MAKING A MARKET FOR DIGITAL INFORMATION:

Managing trust, identity, privacy and commerce: A framework for fostering Information Trust Exchange networks

STATEMENT OF PURPOSE

The Information Trust Exchange Governing Association (ITEGA) will launch a public-benefit, non-profit consortium for managing trust, identity, privacy and information commerce on the Internet. The Information Trust Exchange is described in the following pages. It is the product of years of research, meetings and scholarship noted and linked within Appendix B, including a May 7, 2015 meeting in Chicago.[1]

ITEGA meets needs of the public and publishers -- especially news publishers -- for trustworthy information, transparent, user-centric privacy and identity management, and financial support for the values, principles and purposes of journalism in current or future forms.

Comments on this document or proposal, including expressions of collaborative interest, including founding membership, should be directed to Bill Densmore, interim executive director, at wpdensmore@gmail.com or 617-448-6600.

DOCUMENT OUTLINE

This document contains the following sections:

PART ONE – Information Trust Exchange

[1] -- The concept and execution of the ITEGA would not have been possible without the multi-year support of the Donald W. Reynolds Journalism Institute at the Missouri School of Journalism.

- THE CONCEPT – Identity, commerce clearing house governed by a global, nonprofit consortium.
- TWO CHALLENGES – Personal data control, network purchasing
- THE SOLUTION – Federated-authentication network, microaccounting
- TWO STAKEHOLDERS – Both the public and publishers benefit
- THE STRUCTURE – Protocols for sharing, transferring user, payment data
- SERVICE ELEMENTS – Principle, features
- STRATEGIC ASSUMPTIONS – Pricing, profiles, privacy

PART TWO -- Information Trust Sharing Architecture

- OPERATIONAL REQUIREMENTS – Competitive, free-market pricing, services
- SYSTEM FEATURES – Definition and components of system
- ARCHITECTURE BENEFITS – Four parties defined
- KEY FUNCTIONAL SPECIFICATIONS – Protocols, network, attributes
- COMMERCIAL RELATIONSHIPS – Roll for commercial operators

LAUNCH PHASES

RJI is exploring the feasibility of fostering the launch of ITE services in two phases. It is proposed that RJI faciliate the first Phase, seeking the broadest possible collaboration with elements of foundation, academic, publishing and technical worlds. Phase 2 would be conducted by the management of the Information Trust Exchange governing organization.

Phase 1 -- (2015-2016) -- completed

- Track 1 – Task groups establish system goals and functional requirements
- Track 2 – Facilitate prototyping
- Track 3 – Establish initial business structure

Phase 2 – (2016-2017)

- Track 1 – Facilitate commercial launch of some services
- Track 2 – Begin transition to mature governance structure

-- PLEASE TURN TO PART ONE --

PART ONE

THE CONCEPT

Broad elements of the U.S. news industry, including newspapers, other publishers, broadcasters and pure-play digital services, should collaborate with technology, advertising and financial-service interests to support development of a shared-user network addressing trust, identity, privacy and information commerce. See: A Call to Action from 2011.

It should be a universal, privacy-respecting identity network – allowing a simple, one-account, one-bill way to pay the producers of valuable, personalized information.

Achieving this simplicity will require the coordination of publishers, content licensors, aggregators and usage trackers, a range of stakeholders currently unfocused on this collective activity. More broadly, the Internet needs a user-focused system for sharing trust and identity, arbitrating privacy, and for exchanging and settling value (including payments), for digital information. The system should allow multiple trust and identity brokers to compete for and serve users. To make a new market for digital information -- and attention – calls for convening of a unique ownership and governance framework, assembling the required technology, and assessing the impact on law, regulation, advertising and privacy.

> The ITE sanctions but will not directly operate the network elements. It will establish the marketplace but leave the conduct of it to competing private entities. Members should include foundations, universities, banks, telecoms, publishers, tech and entertainment companies, and the public.

Without encroaching on individual franchises, an Information Trust Exchange (ITE) can be an information-industry collaborative connecting news enterprises and news consumers. **It defines and governs a layer of network protocols for sharing user authentication, profile sharing, copyright payments and billing. Similar to the bank / credit-card system, the network may be overseen by a non-governmental authority on behalf of private -- and competing -- parties. The ITE can make rules for the competitive exchange of both content and users' identity information.**

ITE can help multiply the time spent with content shared among and from participating publishers, enabling revenue streams via data-driven, membership-oriented business models around news. Going beyond news and print, these streams can provide products, entertainment and services, including affinity group "clubs," special events, purchase discounts, special member access to services, contests, and referral fees for transactions.

The ITE should be initiated and supported by major technology, telecommunications, banking, publishing, advertising, consumer and philanthropic organizations. It would guide the creation of new standards and a platform for exchange of user authentication and transaction records that enable a competitive market for information – one that respects and enables consumer privacy and choice.[2]

To bring benefits of an ITE to consumers, the exchange will need to support personalization, user authentication and payment services for this public marketplace -- essentially, a shared-user network for privacy, trust, identity and information commerce. An ITE could foster a transparent, competitive marketplace for digital information, not subject to direct control by governments. It would rigorously

[2] -- See: "LINK: Soros' Open Society paper asserts privacy is the dominant issue for online media industry" (Nov. 2011 report found HERE).

respect and support anti-monopoly and anti-trust law and avoid making policy or rules respecting pricing or service offerings to the public. The ITE would sanction but not directly operate the network elements. It would establish the marketplace but leave the conduct of it to competing private entities. Members might include foundations, universities, banks, telecoms, publishers, tech and entertainment companies, and the public.

TWO CHALLENGES

While there are still pockets lacking connectivity, ubiquitous access to the Internet has produced for most of us a digital torrent so abundant, the challenge is how to adjust and trim, to turn information into knowledge that matters for our daily lives. We can use key words to search, but the answers are often so extensive and disorderedly as to still leave us uncertain whether we have found the diamonds in the rough.

Meanwhile, those who create knowledge – in news and civic affairs – are challenged to decide among advertising, sponsorship and subscriptions to receive fair value for their work.

As they move to the digital world, news organizations would like to once again be the best-possible way to receive a daily diet of information that matters. Publishers and other "content producers" also need a way to share value – to be compensated – with dynamic, variable pricing of "atomized" bits of content, remixed into services we can't today imagine. *(See Exhibit O)*. Now, people on the go want to efficiently access the broadest range of multimedia content customized to their needs -- in a few, simple actions. Achieving this simplicity will require the coordination of publishers, content licensors, aggregators and usage trackers, a range of stakeholders currently unfocused on this collective activity.

After nearly two decades of the public network, there are at least these three unsolved challenges:

- **Privacy / Personalization** – We have yet to find the right mix between machine and human curation to give us an evolving, customized, interactive window on the public network – a window which allows us to value, exchange and control – and own -- our privacy – and our "personas."

- **Payment** – As citizens increasingly seek to create their own knowledge window, they download, use and discard nuggets of content from a plurality of sources. Yet they have no way to pay for those dispersed nuggets with a single account beyond the isolated silos of music and movies. Advertising has proved insufficient to support most web-based research journalism. Two other major payment choices – subscriptions and donations, operate largely as "siloed" single-site solutions.

A SOLUTION

An "Information Trust Exchange" (working title) should establish consensus on minimum necessary open protocols to transfer information about usage and charges across a network (either the public Internet or some controlled subset). An ITE could facilitate emergence of an open user-sharing and payment protocol – either by developing the standard, or endorsing an open standard developed by an incumbent willing to share it. It could foster continuous innovation leading to collaboration around open standards. It should focus on developing the minimum necessary protocols for enabling information commerce -- protocols which do not leave a single player in a blocking position.

A federated-authentication network would allow end-users to have an account at one web service with which they can authenticate to a plurality of other services, optionally sharing

ITE a glance:

Convenience for users

- Choice of providers
- Trustworthy sources
- Deep personalization
- One ID, multiple services
- Manage 'personas'
- Persona/privacy control
- One account, one bill
- Subscriptions, per click

persona information and accruing debits or credits for information services that are periodically settled. This creates opportunities for delivering personalized, trustworthy news, and relevant, targeted advertising, commercial messages and offers.

As they move to the digital world, news organizations would like to once again be the best-possible way to receive a daily diet of information that matters. Publishers and other "content producers" also need a way to share value – to be compensated – with dynamic, variable pricing of "atomized" bits of content, remixed into services we can't today imagine. *(See Exhibit O)*. Now, people on the go want to efficiently access the broadest range of multimedia content customized to their needs -- in a few, simple actions. Achieving this simplicity will require the coordination of publishers, content licensors, aggregators and usage trackers, a range of stakeholders currently unfocused on this collective activity.

One possible solution could be a public-benefit, shared-user network enabling trust, privacy, identity and information commerce – a free market for digital information. It would speed development of consensus and guide use of standards for how journalism may be sustained and delivered. It would encourage innovation on the application of those standards, and ensure a plurality of voices.

Without encroaching on individual news franchises, ITE would be an information-industry collaborative connecting news enterprises and news consumers. It would define and govern a layer of network protocols for sharing user authentication, profile sharing, copyright payments and billing. Similar to the bank / credit-card system, the network would be overseen by a non-governmental authority on behalf of private -- and competing -- parties. The ITE makes rules for the competitive exchange of both content and users' identity information.

ITE can help multiply the time spent with content from participating publishers, enabling revenue streams via data-driven, membership-oriented business models around news. Going beyond news and print, these streams can provide products, entertainment and services, including affinity group "clubs," special events, purchase discounts, special member access to services, contests, and referral fees for transactions.

Q. Why does this have to be nonprofit?

The shared-user network is not intended to be nonprofit. In fact, the idea is to enable a vast new digital marketplace for information sharing and sale. But this author came to the conclusion several years ago that there wouldn't be any one stock public-stock company that would be able to mount a credible managemnt of this solution in the environment -- because everybody would want to compete with it. Nobody wants to go through a gatekeeper who has the ability to destroy their business. And so it makes it clear that what's needed is a system that allows multiple user owners and multiple and facilitates multiple subscription and payment schemes.

Q. How would you sustain the project after the funding expires?

A broadly-used shared-user network which enables a commercial exchange of value for advertising, news and other content could institute interchange fees similar to the Visa or MasterCard model which would readily sustain the oversight role of the Information Trust Exchange. Commercial operators of the network infrastructure, authorized by ITE, would be free to establish in the free market appropriate charges for their services. At no time would the ITE be involved in pricing or service offerings of the users of the system. It would only require income sufficient to maintain its business-rules and operating-protocols oversight role.

Q: What is required to build a shared-user network for the web?

Building the shared user network will require three activities, running in parallel, taking perhaps a year. This work could be coordinated by a contractor to the Information Trust Exchange.

Establish business rules and technical protocols governing the exchange of information among four parties to the network – (1) information seekers and their agents, (2) information providers, (3) marketers or advertisers and their agents; and, (4) The network operator or operators. The convenor of Information Trust Exchange could be funded to do this work.

Build and deploy an authentication and logging service that will allow parties to (1) exchange credentials about information seekers (2) Exchange transaction offers and acceptances (3) record and aggregation transactions for periodic settlement. Vendors could be asked by the convenor of the Information Trust Exchange to bid on this work, in exchange for a multi-year system operating contract.

Build and market software to operate on the servers of information providers as well as the agents of information seekers that is compliant with the business rules and technical protocols of the network as defined by the ITE. Vendors would do this work on a business basis.

Q: How will this shared-user network meet the needs of key stakeholders?

There are three distinct customers of the shared-user network ("network"):

1. Information seekers (and their agents) – The network gives information seekers the ability, in a trustworthy environment, to acquire information, or be paid for their attention, conveniently and without having to manage multiple accounts, passwords and interfaces. It gives them the choice, however, to affiliate with as many information agents ("InfoValets") as they like, just as we may have more than one credit card.

2. Information providers – The network gives information providers the ability to make money by selling their content to a universe of users beyond their own, without the expense and time of enrolling each of them. It's like a store that accepts a Visa or MasterCard instead of having to establish their own siloed charge-card system. In addition, they can have a uniform means to acquire demographic and preference information about users in real time as a part of a digital-information sale (assuming this is authorized by the information seeker).

3. Advertisers and marketers – The network provides an efficient, common gateway to serve native-format advertising to anonymous yet demographically targeted users, where these users are known across a plurality of websites and the targeting of them is permissioned, transparent and governed by industry rules rather than the government regulation feared by many, including former Grateful Dead lyricist and Electronic Frontier Foundation co-founder John Perry Barlow in his "Declaration of the Independence of Cyberspace."[3]

TWO STAKEHOLDER GROUPS

We might thus see two sets of stakeholders in the ITE: Those who operate the marketplace functions, and those who conduct business across the marketplace by managing users or creating and vending content.

1. NETWORK FACILITATORS, OPERATORS, CONTRACTORS

- Technology and business service providers who operate ITE-sanction services under contract with the ITE, for which they pay some relative diminimus transaction- or volume-based license fee. These might include operators of the authentication and logging services, and providers of ancillary services that must interoperate with all auth and logging services. These might include financial-service firms which do settlement on records providing by the auth/logging service, as well as entities who act as authorized agents of either publishers or end-user service providers to perform business-case services on network data. These network operators will require sanctioning by the Information Trust Exchange.

2. CONTENT PROVIDERS / USER SERVICE PROVIDERS

- Publishers/information service providers, and billing/subscription end-user service providers who wish to be authenticated across the entire ITE service network. Most of their cost would be payments to the tech and business-service providers of their choice (above) at free-market prices. But they would also be asked to pay an "interchange fee" based on transaction volume to the ITE, again solely sufficient to fund the ITE's governance and any necessary R&D. What they get for the interchange fee is a unique, ITE-wide identifier and the assurance they and their users will be "authenticated" globally so long as they respect the ITE clearing-house rules.

[3] -- In Nov., 2014, Perry recorded a video reading of his 1996 "declaration" at Davos.

BUSINESS STRUCTURE

ITE should be supported by major technology, publishing, advertising, consumer and philanthropic organizations. It should guide the creation of new standards and a platform for exchange of user authentication and transaction records which enables a competitive market for information, respecting and enabling consumer privacy and choice. Some of the same entities – especially those whose businesses will benefit – might also capitalize an ITE Operating Corp. , with the possibility of an investment return.

It should establish consensus on minimum necessary open protocols to transfer information about usage and charges across a network (either the public Internet or some controlled subset). An ITE can facilitate emergence of an open user-sharing and payment protocol – either by developing the standard, or endorsing an open standard developed by an incumbent willing to share it. It could foster continuous innovation leading to collaboration around open standards. It might focus on developing the minimum necessary protocols for enabling information commerce -- protocols which do not leave a single player in a blocking position.

An independent, non-stock organization could lead creation of this free (as in "open") market for digital information. It should:

- Initiate and build on standards for trust, identity and information commerce
- Ensure consumer choice and trust
- Enable price and service competition at all levels
- Guide the marketplace with a global perspective
- Benefit journalism, democracy and freedom ahead of private interests

ITE at a glance:
Platform for publishers

- Single-signon facility
- Data exchange for user-identity information
- Payment exchange for advertising and content value
- Rules exchange for privacy standards
- Ensures market competition on price, service, terms
- Exchange itself is a marketplace, not a competitor.

Making a new marketplace for digital information -- and attention – suggests creating a unique ownership and governance framework, specifying the required technology to be built by for-profit licensees, and assessing the impacts on law, regulation, advertising and privacy.

It might be a non-stock association, owned by its membership, whose interests may not be divided or sold except pursuant to the bylaws and whose assets, upon dissolution shall be contributed to charitable or education institutions in furtherance of journalism in conformance with the laws of its state or incorporation. It could raise money through grants, gifts, memberships and loans, and then contract with or acquire entities providing information-commerce operating services, realizing program-related income. The entity must be agile and unencumbered in negotiating and implementing relationships and it's fiduciary obligations must be solely to advance the interests of its members, and the public.

Any individual could apply to join the Information Trust Exchange upon payment of annual dues established by the Board of Directors and approval of their membership application by the Board of Directors. Members shall be entitled to attend and vote at any Annual or Special meeting called by the Board of Directors or by petition of at least one-third of the membership.

Corporate or institutional members might be divided into classes, with varying voting rights in order to assure governance of the ITE shall not be dominated by a single class. Classes might include publishing members, contributing members, technology members, participating members and supporting members. The board will be composed of members from various membership classes.

At the discretion of its board, the Information Trust Exchange might form or acquire one or more operating companies to operate services related to the ITE's mission.

The Information Trust Exchange can solve problems – has value propositions -- for publishers, advertisers and the information-consuming public.

- For the public, it creates the opportunity for access to lots of information resources with a single ID, password and account. But unlike proprietary services such as iTunes or Facebook Connect, the customer will be able to choose among a plurality of service providers who can compete over financial and privacy terms.

- It also creates a platform for affiliates to respond in a customized, personalized way to information requests, because it makes it possible for the user to offer their preference information when making an information request.

- For advertisers, it solves the problem of multiple identities for the same person, without them having to maintain any personally identifiable information or be beholden to one or two huge platform operators who hold master user accounts.

- For publishers, it creates the possibility of subscription networks through background "microaccounting" for cross-site exchanges of value and payment.

Thus the Information Trust Exchange may have the potential to be a largely self-funded effort with the potential to facilitate revenues and profits for operators. Commercial entities can make their own business decisions about how much to spend to enable and connect to the network. They can't do that now is because there is no interconnect -- a private, yet public-benefit, system of unified policy, governance and sanctions. There is no non-profit exchange facilitator which, like the Internet itself, transcends any single government or enterprise.

Each of these brings a large constituency of potential support and interest; each are possible in an integrated approach to the sharing of data about users and transactions. A system to do any three, strategically designed, can do the other one as a byproduct.

The ITE premise is to define an architecture, create protocols and interfaces, and accompanying business rules -- then contractually partner with technology companies prepared to build ITE-compliant networks that share user data, content and payments. As the profit from the system is designed to go to the operators and affiliates rather than the ITE, we believe operators could feasibly finance their technology and infrastructure investment and pay network fees to the exchange.

The Information Trust Exchange, whether chartered as a non-profit association or a co-operative, would not compete with its members in news or advertising, because it is proposed not to be a direct operator of anything – rather, it will develop standards, protocols and business rules, and license operation of authentication and logging services – data exchanges – by one or more private, for-profit operators.

ROLES FOR AN ITE ORGANIZATION:

- Establish governance structure
- Facilitate board formation, membership
- Fund protocol and standards development
- Research, test, commission key technologies
- Create voluntary privacy, trust, identity standards
- Protect privacy: Anonymous, yet trusted users
- Sanction protocols for sharing users/content and license their use
- Sanction multi-site user authentication services
- Facilitate web-wide microaccounting/subscriptions
- Support "atomized" content, wholesale/retailing pricing

- Broaden "deep web" access; not on web today
- Enhanced-CPM, precisely-targeted marketing
- Enable consumer choice for commerce, privacy
    - One account, one bill, one ID, purchase anywhere.
    - But no single owner of all users

DELIVERING FOR THE PUBLIC

- PRIVACY: Protect, share demographic and usage data
- PERSONAL: "Persona" yields custom information
- CHOICE: Many "info-valets," price/service competition
- RELEVANCE: Ads more effective, direct compensation
- CONVENIENCE: Easy sharing, selling, purchasing of online content; one ID, one account, one bill

Result . . . TRUST.

The role of co-convendors

ITEGA seeks to attract institutions such as the NetGain coalition of foundations, Mozilla, Digital Content Next and othrs as co-convenors of the exchange. As a seeding organization, theDonald W. Reynolds Jouranlism Institute, over several years:

Surveyed of news- and information-industry leadership
Convened five meetings of four task groups
(3) Adopted a mission
(4) Drafted proposed exchange rules and functional roles \
(5) Incorporated the ITEGA
(6) (5) When and if necessary, incorporate the Information Trust Exchange, and (6) Serve as interim manager or co-manager of the ITE. The ITE should then (7) Encourage private entrepreneurship and for-profit industry collaboration on new products and services operating across the ITE.

The ITEGA Board of Directors, staff and steering committees will work with the public to identify legal, technical, management and philanthropic advisors with potential experience appropriate to enable exchange services. They will consider how it could be governed, and connect with potential for-profit operating partners and licensees. It should assemble a team to refine the initial mission, rationale, objectives and value propositions.

In doing its work, directors and their designees will study and perhaps connect with initiatives that may offer opportunities to endorse or learn from services that will help definite or build ITE services. Some examples discussed in this report include:

- SECURITY -- The use of SAML/Shiboleth by the Internet2 consortium to achieve single-sign-on convenience across 100 universities and research services.
- CONTENT – The experience of The Associated Press and the Public Media Platform by NPR/PBS and others to standardize the tagging, discovery and use of multimedia content.
- COMMERCE -- The non-profit TrustX and DigitTrust initiatives to create a single digital identity for users and reduce the use of so-called "third-party cookies."
- IDENTITY -- The Knight-Mozilla Open News collaboration with *The New York Times* and *Washington Post* to develop an alternative to Facebook Connect.
- PAYMENT -- The business models of formative content payment networks such as TinyPass, Piano Media/Press+, MediaID, Blendle, Clickshare – and potentially ApplePay.

Through its research, RJI has identified legal, technical, management and philanthropic advisors who might have the experience and knowledge required to create the ITE, establish its governance, and connect it with critical for-profit operating partners. It is anticipated that the cost of building operating infrastructure would be born by for-profit partners and licensees . All that's needed is founding-member capital, and a hosting institution, such as RJI, to provide logistical support. A first-year funding goal of $310,000 is proposed, (A go-no-go milestone is at approximately $50,000) with the intention that the ITE

be self-sustaining thereafter through dues and licensing fees, assuming a governance (rather than development) role over the web's new trust, privacy, identity and information commerce infrastructure.

SPECIFIC ELEMENTS OF THE SERVICE

Operating principle

If your enterprise want to "own" and get data about a user, you have to maintain an account relationship with them which makes you accountable both to them and to the ITE's rules. Otherwise, they are anonymized to you as a content-vending publisher. You know only their service class, their home-base service provider and perhaps some other attributes shared on a "permissioned" basis.

Operating features

1) Every click across the network that involves an exchange of value (a payment for an article or a reward for viewing or doing something) is logged to an authentication and logging service, which is seen by the system participants as a "central shared service" although in network practice it may be distributed and hierarchical as with DNS.

2) The logging service knows the user only by a unique alphanumeric identifier supplied by the user's "home base" at the start of that particular session. As a matter of policy, the logging service shall not sell or provide clickstream data to ANYONE and provides it only to the user's home service provider for their purposes (and for audit purposes to the publishing content provider if requested). The identifier -- to anyone other than the home base itself -- reveals nothing more than the identity of the user's home base.

3) There may be a plurality of home-base account managers in the service (as there are thousands of home bases in Shiboleth/Internet2), providing end users a high degree of choice regarding business terms, especially as to identity and privacy.

4) At settlement time, the settlement service bundles all the clicks -- sorted by home-base of the users on the one hand and by the vending publisher on the other hand -- and determines an aggregate debit or credit to charge the home base and an aggregated credit or debit to charge the publishers (note that a "publisher" could be a brand which is paying for a user to view a commercial message). This all is done periodically -- daily, weekly, monthly -- probably weekly in prototype -- across the bank ACH network.

5) The home base gets these bundled log reports and is free to sort them or use them as they wish (subject to their terms of service with the end user as to usage and privacy protection or not); in some cases there may be a discrete charge or payment to the end user for a particular access; in the vast majority of cases, one supposes, the home base will use the click-stream reports for demographic, marketing and business-model analysis but the end user will merely be paying a monthly subscription for some class of service.

6) The publisher (or information service provider), also gets bundled log reports of total usage so they can audit their payment or receipts, and the only sorting they are capable of doing is by the source of the end-user (i.e., their service-provider ID). Conceivably they might have methods to associate these anonymized usage reports to specific users, but the ITE would be in the business of making business rules governing this practice and the rules would be enforceable by anything up to the

ultimate sanction -- cutting the offending information service provider off the system.

7) The provision for non-regulatory sanctions is one of the reasons why the governance and ownership of the service is so critical. The cutoff decision has to be the result of well-documented interchange rules (consider Visa as a model in this regard), and the entity making the decision has to have no competitive business interest one way or the other but rather ony an interest in the fair administration of the service and due regard for evolving identity and privacy rights of end users. Hence, the need for a non-governmental and non-investor-owned entity with a mission to efficiently oversee and operate a service and not profit from it. Profit is for the publishers and service providers who use the service.

STRATEGIC ASSUMPTIONS

- STANDARDS -- While the number and independence of original news producers is an important element of a diverse press, the lack of collaboration on digital-media standards for sharing users and content value is impairing support for journalism. Collaboration on network sharing protocols and business rules is therefore essential to sustain competitive, independent journalism.

- PRICING -- The value of news objects vary widely based upon their timeliness, topic, type (long, short, investigative, narrative, spot, trade, MST) and application. News objects (stories, video, multimedia) increasingly are disengaged from publisher packages by aggregation and "atomization." Therefore, royalty-owning publishers need a way to assign and transfer value (pricing) of individual objects across a sharing network. A royalty-pool model fails because it removes value assignment from the original publisher. Consequently, a system must respect the pricing set by originating publishers (at wholesale), while allow the free assignment of pricing at the consumer (retail) level. Content objects must be available for sale on a bundled, subscription or *a la carte* basis.

- PRESERVE SILOS -- Nothing will restrict or inhibit a participating affiliate or publisher from continuing to operate within their own or other's user-management or value-exchange sharing services. A good analogy might be to a department or big-box store that accepts Visa or Mastercard, but also continues to offer its own store revolving credit card.

- PRIVACY – To gain marketer/advertiser participation, the Information Trust Exchange must support mechanisms for aggregating and sharing demographic, interest and preference data about individual users upon transparent terms acceptable to the individual. This calculus inherently raises issues of personal privacy for end users.

Nothing will restrict or inhibit a participating affiliate or publisher from continuing to operate within their own or other's user-management or value-exchange sharing services.

- REMOTE USER SERVICE – Publishers using the ITE system will be willing to sell information resources to anonymized incoming casual or "drive-by" users (a la "newsstand customers") at a reasonable price they establish, without knowing the identity or detailed information about these "guest" users.

- PROFILE DATA SHARING – ITE service providers who establish accounts and manage the persona and privacy of their users will be willing to share some demographic and interest information about their users to third-party publishers as a condition of those publishers being willing to provide services to those users.

Collaboration and silos – Google's view

An important design criteria for the protocols – nothing should stop a participating affiliate or publisher from continuing to operate within their silo. A good analogy might be to a department or big-box store that accepts Visa or Mastercard, but also continues to offer its own store revolving credit card.

To be blunt about it, Apple is not going to play in a new ITE ecosystem if that ecosystem requires Apple to shut down the iTunes store or alter fundamentally how it operates. Ditto with Amazon and with Facebook Credits and Connect. The ITE protocols have to be additive to these businesses -- a way for them to expand from their three-party services into a true four-party trust network.

Worth noting again here is Google executive Chairman Eric Schmidt's comments in May, 2011, when interviewed by Kara Swisher and Walt Mossberg. Generally Internet infrastructures are open and multiple players can participate, Schmidt said. In that context he saw it as not a good thing that the identity space is practically being managed at this point by Facebook Connect. And he observes that it would be a good idea if that was done in an open networked, collaborative way with a bunch of companies doing it. (See: http://tinyurl.com/43g3xyo) So here you have one of the biggest web players understanding the need for a

Analogous to Visa, MasterCard or the phone companies?

What is proposed is similar in some respects to the Visa/MC model, but in one key way it is more like the way the phone companies settle their calling traffic -- they settle aggregated debits/credits among each other based on numbers of calls exchanged -- but their consumer customers may be paying for minutes in bulk. The system tracks every call because that is necessary even to provide unlimited calling packages to the public. This system as described permits a plurality of subscription packages with pricing as in a free market for digital information -- set by the service provider who holds the end-user's account, and also set by the publisher who wants pricing control over their content.

So in this system, Big Brother is blind for other than session authentication and billing purposes . . . If your enterprise wants to "own" and get data about a user, you have to maintain an account relationship with her which makes you accountable both to her and to the ITE's rules.

Where those two come together -- content sold at wholesale and subscriptions sold at retail -- is where the business opportunity lies -- arbitraging the cost of content against the subscription charge. Actually that's the same thing newspapers did -- arbitraging the cost of syndicated content, wire service and original reporting and advertising production costs against what was charged advertisers and subscribers. It seems simple and obvious today because it settled out over a 100 years or more. It's what every business figures out -- how to mark up your ingredients to make a profit at retail. We simple have to work out the arbitrage in this new world. This system provide the mechanics; the arbitrage is up to the market.

So in this system, Big Brother is blind for other than session authentication and billing purposes.

--- END PART ONE ---

PART TWO

The Information Trust Sharing Architecture

We now propose the Information Trust Sharing Architecture (ITSA). It draws significantly upon the proposals of both Buzz Wurzer and Bill Anderson[4] in 2012 and 2013. In some ways, it is conceptually similar to Clickshare Authentication and Logging Service, described in two United States patents.[5] It begins with a set of value propositions continues with functional specifications, and ends with build-out steps.

The ITSA should facilitate:

- Technical protocols for sharing users, content and payments
- Control for users over their demographic, financial and personal data
- Other features proposed at "Blueprinting the Information Valet Economy."

System attributes

A. Visa/telco analogy
B. Some specific system elements
C. Two stakeholder groups

OPERATIONAL REQUIREMENTS

- NETWORK SUBSCRIPTIONS – The service should allow publishers to be paid for providing digital content across an ITE network without having to have one-off relationship with each reader/user.

- DYNAMIC SERVICING – Publishers offering their content should have real-time personal, demographic, preference or interest attributes of a user/reader at the time the user makes an online/mobile request for information, so they can respond with targeted, customized messages or services.

- MICROACCOUNTING -- Publishers should not be required to participate in operations which "pool" royalties. Rather, a feature of the service should be census-type (vs. polling, pooling or sampling) logging and aggregation of billable content requests, with clearing-house settlement of payments and credits among publishers and user-account managers.

- WHOLESALE-RETAIL PRICING – Publishers shall be able to use one or more methods to establish the price they wish to receive (and be assured of payment) for a discrete digital object (or bundle), and be able to vary that price dynamically in real time based upon the attributes of the user requesting the object.

[4] -- Buzz Wurzer is a retired Hearst Corp. executive; Bill Anderson is a retired Seattle SeaFirst bank CTO.

[5] -- http://tinyurl.com/2wtlpu / http://tinyurl.com/2ukwj4 / http://tinyurl.com/csc-patent-2013 / http://tinyurl.com/csc-patent-news / http://newshare.com/disclosure

- ONE BILL/ACCOUNT –The service will enable a user/reader to have one bill/one account/single sign-on access to information from (virtually) anywhere, by subscription or by click/action?

- UNIVERSAL TRACKING – In order to gain the participation of publishers and advertisers, the system will enable a user's activity to be tracked across the ITE network and that activity aggregated – only -- to the user's home-base service provider for billing and analysis – contingent upon explicit permission of the user.

- CONTENT PACKAGING – In order to gain the participation of end users, publisher and billing-service users of the system should be able to facilitate custom assembly by the end user of information services from a variety of topical and geographic-oriented sources into personalized subscription packages.

- FREEMIUM vs. FREE – In order to gain participant of both privacy advocates and the advertising industry, the system should allow the public user to chose among a range of options from (1) no advertising and no disclosure or use of their tracked activity in a subscription-based approach to (2) receipt of highly customized commercial messages and the wide, background marketing of their information preferences in a rewards-based program approach.

- SUBSCRIPTION OR PER-CLICK – In order to satisfy the requirements of a plurality of publishers and service providers, the service should offer end users both sale or receipt of digital items within a pre-paid subscription package -- as well as being able to dynamically query the user if they want to purchase a particular resource on a one-time, one-item basis.

SYSTEM FEATURES

The ITE protocol would create the opportunity for a new kind of entity which would help consumers manage their personas across a variety of information services – some paid and some that pay, or reward.

What do we mean by a "shared-user network"? In Dec., 2008, a group of 45 news-industry experts met at the Donald W. Reynolds Journalism Institute and collaborated on this definition:

> *A computerized, community-based ecosystem that enables consumers to opt-in to convenient, secure and private information exchange with trusted providers of online content, products and services where the relationship value of the consumer is captured and married to optimized positioning of seller offerings.*

Components:

- Enrollment/registration processes that screen (and protect) users
- Creation of secure credential with user-set privacy levels
- Downloadable(?) single sign-on capability for participating sites
- User-created and updatable profiles of preferences, interests and demographics
- Certification of trusted providers and participants
- Ability to match dynamically-specified buyer interests with customized seller offerings
- Transparent payment capability with user-specified ways to pay
- User-defined rewards that can be collected among user-specified provider participants
- Visa-like payment engine/network/capability to slice-and-dice payments, establish and enforce rules, handle problems, service customers, provide reports, administer licenses/IP, etc.

Networks tend to develop as silos and then interconnect because of the resulting efficiencies for their users. Railroads developed a standard gauge and connected their tracks so freight and passengers could move in an uninterrupted fashion. Continental power grids use the rate of phase change of their alternating current (60 cycles) so they can share electricity back and forth.

Banks who once had independent ATM networks now allow their users to withdraw funds globally (OK, for a fee, but the technology is standardized) because getting at your dollars in Massachusetts converted to Euros when you are in Prague is a real convenience, even if it costs $3.00 to do so.

These are "shared-user" networks – railroads, power grids, bank ATM networks – because they allow the sharing of goods and services without technical barriers – and in the case of the ATM networks, the sharing of users. But right now, when you log into a website to transact, it's a one-off relationship; each site with a different account. That's not so bad for commerce, but when it comes to buying information of small value, it's a terrible impediment. We have a separate log-in for each news or timely information source we visit, if they require a subscription. That's just not user friendly.

So on the web, a shared-user network will allow users to have one account, one ID, one password (or set of authorizing identity credentials) and one bill, and have access to multiple resources from different sites or applications. The network will have rules which govern:

- Trust – So you know the service you're using is reliable and credible.
- Identity – So the information providers you access know enough about you to be able to provide you the right information at the right time for the right price.
- Privacy – So you can be in control of how information about you and your interests is stored, shared and used, and by whom and for what purpose.

Information Commerce – So that participating information providers can establish their own pricing for their services, and can sell those services on the network without having to establish a one-to-one relationship with you as user. Your credentials will be vouched for by the network and the network will assure payment.

If a publisher chooses to become a service provider, then they get access to all of the activity of their OWN users across the network, giving them, in effect, "First Party" data vastly broader than they have access to today -- but only for those people they have account relationships with. This provides a hook for accountability as to use of personal data, and a hook that can be audited by the ITE administration if necessary.

1) System tracks all clicks (that involve value exchange) in background, aggregating them, settling aggregated value exchange.
2) Each user service provider gets clickstream data about their users which it can use subject to Terms of Service with the end user. Their TOS is auditable and enforceable by the ITE as a condition of system membership.
3) Publishers (content providers) do NOT get identifiable information about any user (at least not from this system); they just get assurance that the person is authorized to view the resource requested and that, if money is involved, the money is going to be handled and they will get or give what they expect.
4) This does not stop publishers from setting their own cookies or doing other things to identify users, unless or until the Information Trust Exchange prohibits such behavior as a condition of membership.

KEY FUNCTIONAL SPECIFICATIONS

Technically, ITEGA supports:

- ITEGA PROTOCOLS -- A set of technical protocols and business rules which govern the transfer of specific information across the public TCP/IP network (Internet) among and between (a) diverse point-of-service (POS) devices, such as laptops, smartphones and tablets and (b) network members, including content providers (CP) and end-user service providers (USP).

- ITEGA NETWORKS -- Special-purpose networks that securely transfers information among and between network members, including content providers, end-user service providers, network operators and network service providers.

Here are key requirements of the protocol and the network:

Protocol requirements

The ITEGA protocols must support:

- Standardized transfer of a unique, non-repudiatable user identifier, assigned by a USP, in real time, when a user makes an HTTP request to a CP across a TCP/IP public network, for a unique resource.

- Standardized transfer of a set of end-user attributes, along with the above request, sufficient to permit decisions to authorize or deny access to resources based on a variety of parameters, such as a subscription, ability or willingness to pay, age, membership or the like.

- Real-time query and reply to confirm desire of the end user to acquire the resource based upon its cost, value or other attributes.

ITEGA-compliant networks should support:

- Real-time authentication back to their USP of a user's credentials and rights upon making a resource request of a CP and prior to serving the request, whether the request is to the CP's servers or to any Network Content Repository (see below).

- Logging of services provided by unique user, resource provided, and any negotiated and confirmed value of the event. The event could involve serving news content, or sponsored content ("advertising") with the value exchange recorded in either direction.

- A provision (internal or outsourced) for storing and indexing news content uploaded by members in any Network Content Repository.

- The ITSA network services includes programs that:

    a) Store and index news content
    b) Distribute messages about the content to the members

In summary: The end user becomes a subscriber to an individual exchange member's news service and from then on the consumer can access any content in the exchange's repository or on the servers of other exchange-member content providers.

c) Control access to the content, allowing for news search, accounting for each individual access, accounting for the due-from and due-to payments cycle and act as the intermediary to an all-new internet payments system.

Information about end-user identities are known only to the end-user's service provider (USP). The network system only knows users by a standardized unique alphaneumeric identifier.

In summary: The end user becomes a subscriber to an individual exchange member's news service and from then on the consumer can access any content in the exchange's repository or on the servers of other exchange-member content providers.

The ITEGA infrastructure takes care of all the accounting needed to get the payment from or credit to the consumer's home-base service provider to the appropriate content provider (publisher or advertiser) through a process of periodic aggregation and settlement of transactions. the original content owner (or the payment from the advertiser to the end-user's service.

Building a user "persona" and content attributes

The network protocols and business rules specify attributes and three areas:

A. User identity and profile attributes
B. Tagging of digital content for pricing and royalty management
C. Tracking and settlement of value exchange (payments, credits)

Higher tiers of authentication would involve collaborations within the health-care industry, banking industry and government, among others.

Key field attributions

A. User identity and profile attributes

ITEGA networks facilities the transfer of the following identifiers for each request made by a user for resources across the network:

Network-level attributes (accompany all requests)

1. UserID – A globally unique attribute which includes the user's home-base host ID. This is the minimum attribute necessary to log access records for payment or credit and is analogous to a credit-card number.

2. One or more customer-group codes to identify user assignment to specific groups for publisher- or service-provider proprietary purposes.

3. A service-class to define eligibility of the user for specific levels of pricing, content or services

4. The content server ID of the publisher supplying content and optionally requesting a royalty payment ("PubMbrID")

Preference-level attributes (accompany and constraint all requests)

5. Other flags regarding preferences for: (a) privacy (b) parental control (c) advertising viewing preference (d) do-not-track

Identity attributes (optionally shared with request)

6. Identity attributes available for sharing (or not) depending upon privacy preference (above), include user-supplied nickname, email, fullname, date of birth, genderl, postal code, country, language and timezone

Business attributes (optionally supplied with end-user permission)

7. A vending publisher may request other business attributes of the person and the person's home base may or may not supply the attributes based upon the user's expressed privacy preferences. The attributes may be stored and supplied in formats developed by Schema.org (http://schema.org/Person)

EduPerson attributes (optionally supplied with end-user permission)

8. A vending publisher may request other Internet2 "eduPerson" attributes of the person and the person's home base may or may not supply the attributes based upon the user's expressed privacy preferences. The attributes may be stored and supplied in formats developed by Internet2: http://www.internet2.edu/media/medialibrary/2013/09/04/internet2-mace-dir-eduperson-201203.html

Interest identities and topics

9. A vending publisher/marketer may request from the user's home-base service provider attributes related to any topical "interests" and "identities" stored in the form of key words or phrases depending upon the user's privacy preference.

B. Digital content tags for pricing or royalty management

The ITSA also will provide a schema for vending publishers to XML-tag royalty- or price-identified content which will be recognized and respected by user service providers, and logged as necessary for financial settlement. **Thus content can reside anywhere on the network and the rights owner will be paid for use.** Among basic content attributes are:

1. The creation date/time in YYYYMMDDHHMMSS format.
2. An expiration date supplied by the original content producer in the same format.
3. The PubMbrID of the creator or publisher entitled to royalty or payment.
4. A optional Digital Object Identifier (http://doi.org)

C**. Tracking/settlement of value exchange**

Finally, the ITSA provides a schema enabling the negotiation and computation of value exchange. The table invoked will depend upon whether the resource is chargeable content, or sponsored content (including advertising).

5. A variable table of royalty payments (or a key to a master royalty-payment schedule) used to compute the charge to the user's service provider upon the digital vending of the resource depending upon use, service class and other custom factors.

6. A variable table of credits paid to user's service provider upon the end user's viewing of a digital resource, depending on level of use or interaction.

7. A retail "Markup Ratio" in use by the User Service Provider which is provided to the content-serving publisher in real-time so that if the end-user is to be shown the object's price before purchase, the price show will be "retail" not "wholesale." *(See Appendix A)*

COMMERCIAL RELATIONSHIPS

During Phase 2, ITEGA would begin to seek to license for-profit affiliate members who will provide these services at a Tier 1 level of authentication, to seed the network in the publishing space:

- Enable web users to access, share, sell or buy paid content from multiple sources by means of a secure account with a single ID, password, account and bill.
- Provide web users with absolute control over a digital identity with respect to accessing, sharing and purchasing news and information content, and other uses.
- Find, spotlight, aggregate and share content.
- Create a news social network that operates through news and information content web sites at all levels from local to international.
- Create a means to deliver contextually-relevant content recommendations to network members
- Provide easy, low-cost, copyright-respecting access to "Deep Web" and other content stored behind pay, registration, membership and once-proprietary barriers.
- Enable the delivery of precisely-targeted advertising and other commercial content relevant to a reader's expressly shared demographic profile, social networking connections, ad content preferences and browsing history.

Enable a system allowing site users to earn cash or rewards for engaging in a variety of potential interactions with commercial entities.

APPENDIX A

PRICING – WHOLESALE-RETAIL

A frequent question posted by interviewees involves pricing. If news organizations are going to share users, and share content, who is going to be in control of pricing? *(See Exhibit O)* The answer: No one person or entity. Some examples:

- Airlines benefit from a common air-traffic control system and they share airports. They fly similar aircraft made by the same companies. But they compete on pricing, many routes, and most aspects of service.
- Thousands of companies float their stock on major exchanges. The price of their stock is subject to near absolute competition for investors' dollars. Yet they also use common bidding, trading and settlement systems.
- Online advertising exchanges work in milliseconds with demand-side and sell-side platforms to match willing advertisers with willing publishers and aggregators to deliver "impressions" to interested consumers. Prices range dramatically, as do the content and form of the advertisements.

As the profit from the system is designed to go to the operators and affiliates rather than the ITE, we believe operators could feasibly finance their technology and infra-structure investment and pay network fees to the exchange. Thus our premise is that infrastructure and other startup costs born by the ITE manager will be less than $2 million. "The thing is if you get this up and going one could actually turn to venture capital firms to expand the market once the idea is well put together," says Robert Picard, of the Reuters Institute. "That is not an impossible idea. The infrastructure that goes behind it could be completely commercial. It could be newspaper and news organizations or media investors."

When you click on that article as a *New York Times* user, the exchange should record a payment to *Le Figaro* of five cents and record a charge to *The New York Times* of five cents. But whether you as a consumer ever pay anything other than that extra $1 -- ought to be up to *The New York Times*.

But what if you added to the mix the idea of wholesale-retail pricing, just like in the real world? If General Electric Co. makes a toaster oven and sells it to Wal-Mart Stores Inc., Wal-Mart then decides how to price the toaster. Think of the Internet market for information as like a Wal-Mart store. The retailer – your preferred publisher or service provider – is responsible for billing you and paying for what you buy from his or her store. Then, they go pay the originating publisher – the wholesaler – for the items you purchased -- to make up your personalized information bundle. And imagine, as with the advertising exchanges, that this happens instantly. The originating publisher, if it knows something about you, might vary the offer (price and terms). Your home-based publisher, the retailer, might chose to give you some of the items as part of a package, and ask you to pay for other pieces a la carte. Unlike Wal-Mart, the inventory of a digital information retail store doesn't need to be shipped or stored in bricks-and-mortar fashion. It can be sought, priced, sold and consumed in milliseconds.

All that's needed to make such a system work is a standardized method – a set of protocols – for exchanging information about users and logging -- to a common place -- the cost of what is purchased. A useful feature might be the ability to aggregate many small purchases that are charged periodically – making efficient use

of financial-transaction networks like the bank Automated Clearing House (ACH) networks and avoiding relatively steeper credit-card interchange fees.

Imagine this scenario: *The New York Times* might send you an email and say for an extra $1 a month, you get 10-15 clicks per month from a set of French language publications. It's just $1 a month and you'll have that Francophile bonus. What would happen when you click to an article at *Le Figaro*? They would have some price they had set on that article – maybe it is five cents (converted from Euros). When you click on that article as a *New York Times* user, the exchange should record a payment to *Le Figaro* of five cents and record a charge to *The New York Times* of five cents. But whether you as a consumer ever pay anything other than that extra $1 -- ought to be up to *The New York Times*.

If you have a system where the parties on a business-to-business basis agree to pay the cost of people surfing within the system, then all it becomes is a strategic business exercise how much *The New York Times* should charge you per month. *The Times* might do this for awhile and find they are losing money by just charging you $1 a month, so they might come back to you and raise the package to $2 a month. Or maybe it has a cap on it of 30 clicks per month -- then you have to pay more.

One can't presume to guess how all those things will work out. What we need to create is a system that enables all of that and then allows the free market to operate as it does so well –- which is to have pricing and packages find their equilibrium. What is described is a free market for digital information – a economic libertarian's delight! But don't we need to start by enabling those kinds of capabilities?

Apple is not going to play in a new ITE ecosystem if that ecosystem requires the company to shut down the iTunes store or alter how it operates. Ditto with Amazon and with Facebook Credits and Connect. The ITE protocols have to be additive to these business – a way for them to expand from their three-party services into a true, four-party trust network.

END OF DOCUMENT