



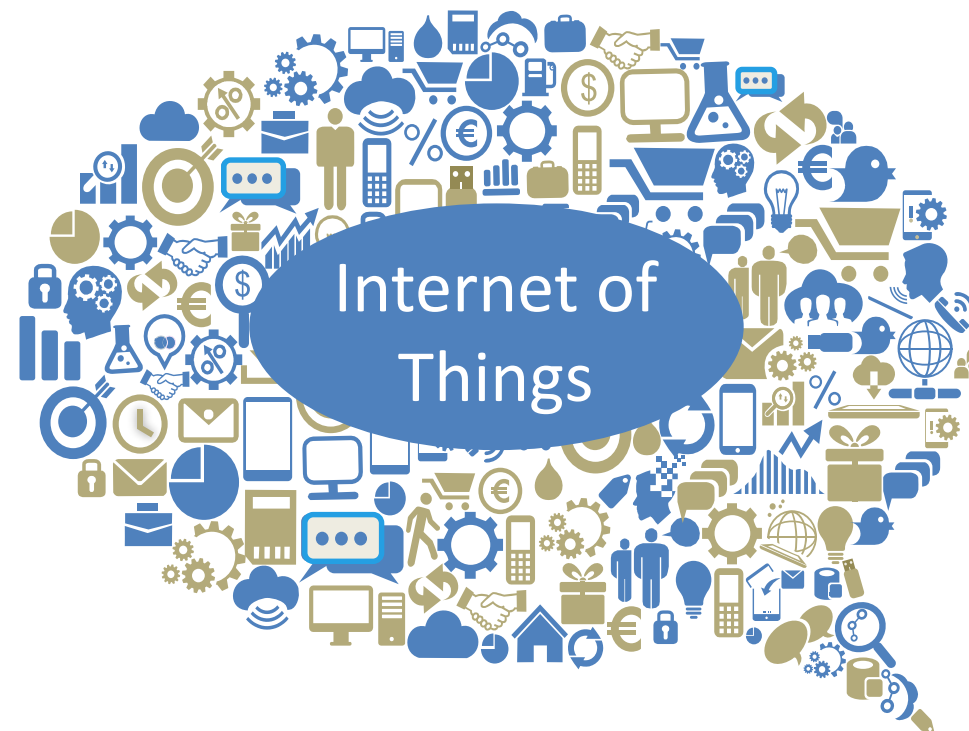
IoT...Fish, Fowl or Full Employment?

A Directionally Correct Snapshot of IT Partner Participation

Continuing Education for IPED Channel Masters

Today's Discussion

- This is NOT a Comprehensive IoT Review
- **Focus:** Traditional IT Partner Eco-system
- **Operational Vendors & Partners:**
The Channel Company Separate Effort



Let's get started... Big



Pictures in

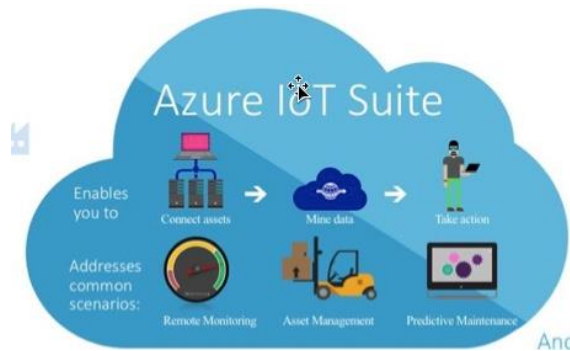


IT: technologies to process information

OT: devices, sensors, software in “the wild” derive business value

IoT Starter Kit, Powered by AWS

IT & OT = IoT



Advanced IoT

- Connected Safety & Security
- Industry Expert (Vertical): Operational Technology & Cisco Networking
- Manufacturing

Telephony Convergence



IoT Operational to IT Convergence



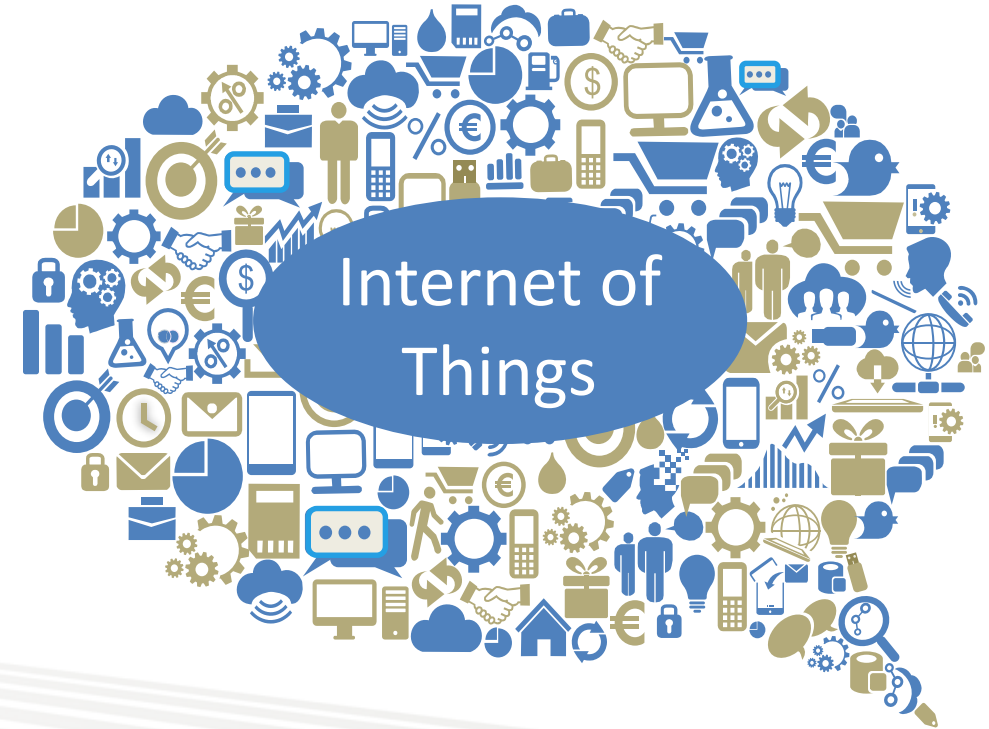
Your Interests, Our Thoughts

1 Establish Common Understanding

2 IoT Vendors (Alliances) Recruiting Your Partners

3 What's the Ideal IT & OT Partner Profile?

4 Closing Thoughts



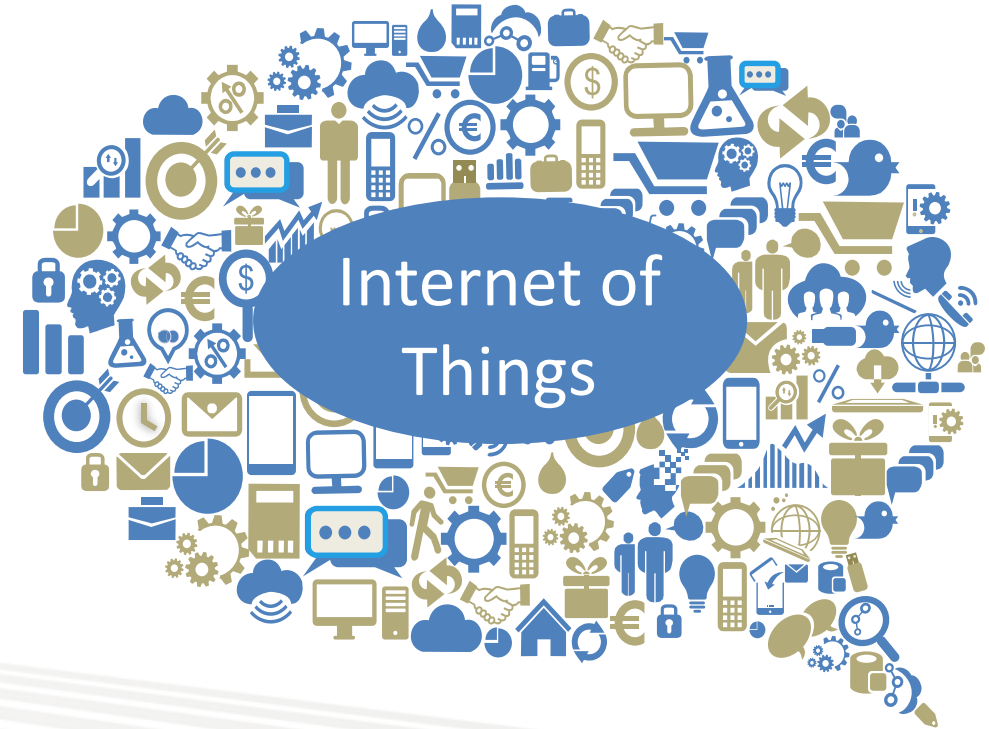
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Add These to Your Vocabulary...



Use These or Your Own Definitions

EDGE

- Sensors, actuators, devices (system end points) that interact with and communicate real time data from smart products and services

TELEMETRY

- Automated communications process/technology allowing measurements and other Edge data to be collected and shared

FOG

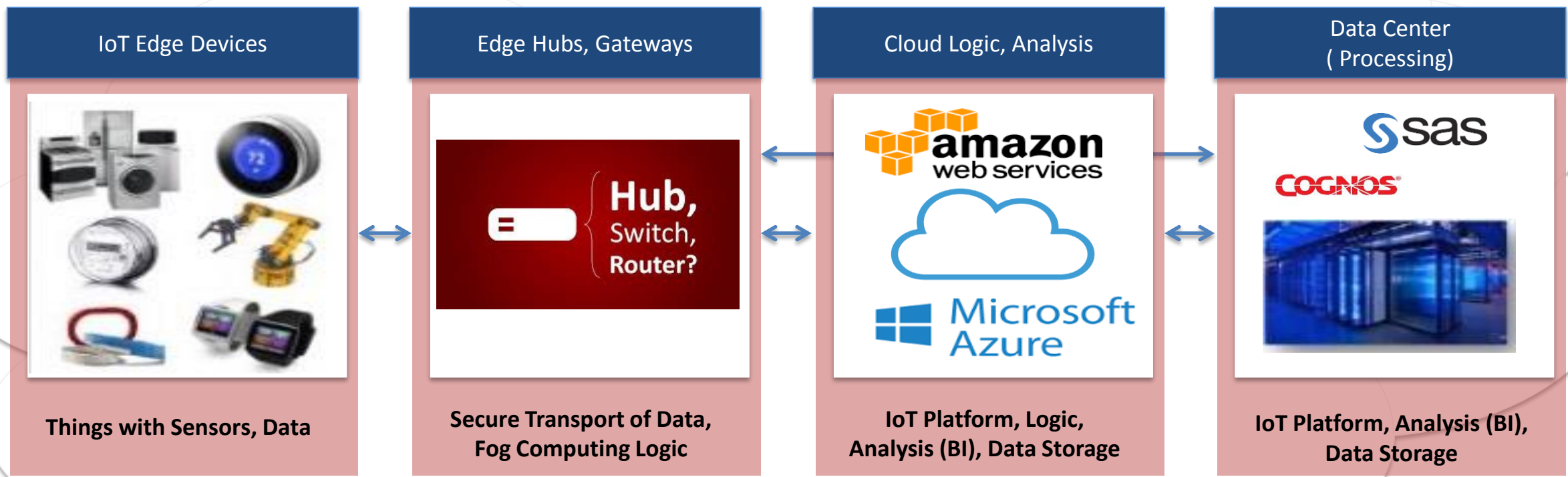
- Computing that takes place at or near the Edge devices. The term Fog originated to reflect a limitation in accuracy of data/content distribution. Coined by Cisco.

ANALYTICS = LOGIC

- Non-standard word usage: analytics, analysis, application logic
- For purposes of this discussion, we simply use Logic to represent all of the above and Business Intelligence (BI) to represent Big Data Analytics

Generally Speaking...IoT in Crayola

The Definition is Different by Person... Legacy Business Biases Each View

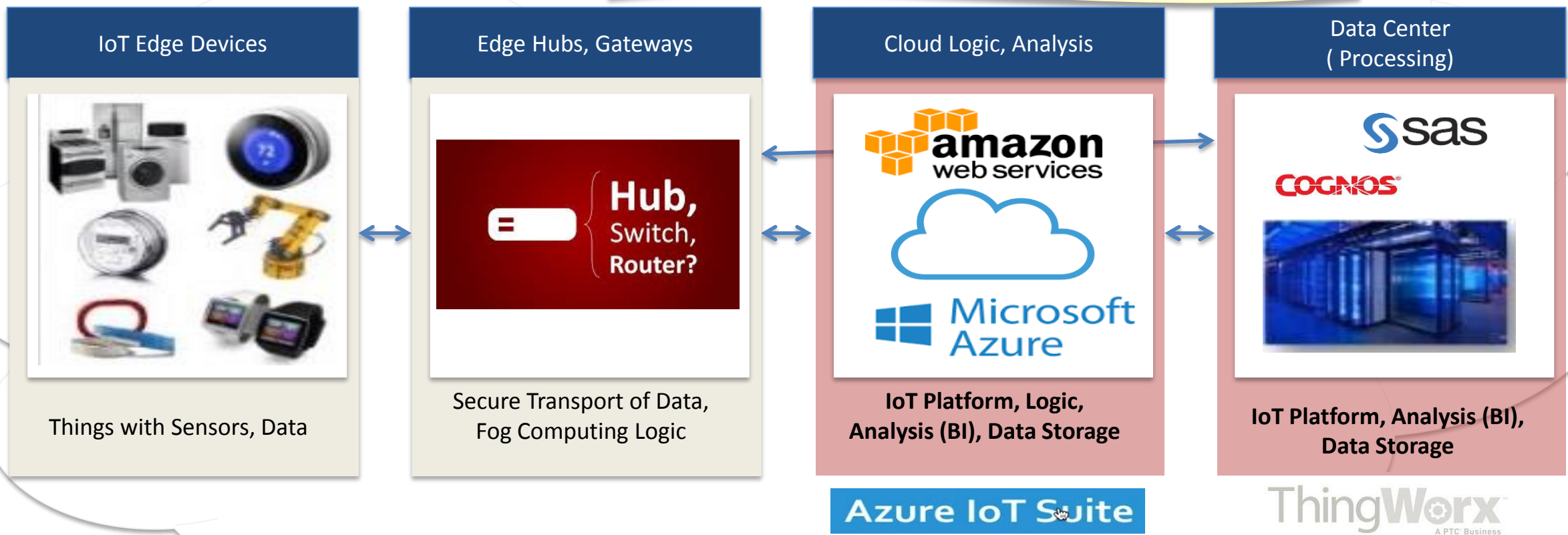


IP/MPLS Network

Source: IPED Secondary Research & Interviews

IoT Platforms: Collect or Receive Data, Introduce Logic, Analyses, Decisions or Dashboards, etc.

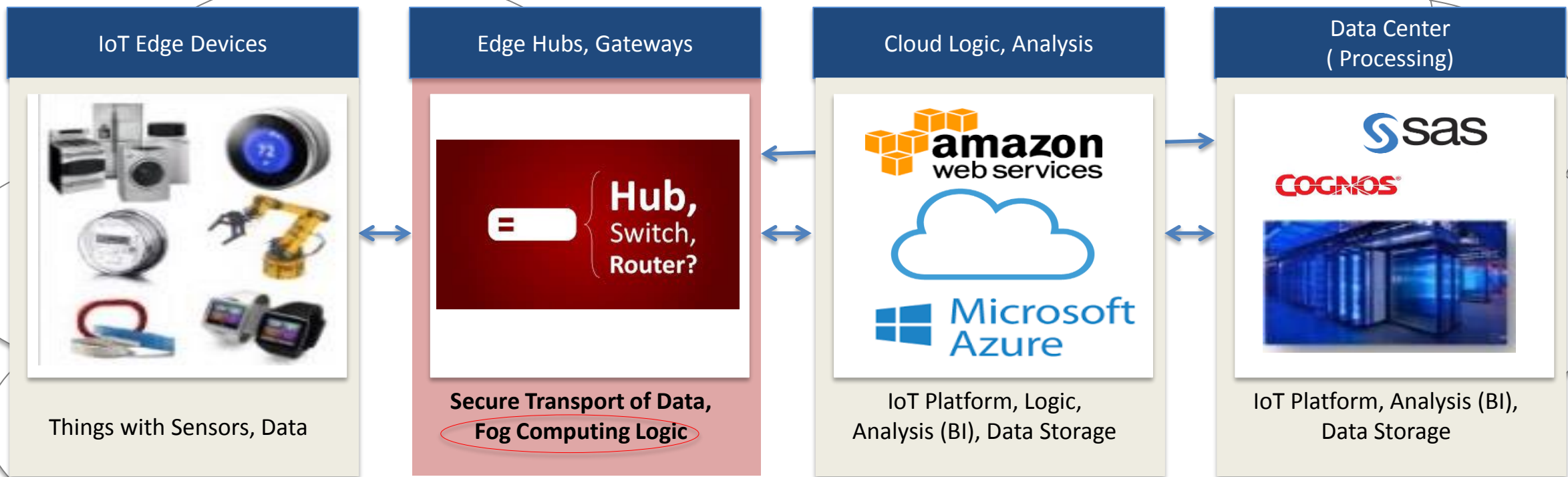
If a Partner's IoT play is Application driven, rather than in IoT Infrastructure, this is where the Partner starts.



IP/MPLS Network

Source: IPED Secondary Research & Interviews

Infrastructure Opportunity: “Deployment of Red Hat to the Edge eliminates one of the biggest inhibitors by introducing enterprise level security where we had great risk.”



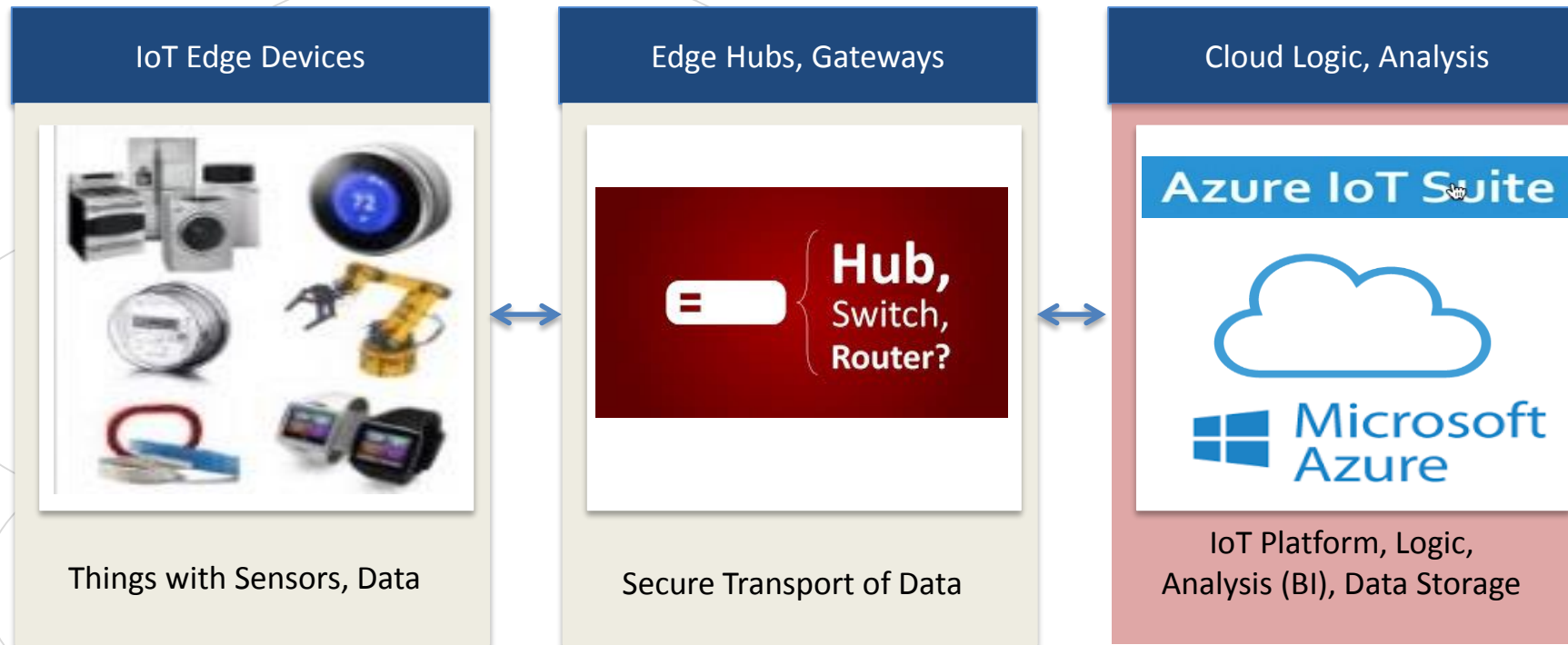
Logos for partner companies are displayed below the diagram:

- KMVC CONTROLS**
- redhat.**
- ThingWorx** (A PTC Business)
- CISCO**
- IBM**
- Azure IoT Suite** (in a blue box)
- ThingWorx** (A PTC Business)

“Further, Edge Security then allows us to bring more application logic, intelligence to the Edge which translates to higher value to the customer.”

Microsoft Partners: Build IoT applications in the Cloud on Azure...

Range from: Simple, Entry Level to Fortune 500 Complex IoT Solutions Nature



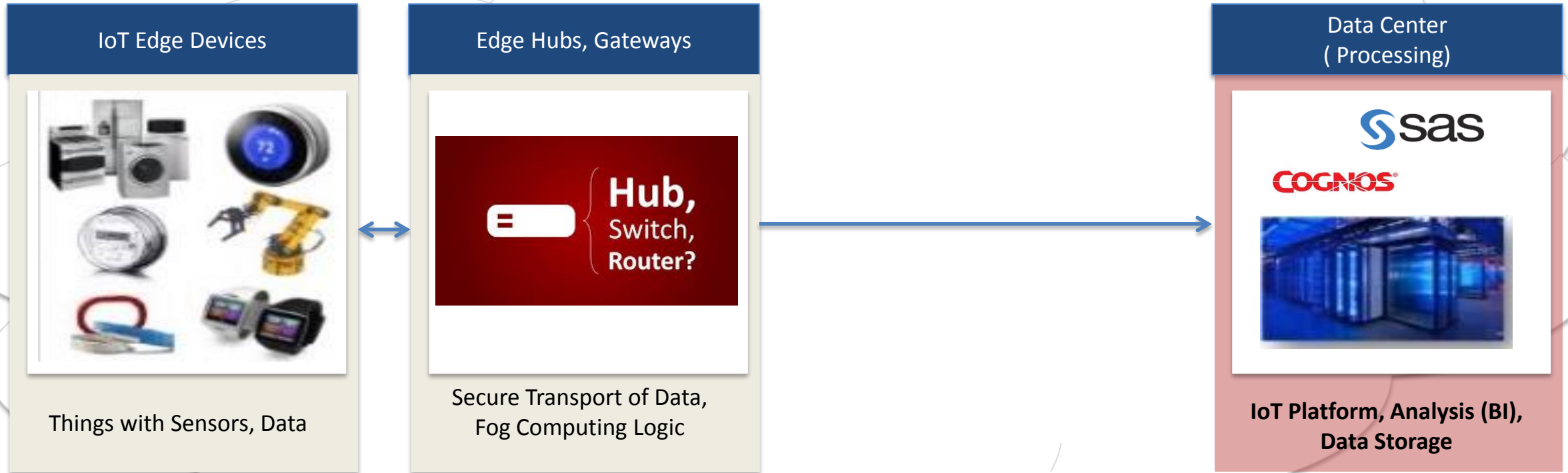
- No logic, analysis or analytics
- Simple API data collection

- All logic, analysis or analytics
- Transmits action back to Edge with network latency
- Time dependent decisions, e.g. water level/alarm/shutdown, not appropriate

- May or may not transmit data to Data Center for further BI/Big Data analysis, storage or processing
- Remember when Partners built DB, App Servers, Dev Tools?
- Microsoft's giving internal production level access to the IoT Suite to drive adoption

Source: IPED Secondary Research & Interviews

Traditional Data Center Partners are Investing in Big Data Infrastructure with an Emphasis on Data Storage and in some cases Business Intelligence (BI)



So IoT Means Different Things to Different People

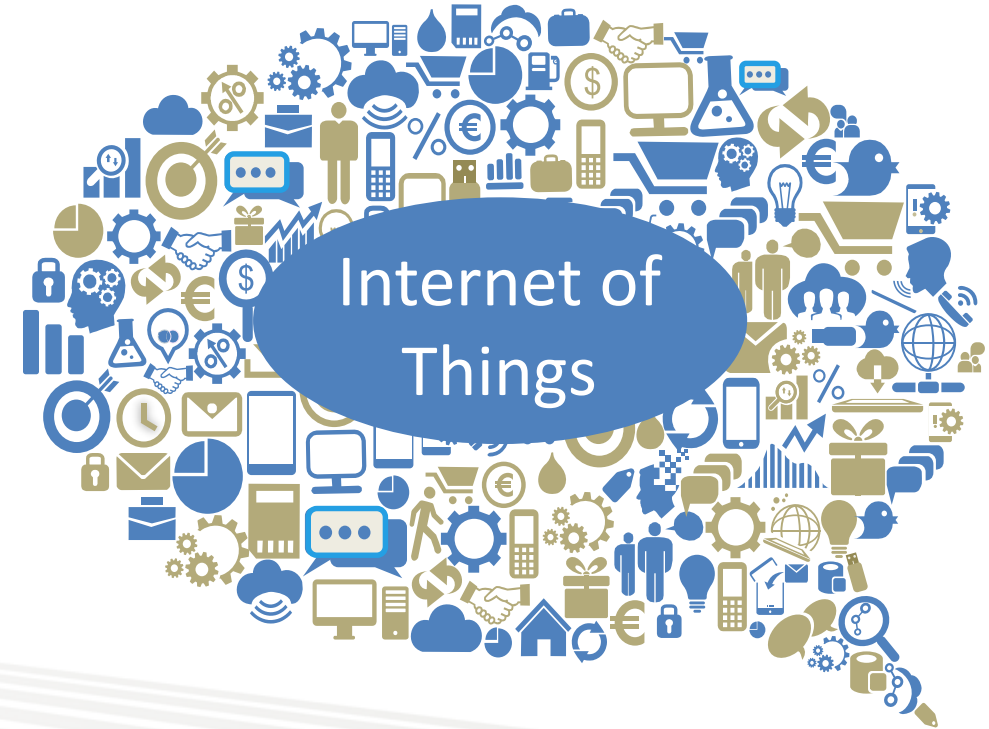
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Where we've been and where we're going...

The Roots of IoT



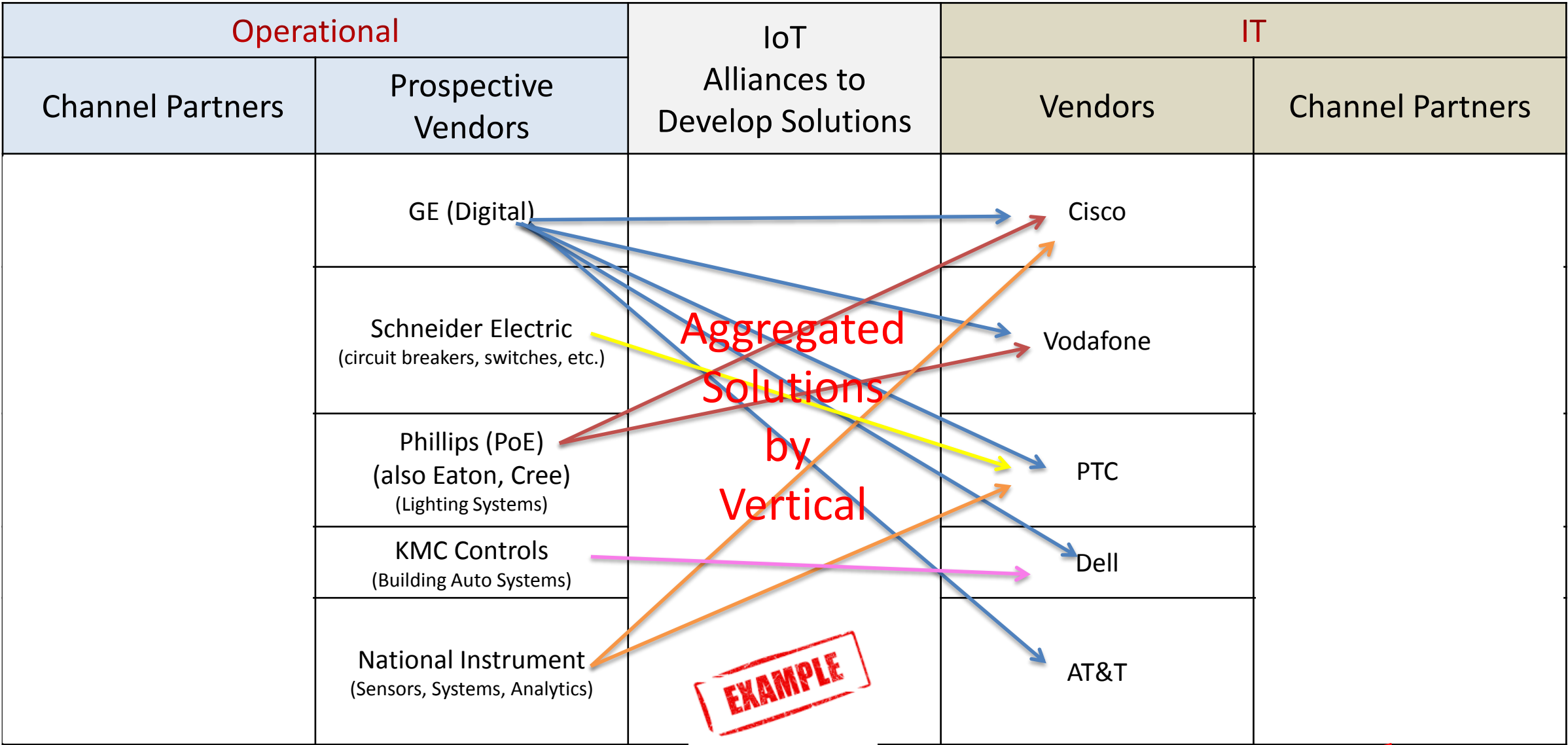
- ✓ Complex and Vertically Specific Solutions
- ✓ IoT offers more Partnership and Integration opportunities
- ✓ Yes, Hardware and Software as well
- ✓ IoT = \$\$ to the Channel

If you didn't think you had a role in cloud 7 years ago...
and found out differently

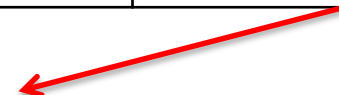
You may also have a role in IoT... even if not yet apparent
...Cloud brought down the total cost of ownership but
spawned new Solution Aggregators



Aggregated Solution Development



“We don't equip trucks or wire refers.
We team to get the Edge sensor work done.”



Aggregated Solution Development

Operational		IoT Alliances to Develop Solutions	IT	
Channel Partners	Prospective Vendors		Vendors	Channel Partners
HCL, Genpact, etc.	GE (Digital)	<p>Aggregated Solutions by Vertical</p> <p>EXAMPLE</p>	Cisco	Denton Business Solutions, Acadia Technology Group, etc.
Collaborative Automation Technology Partner Program	Schneider Electric (circuit breakers, switches, etc.)		Vodafone	Synnex, Onecom, etc.
GrayBar Electric, Norton Electric Wholesale, etc.	Phillips (PoE) (also Eaton, Cree) (Lighting Systems)		PTC	AV Engineering, Concurrent Engineering Ltd., etc.
Altura Assoc., etc.	KMC Controls (Building Auto Systems)		Dell	Actionpoint, Asavie, etc.
Advanced Measurements (Oil and Gas), Hydraulics (Calgary, Alberta), etc.	National Instrument (Sensors, Systems, Analytics)		AT&T	Scansource/Intelisys, Sandler Partners, etc.

“We don’t equip trucks or wire refers. We team to get the Edge sensor work done.”

Sample Alliance Activity to Deliver Solutions & Formulate Standards

- **Cisco**, Rockwell, IBM, GE, Salesforce, Verizon, Intel, PTC
 - IBM Watson, Cisco Edge Analytics
- **IBM**, Intel, Mediatek, TI, Nexcom, ARM
- **HPE**, GE
- **Google**, Nest
- **Dell**, SAP HANA, Edge edition, GE, Microsoft, OSloft, PTC, Software AG
- **HDC** Pentaho, AWS, Coudera, HPE Vertica, Mongo BD, CSC, etc.
- **Caterpillar**, Uptake
- **AWS** HW Starter Kits: Avnet, Intel, Broadcom, Microchip, TI, Mediateck, Renesas, Mistral, Micrium, Arrow, Marvell, SIGFOX, Qualcomm
- **AWS**, Splunk, Keyware, Red Balloon Security, Carvoyant, Bayshore, Buddy, MachineShop, B&B Electronics, Distrix
- **SAP**, Vodaphone, Zebra
- **AT&T**, Cisco, GE, IBM, Intel, Ericsson, Altaworx, Automotive IoT, Appliance, etc.
- **Octoblu**, now Citrix
- **VMware**, Dell, Deloitte, PTC
- **PTC**, Bosch, APC, Schneider Electric, GE, National Instrument, Oracle, Cisco
- Etc....



- Alliance Management Matters
- New go to market plans required
- ***Standards Matter. Besides Security, Disparate Protocols are a current inhibitor to IoT growth***

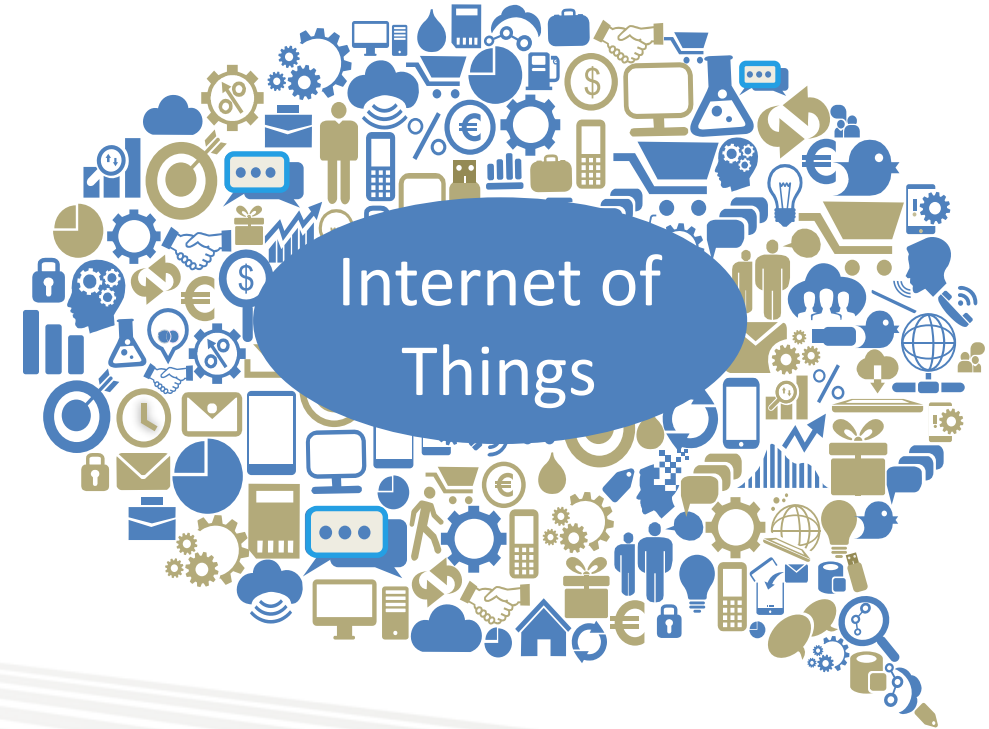
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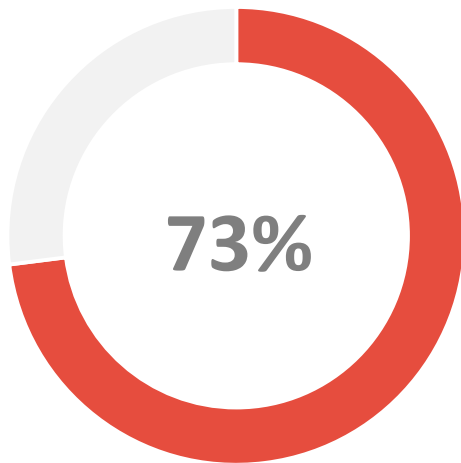
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Which aspects of IoT do you think will provide the greatest opportunity for your company?



“too little or no Partner enablement from our primary vendors.”



Vertical Opportunity Ranked

1. Healthcare
2. Building Automation
3. Manufacturing

#1 Concern:
Security

#1 Need:
IoT Products
(Solutions)
to sell

In your opinion, how long will it take for the overall IoT (Internet of Things) market to mature?

Value	Percent
It's Mature Today/Will Be Mature within the next 12 months	4.1%
1 to 1.9 years	15.8%

Early IoT Adopter Profiles

CRN Advisory Board Members,
i.e. the best and brightest

Common Characteristics

- Strategic business problem resolution
- Application development skills
- They Partnered with OT SME
- Vertical specialty opened doors to Field, Operational based opportunity

State of the Channel Panel: IoT XChange2016 

Moderated By
Robert Faletra, CEO
The Channel Company



Luis Alvarez
President & CEO
Alvarez Technology Group

Michael Lomonaco
Director, Marketing & Communications
Open Systems Technologies

Lawrence Van Deusen
Director, Network Integration
Dimension Data 

Jason Waldrop
Chief Executive Officer
CWPS

#XCH16 THECHANNELCO.

Other Entry Points:

- Wireless
- Security
- Network Infrastructure

Common Recruitment Profile Criterion: Strategic Vision. Find your Strategic Service Providers (SSP), they were first in Cloud, Telephony and now IoT adoption.

Traditional IT

We were in traditional IT for 16 years

- “I’ve been an Agriculture specialist due to location
- MSP replacing internal IT with managed services
- Mid-market, SMB 50 to 200 desktops
- Healthcare also Non-profit
- In business 16 years
- Had a reputation for solving business problems”

VS



Central CA
Agriculture (AG)

AG Brokers, Growers,
Packaging,
Transportation

IoT Entry Point

*We Got Pulled out to the Field
(Edge, the Wild)*

- By AG Tech staff, like field foremen who plant crops, look to decrease waste
- Sensors, tractors, GPS allows tractors to drive themselves via wireless
- Avoids a \$150k/year driver cost
- Use Drones to water
- These are non-traditional decision makers

“One of our strengths is we forward invest...we were one of the first BPOS Partners. Strategic Consulting is our value, we saw the devices, we investigated, we invested .”

Edge Devices Tend to be the Parts we Understand Least...



KMC Controls provides a comprehensive catalog of building system hardware including networkable/communicating thermostats, analog electronic controls and actuators, and industry-standard pneumatic designs. Sensors, Controllers, Software.



“KMC Controls knows their current crop of partners won’t be able to pivot to handle the new technology so they are targeting traditional IT Partners. Their CEO is flying me out to speak at their conference.”

Luis Alvarez, CEO, Alvarez Technology Group

Don't confuse "Consumer" with non-business. They are building for Nest & Chamberlin, two of the biggest names in the "Smart Home".



Traditional IT **VS** **IoT Started**

We are an integrator

- “9 years ago, core business was data center, ERP then MSP then Cloud Added SW dev, data analytics
- Acquired a design strategy firm
- 6 years ago we were asked to build an IoT solution, we used a custom app/platform; it is still in operation
- We evaluate IoT platforms for customers.”

No Permission to release Logo

Hired an IoT and data analytics principal for Open Source

We Build Consumer & Business IoT

- “AWS/Azure highly customizable using with HPE and Hadoop for F500 manufacturer.
- The learning curve with global big data required new thinking. Now leveraging what we learned.
- PTC’s Thingworx provides HW integration not available with AWS/Azure.”

“We are training developers to build globally scalable IoT platforms, build partnerships with IoT platform providers and their services organizations.”

In this case study; the Partner has forward invested, sees the market and has the skills, however, with limited vertical investment, has less access to decision makers.

Traditional IT

VS

IoT Entry Point

We were scrappy developers 7 years ago

- “We were SMB application developers
- Today, DevOps specialists
- App dev and public cloud architecture teams
- Experienced with AWS IoT platform, telemetry from devices
- AWS IoT is more mature than Microsoft

Investing in Spark or Hadoop for Big Data to catch the back end of IoT.”

*No Permission
to release Logo*

*DevOps is the belief that
SW developers and
operations architects
should work together to
build/maintain Cloud aps.*

*Business Model Consultant
Revenues 100% Services*

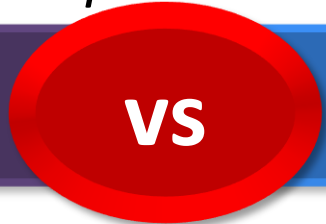
We are in an industry of data hoarders

- “There is a relationship between IoT app dev & BI, but each is it’s own discipline
- AWS trained & assisted us on their IoT Platform
- We would like to Partner with providers of telemetry enabled devices to build a solution to suit their needs.
- We are investing, but struggle with customer ROI.”

“We have networking skills but it comes down to Edge skills. We are developing relationships with Carriers. Cisco or Juniper? We are hardware agnostic.”

The IT Partner teams up with the Operational Technology Partner for an end to end solution. Has access to Operational decision makers.

Traditional IT



IoT Entry Point

We are .net developers

- “Born in the Cloud 5 years ago
- Targeted large enterprise with Cloud migration
- Decided Microsoft over AWS, Rackspace
- DevOps speeds development, allowed app modernization for mid-market
- IoT has been around with sensors, data, analytics
- Customers now have to investigate IoT to become more competitive, make money, decrease costs

No Permission to release Logo

10 years ago IoT was hard to do, custom, expensive & complicated. Data volumes too big.

Logic @ the Edge? They don't do that level of HW control.

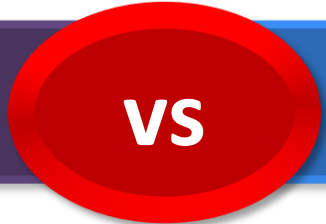
Azure makes IoT available to everyone

- Trucks moving food, lost track of shipments, if late, no idea if temp had been maintained
- Wired trucks with refer sensors, phoned home automatically, re-routes when late
- Sensors cost nothing, internet and Cloud ubiquitous
- Robotics to low power edge devices or readers, we are brand agnostic

“We have the skills to get to decision makers, but we do need Partners. We don't equip trucks or wire refers. We team to get the Edge sensor work done. We're not arms and legs people.”

The IT Partner teams up with the Operational Technology Partner for an end to end solution. Has access to Operational decision makers.

Traditional IT



IoT Entry Point

We were a large DC global accounts integrator

- “HPE VAR for 15 years
- 3-4 years ago hired high end engineers from network-storage-compute-cloud
- Pursued vertical solutions with SD Storage
- We have transitioned to solving business problems, especially IoT

We bring in Partners to create end-end solution.”

No Permission to release Logo

We use IoT for Hospitality, but Oil & Gas is more wireless with Aruba.

\$85M annual revenues. We have a lab in Vegas we play & create solutions there.

Vertical solutions specific to client need

- “Hospitality, assets walk off hotel property.
- Developed an asset intelligence solution, sensors, beacons, end-end
- We use IoT platforms & write our own applications
- Testing tags readers, printers & software with Zebra
- Using HPE/Aruba wireless, Meridian, Clearpath
- Intel mentors us.”

“We hired new skills to create solutions. We vet partnerships & technology with our engineering staff, then hired a Masters soon to be PhD in Marketing Psychology.”

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i.e. the best and brightest

Common Characteristics

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*Today's
IoT Stars*



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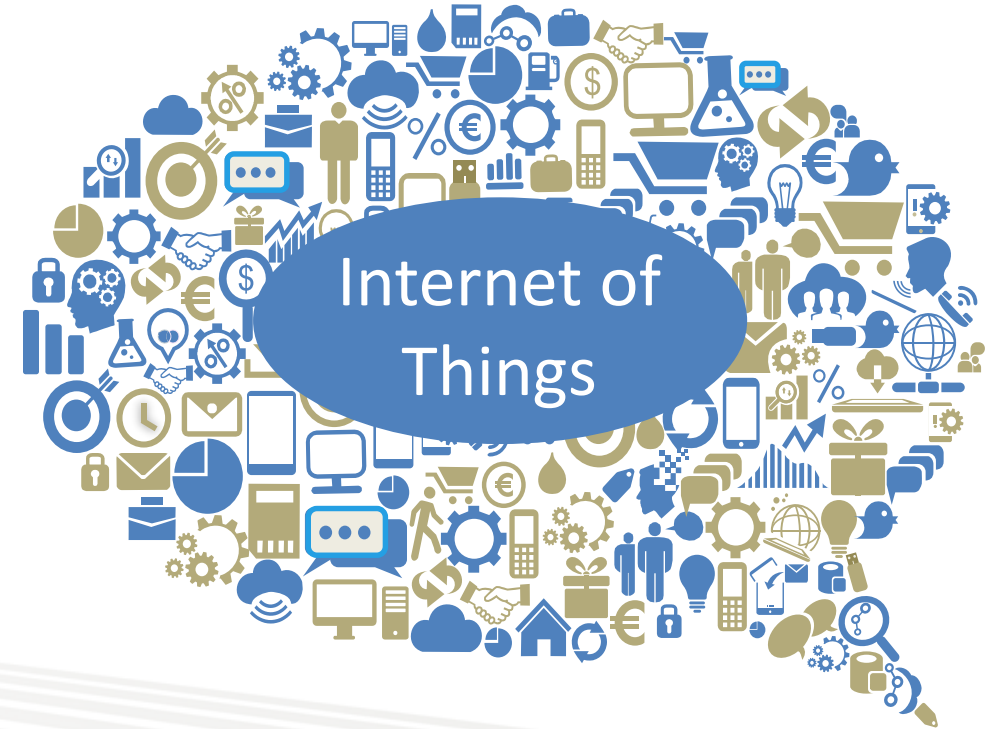
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We Evangelize These Entry Points to Partners

Revenue Opportunity

IDC: Fewer than ½ of Manufacturers have implemented a pilot.

Vendor Enablement

CRN: ... 49 percent of respondents said they are getting "too little partner enablement" from vendors, and 24 percent said they are seeing "no partner enablement."

Sources: Gartner, Cisco, Deloitte, AT&T, IBM

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#1

Wireless to transport data collected in the Field

#2

Security ensures secure connected "things", avoids offering new threat opportunities

#3

Applications to collect, transmit & analyze data

#4

Vertical Expertise



Partnering Potential



IoT Solutions
Partner Program



PTC®



Examples!

Thoughts to Consider...

Developing Solutions

Critical:

Vertical specific solutions

- Alliance strategy to build them out
- Leverage Routes to Market with Operational, Vertical and IT skills to sell, implement and manage the new solutions in the “wild”

Selling IoT Solutions

Critical:

Identify IT Partners who may adopt IoT

- Look for the Strategic Service Providers (SSP) as Strategic Business Value leads Partners to IoT opportunity.

Directing non-SSP Partners to IoT

- Consider the IPED Entry Points, provide a Partnering with Partners Forum, teach them to leverage Security, Mobility/Wireless, BI/Big Data expertise while teaming for Vertical knowledge.

Thank You



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