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## Highlights

- Extends the breadth and depth of the IBM Analytics portfolio
  - Tackles large, real-world problems with speed, dependability and stability
  - Includes fast, reliable implementations of the fundamental algorithms needed to solve demanding mathematical optimization problems
  - Brings the power of the CPLEX Optimizers to operations research experts, IT developers, and analytics entrepreneurs in a self-serve environment
  - Offers flexible pay-as-you-go, committed hours, and reserved capacity options so you can scale to meet business needs
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# IBM Decision Optimization on Cloud

*Solve your toughest optimization problems in a self-service environment*

## Overview

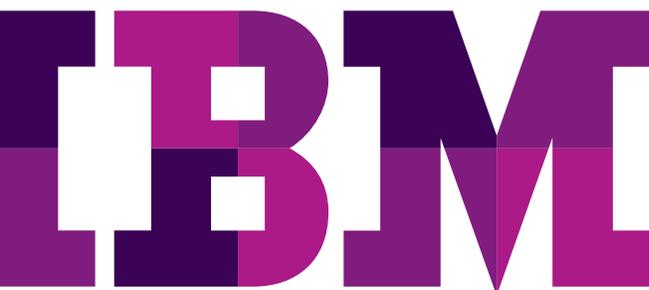
Decision optimization is a mathematical technique used for business decision making, especially for planning, scheduling, and other combinatorial decision problems where a business goal is optimized under certain constraints. Even though the benefits of decision optimization are well-recognized in most industries, this powerful technology is underutilized due to a lengthy learning curve and the high cost of required software and hardware.

IBM® Decision Optimization products enhance business decision making, such as operations, tactical, and strategic planning and scheduling in a range of industries, including manufacturing, energy and utilities, finance, and logistics. Creating optimization-based business applications typically involves collaboration between operations research experts, IT developers, and business users. These applications combine constraint-based optimization models, data connectors, business user interfaces, connectors to other analytics or business functions such as prediction or control systems, and solvers to find solutions to the models.

## Introducing IBM Decision Optimization on Cloud

IBM Decision Optimization on Cloud extends the breadth and depth of the IBM Analytics portfolio, which consists of descriptive, predictive, cognitive and prescriptive capabilities.

IBM Decision Optimization on Cloud fuses the power of the on-premises decision optimization offering with the flexibility and scalability of deployment on IBM Cloud™. The preconfigured virtual machines on IBM Cloud provide greater efficiency by eliminating the IT learning curve, hardware investment and complex installation, for an overall lower cost of ownership. Flexible self-serve pay-as-you-go, committed hours, and reserved capacity pricing options offer organizations the freedom to use what they need when they need it, without complicated sales processes. Additional support is always accessible from knowledgeable IBM representatives.



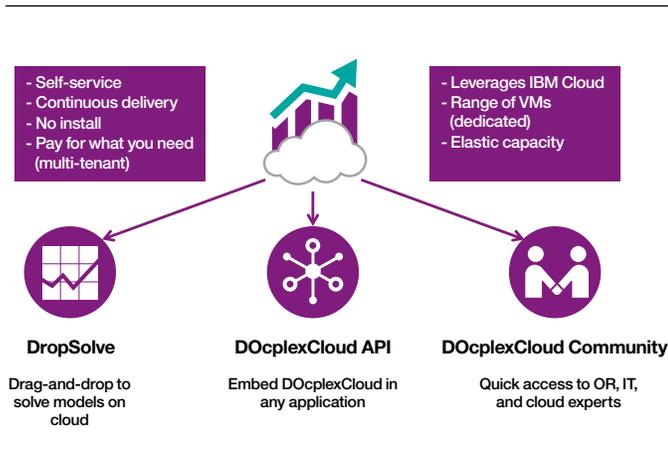


Figure 1: DOpplexCloud offers a number of advantages, including a drag-and-drop interface, flexible APIs and an expert community.

## Under the hood: Optimizer Engines

Increased flexibility and self-service should not come at the expense of power, speed or reliability. To help organizations solve their toughest problems in a flexible environment, IBM Decision Optimization on Cloud leverages the IBM CPLEX® Optimizers.

### High-performance engine: Speed plus reliability

The CPLEX Optimizers not only tackle large, real-world problems with speed, they do so dependably, as demonstrated by more than 25 years of market-leading optimization solutions. Used in thousands of deployments worldwide, the CPLEX Optimizers consistently deliver actionable plans and schedules while ensuring that top-line measures—such as targets for profitability, revenue, and social responsibility goals like limiting carbon footprint—are met.

## Fundamental algorithms

The CPLEX Optimizers come with fast, reliable implementations of the fundamental algorithms needed to solve demanding mathematical optimization problems. The CPLEX Optimizers are flexible, high-performance engines for solving linear programming, mixed integer programming, quadratic programming, quadratically constrained programming (including second-order cone programs), mixed-integer quadratically constrained programming, and constraint programming problems. They can handle problems with millions of constraints and variables, and consistently set performance records for mathematical programming. All algorithms are tightly integrated with cutting-edge presolve algorithms that reduce problem sizes and solve times without requiring any special user intervention. Each optimizer has numerous options for tuning solving strategies for specific problems.

## Simplifying self-service optimization

IBM Decision Optimization on Cloud brings the power of the CPLEX Optimizers to business users, operations research (OR) experts, IT developers, and analytics entrepreneurs in a self-serve environment.

This offering includes the DropSolve drag-and-drop interface to help users quickly discover and try DOpplexCloud, the DOpplexCloud API to embed the CPLEX Optimizers on cloud in any application, and the DOpplexCloud developer community with access to OR, IT, and cloud experts. It offers a selection of virtual machines, and flexible pricing with pay-as-you-go, committed hours, and reserved capacity options so you can scale up and down according to your business needs. Continuous delivery means that you always have access to the latest version on the cloud.

## Features and benefits

IBM Decision Optimization on Cloud provides:

- Self-serve optimization for OR experts, IT developers, and analytics entrepreneurs
- Easy “discover and try” via the DropSolve drag-and-drop interface
- The ability to embed the CPLEX Optimizers on cloud in any application via the DOplexCloud API
- Flexible configuration with a selection of virtual machines
- Lowered cost of ownership—no installation and flexible pricing with pay-as-you go options
- Ease of use—no download, installation, setup, maintenance or upgrade required
- Continuous delivery—the latest version of DOplexCloud is always available
- Elastic capacity—scale up and down on demand to fit your business needs
- The DOplexCloud community, with access to documentation, samples, and OR, IT, and cloud experts

## Why IBM Decision Optimization?

IBM Decision Optimization brings more than 25 years of experience in the field and is a proven optimization technology. In the domain of Decision Optimization, the prestigious Edelman Prize is given each year to the best practitioner project in Operations Research. Over the past decade, four times as many Edelman Finalists have used IBM Decision Optimization’s CPLEX Optimizers than any other optimization technology to build innovative solutions to difficult challenges.

In addition, IBM has one of the largest collections of OR, IT, cloud and industry solutions experts from product teams, IBM Research, and IBM Global Business Services. This combined expertise helps to ensure leading-edge product evolution as well as support for customer needs.

From integrating with the IBM SPSS® Modeler predictive analytics engine, to running optimization algorithms on cloud, to allowing for user collaboration and powerful visualizations in an intuitive user interface, IBM Decision Optimization solutions provide a comprehensive end-to-end solution for even the most complex challenges.

## For more information

To learn more about IBM Decision Optimization, please contact your IBM representative or IBM Business Partner, or visit the following website: [ibm.biz/BdYXxD](http://ibm.biz/BdYXxD)

To register for the DOplexCloud free trial, visit: [ibm.biz/BdYXxH](http://ibm.biz/BdYXxH)

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We’ll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: [ibm.com/financing](http://ibm.com/financing)



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IBM Corporation  
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Produced in the United States of America  
July 2018

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