2014 Taiwan Industrial Technologies and Policies Forum

4th Era of IT & Cloud Computing

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Eras of Computing

Tabulating Systems Era

Programmable Systems Era

Cognitive Systems Era

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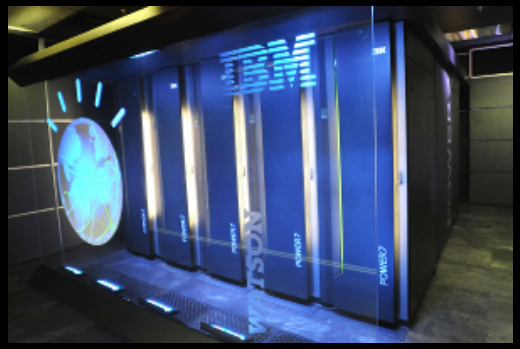
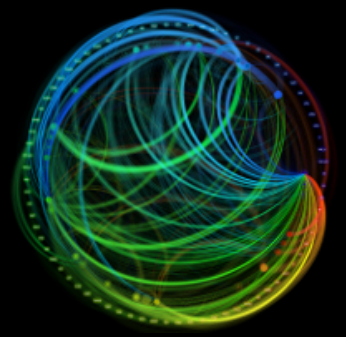
What is cognitive computing?

Cognitive computing systems learn and interact naturally with people to extend what either humans or machine could do on their own. They help human experts make better decisions by penetrating the complexity of Big Data.



Watson



Neurosynaptic chips

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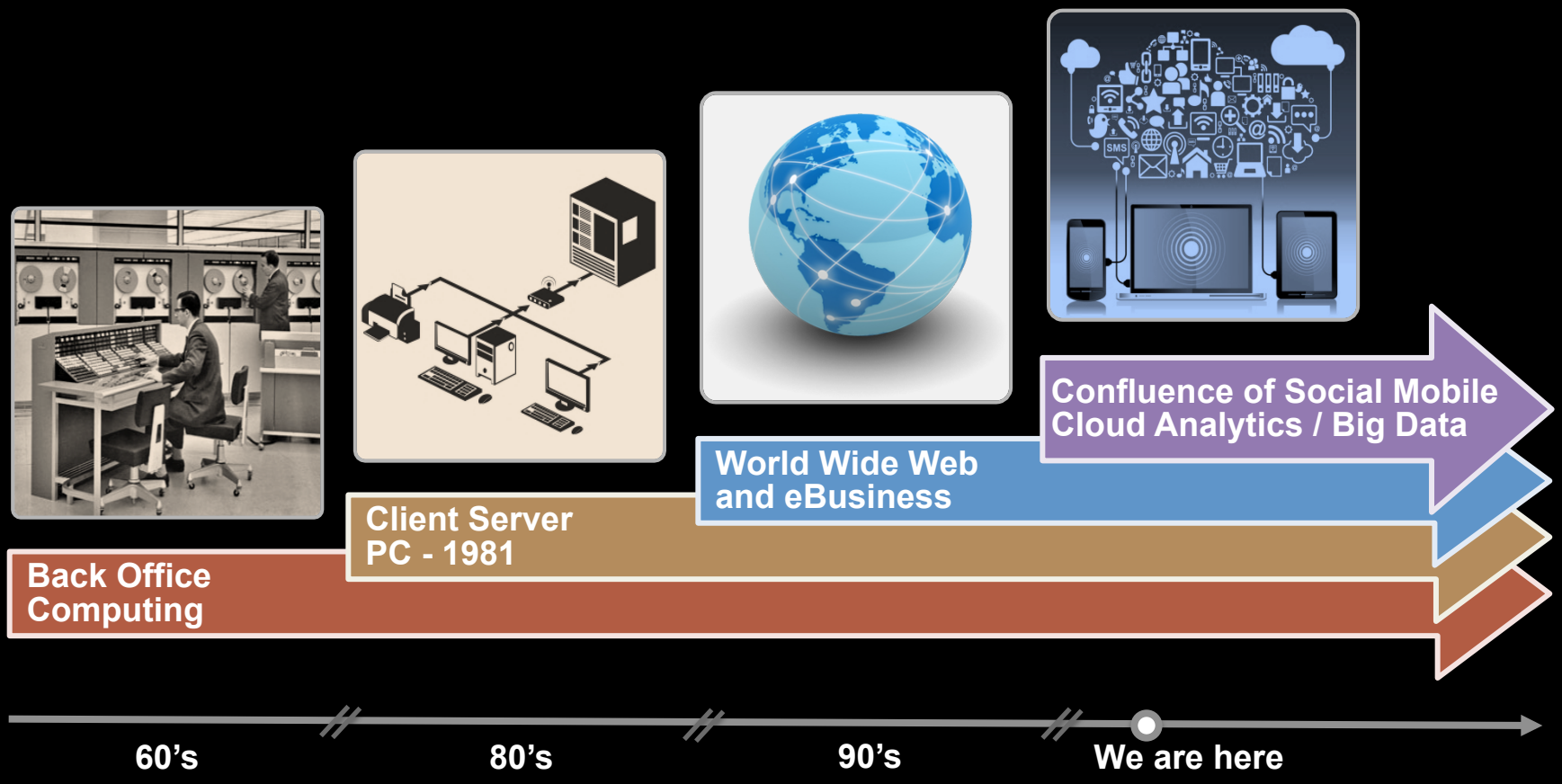
Major Waves of Technology – the 4th Era of IT



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Mega Trends

4th Era of IT

Mobile - Social – Cloud - Analytics / Big Data

Growing Scale / Lower Barrier of Entry

Increasing Complexity / Yet More

Fast Pace

Contextual Overload

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The 4th era of IT – A Perfect Storm

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New models of product & service innovation emerging

Systems of Record

- Data & Transactions
- App Infrastructure
- Virtualized Resources

New Modes of Engagement

- Expanding Interface Modalities
- Big Data and Analytics
- Social Networking

Next Generation Architecture

Data & Transaction Integrity

Smarter and Mobile Things

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Two speed and Bi-modal IT

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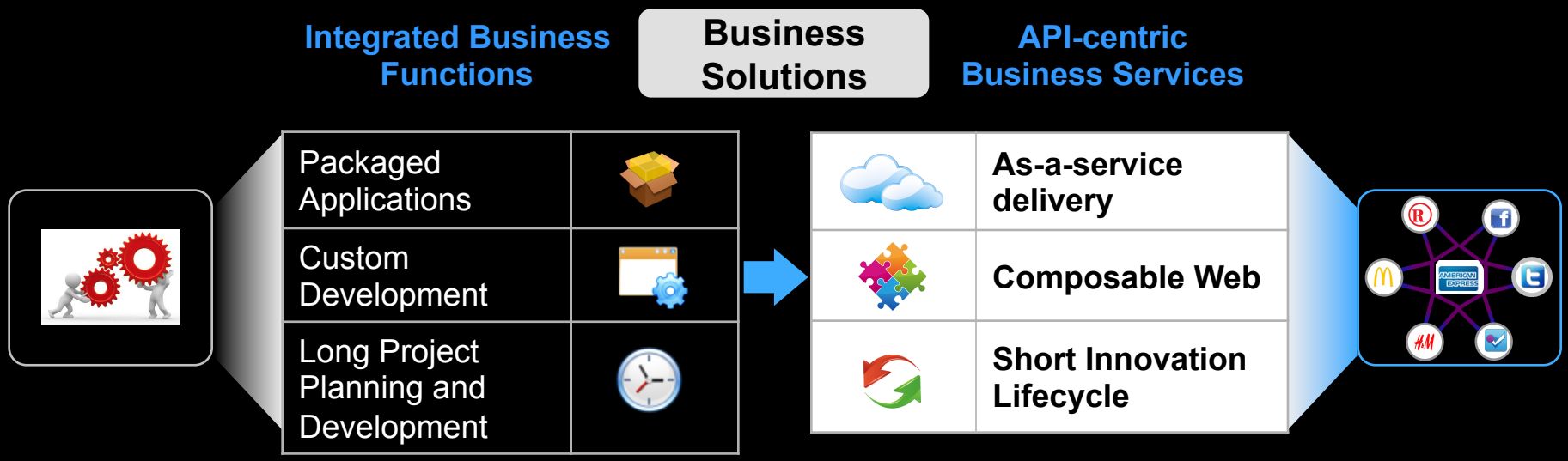
API Economy



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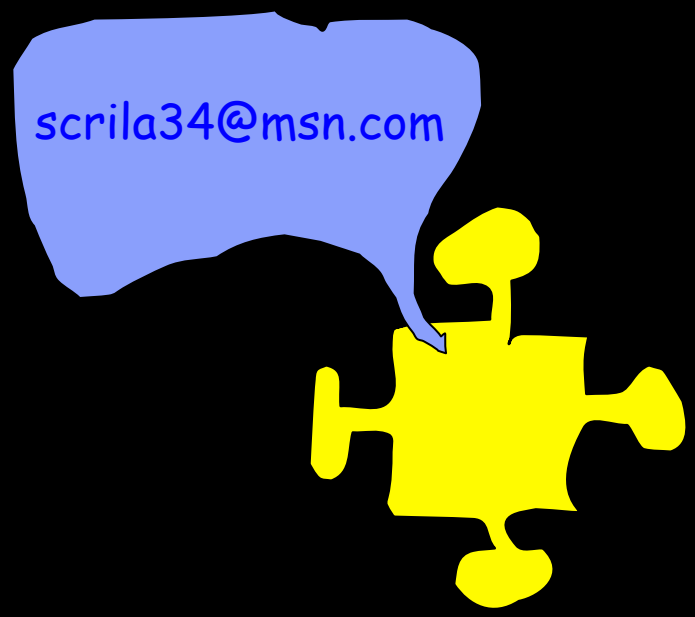
Context Aware Computing Example – No context



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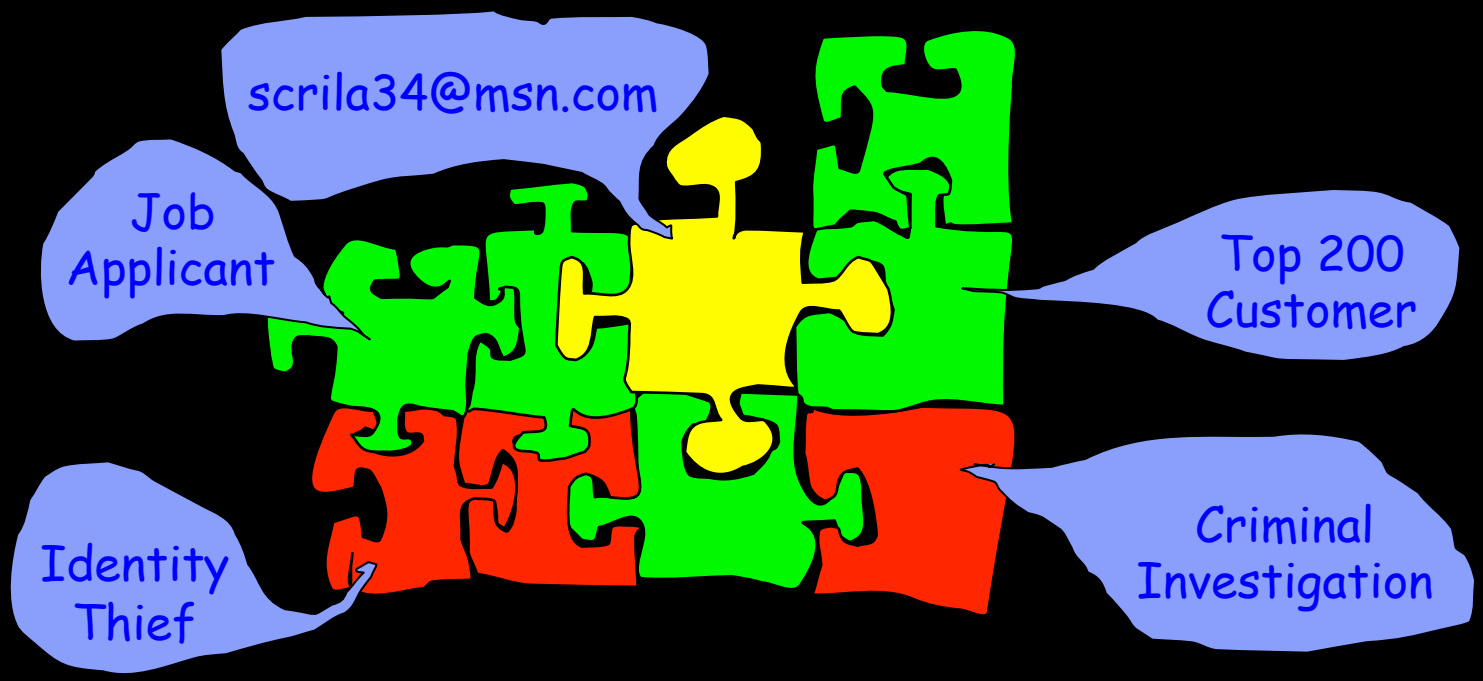
Context Aware Computing Example - Context



Puzzle Metaphor courtesy of IBM Fellow, Jeff Jonas

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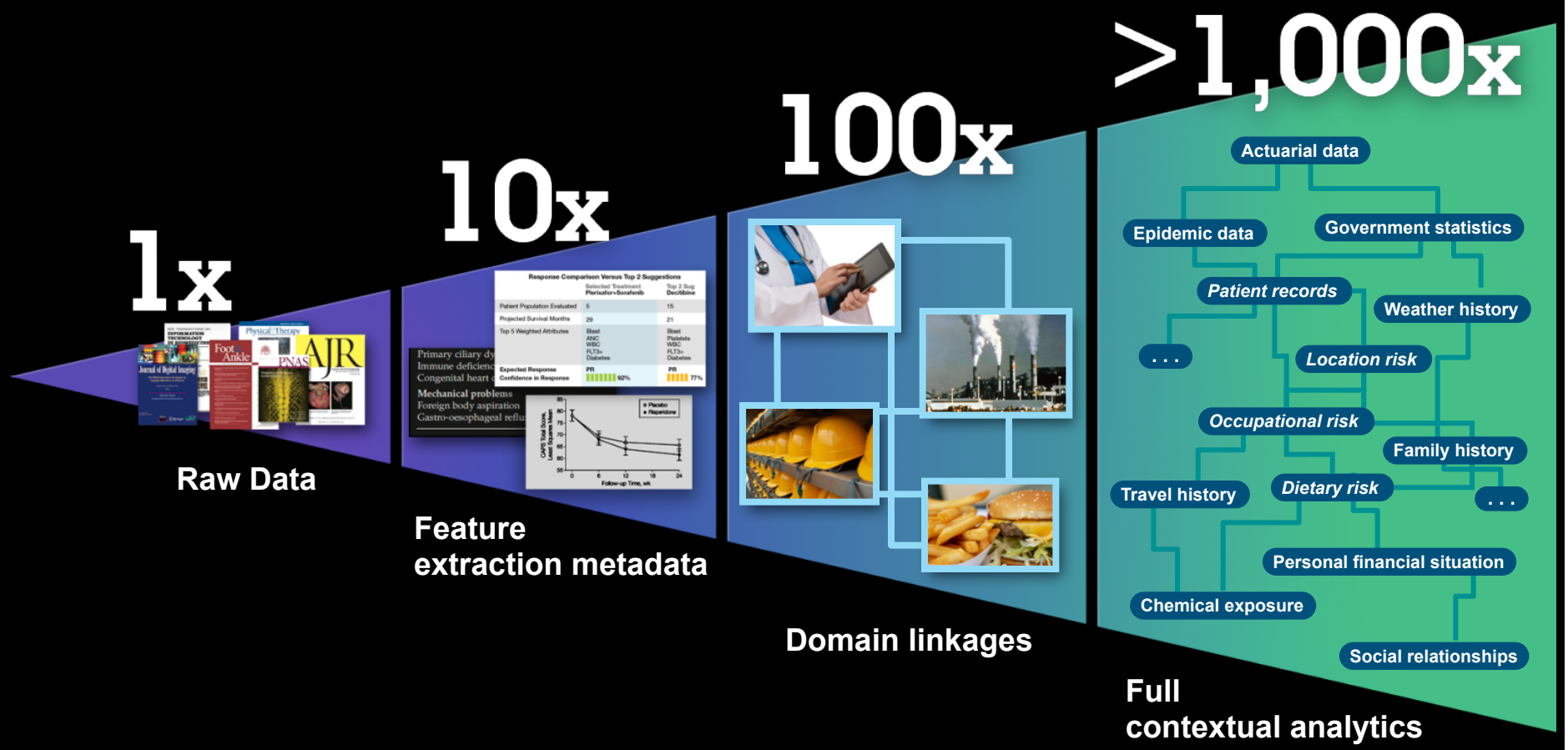
Analytics and the Context Multiplier



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Next Generation Platform Architecture

Before

Focus on **Transactional integrity,** performance
Quality of Service
Data Security

- ***Core Data and Transactions***
- ***Applications Drive Infrastructure***
  - *Need for Heterogeneity*
- ***Dedicated Infrastructure Typically***
- ***IT Infrastructure Attributes***
  - *Transactional Integrity*
  - *Continuous Availability*
  - *Extreme QoS and Data Protection*
- ***Pre-allocated Capacity***

Next Generation Architecture

Focus on Agility and Rapid Scale and Innovation

- ***Social, Mobile, User Interface***
- ***Parallel Application Model***
  - *Desire for Homogeneity*
- ***Shared Infrastructure***
- ***Infrastructure Attributes***
  - *Services Availability*
  - *Eventual Consistency*
  - *Recovery-oriented Computing*
- ***Pay as You Go Capacity***

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Questions? :
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