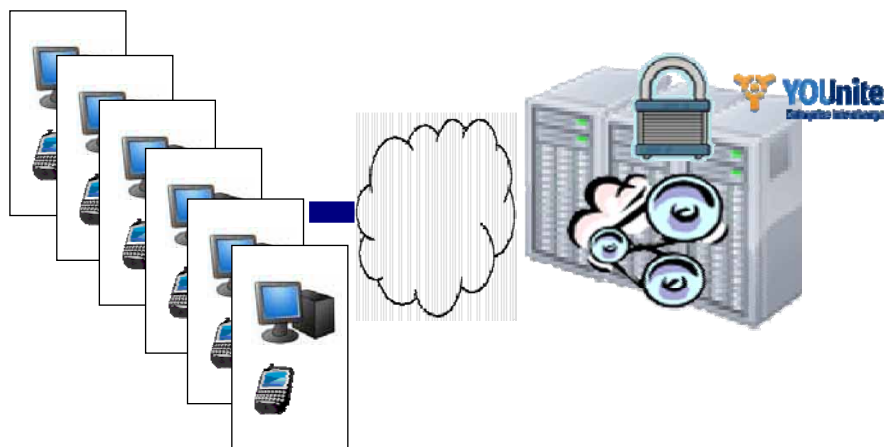


Figure 3 The Interchange becomes a permissions engine

## Proxy Clients

Client support for the Interchange is not limited to PCs, Macs, phones and PDAs, but it can also be implemented as part of a service on behalf of a community of users. When a system is deployed in this fashion it is called a YOUNite ProxyClient.

ProxyClients can be deployed inside or outside the Interchange. In the following example we see a Google GMail ProxyClient deployed inside the interchange and backup service deployed outside the interchange.



Figure 4 ProxyClients

Now transactions targeted for a user not only make it to their PC, Mac and PDA, but to their Google GMail Address Book and their backup services as well.

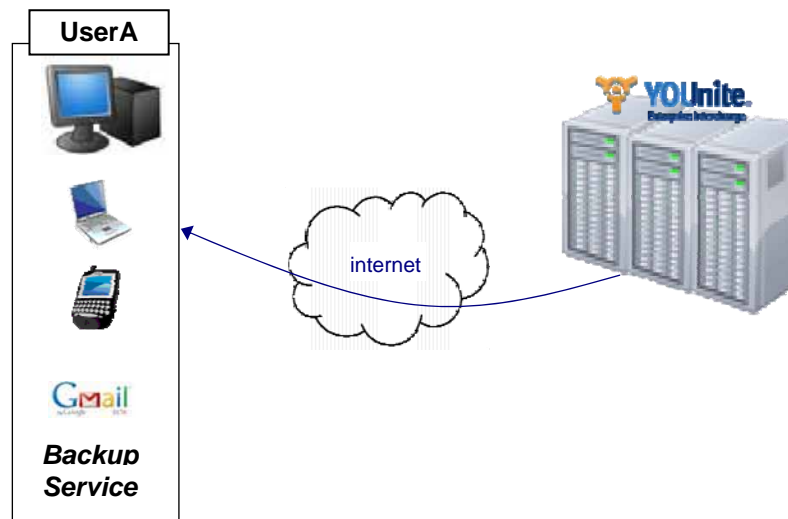


Figure 6 User's devices can included services as well

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## **Standards based Protocols Used by YOUnite**

YOUnite leverages many existing, standard protocols. Using these standardized protocols aids in ensuring interoperability between vendor implementations. The protocols used to implement YOUnite are found in use on the Internet and on local area networks everywhere. This prevalence ensures that there is a large pool of people knowledgeable in implementing and deploying solutions based on these protocols. Since the same protocols are already in use, little would need to be done to make UPnP devices work in an existing networked environment.

### **TCP/IP**

The TCP/IP networking protocol stack serves as the base for YOUnite. By using the standard, prevalent TCP/IP protocol suite, YOUnite leverages the protocol's ability to span different physical media and ensures multiple vendor interoperability.

Since TCP/IP is one of the most ubiquitous networking protocols, creating a client implementation for YOUnite is relatively easy.

A basic understanding of the TCP/IP protocol suite and services is assumed in this document. More information on TCP/IP can be found in the references listed at the end of this document.

### **HTTP**

TCP/IP provides the base protocol stack to provide network connectivity between YOUnite clients and the YOUnite Enterprise Interchange. HTTP, which is hugely responsible for the success of the Internet, is also a core part of YOUnite. All aspects of YOUnite build on top of HTTP or its variants.

Some of the explanations of higher-level protocols and the workings of YOUnite assume a basic knowledge of the HTTP protocol. More information on HTTP can be found through the references listed at the end of this document.

### **XML**

Extensible Markup Language (XML), to use the W3C definition, is the universal format for structured data on the Web. Put another way, XML is a way to place nearly any kind of structured data into a text file.

XML looks a lot like HTML in that it uses tags and attributes. Actually, it is quite different in that these tags and attributes are not globally defined as to their meaning, but are interpreted within the context of their use. These features of XML make it a good fit for developing schemas for various document types. The use of XML as a schema language is defined by the W3C.

XML is a core part of YOUnite used in server responses to client REST requests.

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## **REST**

A style of software architecture for distributed hypermedia systems such as the World Wide Web. The term is often used in a looser sense to describe any simple interface which transmits domain-specific data over HTTP without an additional messaging layer such as SOAP or session tracking via HTTP cookies.

REST is a core part of the YOUNite Enterprise API and is used in all requests and responses between a YOUNite enabled client and the YOUNite Enterprise Interchange.

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## YOUnite Enterprise APIs

Where to go to Further Your Knowledge

If applications are to be built on the services provided by the YOUnite Enterprise Interchange, the user should get all facets of YOUnite, namely:

- Information control
- Accurate information from others
- Consistent information across all devices and services

YOUnite provides a rich API for all of the above and can be used to build or create applications for controlling multiple devices, as described in the scenarios earlier. For more information, please refer to the YOUnite Enterprise Interchange API.

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## Acronyms & Definitions

API	Application Programming Interface
BLOB	Binary Large Object
DNS	Domain Name System
HTML	HyperText Markup Language
REST	Representational State Transfer
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
XML	Extensible Markup Language
Identity	Those characteristics that define an individual.
Preference	Information that relates to a specific individual which can be used to better understand an individual's likes/dislikes.
Personal Information	Any and all information which can be directly connected to or owned by an individual, such as documents, photos, opinions, written and oral conversation strings, etc.

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## Summary

Now, more than ever before, computing power is being added to smaller, more common devices. Inexpensive and ubiquitous networking media technologies are here, or are close to realization. The price drops in networking and computing power of recent years are considerable.

Data drives the digital world and there is a massive problem to be solved with keeping it accurate and controlling access to it. YOUNite was founded to not only address, but also surpass, the increased expectations of data privacy, management and control. YOUNite fully addresses and solves these problems with the introduction of YOUNite Enterprise Interchange, a platform independent, flexible, highly secure, scalable, and cost-effective solution. YOUNite technology ensures data is available, accurate and consistent across all environments. In addition, the YOUNite Enterprise provides privacy of personal content through the notion of selective sharing. YOUNite technology presents a revolutionary, patent pending means to securely distribute data as soon as it is updated.

YOUNite's vision is to create a new Global Data Management and Exchange market that will allow businesses and organizations to create global, distributed information exchanges. Using the YOUNite Enterprise APIs developers can create applications that will propagate information between multiple devices/clients, users and organizations without requiring data to be stored in a central repository. Users, businesses and organizations can choose where they want their data stored, with whom they want to share it and what they want to share down to the attribute level.

YOUNite will transform how we look at our data as radically as eBay has changed the way we think about buying goods and services, and as profoundly as Google has for finding information on the internet. It is a solution that radically reinvents the notion of personal information management.

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YOUservice LLC, a California Limited Liability Corporation, was founded in 2004 by Mr. Anthony Siress and his business partner, Mr. Mark Fitzpatrick. In late 2004, they incorporated, and funded YOUservice LLC. YOUNite, Inc. was then formed in November 2006 for the purposes of developing the patent-pending YOUNite Enterprise technology. YOUNite, Inc. is located in Mountain View, CA. YOUNite, Inc. is a Delaware "C" corporation and is a wholly owned by YOUservice LLC. To learn more about YOUNite, Inc. or the YOUNite Enterprise Interchange, visit [www.youniteinc.com](http://www.youniteinc.com).

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## For More Information

## References

### RFC 2616

HTTP: Hypertext Transfer Protocol 1.1. IETF request for comments.

<http://search.ietf.org/rfc/rfc2616.txt?number=2616>

### XML

Extensible Markup Language. W3C recommendation.

<http://www.w3.org/XML/>

### XML

Extensible Markup Language. W3C recommendation.

<http://www.w3.org/XML/>

### HTML

HyperText Markup Language. W3C recommendation.

<http://www.w3.org/MarkUp/>

### HTTP Extension Framework

Describes a generic extension mechanism for HTTP.

W3C request for comments.

<http://www.w3.org/Protocols/HTTP/ietf-http-ext/>

### REST

Representational State Transfer

Overview of REST.

[http://en.wikipedia.org/wiki/Representational\\_State\\_Transfer](http://en.wikipedia.org/wiki/Representational_State_Transfer)