

Connected Intelligence Platform: Integrated Data Lake and Analytics Platform Turns Data into Actionable Insights

Digital Software & Solutions



Today's businesses are inundated with customer, product, and operational data from internal and external sources, including streaming, IoT, and real time data from sensors, devices, mobile apps and enterprise data centers. As the volume, variety, and velocity of data continue to increase, businesses must find new and better ways to harness the value of the insights hiding in their data, as well as develop easier and more cost-effective ways to access, store, and manage data.

Across all industries, organizations are discovering how data lakes reduce strain on data warehouses, as well as how data analytics can power their business models. To accelerate and simplify these initiatives, the Digital Software & Solutions developed the TCS Connected Intelligence Platform (CIP) – a unified data lake and analytics platform that enables business and technical stakeholders to harness and monetize all their data to gain a competitive advantage faster, and at a lower cost than any other approach.

Overview

TCS Digital Software & Solutions (DS&S) Group is a digital transformation software firm within Tata Consultancy Services, a top three global technology leader trusted by the world's most successful enterprises. DS&S recognized that more than ever, enterprises in all sectors need help dealing with continuous disruptions to their business models and industries, and in using digital technology to do more with less. And with 23 billion connected objects and counting, they will need help embracing new ways of doing business that make them more efficient and effective.

To address these needs, DS&S developed its core product, the TCS Connected Intelligence Platform, which simplifies all types of data and analytics initiatives for customers. In addition, CIP powers DS&S industry solutions. The approach incorporates a simplified, low-code foundation for all types of data, using familiar open-source components, a flexible architecture that leverages customers' existing investments and avoids vendor lock-in, with integrated analytics, visualization, management and security, plus a robust set of APIs to simplify integrations with 3rd party systems and apps.

The result enables businesses to accelerate their digital transformation initiatives and deliver rapid business value by developing and deploying analytics use cases faster, with a modern and future-proof data and analytics foundation that eliminates the requirement for building and integrating multiple bespoke tools.

Solution

TCS Connected Intelligence Platform enables businesses to harness the value of data from enterprise and external sources through analytics while reducing the cost and complexity of big data. CIP includes everything an organization needs to securely ingest and analyze data from machines, sensors, devices, transactional systems, and more. CIP combines an enterprise-grade Hadoop data lake with machine learning libraries, real-time processing of streaming data, a predictive scoring engine, workflow management, data visualization, and enterprise-grade security.

With simplified API integrations, CIP helps data scientists, developers, data engineers and business stakeholders go from idea to deployed solution quickly to out-manuever competitors. The open-source components and pre-integrated all-in-one approach speeds time to value and reduces TCO.

Key Capabilities and Features

Data Modeling: Model and activate data using Excel-based template

Enterprise-grade Hadoop: Ingest, model, store and manage all data

Data Pipeline Processing: Drag & drop user interface

Dataset & Services: SQL interface to expose the data from both analytics & operational database through REST API

Data Visualization: Build reports and dashboards using low-code visualization framework

ML-based Insights: Multiple options to operationalize analytic models such as PMML based ML model, Python based ML, and deep learning

Decision Management: Built-in business rules and predictive analytic models scoring engine

Workflow Automation: Schedule data jobs for periodic execution

Project Workspace: Build and manage multiple projects with controlled user access

Centralized Administration: Web-based console with integrated user role management, Hadoop management, batch job management, and logs and audit management

Benefits

- **Accelerated Data Insights:** As a pre-integrated data and analytics solution, CIP consolidates raw data from various sources and transforms them into trusted data and insights. CIP includes a Hadoop data lake with integrated real-time analytics environment, visualization, APIs, security and workflow. CIP delivers integrated streaming analytics to act in real-time with a scalable real-time processing engine and machine learning algorithms. CIP reduces the time and skills requirements for developing and operationalizing data analytics use cases.
- **Lower TCO with an Open Foundation Built for Enterprise Scale:** As a fully integrated platform built on open-source components, CIP is fully configured with a patented architecture, security, and the tools developers and data scientists need to take advantage of all their data that is stored within the enterprise environments, captured in transactional systems, sourced from IoT devices and sensors, or available through an API. The flexible architecture leverages existing IT investments, while the built-in data management and transformation means less time is spent trying to find a way to bring data together and more time spent on deploying differentiating apps. Enterprise-grade security and control simplify compliance with corporate security and data privacy requirements.
- **A single unified platform for all your analytics initiatives:** Pre-integrated data lake, analytics, visualization, management, and security, for all your data sources and all your use cases, all in one.
- **Backed by TCS award-winning expertise:** TCS is a recognized leader in analytics, with years of experience and 1000's of successful implementations.

The TCS Advantage

- **Domain and Industry Experience:** TCS' broad and deep domain expertise in big data and advanced analytics as well as industry expertise across almost every industry – including government – on a global scale.
- **Partner Ecosystem:** The TCS network of partners includes business software providers, niche technology developers, and platform and IT infrastructure vendors. Our dedicated partner management, field alliance, business solutions, and infrastructure architect teams nurture relationships to drive efficiencies and predictable outcomes.
- **Global Reach:** Tata Consultancy Services is a trusted global IT services, consulting and business solutions organization that delivers real results to global businesses, ensuring a level of certainty no other firm can match.

Awards & Recognition



About TCS Digital Software & Solutions Group

TCS Digital Software & Solutions Group delivers on the promise of Connected Consumer Intelligence™. Our experience working with the world's most successful enterprises drives the development of integrated software that helps them meet the higher expectations of today's wired consumers and citizens. With TCS DS&S Group software, organizations can design experiences that logically connect every touch point of the consumer's digital and physical journey.

To know more

Visit: dss.tcs.com

Email: tcs.dssg@tcs.com

Blog: [Catering to the Connected Consumer](#)

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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