Privacy, Smart Grid and AMS

Atle Årnes Director, technology

28. Sept 2016

Datatilsynet

GDPR -The general data protection regulation

- New EU data protection rules which aim to give citizens back control of their personal data and create a high, uniform level of data protection across the EU fit for the digital era was given their final approval by MEPs on Thursday 14. April 2016. The reform also sets minimum standards on use of data for policing and judicial purposes.

More than four years of work

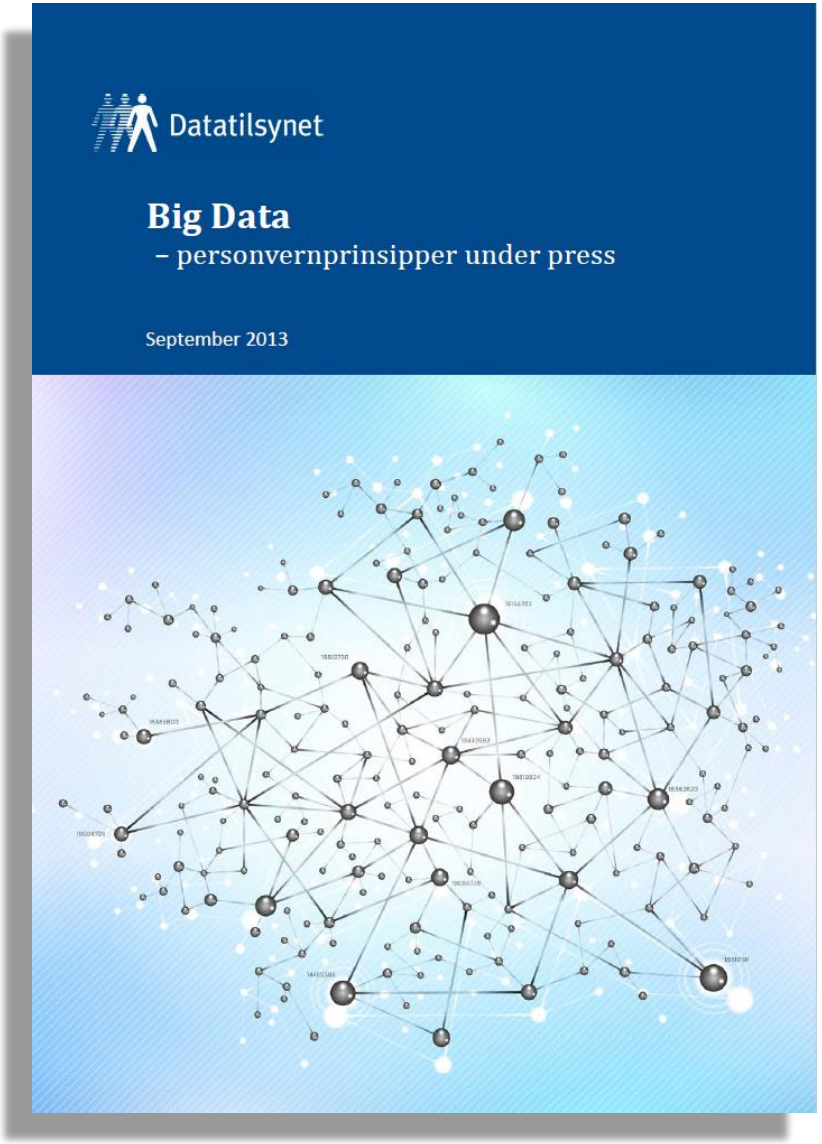
- Parliament's vote ends more than four years of work on a complete overhaul of EU data protection rules. The reform will replace the current data protection directive, dating back to 1995 when the internet was still in its infancy, with a general regulation designed to give citizens more control over their own private information in a digitised world of smartphones, social media, internet banking and global transfers.

Clear limits on the use of profiling

- The new rules set limits to the use of "profiling", a technique used to analyse or predict a person's performance at work, economic situation, location, health, preferences, reliability or behaviour based on the automated processing of his/her personal data.

Big data

- Two core privacy principles are challenged by Big Data
  - The principle of purpose limitation
  - The principle of data minimazation



Aktører – Vet ennå ikke nok

- Google
- Facebook
- Apple
- Microsoft
- Samsung

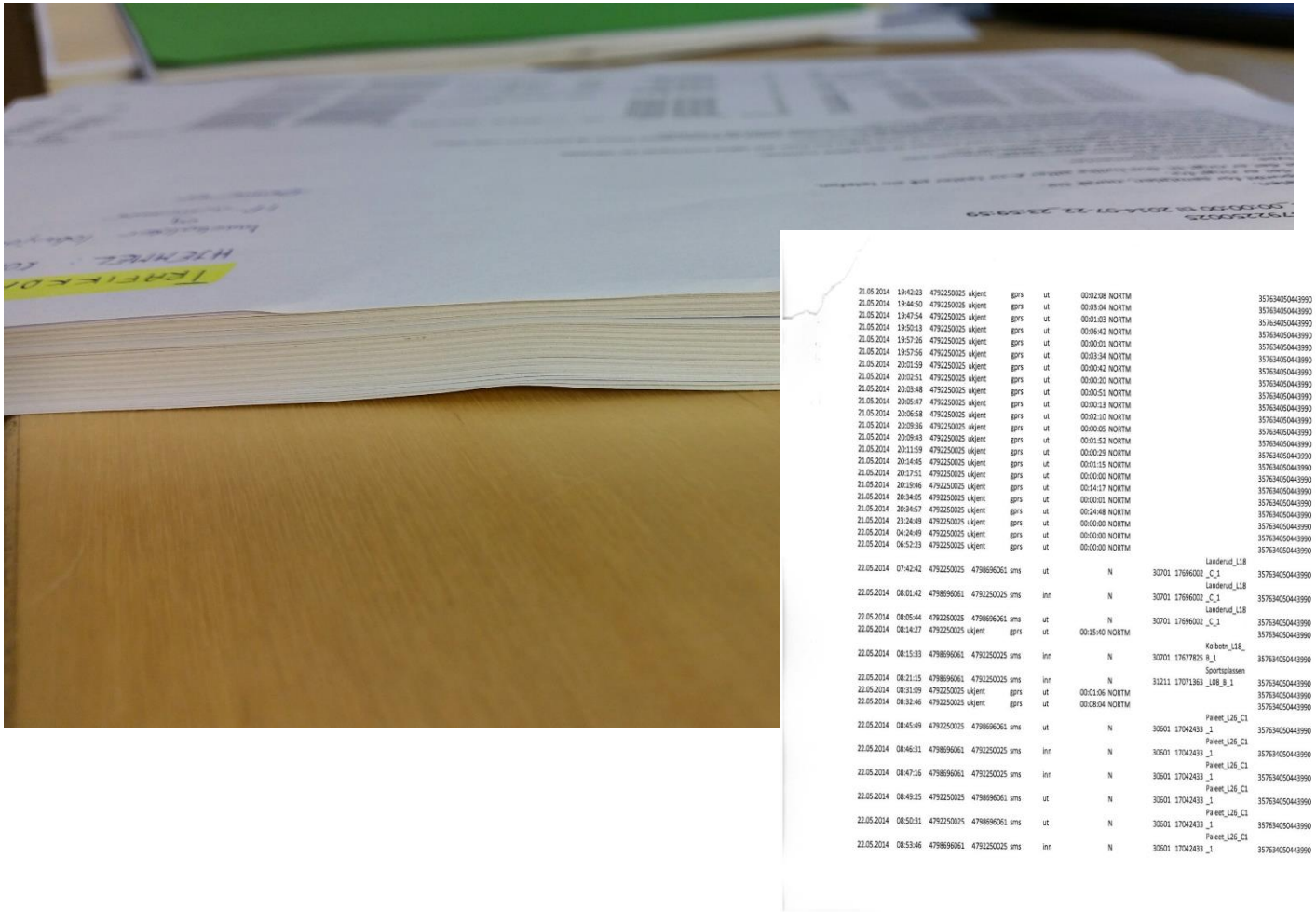
- Telenor
- Public Roads Administration
- Shopping malls
- Parking companies

Telenor Jumps Into Ad Tech

"We are thrilled to join the Telenor family. With more than 200 million mobile subscribers in 13 markets, Telenor is one of the largest and most successful telecom companies globally. I am excited by what this acquisition means for our employees, our partners and our continued growth. This will accelerate our vision to become the worlds' leading provider of unified digital marketing solutions," Traasdahl said in a statement.

Telenor Jumps Into Ad Tech, Acquires Tapad For $360M

Metadata for 90 days



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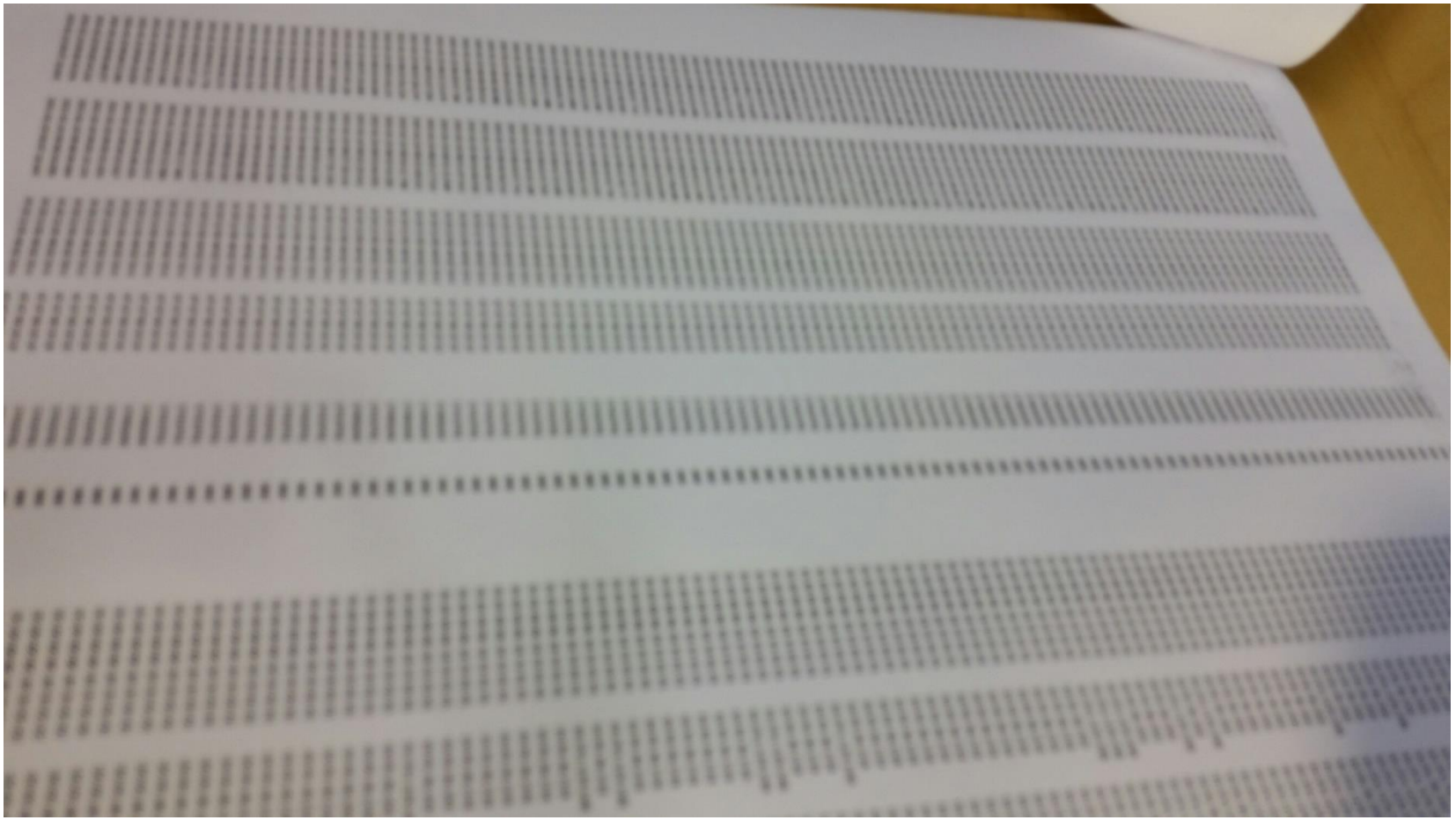
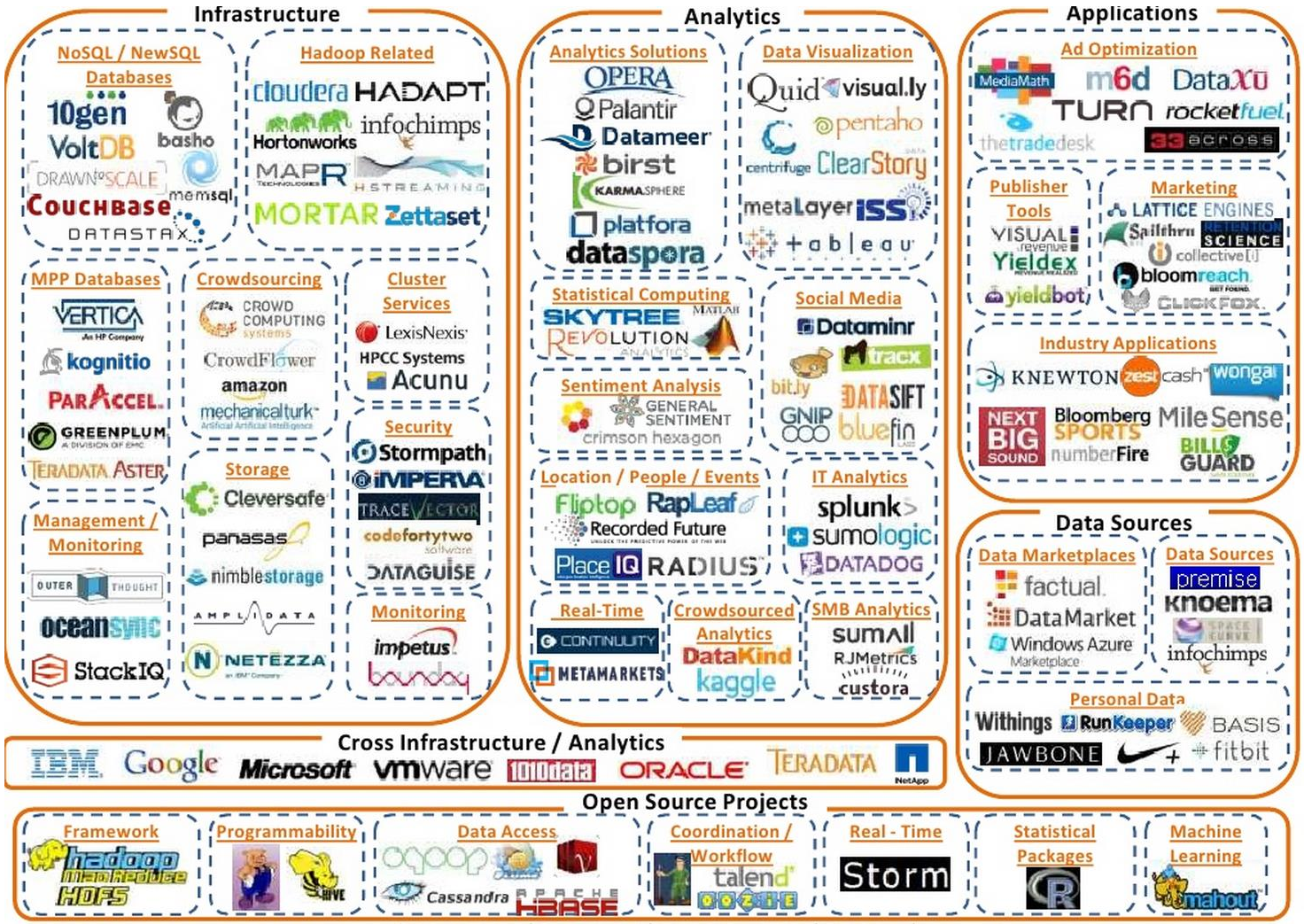
Signalingdata for 30 days, IP-data for 21 days

- 1 103 records of signalingdata in 24 hours



Many who are interested in information



Keep control

Nest Protect snakker til deg og kobler seg opp på nett.

Google kjøper selskapet bak superrøykvarsleren

Med kun tre år på baken går Nest Labs for nesten 20 milliarder kroner

OPPDATERT: 14.JAN. 2014 13:01 - PUBLISERT: 14.JAN. 2014 12:55

VEGAR JANSEN, HARDWARE.NO

Samsungs smarte hjem snart til Norge

GEIR AMUNDSEN

OPPDATERT: 08.DES. 2015 15:46 | PUBLISERT: 08.DES. 2015 13:58

Snart klare for Norges-lansering.

Har du lyst på smarthus? Svar i vår poll nederst i saken!

Klar for å styre huset med mobilen? På CES-messen i januar uttalte Samsungs toppsjef at alle Samsungs produkter skal være nettilkoblede i 2020, og at Tingenes internett (IoT) er et satsingsområde for den koreanske teknologikjempen.

Herunder både smarte biler, smart helse og

Transparency? What is happening?

Difficult to understand

NETWORKWORLD

Home automation access: WeMo permissions explained

Credit: WeMo

App permissions and the access they allow are complicated and wildly misunderstood. For IoT home automation devices such as WeMo, owners can't pass on the app. For that reason, we're drilling down into WeMo app permissions, to find out what they really mean, as explained by Belkin engineers.

Important factors

- Trust
- Privacy
- Security
- Identity

What happens in the home? It is not only like searching at the internet.

NEW!!
Everything you do may be analyzed and will be used.

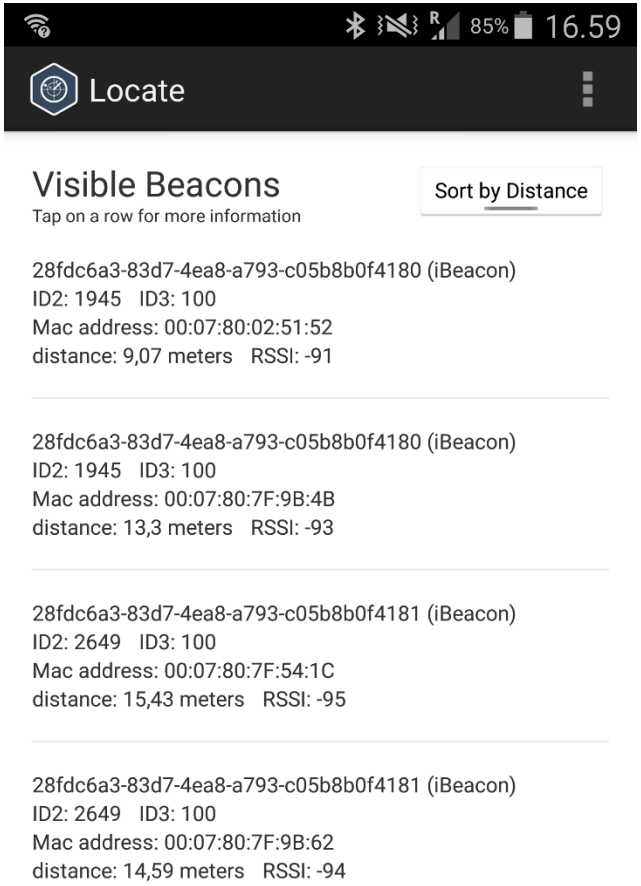
1. Connect
2. Read
3. Send
4. Process
5. Store
6. analyze

HP: 90% of connected devices collects personal information.

Personal information

- Social security number: `13087846271`
- Telephone: `22396900`
- IP-addresse: `195.159.103.82`
- Car numberplate: `BL 23456`
- Bluetooth MAC: `17:35:52:78:4B:CA`
- Wi-Fi-addresse MAC: `12:44:32:45:7B:C9`
- Autpass-brikke-ID: `7483920983278394`
- UDID: `f7426bd759856431d9ae2c99175407a0dcd67ab5`

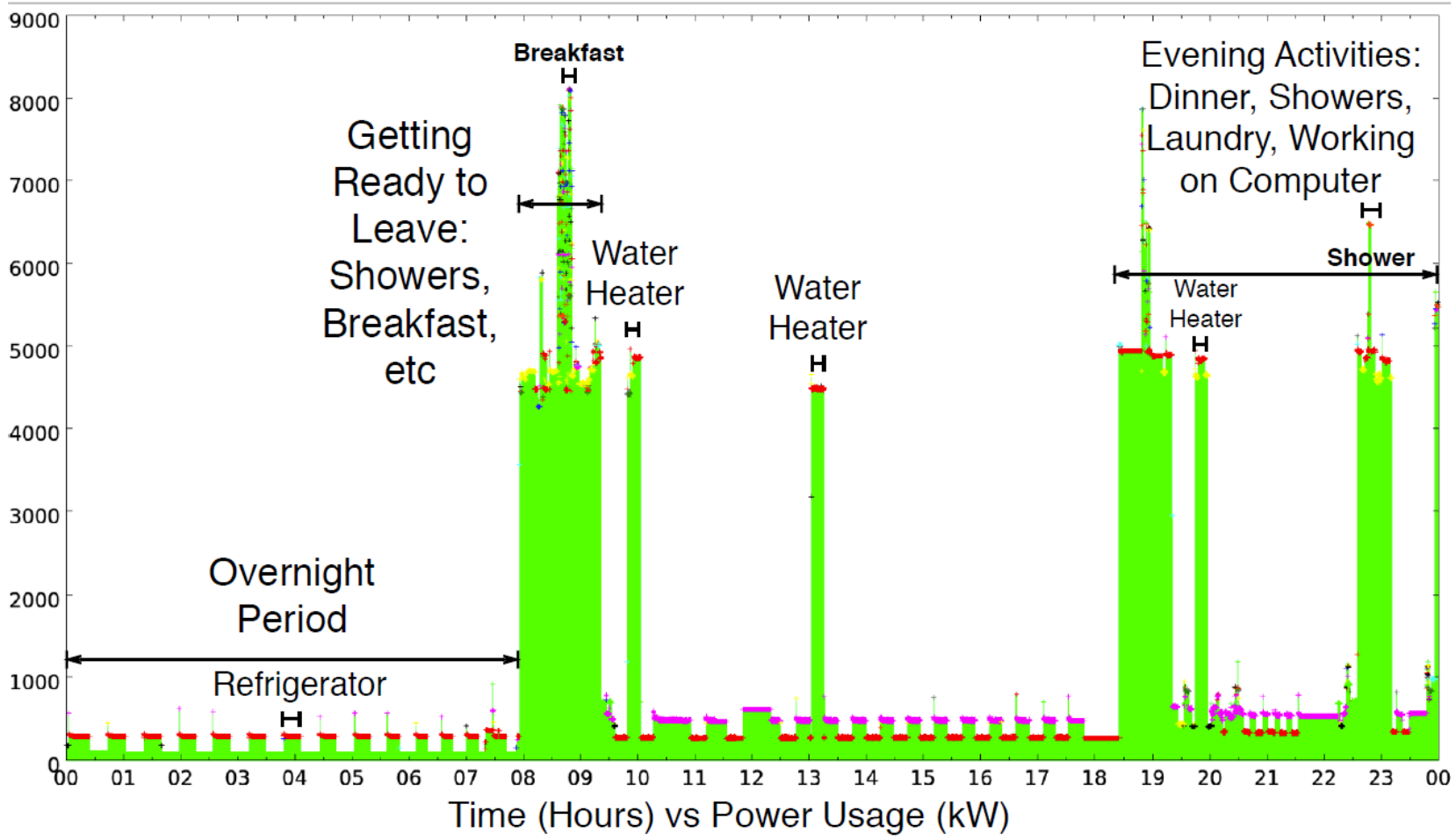
Beacons



Beacon spoofing (clone)
Piggy backing (use others ID's)
UUID rotation (stop others misuse)

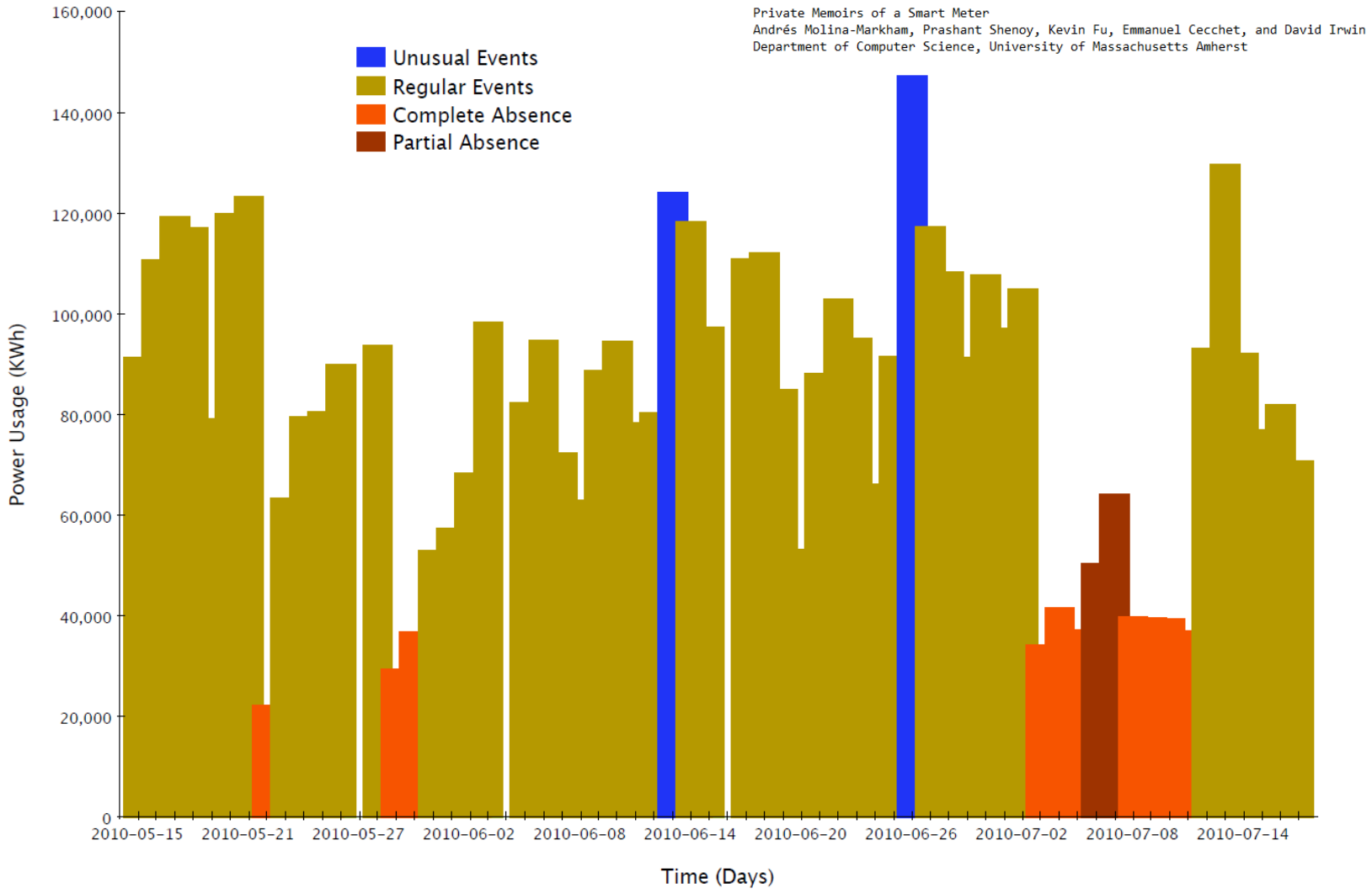
AMS

24 hours



Private Memoirs of a Smart Meter
Andrés Molina-Markham, Prashant Shenoy, Kevin Fu, Emmanuel Cecchet, and David Irwin
Department of Computer Science, University of Massachusetts Amherst

60 days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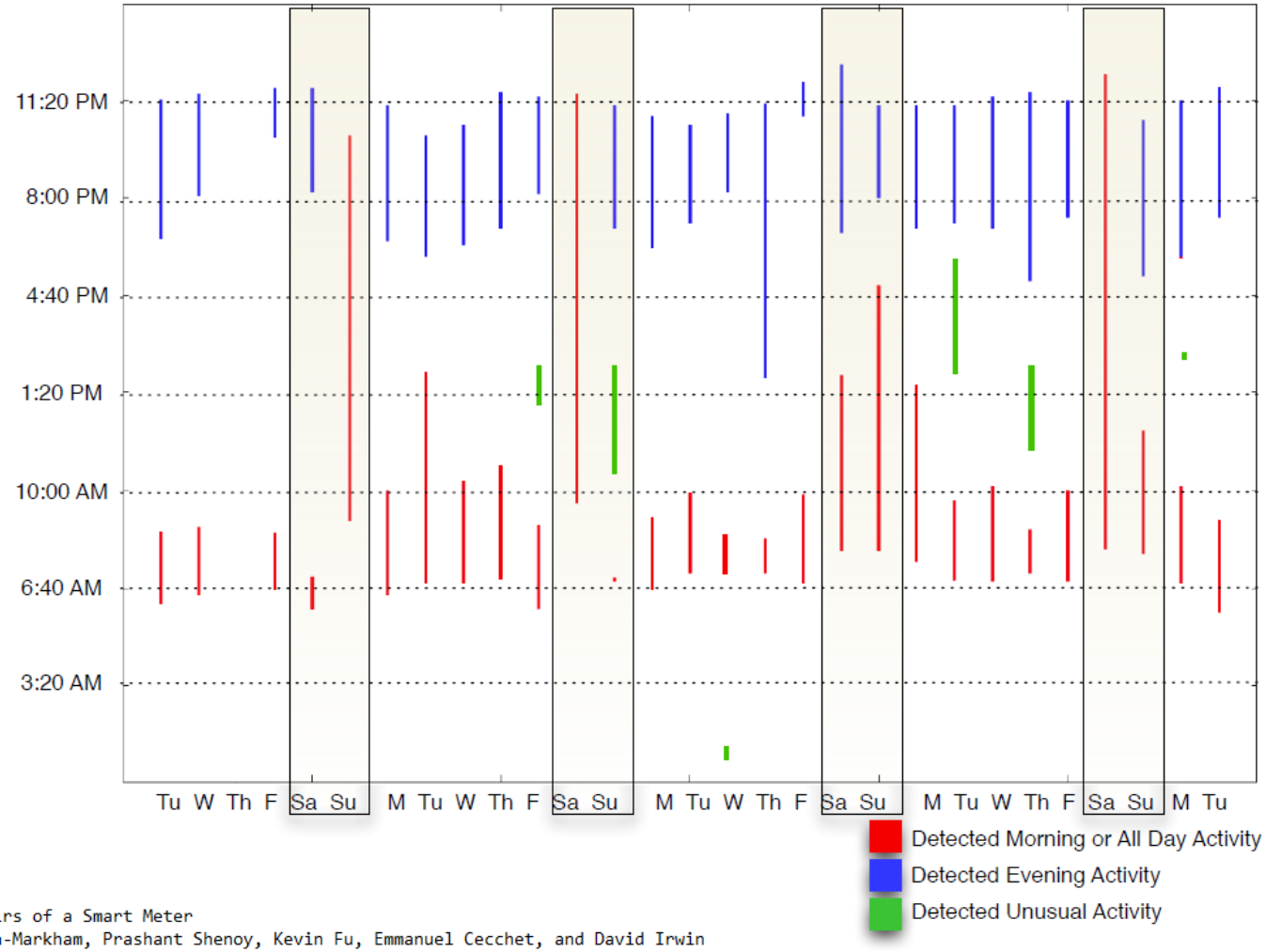
Unusual Events
Regular Events
Complete Absence
Partial Absence
Power Usage (KWh)
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2010-05-15
2010-05-21
2010-05-27
2010-06-02
2010-06-08
2010-06-14
2010-06-20
2010-06-26
2010-07-02
2010-07-08
2010-07-14
Time (Days)

People present



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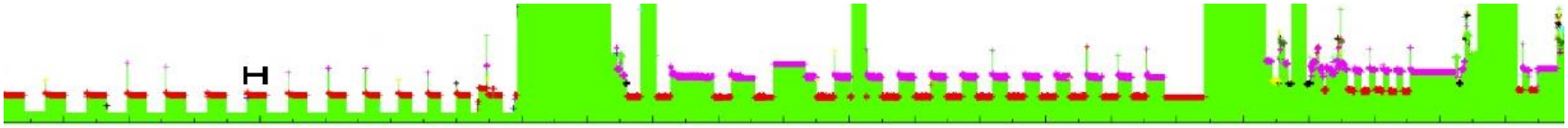
Personal data

- Social security number
- Storage period of 3 years in Elhub, when measured every hour.
- Facilitated for reading every 15 minutes in Elhub.
- Storing up to 10 years with the end user's consent.
- Only the right to data for billing.
- Sending message to DPA if undertaken storage for other purposes.
- Deleting information
- Transparency



Impact assessment, DPIA-Model

Data protection in connection with intelligent network and intelligent measurement systems

- Platform for innovative energy services.
- Notifies a future with the Internet of things.
- The main condition is to protect personal privacy.
- Impact assessment will be in certain situations compulsory.
- Privacy by Design.
- Privacy by default.
- Increased amount and use of data is a challenge.
- It is expected that Data Supervision supports impact analysis model and help businesses.

Protect personal data

Protecting personal data all the way from AMS to datahub.

- confidentiality
- Integrity
- Updating software.

What internet connection?

Customer networks, whether WIFI or cable is described as an alternative "gateway" for the the collection of measurement data and other communications with the meter.

Suppliers are vague here.

"It is desirable to use the internet, if you have one, to submit meter reading. The installer will therefore ask if you can provide access by allowing users to enter a password to your wireless network. By using the internet will be eventually enable you to see how much electricity you use at any time. "

consent

- One needs permission to process personal data. Usually consent of the user of the data gives the appropriate basis for use of the data:
- Requirements for consent:
  - Voluntary
  - informed
  - expressly

How to ensure privacy?

1. Choose the least intrusive solution
2. Limit the amount of data stored
3. Choose real time solution if possible
4. Save locally if possible
5. Allow the user to have control over the solution
6. Erase data after use
7. Restrict access to information
8. Access to Data
9. The data should be encrypted
10. Anonymization of data

Privacy by design

Anonymisering

- Anonymization of data makes it possible to exploit the value set in data analysis on a privacy friendly manner.

Mobile Phones

1. What do the telecomoperator store?
2. What is sent to the service provider?
3. What sent mobile manufacturer?
4. What is sent to the operating system vendor?
5. What sent app provider?
6. What sent App responsible?
7. What sent app producer?
8. What sent app partner?
9. Osv:

Data to take away!

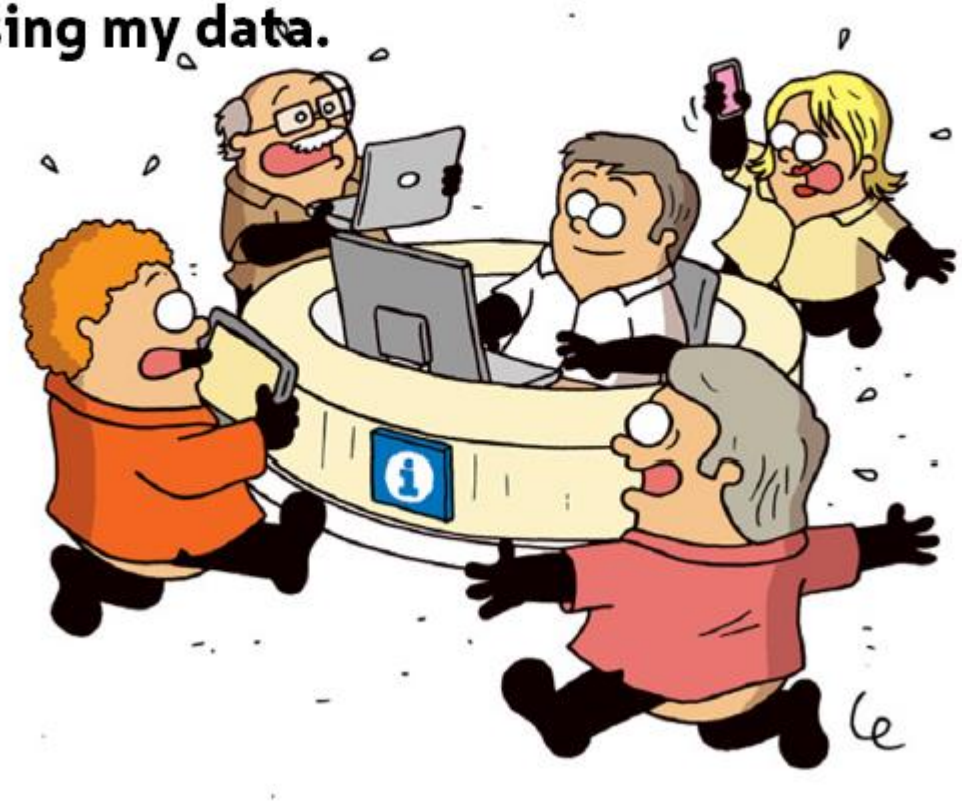
I can get back the data I provided to an organisation or online-service and transmit those to other ones (social networks, Internet service provider, online streaming supplier, etc.)

Better transparency

I know what is done with my data and it's easier for me to exercice my rights.

One-stop-shop

In case of problems with how my data is handled, I can contact my national data protection authority, whatever the country where the organisation is processing my data.



Bigger sanctions

When infringing the regulation, the organisation at fault can be fined up to 20 000 000 € or 4% of its annual worlwide turnover.

The new rules include provisions on:

- "The regulation will also create clarity for businesses by establishing a single law across the EU. The new law creates confidence, legal certainty and fairer competition", he added.

- "clear and affirmative consent" to the processing of private data by the person concerned,
- the right to know when your data has been hacked,
- ensuring that privacy policies are explained in clear and understandable language

Privacy as norm

- In future, companies will have to design defaults and products such that as little personal data as possible are collected and processed. "Privacy by design" or default should become an essential principle and will incentivise businesses to innovate and develop new ideas, methods and technologies for security and protection of personal data.

Next steps

- The regulation will enter into force 20 days after its publication in the EU Official Journal. Its provisions will be directly applicable in all member states two years after this date. (Will come into force in 2018 in all the EU countries).

- Member states will have two years to transpose the provisions of the directive into national law.

Atle Årnes er fagdirektør for teknologi i Datatilsynet. Hans hovedarbeidsfelt er personvern innenfor telekommunikasjons- og internettjenester, eID og biometri, samt samferdsel og intelligente transportsystemer. Han deltar i europeisk og internasjonal koordinering av personvernarbeid.

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