




# Oh the Places We Will Go.....

Jason Hart CISSP CISM  
CTO Enterprise and Cyber Security

 @Hart\_Jason

**gemalto**  
security to be free

**Uber**

The world's largest taxi company, owns no vehicles.

The world's most popular media owner, creates no content.

**Facebook**

**Alibaba**

The most valuable retailer, has no inventory

The world's largest accommodation provider, owns no real estate.

**Airbnb**

```
23 488
24 489
25 491
26 493
27 495
28 497
29 499
30 501
31 503
32 505
33 507
34 509
35 511
36 513
37 515
38 517
39 519
40 521
41 523
42 525
43 527
44 529
45 531
46 533
47 535
48 537
49 539
50 541
51 543
52 545
53 547
54 549
55 551
56 553
57 555
58 557
59 559
60 561
61 563
62 565
63 567
64 569
65 571
66 573
67 575
68 577
69 579
70 581
71 583
72 585
73 587
74 589
75 591
76 593
77 595
78 597
79 599
80 601
81 603
82 605
83 607
84 609
85 611
86 613
87 615
88 617
89 619
90 621
91 623
92 625
93 627
94 629
95 631
96 633
97 635
98 637
99 639
100 641
101 643
102 645
103 647
104 649
105 651
106 653
107 655
108 657
109 659
110 661
111 663
112 665
113 667
114 669
115 671
116 673
117 675
118 677
119 679
120 681
121 683
122 685
123 687
124 689
125 691
126 693
127 695
128 697
129 699
130 701
131 703
132 705
133 707
134 709
135 711
136 713
137 715
138 717
139 719
140 721
141 723
142 725
143 727
144 729
145 731
146 733
147 735
148 737
149 739
150 741
151 743
152 745
153 747
154 749
155 751
156 753
157 755
158 757
159 759
160 761
161 763
162 765
163 767
164 769
165 771
166 773
167 775
168 777
169 779
170 781
171 783
172 785
173 787
174 789
175 791
176 793
177 795
178 797
179 799
180 801
181 803
182 805
183 807
184 809
185 811
186 813
187 815
188 817
189 819
190 821
191 823
192 825
193 827
194 829
195 831
196 833
197 835
198 837
199 839
200 841
201 843
202 845
203 847
204 849
205 851
206 853
207 855
208 857
209 859
210 861
211 863
212 865
213 867
214 869
215 871
216 873
217 875
218 877
219 879
220 881
221 883
222 885
223 887
224 889
225 891
226 893
227 895
228 897
229 899
230 901
231 903
232 905
233 907
234 909
235 911
236 913
237 915
238 917
239 919
240 921
241 923
242 925
243 927
244 929
245 931
246 933
247 935
248 937
249 939
250 941
251 943
252 945
253 947
254 949
255 951
256 953
257 955
258 957
259 959
260 961
261 963
262 965
263 967
264 969
265 971
266 973
267 975
268 977
269 979
270 981
271 983
272 985
273 987
274 989
275 991
276 993
277 995
278 997
279 999
280 1000
```

Script

```
-200 Images
      /Z:/media/tomahawk_banner.png
      /sponsors.ico
      /sponsors/E (3)
      /sponsors/e (2)
      /sponsors/cal.png
      /sponsors/s (2)
      /sponsors/ (3)
      Mac
      /vlc/2.0.6/win32/vlc-2.0.6-win32.exe.asc

      /vlc/2.0.6/win32/vlc-2.0.6-win32.zip

      /vlc/2.0.6/win64/vlc-2.0.6-win64.exe

      /vlc/2.0.6/linux/vlc-2.0.6 (3)

      /vlc/2.0.5/vlc-2.0.5.tar.gz.asc

/ (3)
```

2016

IN ~~2000~~ THE WORLD GENERATED

**TWO EXABYTES**

OF NEW INFORMATION

**EVERY DAY**

gemalto<sup>x</sup>

**“The Internet of Things  
isn’t about the Things...**

**It’s about the services.”**

**Stacey Higginbotham -  
ThingMonk 2016**



# IoT Business Models



## Sharing Economy

Increasing utilisation  
of under used assets



## Delegating Tasks to Machines

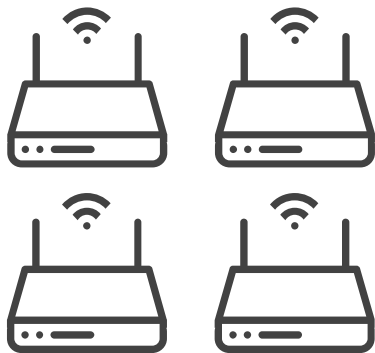
“Alexa order me some ukulele strings”  
“Pay the generator for what you use...”



## Supply Chain Efficiency

What happened to my package on route?

**IoT is inherently distributed**

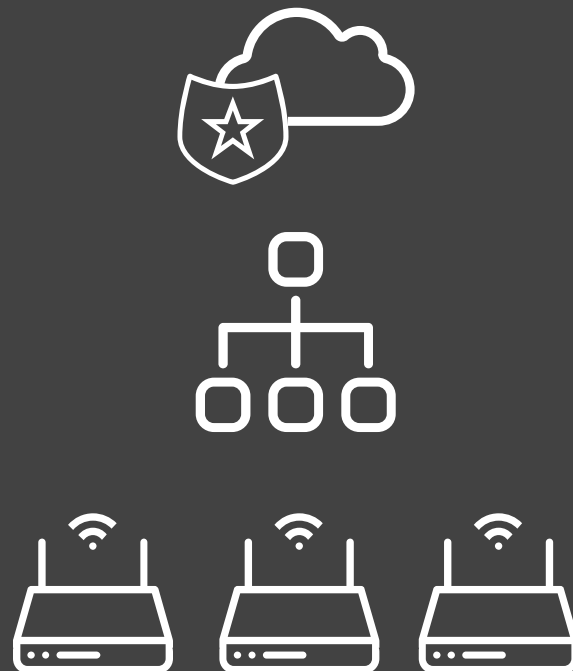


**Implicit underpinning of trust**



## Problem 1:

Today's trust model  
is client-server





## Problem 2:

People keep breaking Things



**Attack prevention is a broken model...**





**NEED TO ADAPT OR BECOME IRRELEVANT**

# Situation Aware

Understanding the Critical  
Elements: People, Data,  
and Process

Not looking or even  
considering the Impact of  
People, Data, and Process

# Situation Ignorance

# Situation Arrogance

Consideration of People  
Data and Process  
However No Action

**SITUATIONAL AWARENESS:  
IS THE BAD GUY'S WEAPON**

gemalto<sup>x</sup>

DATA RECORDS LOST OR STOLEN SINCE 2013

5,329,418,398

[www.breachlevelindex.com](http://www.breachlevelindex.com)



data Oil!  
is the new

Hackers need to find it,  
Extract it, refine it.

Distribute it and monetize it .....



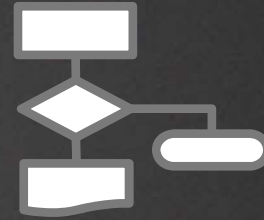
**Master your Situational Awareness**



# Data Security Elements



**Technology**



**Process**



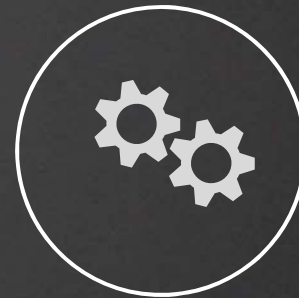
ENVIRONMENT



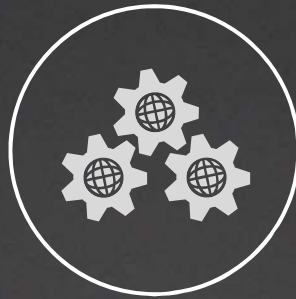
PEOPLE



DATA



PROCESS



## DATA LOCATIONS



DB



FILE



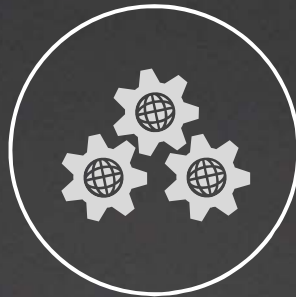
FOLDER



VM



NETWORK



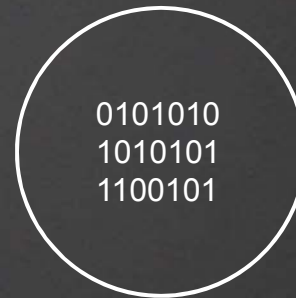
## DATA TYPES



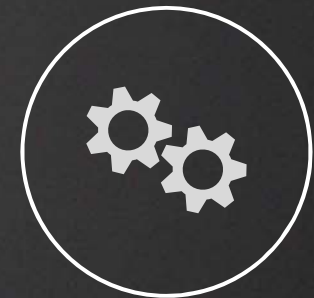
PII



CREDIT CARD



HEALTH CARE

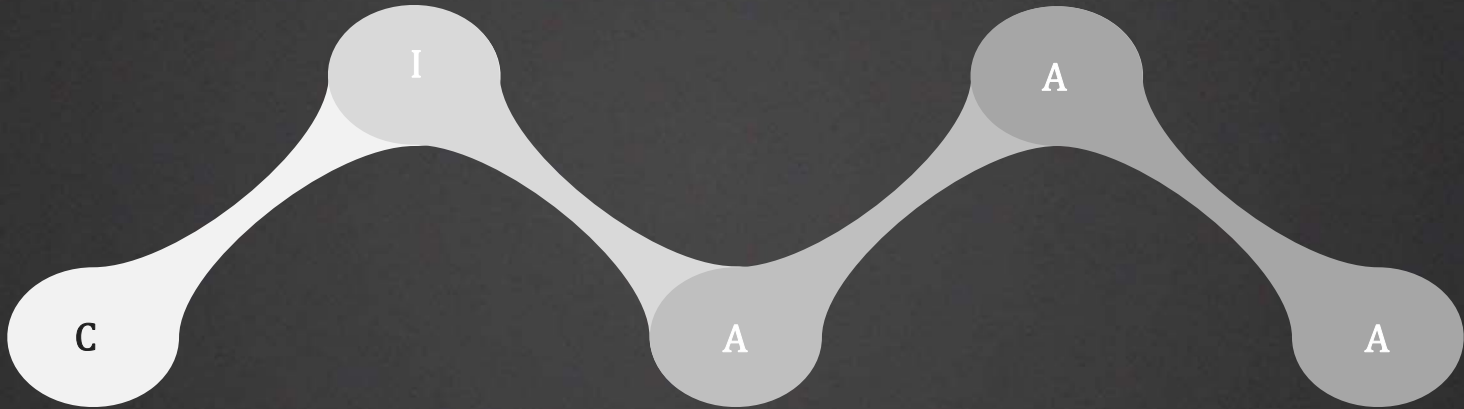


TRADE SECRETS

RISKS

INTEGRITY

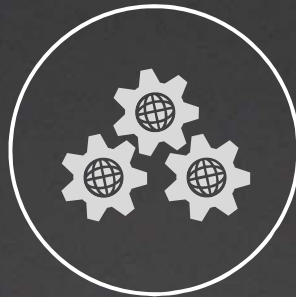
AUDITABILITY



CONFIDENTIALITY

AVAILABILITY

ACCOUNTABILITY



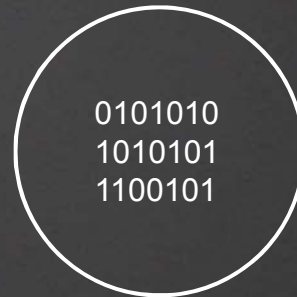
SOLUTIONS



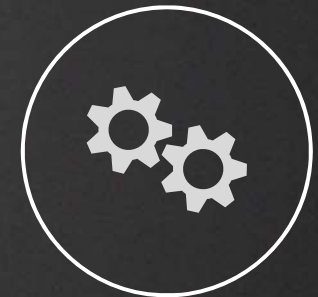
AUTHENTICATION



ENCRYPTION



KEY MANAGEMENT



ROOT OF TRUST

# ATTACK

TAKE CONTROL

STEAL INFORMATION

DISRUPT SERVICES

Controls for smart door locks and lighting systems can be vulnerable.

Malware-infested refrigerators have sent spam.

Door locks have been unlocked remotely.

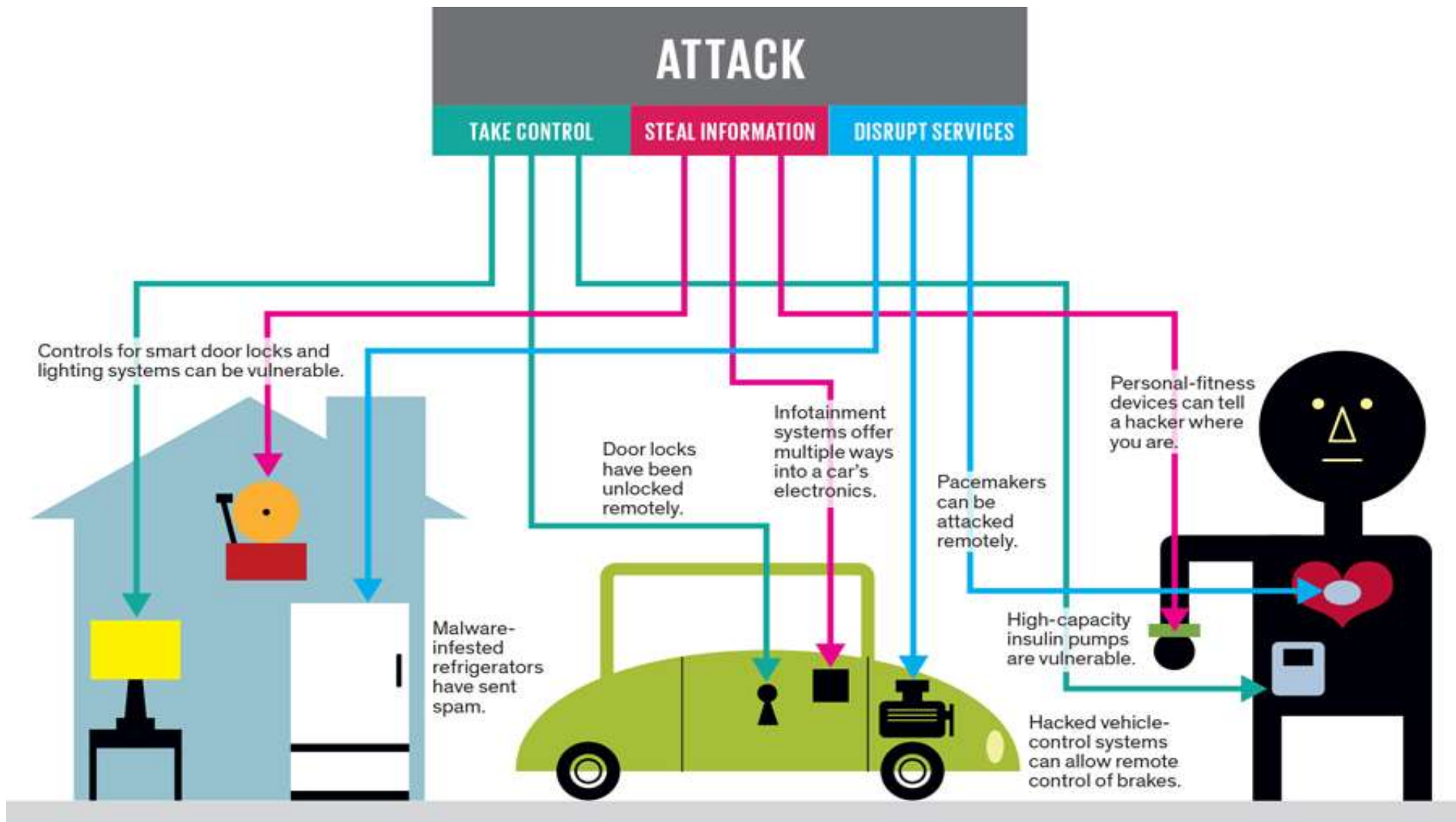
Infotainment systems offer multiple ways into a car's electronics.

Pacemakers can be attacked remotely.

Personal-fitness devices can tell a hacker where you are.

High-capacity insulin pumps are vulnerable.

Hacked vehicle-control systems can allow remote control of brakes.





**BEGIN RSA PRIVATE KEY “filetype:key –github”**

To find private RSA Private SSL Keys





BEGIN RSA PRIVATE KEY "filetype:key -github"



All Images Videos News Maps More Settings Tools

About 4,270 results (1.11 seconds)

No results found for **BEGIN RSA PRIVATE KEY "filetype:key -github"**.

Results for **BEGIN RSA PRIVATE KEY filetype:key -github** (without quotes):

[nodetunes/private.key at master · stephen/nodetunes · GitHub](#)

<https://github.com/stephen/nodetunes/blob/master/private.key> ▼

AirTunes v2 Server implementation. Contribute to nodetunes development by creating an account on [GitHub](#).

[Portus/server.key at master · SUSE/Portus · GitHub](#)

[https://github.com/SUSE/Portus/blob/master/vagrant/conf/ca\\_bundle/server.key](https://github.com/SUSE/Portus/blob/master/vagrant/conf/ca_bundle/server.key) ▼

52 lines (51 sloc) 3.17 KB. -----BEGIN RSA PRIVATE KEY-----. MIIJKQIBAAKCAgEAYWA25/CoT+VsvCbwwx71KQ9YRy5gzadOufi32t4NpP8O27tb.

Code Issues 17 Pull requests 5 Projects 0 Wiki Pulse Graphs

Branch: master nodetunes / private.key

Find file Copy path

stephen i hope publishing this is ok

4485782 on Jan 17, 2014

1 contributor

23 lines (23 sloc) 1.63 KB

Raw Blame History

```
1 -----BEGIN RSA PRIVATE KEY-----
2 MIIEpQIBAAKCAQEAS9dE8qLieItsH1WgjrcFRKj6eUWqi+bGLOX1HL3U3GhC/j0Qg90u3sG/1CUt
3 wC5vOYvfDmFI6oSFXi5ELabWJmT2dKHZBJKa3k9ok+8t9ucRqMd6DZHJ2YCCl1DRKSKv6kDqnw4U
4 wPdpOMXziC/AMj3Z/1UVX1G7WSHCawkf1zNS1eLvqr+boEjXuB0itnZ/bDzPHrTOZz0Dew0uowxf
5 /+sG+NCK3eQJVxqcaJ/vEHKIVd2M+5qL71yJQ+87X6oV3eaYvt3zWZYD6z5vYTCrtij2VZ9Zmni/
6 UAaHqn9JdsBWLUEpVviYnhimNVvYFZeCXg/IdTQ+x4IRdiXNv5hEewIDAQABAoIBAQD18Axy9XfW
7 BLmkzKEiqoSvF0PsmVrPzH9KsnwLGH+QZ1vjWd8SWYGN7u1507HvhF5N3drJoVU3014nDY4TFQAA
8 L1J9VM35AApXaLyY1ERn7u9ALKd2LUwYhM7Km53904yUFYike2nIPscEsA51tpx0gUGCY7b7ez5
9 NtD6nL1ZKauw7aNXmVAvmJTCuPxWmoktF3gDJKK2wxZuNGcJE0uFQEG4Z3BrWP7yoNuSK3dii2jm
10 lpPHr00/KnPQtzI3eguhe0TwUem/eYSdyzMyVx/YpwkzwtYL3sR5k0o9rKQLtvLzfAqdBxBurciz
11 aaA/L0HIgAmOit1GJA2saMxTVPNhAoGBAPfgv1oeZxgxmotiCcMXFEQEWf1zhWYTsXrhUIuz5jFu
12 a39GLS99ZEErhLdrwj8rDDViRVJ5skOp9zFv1YAHs0xh92ji1E7V/ysnKBfsMrPkk5KSKPrnjndM
13 oPdevWnVkgJ5jxFuNgxkOLMuG9i53B4yMvDTCRiIPMQ++N2iLDaRAoGBA09v//mU8eVkJQaoANf0Z
14 oMjW8CN4xwWA2cSEIHkd9Afkftuv8oyLDCG3ZAf0vrhrtrkrfa7ef+AUb69DNggq4mHQAYBp7L+
15 k5DKzJrKu00r+R0Yb9pZD1+/g9dVt91d6LQNEpUE/yY2PP5CNoFmjedpLHMOPFdVgqDzDFxU8hL
16 AoGBANDrr7xAJbaBjHVwIz04To9pb4BNedDndk5Qe7fT3+/H1n7GaC0/rXE00b7a5vSgnsCb3DvA
```



## **site:github.com inurl:sftp-config.json**

Pulling Secure FTP login credentials from  
github repositories



site:github.com inurl:sftp-config.json



All Videos Images News Maps More Settings Tools

About 372 results (1.50 seconds)

[hiphopdiss.com/sftp-config.json at master · devxoul/hiphopdiss.com ...](#)

<https://github.com/devxoul/hiphopdiss.com/blob/master/sftp-config.json>

Contribute to hiphopdiss.com development by creating an account on GitHub.

[NatRouter/sftp-config.json at master · Madh93/NatRouter · GitHub](#)

<https://github.com/Madh93/NatRouter/blob/master/sftp-config.json>

PAT sobre un Router simple con Mininet y Ryu. Contribute to NatRouter development by creating an account on GitHub.

[pianolol/sftp-config.json at master · felixgirault/pianolol · GitHub](#)

<https://github.com/felixgirault/pianolol/blob/master/sftp-config.json>

pianolol - Un piano que quand t'appuis dessus ça sort des trucs tout nazes.

[warioware/sftp-config.json at master · afahim/warioware · GitHub](#)

<https://github.com/afahim/warioware/blob/master/sftp-config.json>

Branch: master ▾

pianolol / sftp-config.json

Find file

Copy path



Leimi on balance pas les fichiers sass sur le ftp

59d26f0 on Jan 15, 2013

1 contributor

42 lines (35 sloc) | 1.24 KB

Raw

Blame

History



```
1 {
2   // The tab key will cycle through the settings when first created
3   // Visit http://wbond.net/sublime\_packages/sftp/settings for help
4
5   // sftp, ftp or ftps
6   "type": "ftp",
7
8   "save_before_upload": true,
9   "upload_on_save": false,
10  "sync_down_on_open": false,
11  "sync_skip_deletes": false,
12  "confirm_downloads": false,
13  "confirm_sync": true,
14  "confirm_overwrite_newer": false,
15
16  "host": "ftp.tout-le-jardin.com",
17  "user": "toutlejau",
18  // "password": "password",
19  // "port": "22",
```

**Anticipating The Future  
Oh the Places w will go...**



# Forget

What you know about Information  
Security



# We Need

A new mindset.....



# Transform the mindset

## from Breach Prevention

To

Breach Acceptance.....

**Think like a bad  
guy...**

**What is he after?**

# Data

## The New Oil

**Ok !**

**What should I do now**

**How about**

**“Kill” the Data .....**

**And control access**

**“To” the Data .....**



# Crypto Loves Cloud & Data





# Hackers Hate Crypto

# Culture

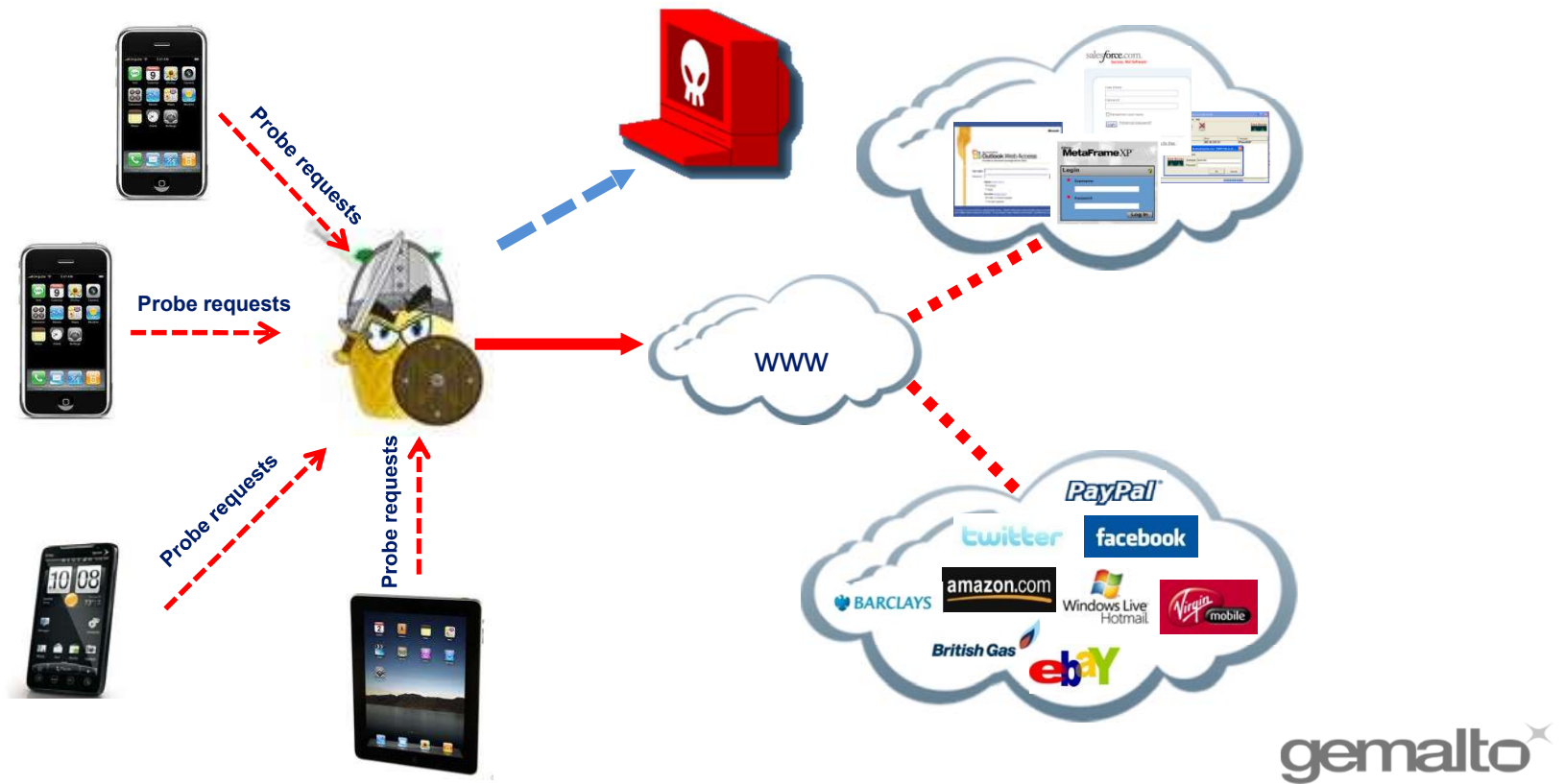
Data Security in everything

**Is it really**

**That simple ..... End**

# Are You Who You Say Your Are

Live HACK. . . KARMA, ~~SSL STRIP~~ Attack againt you



## With Gemalto, Protect what matters, where it matters, when it matters



**1** Assess the security needs of your Customers infrastructure thru risk evaluation >> Security by design

**2** Secure the breaches from embedded software to secure element

- Encrypt data
- Store and manage keys
- Control user access

**3** Make evolve your Customers security

- Life cycle management of security credential
- Control new entrant in the eco-system

# Thank You

@HART\_JASON

# SITUATIONAL AWARENESS

Trust. Every day

gemalto<sup>★</sup>