



### Client



#### Challenge

To build and strengthen credit reporting and analysis capability within the company's key markets – incorporating rules and processes within an automated BRMS, Corticon.

#### Solution

To deliver competitive loan programs to its key markets, DBS built an automated credit reporting capability around Corticon, capturing and enhancing the organization's knowledge and experience in a growing, robust, agile, and adaptable set of models.

#### Benefit

Corticon has helped DBS reduce risk and handle more loan business with more confidence. Furthermore, because Corticon makes it easy to update, the DBS system can be regularly refreshed to reflect new trends and business information. Singapore-based DBS is a leading financial services group in Asia, and a leading consumer bank in Singapore and Hong Kong, serving more than 4 million, with 1 million retail customers. DBS has adopted Progress® Corticon® to provide a reliable, accurate, and flexible credit scoring process to support both its consumer and commercial loan activities. Corticon has replaced manual methods, yet provides agility, enabling rules to be adapted as market conditions and data change, while continuing to provide a reliable platform for decision-making.

## Creating a Cutting-Edge Credit Reporting and Analysis Capability for Key Asian Banking Markets

Founded nearly 50 years ago as the Development Bank of Singapore, DBS was the catalyst to Singapore's economic development during the nation's early years of independence. Since then, DBS has become a very successful financial services institution. The bank's strong capital position, as well as "AA-" and "Aa1" credit ratings (among the highest in the Asia-Pacific region), earned it Global Finance's "Safest Bank in Asia" recognition for five consecutive years, from 2009 to 2013. According to the company, DBS has a wide focus. In Singapore, it is a leading consumer bank and actively engaged in financing the growth of Singapore's small and medium-sized enterprises, or SMEs. DBS even launched Singapore's first real estate investment trust (REIT) in 2002.

Similarly, in Hong Kong, DBS is a leading player in the consumer and SME banking spaces, with leading market shares in equipment and trade finance as well as being a pioneer in the capital markets, with extensive product origination and risk management capabilities.

One of the key "back office" capabilities that supports many of these activities is credit reporting—the intelligence and skills needed to assess risk and creditworthiness for individuals and businesses. At the turn of the 21st century, this was still largely a manual and ad hoc process; one that was labor intensive, and as much art as science; and more importantly, it wasn't working well. According to Sakthidaran Swamirajan, Vice President, Application Management at DBS, the existing process was built around a questionnaire and was not linked to data. For example, he explains, in the old process a relationship manager would typically ask an applicant a series of questions and the applicant could provide any answer they chose. The process was not linked directly to data.

According to the company, because the DBS credit determination process was very manual and it was errorprone, DBS assumed higher risk, and was required to hold more capital in reserve for potential bad loans.

To control costs, sustain growth, shield DBS from unnecessary risk, and grow the business, the company looked for ways to improve the existing process, strengthen its rules and build a more automated and fact-based process. "With Corticon we have been able to move at the speed of the market by implementing new rules to reflect new realities when needed. Corticon makes it easy to adopt and deploy these changes."

Sakthidaran Swamirajan Vice President, Application Management DBS

### Capture Knowledge in Progress Corticon BRMS

In 2009, the company's credit process changed substantially. After briefly looking at alternative solutions, DBS chose to work with Progress, TIBCO, and Oracle to build a new credit determination process. "Progress Corticon gave us the ability to change the way the credit scoring is done in DBS," says Sakthidaran.

The barriers to automating a complex process in a knowledge-rich environment are substantial. Many corporations like DBS have decision-intensive business processes with complex decision logic that must be applied at a high transaction rate. Thus, they are challenged with both getting the logic right and processing that logic fast enough to meet the required transaction throughput. And, whether decisions are made by people or by software, they must be made consistently and accurately every single time. With large sums of money involved, the stakes are particularly high, especially in a credit-reporting environment.

To master that challenge, in 2009 DBS adopted Corticon Business Rules Management System (BRMS), with Enterprise Data Connector, as the cornerstone of its new system. DBS also employed TIBCO BusinessWorks and TIBCO iProcess Decisions along with an Oracle database as part of the solution. With eight scoring models, each with hundreds of rules, and hundreds of factors that go into a score, the system took several months for the DBS team to develop, but the results were worth the time spent, according to Sakthidaran. "With Corticon have been able to move at the speed of the market by implementing new rules to reflect new realities when needed. Corticon makes it easy to adopt and deploy these changes."

Designed to serve internal customers, "Once set up by DBS, the Corticon rules engine can read data from database tables, which is enabling us to change the key factors in the tables using online workflow modules," explains Sakthidaran. "The rules that we use now are based directly on credit data and customer data. With our Corticon based process we are capturing all the parameters. Furthermore, based on our data, we can change criteria on the fly; we don't have to wait months to update the process," he adds.

In the credit reporting system, the rules themselves come from a combination of regulatory sources such as the Monetary Authority of Singapore (MAS) and statistical analysis from the DBS Credit Portfolio Analytics Department.

Now that Corticon is powering the credit rules process, DBS routinely passes both internal and external audits by the MAS. This not only reduces their own credit risk, it also reduces the amount of funds which once had to be held in reserve to cover potential bad loans. "With Corticon, IT and business can both respond quickly to market changes. Compared to previous practice, the turnaround time has been reduced by 25%."

Sakthidaran Swamirajan Vice President, Application Management DBS

# Benefits

Like many organizations, DBS depends on many recurring decisions made correctly by professionals every day. The chance to capture, hone, and automate the decisions involved in credit reporting brought DBS to implement Corticon. "We are extremely pleased with the ease of use, end-to-end visibility of the rules, the rules completeness check, and the flexibility factors of mapping via tables, that we have been able to achieve with Corticon," says Sakthidaran.

With the help of Corticon, DBS has built a better credit model; reducing risk and the amount of financial reserves that must be held aside to cover unanticipated losses. Over the longer term, Corticon is also helping to improve operational speed, delivering and updating new creditscoring models, reducing errors in models, and enhancing agility and adaptability. For example at DBS, Corticon helps support the reuse of logic across multiple models. And, above all, it has proven easy to use, deploy, and manage.

"With Corticon, IT and business can both respond quickly to market changes. Compared to previous practice, the turn-around time has been reduced by 25%," notes Sakthidaran.

### About DBS

DBS is a leading financial services group in Asia, with more than 250 branches across 17 markets. Headquartered and listed in Singapore, DBS has a growing presence in the three key Asian axes of growth: Greater China, Southeast Asia and South Asia. The bank's capital position, as well as "AA-" and "Aa1" credit ratings, is among the highest in Asia-Pacific. DBS has been recognized for its leadership in the region, having been named "Asia's Best Bank" by The Banker, a member of the Financial Times group, and "Best Bank in Asia-Pacific" by Global Finance. The bank has also been named "Safest Bank in Asia" by Global Finance for five consecutive years, from 2009 to 2013. DBS provides a full range of services in consumer, SME and corporate banking activities across Asia and has also established an SGD 50 Million Foundation to strengthen its corporate social responsibility efforts in Singapore and across Asia. The bank acknowledges the passion, commitment and cando spirit in all of our 19,000 staff, representing more than 30 nationalities. For more information, please visit www.dbs.com

"We are extremely pleased with the ease of use, end-to-end visibility of the rules, the rules completeness check, and the flexibility factors of mapping via tables that we have been able to achieve with Corticon."

Sakthidaran Swamirajan Vice President, Application Management DBS

### About Progress

Progress (NASDAQ: PRGS) is a global leader in application development, empowering the digital transformation organizations need to create and sustain engaging user experiences in today's evolving marketplace. With offerings spanning web, mobile and data for on-premise and cloud environments, Progress powers startups and industry titans worldwide, promoting success one customer at a time. Learn about Progress at <a href="https://www.progress.com">www.progress.com</a> or 1-781-280-4000.

Progress and Corticon are trademarks or registered trademarks of Progress Software Corporation and/or one of its subsidiaries or affiliates in the U.S. and/or other countries. Any other trademarks contained herein are the property of their respective owners.



© 2016 Progress Software Corporation and/or its subsidiaries or affiliates. All rights reserved. Rev 2016/11