Lunch & Learn
Tuesday, 21 November 2017

Spotfire Advanced Data Services
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Agenda

• Introduction
• Defining an ADS source
• Connect Spotfire to ADS
• Advanced features
Introduction

The Data Virtualisation Platform is a suite of solutions that enables the definition of a virtual data layer to facilitate discovery, integration, and federation of disparate, distributed information sources.
Advanced Data Services: Introduction

Composite Information Server then Cisco Information Server

Acquired by TIBCO in October 2017
Introduction
Typical uses cases

“**My data is all over the place, it’s too hard to get access**”

- Data virtualisation, allowing “IT curated data sources” which business users can transparently access.

“But some of it is on the mainframe, and I don’t want it to turn into a big integration project”

- Has DB/2 zOS connectors
Typical uses cases

“The system owner doesn’t want me to touch the data source, as it might slow his system down”
- Information Server’s optimisers addresses “lowest cost access”

“Some of the data is on NoSQL data sources”
- Has connectors for Cassandra, MongoDB, Couchbase and Hadoop
Out-of-the-box connectors

Cisco Information Server
Data Direct Mainframe
Greenplum
HSQLDB
IBM DB2
IBM DB2 z/OS
Informix
Microsoft Access
Microsoft Excel
Microsoft SQL Server
MySQL
Netezza NPS
Oracle
Parstream
PostgreSQL
SAP HANA
Sybase
Sybase IQ
Teradata
Vertica
Custom Java Procedure
Elastic Search
Flat Files
LDAP / Active Directory
OData
REST
SOAP
XML Hadoop Adapters
Apache Drill
Apache HBase
Apache Hive
Apache Impala
Apache Spark SQL
Cloudera Hive
Cloudera Impala
Hortonworks HDP
Amazon RedShift
Google BigQuery
Amazon DynamoDB
Cassandra
Couchbase
MongoDB
Email
Google Apps
Google Sheets
Microsoft Active Directory
Microsoft SharePoint (On-premise and online)
Microsoft SharePoint Excel Services Data Source Tool Kit
Software Development Kit for Custom Data Source Adapter
Development
Microsoft Dynamics CRM (On-premise & Online)
Microsoft Dynamics GP
Microsoft Dynamics NAV
NetSuite CRM
NetSuite ERP
Oracle EBS
Salesforce.com
Siebel
Google Adwords
Google Analytics
HubSpot
Marketo
Oracle Eloqua
SAP Netweaver BW
mySAP Business Suite
SAP Business Explorer (BEx)
Facebook
LinkedIn
RSS
Twitter
Agenda

• Introduction
• Defining an ADS source
• Connect Spotfire to ADS
• Advanced features
Defining an ADS source

Advanced Data Services

Virtual Databases views

REST API

DATABASE

Advanced Data Services

Microsoft SQL Server

Excel

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Defining an ADS source: Overview

- Add a Data Source
- Introspect Data Source
- Apply transformations
- Create views or merge with other sources
- Publish

DB, File, REST API, ...

What is the Data Source, what are the available operations, ...

Apply transformations to the data if necessary (i.e.: XML to Tabular Data)

Create final view based on the Data Source (like SQL views)
Defining an ADS source: REST API

- Define URL and operations (Which protocols, which inputs & outputs, etc.)
- Add a Data Source
- Introspect Data Source
- Define URL and operations (Which protocols, which inputs & outputs, etc.)
- Check the operations and make them usable within CIS
- Transform the XML data into a tabular dataset (XSL Transformation)
- Apply transformations
- Create views or merge with other sources
- Create parameterized query in case of necessary input and creation of DB views to access the data
- Publish
- Transform the XML data into a tabular dataset (XSL Transformation)
- Create views or merge with other sources
- Publish

- In case of JSON API, result will be transformed to XML. So need to define the output schema
Demo

I would like to call a REST API for weather forecast and display the results into Spotfire

Let’s define the Data Source into TIBCO Advanced Data Services
API: https://www.weatherbit.io/api/weather-forecast-5-day
API Key: XXXXXXXXXXXXXXXXXXXXXXXX
Defining an ADS source: Result
Agenda

• Introduction
• Defining an ADS source
• **Connect Spotfire to ADS**
• Advanced features
Connect Spotfire to ADS

VIRTUAL DATABASES VIEWS

WEB SERVICES

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Connect Spotfire to ADS

Cisco Information Server connector available OOTB
Connect Spotfire to ADS

Define the CIS server

Define the authentication method
  • User/Password
  • NTLM
  • Kerberos

Define the CIS domain, username and password
Connect Spotfire to ADS

Define the database and the system selection

• Database defined in CIS
• System Selection
  • DB2
  • Greenplum
  • Microsoft SQL Server
  • MySQL
  • Netezza
  • Oracle
  • Teradata
  • Vertica
  • Hive
  • Postgres

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Connect Spotfire to ADS

Select the view(s) to use

- Define the relations between tables
- Define what columns to load
- Define custom queries
  - Useful for complex queries or for “Data on demand” with parameters
- Define user inputs (Prompts)
  - Prompt user for some parameters before calling ADS
Connect Spotfire to ADS

Virtual Databases views

REST API

Web Services
# Connect Spotfire to ADS

## How to pass parameters to ADS?

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<th>User prompts</th>
<th>Data on demand</th>
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<td>Prompt the user for the values when loading up the report</td>
<td>Call the ADS when the parameter value changes</td>
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### Pros

- Easy to setup
- User does not need to reload the analysis
- Parameters can be linked to document property and be a part of a form

### Cons

- If user needs to change the values, needs to reload the analysis

### Pros

- Needs to write a CustomQuery to load the data

### Cons

- If user needs to change the values, needs to reload the analysis

For parameter that do not need to be updated when browsing report *(i.e: API Key, Passwords, …)*

For parameters that will have an impact of the data loaded *(i.e: Stock listings, City for weather reports, …)*
Connect Spotfire to ADS

Users prompts

When defining the Data Table
Connect Spotfire to ADS

Users prompts

Spotfire Analyst

Spotfire Web Player
Connect Spotfire to ADS

Data on demand

When defining the Data Table
Connect Spotfire to ADS

Data on demand

When defining the Data Table
Demo

I would like to call a REST API for weather forecast and display the results into Spotfire

Let’s connect Spotfire to our ADS Data Source
Agenda

• Introduction
• Defining an ADS source
• Connect Spotfire to ADS
• Advanced features
Advanced features: Data caching

*Advanced Data Services will create its own cache*

*Can be refreshed manually or automatically*

*By default, create a new Data Source with the cached data*

*Possibility to setup pre and post refresh cache actions*
Advanced features: Data caching

Cache details are available
I would like to call a REST API for weather forecast and display the results into Spotfire.

Let’s activate the cache on our Data Source.
Advanced features: Security

User or Role based
Security can be:

• Object based
  • Access or not to an object (View, table, ...)

• Columns based
  • Restrict access to particular columns
  • Restricted values can be set as null or custom message

• Rows based
  • Restrict access to particular rows
More information

- https://www.tibco.com/spotfire
- https://spotfire.tibco.com/demos
- https://ten.tibco.com/
- https://community.tibco.com/

Make these events better for all of us by filling out our very short survey

http://tibco.cm/2s06Gne