

TCS Big Data Desktop Solution

Digital Enterprise Unit



Information from diverse sources - web logs, social media, servers, mainframes, and even data warehouses – drives data-intensive applications that are key to organizational growth today. Overwhelming volumes of metadata often make it difficult to securely store large volumes of sensitive information, and also to identify business-relevant data. While certain software frameworks like Hadoop help organizations transition into the world of Big Data, effectively managing the numerous enterprise data sources simultaneously continues to remain top priority.

Tata Consultancy Services' (TCS') Big Data Desktop (BDD) has a web-based user interface (UI) that simplifies interactions with Hadoop. Functioning as a single interface for your Hadoop-related data management needs, our solution is easy to work with, offers one-click job executions, easy access, and enhanced data security. TCS BDD is also accessible from mobile, web-enabled devices and provides intuitive graphical representations of functional relationships and data lineage.

Overview

Despite its capabilities, Hadoop's adoption by the industry has been limited by the absence of a user-friendly interface, enterprise-ready security features, and adequate code versioning support. It also lacks the ability to sort metadata generated by structured as well as unstructured enterprise data sources. Presently, leveraging Hadoop effectively requires the expertise of trained programmers and is not easily accessible to less technical users. The lack of adequate tracking and security features also makes it difficult to identify original data sources and ensure the security of sensitive or proprietary information.

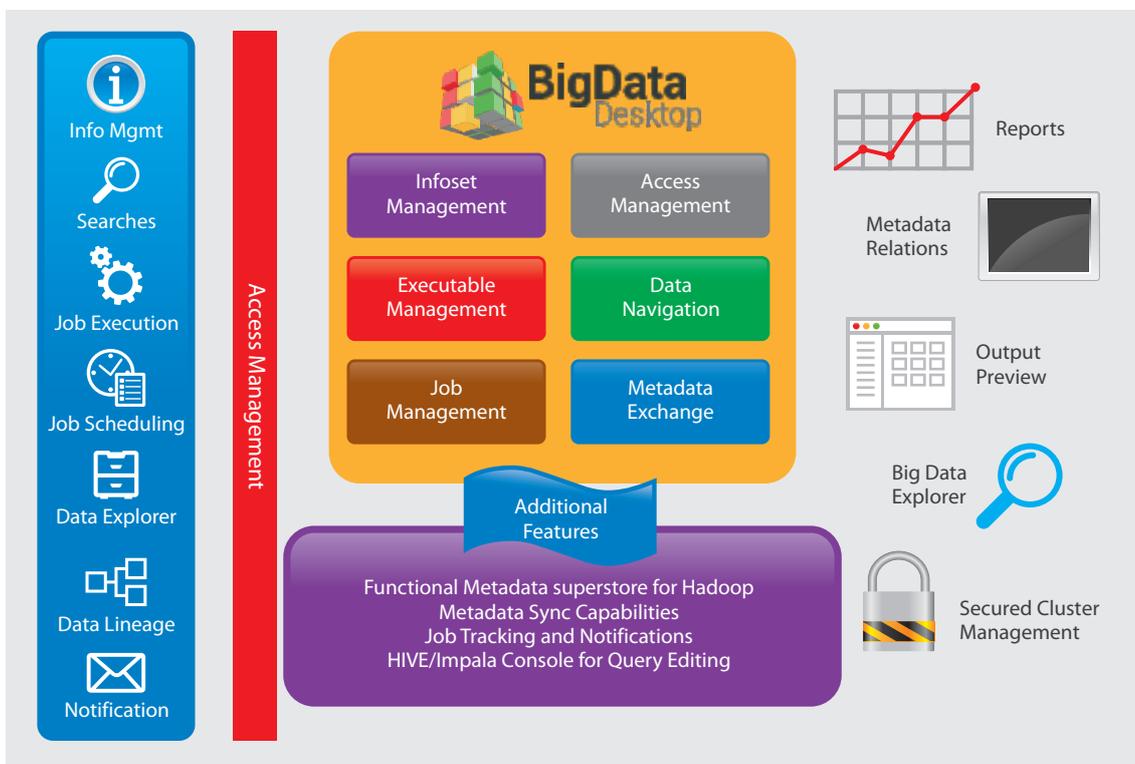
TCS Big Data Desktop addresses these challenges by helping you search, locate, modify and run multiple executables with a single click. TCS BDD manages documentation on executables, projects, and infosets, while supporting version control and source code management systems, such as Git and SVN. The solution also enables simple Hadoop data access through the HDFS Explorer and Database Explorer to help you view, edit, and download relevant data. You can track data sources and destinations by accessing and viewing them in graphical forms. TCS BDD supports LDAP and Kerberos and offers role-based access control, activity logging, and tracking capabilities. By allowing users to create folders to store executables under a project and grant access only to authorized personnel, it promotes a high degree of data security.

Our Solution

TCS Big Data Desktop includes a range of features such as:

- Metadata exchange interface with industry standard CWM support to ensure seamless transfer of metadata from traditional data sources
- Easy drag and drop and query assist features for Hadoop and Hive Query consoles
- Organized project folders for easy and secure management of executables
- Intuitive graphical depiction of functional relationships and data lineage
- Job scheduler for daily and weekly scheduling
- Database Explorer and HDFS Explorer for browsing and downloading Hadoop files and tables
- Automatic functional relationship discovery for Hive and Impala, highlighting info set and executable relationships for impact analysis
- Documentation management for executables such as queries, jars, scripts, projects, and infosets
- Metadata Sync feature helps in reflecting all the changes to HIVE Tables, HBASE or Files in Cluster on TCS BDD.

"In a multi user, multi cluster Hadoop environment, fostering collaboration and reuse in a secure manner are essential to derive better ROI from your Big Data program. This solution brings just that through an intuitive and easy to use interface, job execution, metadata & knowledge management alongside a list of other features."



TCS Big Data Desktop – Functional Overview

Benefits

TCS' BDD enables you to:

- Support easy interaction with Hadoop systems, irrespective of your users' technical expertise
 - Improve productivity using Hive query editor. Simplify query editing and execution and result previews. Easily access Hadoop data through HDFS Explorer and DB Explorer.
 - Seamlessly view and manage data and jobs on all the Hadoop clusters in your enterprise
- Improve productivity with email and SMS messages and instant job status notifications delivered even on the product screen
- Ensure enterprise grade security and drive safe and secure data access on Hadoop with sign-on using LDAP/ADS, Kerberos and Sentry.
 - Strengthen security with role based access to clusters, projects and data
 - Maintain audit trails with user activity logging and reporting feature
- Facilitate rapid impact analysis and data exploration, leveraging the ability to view end-to-end data flow and relationships through Lineage
- Achieve faster, cost effective deployment of new jobs by reusing queries, functions and scripts.

The TCS Advantage

TCS' BDD comes at a time when most data-intensive applications cannot cope with large volumes of enterprise data. Our extensive domain experience and expertise makes us the ideal partner for your data management needs. We add value to the engagement through:

- **A single data management interface:** Our offering connects to all major Hadoop distributions and Big Data applications in an enterprise, establishing a single interface for all your Hadoop-related data management needs
- **Reduced technical dependency:** BDD reduces dependency on trained programmers using the Re-use and Assisted Query features, limiting the need for technical expertise only to the creation or modification of executables
- **Enhanced security:** Our solution ensures enterprise-grade security on the open source Hadoop platform through various project features and access management functions. By leveraging Kerberos security and Single Sign-On features, it enables authorized and secure access to clusters
- **Data tracking and sorting:** BDD depicts accurate data transformation and lineage right from the source to the destination in Hadoop, enabling insightful impact analysis for potential changes to the executables
- **Analytics, Big Data and Information Management unit:** In addition to the TCS BDD, the unit provides end-to-end services and solutions for data management and analytics, for both the IT organization and the business

About TCS' Digital Enterprise Unit

TCS adapts the capabilities of the digital five forces – Mobility and Pervasive Computing, Big Data and Analytics, Social Media, Cloud, and Artificial Intelligence & Robotics – to the unique needs and opportunities of each industry. We leverage a combination of these technologies to help clients digitally reimagine their business models, products and services, customer segments, channels, business processes, and workplaces to gain sustained competitive advantage.

Our experienced global team includes strategy experts, business analysts, digital marketers, user experience designers, data scientists, and engineers trained and certified in the latest technologies. By combining our technology vendor partnerships, our pre-built customizable products and reusable assets, and our deep industry expertise, we offer enterprises everything they need for a complete digital transformation – from strategy and use cases, to system implementation and maintenance – and everything in between.

Contact

To know more about TCS' Big Data Desktop, contact digital.enterprise@tcs.com

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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