



PREDIGY™ —

Customer Analytics and Decision Management

Quickly deliver data-driven decisions that maximise revenue,
reduce risk and improve the customer experience.



First Data is able to combine the power of data, analytics and actions to deliver the best combination of products to your customers.

PREDIGY™ is First Data's integrated platform for customer analytics and decision management, which allows you to build, simulate and deploy analytical decision applications.

Using PREDIGY™ can help you

- Discover key insights to customer behaviour and characteristics
- Build predictive models using advanced analytics
- Plan and simulate actions, strategies and campaigns
- Deploy and run model and strategy applications
- Track and trend effectiveness of actions and evaluate performance

The PREDIGY™ platform delivers clear benefits to both the user and the business by offering a number of key advantages over similar tools:

- Flexible, prescriptive workflows that enable users to design, customize, test and publish analytical decision applications
- A collaborative design environment that allows different types of users to share analysis work
- The ability to share and reuse applications as components of new applications
- The use of structured, semi-structured and unstructured data for discovery, modelling and strategy development
- Flexible strategy testing and "what-if" analysis incorporating key business metrics

- Unified data management across modelling, clustering (segmentation), decision design and production
 - Samples from customer accounts can be used to train models or evaluate results
 - ETL, data management, data characterizations, transformations and new variables are available to all functions
 - Data management functions applied in the application development process are propagated automatically into the final application
- Support for IT, service providers and OEMs
 - Customization of UI graphics, text and features
 - Easy propagation of decisions into production environment
 - Programmatic access to deployed applications
 - Multi-tenant enabled with enhanced security



PREDIGY™ – Cluster

The Cluster module allows you to discover key insights to customer behaviour and characteristics. Segment/cluster customers based on common characteristics such as demographics, psychographics, profitability or other characteristics meaningful to your business. Use different segments in developing predictive models and for concept-based decision criteria in strategies.

Clustering provides insight to better understand customers and segments—what makes them different from one another and what are the characteristics that make them similar. Effective customer segmentation enables more effective targeting for strategies across the customer lifecycle—from new product development and pricing, to customer acquisition and cross-sell targeting, to customized collection strategies.

Key Features

- Automated clustering and segment generation based on analysis of common data characteristics
- Uses PAM (partitioning around medoids) algorithm to create clusters
- Iteratively select variables and adjust the number of clusters
- Reuse clusters in both strategies and models
- Provides graphical representation of the effectiveness of clustering
- Identifies key variables driving cluster formation





PREDIGY™ – Modeler

The Modeler module can help you build predictive models using advanced analytics. Both software and workflow have been designed from the ground up to provide the tools you need to build, access, report and tune predictive models.

Use powerful modelling techniques and algorithms, including automated variable selection, virtual variable transformation and rigorous built-in model validation.

Business analysts and statisticians can quickly build, assess, deploy and manage multiple predictive models or scores. These models can easily incorporate mixed data sources for better informed business decisions.

Key Features

- Model development
 - Flexible workflow enables rapid definition and building of models
 - Ability to copy and edit existing models or create new ones in minutes
 - Model using mixed data
 - Model using time series data
 - Model using index-of-max data transformations
 - Model using existing clusters or strategies
- Variables
 - Create, modify and transform variables using built-in expression language
 - Extended editing of grouping variables
 - Automated data mining and variable selection
 - Random, query-based, and set theory-based operations methods of sampling datasets
- Algorithms
 - Non-monotone (can automatically transform variables) and non-linear (can identify complex patterns). These characteristics enable the models to detect patterns that traditional algorithms would miss
 - Designed to get the most out of customer behaviour data, including text, standard structured variables (attributes) and patterns or sequences of behaviour
 - Includes classic algorithms, such as linear regression and binomial regression
- Reason code generation using score card modelling techniques
- Automatic updating of model performance results and model validation reports every time a model is rebuilt
 - Lift charts, deciles and adds charts, delta lift curves, variance scatter plots, variable box plots, partial dependence plots and relative importance measures for key predictors and more
 - Provide a detailed report for any given strategy
 - Document business and data assumptions made with formulas, clusters or decision trees
- Model compliance. View the list of key predictors that were selected by a model and remove them from the model if appropriate. This includes models using text features
- Export of decision design into an application instruction package. Put models, including any data transformations, into production without the need for coding



PREDIGY™ – Strategy

The Strategy module can help plan and simulate actions, strategies and campaigns by building and testing your own decision trees and business rules.

Use real-time “what-if” analysis with any number of key business metrics to make campaign and strategy decisions with confidence. Make statistically based recommendations using automated analytic functions that allow you to identify and predict a desired outcome.

Business analysts and other decision makers can quickly make, test and describe statistically based business decisions with greater confidence and clarity.

Key Features

- Decision Tree Design Environment
 - Select decision points based on automated recommendations
- Evaluate and assign actions based on business assumptions, cost/benefit and resource formulas
- Build measurements using business assumptions, predictive models, formulas and constant factors
- Use the intuitive expression language to write formulas that can include references to any data variables (attributes), math and aggregation functions, and complex logic blocks like “if-then”
- Build strategies incorporating existing models or clusters
- Interactive Testing and Experimentation
 - Simulate the behaviour of strategies using actual customer data
 - Test actions across strategy segments to forecast desired outcomes
 - Perform numerous “what-if” comparisons within the same interface
 - Design champion/challenger tests
 - Analyse segments and populations free-form or guided





PREDIGY™ – Production Engine

The Production Engine module can help you deploy and run model and strategy applications. Score operational data against discovered patterns, predictive models, clusters and decision trees created in the PREDIGY™ design environment.

Speed deployment across diverse operational environment. Once Production Engine is in place, you can deploy new models, strategies and decision trees without recoding the design work. You export the decision design into an application instruction package used by Production Engine for scoring.

Key Features

- Can score in batch or real-time
- Ability to tightly integrate score and decision applications with other enterprise applications via command-time and web-services APIs
- Modular design supports multiple sites, parallel processing and cross-channel coordination
- Platform independent and highly reliable: a Java application that runs on 32- and 64-bit Windows, Linux or Solaris machines. Independent scoring and validation tests are done on each run to ensure integrity
- High performance scoring engine. Scoring can be done in parallel so it is easy to add additional machines to boost scoring performance.
- Strategy Management and Documentation
 - Put strategies, including any embedded models and data transformations, into production without coding
 - Export strategies as templates for use with new data sets and for future strategy development
 - Export detailed strategy and simulations metrics to Excel for sharing with other decision makers or for additional analysis
 - Provide a detailed report for any given strategy
 - Document business and data assumptions made with formulas, clusters or decision trees





PREDIGY™ – Report

The Report module can help you to plan, track and trend the effectiveness of actions and evaluate performance.

Support closed-loop operational reporting, analysis and monitoring of models and strategies running on Production Engine.

- Open and extensible schema
- Custom report design tool (Crystal Reports XI Developer Edition)

Implement a reporting database without having to set up and integrate a separate report database infrastructure for every strategy and campaign. Use customized reports to evaluate and refine models.

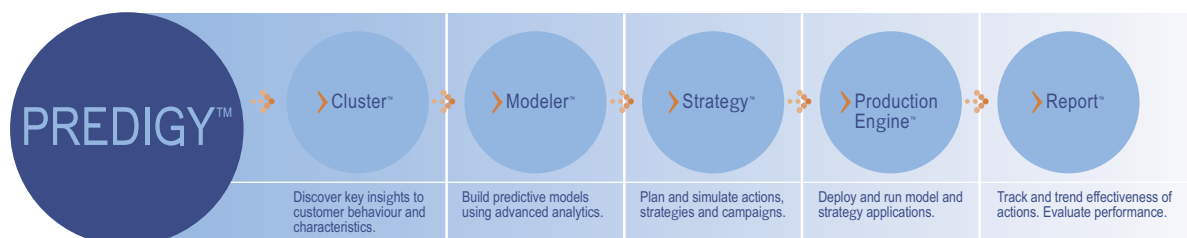
Key Features

- Integrated extension of Production Engine module
- Reporting data mart for each instance of Production Engine running





An integrated platform for customer analytics and decision management.



A Global Leader in Electronic Commerce

First Data powers the global economy by making it easy, fast and secure for people and businesses around the world to buy goods and services using virtually any form of payment. Serving millions of merchant locations and thousands of card issuers, we have the expertise and insight to help you accelerate your business. Put our intelligence to work for you.



For further information please contact your First Data sales representative, visit www.firstdata.com or e:mail solutionsmarketing@firstdata.com