

VS01 - z/VSE Lösungen im kognitiven Umfeld

Ingo Franzki



Trademarks

The following are trademarks of the International Business Machines Corporation in the United States, other countries, or both.

Not all common law marks used by IBM are listed on this page. Failure of a mark to appear does not mean that IBM does not use the mark nor does it mean that the product is not actively marketed or is not significant within its relevant market.

Those trademarks followed by ® are registered trademarks of IBM in the United States; all others are trademarks or common law marks of IBM in the United States.

For a complete list of IBM Trademarks, see www.ibm.com/legal/copytrade.shtml:

*, AS/400®, e business(logo)®, DBE, ESCO, eServer, FICON, IBM®, IBM (logo)®, iSeries®, MVS, OS/390®, pSeries®, RS/6000®, S/30, VM/ESA®, VSE/ESA, WebSphere®, xSeries®, z/OS®, zSeries®, z/VM®, System i, System i5, System p, System p5, System x, System z, System z9®, BladeCenter®

The following are trademarks or registered trademarks of other companies.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency, which is now part of the Office of Government Commerce.

* All other products may be trademarks or registered trademarks of their respective companies.

Notes:

Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.

IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.

All customer examples cited or described in this presentation are presented as illustrations of the manner in which some customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics will vary depending on individual customer configurations and conditions.

This publication was produced in the United States. IBM may not offer the products, services or features discussed in this document in other countries, and the information may be subject to change without notice. Consult your local IBM business contact for information on the product or services available in your area.

All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Prices subject to change without notice. Contact your IBM representative or Business Partner for the most current pricing in your geography.

Notice Regarding Specialty Engines (e.g., zIIPs, zAAPs and IFLs):

- Any information contained in this document regarding Specialty Engines ("SEs") and SE eligible workloads provides only general descriptions of the types and portions of workloads that are eligible for execution on Specialty Engines (e.g., zIIPs, zAAPs, and IFLs). IBM authorizes customers to use IBM SE only to execute the processing of Eligible Workloads of specific Programs expressly authorized by IBM as specified in the "Authorized Use Table for IBM Machines" provided at http://www.ibm.com/systems/support/machine_warranties/machine_code/aut.html ("AUT").
- No other workload processing is authorized for execution on an SE.
- IBM offers SEs at a lower price than General Processors/Central Processors because customers are authorized to use SEs only to process certain types and/or amounts of workloads as specified by IBM in the AUT.

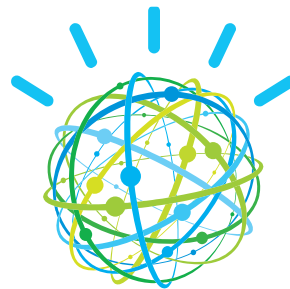
What is Cognitive Computing ?

Cognitive: Psychological processes involved in acquisition and understanding of knowledge, formation of beliefs and attitudes, and decision making and problem solving.

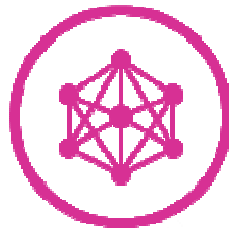
Cognitive computing =
Digital Business +
Digital Intelligence



Data understanding
& interpretation



Learn &
adapt

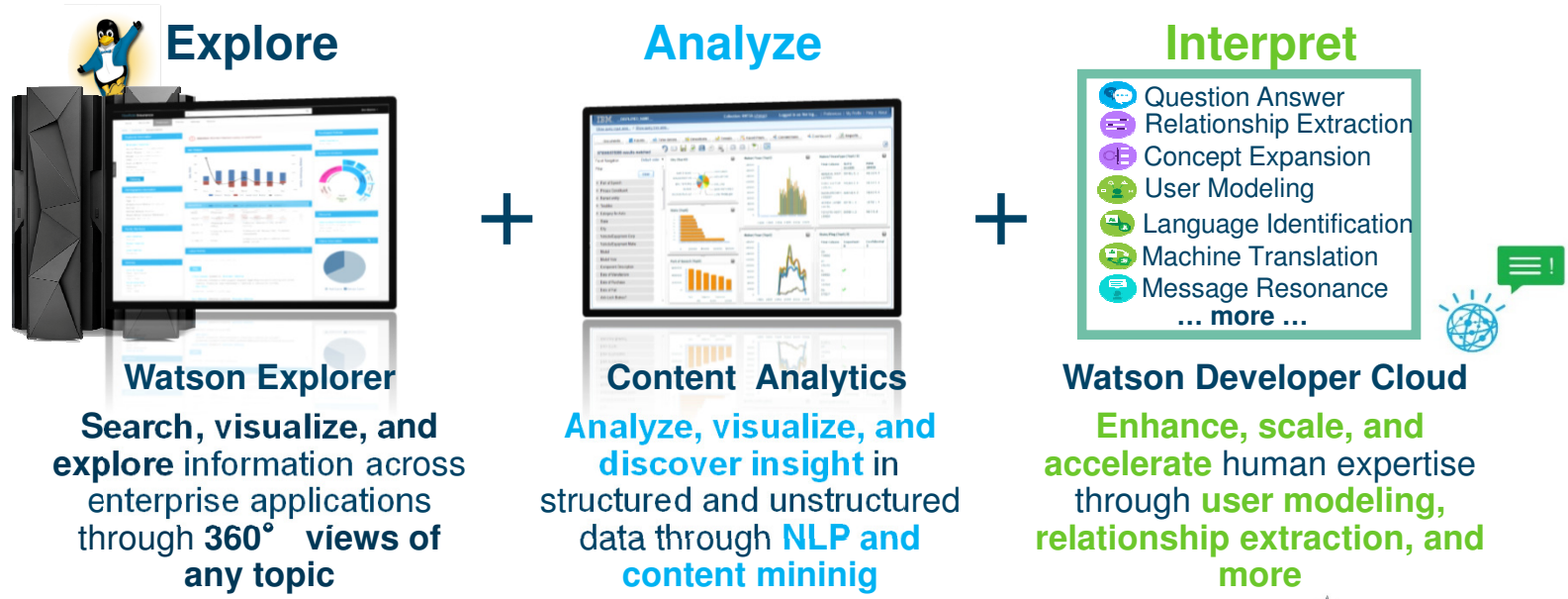


Decision

Watson Technology – the Digital Intelligence for Cognitive Computing

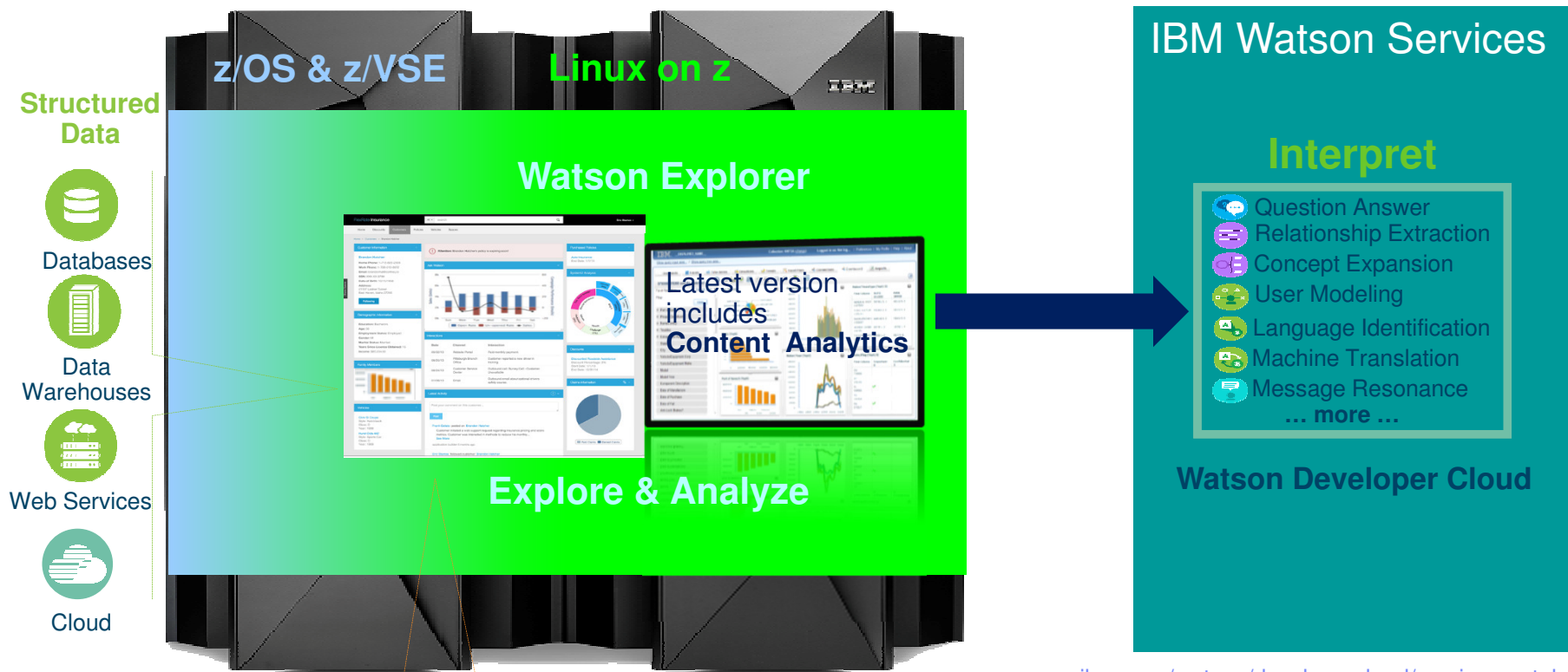
Cognitive Computing = Digital Business + Digital Intelligence

- Watson is the first commercially available cognitive computing capability, representing a new era in computing.
- Watson analyzes high volumes of data and processes information more like a human than a computer
 - by understanding natural language,
 - generating hypotheses based on evidence,
 - learning as it goes
- The three pillars of Watson:



Watson Explorer is running on z Systems

Makes data from enterprise and non-enterprise silos easily accessible

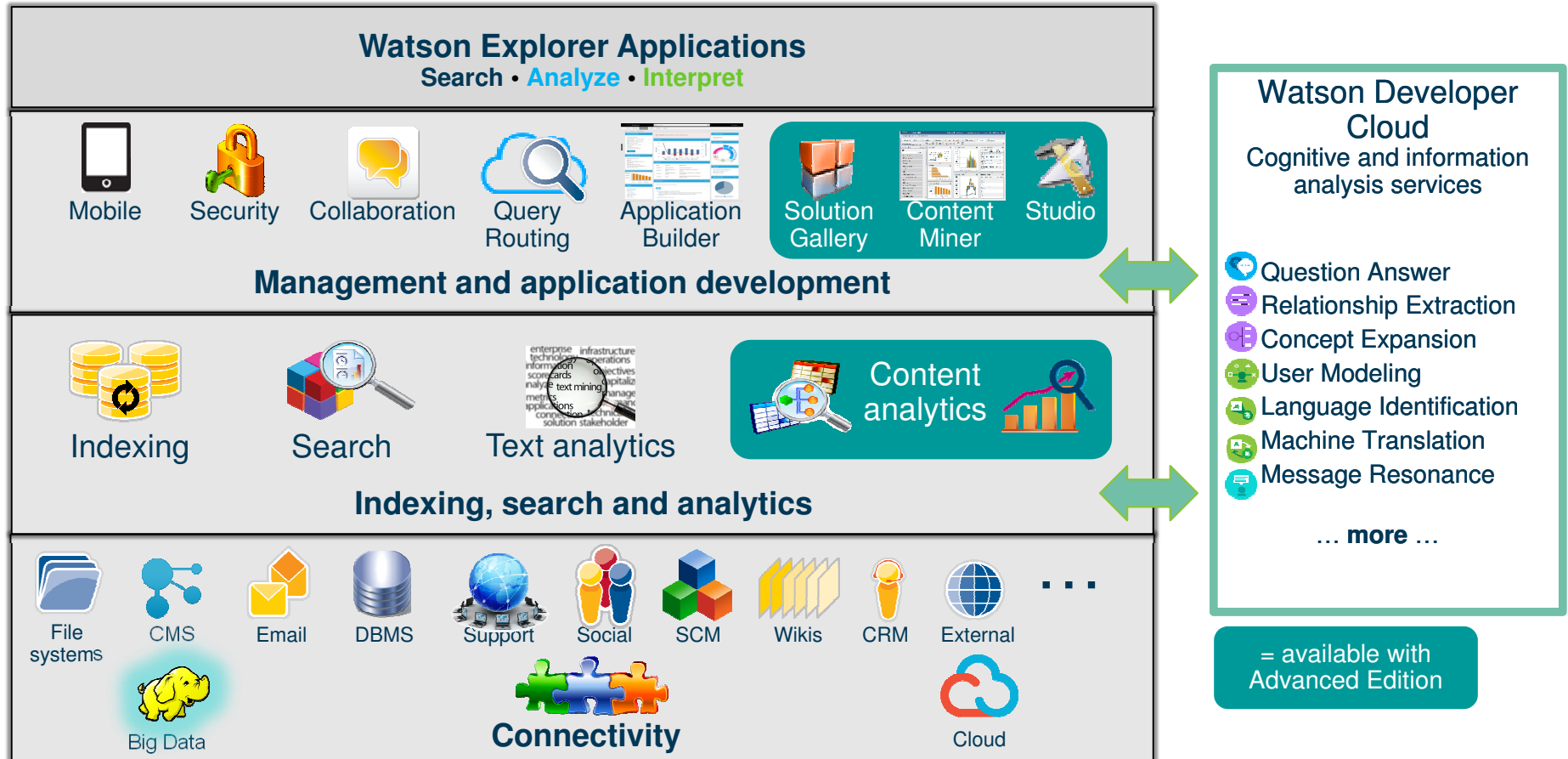


ibm.com/watson/developercloud/services-catalog.html

Unstructured Content

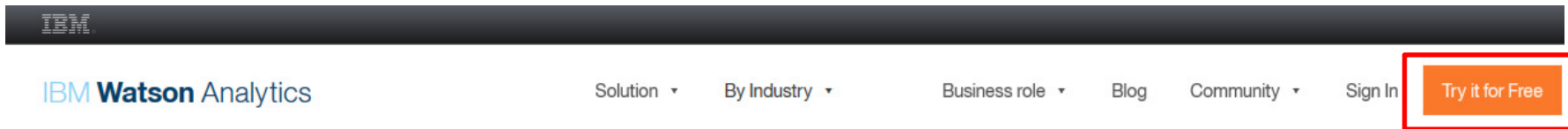
- Collaboration
- Web
- Email
- File Systems
- Content Management
- Cloud
- More...

Watson Explorer Component View

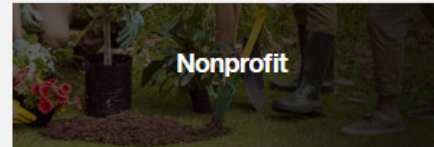
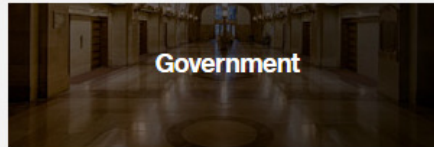
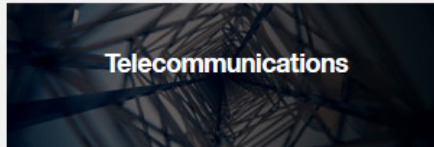
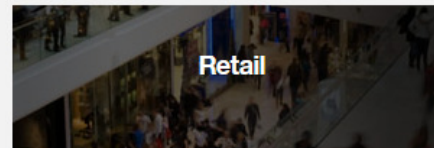
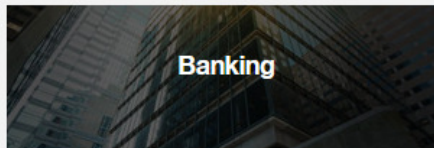


Experience IBM Watson Analytics – made easy

<http://www.ibm.com/analytics/watson-analytics/by-industry>



Select an industry below to learn more.



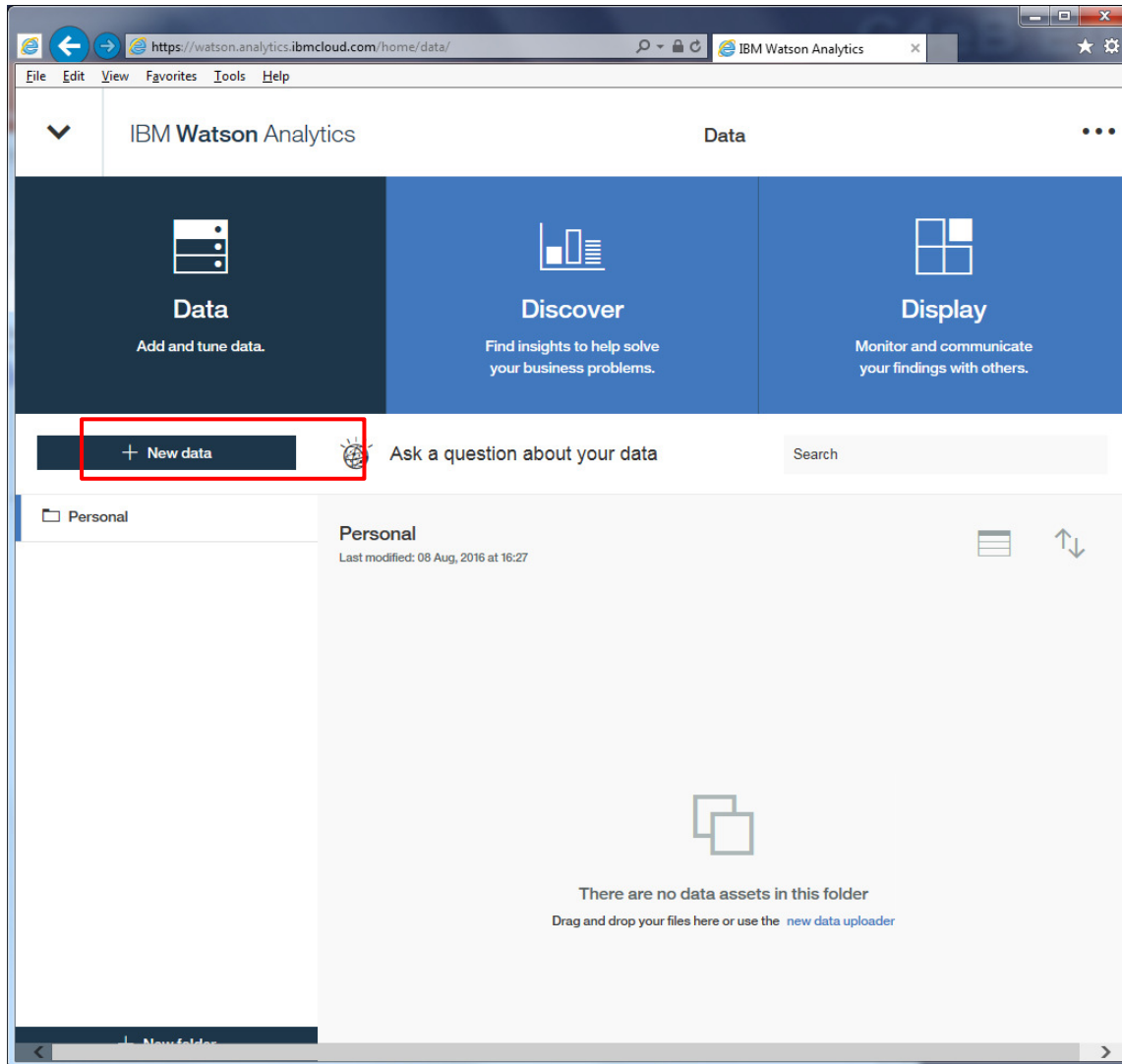
Bring your data to life. Create a free account here.

Try it for Free



IBM Watson Analytics – try it for free


<https://watson.analytics.ibmcloud.com/login>




- An IBM-ID is needed for registration
- Free Edition:
 - 1 user
 - 1 MB of storage included
 - Professional single user trial for first 30 days
 - Limited access to IBM Analytics Exchange offerings
- Additional offerings are available, too


▼ IBM Watson Analytics Data


Add data


 Import


 Connection


 Local file



Sample Data


Box


Dropbox


IBM Cognos Report


OneDrive



Twitter


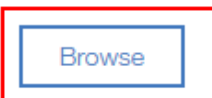
▼ IBM **Watson** Analytics Data

Add data

 Import

 Connection

 Local file


Drag and drop your file here.
Or


STOREID	STORENAME	LOCSTREET	LOCCITY	LOCZIP	LOCCOUNTRY	LOCREP	SIGNINGS	PROFIT	GROWTH	LDATE	WEBPIC1	WEBPIC2
"000001"	"Frechdax	"	"Elbeplatz 42	"	"Boeblingen	"	"71032	"	"Germany			
"000002"	"Hugo	"	"Reeperbahn 15	"	"Hamburg	"	"20000	"	"Germany			
"000003"	"Hotel Sacher	"	"Hauptstr. 15	"	"Wien	"	"11111	"	"Austria			
"000004"	"Cafe Frech	"	"Postplatz 3	"	"Boeblingen	"	"71032	"	"Germany			
"000005"	"Cafe Frech Filiale 3	"	"Seestrasse 5	"	"Boeblingen	"	"71032	"	"Germany			
"000006"	"Cafe Frech Filiale 2	"	"Schoenaicherstrasse	"	"Boeblingen	"	"71032	"	"Germany			
"000007"	"Cafe Frech Filiale 3	"	"Blumenstrasse	"	"Boeblingen	"	"71034	"	"Germany			
"000008"	"Cafe Frech Filiale 4	"	"Dahlienstrasse 5	"	"Boeblingen	"	"71032	"	"Germany			
"000009"	"Cafe Frech Filiale 5	"	"Rosenstrasse 4	"	"Boeblingen	"	"71034	"	"Germany			
"000010"	"Cafe Mueller	"	"Marienplatz 1	"	"Munich	"	"0000080000"	"	"Germany			
"000012"	"Cafe Howard	"	"Harbor Road 3	"	"Sydney	"	"12345	"	"Australia			
"000013"	"McDonlads	"	"Main Street 2	"	"Perth	"	"30000	"	"Australia			
"000014"	"Cafe Dehaene	"	"Rue de Sol 1	"	"Brussels	"	"10000	"	"Belgium			
"000015"	"Cafe Stojanow	"	"Main Street 3	"	"Sofija	"	"10000	"	"Bulgaria			
"000016"	"Cafe Chretien	"	"Main Street	"	"Toronto	"	"10000	"	"Canada			
"000017"	"Cafe Tudjman	"	"Main Street	"	"Zagreb	"	"10000	"	"Croatia			
"000018"	"Cafe Rasmussen	"	"Main Street	"	"Copenhagen	"	"10000	"	"Denmark			
"000019"	"Cafe Lipponen	"	"Main Street	"	"Helsinki	"	"10000	"	"Finland			
"000020"	"Cafe Jospin	"	"Main Street	"	"Paris	"	"10000	"	"France			
"000021"	"Cafe Simitis	"	"Main Street	"	"Athens	"	"0000020000"	"	"Greece			
"000022"	"Strauss	"	"Main Street	"	"Vienna	"	"0000010000"	"	"Austria			
"000023"	"Cafe McAleese	"	"Main Street	"	"Dublin	"	"30000	"	"Ireland			
"000025"	"Cafe Jean	"	"Main Street	"	"Luxembourg	"	"10000	"	"Luxembourg			
"000026"	"Cafe Kok	"	"Main Street 8	"	"Amsterdam	"	"10000	"	"Netherlands			
"000027"	"Cafe Harald V	"	"Main Street 9	"	"Oslo	"	"10000	"	"Norway			
"000028"	"Cafe Guterres	"	"Main Street 18	"	"Lisboa	"	"10000	"	"Portugal			
"000029"	"Cafe Kucan	"	"Main Street 77	"	"Ljublijana	"	"10000	"	"Slovenia			
"000030"	"Cafe Juan Carlos	"	"Main Street 12	"	"Madrid	"	"10000	"	"Spain			
"000031"	"Cafe Zampino	"	"Main Street 1	"	"Zuerich	"	"20000	"	"Switzerland			
"000032"	"Cafe Car Gustav	"	"Main Street 3	"	"Stockholm	"	"10000	"	"Sweden			
"000033"	"Cafe Demirel	"	"Main Street 12	"	"Ankara	"	"30000	"	"Turkiye			
"000034"	"Cafe Blair	"	"Downing Street 11	"	"London	"	"10000	"	"UK			
"000035"	"Cafe Clinton	"	"White House 3	"	"Washington	"	"10000	"	"USA			
"000036"	"Cafe Woddy Allen	"	"Wall Street 6	"	"New York	"	"20001	"	"USA			
"000037"	"IBM Cafeteria	"	"South Road	"	"Poughkeepsie	"	"21000	"	"USA			
"000038"	"Cafe Gates	"	"Main Street 18	"	"Seattle	"	"30000	"	"USA			
"000039"	"Cafe Diegel	"	"Main Street 77	"	"Denver	"	"35000	"	"USA			
"000040"	"Cafe Hemigway	"	"Harbor Road 4	"	"Key West	"	"67840	"	"USA			
"000041"	"Cafe Orban	"	"Main Street 3	"	"Budapest	"	"10000	"	"Hungary			

Example data exported from a VSE/VSAM cluster

IBM Watson Analytics Data

Add data


Import Connection Local file


CSV FFSTores.csv

Browse


Cancel Import

+ New data

 **Ask a question about your data**

 **Personal**

Personal
Last modified: 08 Aug, 2016 at 16:27

FFSTores 

30 Aug, 2016 at 15:29

69% Quality

CSV

...

IBM Watson Analytics New discovery set



Ask a question about your data

[How to ask a question?](#)

FFSTores
30 Aug, 2016 at 15:29



Starting points

[Show Next](#) >



What drives PROFIT?



What are the most common values of LOCCITY?



What are the connections between GROWTH and LOCREP?



What is the contribution of PROFIT over LDATE by WEBPIC2?

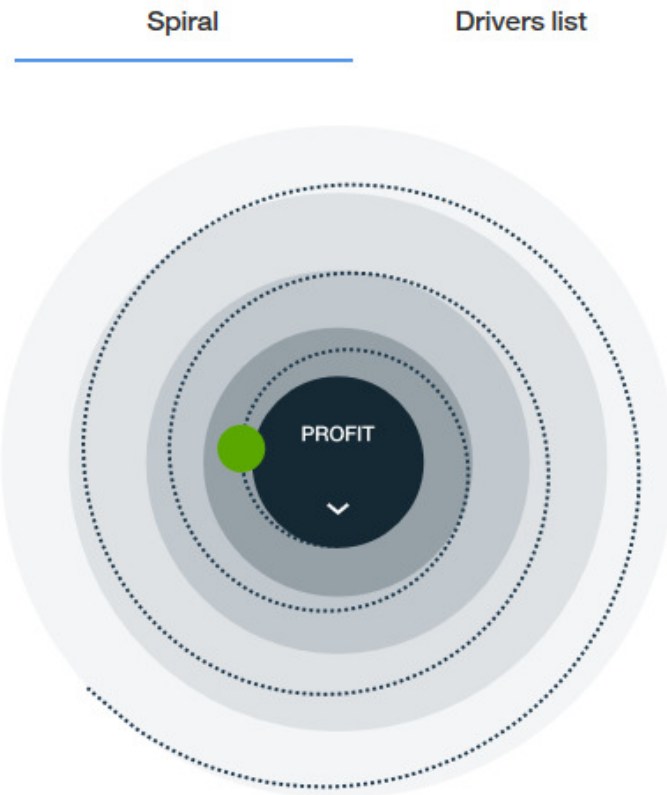


What is the trend of PROFIT over LDATE by LOCREP?



How do the values of PROFIT compare by LDATE and LOCZIP?

What drives PROFIT ⊗ ?



Discoveries

Top LDATE by PROFIT

"Map.gif "	<div style="width: 80%;"></div>	\$62.6k
"Map1.gif "	<div style="width: 2%;"></div>	\$1,500

PROFIT by LOCCITY

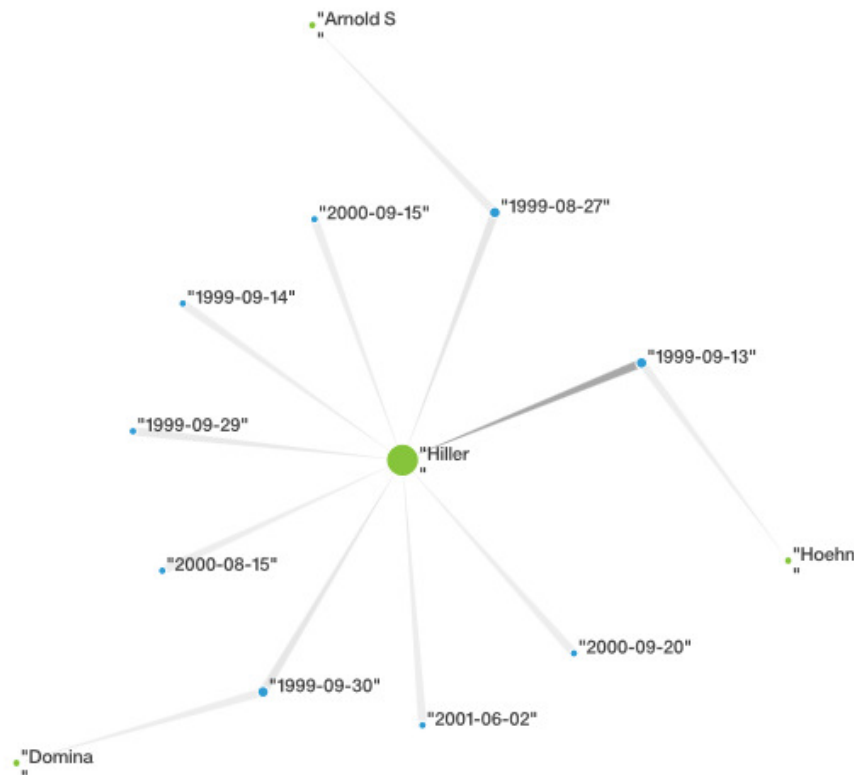
*Boeblingen	Highest
*Madrid	Median
*Munich	Lowest

Top LOCCOUNTRY by PROFIT

*USA	Large Circle
*Germany	Medium Circle
*Australia	Small Circle

PROFIT ▾

What are the connections between **GROWTH** and **LOCREP** ?



Discoveries

Top LOCREP by PROFIT

"Hiller	<div style="width: 100%; height: 10px; background-color: #008000;"></div>	\$51.1k
"Hoehn	<div style="width: 20%; height: 10px; background-color: #00B050;"></div>	\$10.0k
"Arnold S	<div style="width: 5%; height: 10px; background-color: #00C080;"></div>	\$1,500

\$100

is the lowest total **PROFIT** by **GROWTH**.
("2001-06-02")

Top LDATE by PROFIT

"Map.gif "	<div style="width: 100%; height: 10px; background-color: #008000;"></div>	62.6k
"Map1.gif "	<div style="width: 20%; height: 10px; background-color: #00B050;"></div>	1,500

⊖ **GROWTH** ⌵ +

⊖ **LOCREP** ⌵ +

☰ **Rows** ⌵

☰ **Multiplier**

Experience IBM Watson Analytics – made easy

<http://www.ibm.com/analytics/watson-analytics/by-industry>

The screenshot shows the IBM Watson Analytics website. At the top, there is a navigation bar with the IBM logo on the left and several menu items: "Solution", "By Industry", "Business role", "Blog", "Community", and "Sign In". A red box highlights a "Try it for Free" button in the top right corner. Below the navigation bar, the main content area features the heading "Select an industry below to learn more." followed by a grid of industry categories: "Banking", "Insurance", "Retail", "Telecommunications", and "Nonprofit". A large yellow starburst graphic is overlaid on the center of the page, containing the text "Give it a try with your data!". At the bottom of the page, there is a light blue section with the text "Bring your data to life. Create a free account here." and another "Try it for Free" button. In the background of this section, a man and a woman are shown; the man has his arms raised in a celebratory gesture, while the woman looks surprised.

What is Hadoop ?



Apache Hadoop is an open source software project

- Enables distributed processing of large data sets across clusters of commodity servers.
- It is designed to scale up from a single server to thousands of machines, with very high degree of fault tolerance.
- Rather than relying on high-end hardware, the resiliency of these clusters comes from the software's ability to detect and handle failures at the application layer.

The project includes these modules:

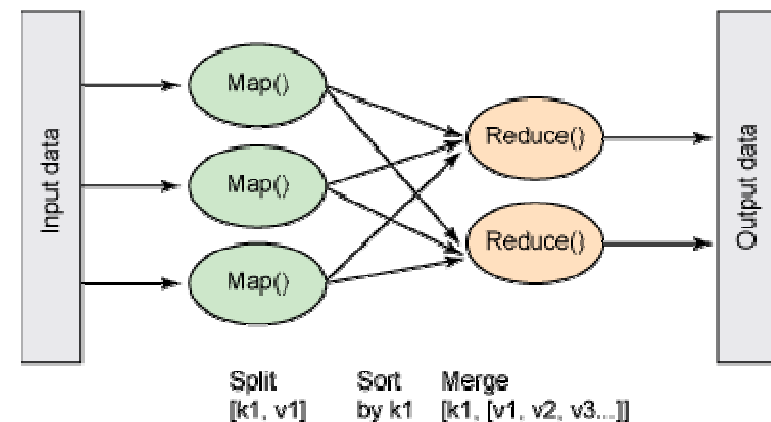
- **Hadoop Common:** The common utilities that support the other Hadoop modules.
- **Hadoop Distributed File System (HDFS):** A distributed file system that provides high-throughput access to application data.
- **Hadoop YARN:** A framework for job scheduling and cluster resource management.
- **Hadoop MapReduce:** A YARN-based system for parallel processing of large data sets.

What is MapReduce?

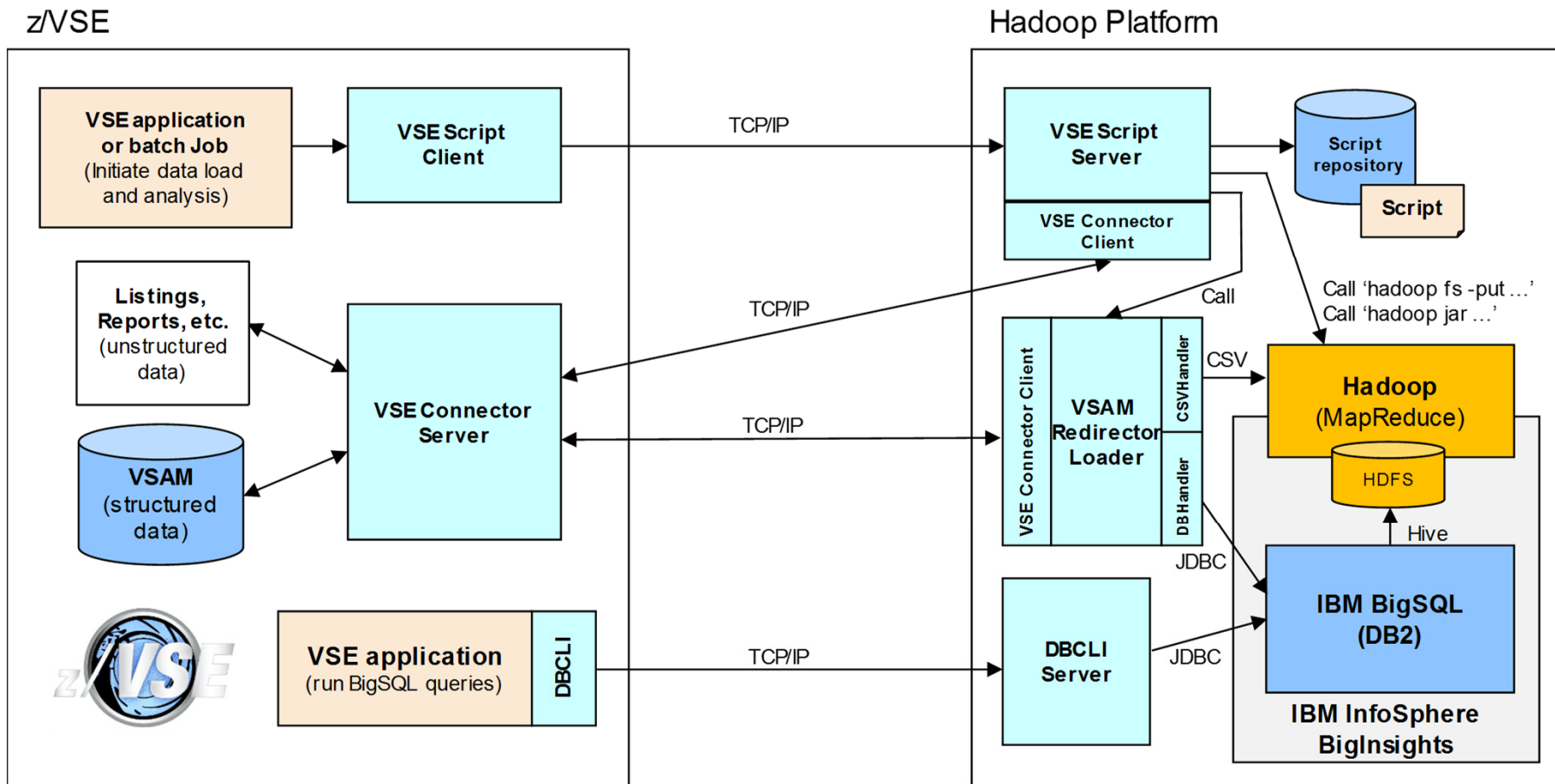


MapReduce is the heart of Hadoop

- It is this programming paradigm that allows for massive scalability across hundreds or thousands of servers in a Hadoop cluster.
- The term **MapReduce** actually refers to two separate and distinct tasks that Hadoop programs perform.
- The **map job**
 - takes a set of data and converts it into another set of data
 - where individual elements are broken down into tuples (key/value pairs).
- The **reduce job**
 - takes the output from a map as input
 - combines those data tuples into a smaller set of tuples.
- As the sequence of the name MapReduce implies, the reduce job is always performed after the map job.



Using the z/VSE Connectors to analyze VSE data with Hadoop



Whitepaper: Big Data and Hadoop with z/VSE

http://public.dhe.ibm.com/eserver/zseries/zos/vse/pdf3/BigData_with_zVSE.pdf

CSV Export of VSAM data

- **Most Analysis tools allow to import CSV data**

- IBM Watson Analytics
- Hadoop
- Others...

```
STOREID;STORENAME;LOCSTREET;LOCCITY;LOCZIP;LOCCOUNTRY;LOCR
"000001";"Frechdax";"Elbeplatz 42";
"000002";"Hugo";"Reeperbahn 15";
"000003";"Hotel Sacher";"Hauptstr. 15";
"000004";"Cafe Frech";"Postplatz 3";
"000005";"Cafe Frech Filiale 3";"Seestrasse 5";
"000006";"Cafe Frech Filiale 2";"Schoenaicherstrasse";
"000007";"Cafe Frech Filiale 3";"Blumenstrasse";
"000008";"Cafe Frech Filiale 4";"Dahlienstrasse 5";
"000009";"Cafe Frech Filiale 5";"Rosenstrasse 4";
"000010";"Cafe Mueller";"Marienplatz 1";
"000012";"Cafe Howard";"Harbor Road 3";
"000013";"McDonlads";"Main Street 2";
"000014";"Cafe Dehaene";"Rue de Sol 1";
"000015";"Cafe Stojanow";"Main Street 3";
```

- **CSV = Comma Separated Values**

- Stores tabular data (numbers and text) in plain text
- Each line of the file is a data record
- Each record consists of one or more fields, separated by commas (or semicolons)

- **The VSE Connectors provide tools to export VSAM data as CSV**

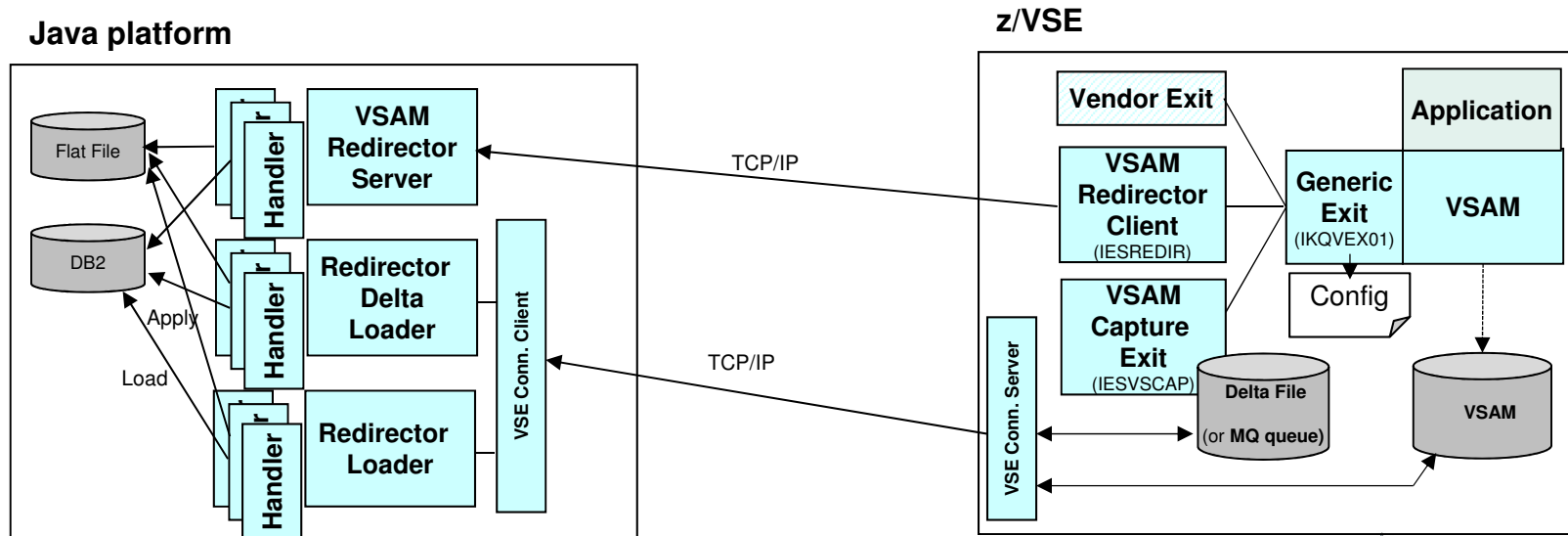
- VSAM Redirector Loader with CSVFileHandler
- VSE Navigator



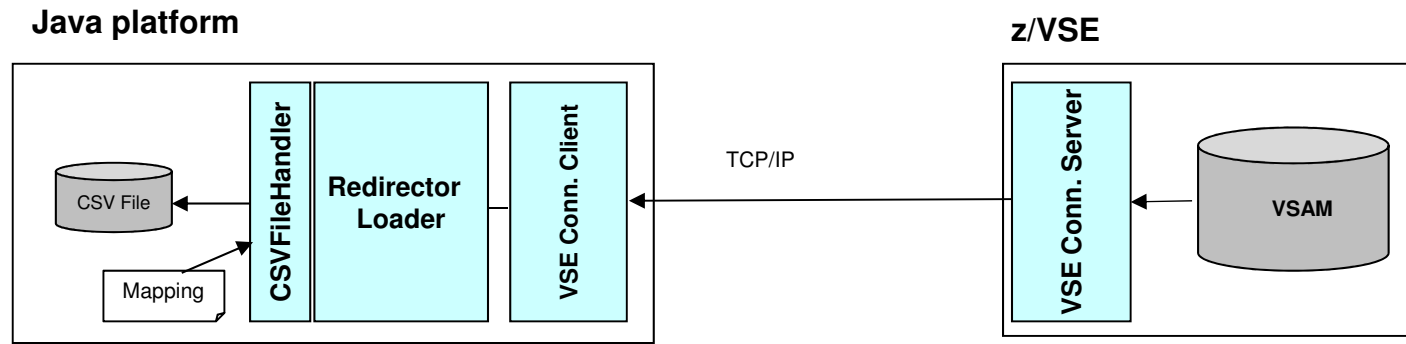
VSAM Redirector



- Synchronization of VSAM data with a database
- **Real-time: VSAM Redirector Client/Server**
 - **OWNER=VSAM:**
 - any INSERT, UPDATE or DELETE request is immediately replicated into the database
 - Read requests go against the VSAM dataset on z/VSE
 - **OWNER=REDIRECTOR:**
 - All VSAM requests are sent to the database.
 - No access to the VSAM dataset anymore (except OPEN / CLOSE).
- **Near real-time: VSAM Capture Exit**
 - Data changes are collected in a delta file or MQ queue
 - Delta file is downloaded and applied to database from time to time



VSAM Redirector Loader with CSVFileHandler



▪ Sample Loader Config file:

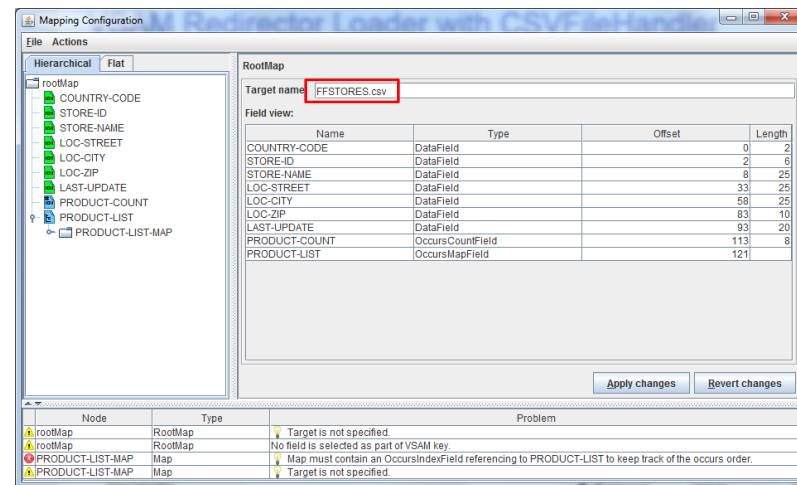
```
VSEHOST=myhost.domain.com
VSEUSER=HUGO
VSEPASSWORD=mypasswd
LDAPSIGNON=NO
VSAMCATALOG=VSESP.USER.CATALOG
VSAMCLUSTER=MY.TEST.CLUSTER
HANDLER=com.ibm.vse.csvfilehandler.CSVFileHandler
OPTIONS="configfile=mapping.csv;allowreuse=no"
```

Optional parameters

```
REUSE=NO
TRACE=YES
SHOWPROGRESS=YES
MAX-PREFETCH-COUNT=100
STOP-ON-DUPLICATE-RECORD-ERROR=YES
STOP-ON-OTHER-ERROR=YES
CLOSE=YES
```

```
CONVERTERDIRECTORY=converters
```

- File mapping.csv contains the Field mapping
- Mapping can be created using the MapperConfigGUI tool
- Target Name specifies the output CSV File name
- For complex mappings (e.g. record types) there can be multiple output CSV files.



VSE Navigator – Export VSAM data

The screenshot shows the VSE Navigator application window titled "VSE Navigator - VSELP61 (User=SYSYA) - VSAM/VSESP.USER.CATALOG/FFSTORES.DEMO.CLUSTER/MAP". The interface includes a menu bar (File, Edit, Selected, Configuration, Functions, Help) and a toolbar. On the left, a tree view shows a directory structure of VSAM datasets. The main pane displays a table of VSAM data with the following columns: STOREID, STORENAME, LOCSTREET, LOCCITY, LOCZIP, and LOCCOUNTRY. A context menu is open over the table, with "Export displayed data" highlighted. The status bar at the bottom left indicates "41 row(s) received".

STOREID	STORENAME	LOCSTREET	LOCCITY	LOCZIP	LOCCOUNTRY
000001	Frechdax	Elbeplatz &2	Boeblingen	71032	Germany
000002	Hugo	Reeperbahn 15	Hamburg	20000	Germany
000003	Hotel Sacher	Hauptstr. 15	Wien	11111	Austria
000004	Cafe Frech	Postplatz 3	Boeblingen	71032	Germany
000005	Cafe Frech Filiale 3	Seestrasse 5	Boeblingen	71032	Germany
000006	Cafe Frech Filiale 2	Schoenaicherstrasse	Boeblingen	71032	Germany
000007	Cafe Frech Filiale 3	Blumenstrasse	Boeblingen	71034	Germany
000008	Cafe Frech Filiale 4	Dahlienstrasse 5	Boeblingen	71032	Germany
000009	Cafe Frech Filiale 5	Rosenstrasse 4	Boeblingen	71034	Germany
000010	Cafe Mueller	Marienplatz 1	Munich	0000080000	Germany
000012	Cafe Howard	Harbor Road 3	Sydney	12345	Australia
000013	McDonlads	Main Street 2	Perth	30000	Australia
000014	Cafe Dehaene	Rue de Sol 1	Brussels	10000	Belgium
000015	Cafe Stojanow	Main Street 3	Sofija	10000	Bulgaria
000016	Cafe Chretien	Main Street 8	Toronto	10000	Canada
000017	Cafe Tudjman	Main Street 9	Boeblingen	10000	Croatia
000018	Cafe Rasmussen	Main Street 18	Copenhagen	10000	Denmark
000019	Cafe Lipponen	Main Street 77	Helsinki	10000	Finland
000020	Cafe Jospin	Champs Elysees 66	Paris	10000	France
000021	Cafe Simitis	Akropolis	Athens	0000020000	Greece
000022	Strauss	Spiegelgasse 7	Vienna	0000010000	Austria
000023	Cafe McAleese	Main Street 1	Dublin	30000	Ireland
	Cafe Jean	Main Street 3	Luxembourg	10000	Luxembourg
	Cafe Kok	Main Street 8	Amsterdam	10000	Netherlands
	Cafe Harald V	Main Street 9	Oslo	10000	Norway
	Cafe Guterres	Main Street 18	Lisboa	10000	Portugal
	Cafe Kucan	Main Street 77	Ljubljana	10000	Slovenia
	Cafe Juan Carlos	Main Street 12	Madrid	10000	Spain
	Cafe Zampino	Main Street 1	Zuerich	20000	Switzerland
	Cafe Car Gustav	Main Street 3	Stockholm	10000	Sweden
	Cafe Demirel	Main Street 12	Ankara	30000	Turkiye
	Cafe Blair	Downing Street 11	London	10000	UK
	Cafe Clinton	White House 2	Washington	10000	USA

VSE Navigator – Export VSAM data

The screenshot displays the VSE Navigator interface with the following components:

- Left Panel:** A tree view of VSAM datasets including CICS.DUMPA, CICS.DUMPB, CICS.GCD, CICS.LCD, CICS.RSD, CICS.TD.INTRA, CICS2.DFHTEMP, CICS2.DUMPA, CICS2.DUMPB, CICS2.GCD, CICS2.LCD, CICS2.ONLINE.PROB.DET.FILE, CICS2.RSD, CICS2.TD.INTRA, CPUMON.FILE, DEFAULT.MODEL.ESDS.SAM, DFHTEMP, DOS.WORKFILE.SYS001.RECOVER, DOS.WORKFILE.SYS002.RECOVER, ESDS.TEST.CLUSTER, FFPROD.DEMO.CLUSTER, FFSTORES.DELTA.CLUSTER, FFSTORES.DEMO.CLUSTER, MAP, PC.HC, PTF.FI, VSAM., VSAM., VSE.B, VSE.C, VSE.C, VSE.C, VSE.C, VSE.C, VSE.E.
- Main Table:** A table with columns: STOREID, STORENAME, LOCSTREET, LOCCITY, LOCZIP, LOCCOUNTRY. It contains 41 rows of data.
- Context Menu:** A menu is open over the 'MAP' dataset, with 'Export displayed' selected.
- Export Dialog:** A dialog box titled 'Export VSAM Data to File' is open. It shows:
 - Filename: d:\test.csv
 - Output format: CSV (selected), HTML, XML.
 - Options: XSL output, DTD output.
 - String delimiter: ' (highlighted in red)
 - Separator: ; (highlighted in red)
 - Export Header Line
 - Field: Enter the name of the output file ...
 - Buttons: Save, Close, Help.

STOREID	STORENAME	LOCSTREET	LOCCITY	LOCZIP	LOCCOUNTRY	LOCREP	SIGNINGS	PROFIT	GROWTH	LDATE	WEBPIC1	WEBPIC2
"000001"	"Frechdax	"	"Elbeplatz 42	"	"Boeblingen	"	"71032	"	"Germany	"	"	"
"000002"	"Hugo	"	"Reeperbahn 15	"	"Hamburg	"	"20000	"	"Germany	"	"	"
"000003"	"Hotel Sacher	"	"Hauptstr. 15	"	"Wien	"	"11111	"	"Austria	"	"	"
"000004"	"Cafe Frech	"	"Postplatz 3	"	"Boeblingen	"	"71032	"	"Germany	"	"	"
"000005"	"Cafe Frech Filiale 3	"	"Seestrasse 5	"	"Boeblingen	"	"71032	"	"Germany	"	"	"
"000006"	"Cafe Frech Filiale 2	"	"Schoenaicherstrasse	"	"Boeblingen	"	"71032	"	"Germany	"	"	"
"000007"	"Cafe Frech Filiale 3	"	"Blumenstrasse	"	"Boeblingen	"	"71034	"	"Germany	"	"	"
"000008"	"Cafe Frech Filiale 4	"	"Dahlienstrasse 5	"	"Boeblingen	"	"71032	"	"Germany	"	"	"
"000009"	"Cafe Frech Filiale 5	"	"Rosenstrasse 4	"	"Boeblingen	"	"71034	"	"Germany	"	"	"
"000010"	"Cafe Mueller	"	"Marienplatz	"	"Munich	"	"0000080000"	"	"Germany	"	"	"
"000012"	"Cafe Howard	"	"Harbor Road	"	"Sydney	"	"12345	"	"Australia	"	"	"
"000013"	"McDonlads	"	"Main Street	"	"Sydney	"	"30000	"	"Australia	"	"	"
"000014"	"Cafe Dehaene	"	"de	"	"Brussels	"	"10000	"	"Belgium	"	"	"
"000015"	"Cafe Stojanow	"	"	"	"Sofia	"	"10000	"	"Bulgaria	"	"	"
"000016"	"Cafe Chretien	"	"	"	"Montreal	"	"10000	"	"Canada	"	"	"
"000017"	"Cafe Tudjman	"	"	"	"Zagreb	"	"10000	"	"Croatia	"	"	"
"000018"	"Cafe Rasmussen	"	"	"	"Copenhagen	"	"20000	"	"Denmark	"	"	"
"000019"	"Cafe Lippman	"	"	"	"Helsinki	"	"10000	"	"Finland	"	"	"
"000020"	"Cafe Jospin	"	"	"	"Paris	"	"10000	"	"France	"	"	"
"000021"	"Cafe Simitis	"	"	"	"Athens	"	"0000020000"	"	"Greece	"	"	"
"000022"	"Strauss	"	"	"	"Vienna	"	"0000010000"	"	"Austria	"	"	"
"000023"	"Cafe McAleese	"	"	"	"Dublin	"	"10000	"	"Ireland	"	"	"
"000025"	"Cafe Jean	"	"	"	"Luxembourg	"	"10000	"	"Luxembourg	"	"	"
"000026"	"Cafe Kok	"	"	"	"Amsterdam	"	"10000	"	"Netherlands	"	"	"
"000027"	"Cafe Harald V	"	"	"	"Oslo	"	"10000	"	"Norway	"	"	"
"000028"	"Cafe Guterres	"	"	"	"Lisbon	"	"10000	"	"Portugal	"	"	"
"000029"	"Cafe Kucan	"	"	"	"Ljubljana	"	"10000	"	"Slovenia	"	"	"
"000030"	"Cafe Juan Carlos	"	"	"	"Madrid	"	"10000	"	"Spain	"	"	"
"000031"	"Cafe Zampino	"	"	"	"Bern	"	"20000	"	"Switzerland	"	"	"
"000032"	"Cafe Car Gustav	"	"	"	"Stockholm	"	"10000	"	"Sweden	"	"	"
"000033"	"Cafe Demirel	"	"	"	"Istanbul	"	"30000	"	"Turkiye	"	"	"
"000034"	"Cafe Blair	"	"	"	"London	"	"10000	"	"UK	"	"	"
"000035"	"Cafe Clinton	"	"	"	"Washington	"	"10000	"	"USA	"	"	"
"000036"	"Cafe Woddy Allen	"	"	"	"New York	"	"20001	"	"USA	"	"	"
"000037"	"IBM Cafeteria	"	"	"	"Poughkeepsie	"	"21000	"	"USA	"	"	"
"000038"	"Cafe Gates	"	"	"	"Seattle	"	"30000	"	"USA	"	"	"
"000039"	"Cafe Diegel	"	"	"	"Denver	"	"35000	"	"USA	"	"	"
"000040"	"Cafe Hemigway	"	"	"	"Key West	"	"67840	"	"USA	"	"	"
"000041"	"Cafe Orban	"	"	"	"Budapest	"	"10000	"	"Hungary	"	"	"

Import the CSV data into an analysis tool

- IBM Watson Analytics
- Hadoop
- Others...

Questions ?



THANK YOU