



中国互联网安全大会



360互联网安全中心

ISC
2015

数据驱动安全

2015 中国互联网安全大会
China Internet Security Conference

**数据篡改与物联网
安全论坛**



中国互联网安全大会



360互联网安全中心

Security and Privacy Challenges of IoT

万物相联之下的安全生态

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2015 中国互联网安全大会

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物联网 Internet of Things (IoT)

- 物联网是将所有物品通过电子设备与互联网连接的网络。
- 电子设备 —— 识别、计算、感知、控制、通讯

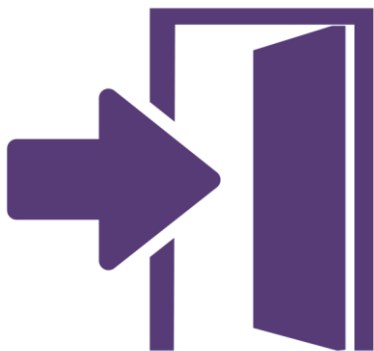


智能设备



电子门锁

通过智能手机远程开锁、关锁。户主可以给客人一个临时代码，放他通行。



智能工厂、楼宇、城市、家用、交通

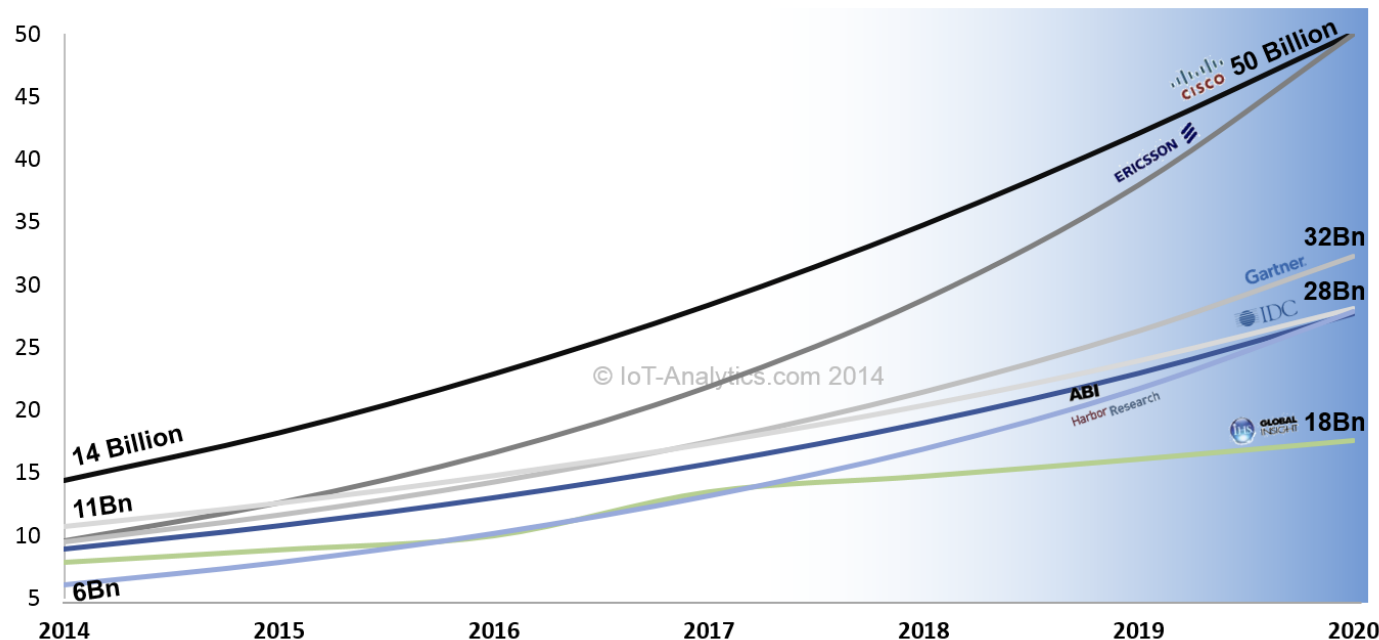


物联网设备数目预测

IoT Analytics – Quantifying the connected world

Global IoT/IoE device forecasts

of worldwide connected devices² (in Billion)



Note: Some forecasts only for specific years, in that case all other years in between are extrapolated based on the corresponding growth rate; Ericsson does not specify today's number of connected devices – therefore: Average of all other studies assumed as starting point in 2014

1. CAGR = Compound annual growth rate 2. Connected devices includes all autonomous connected things (every forecaster has own definition) - does NOT include computers, mobile devices, tablets

Sources: Cisco, Ericsson, ABI Research, Gartner, IHS, IDC, Harbor Research, IoT-Analytics.com

Source	Date	CAGR ¹ 2014–'20
CISCO	2013	23%
ERICSSON	2010	-
Gartner	2013	23%
IDC	2014	17%
Harbor Research	2014	29%
ABIresearch [*] technology market intelligence	2014	21%
IHS GLOBAL INSIGHT	2014	14%

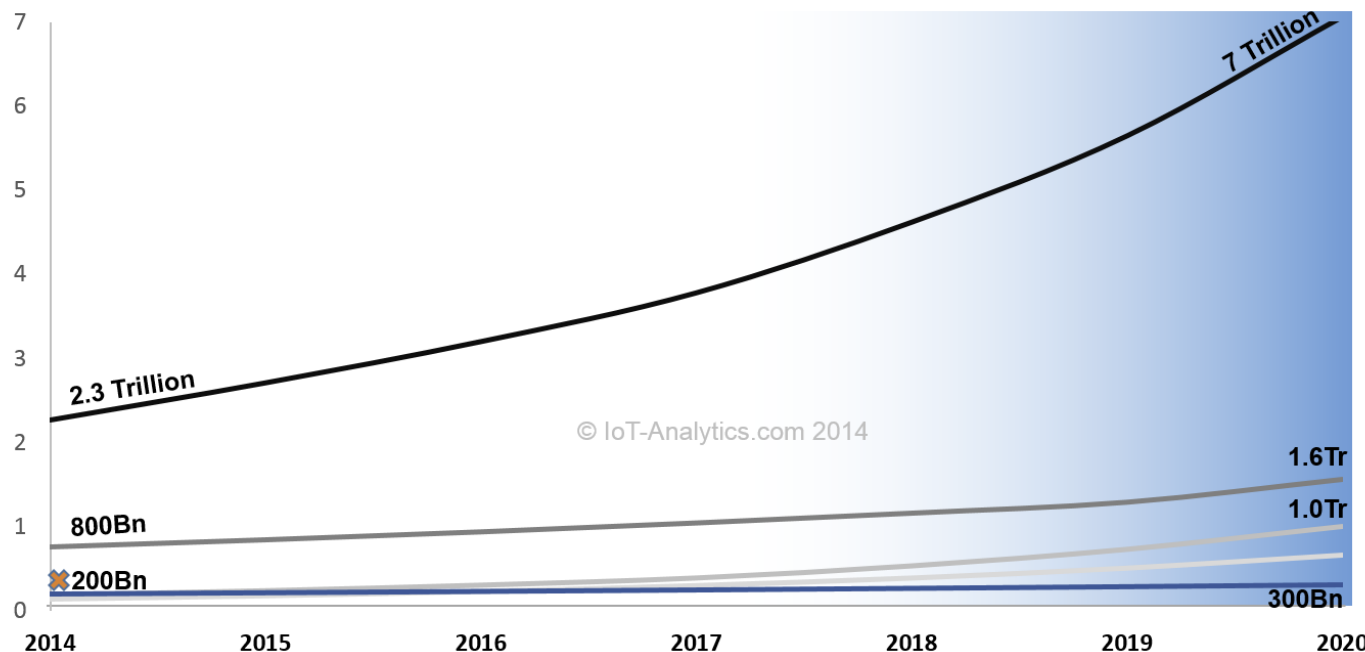
Gartner, Inc. forecasts that 26 billion connected things will be in use in 2020.

物联网市场预测

IoT Analytics – Quantifying the connected world

Global IoT/loE revenue forecasts

Annual revenue of the IoT market (in Trillion USD)



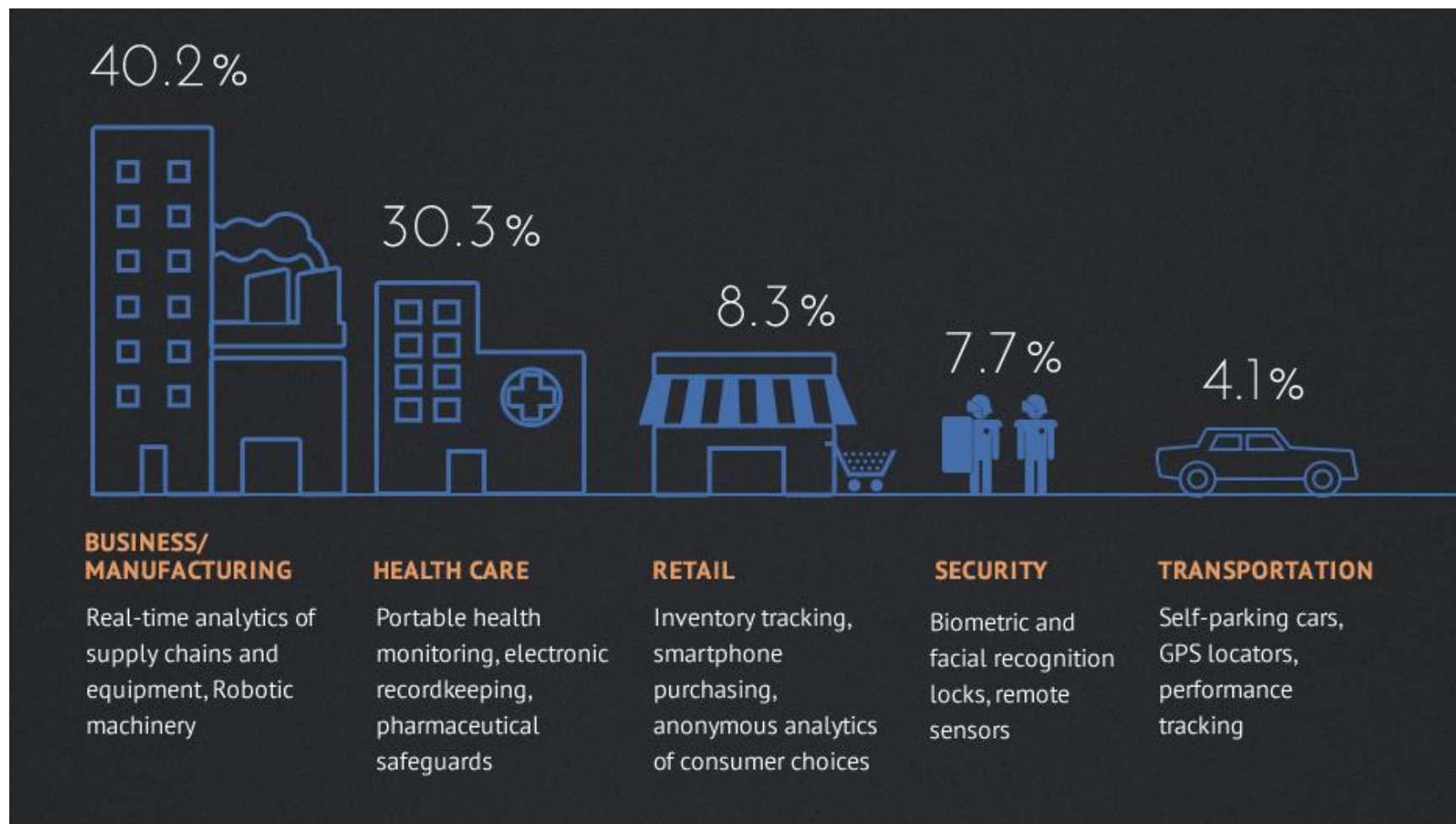
Source	Date	CAGR ¹ 2014–'20
IDC	2014	21%
visiongain	2014	13%
Harbor Research	2014	33%
MARKETS&MARKETS	2014	31%
Gartner	2013	-

Note: Some forecasts only for specific years, in that case all other years in between are extrapolated based on the corresponding growth rate
1. CAGR = Compound annual growth rate 2. Gartner's starting point 2014 not known. Assumption: Same starting point as Markets&Markets
Sources: Gartner, IDC, Harbor Research, Visiongain, Markets&Markets, IoT Analytics

✕ Reference point: Combined revenue of Apple, Google, and Facebook together in 2014

Gartner estimates that IoT will support total services spending of \$69.5 billion in 2015 and \$263 billion by 2020.

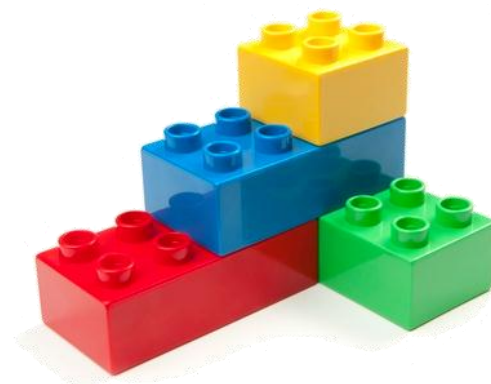
物联网市场份额



物联网机遇和挑战 —— 标准化

- 互联网 Internet —— LEGO

- 模块化 (APIs)
- 分布式 (Highly Distributed)
- 开放式快速开发 (Open & Fast)



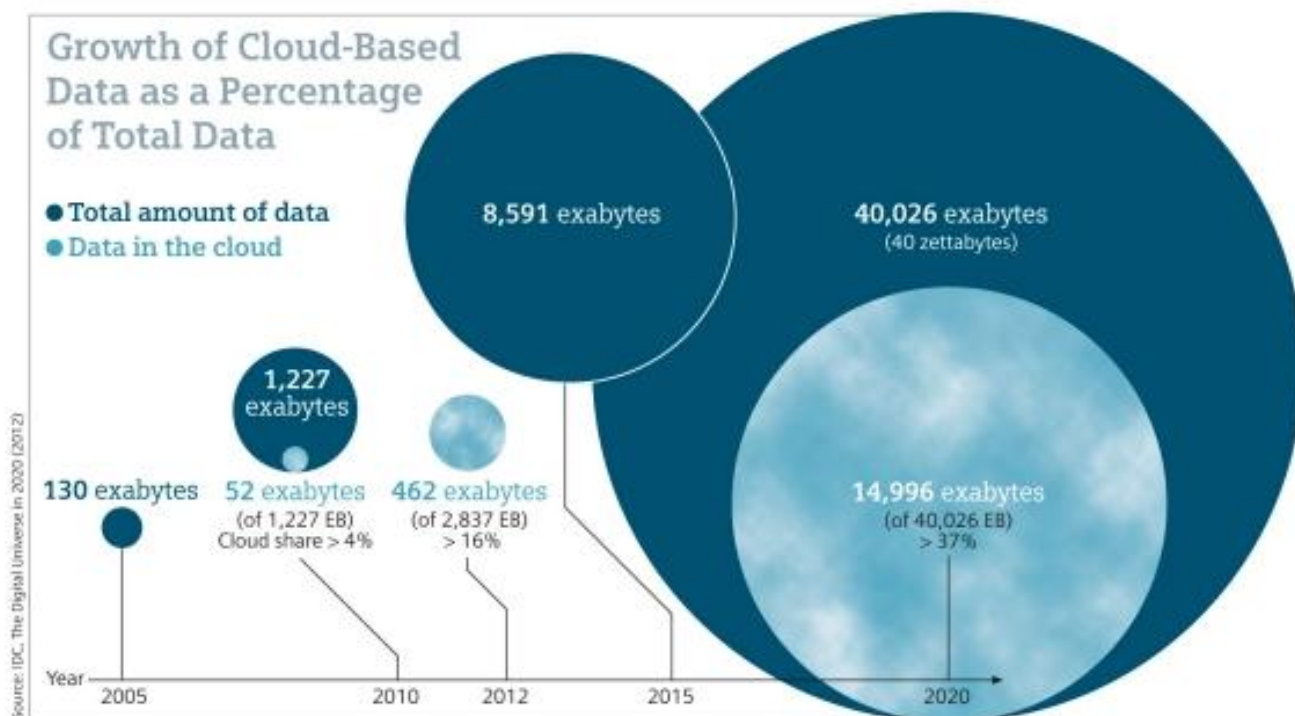
- 物联网

- 兼容性 (Work together)
- 模块化 (APIs & Interoperability)

))) NFC)))



物联网机遇和挑战——大数据



物联网机遇和挑战——信息安全

- 没有了安全物联网 (IoT) 会变成什么?

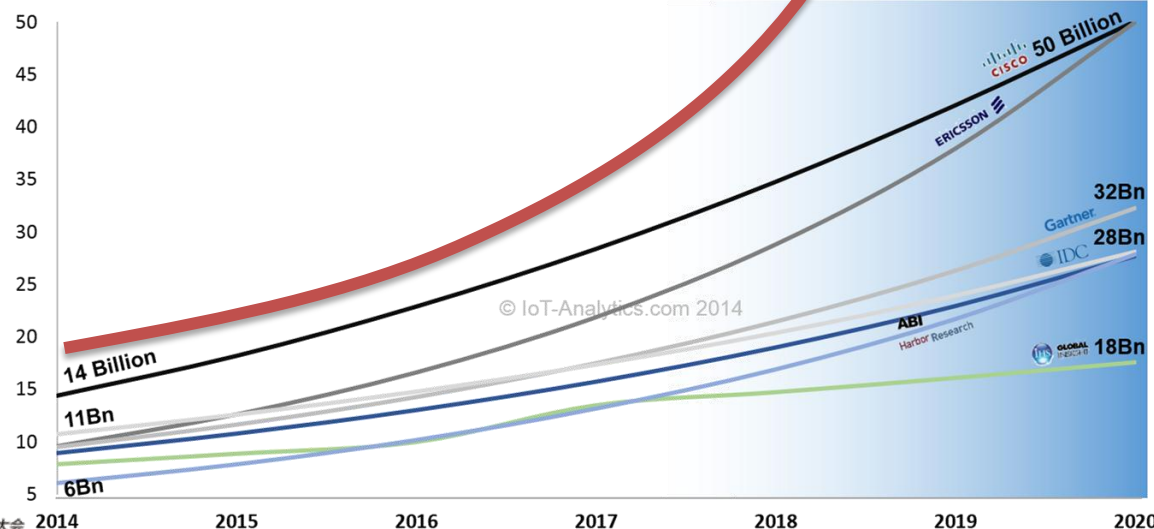
- Internet of **broken** Things?
- Internet of **spying** Things?
- Internet of **lying** Things?

- 攻击入口 (Attack Surfaces)

- 硬件: hardware attacks, side-channel
- 软件: malware
- Sensors & Actuator
- Communication

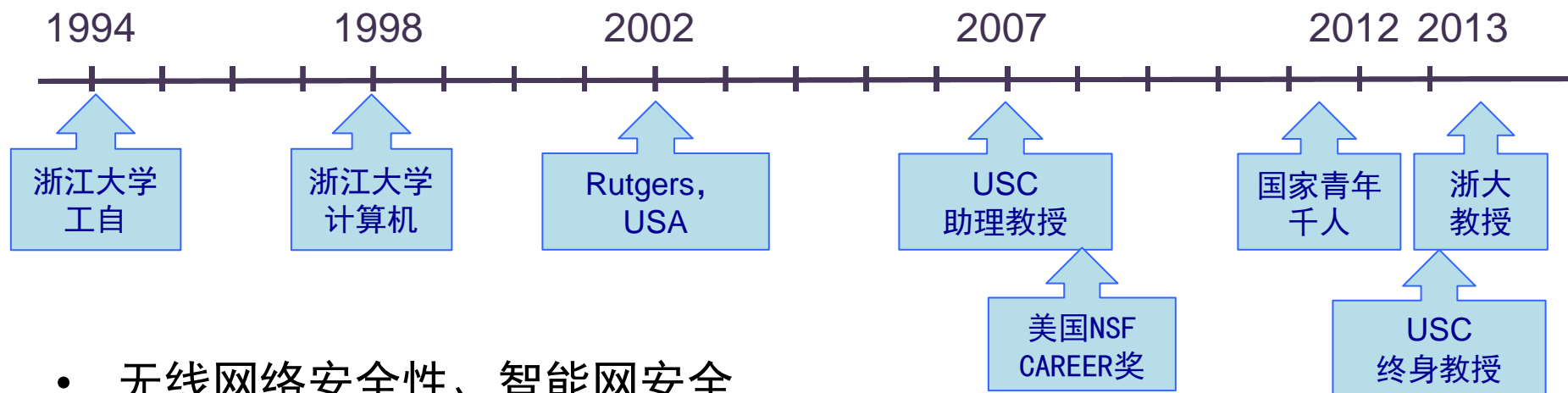
Global IoT/IoE device forecasts

of worldwide connected devices² (in Billion)



How many vulnerabilities?

Who am I? 徐文渊



• 无线网络安全性、智能网安全

- 实时工控网信息安全监控
- 车载网、医疗设备、等的系统安全攻击以及分析
- 基于生物行为特征的身份认证



谢谢！

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IoT Units Installed Base by Category

Category	2013	2014	2015	2020
Automotive	96.0	189.6	372.3	3,511.1
Consumer	1,842.1	2,244.5	2,874.9	13,172.5
Generic Business	395.2	479.4	623.9	5,158.6
Vertical Business	698.7	836.5	1,009.4	3,164.4
Grand Total	3,032.0	3,750.0	4,880.6	25,006.6

Source: Gartner (Nov. 2014)

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