IBM Estrategia

Innovación, Transformación y la orientación hacia áreas de Alto Valor

Elisa Martin Garijo
Directora de Tecnología e Innovación de IBM

Noviiembre 2014

© 2014 International Business Machines Corporation

Agenda

1. **IBM and Innovation**
2. **IBM's strategy**
3. **Continuous transformation**

© 2014 International Business Machines Corporation

Advances in technology and computing intelligence are ushering in a new era

Cognitive Systems

Learning and Reasoning

Programmable Systems

Processing and Coding

Tabulating Systems

Sorting and Counting

Social, Mobile, Cloud
Big Data & Analytics

World Wide Web
eBusiness

Client Server
PCs

Back Office Computing

1900s 60s 80s 90s 2010s

Some major steps in computing evolution

IBM, 100 años de innovación y progreso

El próximo mes de junio IBM cumple cien años. A continuación te invitamos a que nos acompañes en esta mirada retrospectiva a algunos de los avances históricos que han ayudado a IBM a dar forma al siglo y a la propia compañía.

1911

Se constituye IBM como Computing Tabulating Recording Co. (C-T-R) – compañía fabricante de tarjetas perforadas, balanzas comerciales y equipos de medición del tiempo.

1923

La tecnología de tarjetas perforadas de IBM ayudó a hacer frente a proyectos de gran envergadura, como la creación del censo de los EE.UU.

1924

La empresa cambia su nombre a International Business Machines. Actualmente opera en 170 países.

1935

IBM fue pionera en ofrecer cursos de formación para que las mujeres pudieran acceder a puestos de trabajo técnicos, tradicionalmente ocupados por hombres.

1936

IBM colabora con el gobierno de EE.UU. para crear la Seguridad Social.

1944

Automatic Sequence Controlled Calculator es el primer equipo capaz de realizar cálculos complejos de manera automática.

1956

IBM crea el RAMAC (Método de Acceso Aleatorio de Contabilidad y Control), considerado el primer disco duro magnético y precursor de la industria del almacenamiento de datos.

1961

La máquina de escribir Selectric de IBM revoluciona el mundo del diseño de este tipo de dispositivos durante 25 años.

1962

IBM y American Airlines lanzan el primer sistema de reservas aéreas por ordenador – SABRE – que sienta las bases para el futuro desarrollo de la banca online.

1964

La compañía anuncia el System/360 – este primer mainframe marca el comienzo de la era de la compatibilidad en el mundo de la computación.

1969

La tecnología de IBM contribuye al éxito de la misión Apolo en la Luna – la Compañía ha jugado un papel importante en el programa espacial de EE.UU. desde la década de 1950.

1969

Los laboratorios de IBM desarrollan el sistema de bandas magnéticas de las tarjetas de crédito, hoy omnipresente en todo tipo de identificadores y tarjetas bancarias.

1971

IBM crea el disco flexible (floppy disk), que populariza el almacenamiento y contribuye a la revolución del PC.

1973

Los supermercados comienzan a escanear los códigos de barras, basados en el sistema UPC, inventado por IBM.

1980

IBM se adjudica la primera patente para la tecnología de cirugía ocular LASIK. Hoy, IBM continúa generando más patentes en EE.UU. que ninguna otra compañía.

1981

El ordenador personal de IBM marca el inicio de la revolución del PC.

1984

A mediados de los 80, los ordenadores de IBM comprendían 5.000 palabras habladas con una precisión del 95%. Hoy, el reconocimiento de voz es un fenómeno generalizado, tanto en los hogares como en los vehículos.

1986

Científicos de IBM ganan el premio Nobel por el microscopio de efecto túnel, que permite visualizar superficies a escala del átomo.

1997

El superordenador Deep Blue derrota a Gary Kasparov, el mejor jugador de ajedrez del mundo.

1997

IBM acuña el término "eBusiness" y contribuye a la transformación de Internet en una herramienta para hacer negocios.

2001

IBM invierte 1000 millones de dólares en Linux para estimular la innovación en el mundo del open source.

2008

IBM lanza la iniciativa global Smarter Planet para contribuir a mejorar con la tecnología el modo en que funciona el mundo.

2011

El superordenador Watson es capaz de detectar matices como la ironía en las palabras e inspira nuevas posibilidades en el mundo de la inteligencia artificial.

1900 1920 1940 1960 1980 2000

Agenda

1

IBM at a glance

2

IBM's strategy

3

Continuous transformation

© 2014 International Business Machines Corporation

This new era is reshaping the IT landscape and creating new market dynamics

© 2014 International Business Machines Corporation

The macro IT environment is evolving rapidly driven by technology shifts, new business models and new sources of value

From:

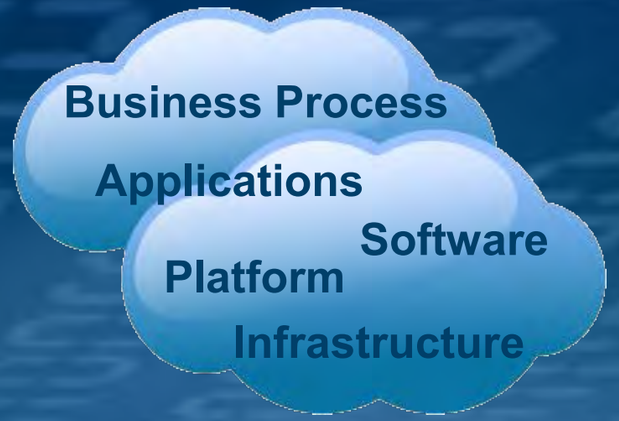
- Services
- Software
- Middleware
- Networking
- Storage
- Server

An explosion in the volume, variety and sources of data beyond traditional data 'owned' by the enterprise

A broad spectrum of 'as a service' solutions and digital services enabled by public, private and hybrid clouds

Mobile and social delivery of applications and content are changing the nature of engagement and emphasizing security

To:



The new era is defined by three shifts

SHIFT 1
Data is becoming the world's new **natural resource**, transforming industries and professions.

OUR POINT OF VIEW
Data is the new basis of competitive advantage.

SHIFT 2
The emergence of **cloud** is transforming IT and business processes into digital services.

OUR POINT OF VIEW
Cloud is the path to new business models.

SHIFT 3
Mobile and **social** are transforming individual **engagement** – creating expectations of security, trust and value in return for personal information.

OUR POINT OF VIEW
A systematic approach to engagement is now required.

© 2014 IBM Corporation
8

Three shifts in the industry are informing IBM's strategy

Data is becoming the world's new natural resource	The emergence of cloud is transforming IT and business processes into digital services	Social, mobile and access to data are changing how individuals are understood and engaged
500 million DVDs worth of data is generated daily	**85%** of new software is being built for cloud	**80%** of individuals are willing to trade their information for a personalized offering
1 trillion connected objects and devices by 2015	**25%** of the world's applications will be available in the cloud by 2016	**84%** of millennials say social and user-generated content has an influence on what they buy
80% of the world's data is unstructured	**72%** of developers say cloud-based services or APIs are central to the applications they are designing	**5 minutes**: response time users expect once they have contacted a company via social media

© 2014 International Business Machines Corporation

IBM's strategy is defined by three corresponding imperatives

Make markets by transforming industries and professions with data

- Enterprises need to apply more sophisticated analytics across more disparate data sources in more parts of the organization to drive business outcomes.
- Enterprises need to develop 'speed of insight' and 'speed of action' as core differentiators to capture the time value of data.
- Enterprises increasingly need cognitive capabilities to change the game in industries or professions.

Remake enterprise IT for the era of cloud

- Enterprises need to integrate public and private clouds with back-end systems to create dynamic, hybrid environments.
- Enterprises need to manage cloud environments with the same rigor as an on-premise datacenter.
- Enterprises will benefit the most by using cloud to reinvent core business processes and drive innovation.

Enable 'systems of engagement' for enterprises, and lead by example

- Enterprises need to use mobile and social to increase speed and responsiveness, and meet customers, partners and employees where they are.
- Enterprises need to personalize every meaningful interaction to offer more value.
- Enterprises need to continuously earn the right to serve customers by providing privacy and security and earning trust.

© 2014 International Business Machines Corporation

IBM's strategy of innovation, transformation and higher value…

SHIFTS	STRATEGIC IMPERATIVES
Data is becoming the world's new natural resource	Make markets by transforming industries and professions with data
The emergence of cloud is transforming IT and business processes into digital services	Remake enterprise IT for the era of cloud
Social, mobile and access to data are changing how individuals are understood and engaged	Enable 'systems of engagement' for enterprises, and lead by example

GROWTH PLAYS

…will make IBM essential to clients, partners, investors, communities and IBMers

© 2014 International Business Machines Corporation

Make markets by transforming industries and professions with data

Investments

- **$17B to acquire more than 30 big data and analytics companies**
- **$1B to establish IBM Watson Group**
- **$1B investment in Flash technology**

Expertise

- **1/3 of IBM's research focused on data and analytics**
- **4,000 analytics-based patents**
- **15,000 analytics consultants and 400 mathematicians focused on big data and analytics**
- **9 global Analytics Solutions Centers**
- **Ecosystem of 6,000 industry partners and 1,000 university partners**
- **40,000 client engagements to date in big data and analytics**

Capabilities

- **Formation of new Information and Analytics Group**
- **BLU Acceleration dynamic in-memory database**
- **PureData System for Hadoop**
- **DB2 BLU on Power with Flash**

61% of IT spending is funded by Line of Business functions

$20B IBM revenue objective from business analytics by 2015

© 2014 International Business Machines Corporation

Remake enterprise IT for the era of cloud

Investments

- **$7B to acquire 16 companies related to cloud**
- **$1.2B to expand global footprint to 40 datacenters**

Expertise

- **100+ IBM SaaS offerings**
- **IBM Cloud supports 24 of the top 25 Fortune 500 companies**
- **36,000 cloud experts and 1,500 cloud-based patents**
- **500+ developers contributed to OpenStack projects**

Capabilities

- **Software and Cloud Solutions Group combines middleware with Industry Solutions and ICS**
- **2,000 SoftLayer exposed services to provide view of the client's environment**
- **SmartCloud Enterprise+ services from 10 cloud centers on 5 continents**
- **Aspera for high-performance data movement**
- **Cast Iron for faster database integration**

50% of
large enterprises will have hybrid cloud environments by 2017

$4B+ of
IBM revenue for cloud-based solutions in 2013, up 69% YTY

© 2014 International Business Machines Corporation

Enable ‘systems of engagement’ for enterprises, and lead by example

Investments

- **Acquired nearly two dozen companies related to mobile, security, social**

Expertise

- **Mobile: 3,000 development and delivery professionals, 270 patents**
- **Security: 25 global labs, 6,000 professionals, 3,000 patents**
- **Social: #1 ranking for 4 years running in enterprise social**
- **300,000 IBMers collaborating in more than 200,000 internal social communities**
- **30,000 IBMers engaging in Client Collaboration Hubs for top 300 accounts**
- **84% of IBM sellers using Sales Connect platform**

Capabilities

- **Mobile acquisitions include: Trusteer, Fiberlink, xtify, TheNowFactory**
- **Security acquisitions include: Access360, MetaMerge, DataPower, ISS, Watchfire, Consul, Encentuate, Princeton Softech, OunceLabs, BigFix, NISC, Q1 Labs**
- **Social acquisitions include: Kenexa, Outblaze and WebDialogs**

57% of companies will devote 25%+ of IT spending on systems of engagement in 2014, a 2X increase vs. 2013

IBM 2013 YTY growth:
69% in Mobile
19% in Security
45% in Social Business

© 2014 International Business Machines Corporation

IBM delivers on these strategic imperatives…

…through our deep and broad portfolio

Business solutions for CxOs

- Consulting & Integration Services
- Applications & Solutions
- Technology Services
- Middleware
- Operating Environment
- Infrastructure

Cloud

Cognitive

Infrastructure Solutions for CIOs

© 2014 International Business Machines Corporation

To capture opportunities arising from these shifts and imperatives, IBM is focused on several growth plays

Smarter Planet

Solutions to help industry and city leaders thrive in an instrumented, interconnected, intelligent world

Business Analytics

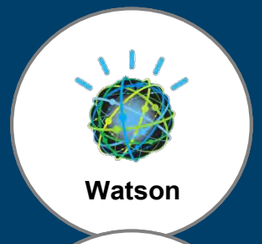
Software, systems and services that help clients use big data to make faster, better decisions

Cloud

Full array of cloud models to help clients develop and run new solutions and transform business processes

Growth Markets

Investments to expand capacity, develop talent, and deepen R&D in support of our clients and our own business



Watson

Cloud-delivered cognitive innovations that answer complex questions, aid discovery, and provide data-driven insights

Mobile

Unified approach to help clients deliver mobile solutions that attract new customers, improve service, boost efficiency

Social Business

Software and services to help clients share the knowledge of their people for measurable business results

Security

Services to help clients secure their people, data, business processes, applications and technology infrastructure

Growth Initiative Bold New Play

© 2014 International Business Machines Corporation

IBM's strategy of innovation, transformation and higher value…

SHIFTS	STRATEGIC IMPERATIVES
Data is becoming the world's new natural resource	Make markets by transforming industries and professions with data
The emergence of cloud is transforming IT and business processes into digital services	Remake enterprise IT for the era of cloud
Social, mobile and access to data are changing how individuals are understood and engaged	Enable 'systems of engagement' for enterprises, and lead by example

GROWTH PLAYS

…will make IBM essential to clients, partners, investors, communities and IBMers

© 2014 International Business Machines Corporation

Agenda

1

IBM at a glance

2

IBM's strategy

3

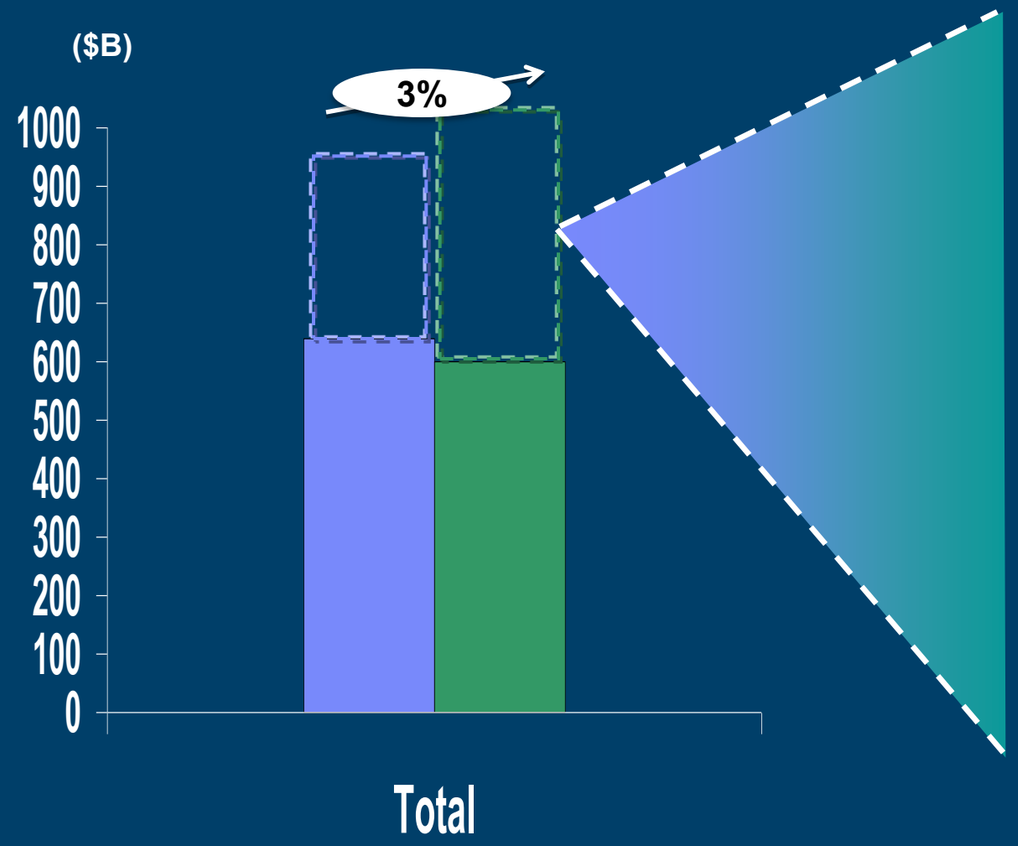
Continuous transformation

© 2014 International Business Machines Corporation

Shifting market opportunities continue to influence our strategy

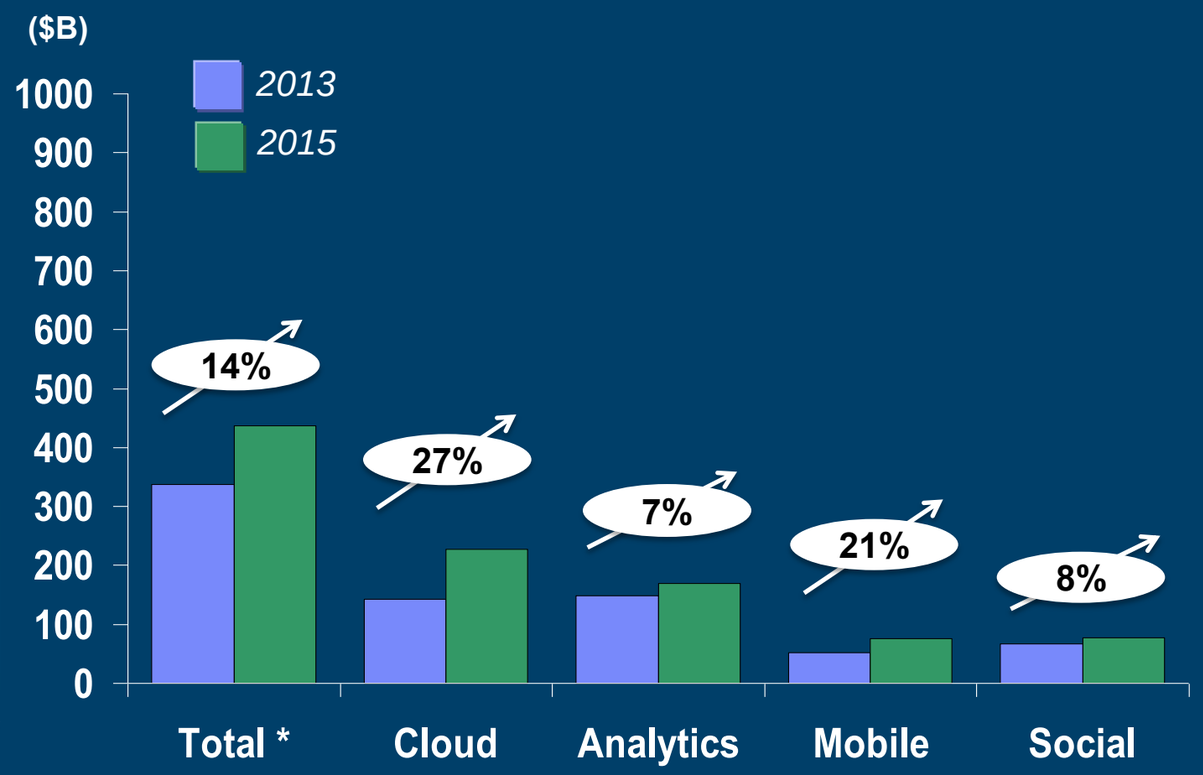
Base & Growth Segments Opportunity

CAGR '13 – '15



Growth Segments Opportunity

CAGR '13 – '15

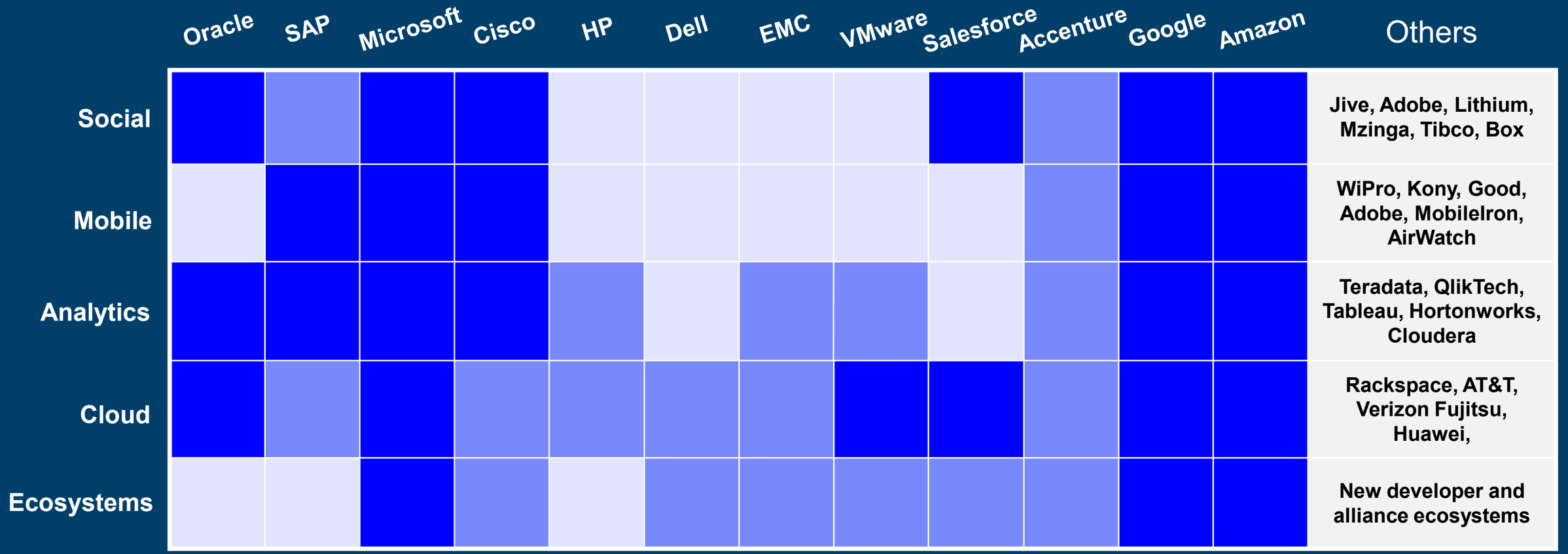


** Total is net non-overlapped*

© 2014 International Business Machines Corporation

Source: GMV2H13, July 2013; Special MI assessment of Cloud, Analytics, Mobile and Social, July 2013, at plan rates

The competition is investing to ensure their business models leverage shifting market segment opportunities



The above are representative competition
Source: Market Insights, Competitive Intelligence Analysis

Leader: Strong segment recognition

Active: Building capabilities and/or vision

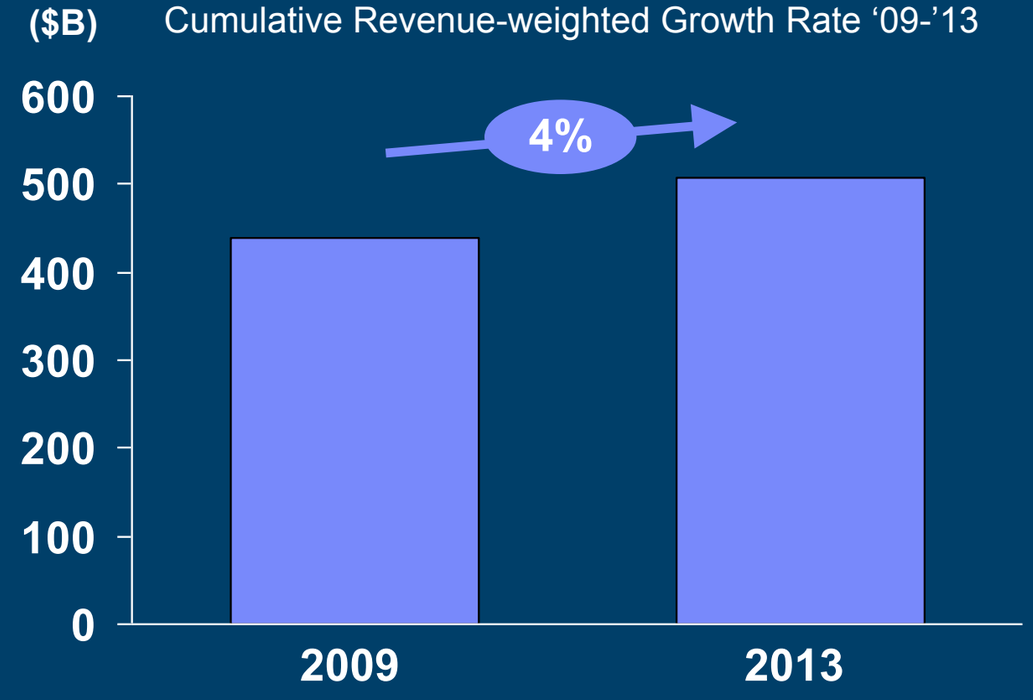
Limited: New entrant and/or limited presence

© 2014 International Business Machines Corporation

Current market dynamics are influencing both traditional and new competitors' performance

Traditional Competitors

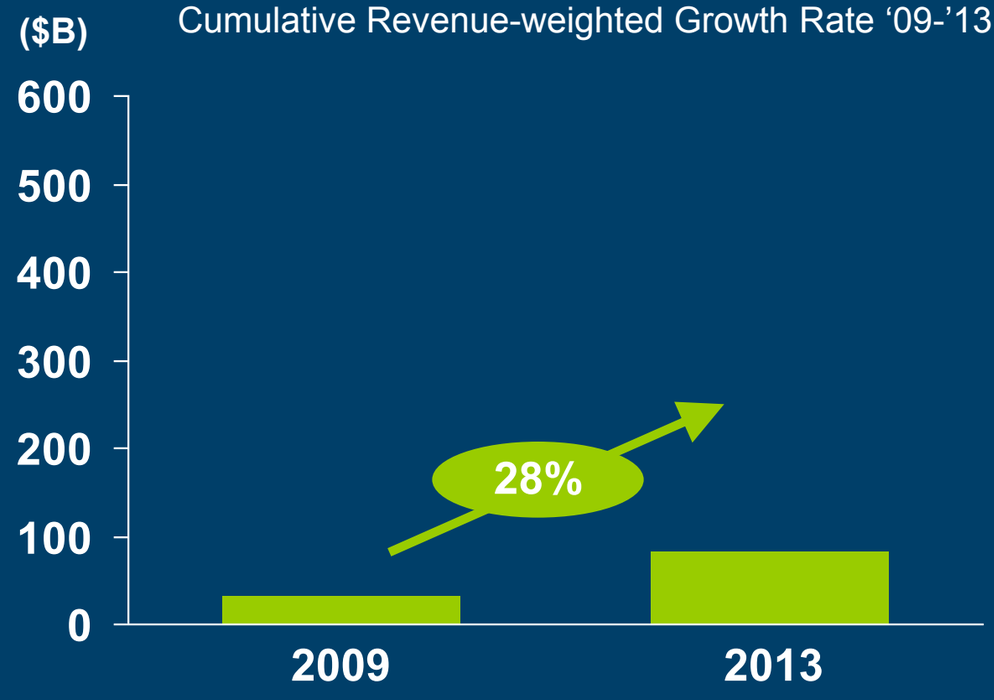
Cumulative Revenue-weighted Growth Rate '09-'13



Accenture Dell HP Microsoft SAP
Cisco EMC IBM Oracle

New Competitors

Cumulative Revenue-weighted Growth Rate '09-'13

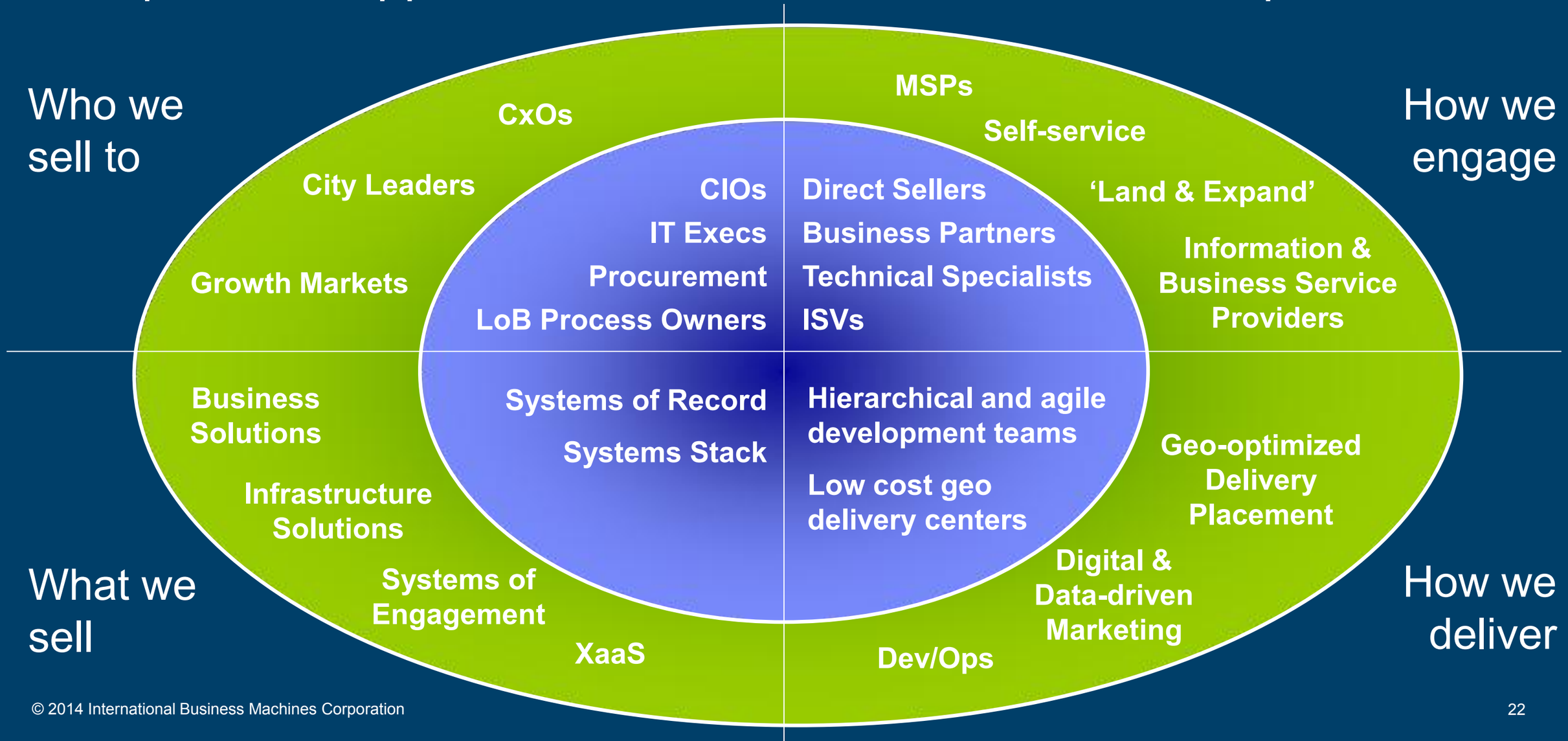


Amazon Google Salesforce
Cognizant Rackspace VMware

© 2014 International Business Machines Corporation

Note: 2013 Revenue based on Analyst consensus. Source: CapitalIQ

We are transforming our operational focus, priorities and behaviors to expand our opportunities and deliver market leadership

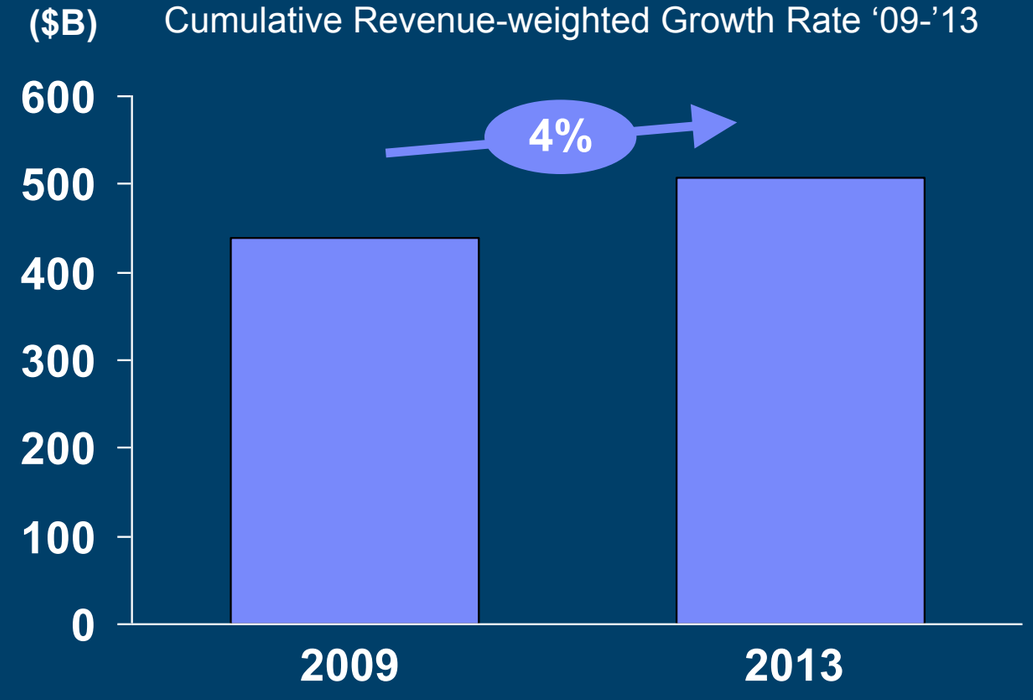


© 2014 International Business Machines Corporation

Current market dynamics are influencing both traditional and new competitors' performance

Traditional Competitors

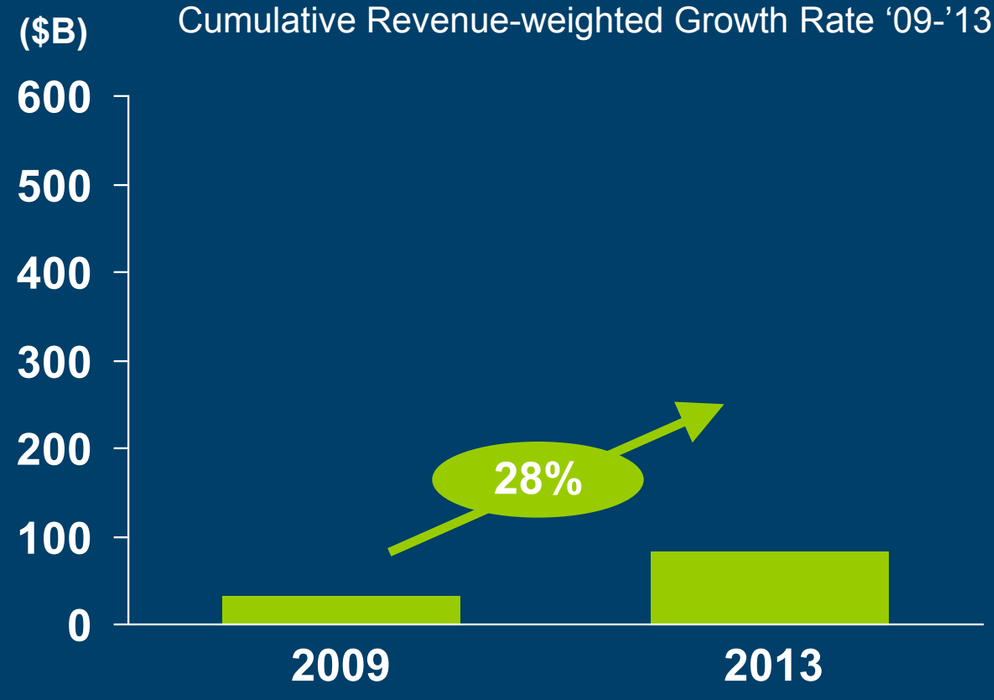
Cumulative Revenue-weighted Growth Rate '09-'13



Accenture Dell HP Microsoft SAP
Cisco EMC IBM Oracle

New Competitors

Cumulative Revenue-weighted Growth Rate '09-'13

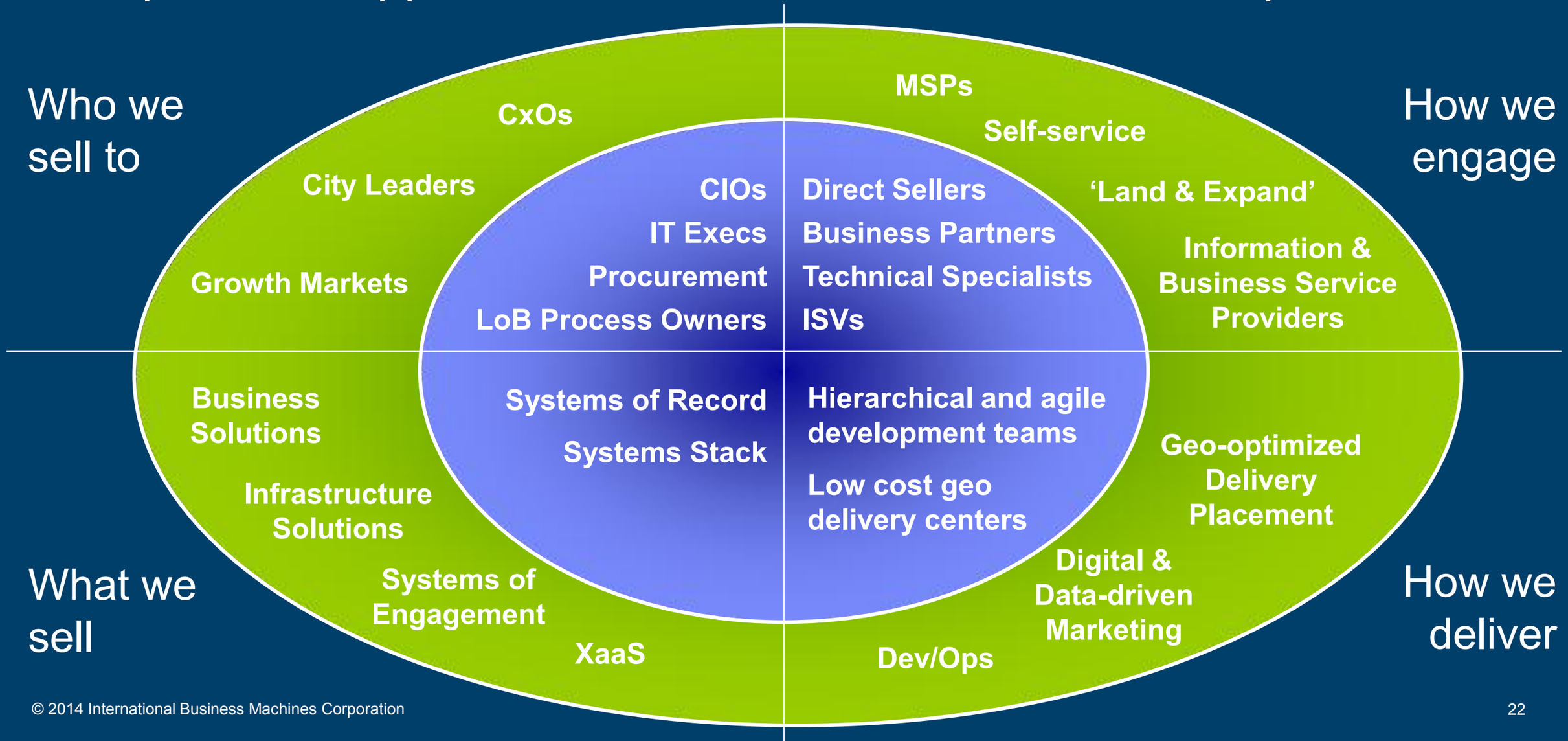


Amazon Google Salesforce
Cognizant Rackspace VMware

© 2014 International Business Machines Corporation

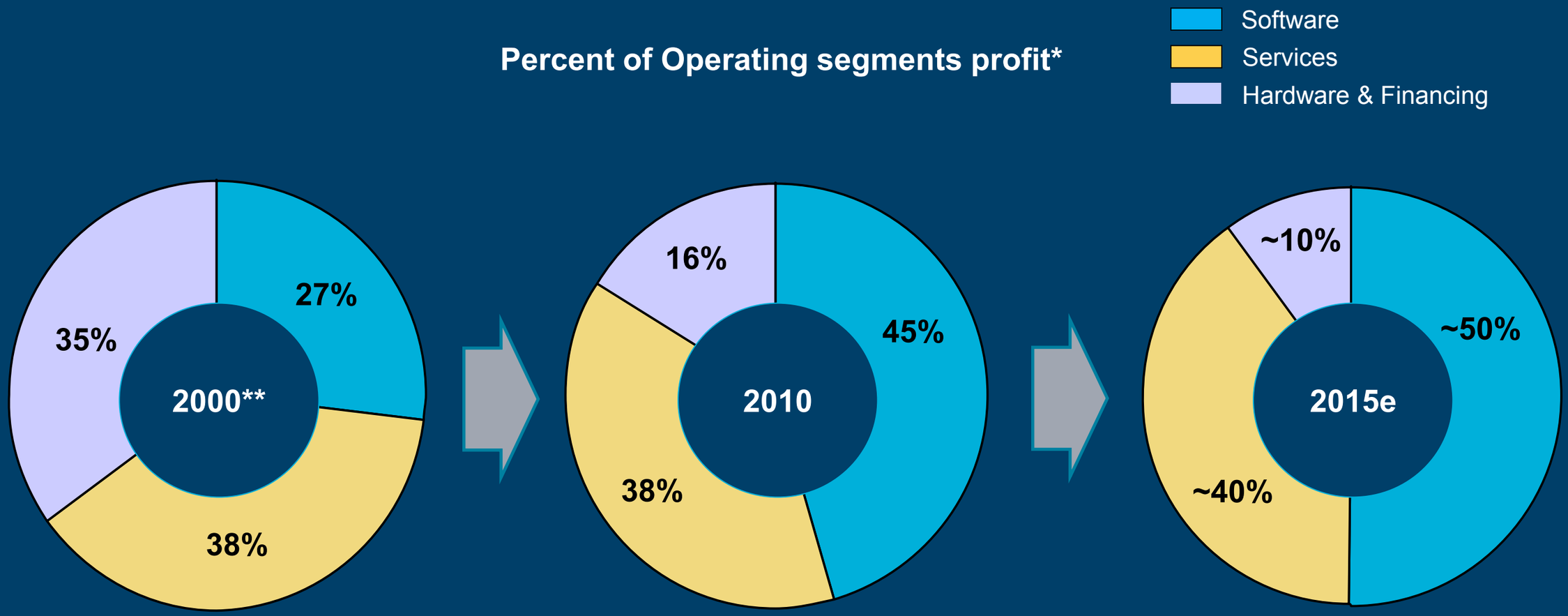
Note: 2013 Revenue based on Analyst consensus. Source: CapitalIQ

We are transforming our operational focus, priorities and behaviors to expand our opportunities and deliver market leadership



© 2014 International Business Machines Corporation

IBM will continue to remix our portfolio to reflect our strategy



* Sum of operating segment pre-tax income not equal to IBM operating pre-tax income
** Stock-based compensation expense was not recorded at the segment level and excludes Enterprise Investments
Note: May not add up to 100% due to rounding

© 2014 International Business Machines Corporation

IBM will continue to remix our portfolio to reflect our strategy

Exit commoditized businesses that no longer fit our strategy

- DRAM 1999
- Network 1999
- Flat Panel Displays 2001
- Hard Disk Drives 2002
- Personal Computers 2005
- Printers 2007
- Retail Store Solutions 2012
- Customer Care BPO 2013
- x86 Servers * 2014

Invest in acquisitions and organic capabilities to complement & scale our portfolio

- Nearly $42B on more than 150 acquisitions since the beginning of 2000
- Approximately $6B annual investment in IBM Research & Development to create innovations like Watson, streaming analytics, advanced security and front office solutions

** Announced, but not closed*

© 2014 International Business Machines Corporation

Bringing Watson to Life

1/ Why the world needs Watson

Transforming how we connect with the world

$20B

in revenue last quarter

Transforming how we consume media

50M

subscribers

The **volume**, **variety** and **velocity** of data is creating an unprecedented opportunity.

2.5B

gigabytes of new data are generated every day, 4/5ths of which is unstructured.

This proliferation of data is driving demand for **real-time insights** and **evidence-based decision making**.

1 in 2

CEOs report not having the information they need when making critical decisions

Advances in **natural language processing** and **machine learning** are enabling us to transform expertise and professionals.

12%

Most firms estimate that they only analyze 12% of the data they already have, leaving 88% on the cutting room floor

2/

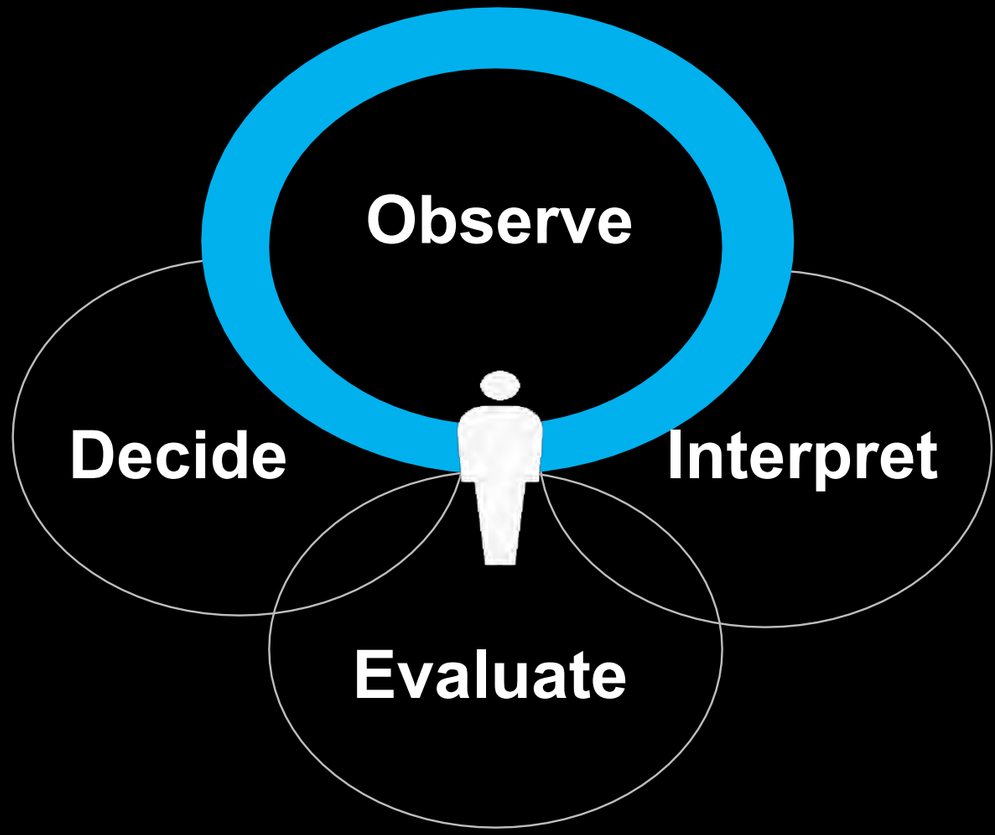
How Watson drives value

Watson is creating a new partnership between people and computers that **enhances**, **scales** and **accelerates** human expertise.

Enhance

Every day, our brains process incredible amounts of information without us even realizing we're doing it.

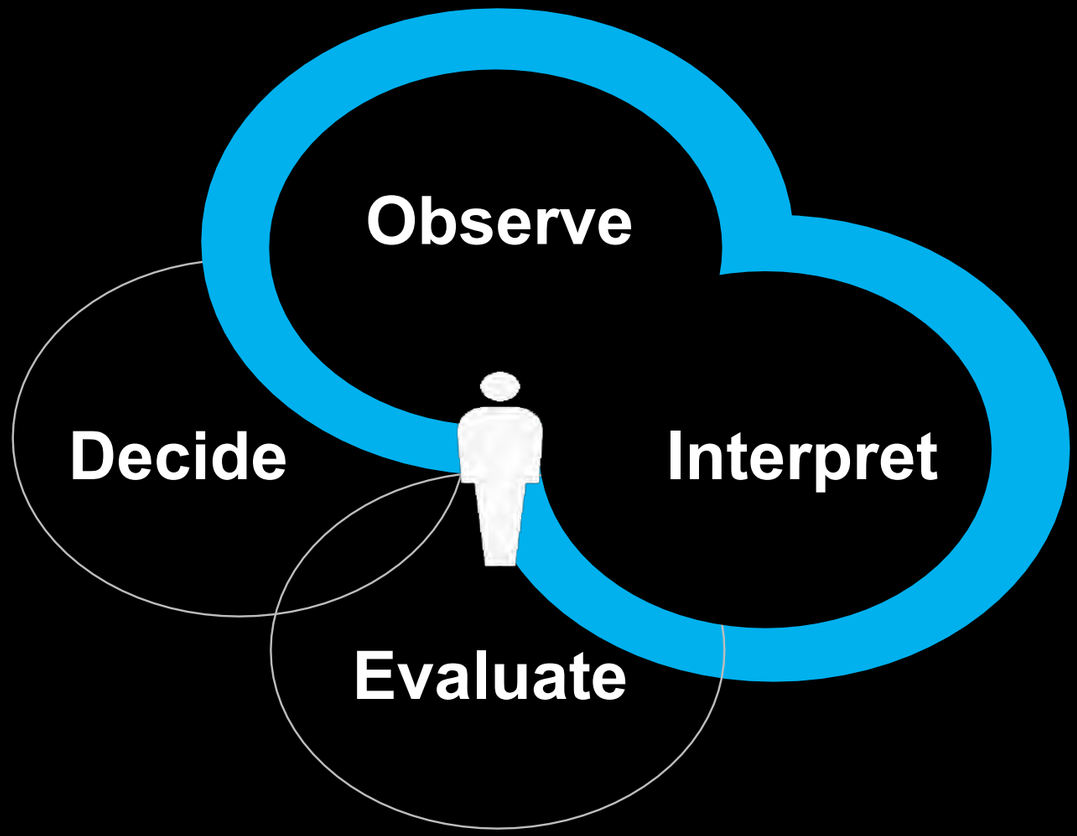
Watson aids the human cognitive process by reading and storing all public and proprietary knowledge across professions, and making insights contained within instantly available.



Enhance

We interpret the data available to us to make connections and frame our choices

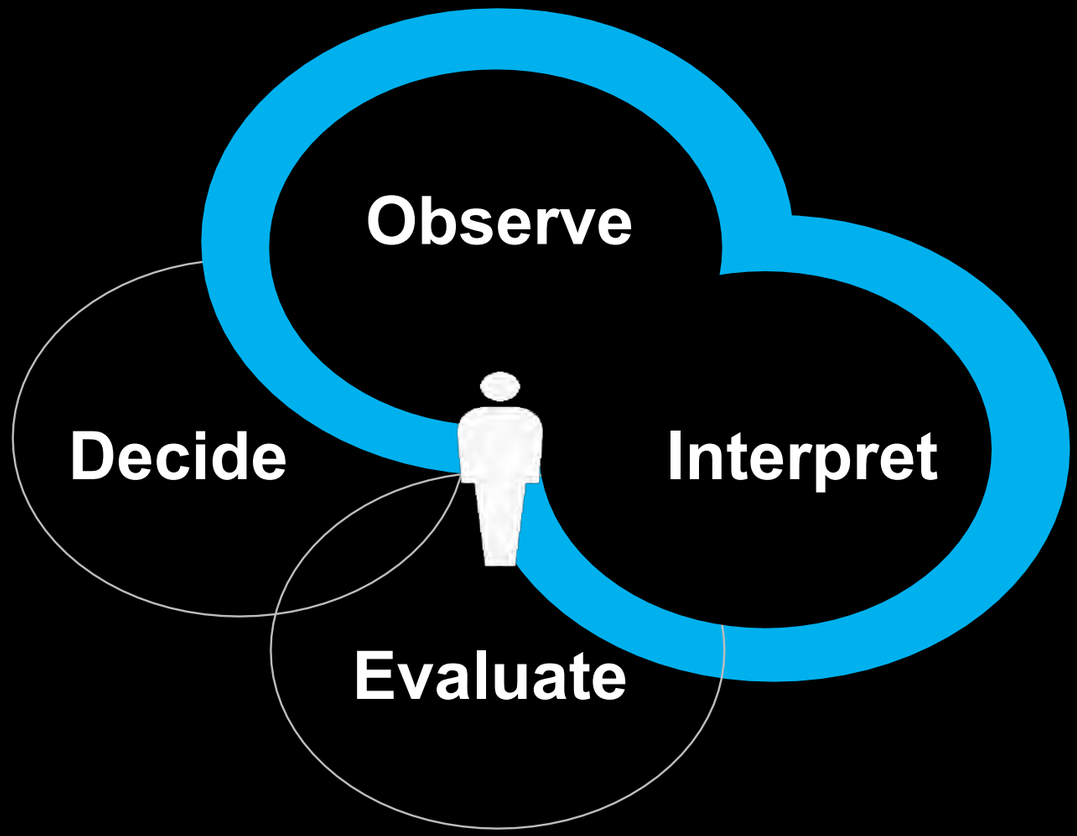
Watson supports this process by interpreting explicit and implicit relationships and visualizing unexpected patterns within data



Enhance

We interpret the data available to us to make connections and frame our choices

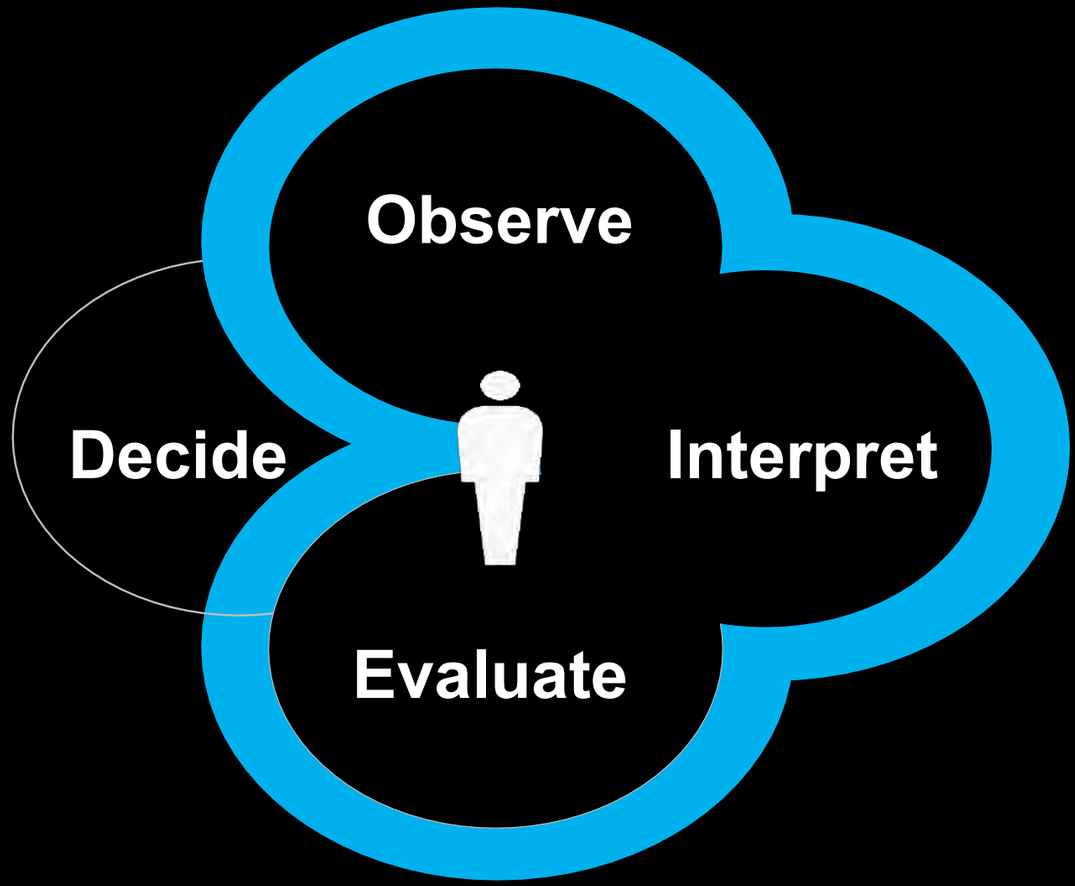
Watson supports this process by interpreting explicit and implicit relationships and visualizing unexpected patterns within data



Enhance

We evaluate connections across knowledge and data to draw conclusions and develop our opinions

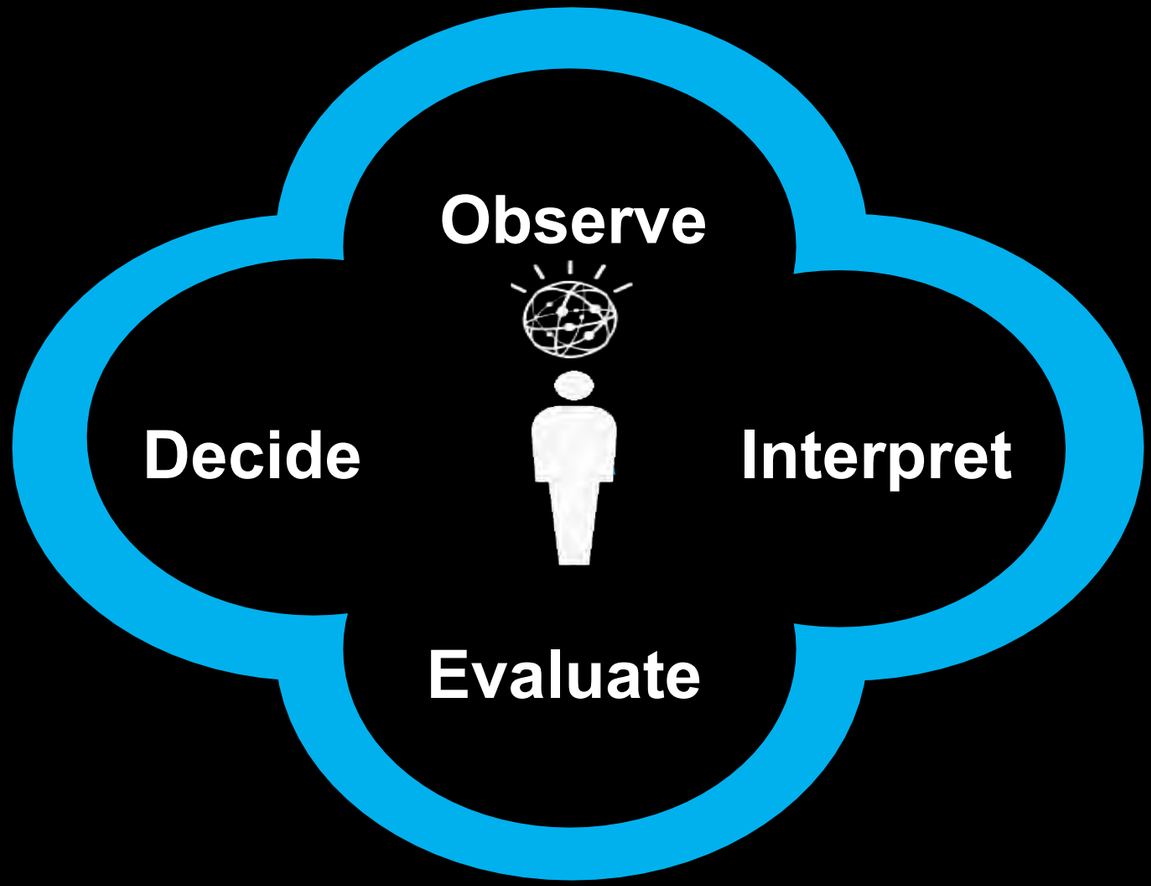
Watson supports this process by testing options against all available evidence, without assumption or bias



Decide

We make decisions based on experience, new evidence, and the integrity of evaluation that we've done.

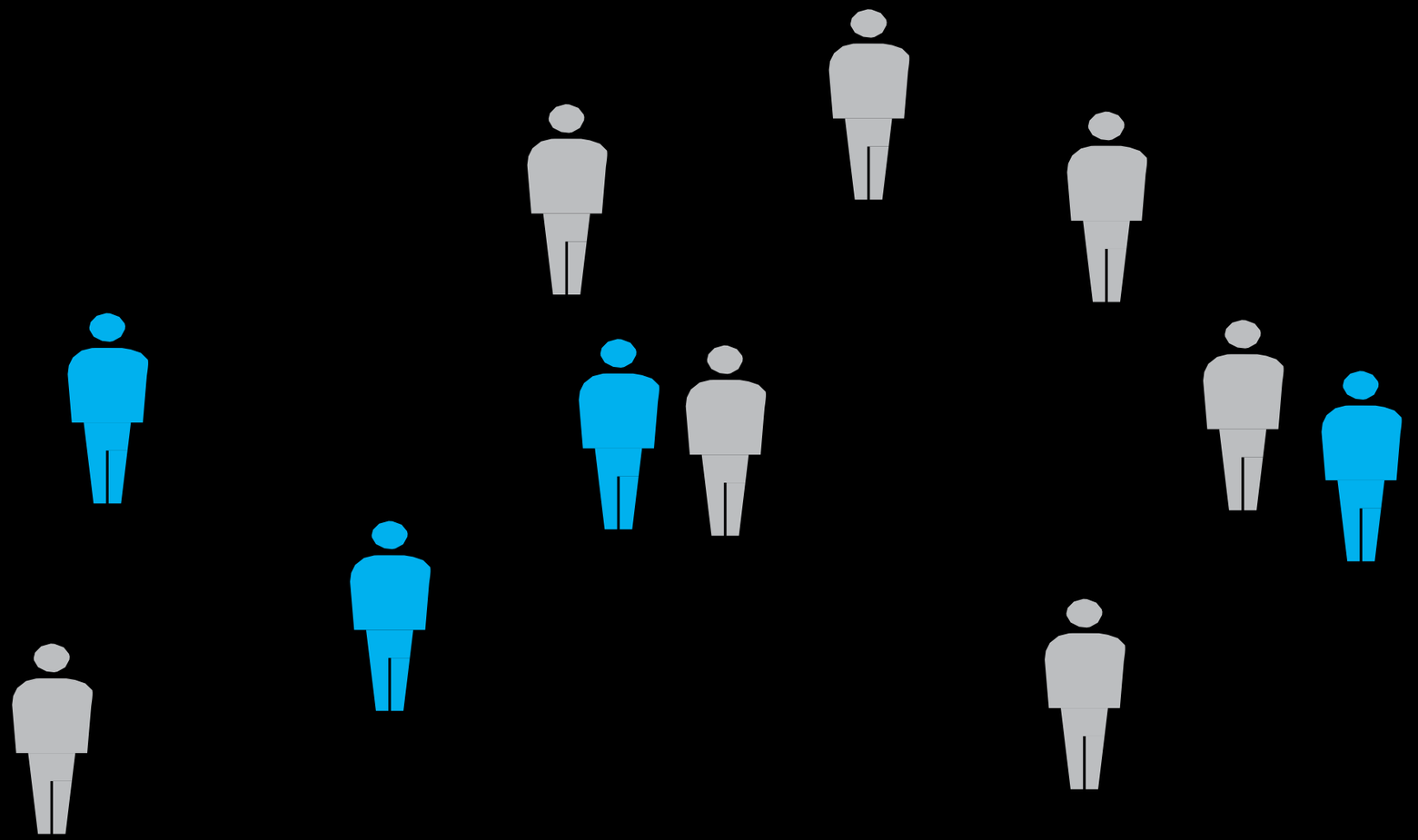
Watson puts content into context, pairing confidence-weighted responses with supporting evidence and allowing professionals to make informed decisions at the point of impact.



IBM

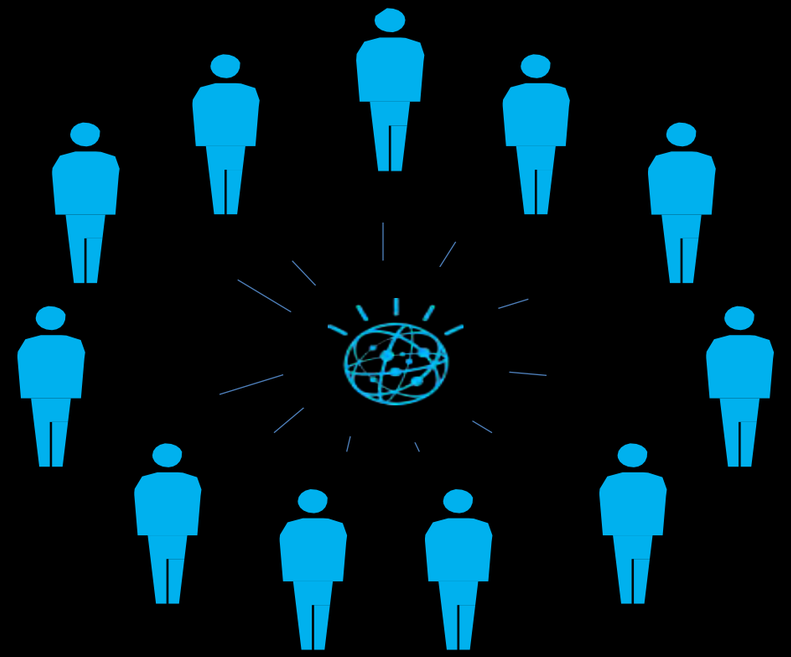
Scale

How companies
scale expertise



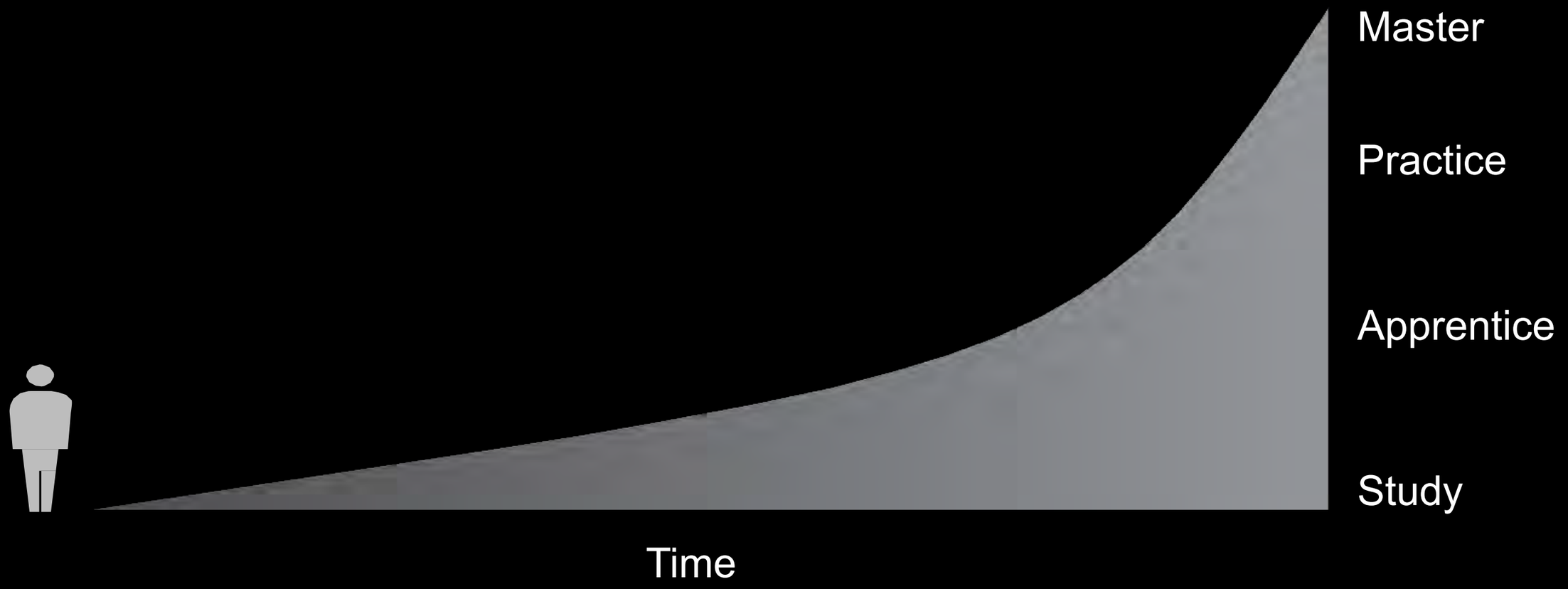
Scale

Watson scales expertise by elevating the consistency and objectivity of decision making across an organization.



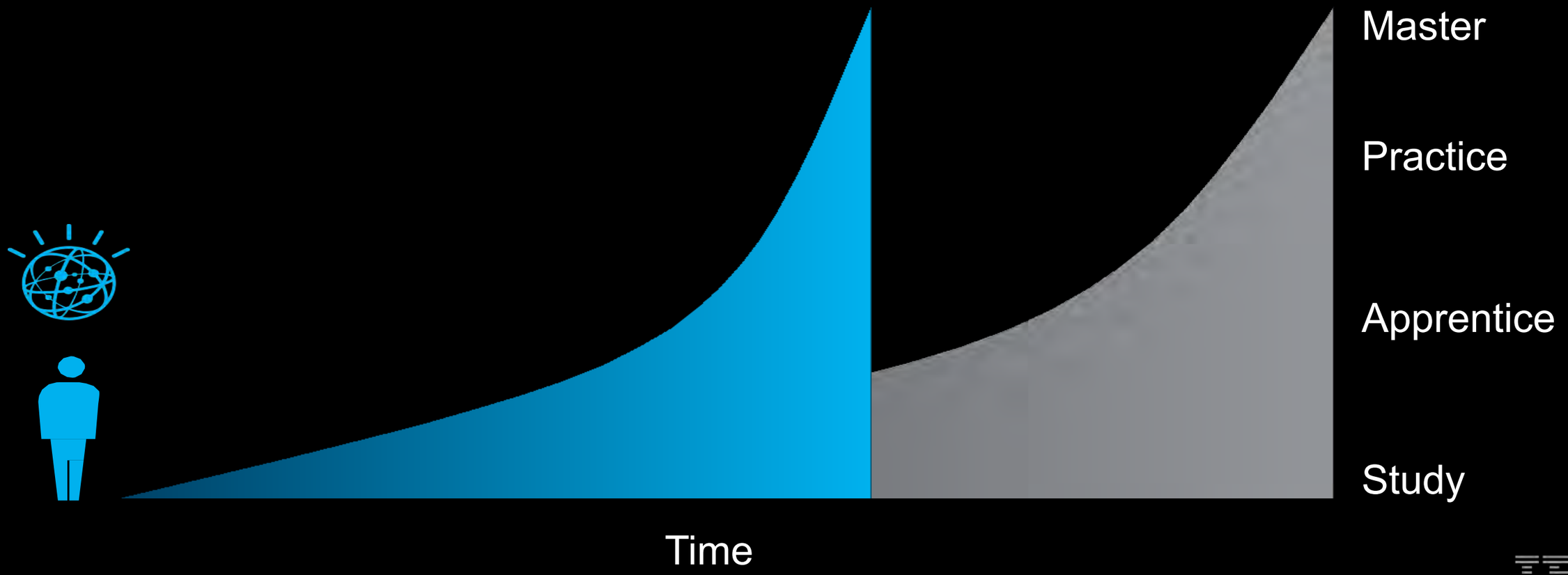
Accelerate

How **people** build expertise



Accelerate

Watson captures the expertise of top performers and accelerates the development of expertise in others.



Watson's at work today across industries

23M

Medical researchers make decisions from a repository of over 23 million articles, updated daily.

150K

150,000 active military use a digital assistant to make important life choices every year

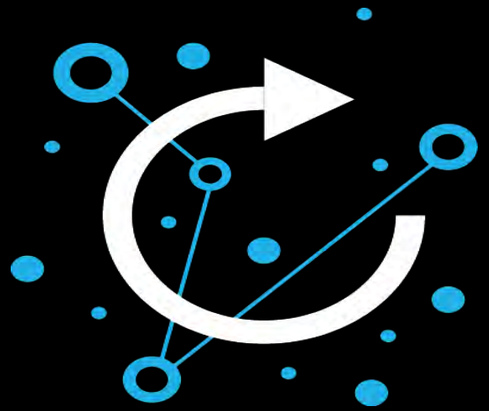
1×10^{18}

Master Chefs discover surprising, new recipes that delight fine diners by sifting through a quintillion possible combinations of flavors and ingredients.

IBM

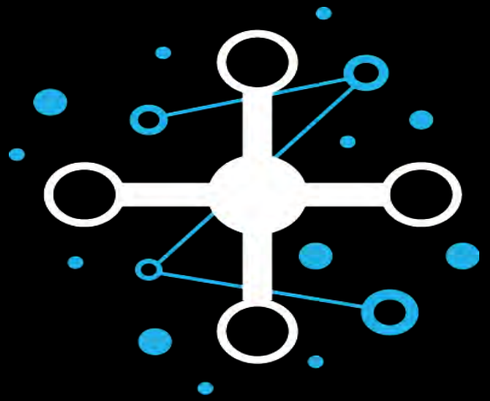
3/
What it takes to succeed

Bringing Watson to market



Transforming industries and professions with services-led engagements.

Advancing cognitive computing across the enterprise with repeatable solutions.



Bringing the cognitive experience to market through an ecosystem of partners.

Getting started with Watson

1. **Align** on valuable ways that Watson can aid professionals in your company.

2. **Identify and gather** the private and proprietary data that Watson will need to study.

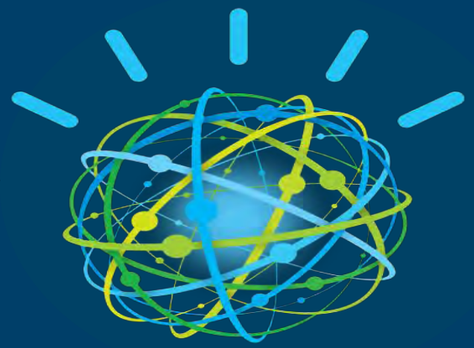
3. **Select** the professionals and top experts who will train Watson.

IBM

The Watson Family

IBM Watson Solutions

Bespoke solutions designed to meet some of industries most demanding needs **leveraging cognitive** capabilities



IBM Watson Advisors

Products based on Watson's core attributes and capabilities

IBM Watson Ecosystems

The **Watson Developer Cloud**, Watson Content Store and Watson Talent Hub driving innovation from partners

IBM Watson Technologies

APIs, tools, methodologies, SDKs, and **infrastructure** that fuels Watson

IBM Watson Foundations

Provides Big Data and core analytical capabilities which serve as **the foundation for Watson**

© 2014 International Business Machines Corporation

5 things you know now about Watson

1. Watson is ushering in a **new era of cognitive computing** that will fundamentally transform the expertise within organizations.

2. Watson **enhances**, **scales** and **accelerates** expertise in professionals—resulting in more professionals making better decisions across the organization.

3. Watson develops expertise **like people do**, but **exponentially faster**.

4. **Watson interacts in natural language**, answering questions and unlocking new insights and patterns in unstructured (i.e. newspaper) data.

5. Organizations that invest in Watson today will gain a **critical edge** in a driven by data and insight.

IBM

© 2014 International Business Machines Corporation