



See What's New in Corticon 6

Overview

As IT organizations respond to business demands for fast, efficient and accurate deployments, they've turned to industry innovations that nurture flexibility and curb costs. Progress® Corticon® 6 builds on the critical features to integrate decision automation into dynamic applications and modern IT environments.

This latest version of the industry's most user-friendly business rules management system (BRMS) includes a direct REST connection for data retrieval, improved .NET support, enhanced features for the Corticon Studio modeling environment and a simpler deployment process out of the box.

Easily Capture Data via Rest API Requests

Many companies are moving toward a distributed architecture connected by REST APIs and no longer want applications to access databases directly. Enterprises also increasingly rely on SaaS services, external data sources and non-relational databases for essential input to business rules. Until now, there had never been a completely code-free solution to pull data into a rules engine from a REST endpoint.

Corticon 6 simplifies data retrieval by enabling decision services to call REST services directly using the Progress DataDirect® Autonomous REST Connector. Rule developers now have the flexibility to access data from multiple sources with a combination of direct database connections and REST calls. The enhanced set of input retrieval options cuts integration time and simplifies maintenance.

Corticon 6 REST API Data Retrieval

- Quickly integrate REST services and decision services
- Mix REST and database access for increased flexibility
- Easily map project vocabularies to REST data sources
- Access SaaS applications

Just as Corticon can currently read information directly from a database, the new Autonomous REST Connector enables Corticon to pull in data (both internal, such as account details and external, such as Medicare reimbursement rates) on the fly from any source that accepts a REST GET request. And with Corticon Studio, IT

or rule designers can easily map a vocabulary to REST or relational data sources, freeing the rule modeler from the details of where data resides. Figures 1 and 2 below illustrate what is happening behind the scenes.

Figure 1

Medical reimbursement rates returned from our sample REST Datasource, by entering its URL with one parameter in a browser. The URL connected to the REST server that enables query filtering, such that the connection returned only the results, differentiated by applicable dates, that matched the parameter value.

```
{
  "results": [
    {
      "procedureCode": "B5120ZZ",
      "rates": [
        {
          "startDate": "2018-1-1",
          "endDate": "2018-6-1",
          "rate": 0.85
        },
        {
          "startDate": "2018-6-2",
          "endDate": "2018-12-31",
          "rate": 0.8
        }
      ]
    }
  ]
}
```

Figure 2

The Autonomous REST Connector creates 'synthetic' key fields that are added to the rates table, as there is an implicit association of 0 to n rates for each 'procedureCode'. When JSON is viewed as nodes, the two rates are distinguished by the integer 'incrementor' that becomes the synthetic key field.

Select a node...

- object {1}
- results [1]
 - 0 {2}
 - procedureCode : B5120ZZ
 - rates [2]
 - 0 {3}
 - startDate: 2018-1-1
 - endDate: 2018-6-1
 - rate : 0.85
 - 1 {3}
 - startDate: 2018-6-2
 - endDate: 2018-12-31
 - rate: 0.8

The Autonomous REST Connector represents a JSON response payload in a relational format that Corticon can use via its built-in data connections. And it handles the hard work of translating a consistent JSON structure into a relational structure that Corticon maps to entities and attributes in the vocabulary, as shown in figure 3. For more complex data structures, developers can customize the database schema as needed.

REST Datasource Object to be interpreted by Corticon as a Database	Column	Corticon Equivalent to REST Datasource Object
Rate	(synthetic increment)*	🔑 position (PK, varchar(1), not null)
Rate	(PROCEDURE CODE)*	🔑 procedureCode (PK, varchar(1), not null)
Rate	startDate	📅 startDate (date,null)
Rate	endDate	📅 endDate (date, null)
Rate	rate	📄 rate (float, null)

Figure 3

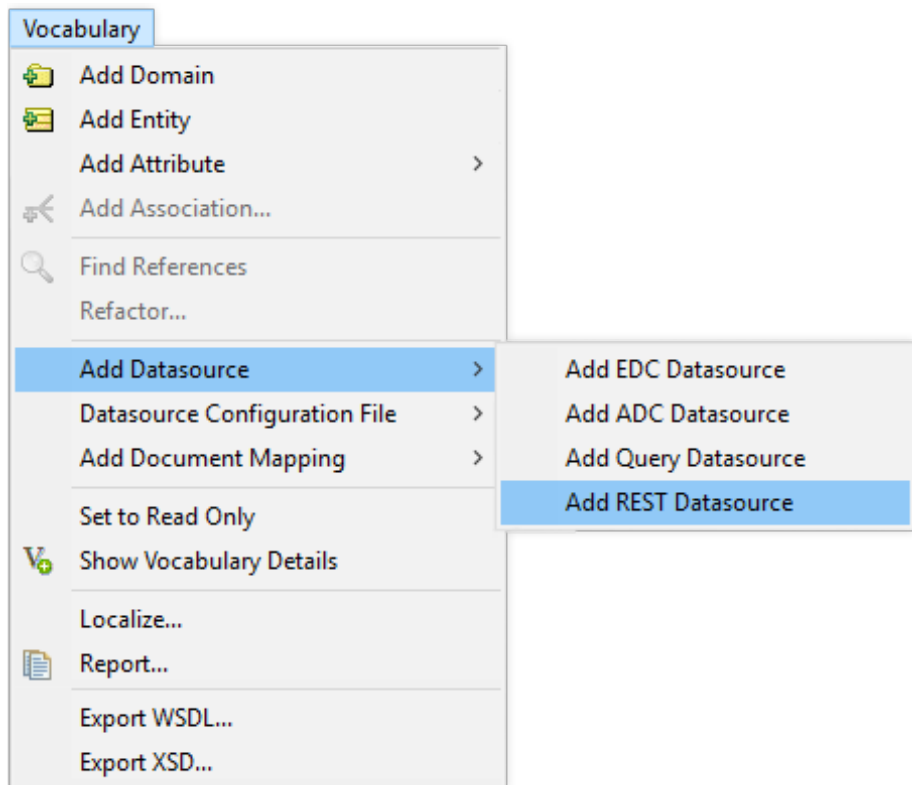
The Autonomous REST Connector processor sets up a column name for each data label and infers its data type from the value.

REST requests can be parameterized using query parameters or path parameters. The new feature supports REST calls over HTTP or HTTPS protocols as well as optional authentication with username and password, URL parameter tokens or header tokens.

Here's how it all looks to the rule modeler:

Figure 4

The Rule Modeler adds a REST datasource just as they would a relational database connection



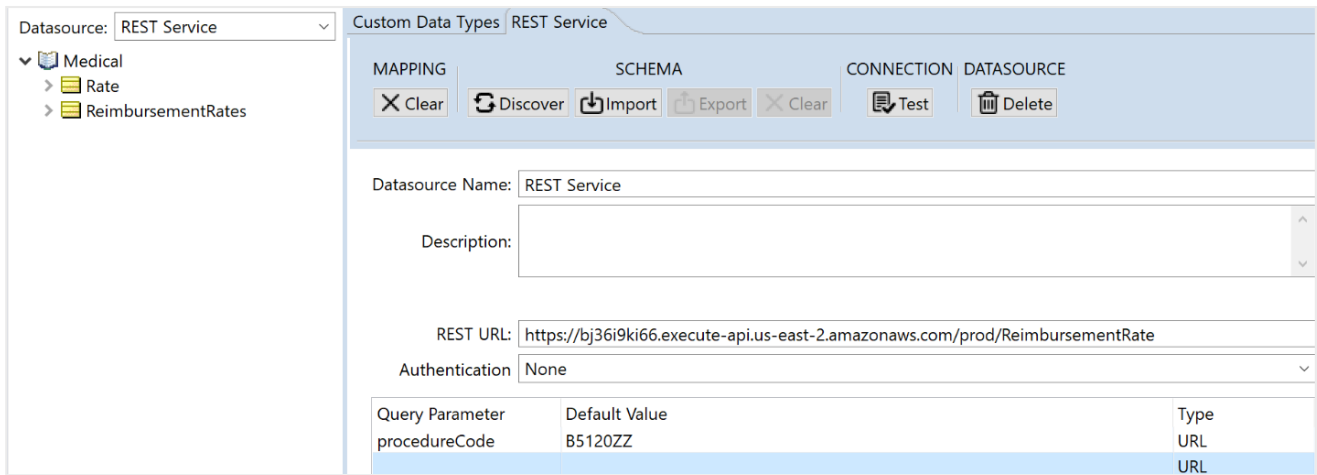


Figure 5
REST Service tab is added
to the root level of the
Vocabulary

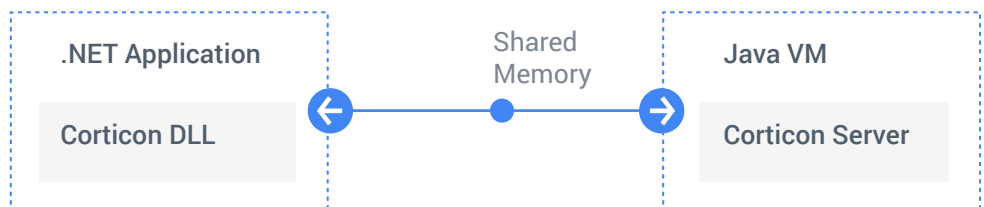
Deploy to .NET Applications Faster and Easier

Corticon 6 features a new connection layer for .NET implementations that eases deployment and speeds performance. Whether deploying Microsoft IIS or embedding Corticon in a custom .NET application, Corticon 6 speeds transaction speed up to 300%. And with Corticon 6, deploying Corticon .NET is a simple configuration process.

Smarter Integration with .NET

- Rule execution time reductions by 300% or more
- Easily deploy to Microsoft IIS and custom embedded applications
- Eliminate cross-compiling from Java to .NET

To achieve these advantages, Corticon 6 incorporates [JNBridge](#) for a tighter partnering between Corticon Java classes and .NET. The efficiency comes from a simpler architecture that doesn't require cross-compilation. And JNBridge ensures consistency over time with support for .NET Core and future .NET releases.



Compared with previous versions, customers will have an easier, more intuitive interface for configuring Corticon's .NET integration. Integrators simply need to add Corticon proxy DLL files to the .NET application. Corticon generates the

proxies, which provide the connection between Java and .NET. As before, Corticon can be implemented in .NET systems as an in-process application or as a REST or SOAP service.

Speed Rule Design With Enhanced Corticon Studio Features

Corticon Studio has long made rule design, validation and testing a user-friendly and robust process. But the latest improvements increase efficiency further.

Faster Refactoring

Studio designers know how valuable the Refactor tool is for changing attribute, entity and association names in the vocabulary and ensuring those changes are properly propagated throughout the project. The companion Find References tool identifies where an element is used in the project and helps designers avoid costly mistakes in adding or deleting attributes.

These features save countless hours of updates and rework, and now they're even faster and more efficient. In Corticon 6, they no longer depend on rule validation, so designers can quickly refactor names or search the project for vocabulary elements when needed.

Validation on Demand

One of the most powerful Corticon Studio features, the automatic validation of rules, captures conflicts, datatype mismatches and errors that could cause failures in production. The validation process, however, takes a lot of computer power.

With the latest version, Corticon Studio users can now choose when rules should be validated, minimizing CPU usage and increasing responsiveness when the rule designer is working with large models.

Centralized Export for Studio Assets

In Corticon 6, users can export WSDLs and XSDs directly from Corticon Studio without having to rely on external tools. And for extra convenience, command-line ninjas can generate WSDLs, XSDs and CDDs from the prompt.

Take Advantage of the Latest Eclipse and Tomcat Releases

Corticon 6 is now bundled with Eclipse 4.9 and Tomcat 9. The new Eclipse version offers useful features for the Corticon Studio designer as well as a more modern look. For example, developers can access previously used workspaces via a link in the workspaces dialog box rather than having to browse for them. Also, designers can customize colors and themes to their preferences and the interface offers better resolution for large screens.

Tomcat 9.0 is the latest and most robust version of the popular web application server. It includes recent bug fixes and security upgrades. The Corticon 6 software bundle comes with everything needed to set up a Corticon Server on Tomcat 9.0 and deploy Decision Services for development and testing.

Lighten the Overhead With a More Streamlined Product

Over years of development, Corticon has been updated to keep pace with changes in technology and trends in IT architecture. But as some of those trends have made way for newer, better approaches, older features are no longer needed.

That being the case, the latest release of Corticon has seen the removal of several redundant and outdated features. This housecleaning also puts Corticon in a good position to incorporate future improvements that continue to make the BRMS more powerful, easier to use and more compliant with current best practices, such as agile computing, CI/CD and automated build and deployment.

Corticon by Industry

The changes and updates included in Corticon 6 help customers meet the challenges of modern industry deployments. The added support for REST architectures in Corticon 6 makes it easy for companies to incorporate legacy data stores into distributed systems that insulate volatile business logic from hardcoded backend software. Plus, improved .NET and Java support lets customers drop Corticon easily into their current environments.

As it has evolved over time to solve difficult IT challenges, Corticon has become the rule engine of choice for large enterprise applications worldwide. Companies use Corticon to model and execute business logic in industries such as financial services, government, healthcare, insurance and ecommerce.

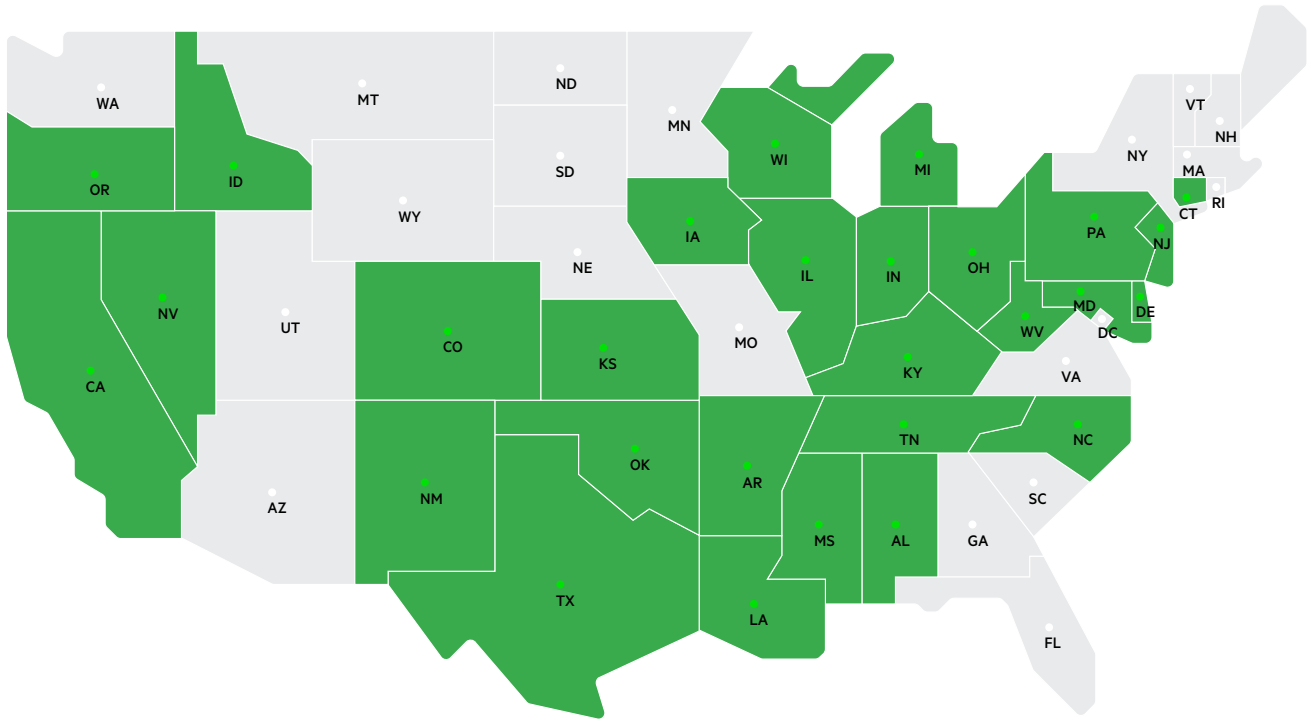
Financial Services

With Corticon, financial services companies lift the business logic out of software code and put it into the hands of business experts, who can quickly design, test, deploy and update rules in the face of swiftly changing regulations, auditing requirements and competitive pressures.

Numerous credit card companies rely on Corticon to assess and approve credit card and loan applications faster than before, increasing customer acquisition and satisfaction. Banks are using Corticon to maintain auditable transaction records, ensure stock market transaction regulatory compliance and flag high risk investments. And financial retailers are leveraging Corticon to power self-service applications for customers to find account information and apply for loans.

Public Sector

In the U.S., 28 state governments have adopted Corticon as an essential cog in delivering public services, such as Medicaid program eligibility determinations, population health efforts, driver licensure, highway toll calculations, tax audits, and academic scholarship programs. Corticon's services-focused decisioning architecture makes it a natural fit for the public sector's vision of modern, modularity-focused solutions for delivering critical human services.



Corticon is at the backbone of interagency public service programs across 28 states.

Many states have legacy systems created decades ago, which are extremely difficult to update. However, as new legislation rolls out, agencies are expected to implement new policies immediately. With Corticon, these departments can deploy updates within hours rather than weeks.

Public sector applications handle billions of cases and transactions every year. And they handle those cases faster using Corticon, ensuring timely processing of essential public services. The rule engine also takes over much of the repetitive, manual review and processing case workers have to do, allowing them to focus on delivering services to needy citizens, not sifting through documentation and waiting on loading screens.

Healthcare

The wealth of patient, treatment and medication data presents the healthcare industry with an opportunity to increase patient health outcomes while lowering costs. However, successfully leveraging this data, which exists across a number of disparate sources, each with their own security considerations remains a major obstacle.

Many in the industry have addressed this challenge by using Corticon to model and deploy rules about policies, procedures, drug interactions, patient conditions

and more. And because non-technical industry specialists can easily update and redeploy decision logic, healthcare companies can respond efficiently to changes in regulations, market demands or internal policies.

Some healthcare businesses use Corticon for applications managing order fulfillment, claims processing, reimbursement, prescription renewals, dementia assessment, diabetes risk assessment, head injury assessment, hypertension risk assessment, immunization schedules and at-risk population monitoring.

Other applications ensure claims and reimbursements are correct, saving manual review time and catching costly errors. Corticon also represents business logic for consumer-facing applications that help patients and doctors access personalized treatment plans.

Insurance

For many insurance providers, Corticon has helped solve the problem of constantly changing regulation and complex, often conflicting or incomplete policies. Where companies used to struggle updating hard-coded automation, they now turn those changes around in a few hours, including testing and validation of new rules. Efficient deployment also confers the advantage of bringing new products to customers faster and capturing market share early.

Corticon applications help insurers to easily answer questions about policies, billing and claims. It also helps automate the underwriting process based on applicant data, demographics and population risks. And many companies have used Corticon to handle the rules for processing electronic healthcare claims, based on patient details, treatment type and coverage.

Ecommerce

Corticon has helped online sellers manage complex orders and transactions. Corticon administers the logic behind a wide variety of commercial purchases, allowing companies to present an intuitive user interface to their customers with little custom coding or development.

These applications ensure transactions comply with security constraints and internal policies, such as satisfaction guarantees and refunds. Corticon's linear scalability also makes it ideal for modern commerce platforms that may take on millions or more transactions per day.

Power Business Rules With Advanced Flexibility and Efficiency

Whether for transforming legacy systems or disrupting the market with innovative new applications, Corticon 6 carries on the Progress commitment to support distributed systems, streamline deployment and integrate seamlessly with automated build and deployment. With this latest version, it's easier than ever to distill business rules from the rest of an application and render the entire system more agile, responsive and robust.



To learn more about Corticon's latest release or kick off a free 30-day trial, visit www.progress.com/corticon.

About Progress

Progress (NASDAQ: PRGS) offers the leading platform for developing and deploying strategic business applications. We enable customers and partners to deliver modern, high-impact digital experiences with a fraction of the effort, time and cost. Progress offers powerful tools for easily building adaptive user experiences across any type of device or touchpoint, award-winning machine learning that enables cognitive capabilities to be a part of any application, the flexibility of a serverless cloud to deploy modern apps, business rules, web content management, plus leading data connectivity technology. Over 1,700 independent software vendors, 100,000 enterprise customers, and two million developers rely on Progress to power their applications. Learn about Progress at www.progress.com or +1-800-477-6473.

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