Systems of Insight

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Synopsis

Visualizing data helps us explore structure and relationships in data, and it provides a basis for communicating information. Where statistical analysis can be used to systematically comb through data and quantitatively identify patterns, combining it with visual analytics can be especially powerful. Learn how The TIBCO Systems of Insight fuses our visual, predictive, and streaming analytics technologies providing a tool suite for optimising business operations. Like a digital nervous system, this insight platform lets you build intelligence in your business, generates actionable insights in real time and lets you capitalise on them. The platform lets you source the right data, analyse it with various techniques, and implement the resulting insights as a closed-loop solution with built-in continuous learning.
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"In the new world, it is not the big fish which eats the small fish, it’s the fast fish which eats the slow fish."

—Klaus Schwab, Founder and Executive Chairman, World Economic Forum

In this digital world, Cloud has become an imperative

Operational Excellence
Accelerated Innovation
Empowered Organization

Critical business moments occur in every facet of enterprise operations.

They drive competitive differentiation, customer satisfaction and business success.
Connected Intelligence

TIBCO Spotfire  |  Matlab  |  TIBCO Streambase

Insights  |  MODEL  |  Actions

TIBCO Live Datamart

Fleet Analytics Architecture

Edge Devices  |  Production System  |  Analytics Development  |  Business Decisions

StreamBase Connector  |  MATLAB Production Server  |  MATLAB Compiler SDK  |  TIBCO Spotfire

TIBCO StreamBase  |  Business Systems  |  End Users
TIBCO Analytics Principles & Differentiation

Intelligent
- Data Connect & Wrangling
- Smart Visual Analytics
- Geo-analytics
- Inline Predictive
- Data Science

Makes Life Easier for the Analyst

Connected
- Self-Service & Collaboration
- Platform Approach
- Data Virtualization
- Automation & APIs
- Streaming & Alerts

Collaborative Teams, Connected Platform

Scalable
- Multi-Site On Premises
- Multi-Tenant or Dedicated Cloud
- In-Memory and In-Database
- Enterprise-Class Admin Services
- Deployment to Operations

Enterprise-Ready: People + Data Deployment

#1. Data Intelligence for Analytics
Personal to enterprise exploration, search and provisioning of multi-sourced data

TIBCO Spotfire - Data Wrangling
Wrangle
Explore, visualize, transform

TIBCO Spotfire Data Catalog
Search
Semantic search including unstructured

TIBCO Data Virtualization
Virtualize
Federated access, optimized cache

TIBCO Master Data
Access, Govern
Governed access and deployment

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Data Virtualization

Enterprise federated data – 360 views across silos

TIBCO Spotfire
Visual & Geo-Analytics

TIBCO Spotfire
Embedding & Reporting

TIBCO Spotfire
Data Science

TIBCO BusinessEvents
Streaming

Logical Data Access Layer

• One Logical Place to Go for Data
• Business View of Data

TIBCO Data Virtualization

Abstract
Federate
Cache

hadoop
mongoDB
“Big Data” & NoSQL

VERTICA
NETEZZA
Analytic Stores

SQL Server
ORACLE
Operational Stores

TERADATA
IBM DB2
Data Warehouses & Marts

ORACLE E-BUSINESS
SAP
Transactional Applications

salesforce
workday
SaaS Applications

NET
AWS
Web Services

Spotfire Data Connectors

Hybrid in-Memory and in-database architecture

Databricks
Hortonworks
SAP
OSIsoft

Databricks Certified Application

https://community.tibco.com/wiki/tibco-spotfire-data-access
Spotfire Data Connectors

Hybrid in-Memory and in-database architecture

1. Local data sources
   - Drag-and-drop Excel, Access, STDF/SBDF

2. Information Services (in-memory)
   - Join, transform, reusable, parameterized, dynamic query for in-memory use
   - Databases: Teradata, Oracle, MySQL, Hadoop, SQL Server, JDBC/ODBC, Netezza, PostgreSQL

3. Direct Query (in-database)
   - Dynamically query and retrieve data for visualization and analysis
   - Databases: Teradata, Oracle, MySQL, Hadoop, MS SSAS, TeradataAster, Netezza, Etc

4. Custom GUI-Driven
   - Data access via SDK

5. Direct connect
   - ODBC, OLE DB, SqlClient

Data Sources
- SAP R/3
- SAP BW
- Oracle E-Business
- Siebel E-Business
- Salesforce
- OBIEE
- Web Services
- XML
- Flat Files
- Spreadsheets
- RDBMS

Spotfire Data Catalog

AI-driven search, connect, multi-join & provisioning for Data Lakes

Data Catalog
- Spider all data sources
- Collect and search metadata
- Ingest content /Samples

Data Warehouse

Data Lake

Documents

Business Communications

Users

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In-line Data Wrangling

Visually manipulate, merge, clean, transform data during analysis

#2. AI-Driven Visual and Geo Analytics

Using AI to augment intelligence and provide fastest speed to insight
Spotfire Geo-Analytics

Map Layer Algebra

- Geology
- Satellite
- Lat / Long
- TMS, WMS
- Calculations using TERR
- ESRI (shp, dbf)

*Calculations within and between layers with Spotfire and TERR*

#3. Power your Business with Data Science

*Data Science Platform* with scalable data prep & ML, collaboration and deployment

**TIBCO Spotfire**

Inbuilt Predictive Analytics

- Expressions and data functions
- R, TERR, H2O
- S+, MATLAB etc.

**TIBCO Spotfire Data Science**

*formerly Alpine Data*

Data Science Platform

- In-lake, In-db, Spark analytics
- UX – Web Visual Composition, Jupyter Notebook
- Collaboration, project, lifecycle
TIBCO Spotfire
Using AI to augment intelligence and provide fastest speed to insight

Interactive Visuals & GeoAnalytics

Data Access, Prep Wrangling

R

Compute & Predictive Analytics

Menus, Expression, Function

One-Click Web App

TIBCO Spotfire

TIBCO Spotfire Data Science (formerly Alpine Data)

Scalable Algorithms
- Transform and model across data sources without moving data
- In-database and in-lake data prep, analytics and machine learning
- Spark Auto-Tuning, PySpark, Python

Connected Teams
- Collaborate on data science projects with business

Web UX
- Web visual composition + Python Notebooks
- Rapid deployment in Cloud, on-premises
- Amazon, Azure // EMR, Redshift

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#4. Analytics in Production Operations

Connect analytic pipelines to business processes and applications in real time

Impact real-time decision making

- Embed analytics and predictive insights in business applications
- Visualize results and provide access across the organization

Deploy analytics/models to production

- Push ML real-time engines to AWS, Azure or Cloud Foundry as objects, containers
- Connect StreamBase with PMML, POJO, model exports
- Schedule batch runs of Spotfire analyses, Data Science Workflows, Python Notebooks and SQL files

Real-Time Streaming Analytics, at the Edge

Market leading visual streaming app development and automation platform

**TIBCO Live DataMart**
- Relational real-time schema

**TIBCO StreamBase**
- Streaming connectors
- Event stream calculations, actions
- Publish to Live DataMart

**TIBCO Flogo**
- Lightweight, fast edge analytics

**Live Data Visualization**
- LiveView Web App
- Spotfire viz
Insight to Action with Streaming Analytics
Market leading visual streaming app development and automation platform

Assemble Data: TIBCO Data Virtualization
Visualize: Spotfire
Model: Spotfire Data Science
  Supervised: Train
  Unsupervised: Anomalies

Model Event Stream: TIBCO StreamBase
  Batch: Updates
  Real-Time: Alerts

Case Manage: TIBCO AMX BPM
  Investigate identified cases
  Audit trail + recycle

Flexibility and Scale for all Users
Hybrid cloud architecture, forwards compatibility
Data Management for Analytics
Abstract and federate data from disparate sources and silos to provide consistent, enterprise views and enrich insights.

Smart Visual Analytics
Gain speed to insight with AI-driven data wrangling; ad hoc discovery; smart recommendations and visualizations; geo-analytics; one-click predictive; and dashboarding and KPIs.

Data Science/Machine Learning
Create features and predict key business targets with comprehensive palette of in-built data prep and modeling tools, templates, accelerators including OS R and Python.

Operational Models and Systems
Deploy models and engines to on-premises and cloud production systems for real-time and batch execution, support decisions and/or automate actions to optimize outcomes and impact timely decision making.

Real-Time Streaming
Automate data prep, actions and alerts on event-streams, to gain continuous awareness; enable human interaction with live data for better decisions; take real-time, informed action.