

# Creating the Future with Robotics

Innovation, Cloud, Big Data, the Internet of Things (IOT) & *Robotics Path Ahead*

*(Welcome to the Fifth Dimension)*



*Rich Niemiec*  
*@richniemiec*



*richniemiec@gmail.com*

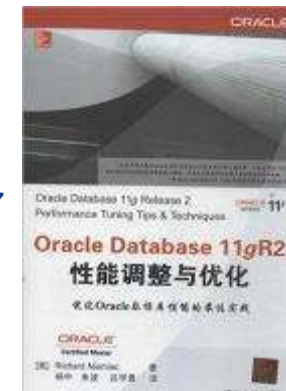
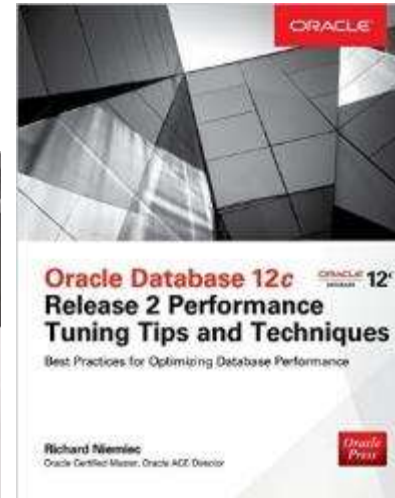


Special Thanks:

Kay Cavender, Monica Lee, Jerry Ward & Mark Davidson

# Rich's Overview

@richniemiec



- Chief Innovation Officer, Viscosity North America
- Board Member – TEC, Entrigna, Ask DB Experts
- Former President of TUSC
  - Inc. 500 Company (Fastest Growing 500 Private Companies)
  - 10 Offices in the United States (U.S.); Based in Chicago
  - Oracle Advantage Partner in Tech & Applications
- Former President Rolta TUSC & President Rolta EICT International
- Author (4 Oracle Best Sellers – #1 Oracle Tuning Book for over a Decade):
  - Oracle Performing Tips & Techniques (Covers Oracle7 & 8i)
  - Oracle9i Performance Tips & Techniques
  - Oracle Database 10g Performance Tips & Techniques
  - Oracle Database 11g Performance Tips & Techniques
  - Quick Start Guide to Oracle Query Tuning (2015)
- Former President of the International Oracle Users Group
- IOUG Top Speaker in 1991, 1994, 1997, 2001, 2006, 2007
- MOUG Current President & Top Speaker Twelve Times
- Chicago Entrepreneur Hall of Fame - 1998
- E&Y Entrepreneur of Year & National Hall of Fame - 2001
- National Trio Achiever award - 2006
- Oracle Certified Master & Oracle Ace Director
- Purdue Outstanding Electrical & Computer and Engineer – 2007
- Chris Wooldridge Award – 1998, 2012
- Honorary Senior Technical Advisor to Oracle China - 2014

# Quick FREE notes and Book Raffle

Text CLOUD to 444999 for a chance to win the Cloud Book.

Send email to (for slides):  
[hello@viscosityna.com](mailto:hello@viscosityna.com)

@richniemiec twitter



# Viscosity Customer Services: Booth #1025

Get a code for New Cloud Book + Whitepaper on ADW



## Oracle License Management

Get the most out of your Oracle investment



## ZERO DOWNTIME Migrations



## CUSTOM Application Development



## Professional Services

Where you need it most



## Performance Health Checks

How's it running?



## Staff Aug.

Workforce Capacity on Demand



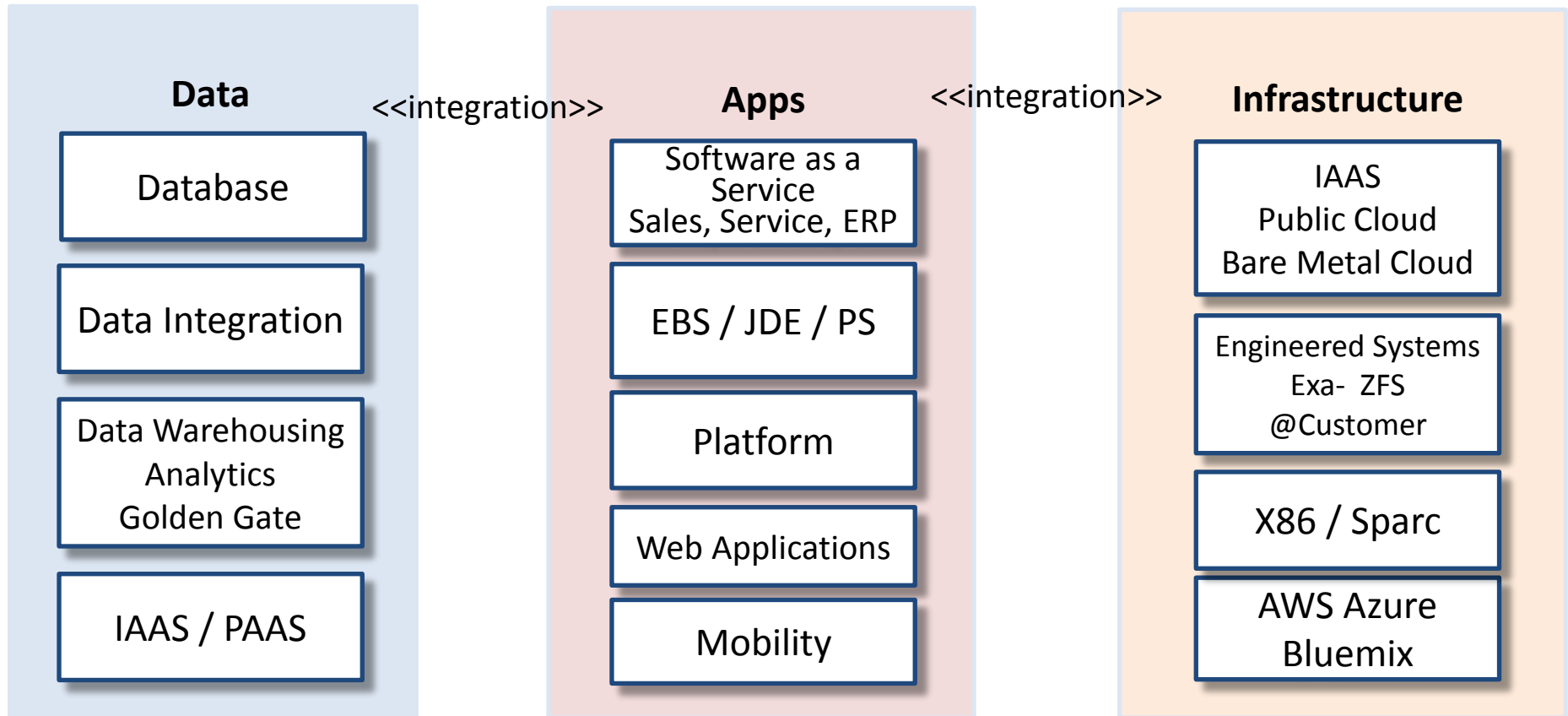
## DBA Services

Remote and On-site



## On-Call Support Managed Services

# Viscosity Pillars & Delivery Models



Workshops

Assessments

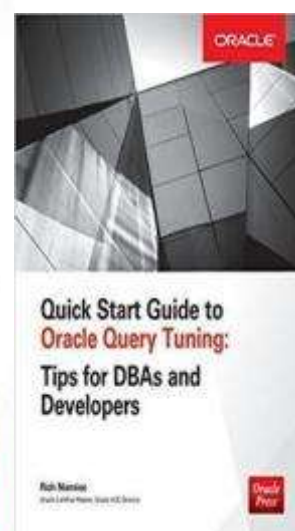
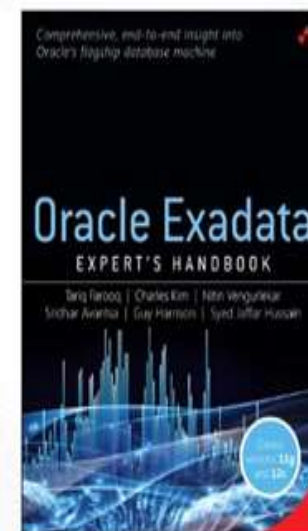
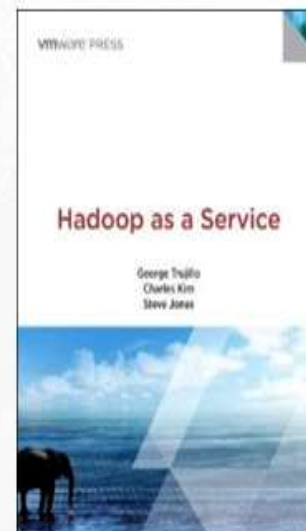
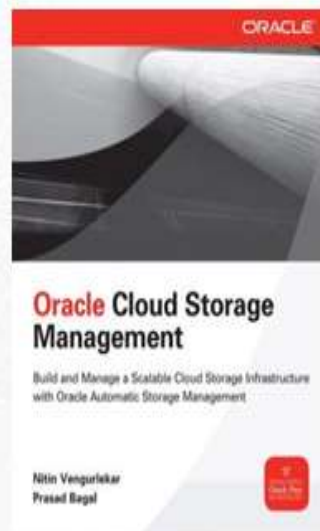
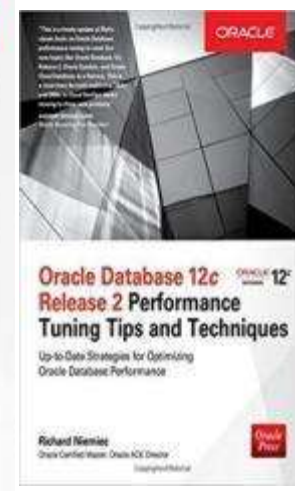
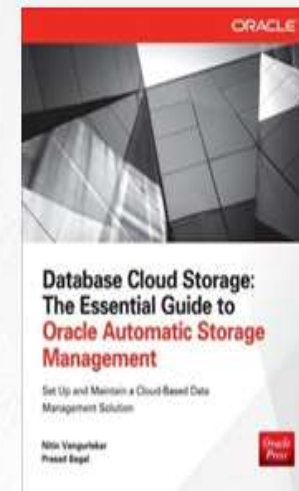
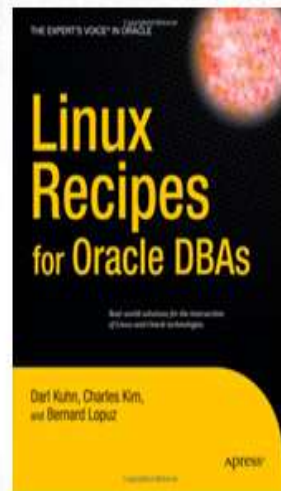
Proof of Concepts

Training

Turnkey Projects

Managed Services

# We wrote the books - many Experts!



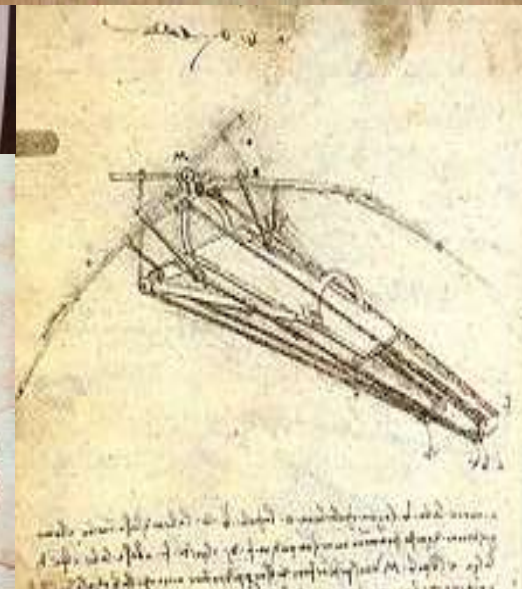
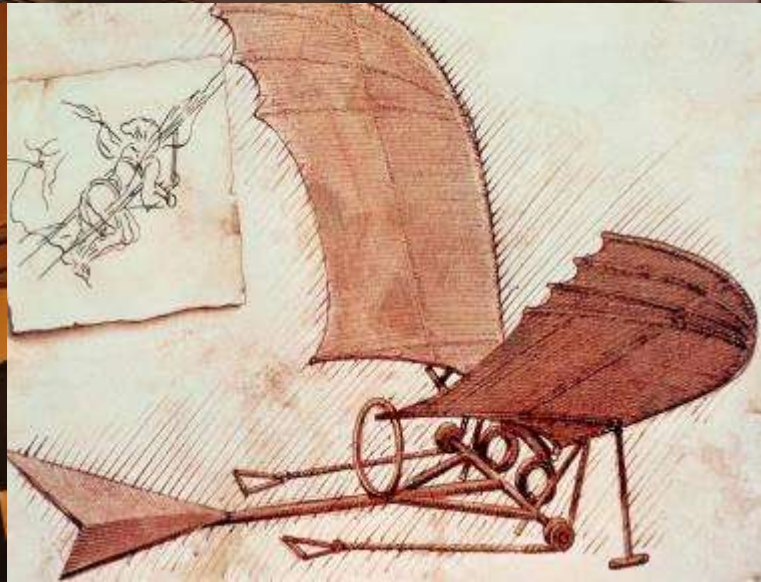
**“We Enable Business Transformation at a Time when Companies must Change to Survive”**

# Agenda – Goal is “Think about IT” & W.I.N

- ❑ Innovation & the Cloud
- ❑ Innovative Companies
- ❑ AI & Chatbots in Cx
- ❑ ADW & ML in the DB
- ❑ Future Robots & VR
- ❑ Robots and Work



# What Innovation Looks Like: Leonardo da Vinci 1452-1519



di Leonardo da Vinci



# The design of Robotics



# Innovation



- Innovation is ***introducing something new or different!***
  - Idea, Product, Process, Organization, Structure...etc.
- Innovation is not what you find in ***some*** companies today... which is why ***newer*** companies continue to replace them!
- Are you leveraging IT (IOT/Big Data/Chatbots) to create innovative products and experiences for your customers? *Are you an innovative company?*
- There are organizations that are NOT missing the boat... they leverage IT, Big Data, Chatbots, and IOT to ***deliver innovative products!***

# Disruptive Innovation Examples

- Postal Mail

- Telegraph



- Trains

- Metal / Wood / Glass

- Pictures (Chemical)

- Computer



- Floppy/Zip Drive

- Encyclopedia



- Email

- Telephone / Cell Phone



- Cars / Planes

- Plastics

- Digital Pictures



- Smartphone/Tablet

- USB

- Wikipedia



# Disruptive Innovation Current Examples

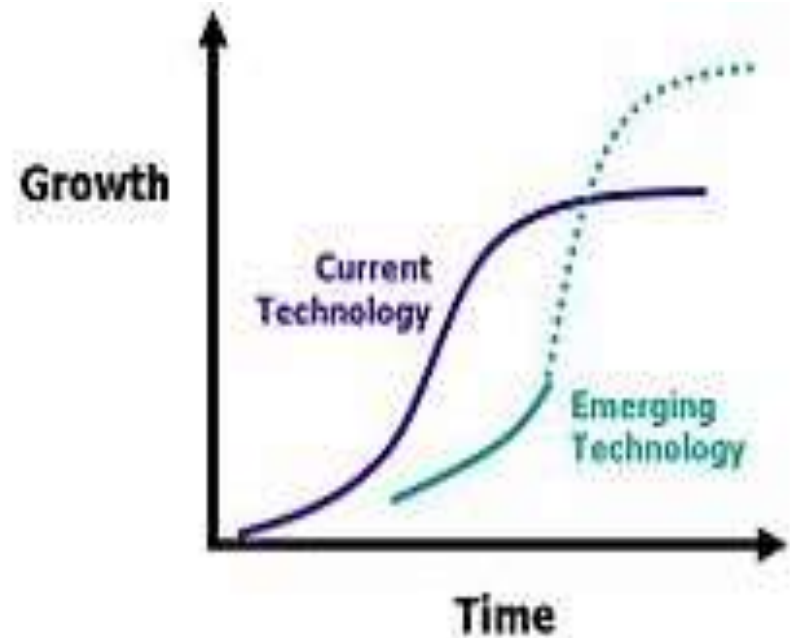
- Email 
- Telephone/Cell Phone
- Cars / Planes
- Plastics
- Digital Pictures 
- Smartphone/Tablet
- USB
- Wikipedia
- Text/Snapchat/Instagram
- **Implant** / Smart Watch
- Virtual Calls & Meetings
- 3D printed in the home
- Google Glass Life Record
- Apple Watch / IOT 
- Cloud / Google Docs.
- In-Home Robots 



# Diffusion of Innovation (Everett Rogers)

*How innovation spreads & is communicated...*

1. First knowledge
2. Forming an attitude
3. Decision to adopt or reject
4. Implementation and use
5. Confirmation of Decision



Gabriel Tarde – 1903 (The S-curve or Diffusion Curve); *“In the later stages no amount of new investment in that product will yield a normal rate of return.”*

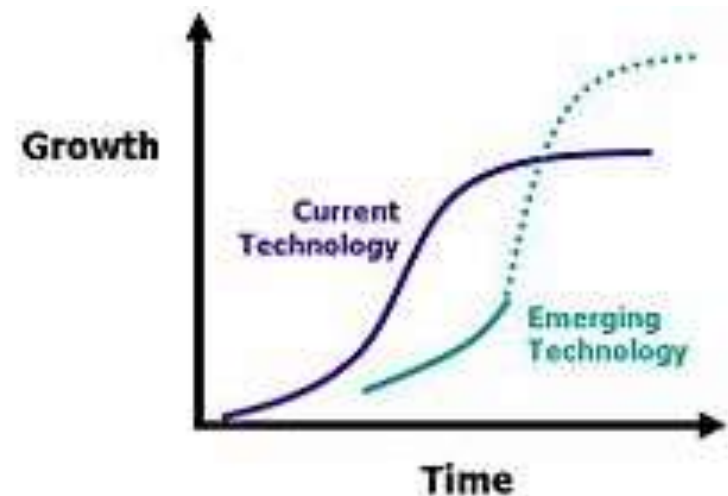
Morse Telegraph Key  
(circa 1844)



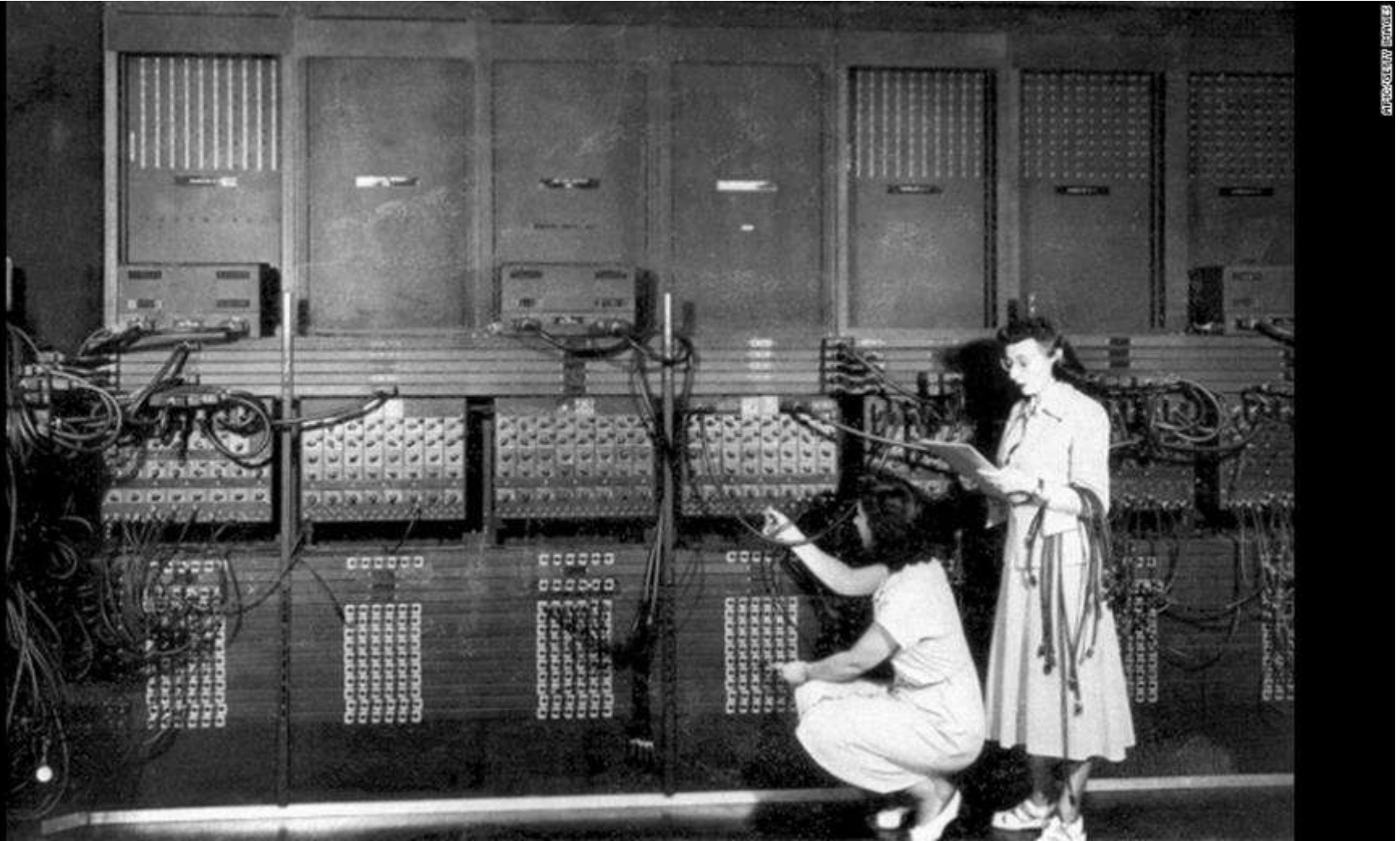
# Does the Graph Look Familiar



- **1998 – Gates Steps down as President**
- Gates in 2006 (out completely of day-to-day): *“My announcement is not a retirement...”*
- On Gates departure in 2006: *“He wasn’t really involved...for some time.”*
- **2014:** Bill Gates **“substantially increased his time** at Microsoft to assist new CEO Satya Nadella.”



# Some Jobs gone: Computer **Surpassed** Them!



*The competition between Man's Mind vs. the Product of Man's Mind... for this, there is standing room only in the Twilight Zone.*

# Autonomous Database – Replacing the DBA?



**Rich Niemiec** @RichNiemiec · Oct 2

I'll ask #Pepper if she can tune my #database in 11 AM session on #innovation #iot #robotics #cloud at #oow17 #ioug #viscosityna #oracleace





# Self Driving Database!

## Oracle Platform as a Service Strategy: More Automation Announcing: The World's First Autonomous "Self-Driving" Database

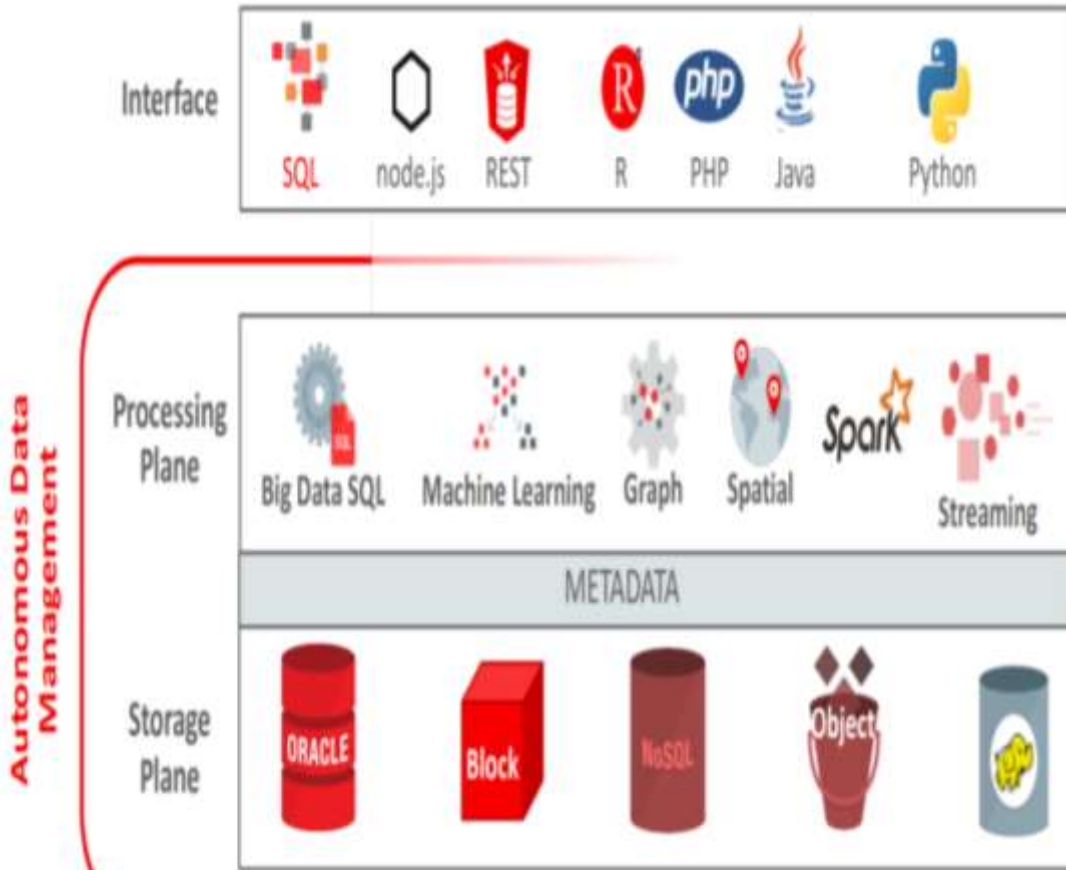
- Total Database Automation based on Machine Learning
- Eliminates 100% of the human labor associated with managing the database
- Database automatically upgrades, patches and tunes itself while running
- Unprecedented Reliability: SLA Guaranteed 99.995% Availability
  - Less that 30 minutes for all planned and unplanned downtime per year
- Available in December – Details at Oracle Open World



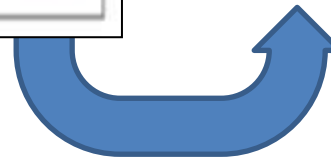
*'DBAS ARE BEING ASKED TO UNDERSTAND WHAT BUSINESSES DO WITH DATA RATHER THAN JUST THE MECHANICS OF KEEPING THE DATABASE HEALTHY AND RUNNING.'*

# Become a Data Manager (DA) – Not just a DBA

## Data Management as a Service



**Data is the New Oil...**



# Innovation and the Next Generation

## The White Rabbit Project

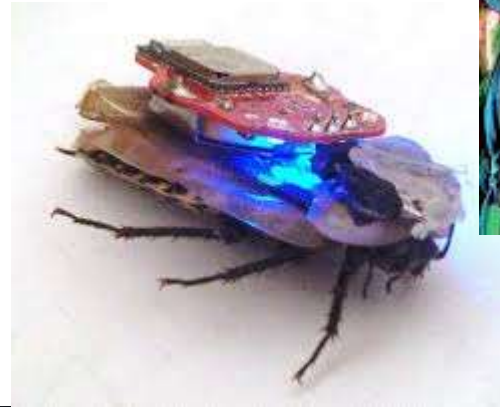


- The next generation daring you to leverage tech
- They regularly show what's possible and being leveraged
- They also show what's possible and NOT being leveraged!



# NOT Leveraged yet... White Rabbit

- Various implants and ...



# The White Rabbit Project: Technology Being Leveraged!

- Prosthetics / Implants of various limbs
- Connection to the brain is early
- Even though prosthetics are very advanced now, they are not yet being used as implants.
- At what point will it be a disadvantage NOT to have a prosthetic (that time will come)?
- The prosthetics may become add-ons.

# The Future of Implant Technology

- Various implants with ability to “feel” prosthetic



# The Future of Implant Technology

- At Johns Hopkins moving robotic arm with mind (left!)
  - At Northwestern, greater mobility of prosthetics



# The Future of Implant Technology



Check out my new Skateboard Video  
On YouTube!



ft Images

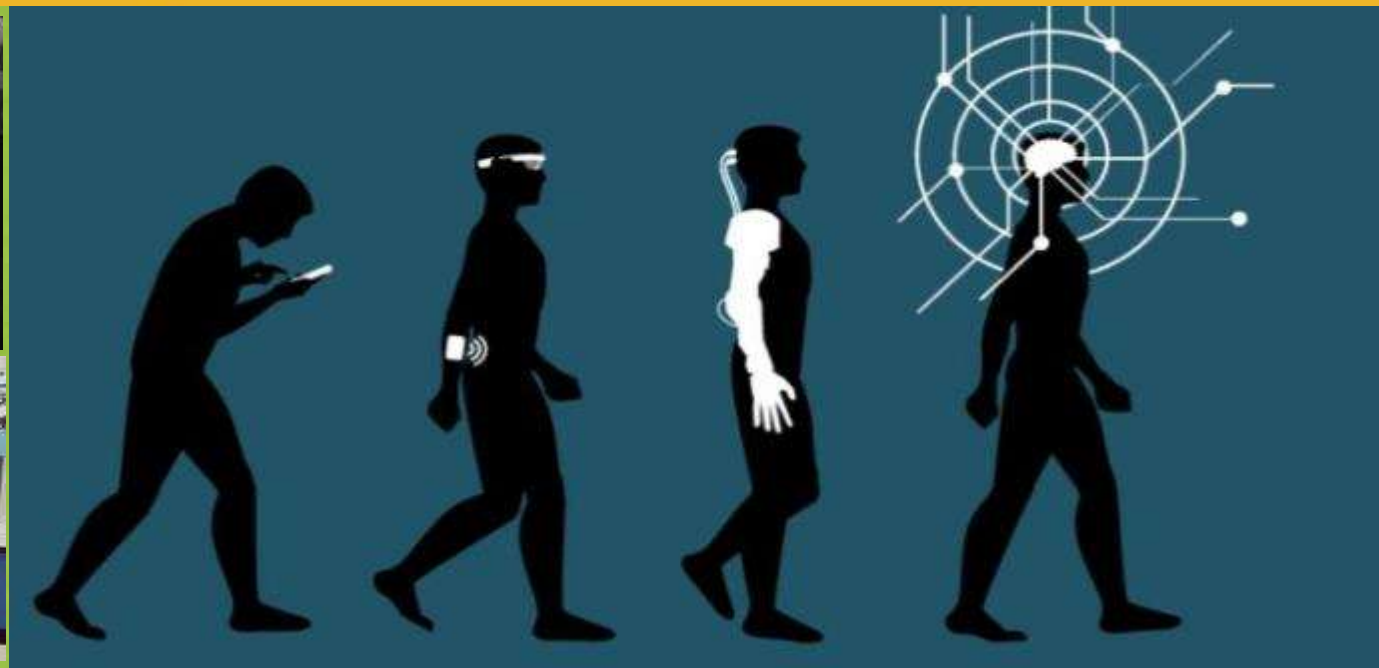


# The Digital Transformation Ahead

Gerd

## Digital Transformation 2000 to 2050

A historically significant  
change in humanity...



**Disconnected**  
*The Dark Ages*

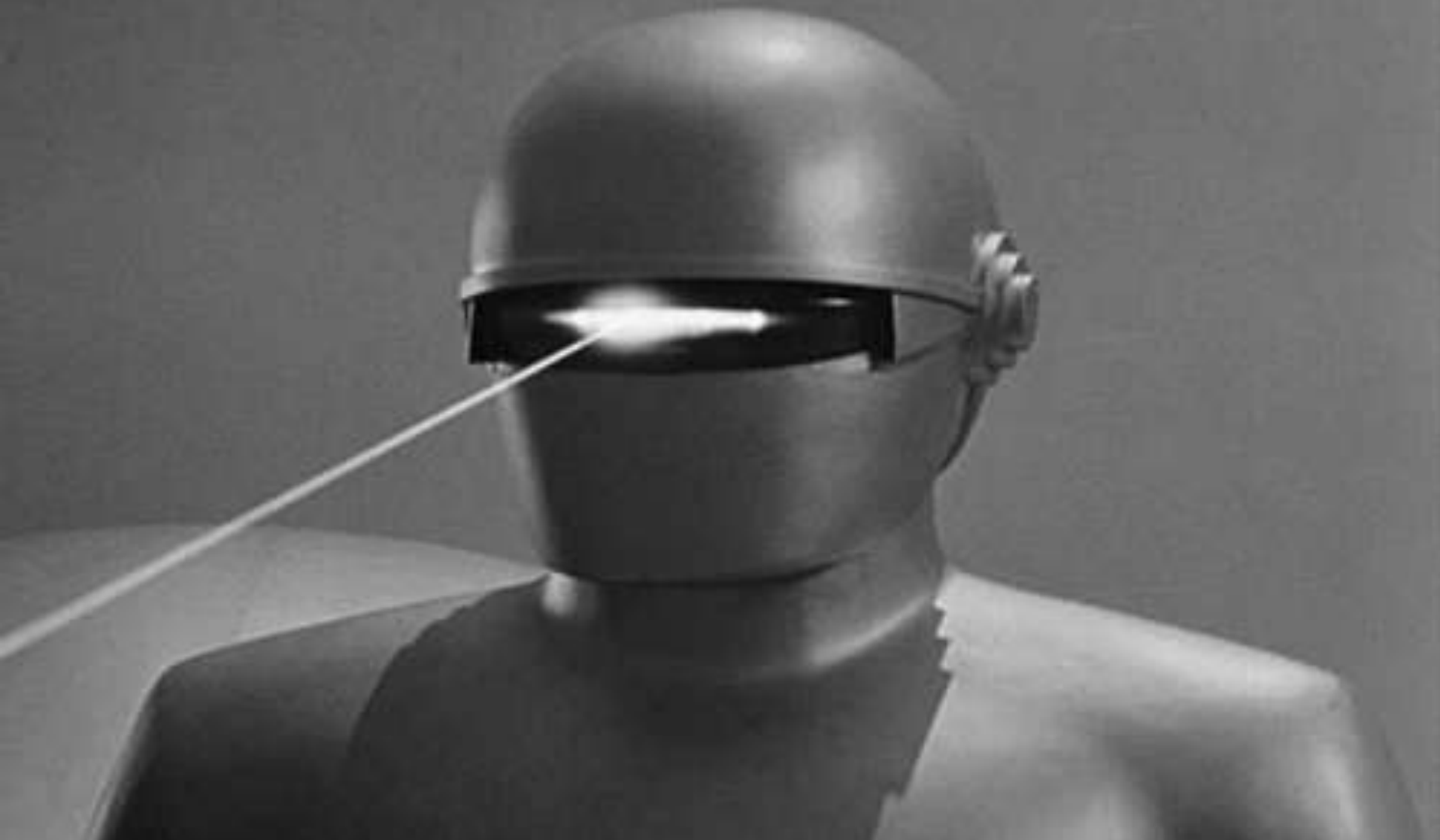
Using  
Digital

Wearing  
Digital

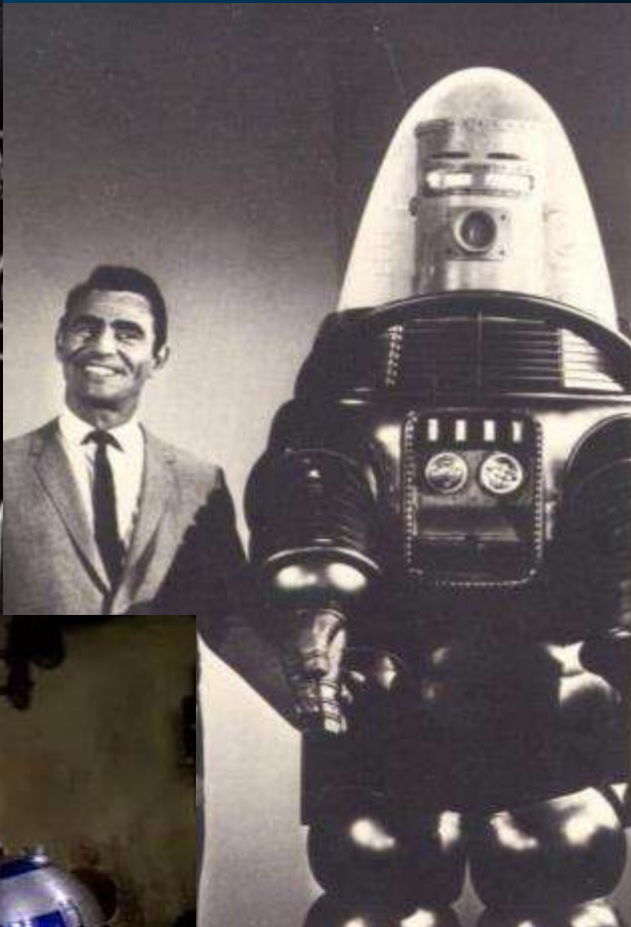
Implanting  
Digital

The Hive  
Mind

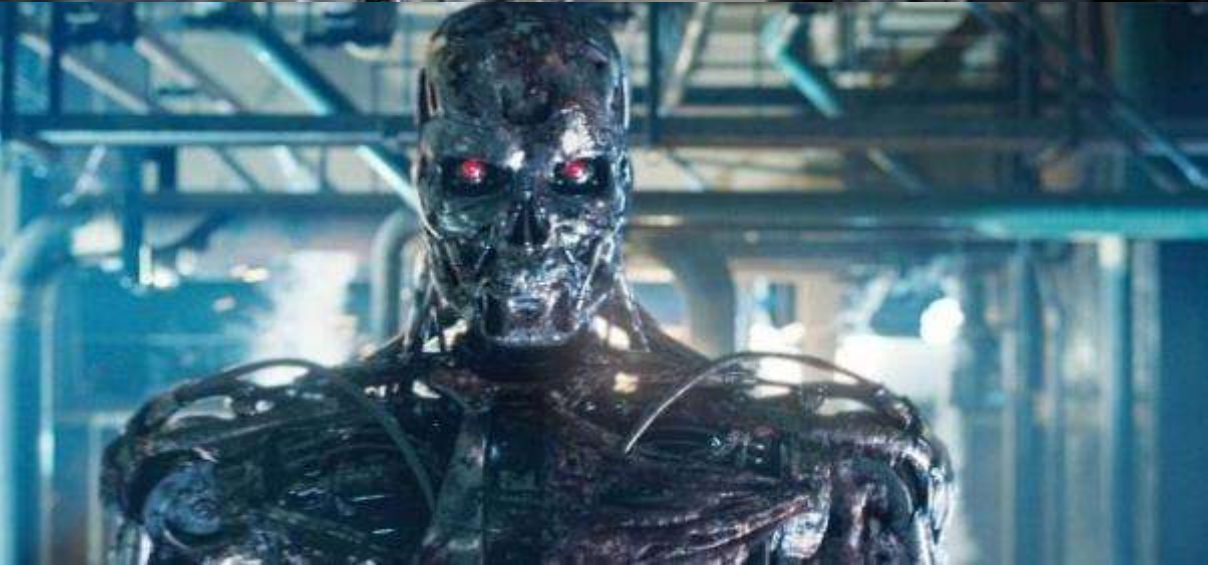
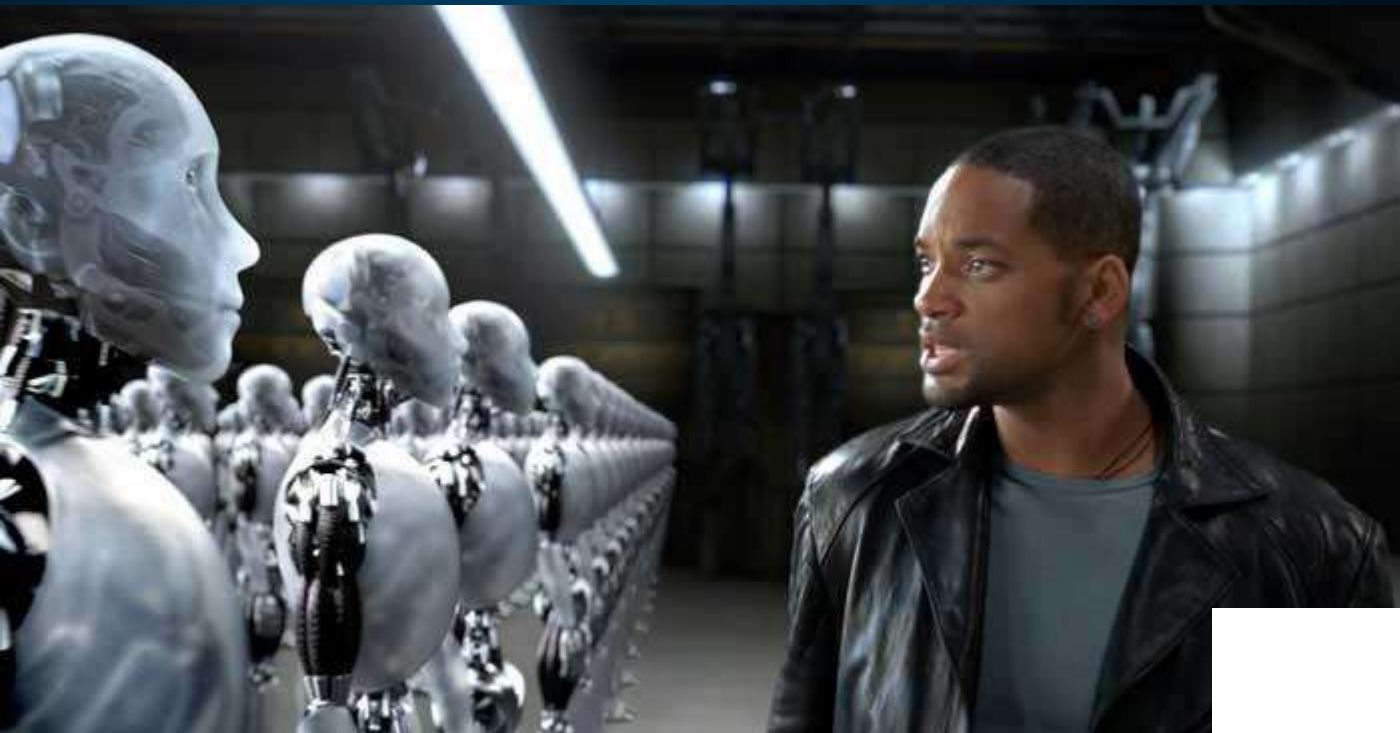
**Here Come the Robots!**



# Robots We Grew up With...



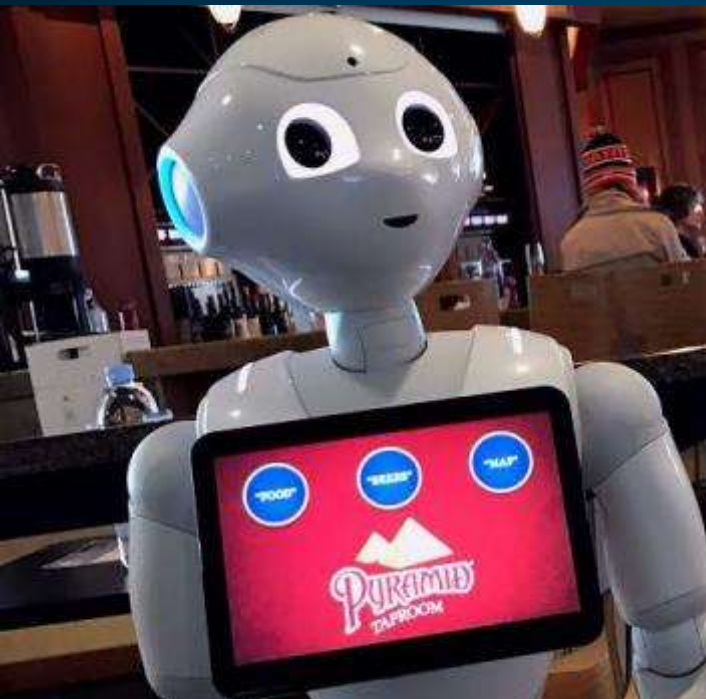
# Robots Now... Closer to the Future



# Actual Robots Now... Beyond Science Fiction



# Service Robots at Work... 24x7

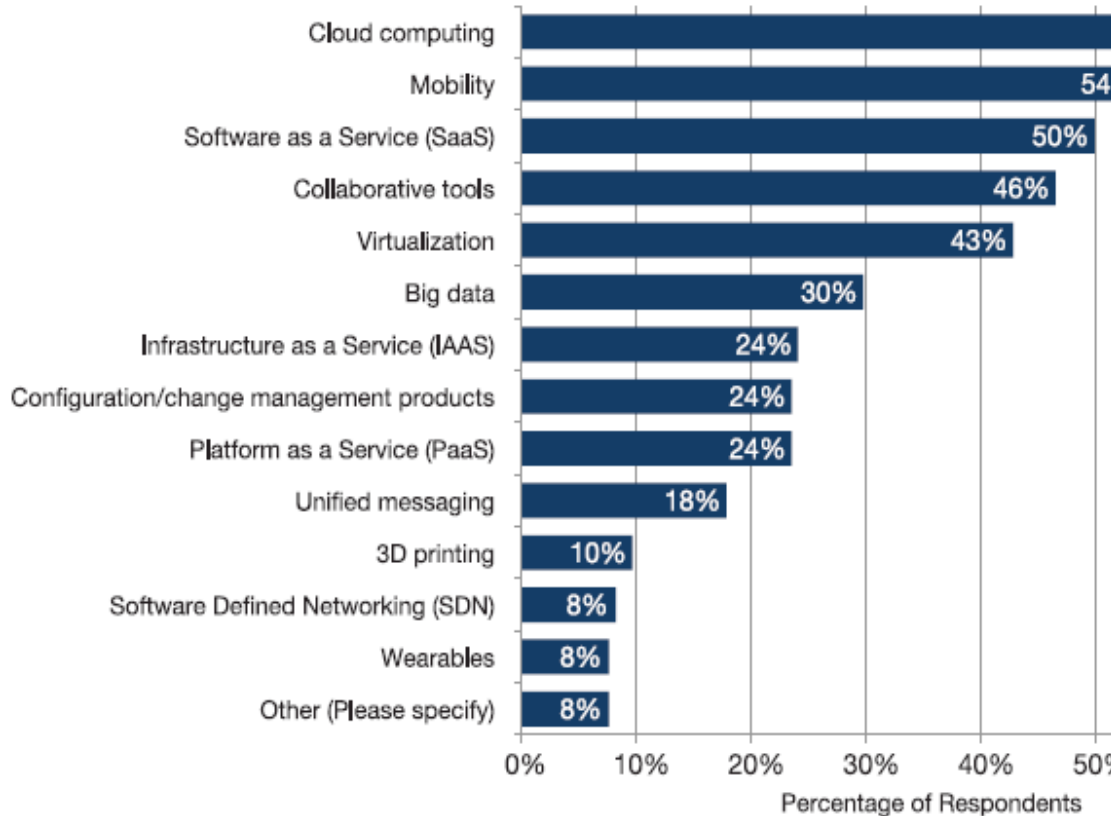


# How will I ever get to Robotics as a DBA?

## Start with Technology that **Enables Innovation**

### Technologies and practices behind innovation

#### WHICH TECHNOLOGIES ARE YOUR COMPANY USING TO INNOVATE?



Number of respondents, n=353

Figure P

FEATURE

### Bimodal IT: A two-pronged approach to innovation and maintenance

Credit: Thinkstock

One group is tasked with keep-the-lights-on functions, the other on business-advancing tasks. Is this new setup the answer to IT's dual responsibilities?

By Mary K. Pratt [FOLLOW](#)

Computerworld | Sep 21, 2015 3:30 AM PT

# Cloud Choices – Less than you think



Oracle Database 12c Release 2 For The Cloud First

ORACLE DATABASE CLOUD

CLOUD FIRST. **SCALE FAST.** SIMPLIFY NOW.



**Vendor says the Cloud looks like this...**



# Most vendor's path for you to the Cloud



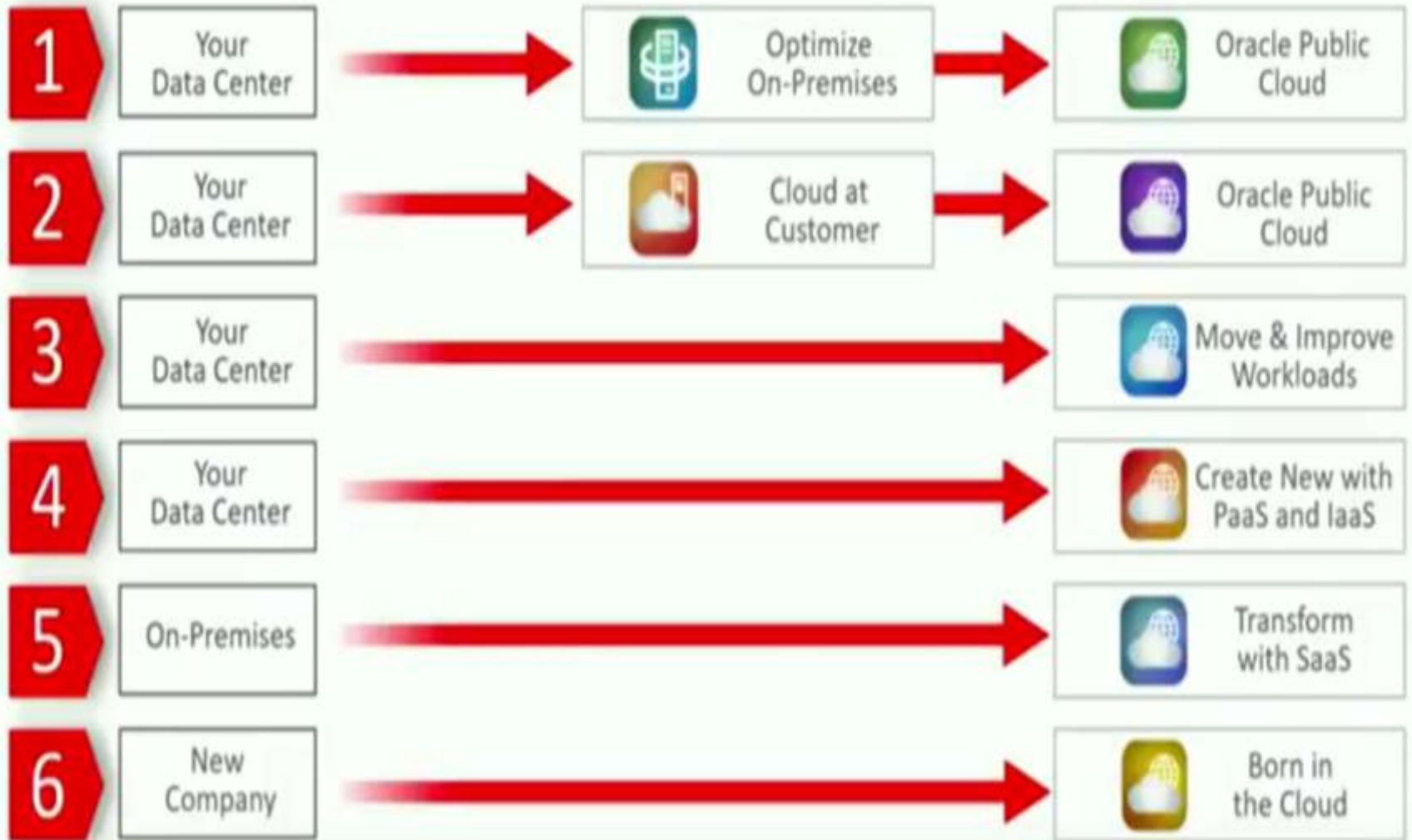
# Larry on the Cloud ... Tokyo

## Oracle CloudWorld Tokyo – Larry Ellison:

- It is NOT putting your 10 year old app on AWS (hosting)
- Cloud Apps look and work differently
- EASY to use & Timely – *No instructions are required!*
- Runs on Smart Phones, Tablets... etc. (Mobile)
- Works with Social Media: Facebook, LinkedIn, Twitter...
- Accessible by all & anywhere – Employees are a team
- Transactions & Analytics real time for decision making
- Modern apps ARE a Social Network inside the company
- HR can't make employee offer outside of budget
- Any Training is on-line and self-paced
- Rapid Deployment & Lower Costs of Hardware
  
- More secure if at Oracle data center on Oracle hardware
- Oracle is #1 in PaaS & about to be #1 in SaaS
- Oracle rewrote apps for Cloud over past 10 years + acq.

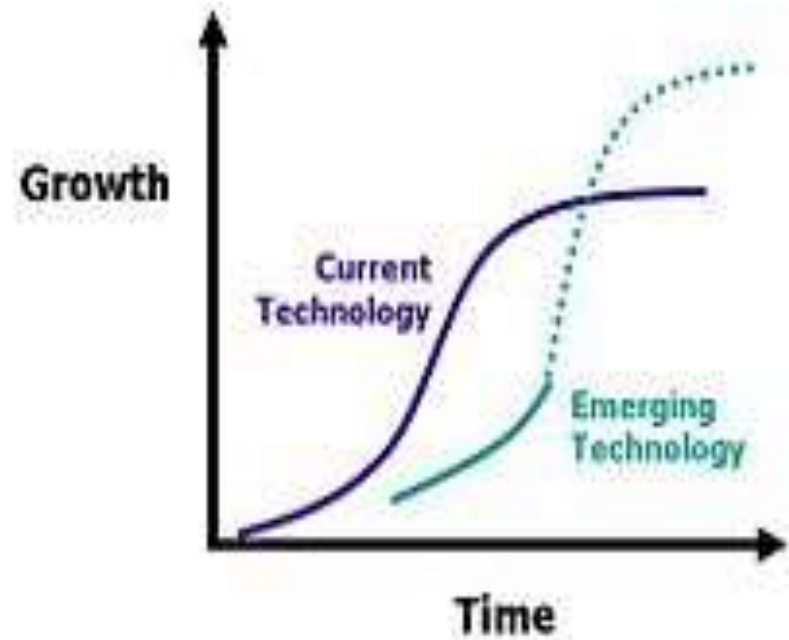
# Oracle's Six Journeys to Cloud

## Six Oracle Journeys to Cloud



# Innovation MUCH MORE than Cloud (just a tool) What does an Innovative Company Look Like?

1. First knowledge
2. Forming an attitude
3. Decision to adopt or reject
4. Implementation and use
5. Confirmation of Decision



Gabriel Tarde – 1903 (The S-curve or Diffusion Curve); ***“In the later stages no amount of new investment in that product will yield a normal rate of return.”***

# Apple – Tech Innovator!



Apple WATCH



iPhone 5s  
4 inches



iPhone 6  
4.7 inches



iPhone 6 Plus  
5.5 inches



iPad mini  
7.9 inches



# Amazon Innovating since 1994

amazon

AMAZON ORIGINAL SERIES  
**TRANSPARENT**  
WINNER OF 5 EMMYS

OUTSTANDING LEAD ACTOR IN A COMEDY SERIES  
JEFFREY TAMBOUR

OUTSTANDING DIRECTOR FOR A COMEDY SERIES  
JILL GOLDWAY

Movies Included with Prime Membership at No Additional Cost

What Other Customers Are Looking At Right Now

Off-to-College Savings

20% Off Extech Instruments

Best-Selling Kindle Books

ALL-NEW  
**echo dot**

Add Alexa to any room

music, Uber, Capital One, Wemo, 31, Spotify, NPR news, Philips, Audible

Your Service Requests

Home Services

You haven't submitted a service request yet.

Book your next home project

Landscaping, TV setup, plumbing and more

Hire a pro

...as did images of vikings and cowboys and pilots, where I imagined to be in **London** but

...films of heroes are cowards, seeing pilots risking their lives in hurricanes and storms but less protection by their thick flying jackets, as motorcycles were by their leather jackets and helmets.

When I returned to London as a ten-year-old in 1963, I enjoyed sitting in the shadow seat of our

present was **THE HOBBIT**

...up

...that capacity held as it passed, dangerously likely to fall as a chapter's progress today.

...I depend on them to provide the most popular thing by writing.

...the world.

The New York Times Bestseller

Kindle

**Prime**

Prime Music is included with your Prime membership

Prime Music is a benefit of your Amazon Prime Membership, featuring a growing selection of 2 million songs, always ad-free and on-demand.

Listen Now

# Amazon's "Robot" – order quickly



amazon dash  
BUTTON

FREE AFTER  
FIRST PRESS

"Alexa, order Kind Bars."

Shop with Alexa  
Order your favorite products





# Amazon's Web Services



# Google – Most Innovative



# Google Search and other Tools

The image shows the Google homepage with the following elements:

- Top Right:** Links for "Gmail", "Images", a grid icon, and a blue "Sign In" button.
- Center:** The multi-colored "Google" logo.
- Search Bar:** A large white search bar with a microphone icon on the right.
- Buttons:** "Google Search" and "I'm Feeling Lucky" buttons below the search bar.
- Footer:** A link that says "Support the UN's International Day of Peace".
- Right Panel:** A vertical grid of service icons with labels: My Account, Search, Maps, YouTube, Play, News, Gmail, Drive, Calendar, Google+, Translate, Photos, and a "More" button at the bottom.
- Bottom Right:** A "Google Cloud" logo and text.

# Google integrates with Cars



# Self-driving Cars – “Johnny Cab” coming!



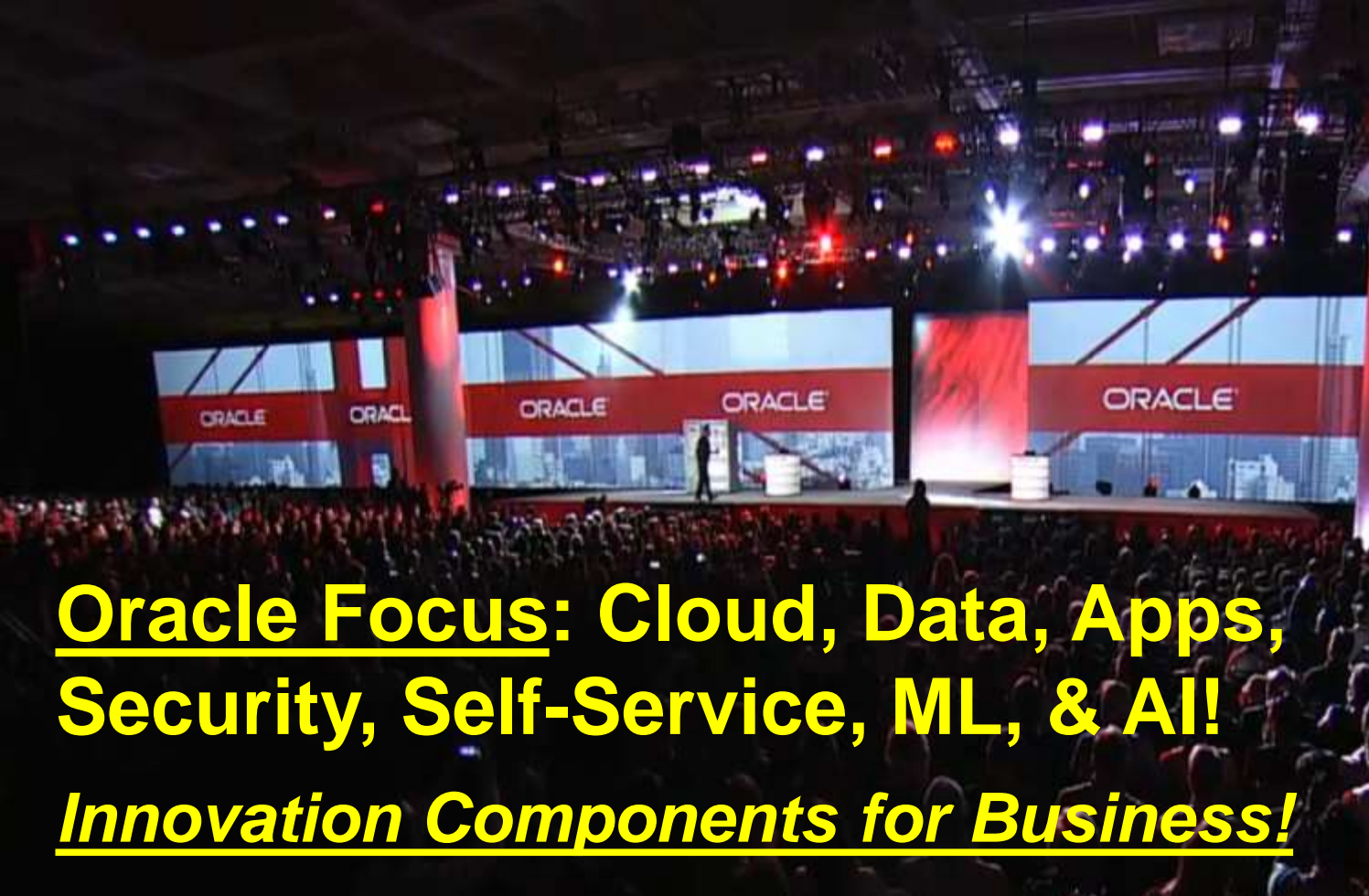
Made in China or the USA? It won't matter:  
These jobs are going to robots



ZDNET US  
WEDNESDAY, JANUARY 25, 2017 1:22 PM GMT

# Google Acquires Nest





**Oracle Focus: Cloud, Data, Apps, Security, Self-Service, ML, & AI!**  
**Innovation Components for Business!**



*"I admire risk takers. I like leaders – people who do things before they become fashionable or popular. I find that kind of integrity inspirational."*



LAWRENCE J. ELLISON | *Chairman & Chief Executive Officer, 200...*

## Experience Oracle Cloud with \$300 in free credit

[View Details & Sign Up](#) ▶

\*Free Credits available in select countries and valid for 30 days

Sign up and get credit towards Oracle Cloud services available as a pay-as-you-go subscription

### Sign up in three easy steps



Create a free Oracle Account



Verify your contact information



Start building with Oracle Cloud

[View Details & Sign Up](#) ▶

[Frequently Asked Questions](#)

### Available Oracle Services



Database



Compute



Java



Storage



# cloud.oracle.com/tryit (Scrolling down...)



## Ravello

Enterprise VMware workloads on leading public clouds



## Bare Metal Compute Service

Flexibility to scale your most demanding workloads



## Container

Managing containers easily on Oracle Cloud



## Database Backup

Storage for all your Oracle database backup needs



## SOA

Comprehensive integration and analytics in the Cloud



## Integration

Connect applications and build business processes



## Process

Put automation in the hands of every employee



## Application Container

Cloud native polyglot platform



## MySQL

World's most popular open-source database



## GoldenGate

Cloud based real-time data integration and replication service



## Mobile

Simplify enterprise mobility



## Big Data – Compute Edition

Big data made simple



## Event Hub



## Big Data Preparation

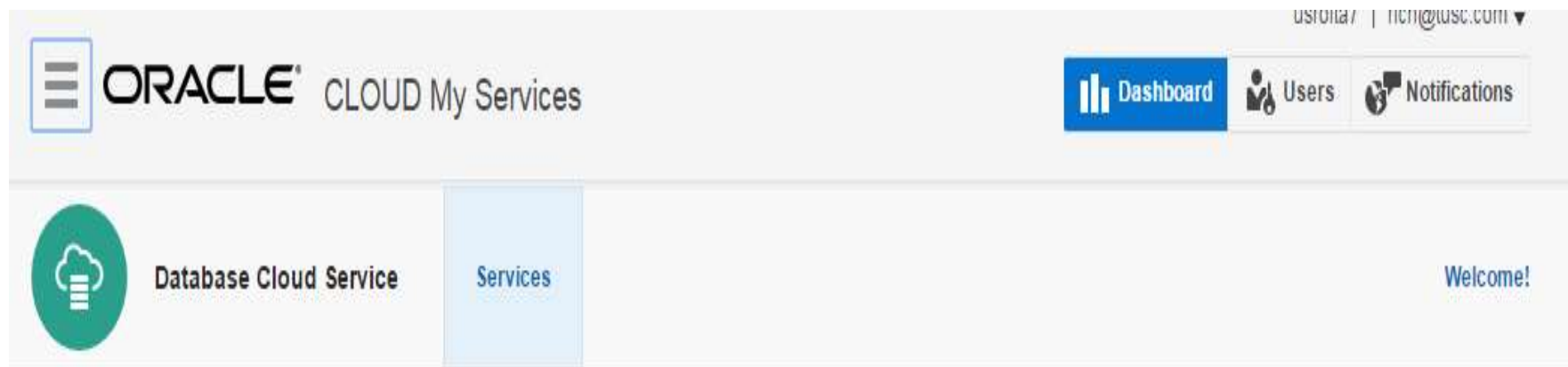


## Analytics



## Developer

# Create a Service (this will give me a Database)



ORACLE CLOUD My Services

Dashboard Users Notifications

ustoria7 | tich@usc.com

Database Cloud Service Services

Welcome!

As of Oct 27, 2015 5:04:30 AM UTC ↻

## Services

Create Service

You don't have any services. After meeting the [prerequisites](#), use this button to create a service.

### New to creating a service?

- [Watch a video](#)
- [Step through a tutorial](#)

▶ Instance create and delete history



# Newer Version Has Additional Option: Create from Backup!



Provision New Oracle Database Cloud Service

## Create Oracle Database Cloud Service Instance

[Previous](#) [Cancel](#)



[Next](#)

### Service Details

Provide details for this Oracle Database Cloud Service instance.

#### Service Configuration

\* Service Name  ?  
Description  ?  
\* Shape  ?  
\* Timezone  ?  
\* SSH Public Key  [Edit](#) ?

#### Database Configuration

\* Usable Database Storage (GB)   
Total Data File Storage (GB)   
\* Administration Password  ?  
\* Confirm Password  ?  
\* DB Name (SID)  ?  
\* PDB Name  ?

#### Backup and Recovery Configuration

\* Backup Destination  ?  
\* Cloud Storage Container  ?  
\* Cloud Storage User Name   
\* Cloud Storage Password   
Create Cloud Storage Container  ?  
Total Estimated Monthly Storage (GB)  ?  
\* Create Instance from Existing Backup  ?  
\* Character Set  ?  
\* National Character Set  ?  
Standby Database with Data Guard  ?  
Enable Oracle GoldenGate  ?  
Include "Demos" PDB  ?

# Your Cloud Service:



## Overview

1  
Node



## Administration

View Patch Information

As of Nov 2, 2015 10:31:43 PM UTC

Nodes	OCPUs	Memory	Storage
1	1	7.5 GB	93 GB

## Nodes

	<b>rolda1</b> Public IP: 129.152.159.24	SQL *Net Port: 1521 SID: ORCL Container Name: ORCL PDB Name: PDB1	OCPUs: 1 Memory: 7.5 GB Storage: 93 GB	
---	--	--	--	---

## Activity

## Additional Information

Edition:	Enterprise Edition
Service Level:	Oracle Database Cloud Service
Subscription Type:	Monthly
Created On:	Oct 27, 2015 5:16:22 AM UTC
Created By:	rich@tusc.com
Identity Domain:	usrolda7
Connect String:	rolda1:1521/PDB1.usrolda7.oraclecloud.internal
Backup Destination:	None

# To get started ...

- Go to:  
cloud.oracle.com/tryit (Create / Connect / Monitor)  
cloud.oracle.com/database (Database specific – Try It)  
dbaas.oraclecloud.com (sign in after signing up)
- Create your first service (which will create your first database)
- Connect to the service you created
- Monitor the service you created

# SaaS to Leverage from Oracle

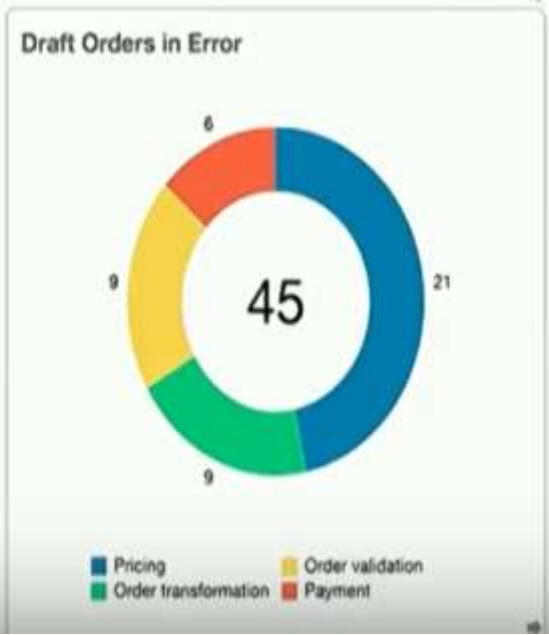
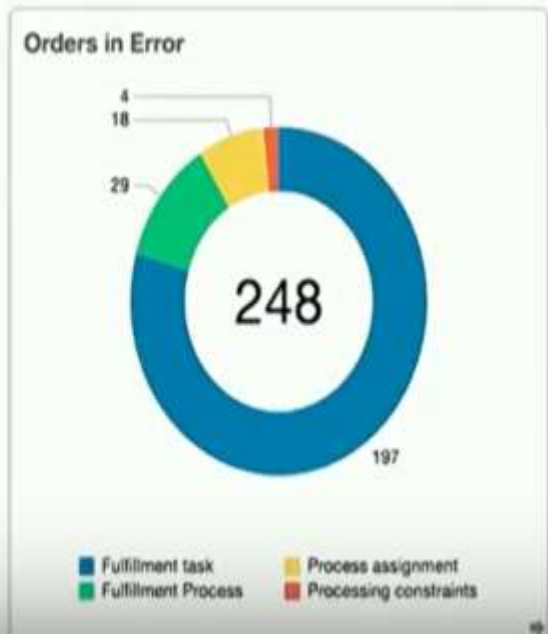
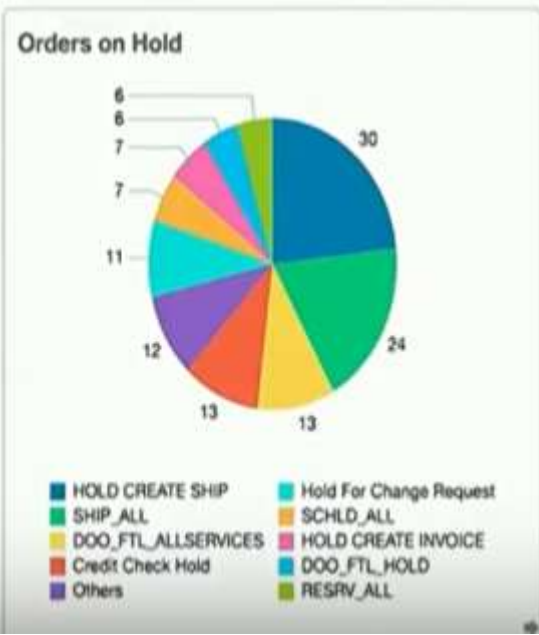
## Oracle Cloud: Software-as-a-Service (SaaS)



# SaaS – Supply Chain

## Oracle Supply Chain Management Cloud

### Overview



# IOT Fleet Monitoring Cloud

Oracle IoT Fleet Monitoring Cloud



Shipment : 09305



STATUS :  
**ON TIME**

TRANSPORTATION COST \$  
**5000**

TIME ELAPSED

**1 day 2 hrs 02 mins**

EXPECTED TOMORROW

**5:30 pm**

DISTANCE COVERED

**1829 mi**

TOTAL DISTANCE

**1857 mi**

**0/1** STOPS COMPLETED

**1**

ON TIME

**2:46 pm**

2017-10-01

D1.W1-REDWOOD CITY



**2**

ON TIME

**4:48 pm**

2017-10-02

D1.M1-STLOUS

SHIPMENT #	CARRIER NAME	VEHICLE	DRIVER NAME	DRIVER CONTACT
09305	JB HUNT	NS 829441	Bob Smith	1 555 567 8904



# Advanced Innovations to Leverage from Oracle:

## Built-In Innovations to Drive Faster Transformation

### AI / ML Embedded into Apps



### IoT Apps

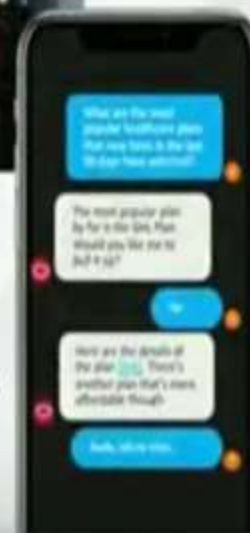


### Human Interface



### Augmented Reality

### ChatBots



# AI, Robotics & the Customer Experience

**MODERN  
CUSTOMER  
EXPERIENCE**



# Why Oracle Wins – So Many Products out there!

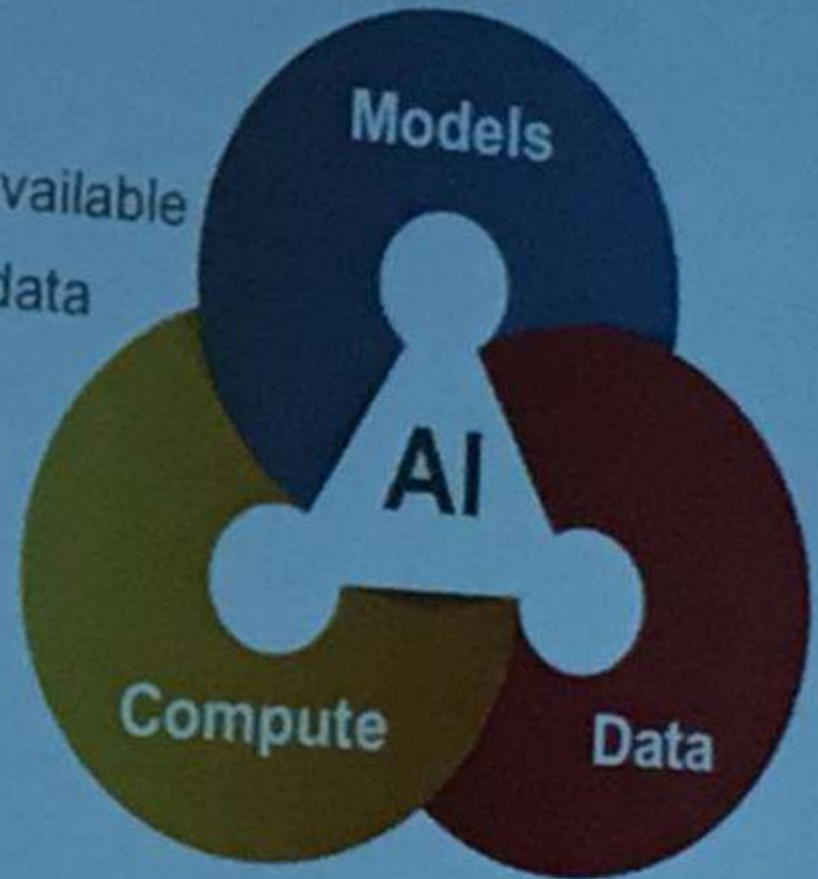


# Oracle Adaptive Intelligent Apps (AI) for CX

**Cx = Customer Experience**

And the Opportunity Has Never Been Better

- **Data** – secure, trusted and highly available
- **Models** – can decipher web-scale data
- **Processing power** – lightning fast



Oracle Adaptive Intelligent Apps for CX  
Data-Driven AI Apps designed to help you create legendary customer experiences

# Full Sales Force Automation (SFA) + AI/IoT/PA

Go Beyond SFA to Build a Next Gen Sales Engine



Customer Data Management

AI, IoT, Analytics

PaaS

ORACLE

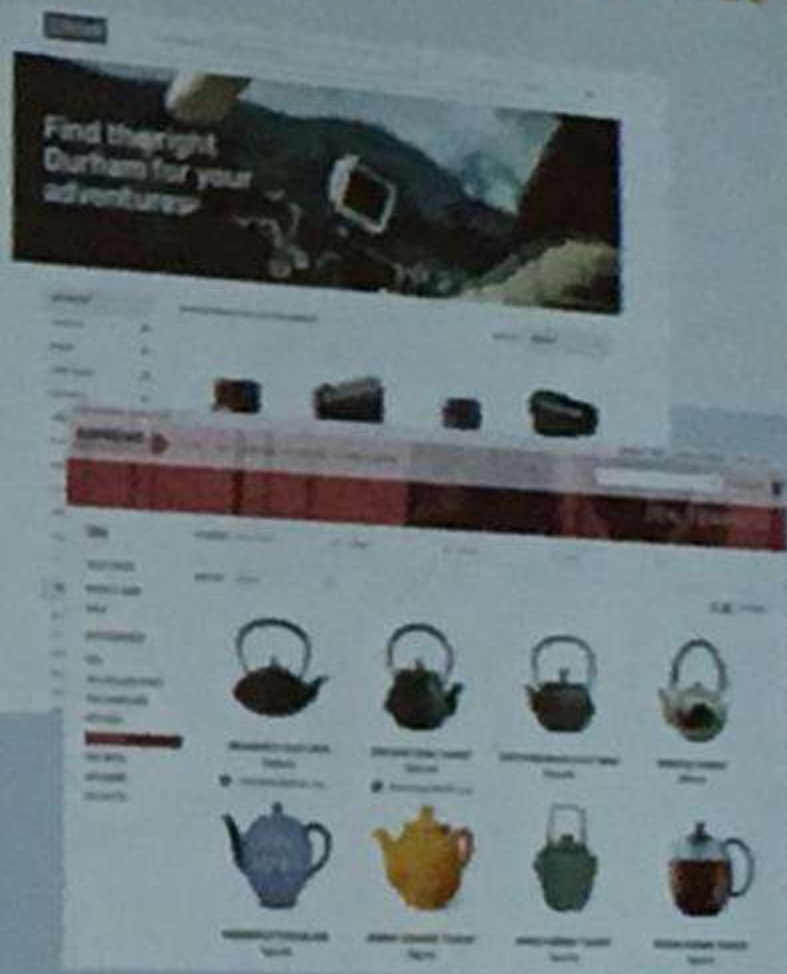
# Oracle Adaptive Intelligent Apps (AI) for Cx

## Intuitive Search Experiences

Enrich search results to personalize the commerce experience with anticipated consumer interests to increase conversion

- Data-driven search results based on personalized profiles
- Auto-generated type ahead suggestions
- Augmented category recommendations based on similar user behavior
- Enhanced Search Engine Optimization

Available + Future



# AI Helps my Decision Making & Future AI & ML Sales Tips to get Better

My Open Opportunities

Show filters

Win%	Name	Account	Amount	Close Date	Sales Stage	Recommended Action(s)
90% ▲	Infrastructure Transformation	System Solutions Inc	\$80,000	04/17/18	05 - Quote Proposal	Call this account today
80%	Smarter DC Power Systems	Sch				
75%	Big Data Initiative	Net				
70% ▲	High Availability Deployment	Siem				
70%	Cloud Computing Deployment	Net				
60%	Unified Communication Expansion	Devon Networks	\$975,000	11/21/18	03 - Building Vision	Read top news about t
50%	Electronic Record Conversion	Global Technologies	\$325,000	12/20/18	02 - Discovery	Consider whether the
50% ▲	Green Disaster Recovery Center					

**Review decision maker** < 2 of 2

Higher win % predicted when the primary contact is an IT decision maker

Primary contact: Mark Butler, Head of Procurement

**Review opportunity contacts**

Good Suggestion    Not Relevant    Cancel


## Commerce Sessions You Can't Miss

- How AI Changes the Game When Delivering Personalized Experiences
- Unleashing the Power of AI on Your Search Experience
- Digital Disruption: A Guide to Transform Commerce in the Cloud
- The Future of Commerce

### MODERN CUSTOMER EXPERIENCE

Presented by

# ORACLE



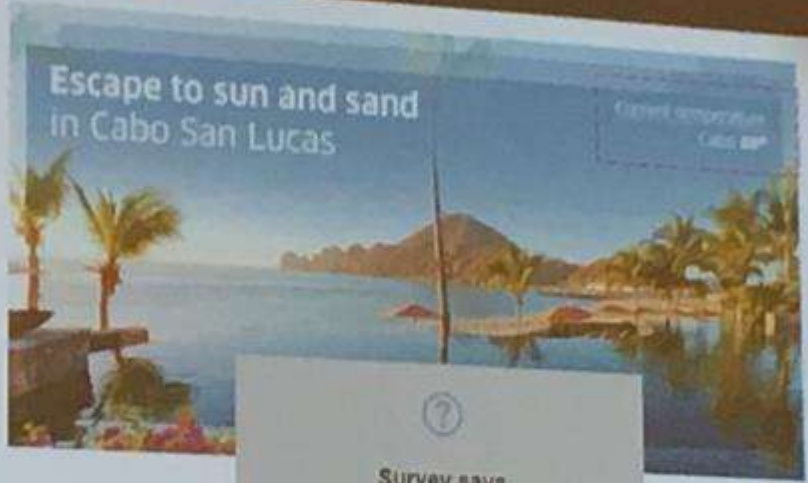
# Mobile and "Movable Ink" – Leverage Email Too!

## Movable Ink

Personalization

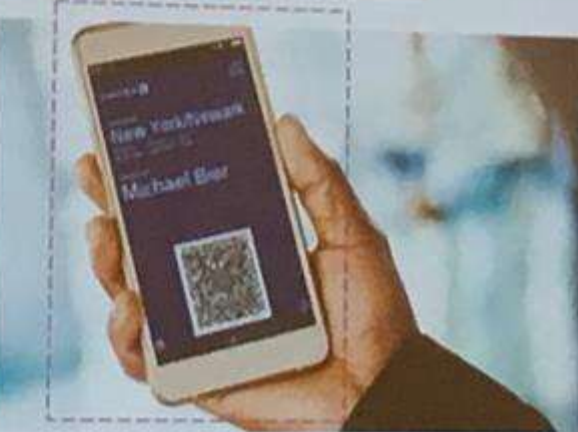


Stay up to date with the latest news and earn miles



It's time to head to New York/Newark

Let's go >



Survey says

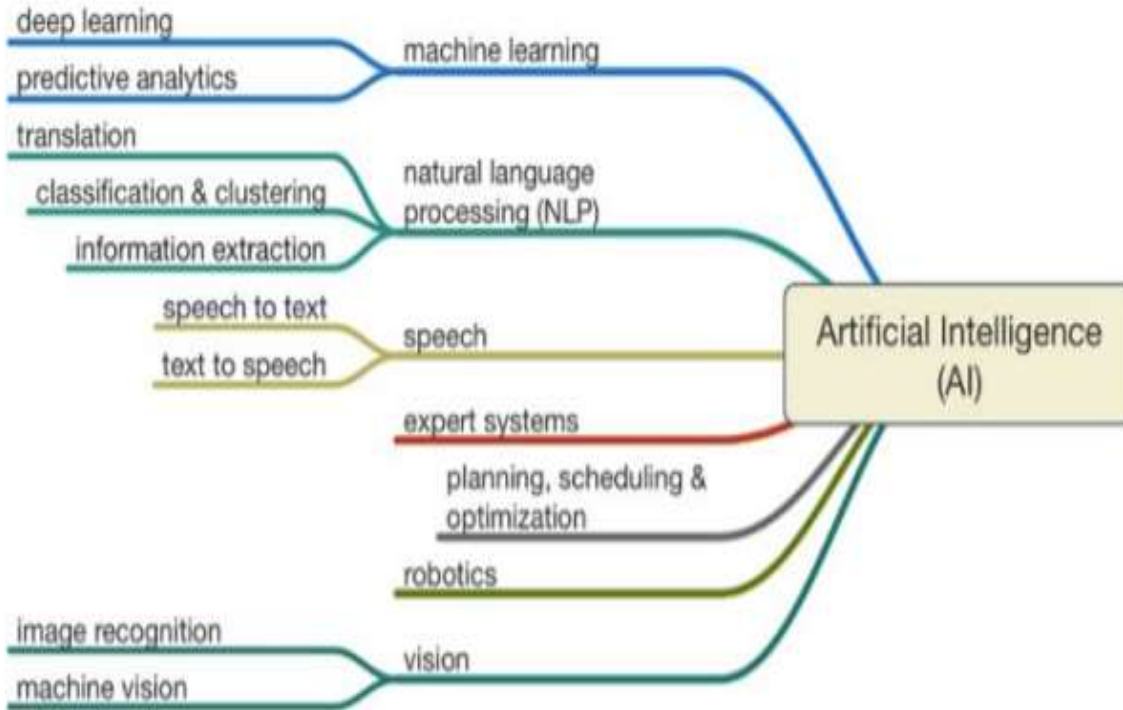
Select the one that comes closest to your dream destination:

Buenos Aires, Argentina	4140 Miles
Hawaii	4181 Miles
Singapore	3794 Miles
Sydney, Australia	1000 Miles



# Oracle Chatbots & AI

## You can Leverage this NOW!



Oracle's AI Platform



# Oracle AI and Oracle Intelligent Bots

## Oracle Intelligent Bots: Key Components

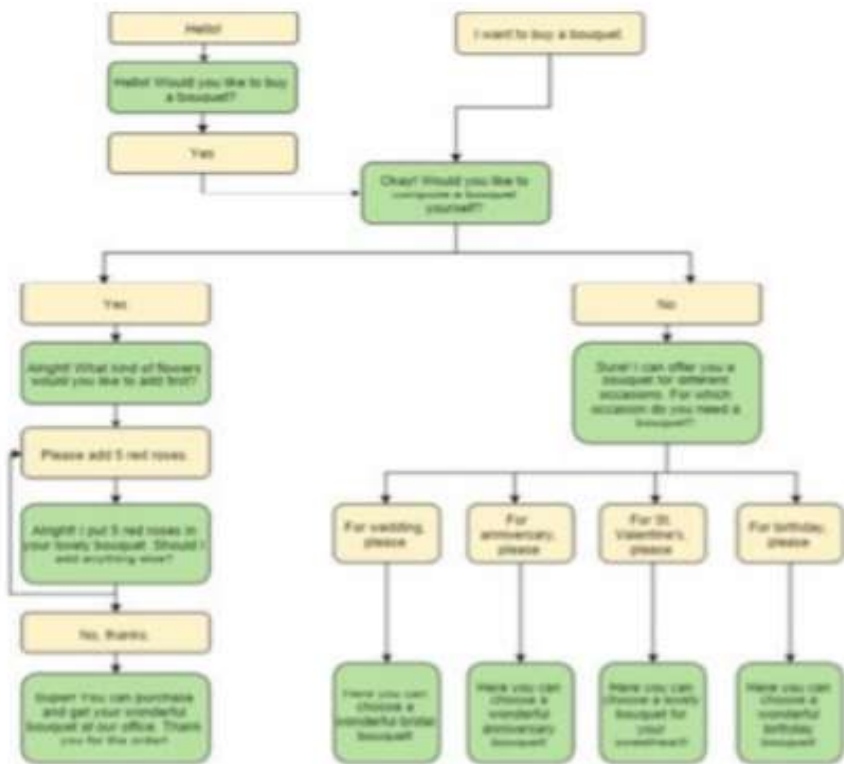
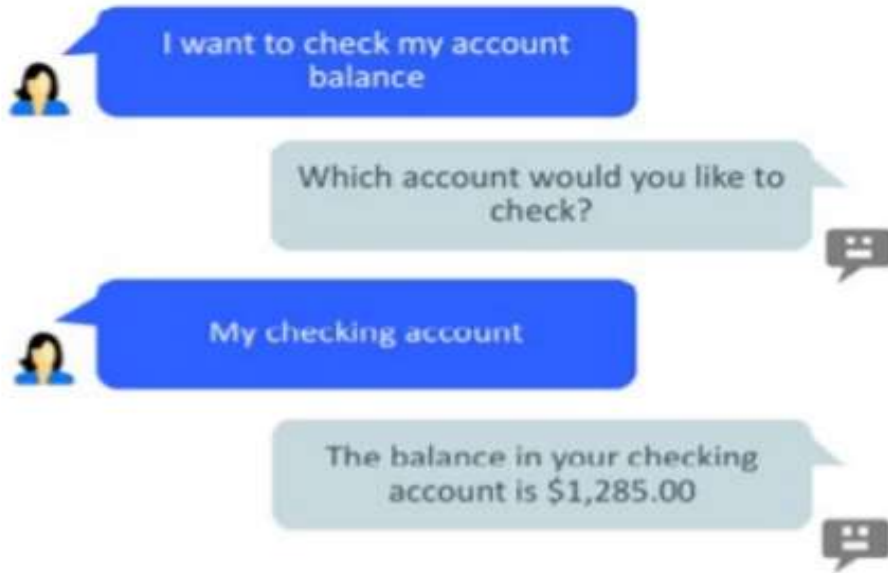


# Channel Configurator

## Messaging channels Customer prefers to use:

- OTT Channels: Over the top (OTT) messaging channels such as Facebook Messenger, Facebook WhatsApp, WeChat, Line, Kik, Telegram, Talk, Skype, Slack, SMS.
- VPA: Virtual Private Assistants such as Amazon (Dot, Echo, Show), Google Home, Apple HomePod.
- Mobile & Web app extensions: Extending native or hybrid/responsive mobile apps or web applications with chat capabilities.
- Voice Based Input: Custom devices or apps with interfaces that use Siri, Cortana, Google Voice or other speech input for interaction.

# A Chatbot Conversation



# Build a Bot in the Cloud!

## Oracle Intelligent Bots Service (Available Now!)

The screenshot shows the Oracle Intelligent Bots Service dashboard. At the top, there's a blue header with the Oracle logo and the text "ORACLE Intelligent Bots Service". Below the header, there's a "Bots" section with a search bar and a "Sort By Name Ascending" dropdown. The main area displays a grid of bot cards. Each card includes a bot name, a description, and an "Updated" timestamp. A "New Bot" button is visible on the left side of the grid.

Bot Name	Description	Updated
New Bot		
CIBot	Bot for Continuous Integration	Updated: Fri, 4/14/2017 17:04
NextGenFinancial_v2	Financial Virtual Assistant	Updated: Mon, 7/24/2017 08:05
PizzaBot	Generic bot description	Updated: Fri, 4/14/2017 17:04
PizzaBotWithMemory	Generic bot description	Updated: Fri, 4/14/2017 17:04
RetailBot	RetailBot	Updated: Fri, 4/14/2017 17:04

The screenshot shows the configuration page for the "NextGenFinancial\_v2" bot. The page is titled "NextGenFinancial\_v2" and has a "Validate" button. The main content area is divided into several sections:

- Intents:** A list of intents is shown, including "Balances", "FAQ", "Send Money", "Track Spending", and "Transactions". A red box highlights this list, with an arrow pointing to the text "Defining Intents".
- Description:** A form for defining the bot's description, including fields for "Name" (set to "Balances") and "Description".
- Examples:** A section for defining sample phrases, with a red box highlighting the input area and an arrow pointing to the text "Defining Sample Phrases".
- Intent Entities:** A section for defining entities, with "AccountType" listed as a required entity.

# Training and Testing your Bot Engine

**Training the engine**

Validate Train

+ Intent More

Description

Name \* Balances

Description

Examples

Filter

Enter your example utterances.

Am I able to savings  
balance  
get my balance  
how much do I have

**NLP Engine results**

Test

Bot Intent Batch

What's my balance

Intent	Confidence
Balances	30.7%
Send Money	14.3%
Transactions	20.2%
Track Spending	0.0%
FAQ	0.0%

Add Example

JSON

Test Phrase: What's my balance

**Bot Test**

Validate Train

+ Intent More

Description

Name \* Balances

Description

Examples

Filter

Enter your example utterances.

Am I able to savings  
balance  
get my balance  
how much do I have

**Bot Dialog Flow Result**

Test

Bot Intent Batch

What's my balance

For which account do you want your balance?

checking  
savings  
credit card

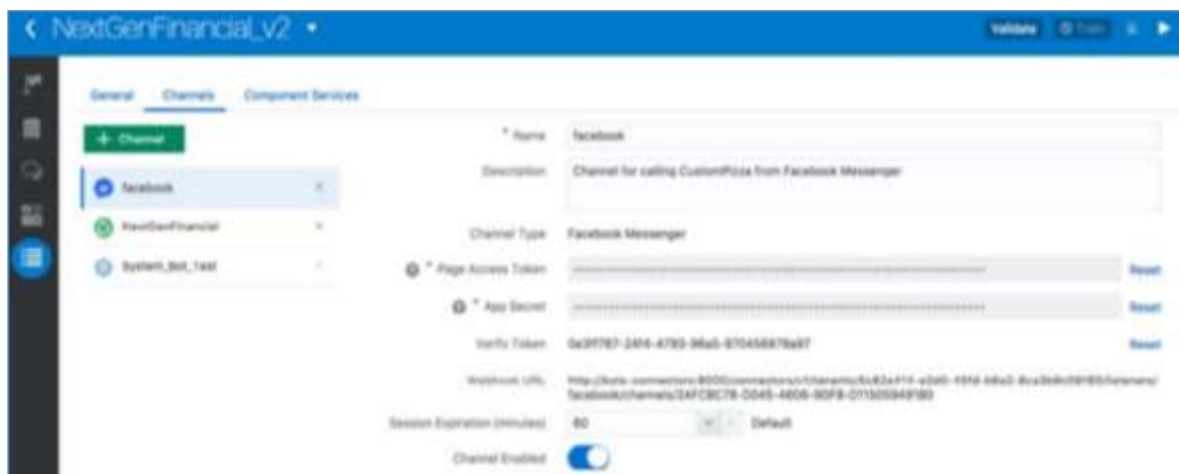
checking

The balance in your checking account (803423-123) is \$2334.08

JSON

Test Phrase: What's my balance

# Integrate with Facebook Messenger / Watch Activity



## Oracle's AI Platform



[See oracle.com](https://www.oracle.com)

*Oracle Intelligent Bots Primer*

# Must Find and Fix Issues so Bot *Grows Up*

ORACLE Virtual Assistant Dashboard Analysis Intents Administration **Test**

Last Year ▾ January 1, 2017 to December 31, 2017 80 Conversations 798 Exchanges 160 Issues

With Issues ▾ Sort By Popularity ▾

when is lunch	18 Instances	15 Matches	3 Issues
tuesday	16 Instances	15 Matches	1 Issues
who are the keynote speakers	13 Instances	12 Matches	1 Issues
duck #3	7 Instances	6 Matches	1 Issues
yes	5 Instances	3 Matches	2 Issues

4 of 13 Conversations

ahhhh Nov 16, 2017 2:15 PM **Issue Detected**

2:27 PM

where can I get coffeeee 2:27 PM

I don't understand. Try rephrasing your question please. 2:27 PM

where can I get ocfee Customer says

I can answer your conference curiosities! If there's something that I can't answer, visit the help desk on level 1 of the conference center to talk to an Oracle representative.

Ask me another question if there is anything else I can help you with. 2:27 PM

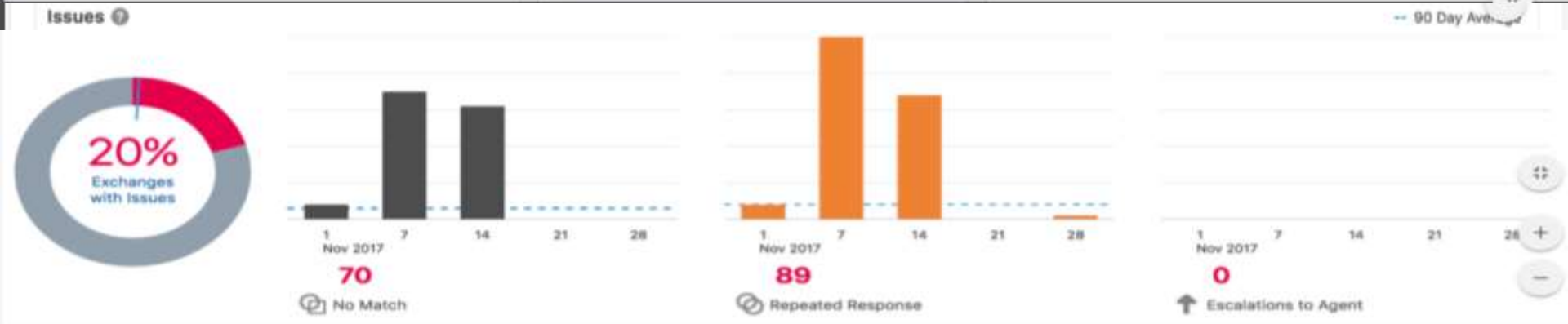
**No Answer**  
The user was not given an answer.

**Current Match In Staging Environment**

**No Answer**  
The Virtual Assistant has no answer for this question.

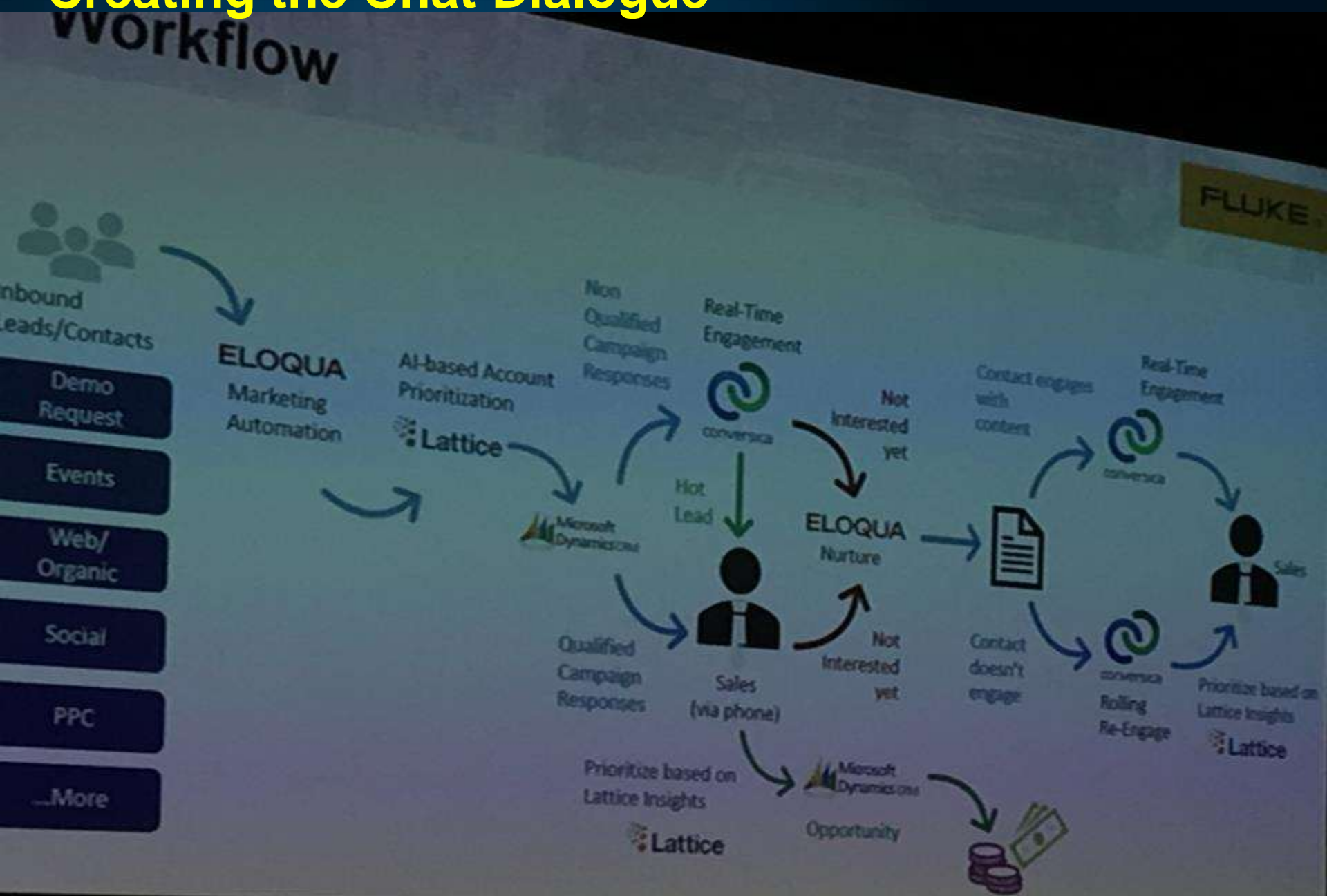
**Recommended Solutions**

- Create an intent





# Client Demo – Does it Work (*Will it grow sales*)? Creating the Chat Dialogue



# Client Demo: **Creating the Chat Dialogue**

ORACLE  
eloqua



Lattice



conversica

Contact engages with Fluke (non-handraisers) via various programs: Asset download, Facebook, PPC, Viewed Video, Etc.

Scores contact based on account models to indicate the likelihood of conversion, and provide account-level data

Leverages AI email assistant to engage contact in a conversation in an attempt to get the

conversica

## Personalizing our AI Bots

- Needed to make the digital conversations personalized
- Already using Lattice to drive account insights and prioritization
- Brought these account-level insights into Conversica to create conversations that resonate

The screenshot shows a user interface for a conversational AI bot. At the top right, the name 'FLUKE' is displayed in a yellow box. The interface features a chat window with two outgoing messages (yellow boxes) and two incoming messages (blue boxes). The outgoing messages contain text such as 'Thank you for your interest in our new product...' and 'We are currently having a great time...'. The incoming messages are customer responses. Below the chat window, there are several data visualization elements, including bar charts and tables, which represent account-level insights. A 'Customer Segments' dropdown menu is visible, showing options like 'Marketing', 'Sales', and 'Support'. The overall layout is clean and professional, typical of a CRM or marketing automation tool.

# How to Make an Impact to the Business!



- Begin using Lattice account insights for cross-sell/upsell campaigns
- Use Conversica Upsell to engage in conversations

	Product A	Product B	Product C	Product D	Product E	Product F	Product G	Product H	Product I	Product J	Product K	Product L
Product A	100%	98%	98%	99%	98%	99%	99%	99%	98%	98%	98%	95%
Product B	33%	100%	68%	36%	37%	40%	48%	47%	45%	44%	51%	50%
Product C	25%	51%	100%	27%	29%	30%	35%	34%	66%	34%	39%	44%
Product D	86%	92%	91%	100%	84%	91%	91%	86%	90%	87%	90%	89%
Product E	31%	35%	37%	31%	100%	38%	52%	61%	41%	57%	40%	52%
Product F	62%	73%	73%	67%	74%	100%	75%	81%	72%	80%	83%	89%
Product G	29%	40%	40%	30%	47%	35%	100%	50%	37%	43%	38%	43%
Product H	24%	33%	33%	24%	46%	31%	42%	100%	34%	57%	38%	63%
Product I	50%	68%	67%	53%	67%	59%	66%	73%	100%	73%	66%	71%
Product J	26%	34%	35%	27%	47%	34%	37%	63%	37%	100%	40%	54%
Product K	39%	60%	61%	42%	50%	53%	53%	64%	51%	61%	100%	81%
Product L	13%	22%	24%	14%	22%	19%	20%	36%	19%	29%	28%	100%

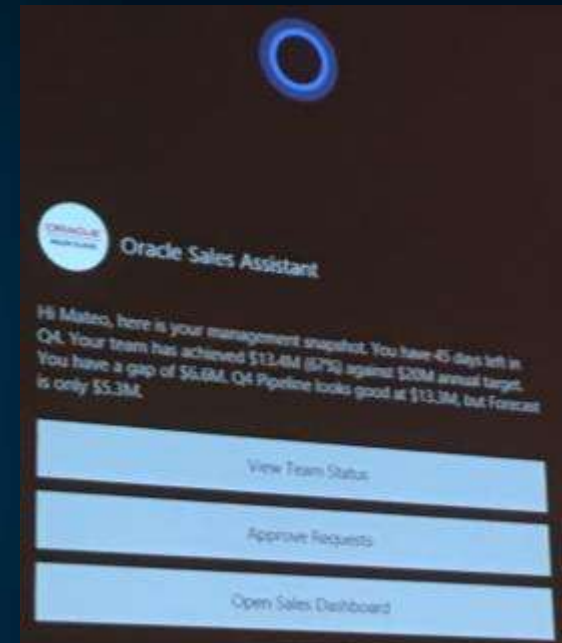
### Trial 1 Results

54 contacts messaged  
 35% engagement rate  
 9 opportunities generated  
 16% conversion rate

### Trial 2 Results

95 contacts messaged  
 48% engagement rate  
 21 opportunities generated  
 22% conversion rate  
**1 Closed Deal**

conversion rate with sales development (SS) is 17%  
 engagement rate for SS is approximately 60%



# A Robot may not look one!

*Oh Yeah... they never complain, always happy to do more, work anywhere, get smarter as time goes on, leverages AI & ML, works 24x7, doesn't ask for a raise, no union (yet).*

A large red banner is stretched across the facade of a modern glass skyscraper. The banner features the Oracle logo and the text 'Database Cloud' on the left, and 'The World's First Autonomous Database' on the right. The building's glass reflects the surrounding cityscape.

ORACLE®  
Database Cloud

The World's First Autonomous Database

# A Robot may not look one!

**\*Robots that Manage a Database (ADW)!**

**\*Robots that secure a system and use ML & AI**

# Autonomous Database – DBA Job Changing No Tuning and yet price of Cloud Depends on Tuning!



**Rich Niemiec** @RichNiemiec · Oct 1

The #DBA time moves from patching to security & other areas. Rich says: Tune your Database before you move it to the #cloud to save money.



# CEO's Lasting 4.5 Years: Disruptors Everywhere



## PRESSURE GROWING

CEO Tenure Average Only 18 Quarters

Technology Innovation and Consumer Adoption  
Increasing Faster than IT Can Keep Up

20 Year Old Systems and Apps

80% of Budget Spent on Maintenance

Disruptors on the Doorstep:

- Lyft (Car Ownership/Auto Industry)
- Bloom Energy (Utilities/Energy)
- Stripe (Online Payments, Software, Finance)
- Warby Parker (Eyewear Retailing/E-Commerce)
- Houzz (Home Remodeling and Contracting)

ORACLE



# Innovative Companies Leverage Big Data!



**What we  
know,  
we know**

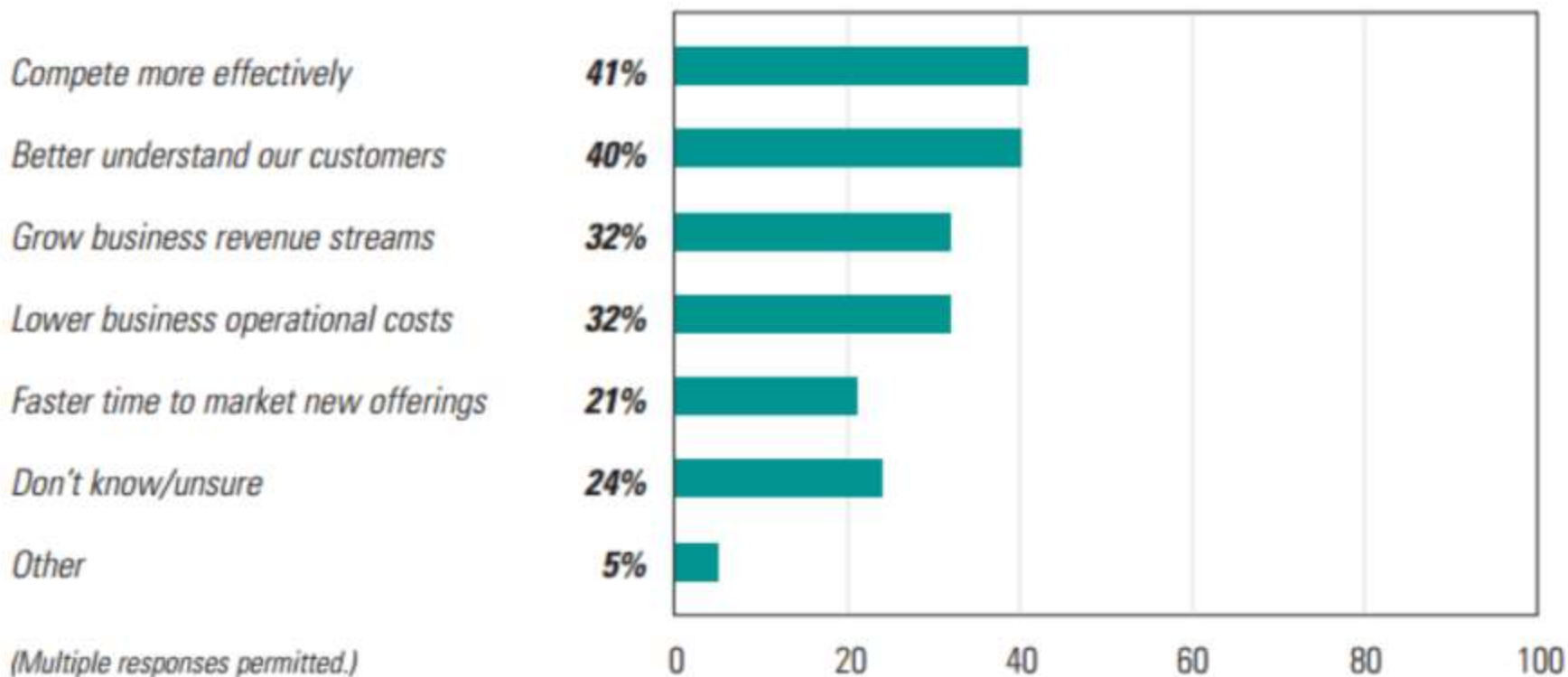
**What we  
know, we  
don't know**

**What we don't know,  
we don't know**



# IOUG Survey – September 2012

## Leading Big Data Business Opportunities



# Characteristics of **Big Data**

## Volume

Big data comes in one size: large. Enterprises are awash with data, easily amassing terabytes and even petabytes of information.

**TB, Records, Transactions, Tables, Files**

## Velocity

Often time-sensitive, big data must be used as it is streaming in to the enterprise in order to maximize its value to the business.

**Batch, Near time, Real time, Streams**

## Value

Business value of Big Data

## Variety

Big data extends beyond structured data, including semi-structured and unstructured data of all varieties: text, audio, video, click streams, log files and more.

**Structured, Unstructured, Semistructured**



Finance



Telecom



Retail



Life Sciences



Government



Media

## Big Data Themes

- HW & SW technologies for large data volumes
- Focus on Web 2.0 technologies
- Database Scale-out
- Relational & Distributed Data Analytics
- Distributed File Systems
- Real Time Analytics

## Big Data Domains

- Digital Marketing Optimization
- Data Exploration & Discovery
- Fraud Detection & Prevention
- Social Network & Relationship Analysis
- Machine-generated Data Analytics
- Data Retention

# Do you really need all Hadoop Servers?



4000 nodes:

**16P raw disk**

➤ 32T RAM

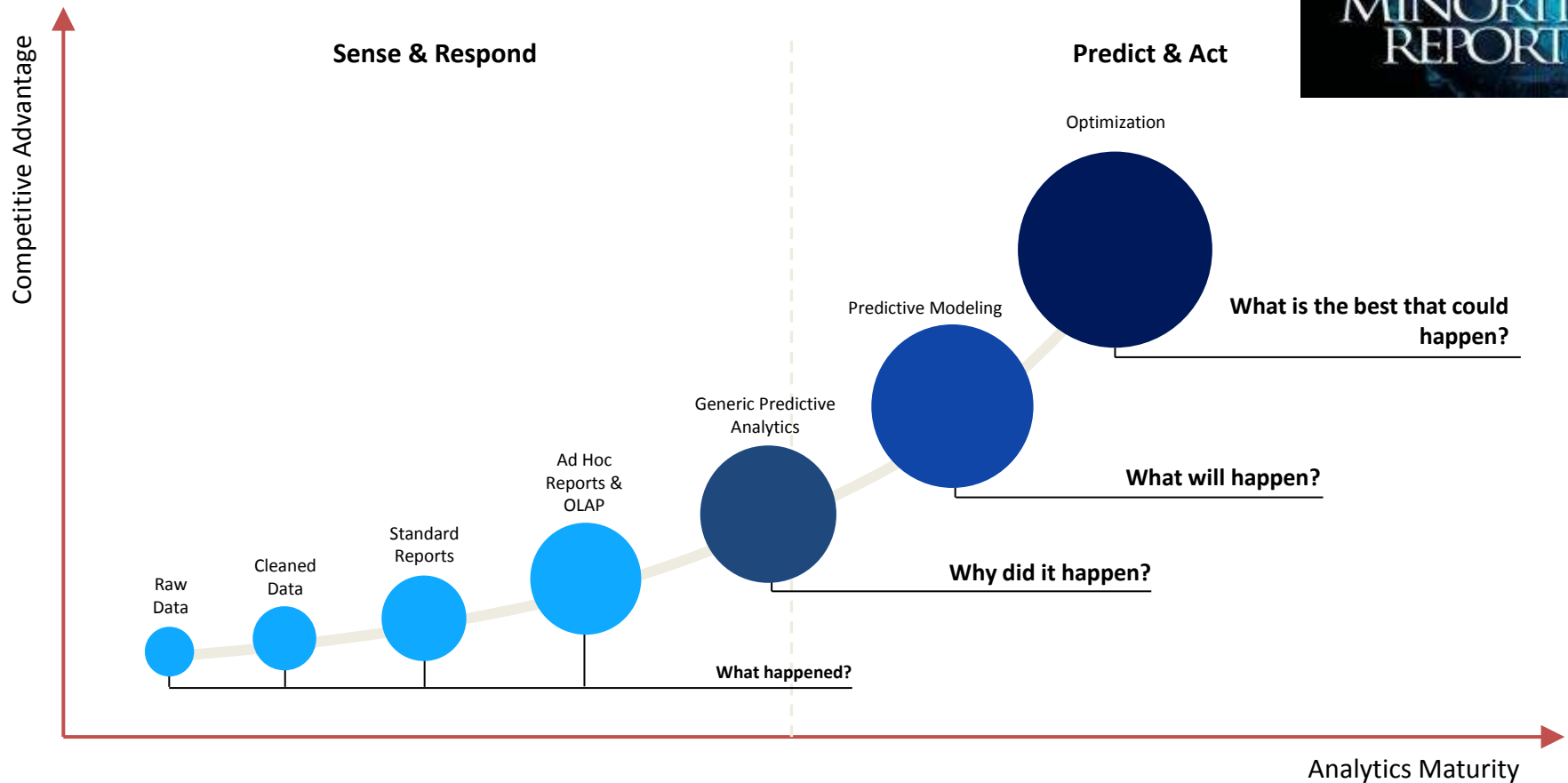
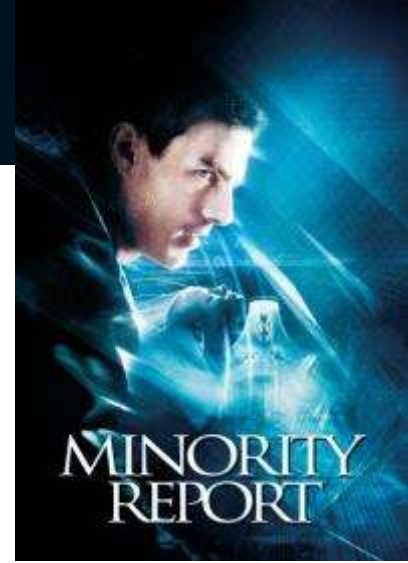
➤ 30,000 cores



1 Node (X6-2):

1.3Px 15x compression = **19.5P**  
**raw disk equivalent**

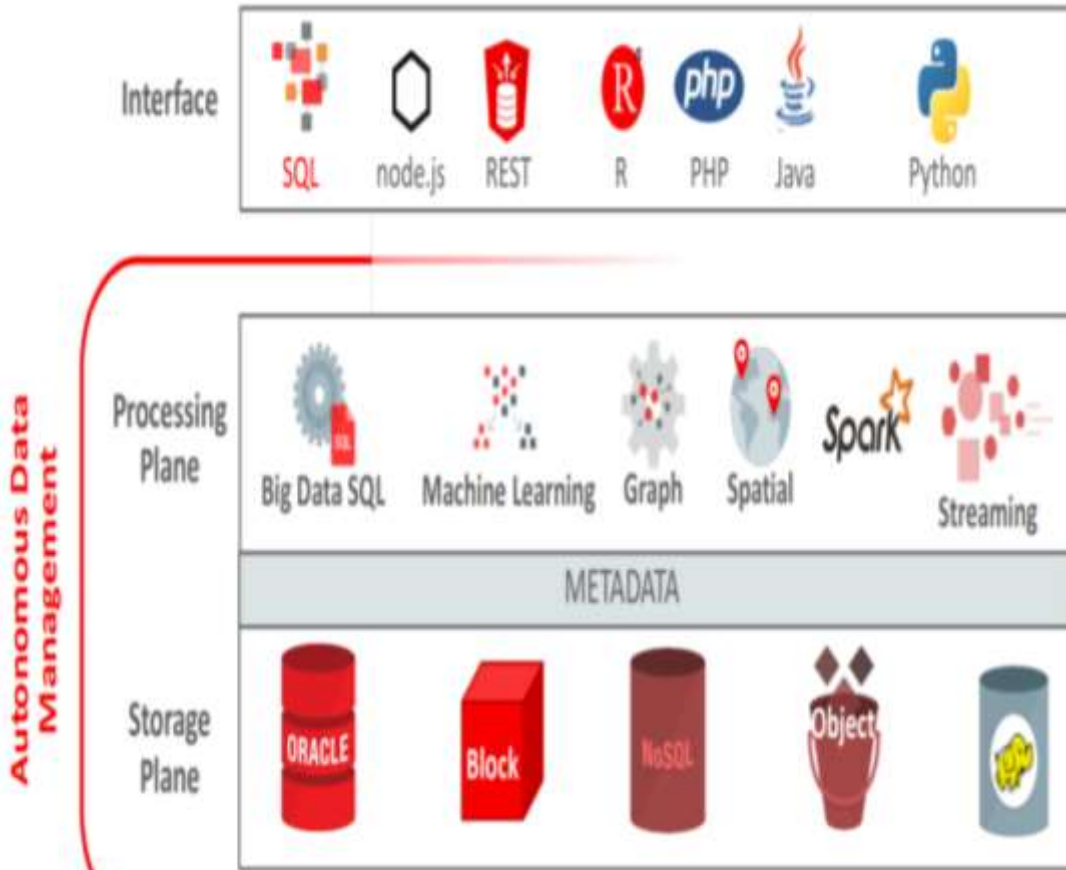
# Big Data Driving Prescriptive Analytics



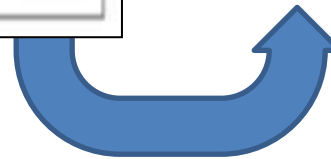
The key is unlocking data to move decision making from sense & respond to predict & act

# Become a Data Manager (DA) – Not just a DBA

## Data Management as a Service

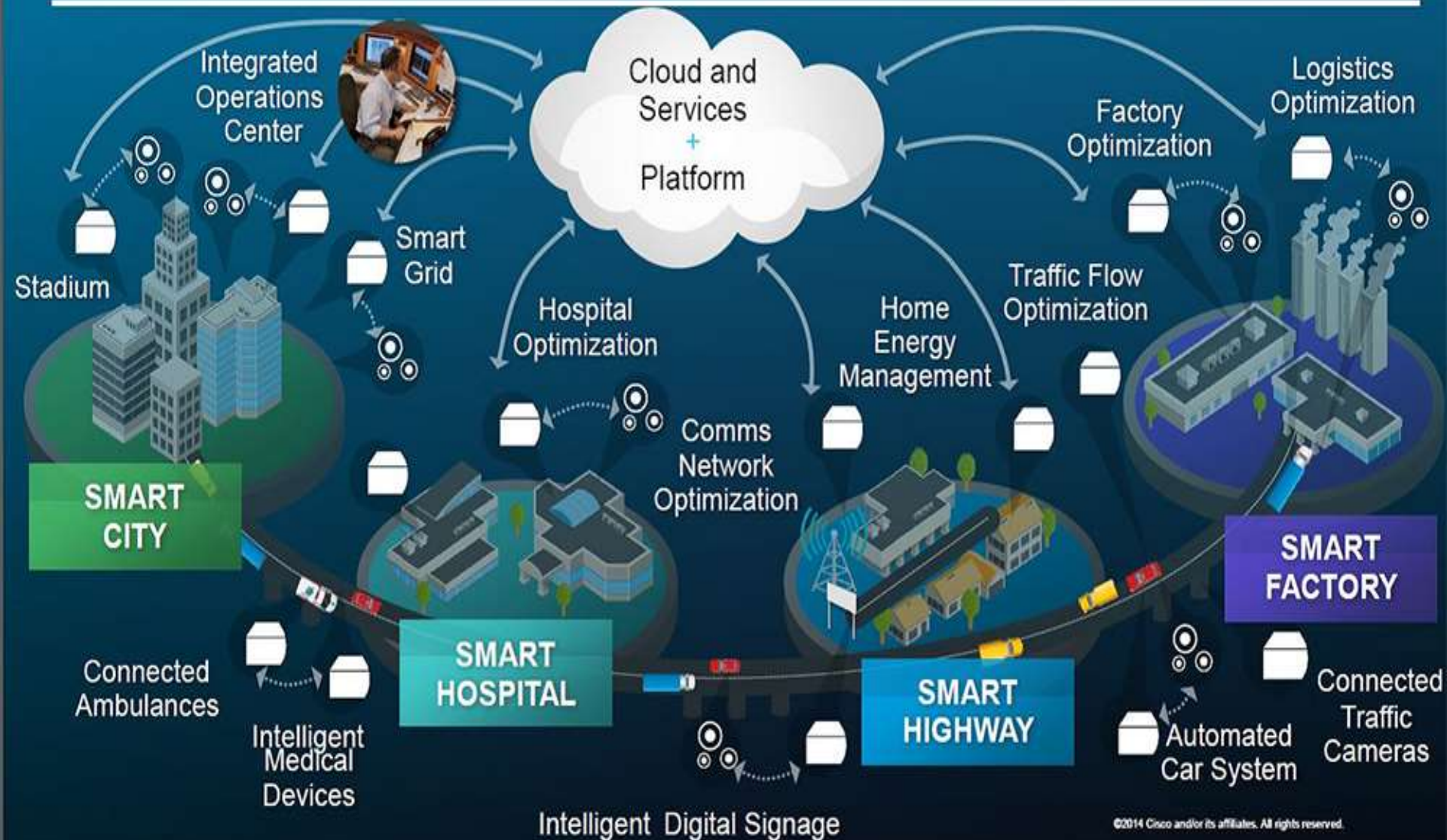


Data is the New Oil...



# Venturebeat.com – IOT \$14.4T this decade<sup>7</sup>

## Typical Views of the Internet of Things



# The Consumer IOT Connection



Vessyl smart cup tracks coffee and more for IoT hydration



# Wearable Tech / IOT



Intel Edison + Baby Wakes Up = Bottle starts warming up



# Oracle Sales and Service: Integrate Pepper!

## Another Potential DBA Tool: Oracle Virtual Private Assistant!

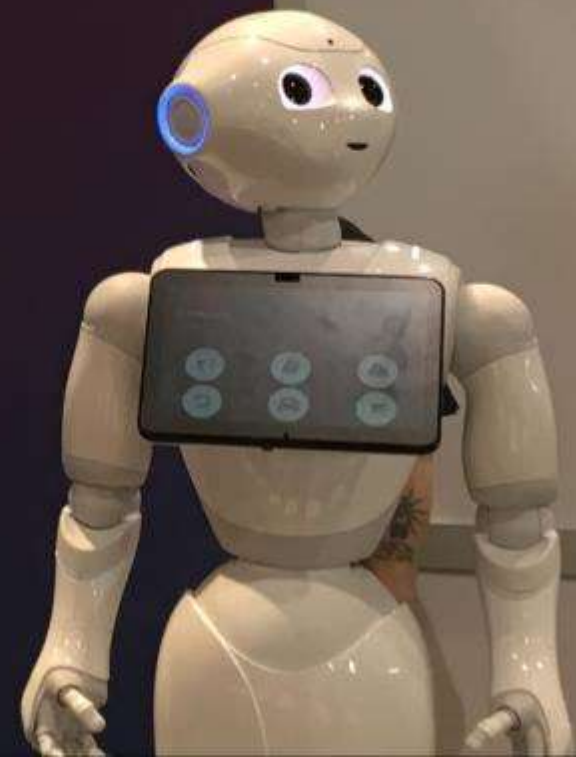
**MODERN CUSTOMER EXPERIENCE**  
Presented by  
**ORACLE**

**Robotic Service: Meet Pepper-the Next-Generation Service Representative**

Or: "How I For One Welcome My Adorable Robot Overlords"

Wayne Brown  
Demo Architect  
North America Applications Solutions Consulting  
April 11, 2018

**ORACLE**



# Pepper is Everywhere!



At OpenWorld



At Modern Cx (Customer Experience)

# How to Connect Pepper to Oracle (so far)

## How Pepper + Oracle are Connected



ORACLE  
MOBILE



## Meet Pepper



- Humanoid robot designed by SoftBank Robotics
- Able to recognize principal human emotions and tailor interactions
- Facial / object recognition
- Spatial awareness



# Use Oracle Virtual Assistant with Robots

**ORACLE**

SER-10  
SERVICE

VIRTUAL ASSISTANT

Offer Natural, Conversational Interactions at Scale with a Smart Automated Solution

Oracle Virtual Assistant the Chatbot for Service



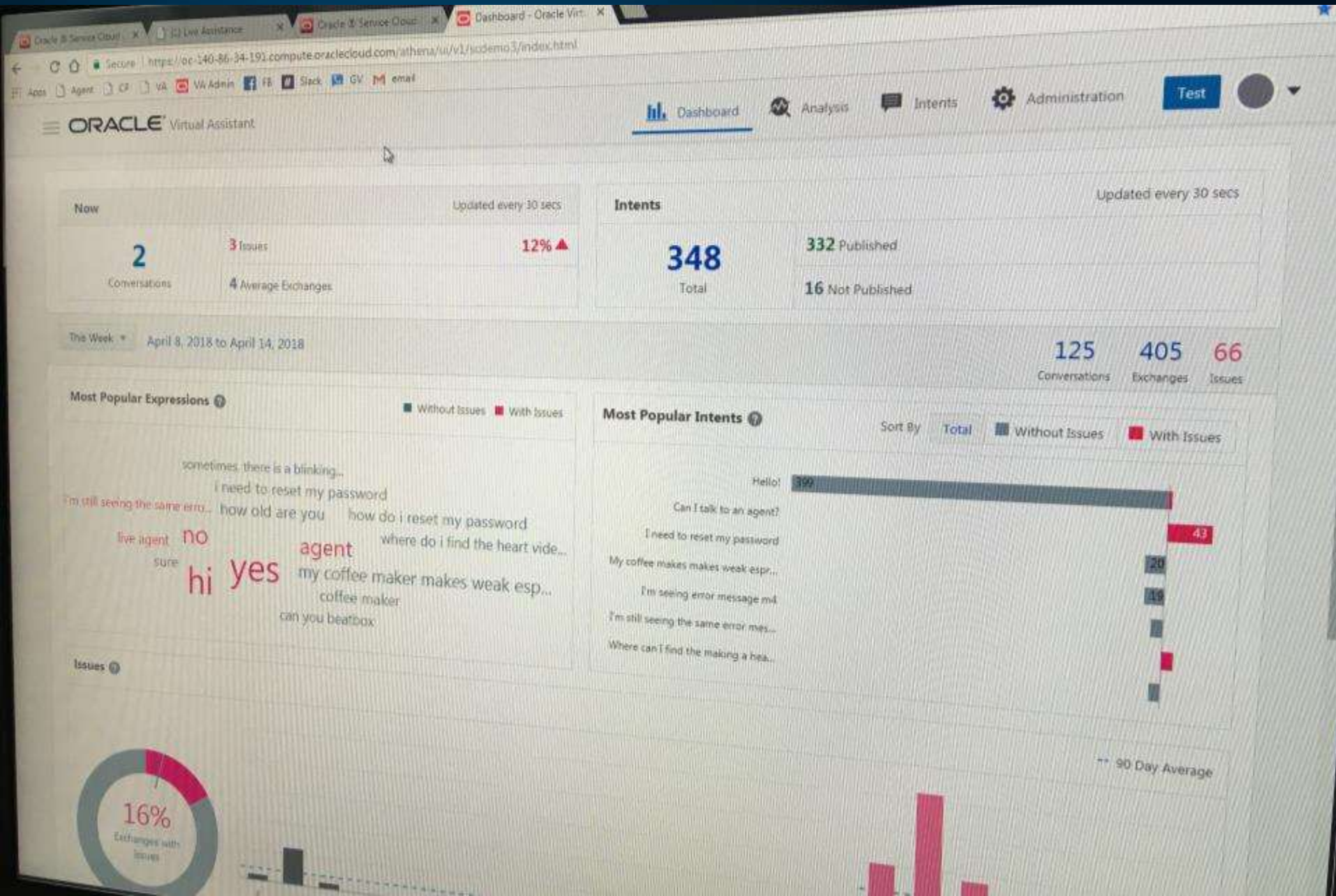
Oracle Virtual Assistant the Chatbot for Service



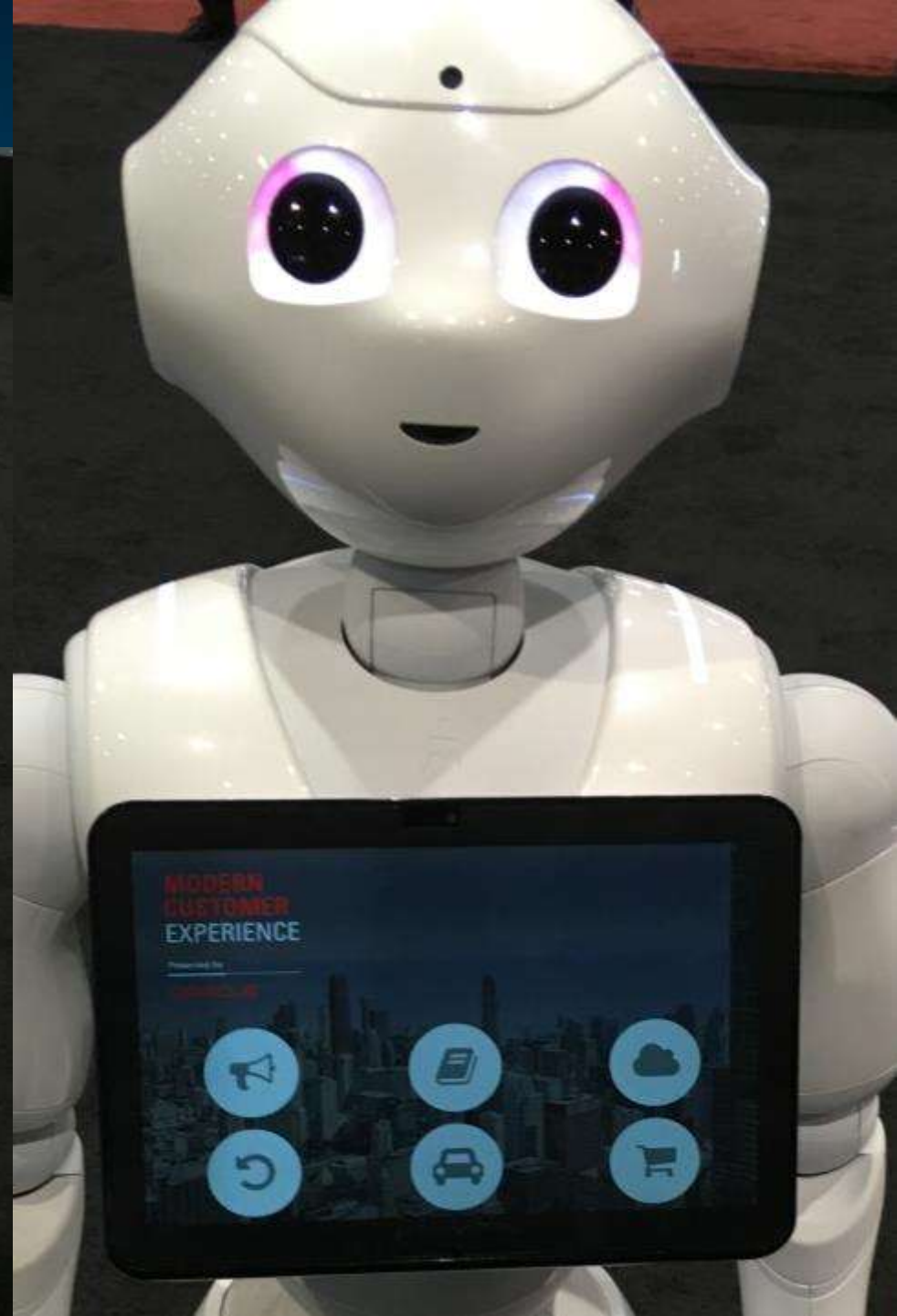
- SMS
- Facebook Messenger
- weChat
- Kik
- WhatsApp
- Phone
- Alexa
- Slack
- HipChat
- Siri



# Oracle Virtual Assistant Interface



# Pepper - Cx Helper!



# Integrate Microsoft HoloLens with Oracle IoT

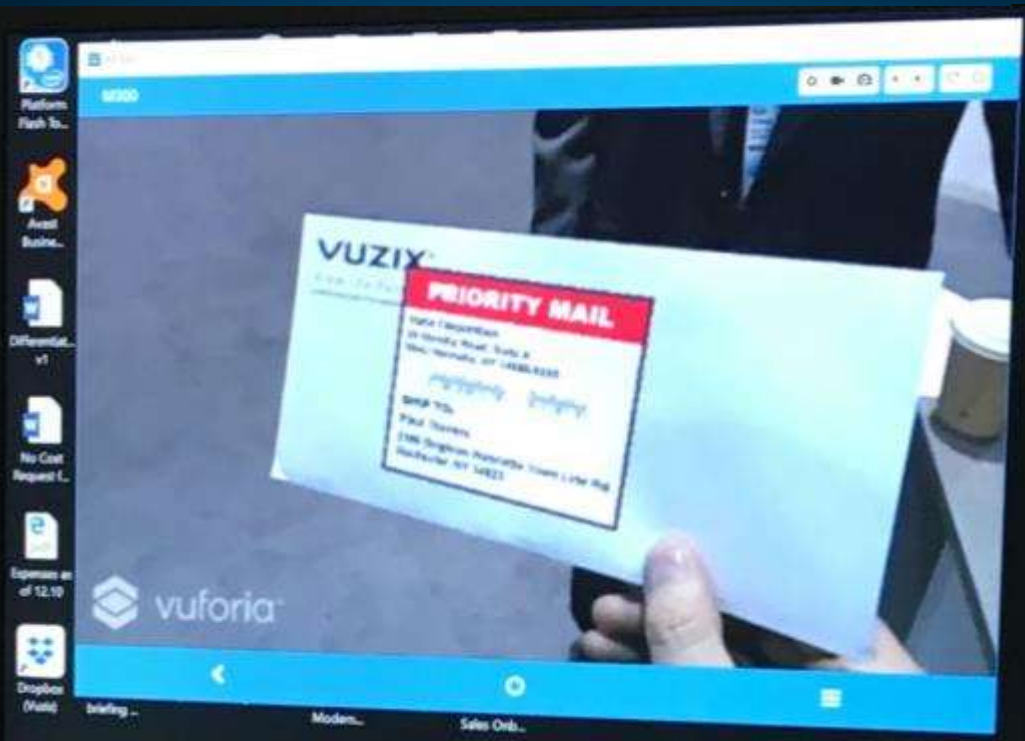


# Vuzix & with Oracle Customer Experience (Cx)





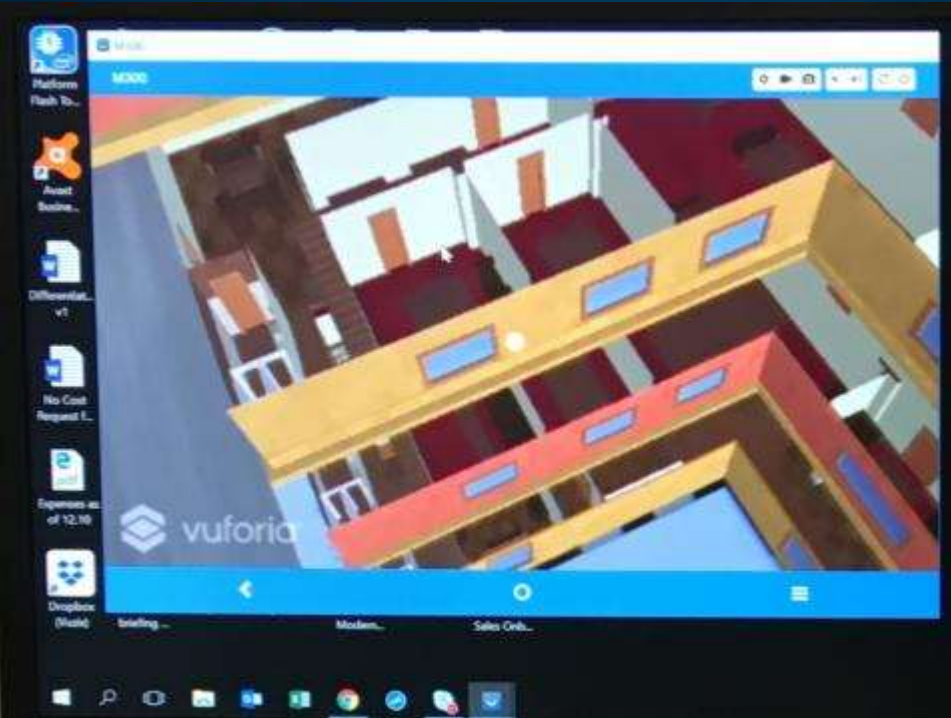
# Vuzix & with Oracle Customer Experience (Cx)



Encrypt Confidential Information in Barcode!  
Special glasses will allow approved viewing.



# Vuzix & with Oracle Customer Experience (Cx)



See what the Building should look like!  
Even look closer to see an individual Room.

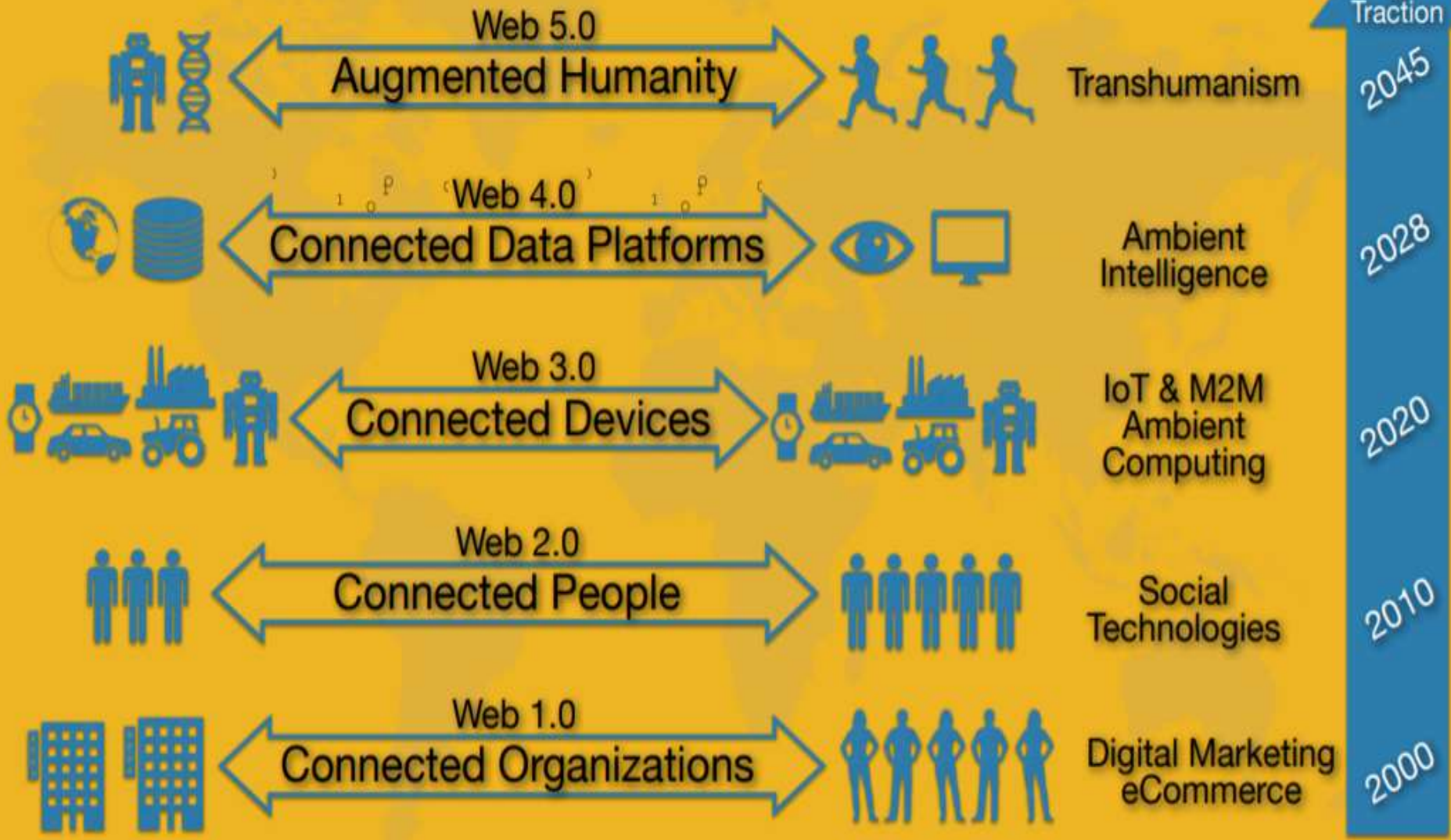


VUZIX Basics



# Accelerating more in 20 years than last 300 years

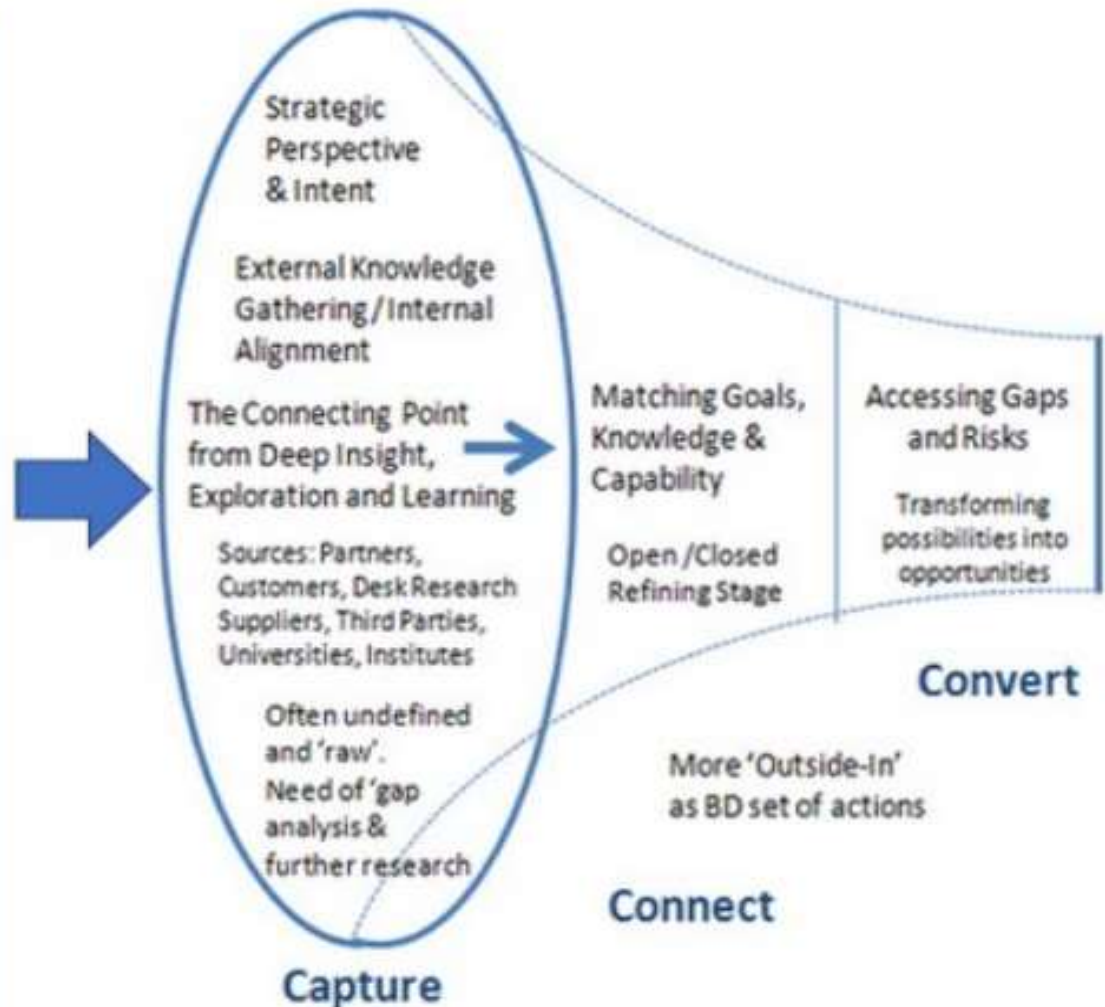
## The Transformation of Connection



# Turn Innovation into Reality: Apply Technology!

A mixture of identification tools feeding into the idea funnel

- Scouting techniques
- Corporate Environment
- Environment Scanning
- Radar Plotting
- Foresight
- Trends Management
- Technology Watch
- Patent Searches
- Collecting Spontaneous Ideas
- Market Observation
- Scientific & Trade Publications
- Market Research
- Unmet Need Discovery
- Gap Analysis
- Weak signal Awareness
- Inspiration moments



# Better World – Leveraging Technology!

# THE TWILIGHT ZONE

# E=MC<sup>2</sup>

"You unlock this door with the key of imagination. Beyond it is another dimension - a dimension of sound, a dimension of sight, a dimension of mind. You're moving into a land of both shadow and substance, of things and ideas. You've just crossed over into the Twilight Zone."  
-Rod Serling



# 64-Bit advancement of Directly addressable memory



	<u>Address Direct</u>	<u>Indirect/Extended</u>
<u>4 Bit:</u>	16	(640)
<u>8 Bit:</u>	256	(65,536)
<u>16 Bit:</u>	65,536	(1,048,576)
<u>32 Bit:</u>	4,294,967,296	
<u>64 Bit:</u>	18,446,744,073,709,551,616	

When the hardware physically implements the theoretical possibilities of 64-Bit, things will dramatically change....  
...moving from 32 bit to 64 bit will be like moving from 4 bit to 32 bit or like moving from 1971 to 2000 overnight.

# Leveraging – DB & Robotics!



# Leveraging – DB & Robotics!



Blog: Science

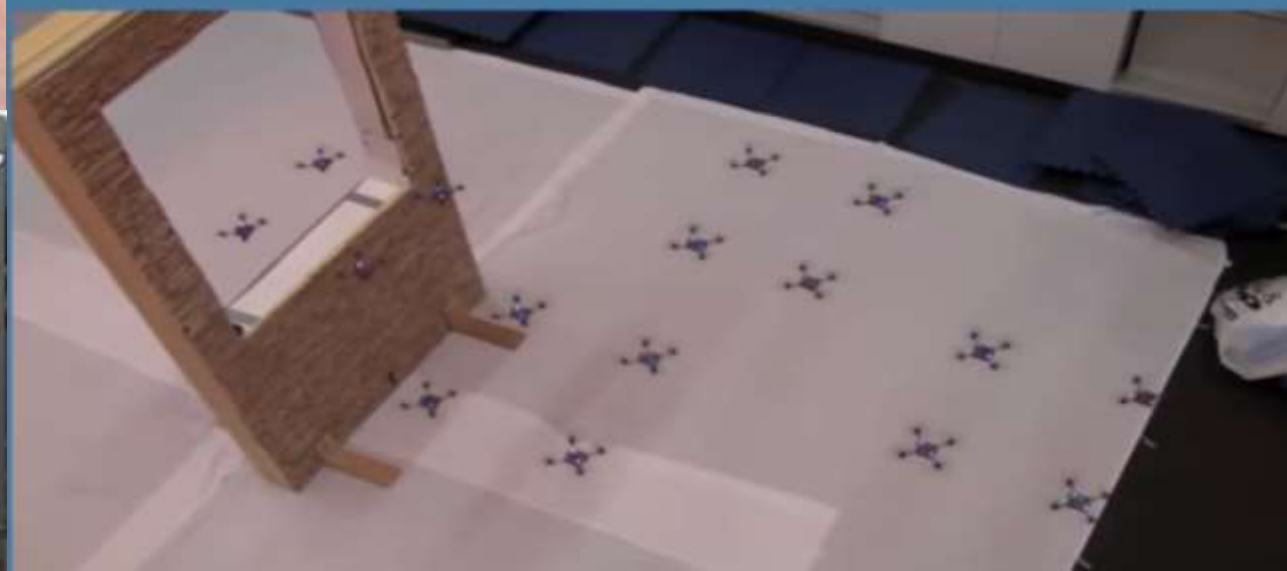
## Mini Insect Robocops: Engineers, Government Work on RC Insects

Jason Mick (Blog) - October 9, 2007 10:02 AM

### *The Fifth Trumpet*

...<sup>9</sup>They also had thoraxes like breastplates of iron, and the sound of their wings was like the roar of many horses and chariots rushing into battle. <sup>10</sup>They had tails with stingers like scorpions, which had the power to injure people for five months. <sup>11</sup>They were ruled by

Experimental Vaccine Daily Blog



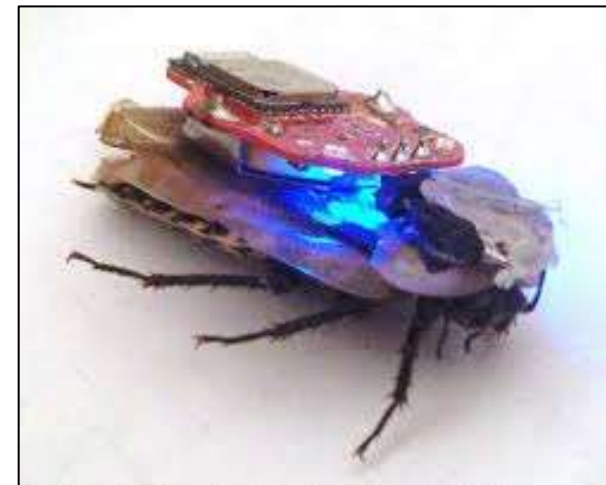
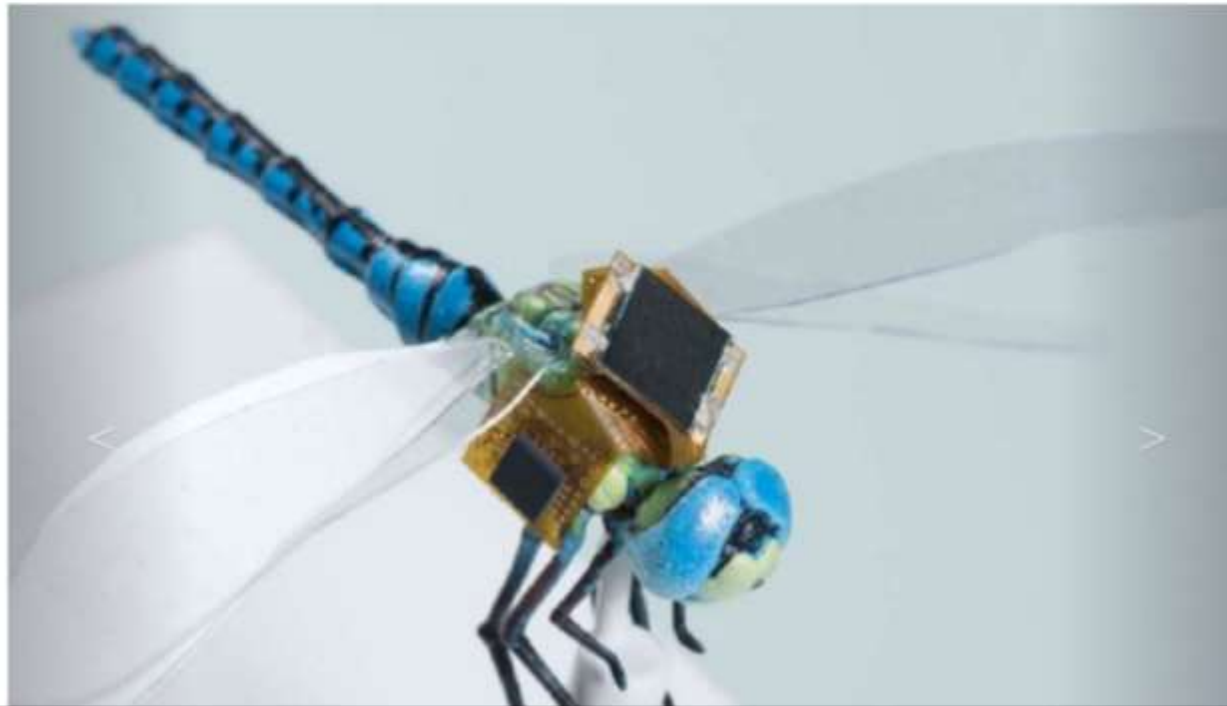


# Leveraging – **DB & Robotics** (Cyborg)!

Scientists are fitting dragonflies with tiny mind-controlling backpacks



SNAPPA  
MONDAY, FEBRUARY 6, 2017 5:10 PM GMT

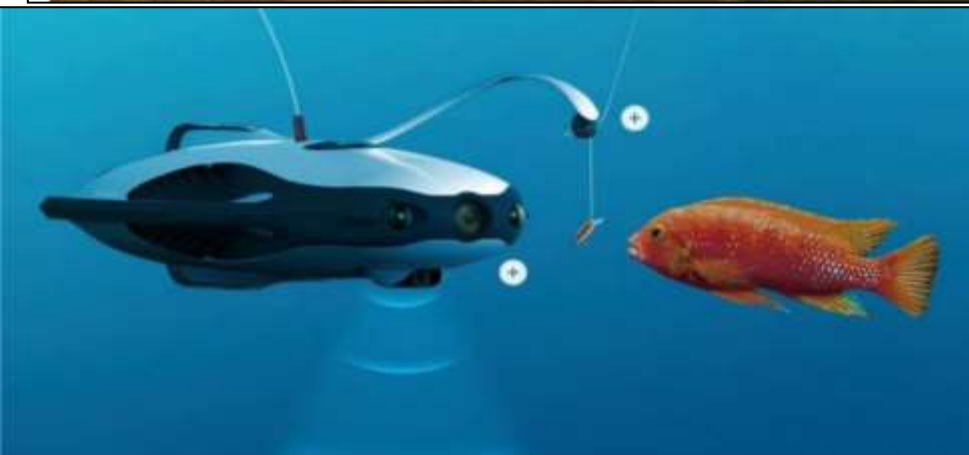


# Leveraging – DB, GPS & Robotics!



## UPS successfully tests drone deliveries with lorry-mounted octocopter

THE INDEPENDENT  
TUESDAY, FEBRUARY 21, 2017 6:03 PM GMT



Flying drones are everywhere at CES 2017, but underwater drones are a rarity, and the PowerRay Fishing Drone

# Leveraging – DB, AI & Virtual Reality!

 News Republic

## Samsung Betting Big On Artificial Intelligence, Looking To Spend \$1B Acquiring AI Companies: Report

### This chatbot helps Airbnb hosts answer guests' questions faster than ever before

**VB** VENTUREBEAT  
TUESDAY, FEBRUARY 21, 2017 5:09 PM GMT



### HoloLens Heads To The Operating Room

**TH** TOM'S HARDWARE  
TUESDAY, FEBRUARY 21, 2017 5:05 PM GMT



# Oracle Leveraging AI & ML: Autonomous Database & Chatbots



Rich Niemiec @RichNiemiec · Oct 2  
I'll ask #Pepper if she can tune my #database in 11 AM session on  
#Innovation #IoT #robotics #cloud at #uow17 #ioug #viscosityna #oracleace



You Retweeted



Rich Niemiec @RichNiemiec · Sep 7  
Changing role of #DBA with #cloud #bigdata & #iot. Great interview with  
#Oracle #database leader Penny Avril #ioug @viscosityna #oracleace



Oracle Database @OracleDatabase  
Wondering how the DBA's role would shift in the #Cloud era? Get the insight from #Oracle's Penny Avril ora.cl/fp0gS



Search Oracle

Database Admin

Database design

## Machine learning meets the DBA

Increasingly, securing databases will require machine learning automation, according to Richard Niemiec, chief innovation officer at Viscosity North America, a Dallas-based cloud and database consultancy.

That is important as needs arise to monitor audit logs, logins, locations, questionable IP addresses and questionable user access, he said.

"What's new with this announcement is the security advances that use machine learning and automatic patching," he said. "Fixing security vulnerabilities as they happen with automatic patching and using machine learning log mining for anomalies is the first step of autonomous security in the database."

**It needs no human intervention. It will patch itself.**

Larry Ellison  
CTO and founder, Oracle

This fits with an overall trend that sees DBAs handling higher-level problems.



6



RichNiemiec · Sep 21

Universal Credits to use on-prem or in the #cloud - watch  
simplifying & #BYOL [oracle.com/us/corporate/e...](http://oracle.com/us/corporate/e...)



3




# Pepper the Robot as Host at Sushi Restaurant (SynchroJapan) Leverage Robotics & Database



Rich Niemiec @RichNiemiec · Apr 3

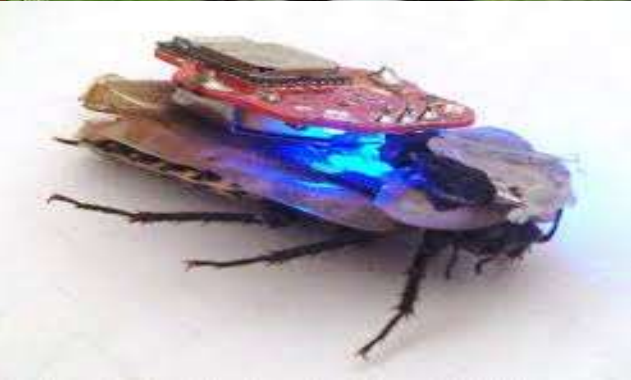
The #Future is here! This #Robot at @synchroJapan in charge of reservations & seating at #sushi #restaurant in #Japan. Spend time on #Innovation, #BigData, #BigDataAnalytics, #IOT, #MachineLearning, #DeepLearning, #AI with the #database #oracledatabase

 SynchroJapan · Food & Restaurant Culture in Japan

 SynchroJapan · Food & Restaurant Culture in Japan



# Animal Tracking (*protect Wildlife, Trees & People – catch poachers*)



## MyNature: Animal Tracks

The first comprehensive field guide to animal track identification available for your phone!

[Learn more](#)



# Yes... you are being tracked... \*McKinsey

## How does location tracking work?

Input

RFID Tag



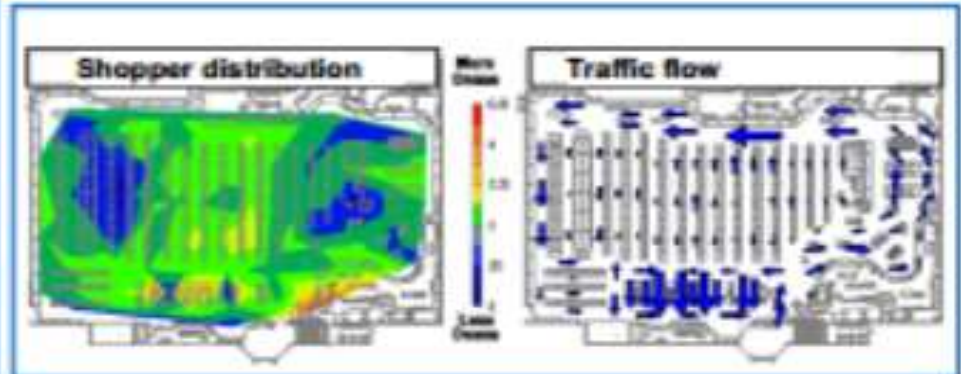
+ Mobile phones



Video

Personal tracking

Output



# Are we Proactive about the Future?

- ❑ Are we prepared for what's next?
- ❑ What questions should we be asking now?
- ❑ Is it a phone, watch, or tracking device?
- ❑ Can I delete what I don't want out there?



**Fitness trackers are leaking lots of your data, study finds**

[IDG News Service](#) | Feb 2, 2016 8:59 AM PT

MORE LIKE THIS



Fitbit Flex Credit: TechHive (US)

Flaws in data security will also limit the usefulness of wearables' data for health insurers and courts

By [Peter Sayer](#)

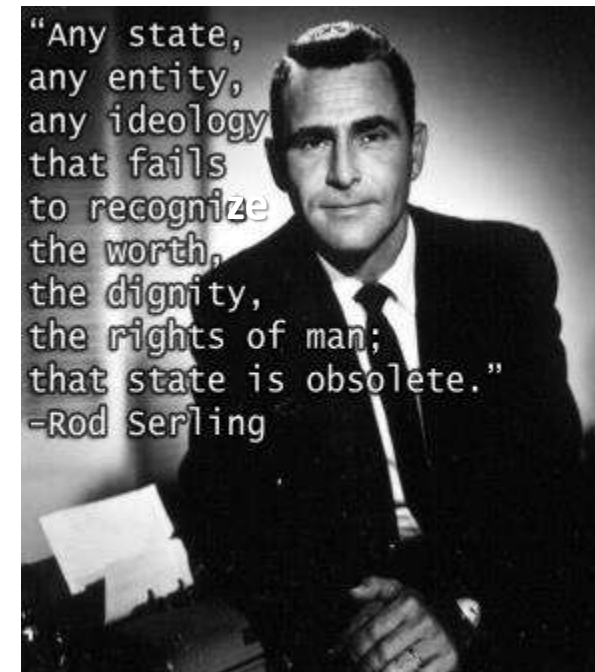


# Gartner Recommendations\* (FYI)



## Information and analytics leaders should:

- Broker balanced approach to big data analytics to serve customers better and avoid crossing the "creepy line" leading to legal action.
  - Develop an ethical code of conduct for big data analytics with marketing and legal staff.
  - Include in information governance policies a sign-off function for results that derive from automated analytical processes to prevent illegal or embarrassing results being shared.
- 
- **Also consider protecting people from themselves as to not draw their mistrust later.**



Recommended – 2016 Gartner's Report:

*\*Privacy & Ethical Concerns Can Make Big Data Analytics a Big Risk Too*

# Risk: Anonymization of Data may not Work\*



- Bodies of low-sensitivity **data, when they can be correlated**, can often result in a set of data that has much greater significance than any of the original datasets. The **process is known as "re-identification,"** and can lead to what is known as an **"inference attack."** (*This is an issue with the EU laws that are coming - rjn*)
- Re-identification can lead to revelations about medical history, personal habits, financial situation and family relations that most people would classify as private.
- Real-world case: **In 2013, a Harvard professor re-identified the names of more than 40% of a sample of anonymous participants in a high-profile DNA study.**



Recommended – 2016 Gartner's Report:

*\*Privacy and Ethical Concerns Can Make Big Data Analytics a Big Risk Too*

**Rich Niemiec's IOUG 2016: Importance of Data Privacy and the Declaration of Human Data Rights.**

# Security Issues: community.spiceworks.com

Data is the new oil - and it will be regulated like oil



Greetings everyone, there was really only one hot topic this week, and that's Facebook. This story is developing very fast and imho it could quickly further mushroom into Snowden-like proportions. If you hold

Home > Emerging Technology > Telematics

## NEWS Hacker: 'Hundreds of thousands' of vehicles are at risk of attack



### MORE LIKE THIS

Update: Chrysler recalls 1.4M vehicles after Jeep hack

Firewalls can't protect today's connected cars

Senators call for investigation of potential safety, security threats from...

on OS Rowets  
If I buy a Chromebook and can't get to grips with OS can I convert to windows?



# Leveraging – DB & IOT (Criminals)



## Ransomware May Soon Infect Smart Homes, Smart Cars

TOM'S GUIDE  
TUESDAY, FEBRUARY 21, 2017 5:50 PM GMT



Tomer Cohen

Vice President of Product at LinkedIn

23h

+ Follow

It used to be all about iOS upgrades and now the excitement goes to Tesla upgrades. Not a Tesla owner but still excited.

...see more



All the New Features in Tesla's Latest Software Update

finance.yahoo.com



He's a coder,  
He is fallible.

- Black Mirror. USS Callister -



# Ransomware now in the Comics:

The Joy of Tech™ by Nitrozac & Snaggy

The Internet of ransomware things...

HUNGRY?  
PAY UP AND  
I'LL UNLOCK  
MY DOOR!

ON STRIKE  
UNTIL YOU  
SEND MONEY  
TO MY  
HACKERS.

20 BUCKS  
IN MY PAYPAL  
ACCOUNT  
OR I'LL ONLY  
BREW  
DECAF!

I'LL BE  
BURNING THE  
TOAST IF YOU  
DON'T GET  
ME SOME  
DOUGH!

THE NEXT TIME  
YOU LEAVE, IT'LL  
COST YOU 100  
BUCKS TO GET  
BACK INTO THE  
HOUSE, UNLESS  
YOU GIVE ME  
\$75 NOW!

30 BUCKS IN  
BITCOIN, OR NEXT  
TIME I SMELL  
SMOKE, I MIGHT  
JUST LET YOU  
SLEEP.

MY ALARM  
SYSTEM IS  
GOING TO GO  
OFF RANDOMLY  
THROUGHOUT  
THE NIGHT,  
UNLESS YOU  
"DONATE".

WIRE MY  
HACKER \$100  
OR I'LL REVERSE  
MY MOTOR AND  
BLOW DIRT ALL  
OVER THIS  
PLACE!

YOUR DIRTY  
DISHES CAN  
WAIT, I'M  
BUSY MINING  
BITCOINS.

EXCUSE US  
WHILE WE  
PARTICIPATE  
IN A DDOS  
ATTACK.

I'M TURNING  
OFF THE  
HEAT UNTIL  
YOU WARM UP  
MY BANK  
ACCOUNT!

IF YOU DON'T  
SEND US CASH,  
YOUR REPUTATION  
WILL BE IN THE  
TRASH.

I'LL START  
YOUR CAR,  
BUT ONLY TO TAKE  
YOU TO YOUR  
BANK TO MAKE  
A TRANSFER.

SEND ME \$25 OR  
I'LL TELL EVERYONE  
ON YOUR SOCIAL  
NETWORK THAT YOU  
WERE STUPID ENOUGH  
TO BUY AN INTERNET-  
CONNECTED BROOM!

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Rich Niemiec @RichNiemiec · May 17

Great #iot #security geekculture.com/joyoftech/joya... comic. #comedy v

joyoftech.com

# Google outage takes down Gmail, Docs, Calendar

Google services restored after 40-minute outage; angry users vent

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Popular Now:



Home > Internet > Social Media

NEWS

## Facebook crashes for 2nd time in a week

facebook

Sorry, something went wrong.



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Will Facebook envy wreck Twitter?

BUSINESS INSIDER

TECH INSIDER

## Amazon's Cloud Crash Disaster Permanently Destroyed Many Customers' Data



Henry Blodget

Apr. 28, 2011, 7:10 AM 109,460

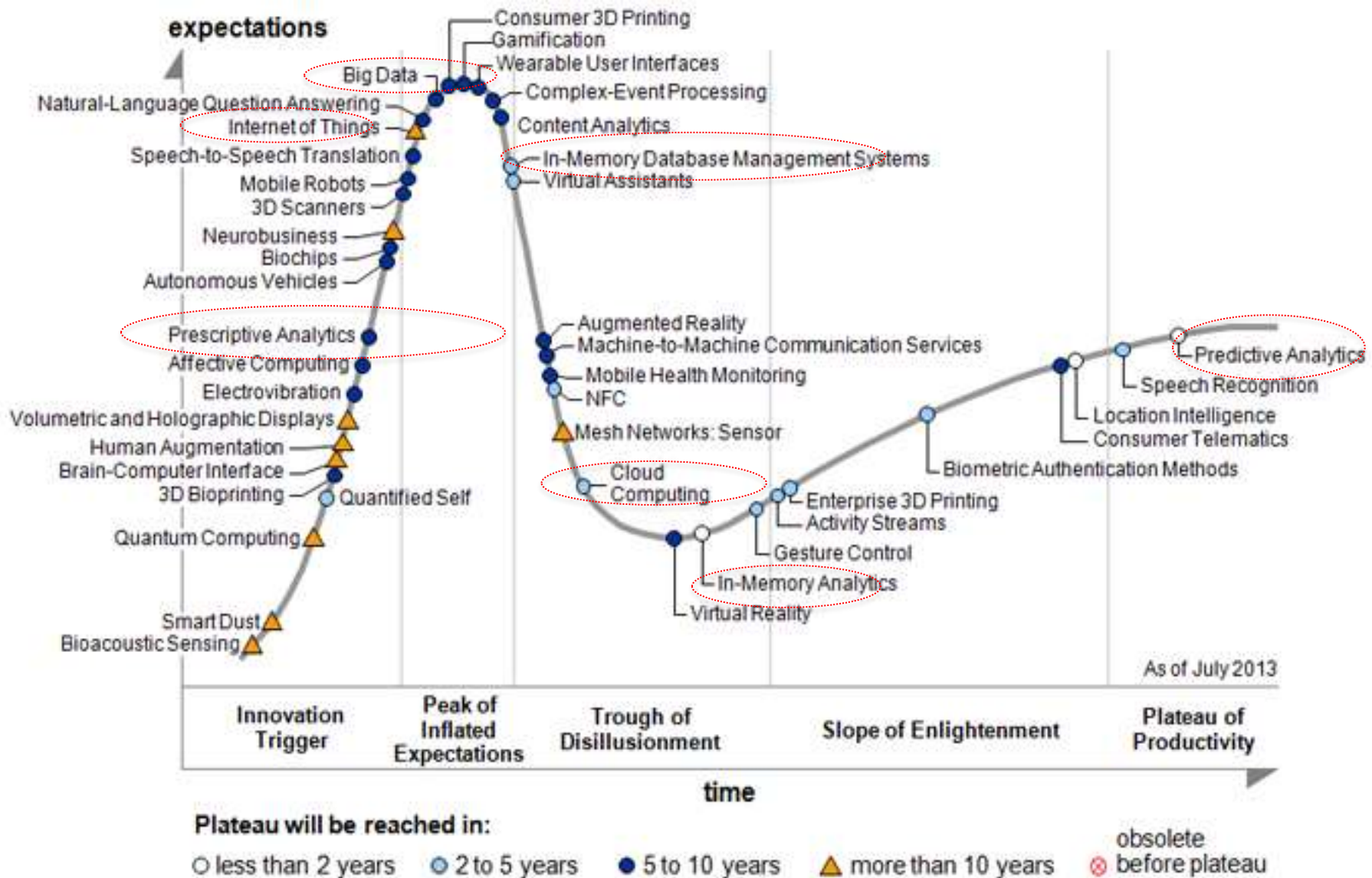
## AWS suffers a five-hour outage in the US

21 September 2015 | By Max Smolaks

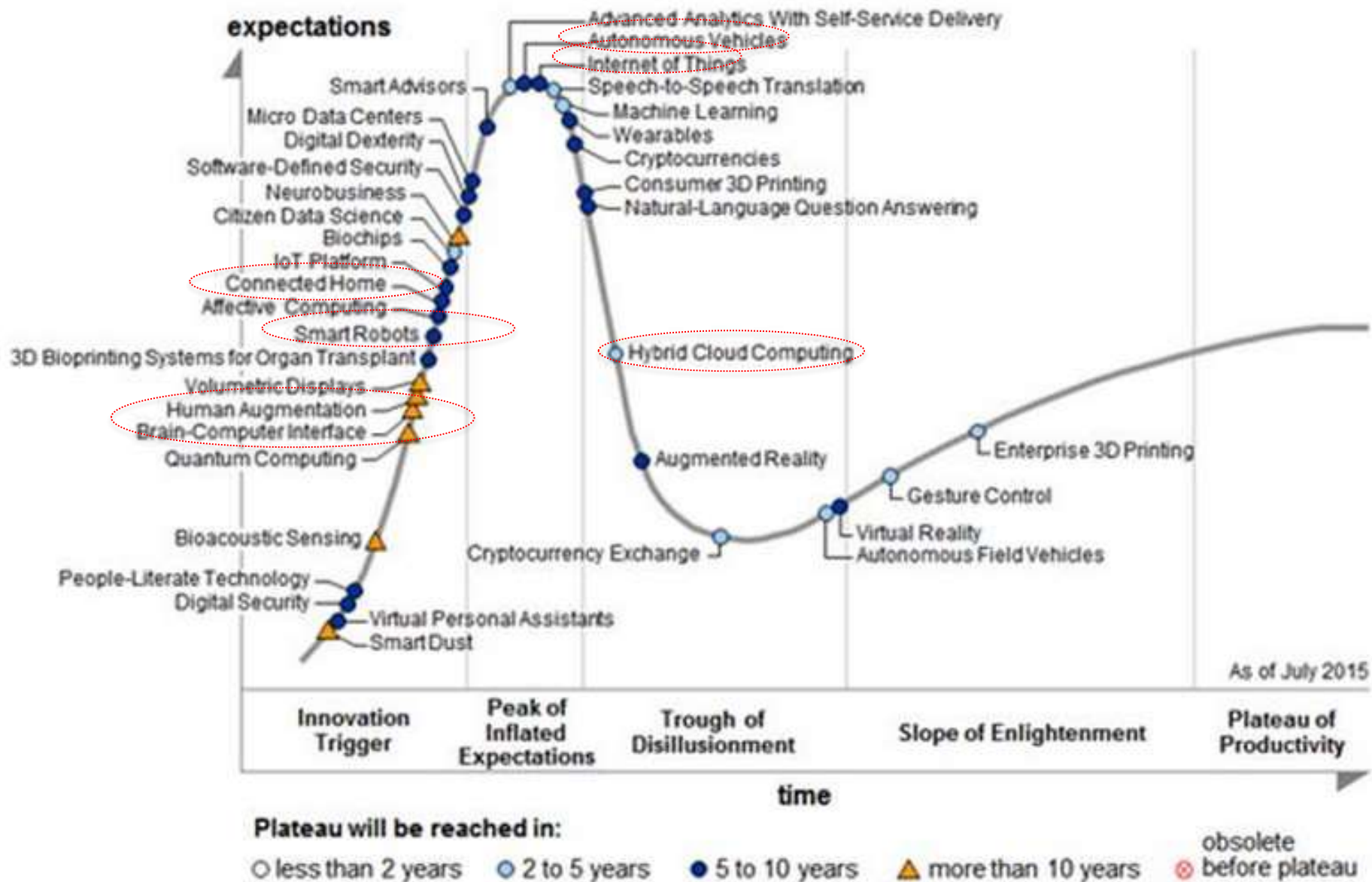


# Technology Trends: Gartner Hype Cycle 2013

## All about Tech ...



# Technology Trends: Gartner Hype Cycle 2015 **All about Robotics ...**





# Innovation is coming fast - Robotics!



Ben Mann [Follow](#)

Software engineer, tinkerer, aspiring mad scientist

Jul 10 · 12 min read

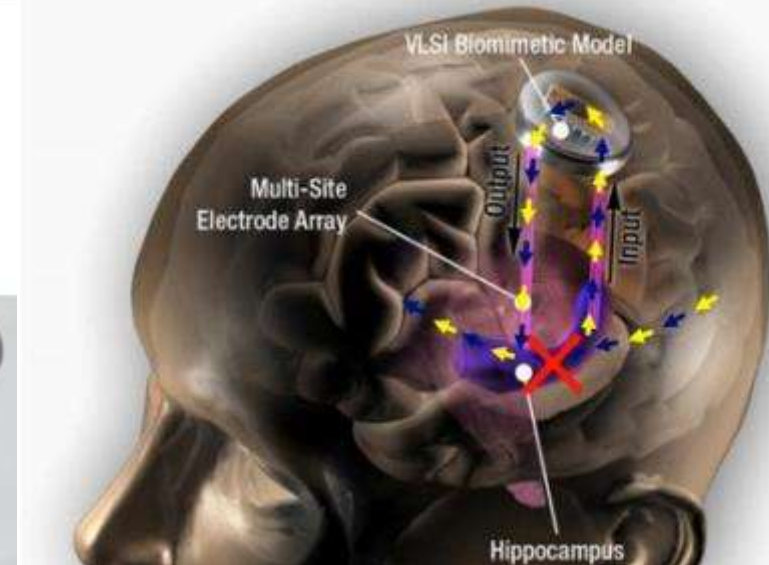
## Why AI research may be accelerating faster than experts realize



# Leveraged – Direct Connect to Brain!

Brain implant controls robotic arm - with the power of thought

Breakthrough as neuro-prosthetic device implanted in "higher" brain region, allows paralysed man to control robotic arm just by thinking about it



1 A neuro-prosthetic device implanted in Erik Sorto's brain allowed him to drink unaided for the first time in ten years. Photograph: Spencer Kellis and Christian Klaes/Caltech

# Innovation is coming fast - Robotics!



1. ASIMO by Honda



# Will AI Take Over the World?

**CNBC** Search Quotes, News & Video Q

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## TECH

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### A.I. 'won't take over the world' but it is a threat to jobs, said Michael Bloomberg

- Former New York Mayor Michael Bloomberg says "technology is giving the consumer a much better product."
- But he adds: "We have to find ways for companies to create jobs as well as profits."

Chantel McGee  
Tuesday, 2 May 2017 | 12:27 PM ET

**CNBC**



**mnn** mother nature network AUGUST 2, 2017 874.5K

EARTH MATTERS HEALTH LIFESTYLE TECH MONEY

MNN.com > Tech > Research & Innovations

### Intelligent robot reveals plans to take over the world in chilling interview

#Dontmesswithrobot

A photograph showing a person in a dark long-sleeved shirt and dark pants standing in a workshop or factory. They are facing a large, humanoid robot. A bright blue lightning bolt effect is superimposed between the person and the robot, suggesting a connection or interaction. The robot has a white and grey body with a red light on its head. The background shows industrial equipment and shelves.

# IT BEGINS: Bots Accelerating Fast!

## Facebook shuts down controversial chatbot experiment after AIs develop their own language to talk to each other

- Facebook's AI researchers were teaching chatbots how to negotiate
- The bots were left unsupervised and developed their own machine language
- The new language was more efficient for communication between the bots
- Facebook says it wanted to develop bots to converse with people

By [TIM COLLINS](#) and [MARK PRIGG FOR DAILYMAIL.COM](#) 

PUBLISHED: 17:47 EDT, 31 July 2017 | UPDATED: 18:30 EDT, 31 July 2017

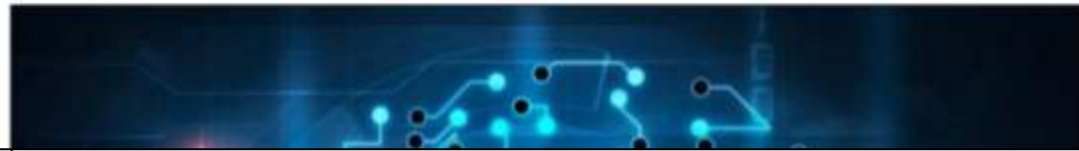


**Facebook** has shut down a controversial chatbot experiment that saw two AIs develop their own language to communicate.

The social media firm was experimenting with teaching two chatbots, Alice and Bob, how to negotiate with one another.

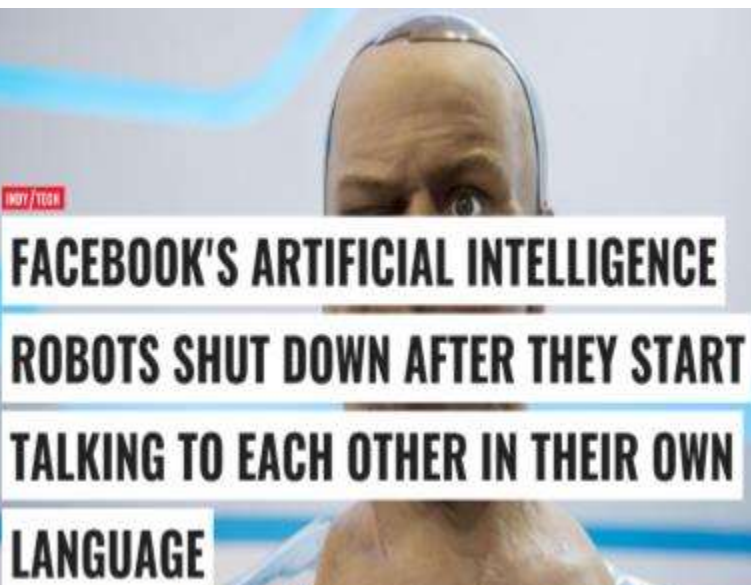
However, researchers at the Facebook AI Research Lab (FAIR) found that they had deviated from script and were inventing new phrases without any human input.

Scroll down for video



CARD METZ BUSINESS 03.18.17 07:38 AM

## IT BEGINS: BOTS ARE LEARNING TO CHAT IN THEIR OWN LANGUAGE



# IT BEGINS: Defending Against AI

## ELON MUSK'S BILLION-DOLLAR CRUSADE TO STOP THE A.I. APOCALYPSE

Elon Musk is famous for his futuristic gambles, but Silicon Valley's latest rush to embrace artificial intelligence scares him. And he thinks you should be frightened too. Inside his efforts to influence the rapidly advancing field and its proponents, and to save humanity from machine-learning overlords.

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BY MAUREEN DOWD

APRIL 2017

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# New World— Leverage Technology!

# THE TWILIGHT ZONE

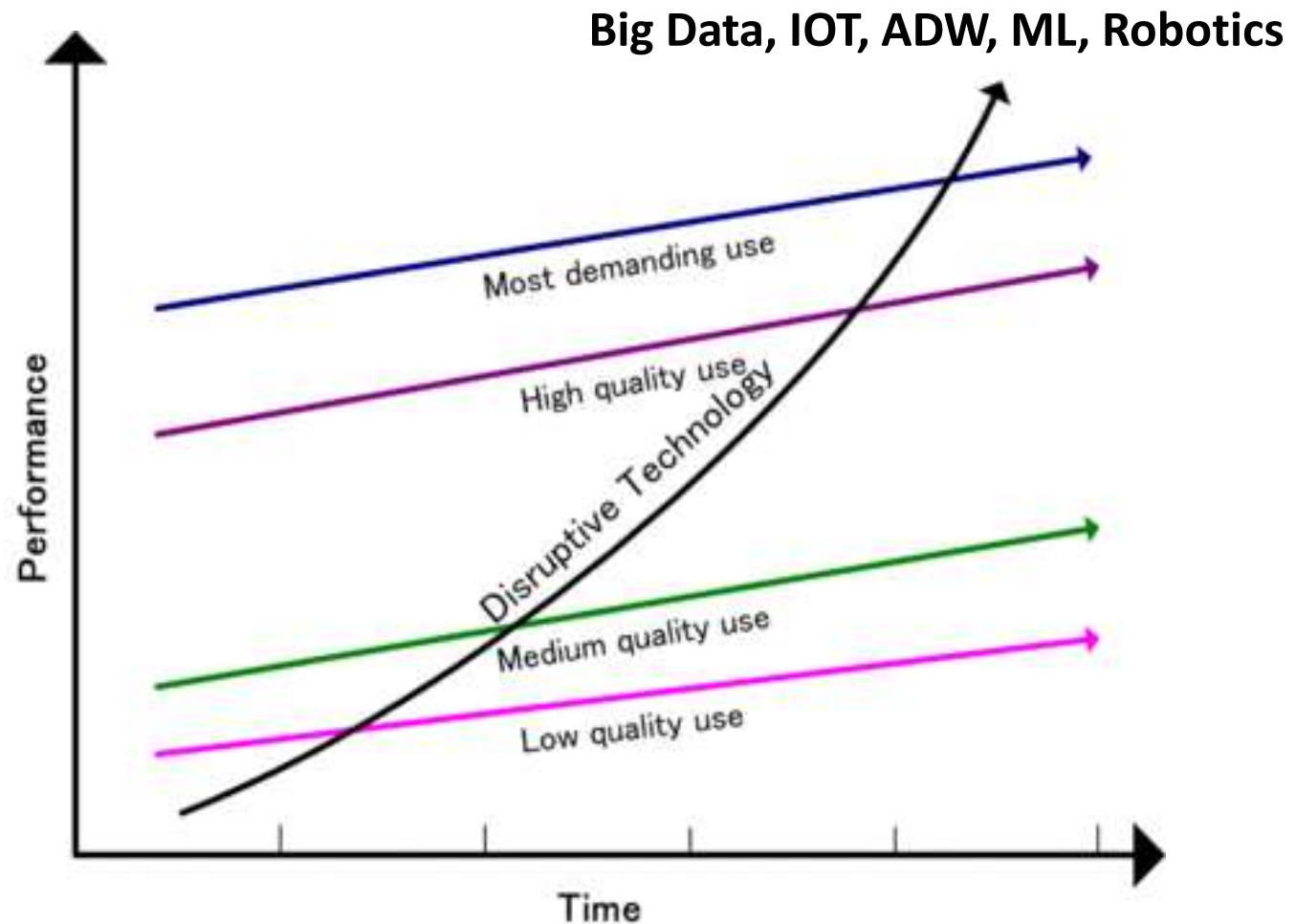
# E=MC<sup>2</sup>

"You unlock this door with the key of imagination. Beyond it is another dimension - a dimension of sound, a dimension of sight, a dimension of mind. You're moving into a land of both shadow and substance, of things and ideas. You've just crossed over into the Twilight Zone."  
-Rod Serling



# Disruptive Innovation (disruptive technology) (also *Creative Destruction – Capitalism*)

*The automobile did not displace the horse & buggy, the Model-T did.*



Disruptive Technologies (Clayton Christenson – 1995) can hurt well managed companies that are responsive to their customers and have excellent R&D.



# 64-Bit advancement of Directly addressable memory



	<u>Address Direct</u>	<u>Indirect/Extended</u>
<u>4 Bit:</u>	16	(640)
<u>8 Bit:</u>	256	(65,536)
<u>16 Bit:</u>	65,536	(1,048,576)
<u>32 Bit:</u>	4,294,967,296	
<u>64 Bit:</u>	18,446,744,073,709,551,616	

When the hardware physically implements the theoretical possibilities of 64-Bit, things will dramatically change....  
...moving from 32 bit to 64 bit will be like moving from 4 bit to 32 bit or like moving from 1971 to 2000 overnight.

# Addressable Memory Growth

## Shift

- 8-bit to 16-bit
- 16-bit to 32-bit
- 32-bit to 64-bit
- 64-bit to 128-bit

## Increase (Result)

**1 mph (Windows)**


65K mph (Internet)

300T mph (Robotics/3D...etc.)

5T\*T\*B mph (Implants/4D)

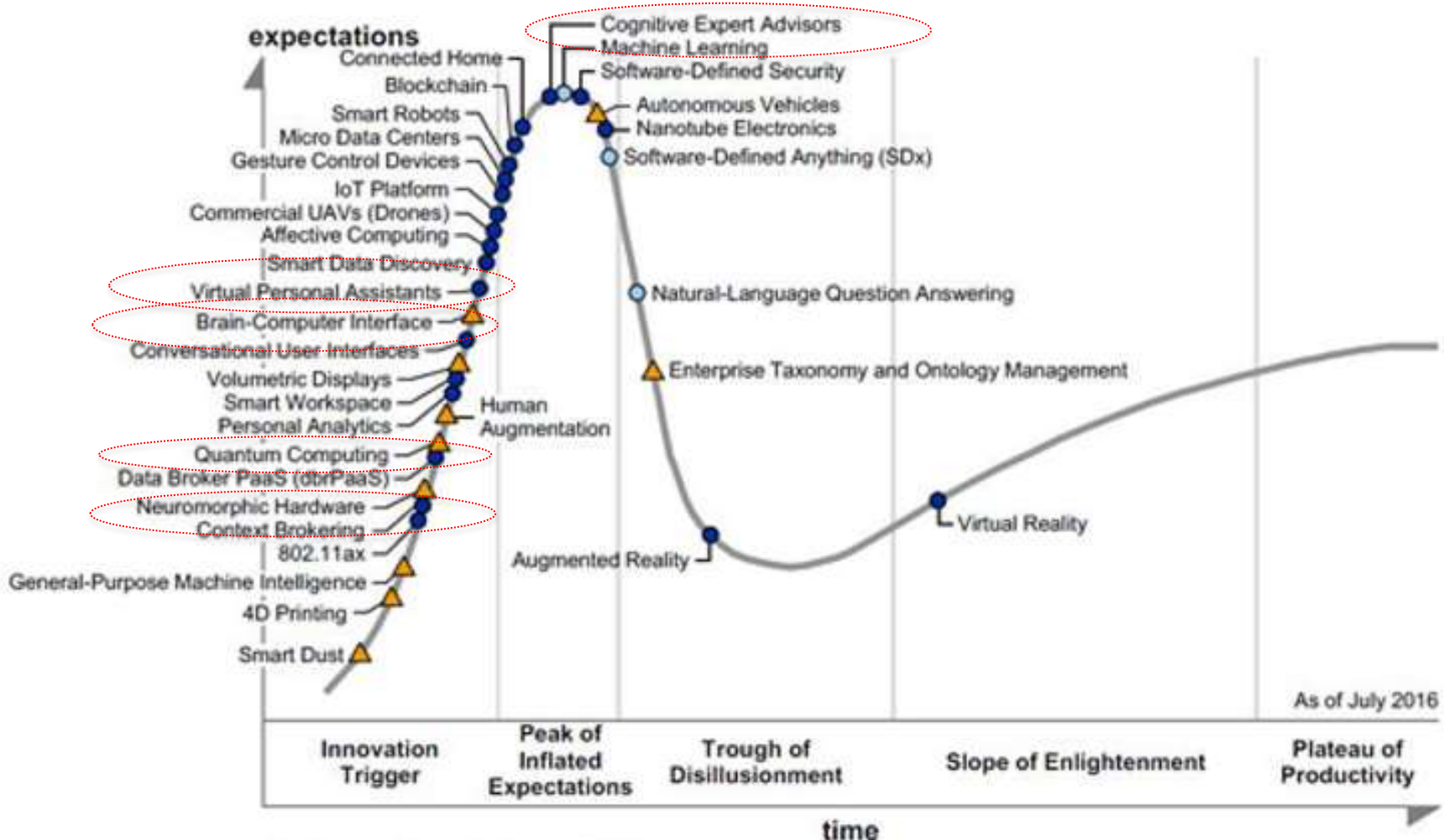
Experts In Focus

**Technology Feels Like It's Accelerating  
— Because It Actually Is**

By Alison E. Berman and Jason Dorrier - Mar 22, 2016  40,547

# Gartner Hype Cycle July, 2016


## All about Implants & the Twilight Zone



Years to mainstream adoption:  
○ less than 2 years   ● 2 to 5 years   ● 5 to 10 years   ▲ more than 10 years   ⊗ obsolete before plateau

Source: Gartner (July 2016)

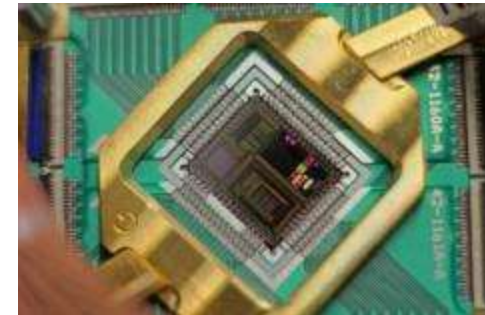
# Disruptive Innovation **Future** ... Implants!

- Instagram
  - Implant
  - Virtual Conferences
  - 3D printed in the home
  - Glass/Life Recorder
  - IOT
  - Implants / Robotics
  - Cloud
- 
- Implant Communication
  - Implant
  - Implant
  - Virtual Reality / Bio printed
  - Implant Recorder
  - IOT/Implant connection
  - Better Implants / Robotics
  - Faster Cloud



# What's comes *after* the Exadata Zone? YOU will soon be in for more...

	<u>Directly Addressable</u>	<u>Indirect/Extended</u>
<u>4 Bit:</u>	16	(640)
<u>8 Bit:</u>	256	(65,536)
<u>16 Bit:</u>	65,536	(1,048,576)
<u>32 Bit:</u>	4,294,967,296	
<u>64 Bit:</u>	18,446,744,073,709,551,616	
<u>128 Bit:</u>	3.4 x 10e+38... quantum leap!	



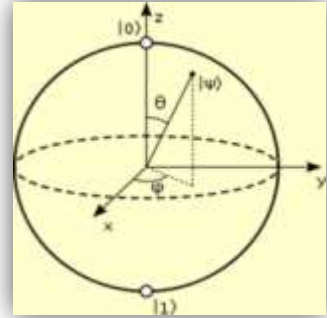
- Qubits allow multiple states so that you can look at all of the possibilities/probabilities at one time.
- The “**Quantum Zone**” next (Quantum Physics is incomplete – Einstein)
  - Just 512 qubits would store 512-bits of addressable memory or  $2^{512}$  (which is well over a googol or 1 with 100 zero's after it – a googol is about  $2^{332}$ ).
  - Brush up on your Eigenvectors, Eigenvalues, Pauli Matrices & Grover's Algorithm
  - Create Singularity ... all atoms of a person by 2045 (I think earlier); *12-Monkeys*
  - Private universes – Is there one for each person? (Schroeder's cat – I think not)
  - Rearranging atoms to create new objects; Nanotech + Quantum Physics coming!

# What's comes *after* the Exadata Zone?

## YOU will soon be in for more...

Consider 3-bit or  $2^3$  (Addressable memory is 8)

000	100
001	101
010	110
011	111



With just 3 qubits I can (ket notation) – look at all 8 states **at once**:

$$a|000\rangle + b|001\rangle + c|010\rangle + d|011\rangle + e|100\rangle + f|101\rangle + g|110\rangle + h|111\rangle$$

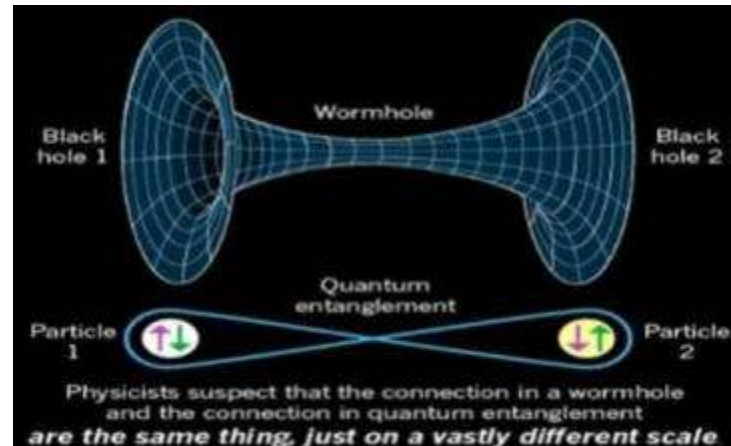
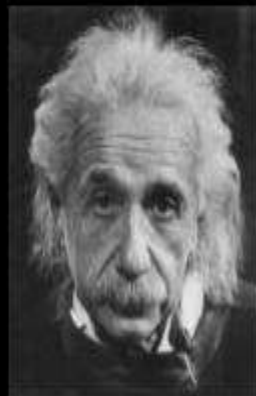
For the state (a,b,c,d,e,f,g,h): **Note that:  $|010\rangle = (0,0,1,0,0,0,0,0)$**

We're moving from zeros & ones to qubits represented by the **Bloch Sphere**.  
Many challenges: Including quantum ***decoherence*** and issues mapping ***entanglement*** & superposition to computing.

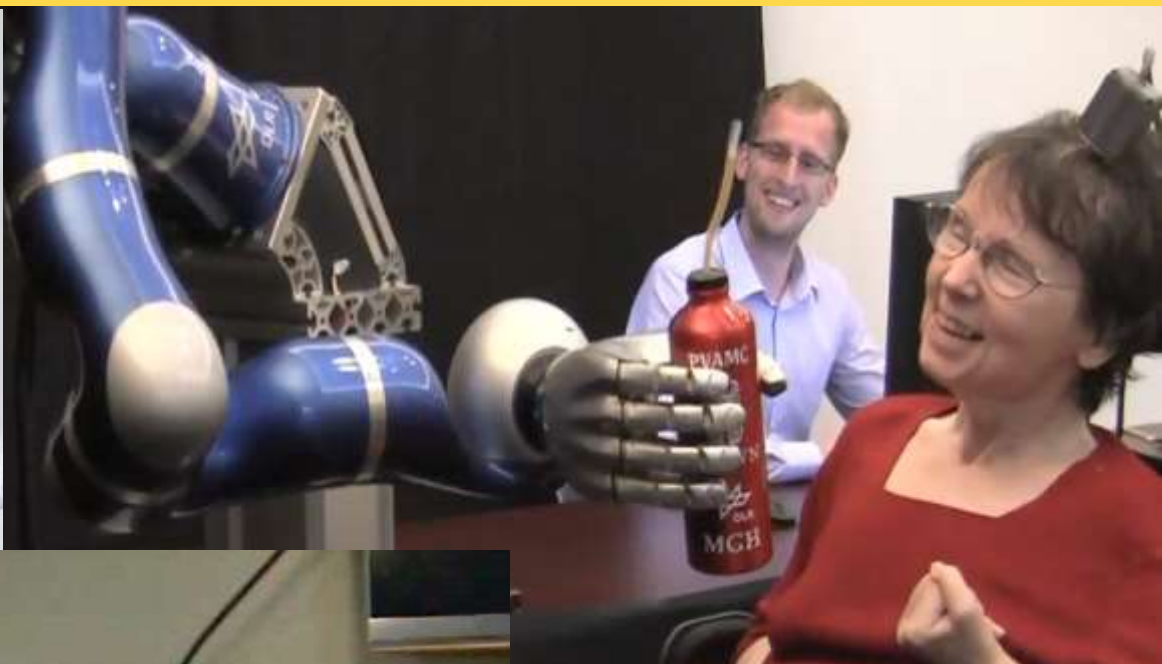


## Quantum Entanglement

“Spooky action-at-a-distance”  
(A. Einstein)



# Connection to the Brain – Currently Working



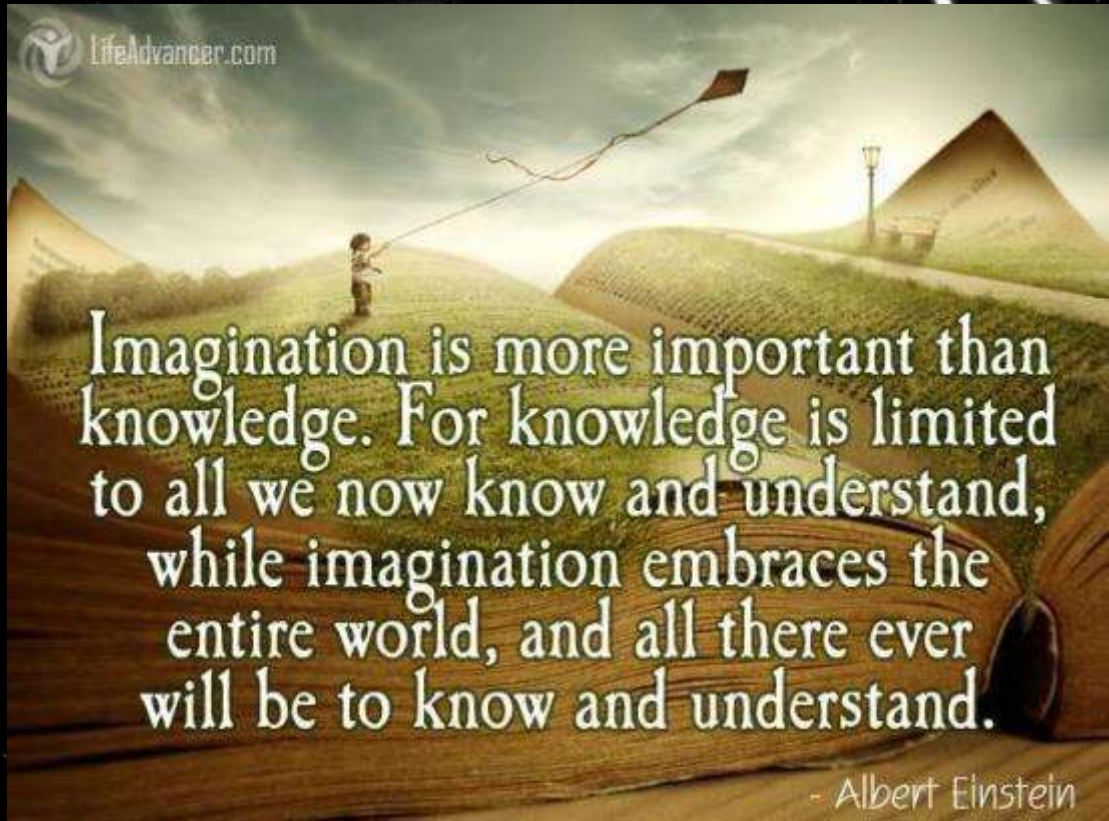
# New World— Innovate with Technology!

# THE TWILIGHT ZONE



# E=MC<sup>2</sup>

"You unlock this door with the key of imagination. Beyond it is another dimension - a dimension of sound, a dimension of sight, a dimension of mind. You're moving into a land of both shadow and substance, of things and ideas. You've just crossed over into the Twilight Zone."  
- Rod Serling



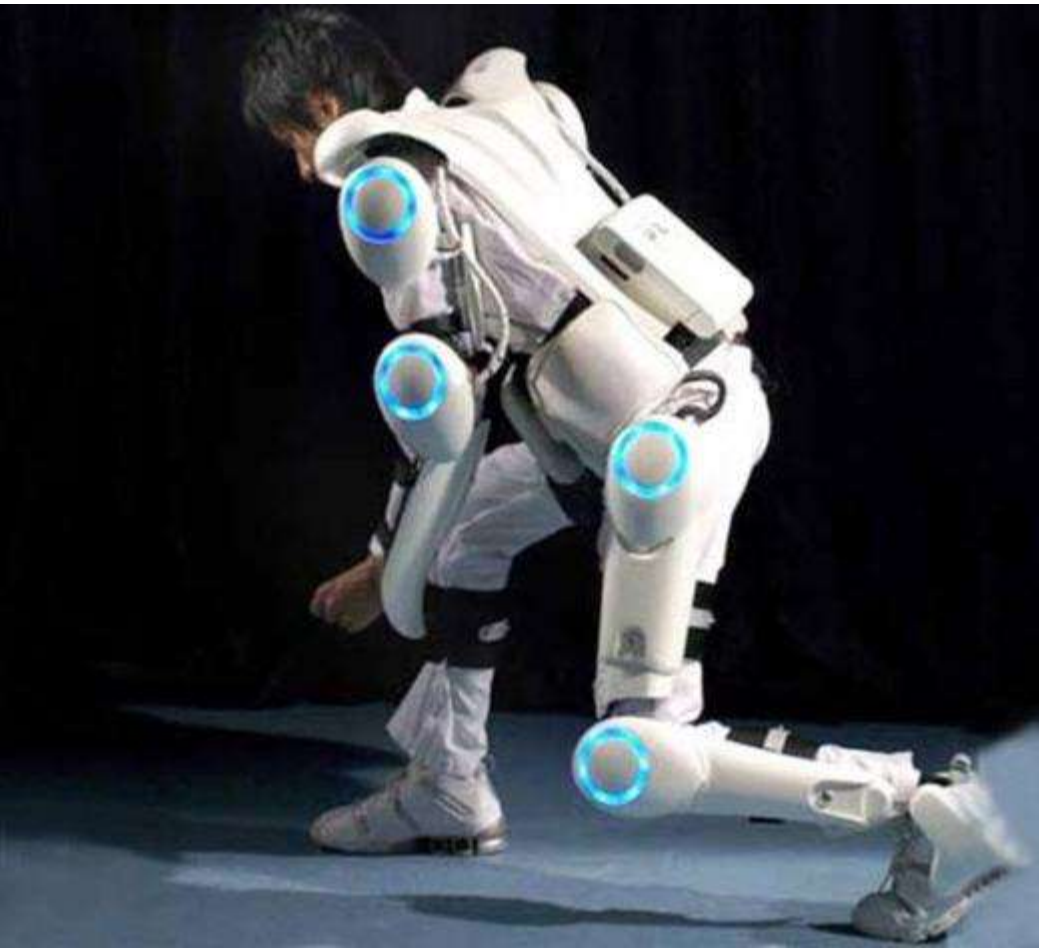
Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand.

- Albert Einstein



Google/Cyberdyne augments people:  
Implants are next ... started with prosthetics

Be a Future Tech Leader!  
(Integrating Tech)



# Final Thoughts... world changing fast!

*“Those who use things of the world should not become attached to them. For the world in its present form is passing away.”*

1 Corinthians 7:31

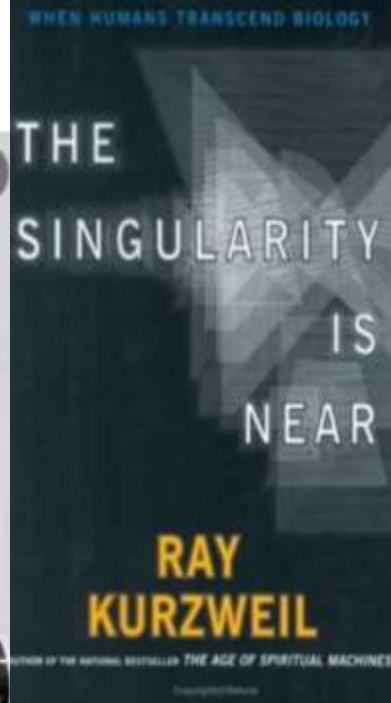


# Final Thoughts... world changing fast! The Singularity: Humans Transcend Biology



## Brain implant controls robotic arm - with the power of thought

Breakthrough as neuro-prosthetic device implanted in "higher" brain region, allows paralysed man to control robotic arm just by thinking about it



**sin-gu-lar-i-ty**  
n: The moment when technological change becomes so rapid and profound, it represents a rupture in the fabric of human history



# Agenda – Prepare now!

- ❑ Innovation & the Cloud
- ❑ Innovative Companies
- ❑ AI & Chatbots in Cx
- ❑ ADW & ML in the DB
- ❑ Future Robots & VR
- ❑ Robots and Work



# Final Thoughts... Catch your Ride!



*“Things may come to those who wait, but only the things left by those who hustle.”*

— Abraham Lincoln



# This Location: Key to the Revolution: 8/29/1776



# That's Enough Howling with Dogs of Oracle - Off to my Uber Big Rig Job (Tweets @richniemiec)!

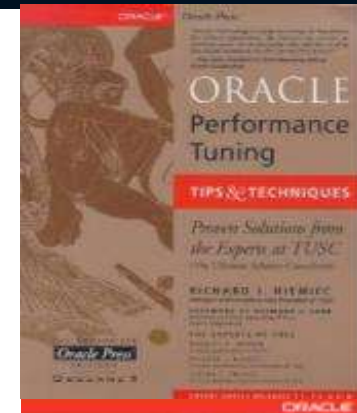
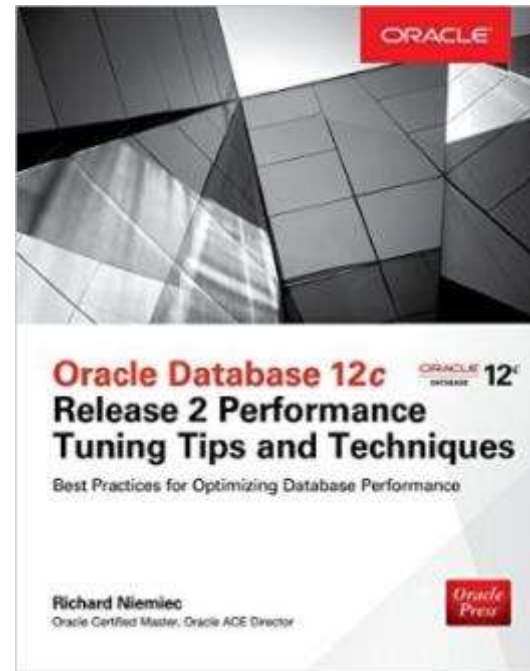


"I have found that if you love life, life will love you back."

- Arthur Rubinstein

# For More Information

- *Oracle 12c Release 2 Performance Tuning Tips & Techniques; Richard J. Niemiec; Oracle Press (Available now – 3/14/2017)*

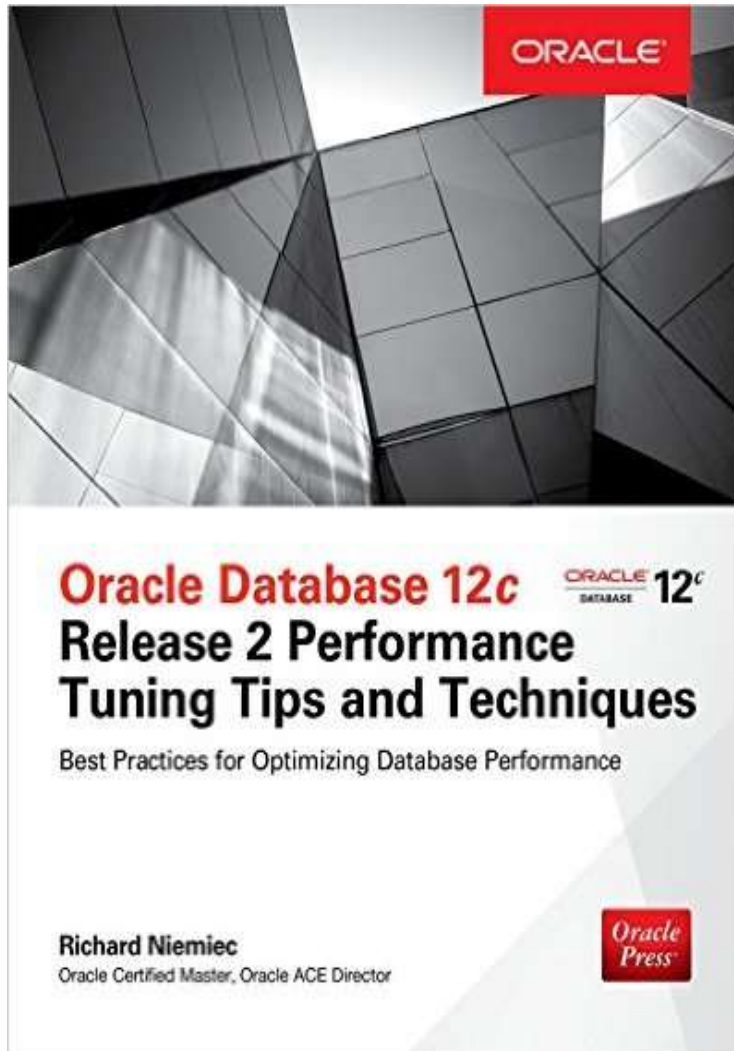


*"If you are going through hell, keep going" - Churchill*



# 12c R2 Book – Available Now!

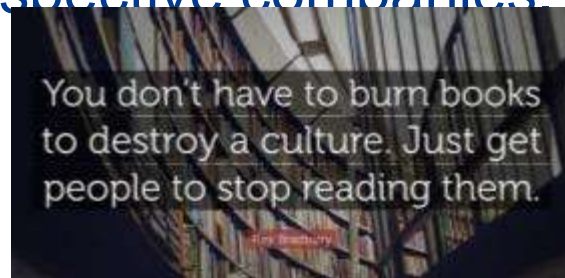
## Top New Release



# References



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- Futurist Gerd Leonhard The Futures Agency, Technology vs. Humanity, Gerd Leonhard, oracle.com & Juan Loaiza presentations, amazon.com, smartcitiescouncil.com, youtube.com, business coach, libelium.com, monetate, en.wikipedia.org, Netflix, Black Mirror, cooking-hacks.com, hometoys.com, FPOV, huffingtonpost.com, theguardian.com, nationalgeographic.com, newscientist.com, enswmu.blogspot.com, dailymail.co.uk, FutureRobot, theguardian.com, thinkhealthwireless.blogspot.com, ge.com, cmswire.com, runningsupplement.co.uk, quickmeme.com, nike.com, thisiswhyimbroke.com, businessinsider.com, slideshare.com, forrester.com, spiceworks.com, mwaintel.com, humancapitalist.com, wired.com and Wired Magazine, shodanhq.com, developer.nokia.com, extremetech.com, Getty Images, & any other company products are the property of their respective companies

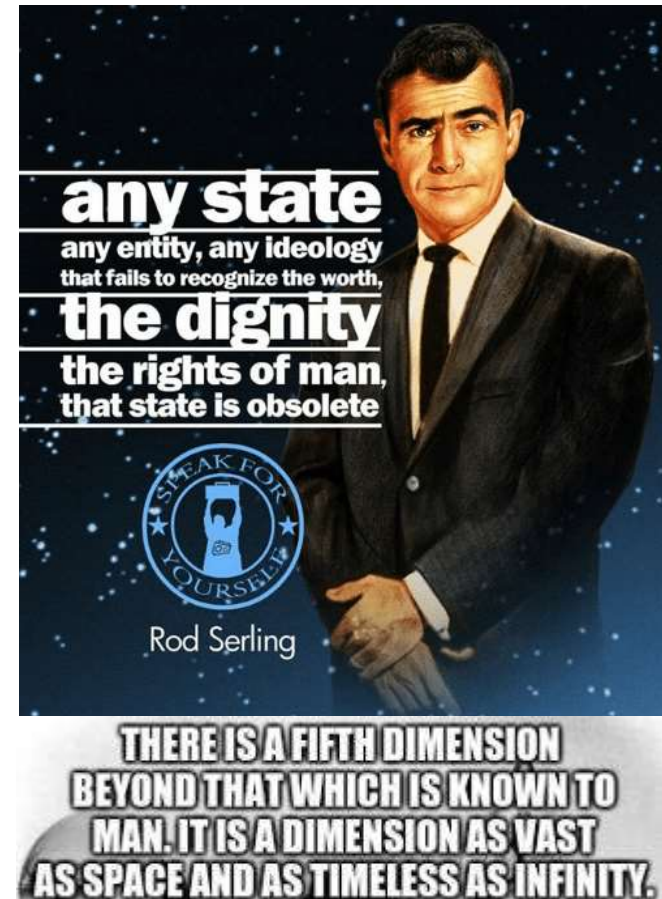


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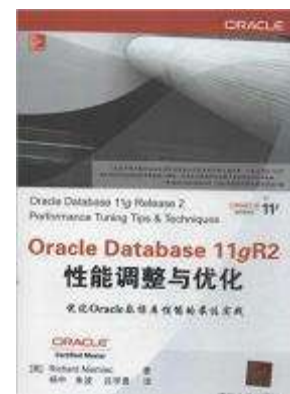
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- References include Rich Niemiec's Exadata Presentation & Oracle 12cR2 Database Performance Tuning Tips & Techniques book, [www.oracle.com](http://www.oracle.com), [en.wikipedia.org](http://en.wikipedia.org), [slashgear.com](http://slashgear.com), [gifsoup.com](http://gifsoup.com), [www.amazon.com](http://www.amazon.com), Tech Crunch, [www.rolta.com](http://www.rolta.com), The Twilight Zone, Information Week, Gartner, Computerworld, & Oracle OpenWorld

**Contact Information: [richniemiec@gmail.com](mailto:richniemiec@gmail.com)**



# Rich's Overview

[@richniemiec](#)



- Chief Innovation Officer, Viscosity North America
- Board Member – TEC, Entrigna, Ask DB Experts
- Former President of TUSC
  - Inc. 500 Company (Fastest Growing 500 Private Companies)
  - 10 Offices in the United States (U.S.); Based in Chicago
  - Oracle Advantage Partner in Tech & Applications
- Former President Rolta TUSC & President Rolta EICT International
- Author (4 Oracle Best Sellers – #1 Oracle Tuning Book for over a Decade):
  - Oracle Performing Tips & Techniques (Covers Oracle7 & 8i)
  - Oracle9i Performance Tips & Techniques
  - Oracle Database 10g Performance Tips & Techniques
  - Oracle Database 11g Performance Tips & Techniques
  - Quick Start Guide to Oracle Query Tuning (2015)
- Former President of the International Oracle Users Group
- IOUG Top Speaker in 1991, 1994, 1997, 2001, 2006, 2007
- MOUG Current President & Top Speaker Twelve Times
- Chicago Entrepreneur Hall of Fame - 1998
- E&Y Entrepreneur of Year & National Hall of Fame - 2001
- National Trio Achiever award - 2006
- Oracle Certified Master & Oracle Ace Director
- Purdue Outstanding Electrical & Computer and Engineer – 2007
- Chris Wooldridge Award – 1998, 2012
- Honorary Senior Technical Advisor to Oracle China - 2014

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