

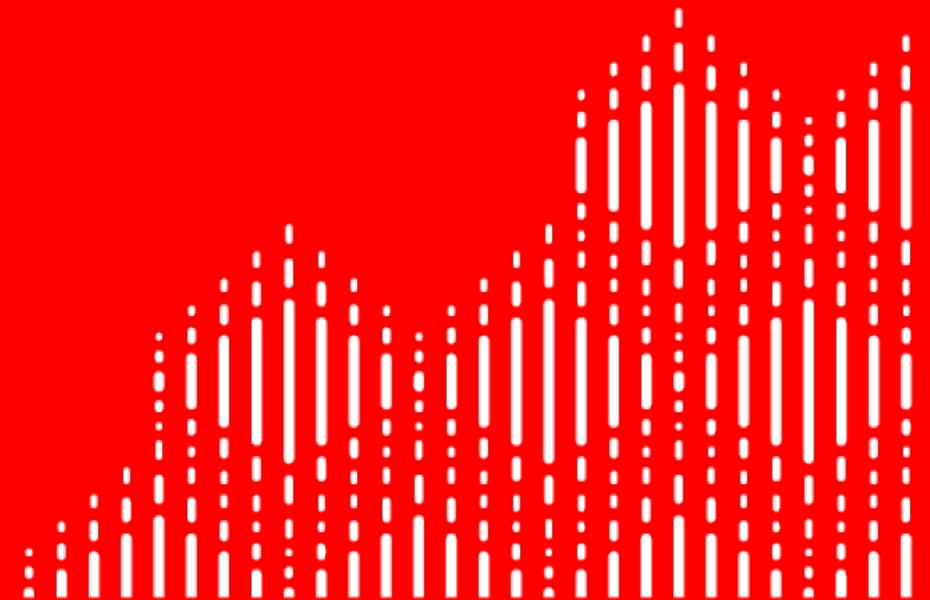
Consumer Data is the New Oil

*The Intergetic Forum Is Creating
Standards To Deliver A Clean Technology*



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Why Is Consumer Data The New Oil?

Consumer spending as a percentage of GDP

US	68.1%
UK	65.1%
France	55.1%
Germany	53.9%

Retailers, politicians, auto manufacturers and almost every industry needs to influence or respond to consumer sentiment

Just Like Oil, Consumer Data Collection Has Both A Positive & A Negative Side

**Enormous
Utility**



**Incredibly
Invasive**

The Success Or Failure Of Consumer Data Will Be Determined In The Smart Home



Cameras



Microphones

Shared Networks Of Microphones, Cameras & Sensors Used By Whole Home Personal Assistants Will Bring It To A Head

Where Is The Smart Home Technology Going?



Today: A Personal Assistant System

Today's Personal Assistants Live Primarily On A Single Device



Google Home



Siri



Alexa



Cortana

The End Goal: A Whole Home Personal Assistant System



**In 2-3 Years The Whole Home Personal Assistant Emerges
As A Cross-Device / Cross Application Intelligence**

**Natural Language UI
Local / Public Cloud**



**Shared Microphone, Camera Network
Analytics As A Service**

Data In

Commands Out

Commands Out

Commands Out

Commands Out

Commands Out

Commands Out



**Connected Car /
Electric Vehicle**



Home Security



**Personal Health /
Age-In-Place**



**Video / Audio
Entertainment**



**Smart Utilities /
Conservation**

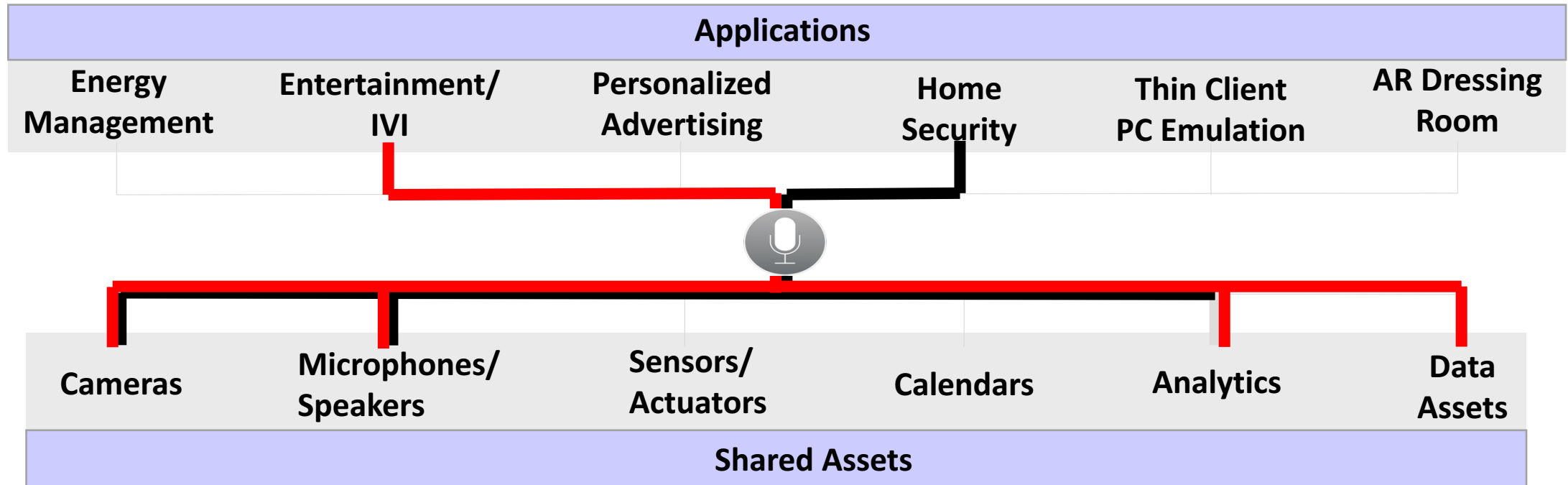


**Communications /
Internet**

The End Goal: A Whole Home Personal Assistant System



it's a Highly Shared Architecture



Many Applications Can Access Shared Microphones, Cameras, Sensors And Data

The Missing Standards That Are Needed To Make Data A Force For Good



The Data Gap



Data Integrity

Bad data, fed into personal assistants results in bad recommendations. Who is liable?

Low Friction Trading

Sharing data between apps today requires bilateral agreements. This isn't scalable

Data Privacy

Your app behaves nicely, but will other apps poison the well for you?

Data Integrity Sample Use Case

NIH Study Of Sleep Trackers

- 5 of 6 provided no data on sensor accuracy
- 4 of 6 provided no data on output accuracy
- Accuracy found to be quite low in peer review



Data In



Analysis



Recommendations

Possible Data Integrity Solutions



Establish A Common Agreement About Data That Can Be Traded

Standardization

- What data is being collected?
- What is the proper way to collect?
- How accurate must it be?
- How can it be used?
- What handling limitations ?

Traceability

- Data traceable to its source
- Non-compliant data is removed

Certification

- Competitors report non-compliance
- Independent testing to verify
- Certification registry

A “Wake” Word Is Not A Viable Privacy Technique In All Cases

Audio Analytics

Baby distress monitors, glass breakage monitors and other forms of audio analytics must remain on perpetually. There are existing examples of companies capturing more data than needed for the stated application

Contextual Awareness

The accuracy of search can be enhanced by understanding the context behind a request. Competing vendors will be tempted to increase the scope of data they collect



Visual Identification

Visual recognition is needed to tag consumption data to the specific consumer. These applications must run so long as consumption is anticipated.

Visual Navigation

Home robotics such as Roomba can be enhanced with visual recognition to do obstacle avoidance (cats). These devices must have active cameras as long as they are mobile.



Possible Privacy Solutions



More Sophisticated Privacy Mechanisms Are Possible

Hierarchical Cloud

The processing structure is divided between public and local cloud. Some data streams are never allowed outside the home.

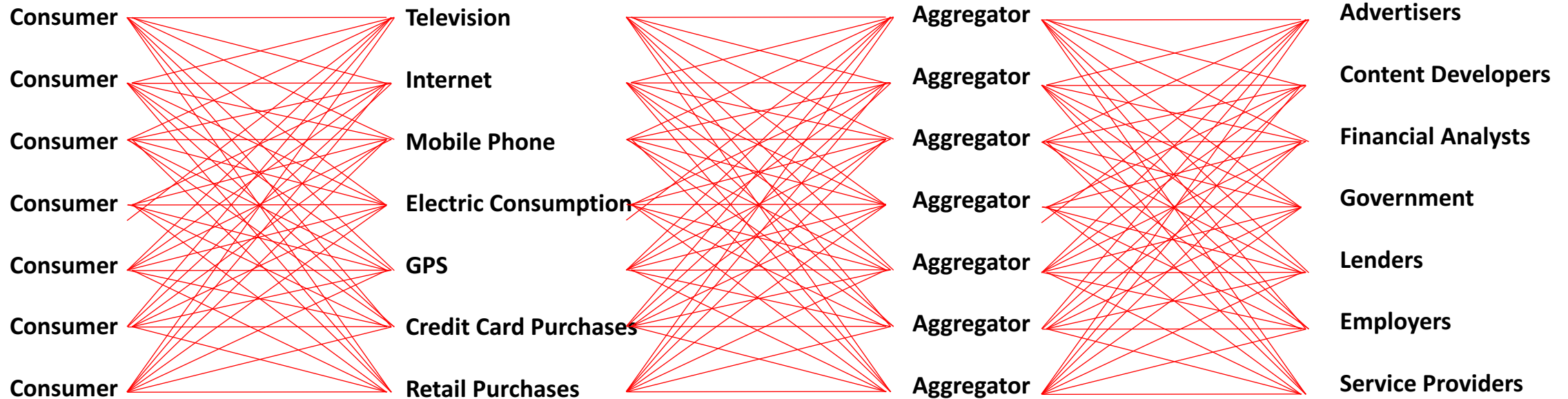
Escrowed Processing

A certified application is permitted to operate on sensitive data. Only inert results may be exported to the application owner.

Tokenization

For data sets that must move outside, an artificial identity replaces the PII. A central ID authority is the only group who can reverse the process.

Bilateral Data Use Agreements Are Not Scalable. A Consumption Profile Requires Many Agreements.



This approach overwhelms the consumer with requests. It makes it impossible beyond the first transaction to insure legality. It encourages a lack of transparency for data uses.

Possible Data Trading Solutions



Trading Mechanisms To Streamline Transactions

Centralized Permissions Register

Opt-In is not done on a vendor by vendor basis. Opt-in permissions are centrally maintained for consumer transparency and to reduce vendor friction.

Block Chain Tracking

Data transactions are recorded on a shared register for transparency & redundancy.

Programatic Trading

Data is aggregated and exchanged according to a programmed process to minimize human intervention / error.

The Intergetic Forum

A Better Way Forward



We Take Responsibility For Three Areas For The Smart Home & Connected Car

Data Integrity

We define standards for data collection methodologies in close cooperation with other SIGs. We develop compliance certification mechanisms.

Data Privacy

We develop privacy mechanisms.
We standardize techniques for applicable use cases

Low Friction Trading

We develop and manage an ethical data trading ecosystem.

**Our Objective Is To Provide A Horizontal Service To Support
A Multi-Vendor Ecosystem**

Our Ecosystem



We Have Begun Establishing Liaison Relationships

Education



Connectivity & Enabling



Market Specific



None Of Us Are In This Alone. Success Will Be A Team Effort



Forming Now!



Intergetic Forum

We Are Signing Up Board Member Companies Now

**These companies will determine IPR structures,
organizational structure and approve all standards**

Why Should Your Company Participate?



If your application or device generates data...

- **Make sure data from your market segment can be traded.**
- **Stay ahead of the curve regarding privacy mechanisms.**
- **Introduce compliant products first.**
- **Accelerate the smart home toward mass market adoption.**

How Do We Engage?



- **Give us a card & tell us your company is interested.**
- **Take one of our cards and contact us later.**
- **Engage us through our website at www.intergetic.org.**
- **Look for our webinar on May 4. An announcement will be sent. Forward it to decision makers.**

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