IBM

Watson and IBM i :
Building a cognitive business

Jesse R. Gorzinski
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Disruption is upon us.

The biggest taxi company owns no cars.

airbnb
The largest accommodation company owns no real estate.

Alibaba
The largest retailer carries no inventory.

facebook
The biggest media company owns no content.

This disruption is fueled by three forces.

The proliferation of different types of data.

The ability to build business in code with the API economy.

The powerful capabilities and outcomes brought on by cognitive computing.

IBM

More devices are creating more information.

1,200,000
lines of code in a smartphone

80,000
lines of code in a pacemaker

100,000,000
lines of code in a new car

5,000,000
lines of code in smart appliance

IBM

Three capabilities differentiate cognitive systems from traditional programmed computing systems…

Understanding
Cognitive systems understand like humans do.
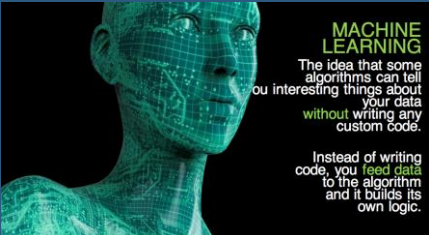
Reasoning
They reason. They understand underlying ideas and concepts. They form hypothesis. They infer and extract concepts.

Learning
They never stop learning getting more valuable with time. Advancing with each new piece of information, interaction, and outcome. They develop "expertise".

…. allowing them to interact with humans.

Cognitive Systems

MACHINE LEARNING / DEEP LEARNING

MACHINE LEARNING
The idea that some algorithms can tell you interesting things about your data without writing any custom code.

Instead of writing code, you feed data to the algorithm and it builds its own logic.

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MACHINE LEARNING – SIMPLE EXAMPLE

Has an APEX.

"Hole" in the middle, usually triangular, could be other shape.

Has a bridge between sides

Has 2 "feet" (sometimes 'pins')

MACHINE LEARNING – SIMPLE EXAMPLE

Cognitive systems forge a new partnership between man and machine.

Humans excel at:

Common Sense
Morals
Imagination
Compassion
Abstraction
Dilemmas
Dreaming
Generalization

Cognitive Systems excel at:
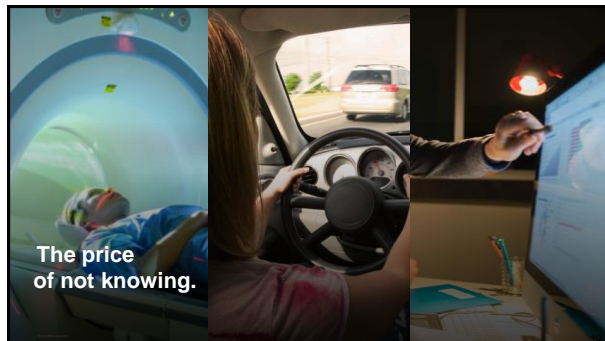
Locating Knowledge
Pattern Identification
Natural Language
Machine Learning
Eliminate Bias
Endless Capacity

The price of not knowing.

Cognitive systems rely on collections of data and information:

Data, information, and expertise create the foundation.

Examples include:

Analyst reports	Newspapers
tweets	Blogs
Wire tap transcripts	Wiki
Battlefield docs	Court rulings
E-mails	International crime database
Texts	Stolen vehicle data
Forensic reports	Missing persons data

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…and then leverage Watson APIs to apply cognitive capabilities.

50 underlying technologies

Entity Extraction	Natural Language Classifier
Sentiment Analysis	Personality insights
Emotion Analysis (Beta)	Relationship Extraction
Keyword Extraction	Retrieve and Rank
Concept Tagging	Tone Analyzer
Taxonomy Classification	Emotive Speech to Text
Author Extraction	Text to Speech
Language Detection	Face Detection
Text Extraction	Image Link Extraction
Microformats Parsing	Image Tagging
Feed Detection	Text Detection
Linked Data Support	Visual Insights
Concept Expansion	Visual Recognition
Concept Insights	AlchemyData News
Dialog	Tradeoff Analytics
Document Conversion	
Language Translation	

Retrieve and Rank

Natural Language Classifier

Tone Analyzer

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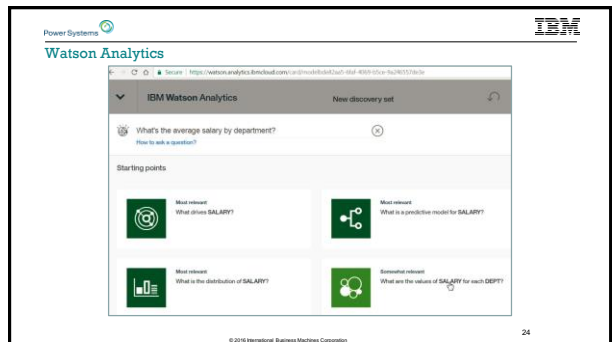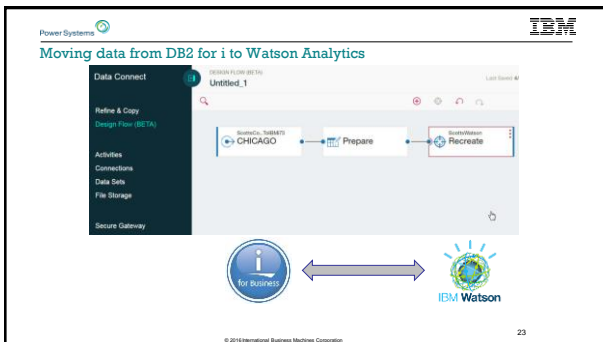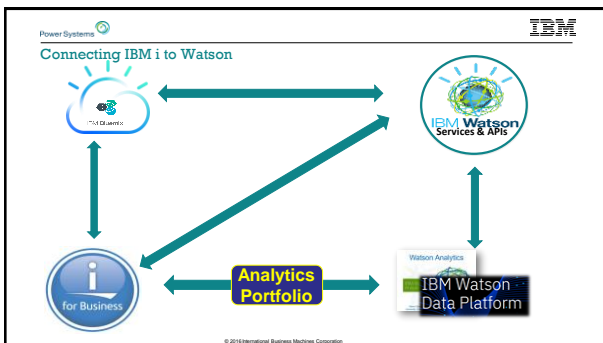The market is validating the benefits of cognitive.

"IBM Crafts a Role for Artificial Intelligence in Medicine."
THE WALL STREET JOURNAL.

"[Watson] is specifically designed to support the development of a broad range of enterprise solutions."
Deloitte.

"No doubt, Watson has the means to radically change the industry."
IDC

"IBM Watson represents a bold technological and visionary step"
FROST & SULLIVAN

"What is distinctive about IBM is the breadth of its effort to create Watson tools … for a wide range of developers."
The New York Times

"…it's not just AI algorithms themselves that have improved, but the ability to deliver them"
WIRED

"The worldwide cognitive software platforms market will grow to $30 billion by 2018, at a CAGR"
IDC

"IBM's [Watson] can help banks with complex financial operations and attack important health care problems."
FAST COMPANY

'You can't do this without Watson. -Former Sun CEO Scott McNealy. His startup, Wayin, uses Watson to trawl and drag photos.
CIO

Watson and IBM i

Slide: Connecting IBM i to Watson
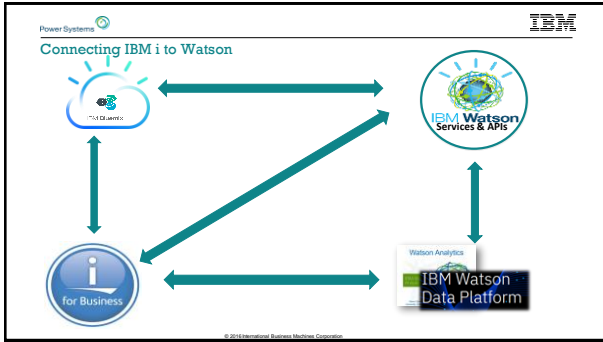
Slide: IBM i and Watson

- Analytics Portfolio
  - DB2 Web Query for i
- Asking questions using SQL
- Connecting from open source languages, RPG, etc.
- Node.JS and Python toolkits for Bluemix
- Integrated Web Services (IWS)

Slide: Connecting IBM i to Watson

Slide: Bluemix's Data Connect

Added April 2017

Sunset March 2018

Slide: Moving data from DB2 for i to Watson Analytics

Slide: Watson Analytics

What's the average salary by department?

Learning how to ask a good question

Watson Analytics & DB2 for i data
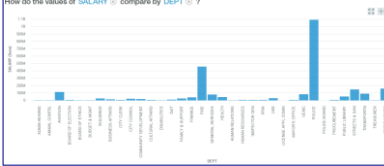
Controlled visualization

Watson Analytics & DB2 for i data
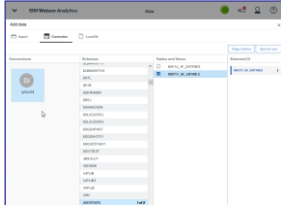
Moving data directly from DB2 for i into WA

Analysis and Discovery

Watson Data Platform

Data Catalog — Create multiple catalogs. Govern data access.

Data Science Experience — Analyze data with notebooks and models

IBM Data Refinery — Cleanse and shape data. *BETA*

- **Projects :** Organize resources for a task.
- **Community :** Find guidance and share inspiration.
- **Catalog :** Index and share data for an organization.

Watson Data Platform

Data Catalog

- Data Discovery
  - Find and discover data across multiple on-premise and cloud sources to unlock tribal knowledge and catalog new sources wherever they sit.
- Data Governance
  - Control access to data with automatic policy enforcement, intelligent data cataloging, and enterprise-grade regulatory compliance.
- 360-degree view
  - View and access all of your data assets from on-premise and cloud systems in one place.

Slide 1

Power Systems — IBM

Data Science Experience

- Data Science Experience (DSX) is a collaborative data science environment with tools (Jupyter, R, Scala) to discover and share insights. Run it on IBM Cloud, your private cloud, or on your desktop.
- Features:
  - Machine and Deep Learning
  - Open Source Technologies
  - Easy Visualizations (no programming required!)

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Slide 2

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Data Science Experience

Slide 3

Power Systems — IBM

Db2 for i

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Slide 4

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Db2 for i

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Slide 5

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Data security in Watson

Details about the data security and other topics are answered here:

https://www.ibm.com/communities/analytics/watson-analytics-blog/ibm-watson-analytics-security-frequently-asked-questions-2/
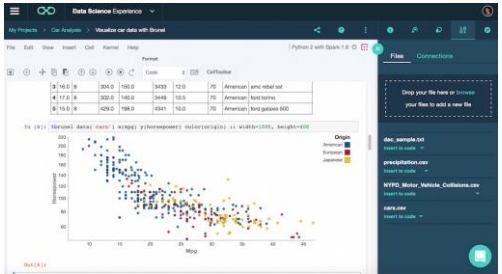
Specifications for Watson Analytics	Standards	Encryption
Data centers	SOC2 and ISO 27001 http://www.softlayer.com/compliance	
Operating system	CentOS (see diagram A above)	
Data storage platform	DB2, MongoDB	
Certifications targeted	ISO 27001 certified	
Regulatory Acts	HIPAA Ready Moving forward with FFIEC enablement	
Encryption (data at rest)		aes-cbc-essiv:sha256
Encryption (data in transit)		SSL over http. HTTPS
Logging vendor access	Syslog	

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Slide 6

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Watson and Data Preparation

Data needs to be in a certain state for input into Watson Services. And if this is an ongoing part of your analytics strategy, automating the Data prep will be desired and may consist of:

- **Data Consolidation**
  - Data spread across multiple application databases, multiple servers/LPARs – even some that is not in DB2 for i

- **Data Reorganization**
  - Watson services may expect data to be in certain formats
    - Creating single table/file or publishing XML or JSON

- **Untangling Data**
  - Only the RPG programmer understands how the data is stored:
    - "If field COMPANY = 001, join to File B, else join to File C" logic;
    - Dates stored in non date data types
    - Multiple data elements stored in a single field

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Slide 1 — The Data Warehouse

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The Data Warehouse

- Data Warehousing or Data Mart Automation
  - The Data Warehouse is still a key system of insight to support advanced analytics
  - Untangled, cleansed data is automatically added to the warehouse nightly
  - The data warehouse becomes the feed for many analytics – advanced and classic Business Intelligence

- Automates processes to ingest or publish unstructured data between DB2 and Watson
  - And automates all the data prep
  - A meta data driven solution also documents the rules the RPG programmer built into the application

Conventional Data Platform

DB2 / DB2 / DB2 / DB2

Systems of Record	Systems of Insight
RDBMS OLTP	Data Warehouse & Marts
ACID	
Structured Data	Structured Data

Transactions and Queries

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Slide 2 — DB2 Web Query DataMigrator ETL Extension

Power Systems — IBM

DB2 Web Query DataMigrator ETL Extension

- Meta Data Driven Data Prep
  - Automate consolidation, organization, "untangling" and optionally, the build of a data warehouse
  - Consolidate data from many different data sources
  - Build transforms through SQL, RPG, use of built in or DB2 functions, etc.
  - Can create flat files, relational, incorporate blobs (e.g., XML, JSON)
  - Run data flows off of IBM i job scheduler

- ETL (Extract, TRANSFORM, and Load)
  - All components run in IBM i
  - Multiple load types can be defined

- INTEGRATED with DB2 Web Query
  - Can leverage meta data created with DB2 Web Query or vice versa
  - Shared services and administration

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Slide 3 — Preparing Data For Watson

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Preparing Data For Watson; Visualizing Insights with DB2 Web Query

IBM Watson Analytics

Gain insights from Watson Analytics

Visualize/deploy insights with DB2 Web Query

IBM Watson

Bluemix Data Connect

IBM Bluemix

Secure Gateway

DB2 for i

DB2 Web Query for i with DataMigrator

ETL

Consolidate On-premise Data

DB2 for i
DB2 for LUW
Oracle
MS SQL
PostgreSQL

Power Systems(IBM i)

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Slide 4 — Watson Data Refinery (Beta)

Power Systems — IBM

Watson Data Refinery (Beta)

- Data cleaning functions
  - de-duplication
  - empty row removal
  - missing value replacement
- Text operations
  - replacement (regular expressions)
  - Concatenation
  - character padding
  - case conversion
- math operations
  - Absolute value
  - Ceiling
  - Floor
  - Square root
- Filtering, sorting, column removal, joins, merges, etc.

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Slide 5 — Watson Data Refinery (Beta)

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Watson Data Refinery (Beta)

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Slide 6 — Watson Data Refinery (Beta)

Power Systems — IBM

Watson Data Refinery (Beta)

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Slide 1:

Power Systems — IBM
For the Developer…
SQL
IBM Bluemix
IBM Watson Services & APIs
i for Business
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Slide 2:

Power Systems — IBM
For the Developer…
SQL
IBM Bluemix
IBM Watson Services & APIs
Language Translator
i for Business

PERSON	QUOTE	QUOTE_IN_ITALIANO
Thomas J. Watson Sr.	If you wan...	Se si desidera aumentare il
Thomas J. Watson Sr.	The great ...	I grandi successi di uomini
Thomas J. Watson Sr.	Nothing so...	Niente così definitivamente
Thomas J. Watson Sr.	Think	Pensaci

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Slide 3:

Power Systems — IBM
For the Developer…
IBM i languages:
Python, Node.JS, RPG
IBM Bluemix
IBM Watson Services & APIs
i for Business
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Slide 4:

Power Systems — IBM
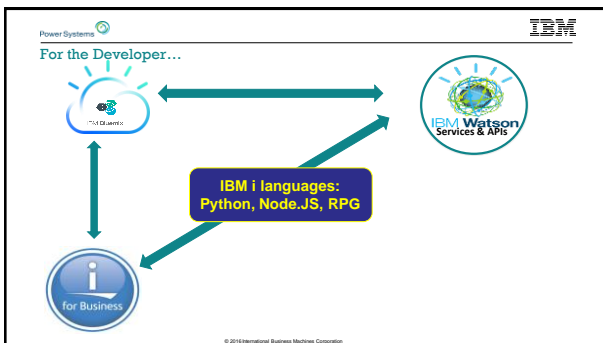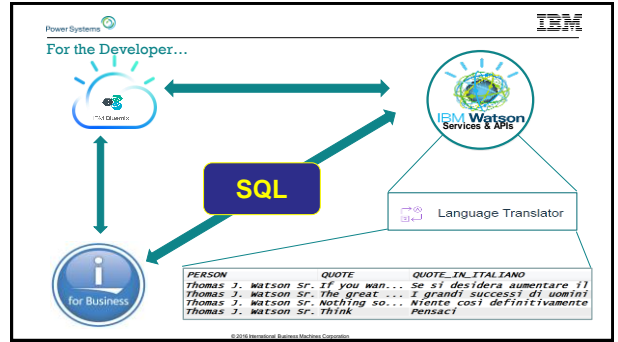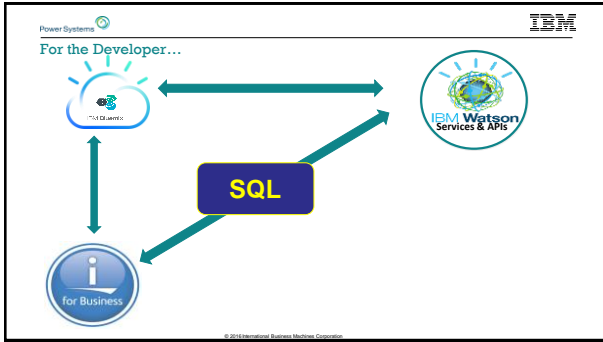
Watson API Explorer

- Use Watson API Explorer to test APIs and view live responses from the server.
  - Watson API Explorer : https://watson-api-explorer.mybluemix.net/
    "Language Translator" of Watson API Explorer is used in our sample program written by ILE RPG.

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Slide 5:

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Watson API : Watson Developer Cloud

- Enable cognitive computing capabilities in your app using IBM Watson's Language, Vision, Speech and Data APIs.

Language	**Natural Language Classifier** Classify text sentences	**Retrieve and Rank** Return answer candidates for natural language questions
	Conversation Automate interaction with end users by adding natural language interface to application	**Document Conversion** Convert a document to a new format
	Personality Insights Estimate an individual's characteristics from text	**Natural Language Understanding (Unsupported Japanese)** understand the language of short texts and make predictions about how to handle them.
	Tone Analyzer (Unsupported Japanese) Analyze text emotion, sociability and style	**Language Translator (Partially Unsupported Japanese) ※1** Translate text from one language to another
Vision	**Visual Recognition** Detect meaning included in image contents	
Speech	**Speech to Text** Convert speech to text	**Text to Speech** Convert text to speech
Data Insights	**Discovery (Unsupported Japanese)** Add cognitive search and content analysis engines to applications to identify patterns, trends, and actionable insights that help to make better decisions	
	Tradeoff Analytics (Unsupported Japanese) Support tp make better choices when faced with multiple	

https://www.ibm.com/watson/developercloud/services-catalog.html
※1 For the Language Translator, only in the news domain Japanese is supported.
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Slide 6:

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Connecting RPG to Watson

- Details on how to the following link.
  - Paul Tuohy "RPG TALKS TO WATSON" Copyright © 2017 IT Jungle
    https://www.itjungle.com/2016/09/27/fhg092716-story01/

RPG TALKS TO WATSON

September 27, 2016   Paul Tuohy

Note: The code accompanying this article is available for download here.

Yes, RPG can talk to Watson. No special software required, nothing to install, nothing to configure. You just need to be on V7R1, have the ability to use embedded SQL and write just a few lines of code—none of which are complicated. To see how it works, all you have to do is copy/paste the display file and RPG code in this article, compile and call.

On the off chance that you don't know what Watson is, Watson is the IBM computer that, in 2011, competed on the U.S. quiz show Jeopardy! against former winners Brad Rutter and Ken Jennings. Watson won by a mile.

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Slide 1

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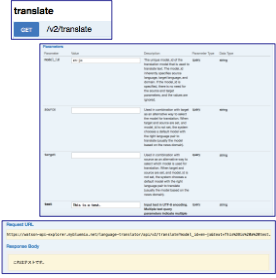### Language Translator
- Request URL -

- Clicked on the link for Language translation
- Under Translate/Get, Click on the option to "Translates the input text from the source language to the target language."
  - Input the following and click **Try it out!**
    - model_id : ja-en
    - text : This is a test.
- "Request URL" is displayed
  - https://watson-api-explorer.mybluemix.net/language-translator/api/v2/translate?model_id=**en-ja**&text=**This%20is%20a%20test.**
  - The variable parts being the from and two languages (ja-en) and the encoded text (%20 is the encoding for a space).

translate
GET /v2/translate

Slide 2

Power Systems — IBM

RPG Sample Program using Watson API
- transLate_Text() Sub procedure -

- Sample source : ILERPG "TOWATSON.SQLRPGLE" 3/3
  - C) Construct the URL to make a REST call to Watson to do the translation.
  - **D) Use HTTPGETCLOB to make a REST call to Watson. The returned value is placed in the "textBack" CLOB defined earlier.**
  - E) If data was returned, retrieve the indicated length of data "textBack_Len" from "textBack_Data".

```
C  str1 ='https://watson-api-explorer.mybluemix.net/' +
          'language-translator/api/v2/translate?model_id=' +
          fromLang + '-' + toLang + '&text='+ str2;
   exec SQL
D  values char(systools.httpgetclob(:str1, ''), 256)
   into :textBack;
   toText = *blanks;
E  if (textBack_Len >0);
     toText =%subSt(textBack_Data: 1: textBack_Len);
   endIf;
   return;
   end-Proc;
```
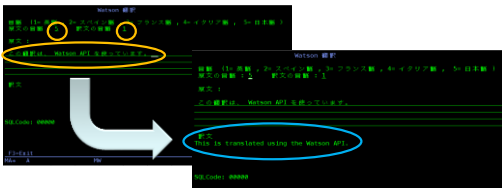
Slide 3

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RPG Sample Program using Watson API
- Call program -

- CALL TOWATSON
  - Input the parameters of "Original language", "Translation language", "Original sentence" and enter
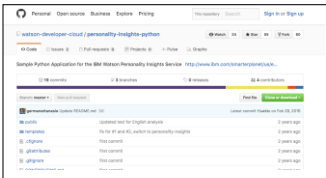
Slide 4

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Python and Watson

- IBM has published many examples of how to talk to Watson.
  - e.g. Python "Personality Insights" app
  - https://github.com/watson-developer-cloud/personality-insights-python

Slide 5

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Python and Watson

Learn more about this service   Watson Community   Contact Us   Fork

Personality Insights Python Starter Application
The Watson Personality Insights service uses linguistic analytics to extract a spectrum of cognitive and social characteristics from the text data that a person generates through text messages, tweets, posts, and more.

Keep Exploring:
Documentation
API Details

Try the service

Mr. Vice President, my old colleague from Massachusetts and your new Speaker, John McCormack, Members of the 87th Congress, ladies and gentlemen:

This week we began anew our joint and separate efforts to build the American future. But, sadly, we build without a man who linked a long past with the present and looked strongly to the future. "Mister Sam" Rayburn is gone. Neither this House nor the Nation is the same without him.

Clear   Analyze

Slide 6
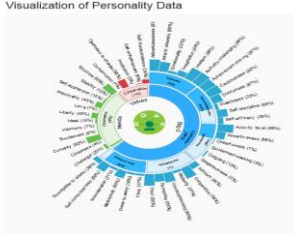
Power Systems — IBM

Python and Watson

Data Behind Your Personality   Visualization of Personality Data

Name	Value ± Sampling Error
Big 5	
Openness	99% (± 5%)
Adventurousness	93% (± 5%)
Artistic interests	50% (± 10%)
Emotionality	21% (± 4%)
Imagination	44% (± 6%)
Intellect	99% (± 5%)
Authority-challenging	98% (± 3%)
Conscientiousness	63% (± 7%)
Achievement striving	87% (± 9%)
Cautiousness	92% (± 9%)
Dutifulness	66% (± 5%)
Orderliness	23% (± 6%)
Self-discipline	66% (± 4%)
Self-efficacy	34% (± 9%)
Extraversion	39% (± 5%)
Activity level	98% (± 7%)
Assertiveness	57% (± 6%)
Cheerfulness	7% (± 10%)
Excitement-seeking	23% (± 6%)
Outgoing	12% (± 7%)
Gregariousness	2% (± 5%)

Slide 1

IBM
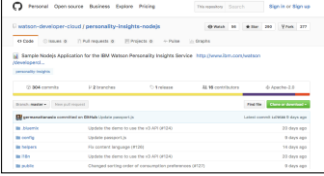
Node.JS and Watson

- Personality Insights
  - Node.JS version
  - Output in a different format
  - https://github.com/watson-developer-cloud/personality-insights-nodejs

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Node.JS and Watson

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Node.JS and Watson

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Visual Recognition

Visual Recognition

Quickly and accurately tag, classify and search
visual content using machine learning.

Get started free   View demo

https://www.ibm.com/watson/services/visual-recognition/

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Slide 6

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Visual Recognition

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Slide 1

Can Node.JS and Python programs integrate with IBM i data? YES!
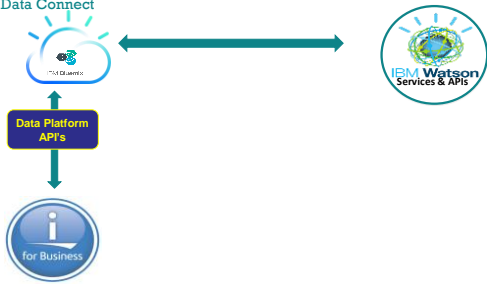
- IBM i integration delivered with the languages
- Watson integration delivered with the languages

Slide 2

Data Connect

Data Platform API's

IBM i for Business

IBM Watson Services & APIs

Slide 3

For the Developer…

Python & Node.JS toolkits for BlueMix

IBM i for Business

IBM Watson Services & APIs

Slide 4
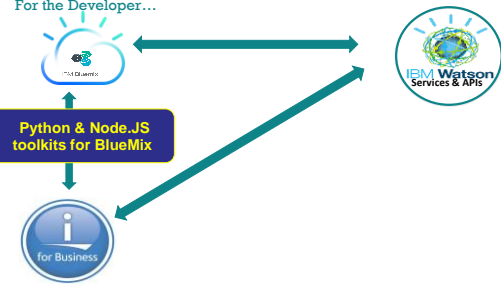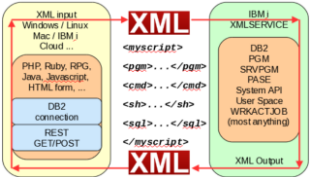
Enabling easy extension of OSS for IBM i - XMLService

- Allows access to IBM i programs, service programs, shell commands, and even DB2!
- Can be called locally or remotely, stateful or stateless, very flexible!
- Toolkits are written for several languages, to make it even easier!

XML input
Windows / Linux
Mac / IBM i
Cloud …

PHP, Ruby, RPG, Java, Javascript, HTML form, …

DB2 connection

REST GET/POST

```
<myscript>
<pgm>...</pgm>
<cmd>...</cmd>
<sh>...</sh>
<sql>...</sql>
</myscript>
```

IBM i XMLSERVICE
DB2
PGM
SRVPGM
PASE
System API
User Space
WRKACTJOB
(most anything)

XML Output

Slide 5
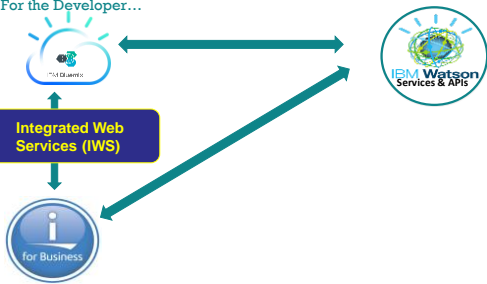
Python and Node.JS toolkits

- Node.JS itoolkit
  - https://bitbucket.org/litmis/nodejs-itoolkit

- Python itoolkit-lite
  - http://yips.idevcloud.com/wiki/index.php/XMLSERVICE/Python
  - https://bitbucket.org/litmis/python-itoolkit

Slide 6

For the Developer…

Integrated Web Services (IWS)

IBM i for Business

IBM Watson Services & APIs

Slide 1

Power Systems   IBM

Integrated Web Services (IWS) server enables IBM i APIs

- IWS Integrated in IBM i
  - First delivered in 2008 – SOAP only
- Since 2016 also delivers RESTful APIs with Open API specifications
- Wizard based creation
  - intuitive web-based graphical interface – just point and click
  - developers with or without IBM i skills can create RESTful APIs
- No new programming languages or development environments to learn
- Supports standard JSON and XML message formats
  - Translates to and from format of IBM i programs

Note: z/OS Connect is comparable to what IBM i has but IBM i easier to use and seems to be a nicer way to deploy programs as RESTful web services (based on AIX development comments)

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Slide 2

Power Systems   IBM
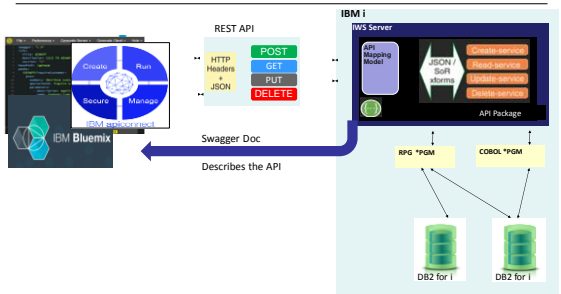
Swagger is the key to integration

- A Swagger document is the REST API equivalent of a WSDL document for a SOAP-based web service
  - Specifies the list of resources that are available in the REST API and the operations that can be called on those resources
  - Specifies the list of parameters to an operation, including the name and type of the parameters

- Delivered on IWS end of 2016 (@ IBM i 7.1 and higher)

- Allows IBM i RESTful APIs to be exposed in various platforms, such as **IBM Bluemix Platform** and **IBM API Connect**

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Slide 3

Power Systems   IBM

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Slide 4

Power Systems   IBM

IWS and Web Services example

- Last year, we published an article with an example of using IWS to expose IBM i logic to IBM Cloud

- http://ibmsystemsmag.com/blogs/open-your-i/november-2017/ibm-cloud-watson-and-web-services-help-application/
- https://ibm-i-watson-test.mybluemix.net/

- Basic concepts:
  - IWS to expose legacy RPG logic as web services
  - Consumption of web services from IBM Cloud
  - Integration with Watson API's:
    - Watson Natural Language Understanding service
    - WeatherCompany Data service
    - Watson Discovery service

Slide 5
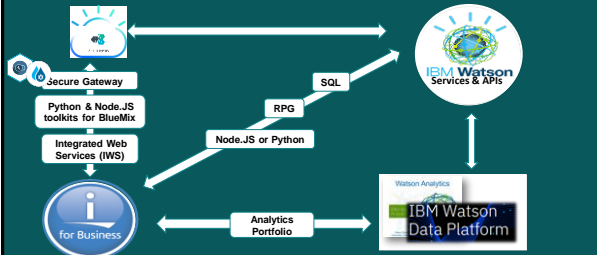
Power Systems   IBM

From green screen to IBM Cloud

Slide 6

Power Systems   IBM

Connecting IBM i to Watson

Slide 1

IBM Systems Hardware Client Technical Team

🎋 TAKIGAWA CO.,LTD.

TAKIGAWA CO,. LTD. – Upgrade from POWER5 to POWER8 as IBM i Cognitive Platform

IMT/Japan, Industory: Enterprise
Client info: TAKIGAWA is trading company of hairdressing, beauty, esthetic and nail products in Japan.

Challenge
- TAKIGAWA has been using IBM i 5.4 on POWER5 for nine years as mission critical system.
- With its increasing computing demand, it requires the latest technology/solution to accelerate their business. Client wants to design the next system with IBM.
- Client needs:
  - IBM as a technical advisor
  - More performance
  - Cost Optimization

Solution
- IBM proposed POWER8 and IBM i 7.3 with Watson Analytics as cognitive platform focused on BI. Demonstrate and hold a workshop of DB2 Web Query, DataMigrator for i, and Watson Analytics.
- Proposed solution has three BI levels because it's first BI for client:
  - First level: DB2 WebQuery for i Standard Edition, to visualize and analyze IBM i data.
  - Second level: In addition, include DataMigrator for i to BI with outside of IBM i.
  - Third level: Watson Analytics helps DB2 WebQuery for i as full-time data scientist, to enables smart data discovery and get new insights from client data.
- Keep IBM i processor group and core license to get sufficient capacity to run new BI workload.
- Rational Developer for i to modernize development environment and to develop new application with open source language.

Benefits
- S814 POWER8 Server increase 2.6x performance(CPW) compared to their existing POWER5, client can run new workloads like BI to build new strategies for business.
- IBM i 7.3 provides new capabilities for driving their business, temporal support and enhanced OLAP function help client to perform more advanced analytics.
- Client choose the first level BI solution as a starting point of their IT transformation in 2017. and business partner provide education of DB2 Web Query for i and RDi to acquire new skills.
- Client is considering advanced analytics, IBM and business partner have second and third level BI capabilities with additional software/services. With DataMigrator for i, it enables them to increase data sources for analytics by gathering from outside of IBM i. With Watson Analytics, it helps more advanced analytics to gaining new insights from stored in IBM i.
- The client understood the advanced capabilities and potential of POWER8 and IBM i 7.3 to expand their business.

Team
- Takeshi Sugata: POWER Tech. Sales
- Ayako Koichi: Systems HW Sales
- IBM Business Partner: NDI SOLUTIONS LTD.

Takeshi Sugata Ayako Koichi

Slide 2

IBM Systems Hardware Client Technical Team

Proposed Solution Architecture

- H/W
  - Power System 814 x1
  - POWER8 3.02GHz 6 cores, 64GB Memory
  - 283 GB 15Krpm HDD x18, Mirror
  - IBM i 7.3
  - One partition(non-LPAR)
- S/W
  - IBM i 7.3
  - DB2 Web Query for i Standard Edition
  - DB2 Web Query for i Developer Workbench User
  - Rational Developer for i RPG and COBOL V9.5.1
- Revenue:SHW: 0.11 M$

Technical Benefits and IBM Differentiation
- Proposed POWER8 server provides higher performance and then existing system with the same number of cores.(2.6x CPW/core)
- New server have 2.1x capacity to store increasing data.
- IBM i Architecture enables easy migration and version up.
- DB2 Web Query for i provides all in one BI, it is high security and real-time analytics.
- Developer workbench provides HTML composer component for dashboards.
- IBM demonstrated IBM i with Watson Analytics solution(third level solution), client recognized BI is important to build new strategy of business. Client decided to include BI solution.
- New system can be easily added DataMigrator ETL Extension and direct connection to Watson Analytics.
- IBM continues holding workshops with client to adapt higher level BI for expanding their business.

Architecture Diagram

IBM Watson Analytics — Analyze and visualize IBM i data
Gain insights form Watson Analytics
Real-time BI on IBM i
Gathering Data from outside of IBM i
DB2 Web Query for i
DataMigrator ETL Extension
DB2 for i
Power System S814 (IBM i)
Future plan

Slide 3

JORI — The art of fine seating

Cognitive Systems

How does luxury manufacturer JORI help customers find their perfect furniture?

- 100+ Offers 100+ seating frames, fabrics and finishes
- Wanted to help customers visualize possible combinations
- Created a 3D configurator with open source software on IBM i
- Inspires customers to create their ideal designs
- 50% faster deliveries, as configurator accelerates manufacturing
- Will use IBM Watson® cognitive technology to help consumers find their preferred fabric

Slide 4

Using IBM i, a company of Textile industry in Japan is starting to analyze the sales data with Watson Analytics

Analyze the sales data using Watson Analytic to understand sales trends. Utilize it for their product planning and sales activities.

Points of this project
- Secure connection between IBM i and Watson Analytics using Secure Gateway
- Use Data Connect to upload large data directly from IBM i to Watson Analytics
- Regularly upload with scheduling function of Data Connect

Solution
- Watson Analytics can graph data from various perspectives and grasp the trend with easy operation. (No Excel skill required)
  - They can analyze while sharing the screen during the meeting

Infrastructure

IBM Cloud · Data Connect · Secure Gateway · Watson Analytics · Secure tunnel · Secure Gateway Client · POWER8 · Db2 for i · Windows

Benefits
- Grasp the sales trend by season and size from data and expect to reflect on campaign plan and production plan

Future plans
- Analysis by combining sales data on IBM i with Big data on IBM Cloud
- Reflect analysis result in variable selection at modeling in SPSS Modeler

Customer profile
Head office: Osaka
Capital: 80 million yen
Number of Employees: Approximately 100
Business description: Planning, production, sale of textile products

Slide 5

繊維業界 某社様：商品の売り上げ相関を把握！ IBM i のデータをWatson Analyticsで分析開始

売上データをIBM Watson Analyticを使用して分析し、売上の傾向を把握。商品企画や営業活動への反映を検討。

プロジェクトのポイント
- Secure Gatewayを使用し、IBM i 上のデータをセキュアに転送
- Data Connectを使用し、大容量のデータをIBM i からWatson Analyticsに直接アップロード
- Data Connectのスケジュール機能で定期的にアップロード

Watson Analyticsの選定理由
- 簡単な操作で、データをさまざまな視点でグラフ化し、傾向の把握が可能（Excelのスキル不要）
  - 会議中に画面を共有しながら、分析が可能

システム構成図

IBM Cloud · Data Connect · Secure Gateway · Watson Analytics · セキュアトンネル · Secure Gateway Client · POWER8 · Db2 for i · Windows

企業成長への効果および今後の計画
- 売上データから季節やサイズごとの売れ行き傾向を把握し、キャンペーン計画や生産計画への反映が期待できる

今後の計画
- IBM Cloudで提供されているビッグ・データとIBM i 上の売上データを連携した分析
- SPSS Modelerでのモデリング時の変数選定に分析結果を反映

お客様プロフィール
本社：大阪府
資本金：8,000万円
従業員数：約100名
業務内容：繊維製品の企画、生産、販売

Slide 6

The Computer Merchants DNA

INFRASTRUCTURE SOLUTIONS · MANAGED SERVICES · UTILITY & CLOUD SOLUTIONS

Computer Merchants

What we set out to do

- AUTOMATE AND STREAMLINE
- ENHANCE EMPLOYEE MORALE
- CREATE SYSTEMS OF ENGAGEMENT

Computer Merchants

Where we started

IBM Platinum Business Partner

Computer Merchants

Transparency

CRM
Sales
Purchasing
Inventory
Warehouse & Distribution
Production
Human Resources
Governance
Finance

Business Intelligence

Machine Learning

Phone System
Email
Support
Mobility
Social

LAASA

Computer Merchants
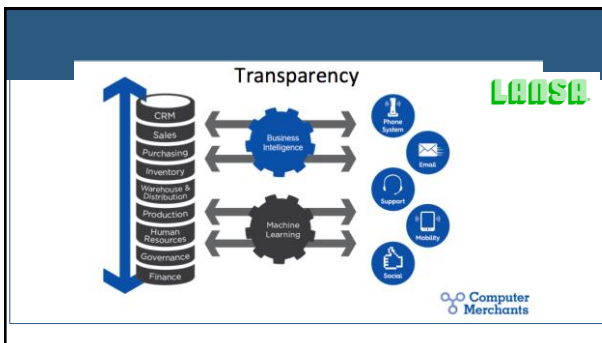
The results

Happier staff / less repetitive work / higher value work
Customers are more informed
Lowered our cost of sale
Grown our income

Computer Merchants

Oil & Gas
80,000 sensors in a facility produce 15 petabytes of data

Public Safety
520 terabytes of data are produced by New York City's surveillance cameras each day

Energy & Utilities
680m+ smart meters will produce 280 petabytes of data by 2017

Healthcare
The equivalent of 300 million books of health related data is produced per human in a lifetime

What will you do with Watson?