

Case Study



BlackRock Solutions® (BRS), a division of BlackRock, is known widely in the industry for its quantitative prowess and extensive proprietary analytic modeling capabilities. Through **Aladdin®**, BRS' fully integrated enterprise investment platform, the firm is unique in its ability to combine sophisticated risk analytics with portfolio management and enterprise investment system services. These are provided to a broad base of clients with portfolios totaling **US \$9 trillion** (As of December 31, 2009).

AT A GLANCE

Client:

BlackRock Solutions' (BRS) services are provided to a broad base of clients with portfolios totaling **US \$9 trillion** (As of December 31, 2009).

Challenge:

Due to increasing demand to value and price exotic FX instruments, BRS needed to accelerate the implementation of FX analytic capabilities in its platform.

Solution:

Numerix provided BRS with the only third-party solution flexible, scalable and accurate enough to meet its requirements.

“It was clear that Numerix was the only solution available that met all of our requirements. Numerix provided the breadth and depth of independent models we needed for FX exotics.”

--Yury Krongauz, Ph.D., Managing Director

BRS' BUSINESS CHALLENGES

In order to expand its capabilities to support foreign exchange exotics, BRS needed a pricing engine powerful and flexible enough to fully integrate into its Aladdin system. As a result, the firm conducted an in-depth **'build vs. buy'** analysis. Given its powerful quantitative expertise, BRS traditionally builds its own models. In this situation, however, BRS decided that building would not strategically fit into its timeline or cost parameters.

BRS required a 'tried and tested' third-party industry standard to successfully achieve its goals. It also needed a technology solution flexible enough to seamlessly integrate into its **Aladdin** enterprise investment platform.

WHY BRS SELECTED NUMERIX?

After considering several alternatives, BRS found that Numerix was the best solution available that could meet all of its stringent requirements. Numerix provided BRS with the third-party solution it needed to support FX exotics, enabling clear and consistent calculations and creating transparency for its clients.

In addition to its strong reputation as the industry leader in advanced analytics, Numerix provided BRS with a solution comprehensive and flexible enough to support a broad range of FX derivatives—including even the most exotic, bespoke instruments. As a result, Numerix was unique in its ability to support all of the product types required by BRS, including: American Options on FX, European Style Barrier Options, Touch/No-Touch Options, and Digital European Options.

Overall, BRS was impressed by the unique interoperability and flexibility behind the Numerix solution. Much of this flexibility resides in the Numerix CrossAsset SDK (Software Development Kit)—providing programmer-level access to our market-standard analytics.

Offered in C++, C# and Java interfaces, the SDK allowed developers to integrate Numerix analytics into the kernel architecture of BRS' proprietary systems—in this case, Aladdin.

Instrument Description		Valuation Assumptions	
Analysis Date:	01/15/2008	Identifier:	Asset Id
		Asset ID:	BRS6XERH4
Call/Put	Call	Lower Barrier	100.0000
Option Style	Double-knock-out	Upper Barrier	113.0000
Ccy Pair	USDJPY	Barrier Start Date	
Expiration Date	07/10/2008	Barrier End Date	
Delivery Date	07/14/2008	Barrier Source	
Strike	105.0000	<input type="checkbox"/> Non-deliverable	
Expiry Time			
Notional (USD)		10,000,000.00	
		Master	

“The integration of Numerix analytics within our proprietary Aladdin system provided us with the ability to quickly enhance our offering to support exotic FX derivatives and meet the requirements of our clients....”

--Irwin Sheer, Ph.D., Managing Director

Integration of Numerix into the BlackRock Solutions Platform

Numerix FX models are seamlessly integrated into BRS’ analytic engine and can be easily accessed within front-end analytics tools.

BENEFITS OF USING NUMERIX

Numerix technology has enhanced BRS’ ability to price exotic foreign exchange derivatives—enabling transparency and operational efficiency.

Numerix provides BRS with the most comprehensive coverage for foreign-exchange instruments through our infinitely flexible deal-structuring architecture, payoff scripting language and a comprehensive library of market-standard FX models and proprietary numerical methods for exotics.

BRS has expanded its FX offering to clients, using Numerix scripts for:

- American Options on FX
- European Style Barrier Options
- Touch/No-Touch Options
- Digital European Options

BRS utilizes the following Numerix models:

- “Advanced Fit” Local Volatility (Dupire) Model
- Classic Heston Model with Constant Coefficients
- SABR Stochastic Volatility Model

FUTURE DIRECTIONS

Today, a major government utilizes the Numerix-BRS platform as the underlying analytics engine for its exotic FX valuations and risk sensitivities through the Aladdin system. Due to the Numerix-BRS joint solution, BRS has been able to offer its capabilities for first generation FX exotics to additional clients globally.



Numerix is the leading provider of cross-asset pricing and risk solutions for derivatives and structured products. Since its inception in 1996, over 700 clients and 50 partners across more than 25 countries have come to rely on Numerix analytics for speed and accuracy in valuing and managing the most sophisticated financial instruments. With offices in New York, London, Tokyo, Hong Kong, Singapore and Dubai, Numerix brings together unparalleled expertise across all asset classes and engineering disciplines.

New York | London | Tokyo | Hong Kong | Singapore | Dubai