

Key Competitive Elements for Smart Home Service Providers

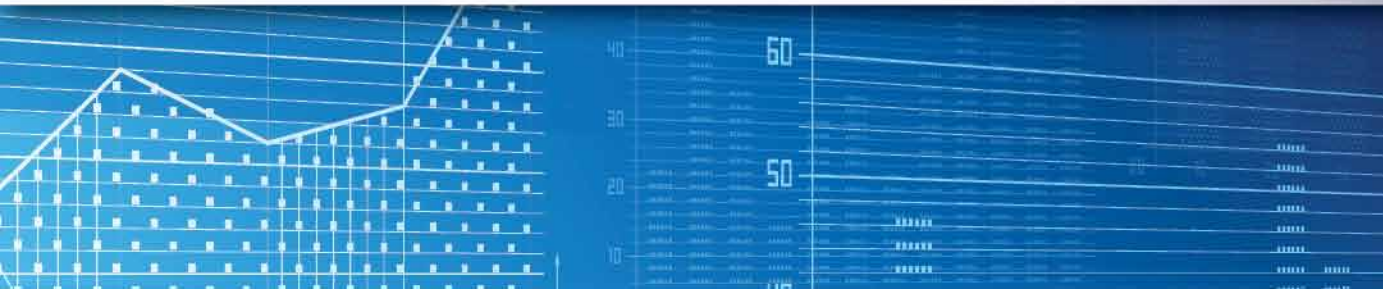
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Key Competitive Elements for Smart Home Service Providers



Nate Williams

Chief Marketing Officer and
EVP of Business Development

Greenwave Systems



Jim Hunter

Chief Scientist and
Technology Evangelist

Greenwave Systems

Key Competitive Elements for Smart Home Service Providers

Agenda

- Communication
- Networking
- Quality of Service
- Extending
- Q&A

Communication

Proprietary Protocol

Z-Wave Protocol



Communication



ZigBee
Control your world



Low Energy



I N S T E O N

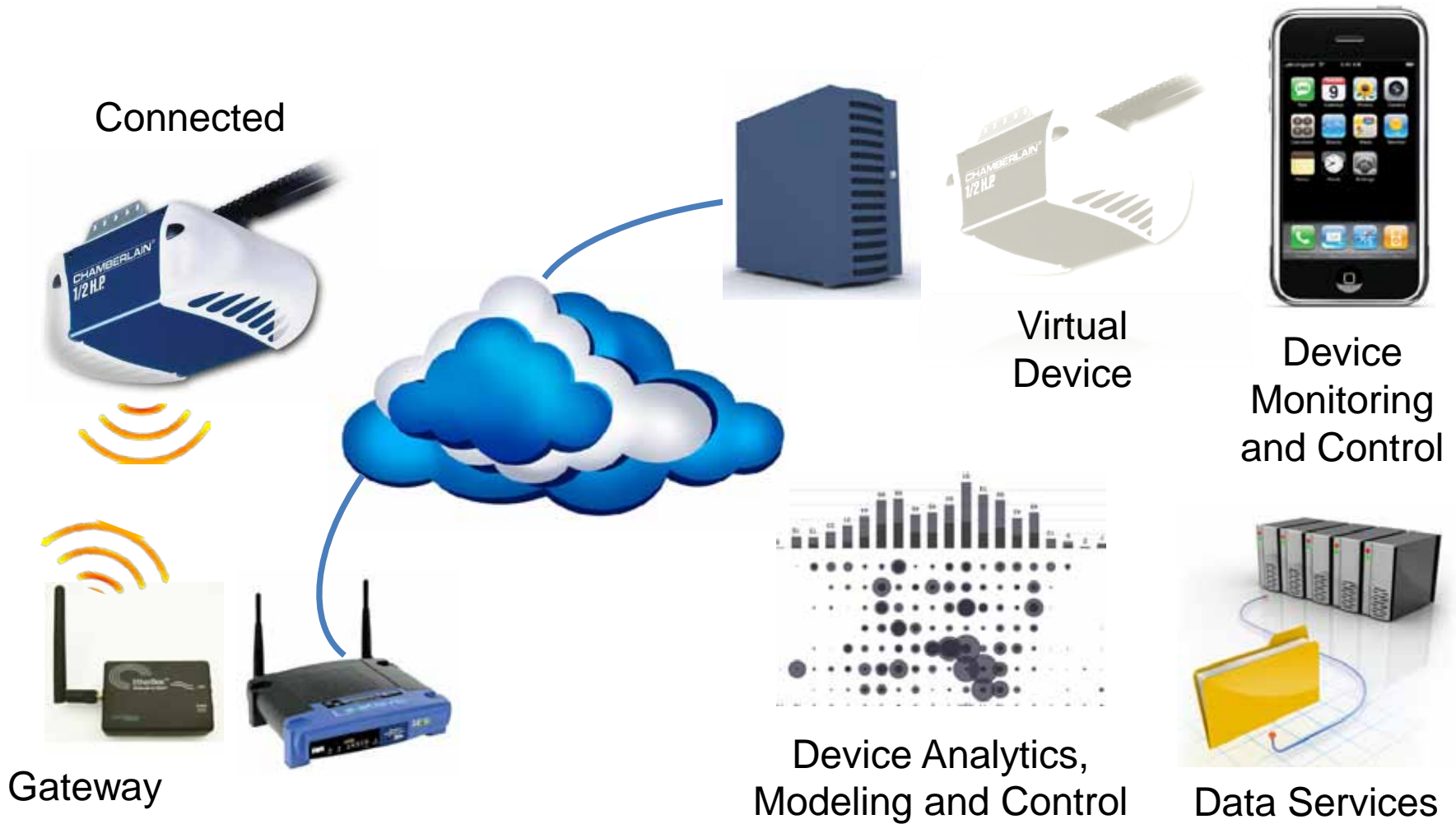


OPEN
INTERCONNECT
CONSORTIUM



**ALLSEEN
ALLIANCE**

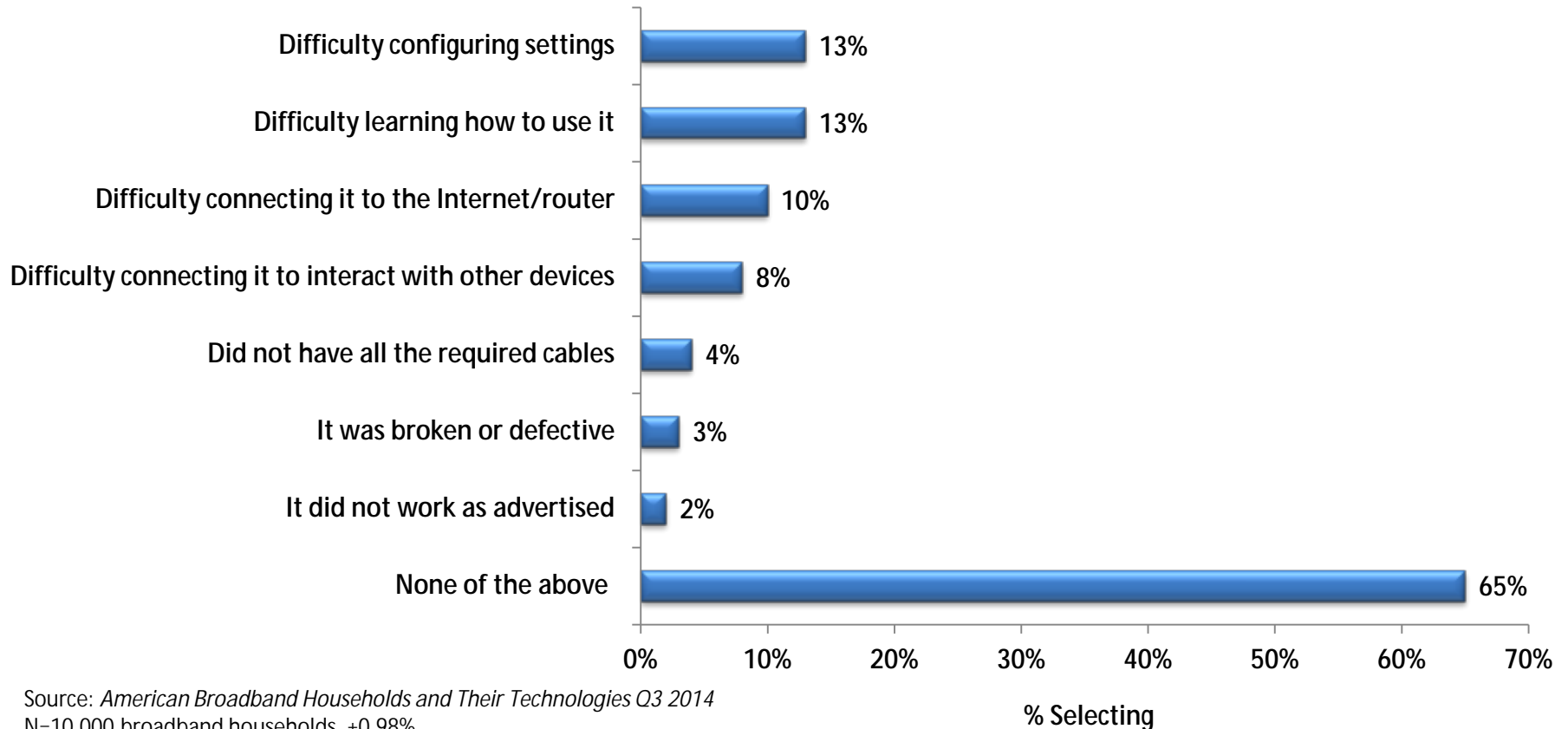
Communication



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CE Device Setup Problems (Q3/14)

"T8220. Which of the following problems did you experience when setting up the [Device]?"
(Among Respondents Setting Up a Device, n=3,036, ±1.78%)



Source: *American Broadband Households and Their Technologies Q3 2014*

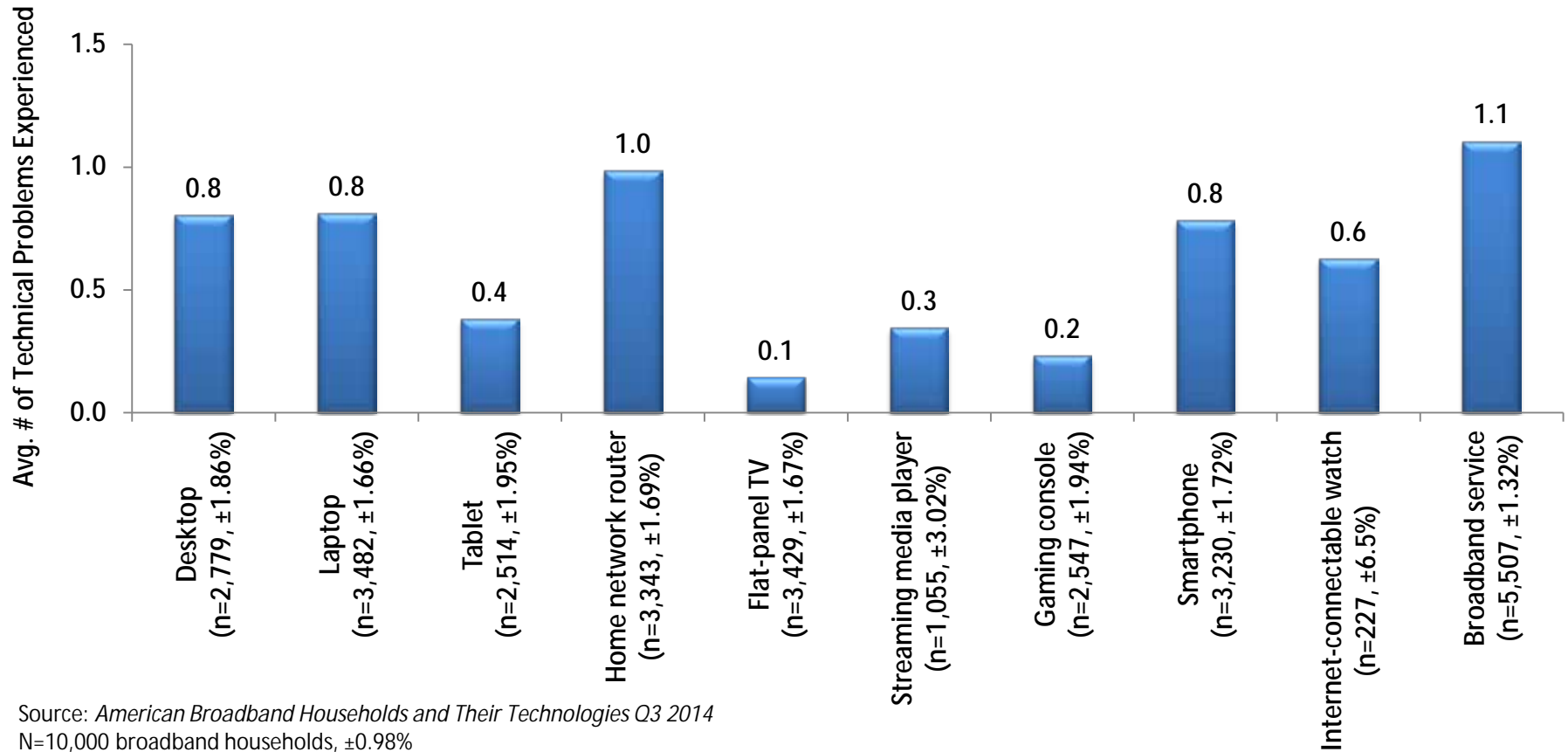
N=10,000 broadband households, ±0.98%

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Frequency of Technical Problems (Q3/14)

"T8070. Over the last 12 months, approximately how many technical problems have you experienced with the following devices?"

(Among Respondents Owning Specified Devices & Attempting to Fix the Problem Within the Household)



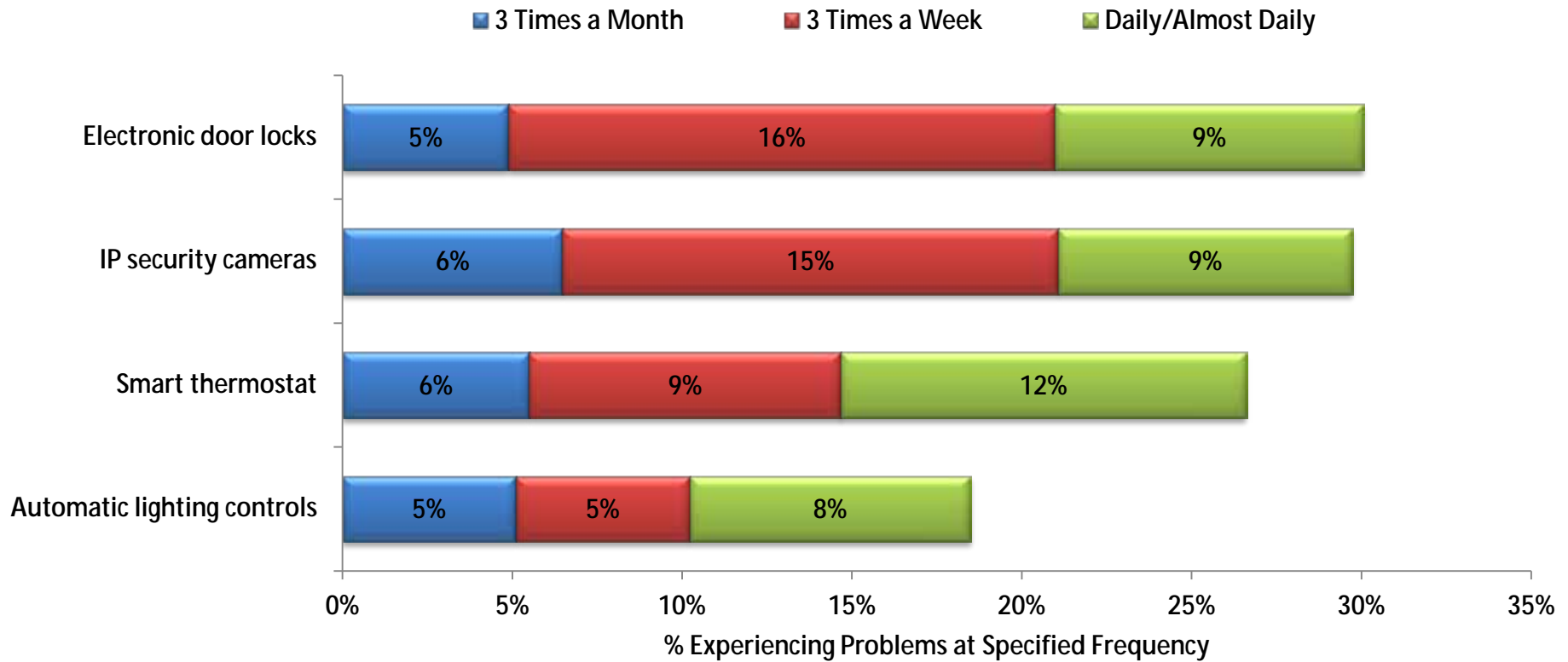
Source: American Broadband Households and Their Technologies Q3 2014

N=10,000 broadband households, $\pm 0.98\%$

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Frequency of Device Problems (Q4/12)

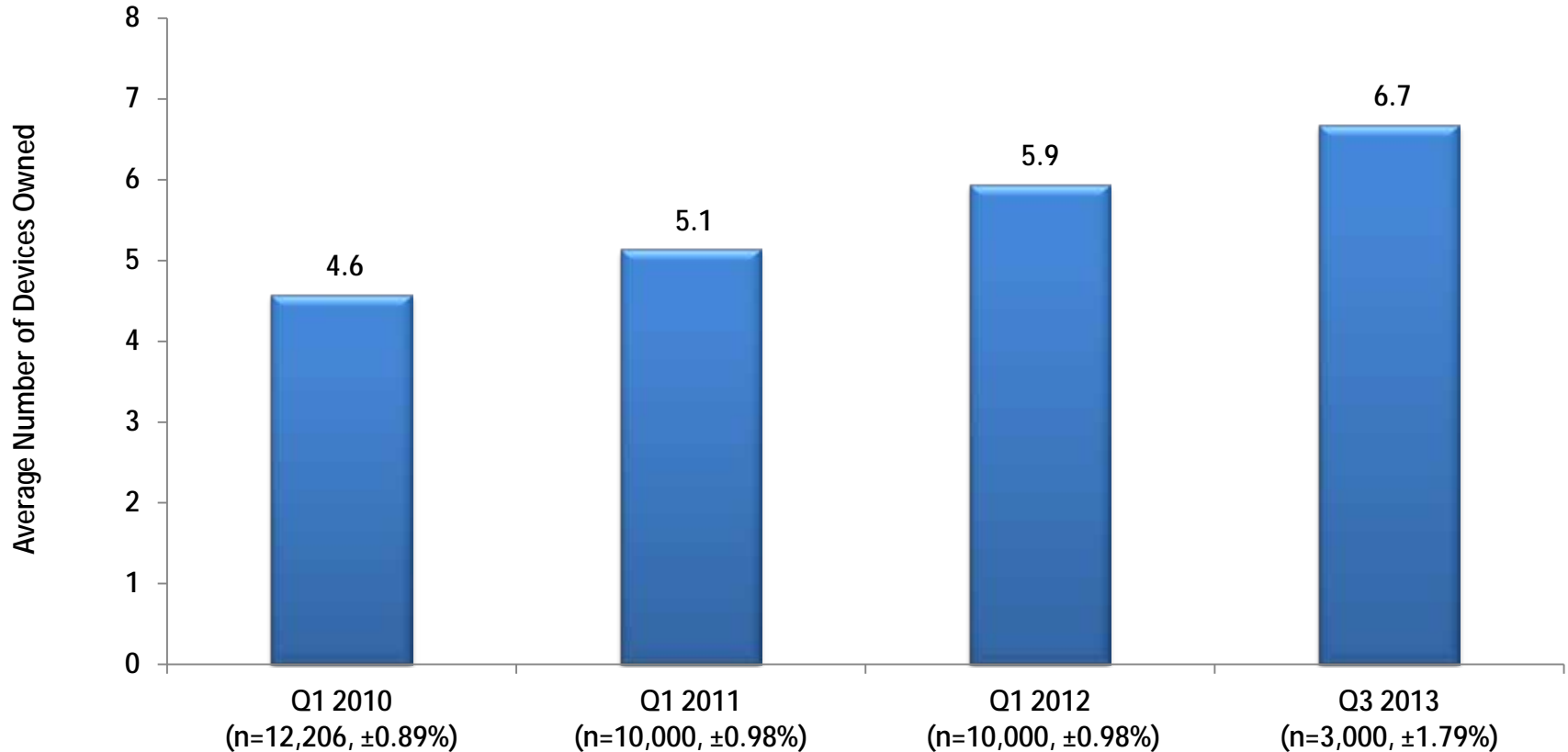
"How often do you experience problems with the following devices?"
(Among BB HHs Owning Specified Devices)



Source: *The Evolution of Tech Support: Trends and Outlook*
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Quality of Service

Average Number of Connected Devices Owned per BB HH (2010 - 2013) (Among BB HHs, Outliers Excluded)

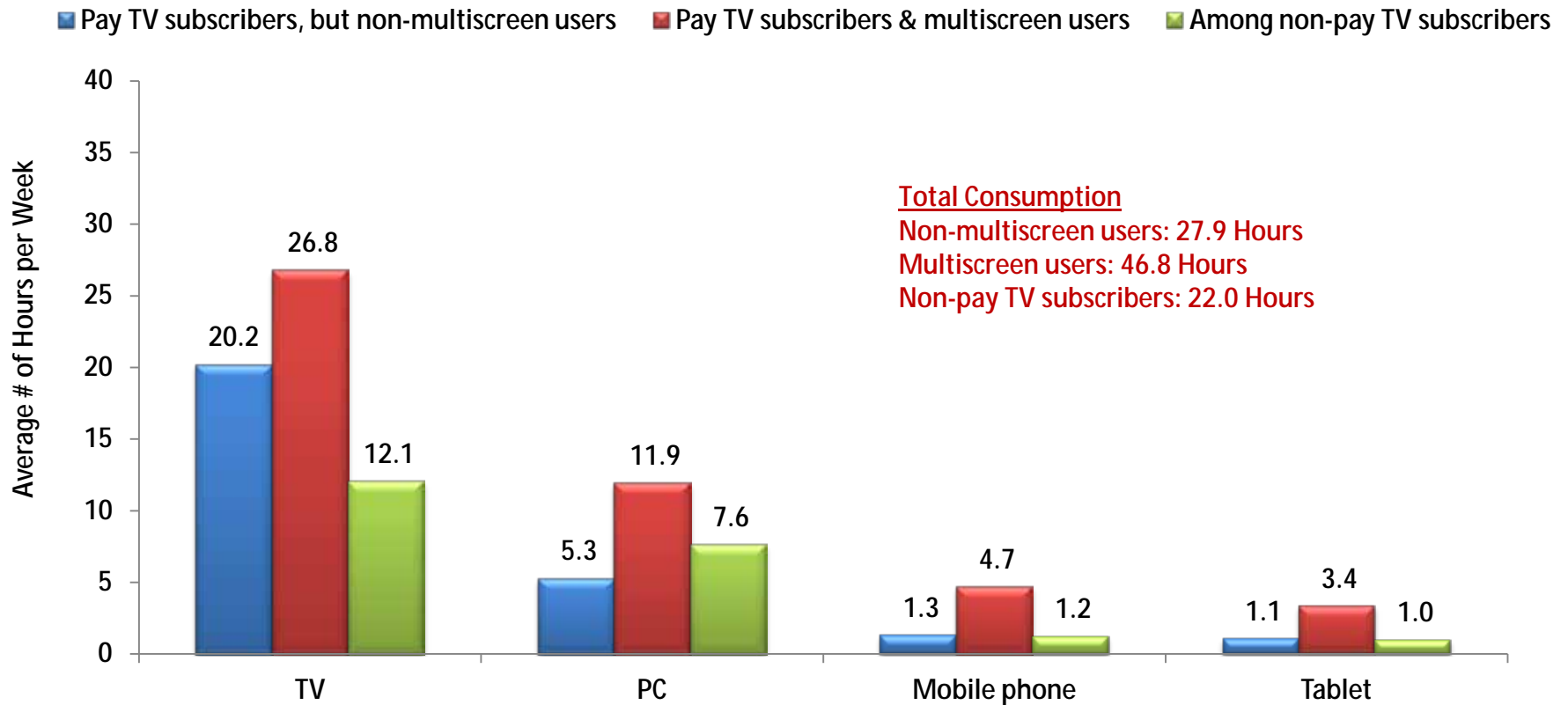


* Connected Devices include desktop computers, laptop/netbook computers, tablets, gaming consoles, streaming media devices, and smartphones.

Quality of Service

Video Consumption on Platform by Multiscreen Users (Q1/14)

"During a typical week, how many hours do you watch the following types of video on ...?"
(Among Pay-TV Subscribers or Non-Pay TV Subscribers, Outliers Excluded)



Source: *American Broadband Households and Their Technologies Q1 2014*

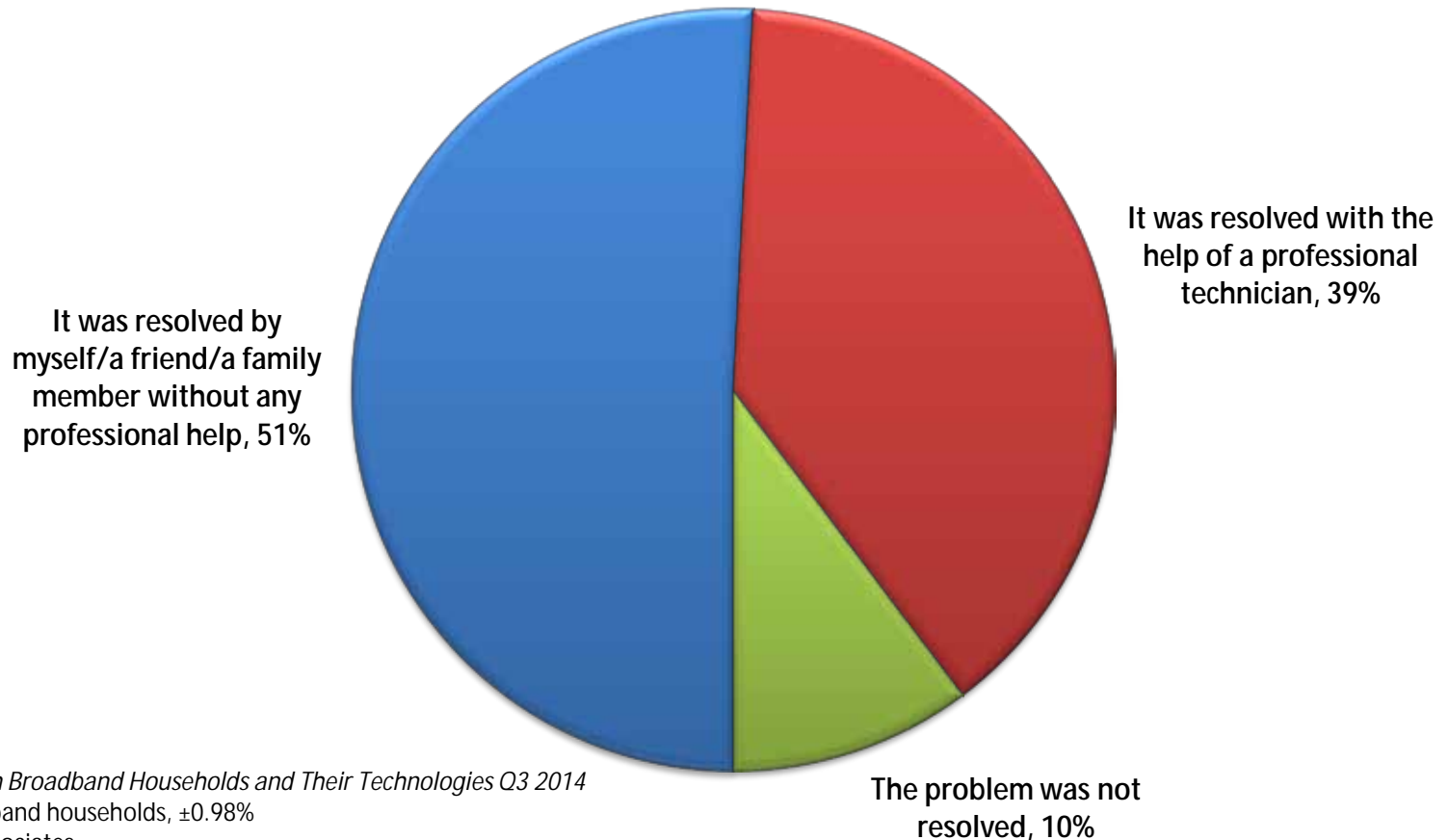
N=10,000 broadband households, ±0.98%

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Communication, Networking, Quality of Service

Technical Problem Resolution Outcome (Q3/14)

"T8080. In thinking about the most recent problem you experienced with your [Device/Service], which statement best describes how the problem was ultimately resolved?"

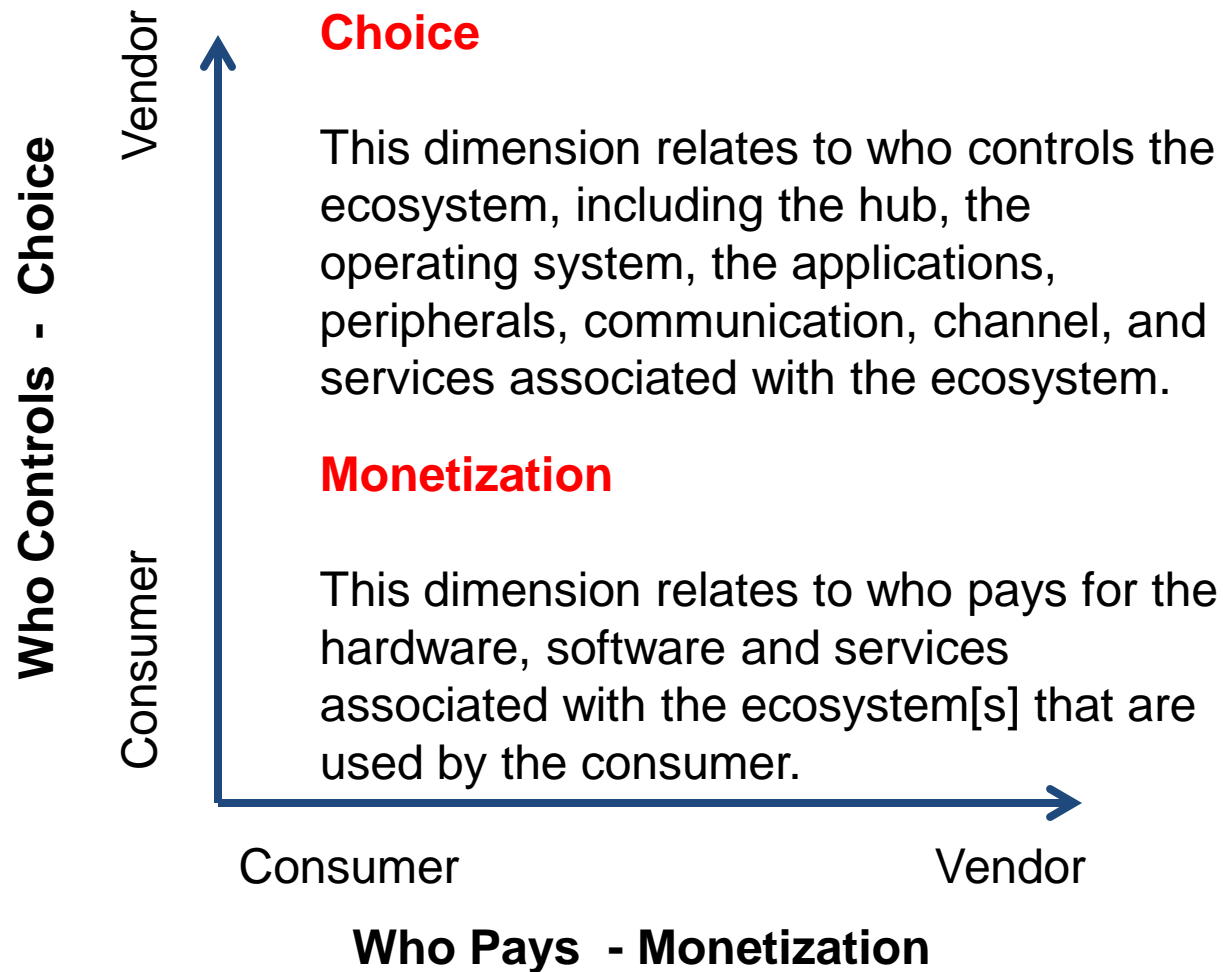


Source: *American Broadband Households and Their Technologies Q3 2014*

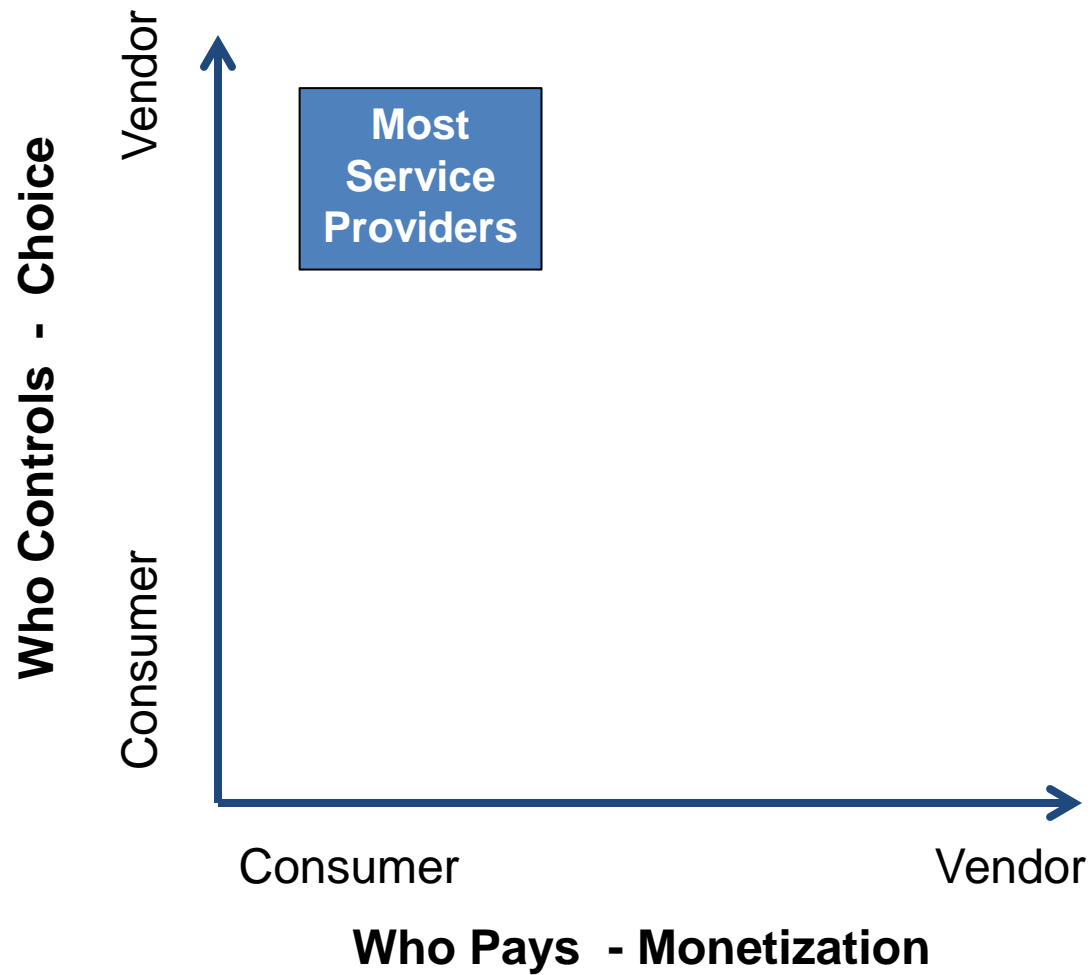
N=10,000 broadband households, $\pm 0.98\%$

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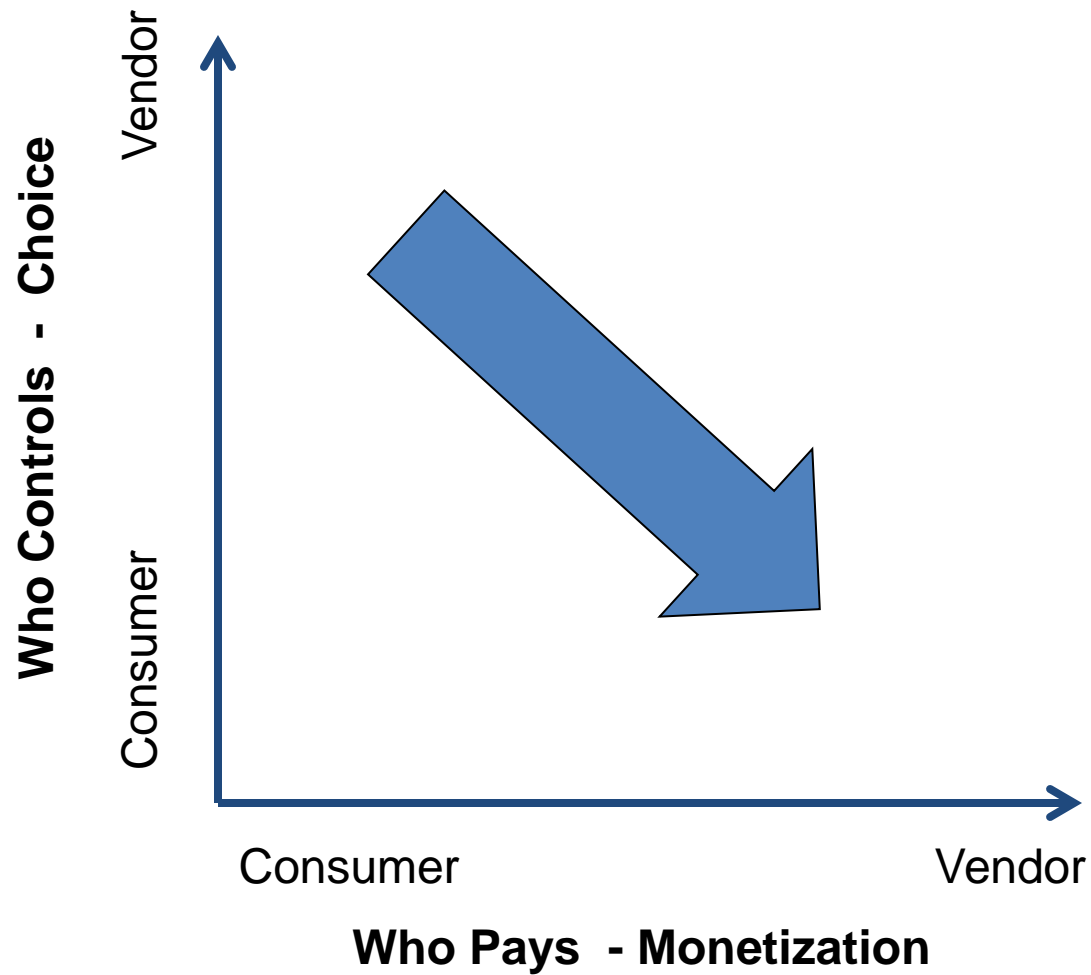
Extending



Extending



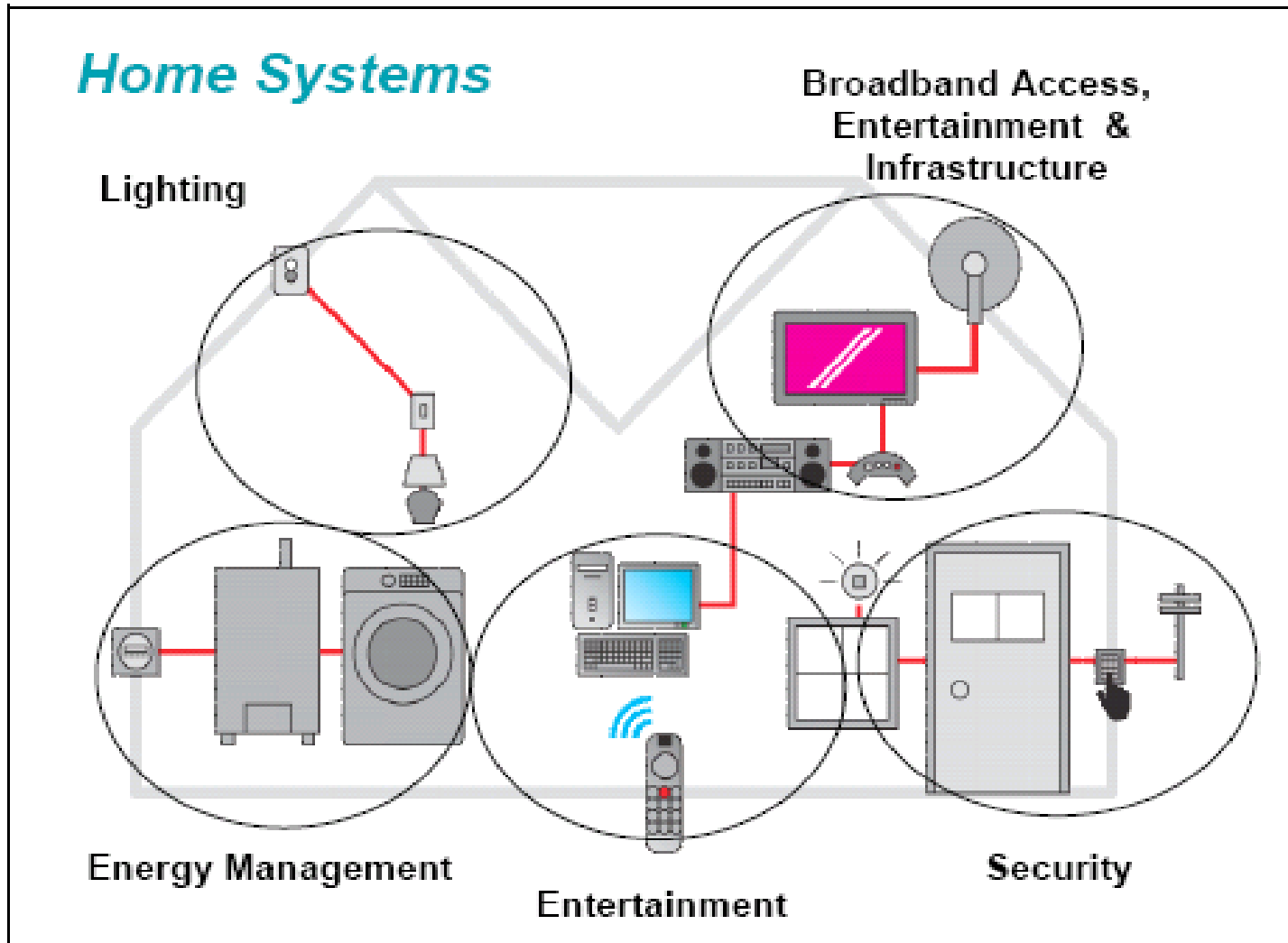
Extending



A network diagram with green nodes and lines, featuring icons for a house, a car, a lightbulb, and a paperclip.

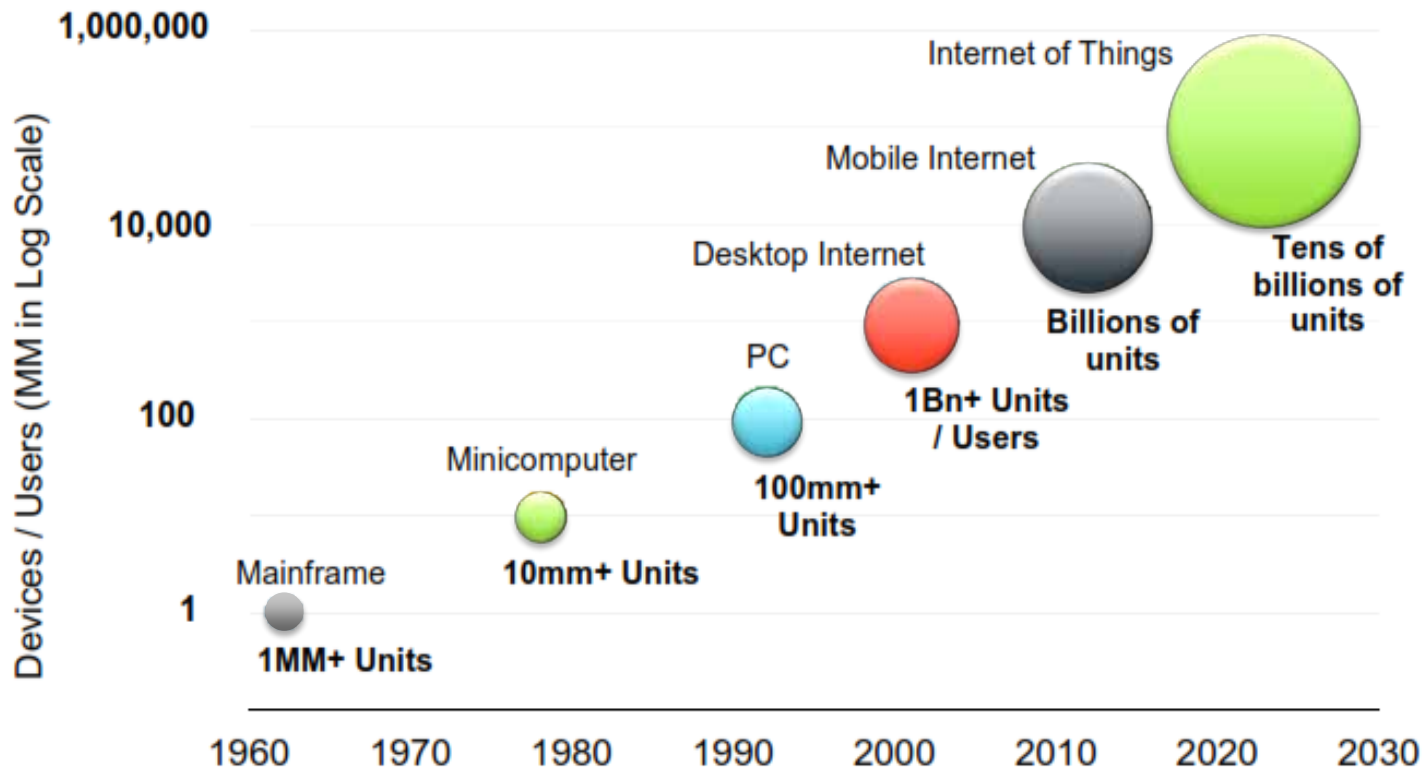
GREENWAVE SYSTEMS

CONNECTED HOME – PARKS ~2005



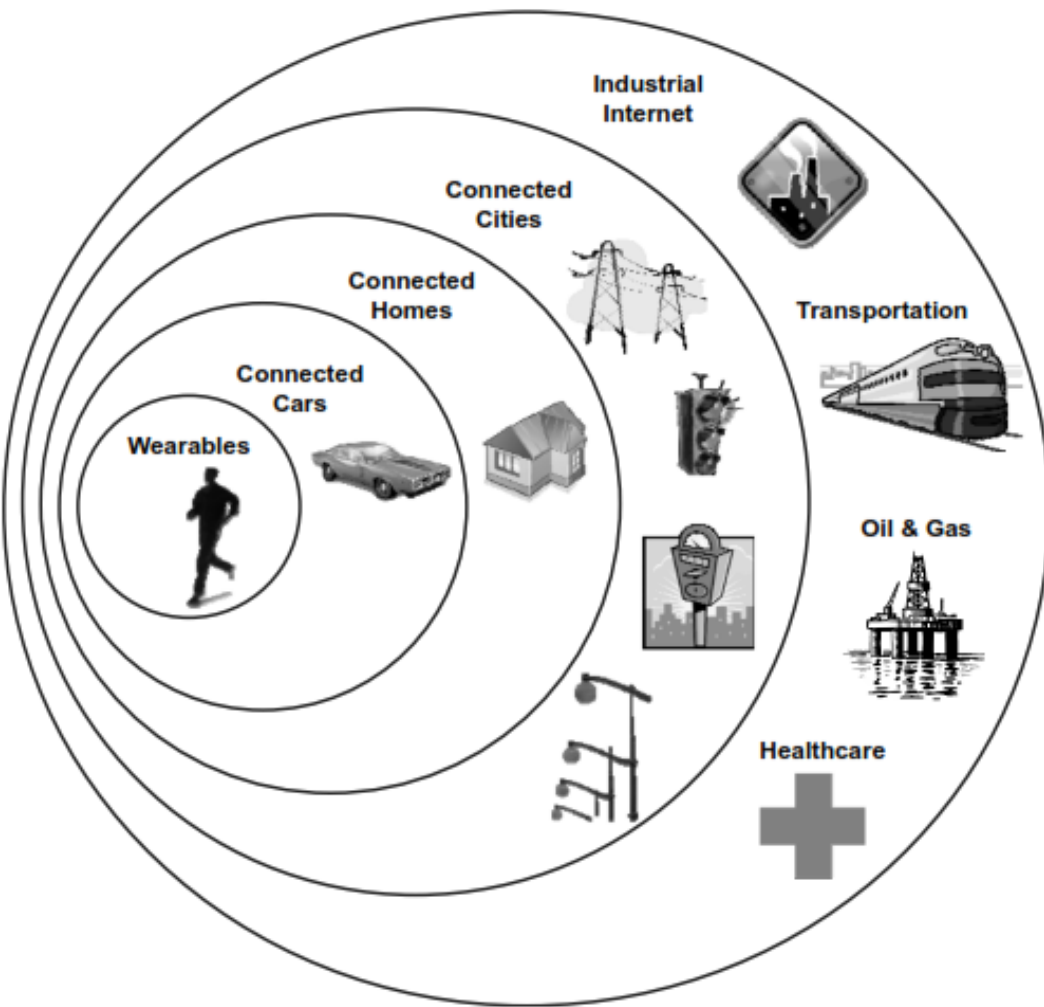
IOT IS THE NEW MOBILE

Computing Growth Drivers Over Time, 1960-2030e



Source: Morgan Stanley Research

HOW IOT/M2M INTERSECTS WITH SP GROWTH INITIATIVES



Growth Initiatives

Wireline strategic initiatives:





- Broadband
- Consumer and enterprise video
- Cloud services

Wireless strategic initiatives:

- Mobile video
- Mobile commerce
- Innovation centers

Source: Goldman Sachs Global Investment Research

BATTLE BETWEEN DEVICE & NETWORK

	Apple	Google	Microsoft	Amazon	Samsung	Sony
Mobile O/S	iOS	Android	Windows 8	Android (forked version)	Android (skinned version)	Vita OS, Android (skinned version)
Desktop O/S	Mac OS X	Chrome OS	Windows 8	N/A	N/A	N/A
Mobile Hardware	iPhone, iPad	Nexus 4, 7, 10, Google Glass	Windows 8 phones, Surface tablet, Nokia	Kindle Fire Tablets	Samsung Galaxy phones, tablets, smartwatch	PS Vita, Xperia phones, tablets, smartwatch
Desktop Hardware (PC/Laptop)	MacBooks, iMac, Mac Pro, Mac Mini	Chromebooks	Windows-based PCs & laptops	N/A	ATIV PC/notebooks, Chromebooks	N/A (announced sale of business in Feb '14)
Home Entertainment	Apple TV	Chromecast, Google TV	Xbox devices	Amazon Cloud Player, Prime Instant Video	Samsung TVs, media players, audio systems	Playstation devices, Sony TVs, media players
Household Devices & Appliances	 HomeKit	 nest	 smartlabs I N S T E O N	N/A		N/A
Storefront	iTunes + AppStore	Google Play	Windows Store	Amazon, Amazon Appstore	Samsung Appstore	Sony Entertainment Network
Cloud Storage	iCloud	Google Drive	Sky Drive	Amazon Cloud Drive	AllShare Play Cloud Storage	Sony Media Cloud Services
Tech Partners	N/A	Android & Chrome device manufacturers	Windows device manufacturers	N/A	N/A	N/A

Source: UBS

ABOUT GREENWAVE SYSTEMS

Mission: Leverage our intelligent Axon™ platform to enable innovative network-based services for leading service providers, CE manufacturers and retailers

Market Leading IoT & Managed Services Platform



- Enabling seamless connectivity
- Software deployed on over 3 million endpoints
- 43 patents issued; 21 patents pending
- 215 full time employees

Business / Brand Enabling Solution



- Building managed services platform and engagement solutions for leading brands
- Full partner from design to rollout and T3 support

Disruptive 360° Engagement Model



- Proven model to product world-class products powered by Axon platform
- Greenwave manages supply chain and accelerates TTM
- Significant cost savings over traditional ODM model

SMART DEVICES DEMAND SMARTER PLATFORMS

Greenwave Systems provides an industry-leading Internet of Things (IoT) platform to enable service providers and utilities to profitably deploy managed services.



Access



Convenience



Efficiency

GREENWAVE CORE COMPETENCIES

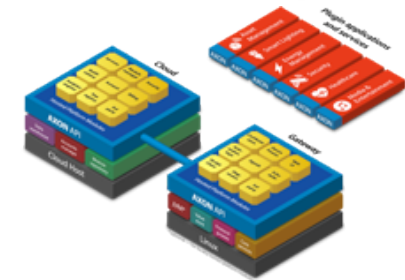
1

Device: Proven ability to develop, design and deploy H/W devices. Disruptive “direct to CM” approach.



2

Platform: Connectivity software to manage the commissioning and enablement of devices into network-based application management. Full life cycle management.



3

Applications: White label applications that can generate recurring monthly revenue or be connected to a device sale. Energy Management (EMS), Connected Lighting and Home Automation are all GA.



4

Big Data Applications: Use of device connectivity and cloud services to generate information products that reduce total cost of ownership (TCO) or provide additional revenue.



TECHCRUNCH ARTICLE



If We Build IoT, They Will Come. Right?

Posted Oct 11, 2014 by [Jim Hunter](#), [Nate Williams](#) (@natewilliams)

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Editor's note: *Jim Hunter is chief scientist and Nate Williams is the executive vice president of Emerging Business at [Greenwave Systems](#). Williams is also an adviser for the [Internet of Things Consortium](#).*

It looks like this IoT trend is starting to catch on with the developer community. At least, that's a conclusion one could draw from the reported results of a new [Evans Data Corporation survey](#). Of the 1,400 developers who participated in this survey, 40 percent said they were either working on applications for connected devices for the [Internet of Things](#) (IoT) now or expect to begin work on applications within the next six months.

BACKGROUND

- Key IoT challenges mirror challenges that mankind and societies have encountered over the ages for communication, transportation and resource management.



4 KEY IoT CHALLENGES

Communications



QoS



Networking



Extending





COMMUNICATION CHALLENGE

Γειά 喂 สวัสดี hello
안녕하세요 olá
Today there are many THING languages
Tomorrow there may be even more
Привіт Ciao
aloha guten tag
今日は goddag Chào ahn / Chào chi
こんにちは
hallo Привет shalom



IDEAL SOLUTION

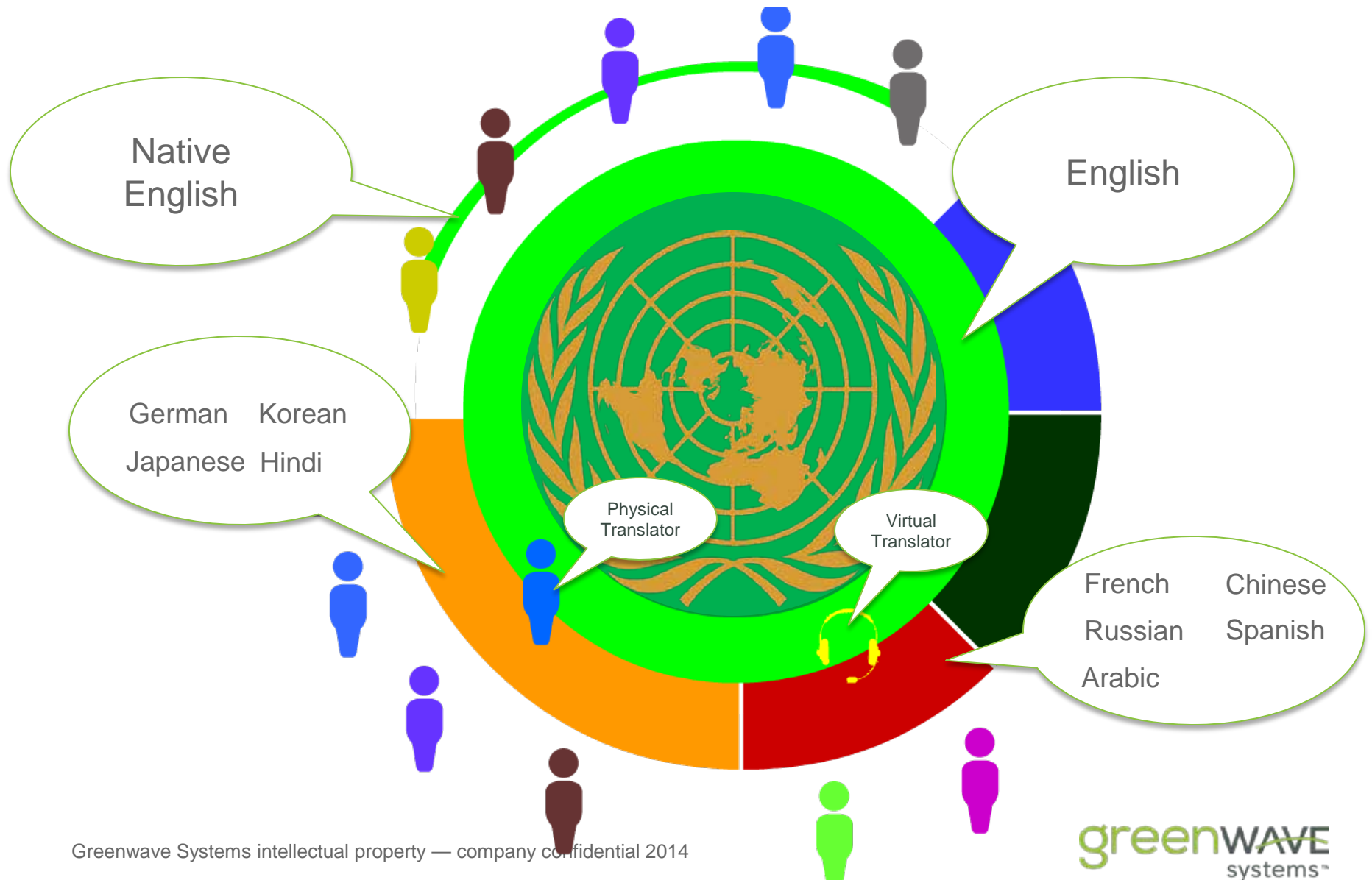


Language
Scope
Priority
Context
+ Interaction

Communication



IDEAL SOLUTION





GREENWAVE SOLUTION





NETWORKING CHALLENGE

Thingsⁿ are joining the
network and vying for
bandwidth

Measured in
Mbps



IDEAL SOLUTION



**An understanding by all
devices of “traffic” rules**

Measured in
Mbps



GREENWAVE SOLUTION

We **CANNOT** count on all devices



We **CAN** manage traffic intelligently



QoS CHALLENGE



**Grow and maintain
healthy and reliable
home networks**



IDEAL SOLUTION

**Certifying authority to
guarantee and manage
ALL intelligent devices**





GREENWAVE SOLUTION

Self Healing

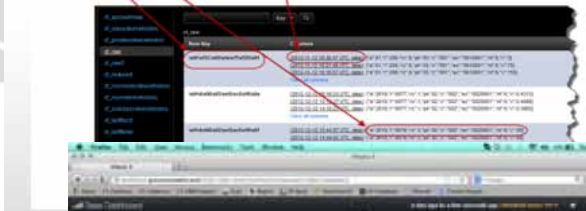
Self Diagnostics

Value Store

Adaptive



Area Type	Area Name	Area Status	Area Type	Area Status
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701
DeviceTypeAreaType	201701	201701	201701	201701





EXTENSIBLE CHALLENGE



**How to ensure an
extensible network that
allows for innovation**



IDEAL SOLUTION

**All software follows the
same model and is
modularly extendable**

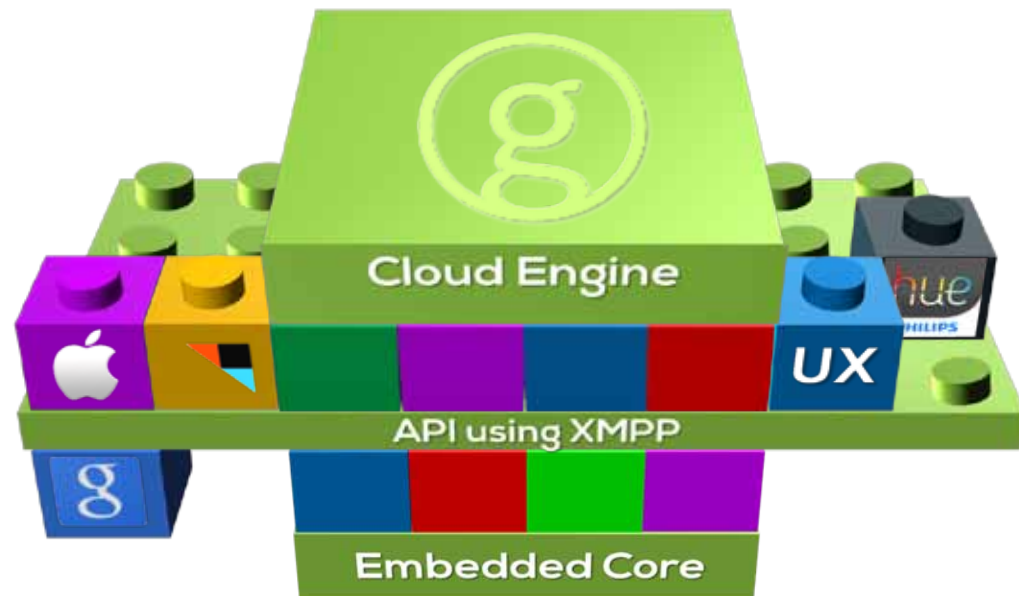




GREENWAVE SOLUTION

Axon Platform

- Horizontal
- Modular
- Distributed
- Extensible
- Consistent



The background is a dark grey network of interconnected nodes and lines. Nodes are represented by circles of various sizes and colors, including green, white, and grey. Some nodes contain white icons: a lightbulb, a house, a car, and a person. The overall theme is technology and connectivity.

Thank you!

Nate Williams @naywilliams
nate@greenwavesystems.com

Jim Hunter @theiotguru
jim@greenwavesystems.com

Questions?



Nate Williams

Chief Marketing Officer and
EVP of Business Development

Greenwave Systems



Jim Hunter

Chief Scientist and
Technology Evangelist

Greenwave Systems

Upcoming Smart Home Event!



CONNECTIONS SUMMIT

HOSTED BY **PARKS ASSOCIATES**

Monetizing Smart Home Solutions & Connected Devices



JAN 6, 2015
LAS VEGAS



International CES
THE GLOBAL STAGE FOR INNOVATION



PRODUCED BY **CEA**

Upcoming Smart Home Event!

CONNECTIONS EUROPE



Monetizing Strategies for the Connected Home

18-19 NOV 2014
Amsterdam

Thank You.

greenWAVE
systems™

Thank You.

Tom Kerber

Director of Home Systems and Energy

Parks Associates
15950 N. Dallas Parkway, Suite 575
Dallas, Texas 75248

Office: 972.490.1113

Fax: 972.490.1133

tom.kerber@parksassociates.com