

KuppingerCole Advisory Note

by Martin Kuppinger | March 2012

Life Management Platforms: Control and Privacy for Personal Data

Turning the Internet upside down and making privacy a fundamental layer of any networked interaction in the post Google & Facebook era. How the individuals will gain control. How social networks will have to adapt their business models. How privacy will return.

KuppingerCole Advisory Note Life Management Platforms: Control and Privacy for Personal Data



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1. Executive Summary

Life Management Platforms will change the way individuals deal with sensitive information like their health data, insurance data, and many other types of information - information that today frequently is paper-based or, when it comes to personal opinions, only in the mind of the individuals. They will enable new approaches for privacy and security-aware sharing of that information, without the risk of losing control of that information. A key concept is “informed pull” which allows consuming information from other parties, neither violating the interest of the individual for protecting his information nor the interest of the related party/parties.

At KuppingerCole we expect and predict that Life Management Platforms with related standards, protocols, business models, applications, etc. will be the one technology driven component that will have the strongest influence on our everyday life (and, on the other side, on enterprise infrastructures and the Internet architecture) for the next 10 years.

Some years from now, my car will be accessible through a virtual key which is stored in my private domain, together with all information relevant for the usage and maintenance of that car. This will be kind of a digital driver’s book, which would even report an engine fail to your garage if you wish it to do so (and only then). Thus, Life Management Platforms will become a key enabler for, among other things, the really connected car of the future.

Some years from now, all information required to find the best insurance will be stored on Life Management Platforms. Individuals can request offers from insurance brokers without unveiling all that data and then pick the policy which fits best - without details from each insurance company leaking to other insurance companies and without sensitive personal data from the individual leaking to insurance brokers or insurance companies he doesn’t chose.

Some years from now, Life Management Platforms will allow receiving really targeted information, based on the current personal interests, wishes and desires of a person - all the details people never will unveil in a social network or on any platform owned by a content provider.

Obviously, Life Management Platforms are far more than Personal Data Stores. They not only support a secure store for sensitive personal information. They allow making a better use of that information. The real value lies in the sharing of that information supported by Life Management Platforms.

This report describes the requirements for such a platform and the core concepts of Life Management Platforms. It provides the input all interested parties need to work on that concept - as user, as platform provider, or as service provider. Virtually all business models which rely on sharing sensitive information with individuals will fundamentally change with the rise of Life Management Platforms. That will challenge existing business models and IT infrastructures, but it provides fantastic new opportunities - not only for new business models, but also for cost savings and better service for virtually all organizations. Understanding this fundamental shift today is the foundation for successful business in the future.

2. Highlights

- Definition of Life Management Platforms as a new concept not only enabling the secure storage of sensitive personal information but enabling new ways of sharing that information with privacy and security enforced.
- List of potential use cases and business cases for Life Management Platforms, showing the huge potential of this concept.
- Definition of the fundamental concepts of interaction, the “informed pull” and “controlled push” approaches.
- In-depth description of customer challenges and organizational requirements not addressed by today’s social networks and other approaches.
- Predictions for the rise of Life Management Platforms.

3. Definition

What are Life Management Platforms? And how do they relate to Personal Data Management or Social Networks? Every time a new concept hits the market, it is about defining the scope. That definition should control the innovation in that field for quite a while.

Life Management Platforms allow individuals to consolidate all relevant data from daily life, in particular data which is sensitive and typically paper-bound today, like bank account information, insurance information, health information, or the key number of their car. Notably they are not limited to such data but support everything which should be shared with, for example, the car manufacturers, the dealers, and the garages (and maybe some other parties).

Life Management platforms support the privacy- and security-aware sharing of such information, following the concept of minimal disclosure and avoiding the loss of control of this data. They support concepts which allow sharing information with other parties in a way that avoids any data leakage, mainly based on a new concept of privacy- and security-aware apps which process information from both parties without giving any of the parties involved access to information provided by any other party without explicit consent.

Notably, Life Management Platforms are going far beyond Personal Data Stores because they not only provide a secure store for that information but a secure way of sharing information.

To further clarify that, table 1 contains a comparison of key features of Life Management Platforms, Personal Data Stores, and today’s typical Social Networks.

1. Feature	Life Management Platforms	Personal Data Stores	Social Networks
Protected information store for sensitive personal data	X	X	-
Granular Access Control for data stored on Platform	X	X	-
Information Control remains with individual	X	X	-
Secure Information Sharing with explicit consent of information owner (“controlled push”)	X	(X)	-
Apps to support privacy- and security-aware information sharing	X	-	-
Support for the concept of “informed pull”	X	-	-

Table 1: Comparison of features - Life Management Platforms go well beyond other approaches

The concept of Life Management Platforms thus is based on the combination of a “personal domain” holding all information securely and the ability to use this data in a privacy- and security-aware way. Approaches which lack either of these two core features are not understood as Life Management Platforms by KuppingerCole.

4. Customer Challenges and Industry Status

When looking at today's Internet, it becomes clear that many of the approaches we find therein fulfill the requirements of neither the users nor their counterparts like vendors, providers, and other parties. Overall, IT is driven by some major evolutions.

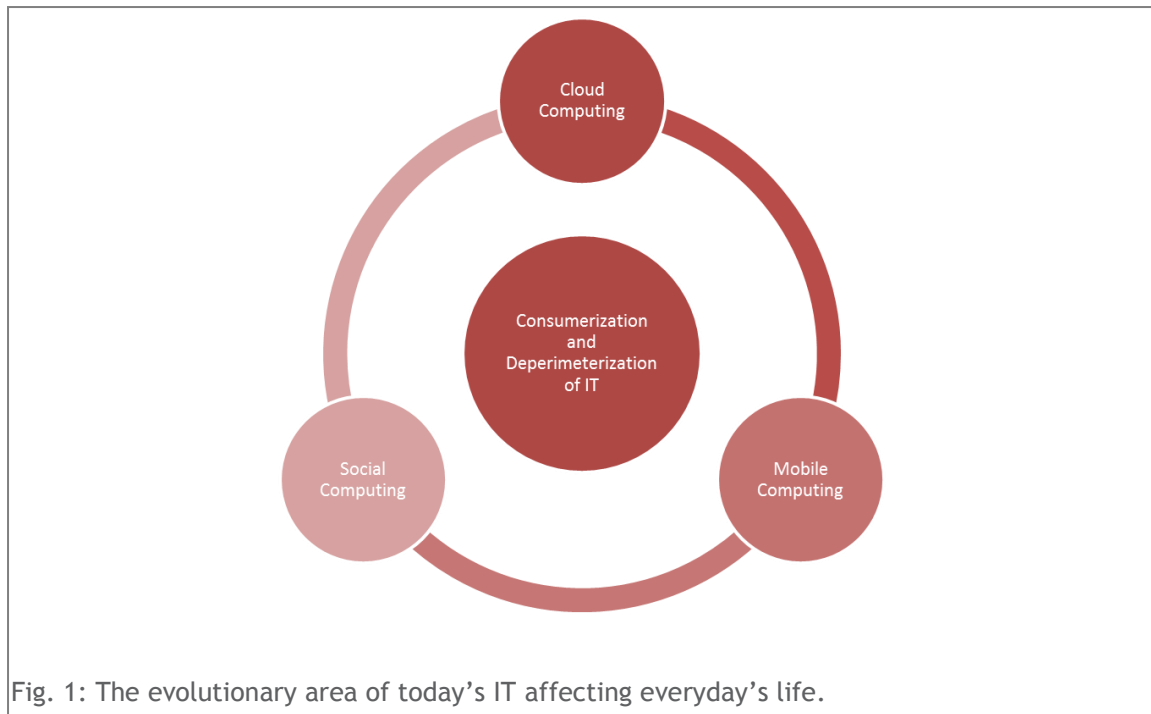


Fig. 1: The evolutionary area of today's IT affecting everyday's life.

Figure 1 shows these areas. One is Social Computing, e.g. a tighter interaction between individuals and organizations based on sharing information in some way - between publicly available information and a directed, controlled flow of information.

The second evolution is Mobile Computing, allowing access to a broad range of services via the Internet from different devices. This also pushes the accessibility of services, given that an increasing number of persons have device and network access available at virtually any point of time.

The third evolution is Cloud Computing, which in this context isn't really new. It allows for using services which are located in the Internet to store and - willingly or unwillingly - share information with other parties.

All these trends affect IT fundamentally. The consumerization and deperimeterization of IT are logical consequences. Information technology (IT) is available to virtually everyone and virtually everywhere. It is not a business-to-business technology anymore, and hasn't been for quite a while. However, all three evolutions mentioned drive the consumerization of IT to a new level. Deperimeterization is another logical consequence. Once formerly closed networks open up, there is no perimeter

anymore. That not only affects the way Information Security has to be implemented, it also means that the borderlines between different organizations and between organizations and their counterparts in the form of individuals - customers, users, tenants, citizens, etc. - are not as clearly defined anymore.

These changes drive other evolutions. KuppingerCole understands the rise of Life Management Platforms, one of the most important evolutions within the next decade, as a reaction to that evolution which is starting to address key challenges. One of these challenges is privacy, which becomes increasingly important to many persons (again). Another is the enablement of new business models in a way that users can quickly start using them without needing to worry about privacy while removing the burden of entering too much information that is widely distributed, such as all the data about your properties. A third one is the vital interest of service providers - from vendors to governments - to provide their services to their users only and not to anyone else in the public. There are more drivers, and many of them will be mentioned throughout this document and upcoming related KuppingerCole research.

4.1 Organizational Requirements/Customer Challenges

When looking at the organizational requirements and customer challenges that drive the evolution Life Management Platforms stand for, it is best to start with a look at use cases. From the perspective of today, the following are the Top 10 Life Management Platform Use Cases:

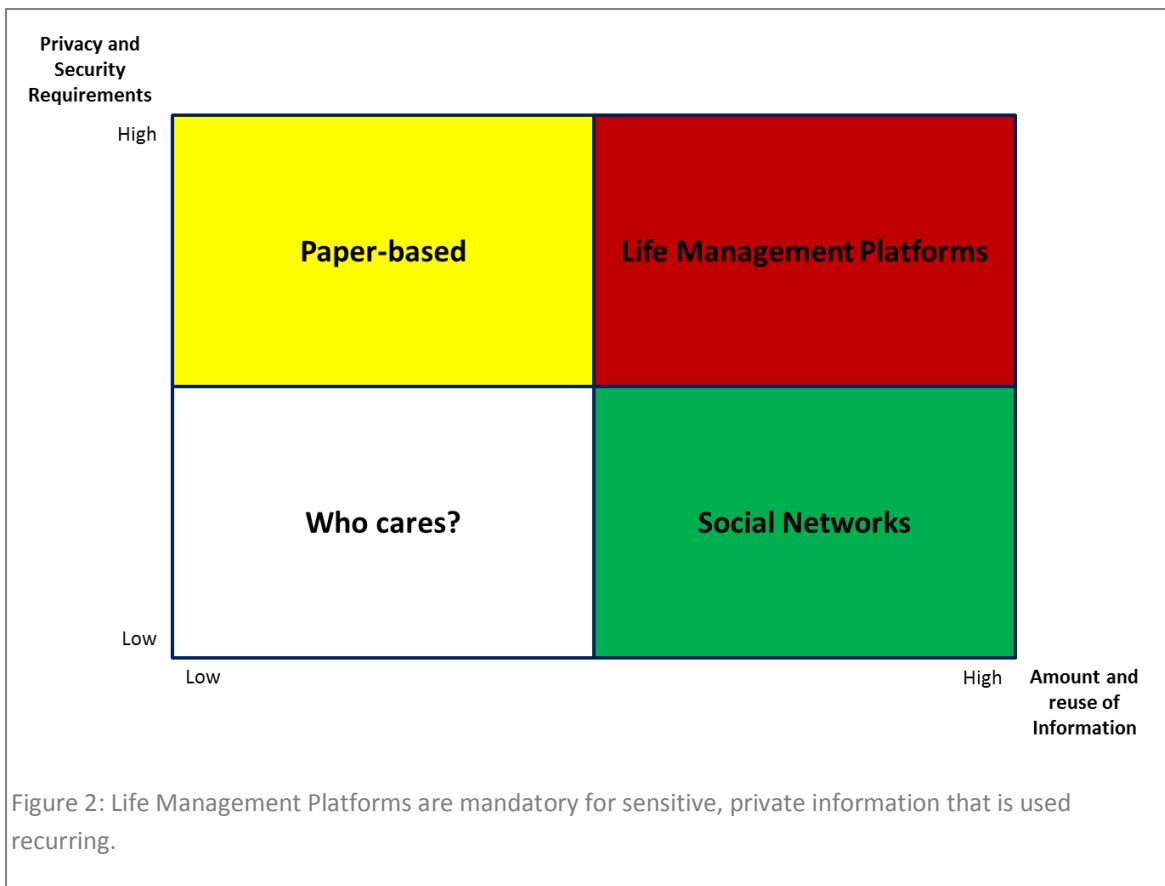
1. Virtual Salary Statement from your Employer
2. Social Insurance
3. Health Folder
4. Virtual Car Key w/ Relationship Management to your Garage
5. General Insurance Issues
6. Your Citizen Folder
7. Family Book
8. Your Tax Optimization Folder
9. Your Commercial Relationship Management
10. Your Property Folder

These use cases all are pretty self-explanatory. And they all share a common theme: They are about very important, very sensitive, private information. The information is valuable, not only for the owner but also for a lot of organizations which have to deal with the individual, ranging from the government to insurers, different types of banks and other financial service providers, vendors of services and goods, your pit stop garage, and so on. However, it becomes obvious that many people aren't willing to share all that information in the way many of today's social networks suggest that information should be shared.

And that is even true for many other use cases you might add to this list:

11. Your Family Album
12. Your Personal Interests (including the hidden ones)
13. The Preferences of your friends (as you see them)
14. And many more

When looking at the extended list, it becomes even more visible that Life Management Platforms are massively affecting the way social networks operate today. There is a lot of information in any person’s life which needs to be managed and shared. And a lot of this information has to be managed in a secure way and shared in a controlled, directed way. Some people might decide differently on some of that information. Some cultures might rate the need for privacy and security different for some of that information. However, there will be always information which is used too frequently to remain paper-based and which is too sensitive to deal with in the way today’s social networks are doing. That is where Life Management Platforms come into play: Providing the tools to manage the essential information of every person’s life and making it usable for other parties through privacy-enhanced applications, thus meeting the privacy and security requirements.



A fundamental consequence of this evolution is the “upside down effect”. The individuals decide on which information they provide to whom. They decide about what is shared and what not.

They can opt for more privacy based on future privacy-enhanced apps which ensure that only that part of their information they wish to share (if any) is given to the other side.

This will create massive pressure on existing “providers” (again in the broadest sense) to adapt the way they deal with customers to that model. Once critical mass is reached, providers have to support that model and to adapt their interaction with individuals. This will have massive impact on both business models and IT infrastructures.

From the business model perspective, this change is an enabler. The inhibiting factors, for example entering massive details to find the cheapest car insurance, will be much lower than today. Only if the insurance broker can convince the prospect about a fair offering, will he receive sufficient information to contact that prospect. This is just one - pretty simple - example of changes we will observe. Even more interesting is that the information flow might change towards a bi-directional approach, depending on the Life Management Platforms and the concepts of vendors. And this approach will ensure privacy as well.

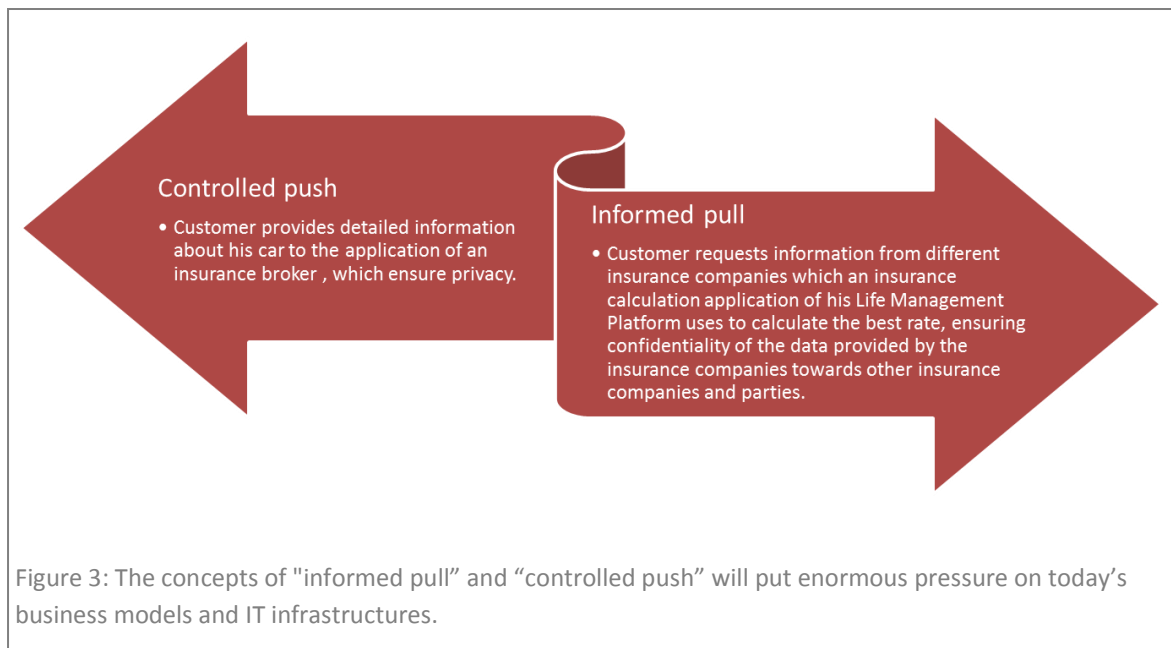


Figure 3: The concepts of "informed pull" and "controlled push" will put enormous pressure on today's business models and IT infrastructures.

KuppingerCole calls these concepts “informed pull” and “controlled push”. Both will be discussed more in detail later in this report.

From the IT infrastructure perspective, legacy applications will struggle with that shift. The more the current approach relies on an established business model which requires the customer to provide a maximum of information from the very beginning, the more likely it is to fail. And IT concepts which have no understanding of how to convert someone step-by-step from the anonymous prospect to a valuable customer without requesting too much or getting in conflict with privacy, will fail as well. Common examples of models which are not likely to withstand that evolution are both today's CRM systems and today's business analytics.

The art of successfully dealing with Life Management Platforms from a provider perspective is in fact simple: Provide services and offers that are sufficiently attractive and don't rely on knowing things about the individuals you shouldn't know or do not need to know.

When looking at VRM (Vendor Relationship Management), providing the ability for the end user to share information with vendors of choice in a controlled way, one of the most prominent but limited cases, this becomes clear. In addition, that example showcases several of the shortcomings of today's approaches including CRMs and Social Networks - and especially most of the marketing and customer interaction initiatives relying on Social Networks. VRM allows the customer to share what he currently assumes to be relevant - which might be very different from what he found relevant in the past. The other approaches try to predict what he might find interesting based on some incomplete historical information.

Organizations today (and tomorrow) need to

- Know their customer
- Interact closely with him
- Ensure that their competitors don't know too much about him and your relationship to him
- Ensure that they stay in touch with them over time, building a customer relationship/binding
- Tighten the relationships

However, if you look at today's social networks, the privacy-ignorant approach violates the third of these bullet points. If you know your customer, your competitor most likely will easily gain knowledge about them as well. With respect to the fourth bullet point, staying in touch with him quickly might become a one-way road where organizations put in a lot of effort and no one listens anymore. It might even become a dead end quickly, once the social network loses its popularity. And does anyone believe that social networks really help in a targeted approach of tightening relationships to individual customers?

When looking at the customer requirements, there are some additional challenges organizations are facing today or will face soon:

- People want to keep their life data managed in both the digital and non-digital world
- They want to ensure privacy
- They start thinking about which price to pay: Privacy or money?
- They want to control their relationships and their data

Simply said: organizational requirements and customer challenges are not only changing; they are not even being met by what is provided today.

4.2. Industry Status

That becomes even more obvious when looking at different technologies provided by “the industry” (e.g. all the ones which can take the “provider” role). Let’s start with CRM. The reality of today is:

- CRM systems are frequently isolated, neither fully integrated into ERP systems nor with social networks or anything else
- They are especially not well integrated with identities - a consistent view on the prospect, lead, and customer at every stage of the cycle is missing

If we look at the social networks of today, there are some other important findings:

- Too often too much information is leaking
- Many of them have a questionable image, especially in the EU
- They focus primarily on young users, long term interest especially of older users is questionable
- Their success depends on being either monopolists/oligopolists so that it requires too much effort for organizations to rely on them for customer interaction
- There is no stability in the market - even vendors that appear to be big and successful can diminish quickly
- Difficult integration into internal apps, risk of data leakage in the wrong direction, unreliable authentication and more
- Massive risk in case a platform becomes successfully hacked

Another approach for “interaction” with customers is online advertising (and, frequently even more limited, other types of adverts):

- Even when targeted advertising is promised, targeting per se is only limited, based on current action and not long-term information
- In particular the most interesting target groups (seniors, people with money, the ones with higher education) are reluctant regarding the Google approach: e.g., showing you trouser adverts for weeks once you’ve googled a trouser once

Many organizations also have created applications for customer interaction which allow customers to request information. Examples range from the request for the cheapest car insurance rate to offers for buying life insurance contracts and many others.

These applications also struggle with some obvious issues:

- They typically request too much information which is either sensitive or annoying to enter repeatedly
- They offer little privacy when requesting too much personal information and the user ends up with masses of mails sent afterwards
- There is no way of sharing information - the informed pull - without the risk of leaking data to competitors

There is a clear need for change. Life Management Platforms might provide the answer. However, there are few platforms available today. Some of them will be covered later in this report. Beyond that, fundamental concepts like apps supporting both informed pull and controlled push aren't there yet.

4.3 Mapping of Challenges/Status

The obvious mismatch between the industry status, the customer challenges and the organizational requirements is driving change. Besides this, regulatory compliance in several regions, especially the European Union, will massively influence the way organizations deal with privacy.

Needless to say that this is a longer-term journey, due to the need for

- Business models
- The fundamental understanding of how relationships with other parties can be managed successfully, and
- IT approaches

to change. There are, however, so many visible indicators for that change to have started that this is just a matter of time. And given the fact that many of the use cases mentioned above allow for new or improved business models, this change will happen quicker than many might expect today.

5. Trends and concepts

Life Management Platforms are, despite their immature status, increasingly visible. Unfortunately, none of the platforms of today fulfills all the requirements identified by KuppingerCole. Thus it will still take some time until we see a broad adoption of these concepts. However, there are good examples, fundamental concepts to understand, and points about valid business models which are covered in this section.

5.1 Controlled push and informed pull

As mentioned above and shown in figure 3, a key concept of Life Management Platforms will be the support of what KuppingerCole calls

- Controlled Push
- Informed Pull

These concepts are like two sides of the same coin. Furthermore they are the essence of why Life Management Platforms are far more than just a store of personal data. Storing personal data is just a little piece of the value proposition of Life Management Platforms. And just sharing this information by allowing some parties to access it without further control and without keeping a grip on that data is also not what really makes a Life Management Platform. That would be nothing more than a social network with some better access control capabilities.

The key capability of Life Management Platforms is the ability for exactly the two concepts mentioned. This is about using new types of privacy-aware apps which allow making use of sensitive information in a way that provides value to the owner of that sensitive information. Some two examples for that are:

- The insurance app mentioned before which collects current data about rates from different insurance companies and calculates the best rate based on the “virtual car key” and the related detail information about the car. It might even use information about the family status, properties, and others to find the best applicable rate. And this app neither leaks current rates of insurer A to insurer B nor leaks any sensitive information from the prospect to any of the insurance companies - unless the prospect decides to become a lead or customer of one of them.
- The eHealth app which uses the private health history to create an individual fitness program, without leaking information.

In both cases, there are interested parties. There are the ones creating the app and providing the details, knowing that they might and can participate in case a deal is made. There are the users which can rely on information that they have stored once, without being afraid of data leakage to all the insurance companies. There are the health insurers or governments who want to reduce costs in the health system. And so on. Obviously, even while no one knows everything about the others, there are business models.

However, the success of the Life Management Platforms requires such apps to be built in a secure way. The technology for doing that is available; it just needs to be done. It does require a change in attitude, understanding that masses of data are not necessarily what it needs for successful business.

5.2 The changing relationships

Life Management Platforms also will benefit from the changing relationships today. Informed customers are only one part of the story. The reality in some areas is even more complex.

A utility provider might deliver energy to a household. On the other hand, that same household might be a supplier of energy to the utility provider produced, for example, with the solar panels on the roof. The property owner furthermore might sell some energy directly to those who have rented apartments in the house.

But that's only a small part of the story. The utility provider might offer solutions to control and optimize power consumption. However, in deregulated countries, the power might be provided by another company. And so on, and on, and on. Relationships today go well beyond the classical customer relationship. They are increasingly complex. And if you just look at the utility example, it becomes obvious that there is a lot of sensitive data to handle with care. Making value out of this data requires the concept of Life Management Platforms - the platforms storing that data and enabling the apps which consume that data in a reliable way.

5.3 The value of privacy

The entire evolution of Life Management Platforms is driven also by the increasing understanding of the value of privacy. Interestingly, even the people who push the idea of the “transparent human being” don't seem to really understand this concept.

First of all, an increasing number of people request at least some privacy. The discussions about the privacy policies of Google or privacy issues with Facebook have brought privacy back as an important topic. A recent German study has shown that a significant number of persons would be willing to pay a higher price once it becomes clear that they have either to pay with money or privacy¹.

But the even more important aspect is that probably no one is willing to go for “zero privacy”. When looking at the use cases listed at the beginning of this report, probably everyone will understand at least some part of that information as private. No one will want to give full access to all details of his bank accounts, including PINs or passwords, to everyone. We don't need to speak about the hidden secrets people have - there is enough information which needs to remain private.

So the concept of “zero privacy” is an artificial concept which never will work. It is just about the borderlines between privacy and publicity. In contrast to today's social networks which try to define that borderline, Life Management Platforms allow the individual to define his own borders.

¹ <http://www.heise.de/tr/artikel/Der-Wert-der-Privatsphaere-1479651.html>

5.4 Some of today's concepts

There are several concepts and providers out there which are related to the idea of Life Management Platforms in one way or another, but this report is not about providing a market overview of this emerging market. Given the fact that Life Management Platforms have become a hot topic these days, there are also an increasing number of new players out there.

When looking at concepts, VRM (Vendor Relationship Management) is one of the most influential ones. VRM, a concept developed by Harvard professor Doc Searls some years ago, focuses on the relationship between vendors and customers. It turns things upside down in the sense of customers being in control of their data and what they want to share with which vendors. However, VRM is - by name and original design - too focused on one aspect of Life Management Platforms. Nevertheless, looking at VRM is valuable due to the (relatively) long history of that concept.

Another actor in the market is personal.com, even while they are more a "Personal Data Store" than a real life management platform, lacking the app concept in an appropriate way. However, personal.com starts turning things upside down and giving control back to users.

Another model is connect.me which is a reputation network. This is connected to Life Management Platforms indirectly in the sense of reputation becoming an important factor for trust. That helps in deciding on what to share with whom - if you share using a Life Management Platform.

One of the most advanced models around Life Management Platforms is qiy.com. The concept is 1 software, 1 credential, 1 place to manage anything personal you might want to manage with a computer. Qiy itself is a foundation providing the knowledge of personal "containers" where your information is secure and where you can use 3rd party apps to do something with your information. Apps are provided by Qiy framework members, adding trust framework capabilities to the Life Management Platform part of Qiy.

5.5 How to earn money with Life Management Platforms

All new ideas rise and fall with their business model. The entry advantage making it highly probable that Life Management Platforms will quickly reach a critical mass is not about inventing new business models. It is not even about taking business models which have been discussed for years now - but never became really successful - and creating a winning approach now - even while there are many examples which are likely to work once Life Management Platforms are established. The entry advantage is far simpler: it is about money not being spent anymore for complex, sometimes still analog and paper based processes, like for example the monthly salary statement sent to thousands of employees in different locations as a traditional postal letter. That helps reducing costs for either complex IT solutions or the paper-based processes. And it will make the fulfillment of regulatory compliance much easier, given that Life Management Platforms will ensure that this sensitive information remains private. Also, it has been shown in that report that there are multiple parties who might be willing to pay. Some potential revenue streams are:

- Fees of individuals using that platform and paying some money for the services provided by the Life Management Platform;
- Fees of companies which want to interface apps or run apps on that platform, which might be interested in connecting to a larger audience and understand the value of Life Management Platforms as a perfect way to connect with potential customers;
- Directed adverts as a concept which allows a user to decide which adverts they are interested in at a given point of time - adverts are not bad per se, they might even provide value and they can provide a higher value for both sides, advertiser and recipient, in a model where adverts are only shown to really interested persons;
- New media concepts, given that Life Management Platforms finally will allow personalized content delivery in a way the content providers always had in mind.

Thus, it is, as always, about reaching the critical mass on both sides - users (which is simple without fees) and services (which then is simple).

6. Key technical concepts

There will be a lot of different technologies involved in the creation of Life Management Platforms. Three of them are quickly covered here. Upcoming KuppingerCole reports will provide more detailed information on technologies and standards.

Personal domain - the personal domain is the area where private information is held securely, with no access for any other party. Data out of this domain can be provided to other parties based on apps and other concepts which enforce the privacy and security settings defined by the individual.

Certificateless cryptography - an encryption approach where encryption keys are not related to the individuals encrypting and/or decrypting information. Typically, the process of generating a key is split between a Key Generation center and the user, so that even if such a center is compromised, it would not harm the encrypted information.

Homomorphic encryption - this is a new concept which allows data to be encrypted in a way that still allows processing. The processed data can be encrypted again and then shows the “cleartext results” of processing. Based on that approach, the data processor has no clue about the real data but can process them in a meaningful way.

Life Management Platforms will become a driver for new technologies, like the Internet, social networks, and other big innovations have been.

7. Predictions

For an emerging market, it is always more of a hunch than a logical deduction to give predictions on when things will happen. KuppingerCole is convinced that Life Management Platforms will become a major topic soon. They will most likely become the next big thing in the Internet. The current situation with an increasing number of vendors entering that market is a very clear indicator of that.

The KuppingerCole predictions for the Life Management Platforms market are:

- By 2013 there will be first offerings for real Life Management Platforms with significant public visibility in the market (probability 75%).
- By 2014 at least one of the Top 5 software vendors/cloud providers will announce its entry in the Life Management Platform market (probability 60% for the date, probability 90% for the prediction).
- By 2015 at least one Life Management Platform will have reached critical mass (probability 70%).
- By 2017, standards for apps enforcing privacy and security will become established (probability 90%).
- By 2019, collaboration of financial services with customers will mainly rely on Life Management Platforms (probability 60%).
- By 2020 Life Management Platforms will be a larger business than traditional social networks (probability 75%).

8. Summary and Recommendations

Life Management Platforms are the next big trend in IT and the Internet KuppingerCole observes. They will fundamentally change the interaction between individuals and other parties. They will drive innovation in security and privacy.

The reason for that success is twofold: They provide a better business model for most companies than traditional approaches like proprietary solutions or today's social networks. Additionally, they provide measurable cost savings. They also enable communication with privacy and security in mind, taking into account the concerns of many users and accepting the limits of openness. So they are the real modern approach to the Internet, in contrast to what Google recently claimed.

Based on the fact that there are good reasons for Life Management Platforms to succeed, KuppingerCole expects them to quickly gain momentum and reach critical mass, with some of the largest companies in the IT market picking up this approach and supporting the concept, most likely by offering their own platforms.

Life Management Platforms will thus quickly change the way we use IT, with a far higher degree of security and privacy than the approaches of today. They especially enable users to manage every part of their life which is "digital," at least to some degree, in a better way than today. Life Management Platforms have the potential for becoming a real breakthrough in the way IT is done.

Based on these observations, we recommend all organizations (and states) dealing with individuals to thoroughly analyze this evolution and to define strategies to align to them. Life Management Platforms have a massive impact on business models, customer/citizen/... interaction, and IT infrastructures and technology. Organizations have to prepare themselves for that to not only benefit from potential cost savings but from new business models. For many areas, from content delivery to the connected car, Life Management Platforms are the #1 enabling technologies. Rarely has there been another emerging concept in IT with such massive impact on the business. And in contrast to, for example, the Internet which took tens of years to reach critical mass, Life Management Platforms are very likely to mature much quicker.

Ignoring the emerging trend towards Life Management Platforms means risking the competitive position in business. Thus, Life Management Platforms are not that much about IT - they are about the future of many of today's businesses.

9. Glossary

Certificateless Cryptography	An encryption approach where encryption keys are not related to the individuals encrypting and/or decrypting information. Typically, the process of generating a key is split between a Key Generation center and the user, so that even if such a center is compromised, it would not harm the encrypted information.
Cloud	The Cloud is an environment which allows the delivery of IT services in a standardized way. This standardization makes it possible to optimize the procurement of IT services from both external and internal providers. The Cloud covers a wide spectrum from shared applications delivered over the internet to virtual servers hosted internally.
Controlled Push	Concept for providing personal data in a controlled manner to selected parties which ensure privacy of that information.
CRM	Customer Relationship Management, an enterprise-centric approach in managing customer relationships which will have to change fundamentally in the age of Life Management Platforms.
Homomorphic Encryption	Approach for encrypting information in a way that the encrypted information can be processed in a meaningful way, providing correct results when being decrypted.
Informed Pull	Concept for requesting information of one or multiple parties while ensuring the privacy and confidentiality of that information regarding all relations between the parties involved.
Life Management Platform	Life Management Platforms allow individuals to consolidate all relevant data from daily life, in particular data which is sensitive and typically paper-bound today. Life Management platforms support the privacy- and security-aware sharing of such information, following the concept of minimal disclosure and avoiding the loss of control about this data. They support concepts which allow sharing information with other parties in a way that avoids any data leakage.

Mobile Computing	Allowing access to a broad range of services via the Internet from different devices. This also pushes the accessibility of services, given that an increasing number of persons have device and network access available at virtually any point of time.
Personal Data	All data which is personal to an individual or a closed group of individuals (like a family) and not to be shared publicly.
Private Domain	An area in which personal data can be stored and managed securely.
Social Computing	A tighter interaction between individuals and organizations based on sharing information in some way - between the publicly available information and a directed, controlled flow of information.
Social Network	An approach to connecting different individuals with organizations acting as individuals, however in typical implementations with massive disregard for privacy and security, no focus on a controlled storage or exchange of personal data.
VRM	Vendor Relationship Management, a predecessor to Life Management Platforms, but focused mainly on the customer-vendor interaction and not as broadly defined as Life Management Platforms are today.

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