IT Open Day 2022

Manage.Risk.Smarter

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Today’s Session is about

- ✓ Sharing direction we are taking for evolving our risk systems
- ✓ Inviting you to take part in designing smarter solutions for risk management
- ✗ ~~Walk through release plans~~

A very brief introduction to Risk IT at Deutsche Börse

- We are part of Deutsche Börse’s Product IT as the **technology arm of the Risk Product**
- Our main client and **business partner is Eurex Clearing Risk Management**

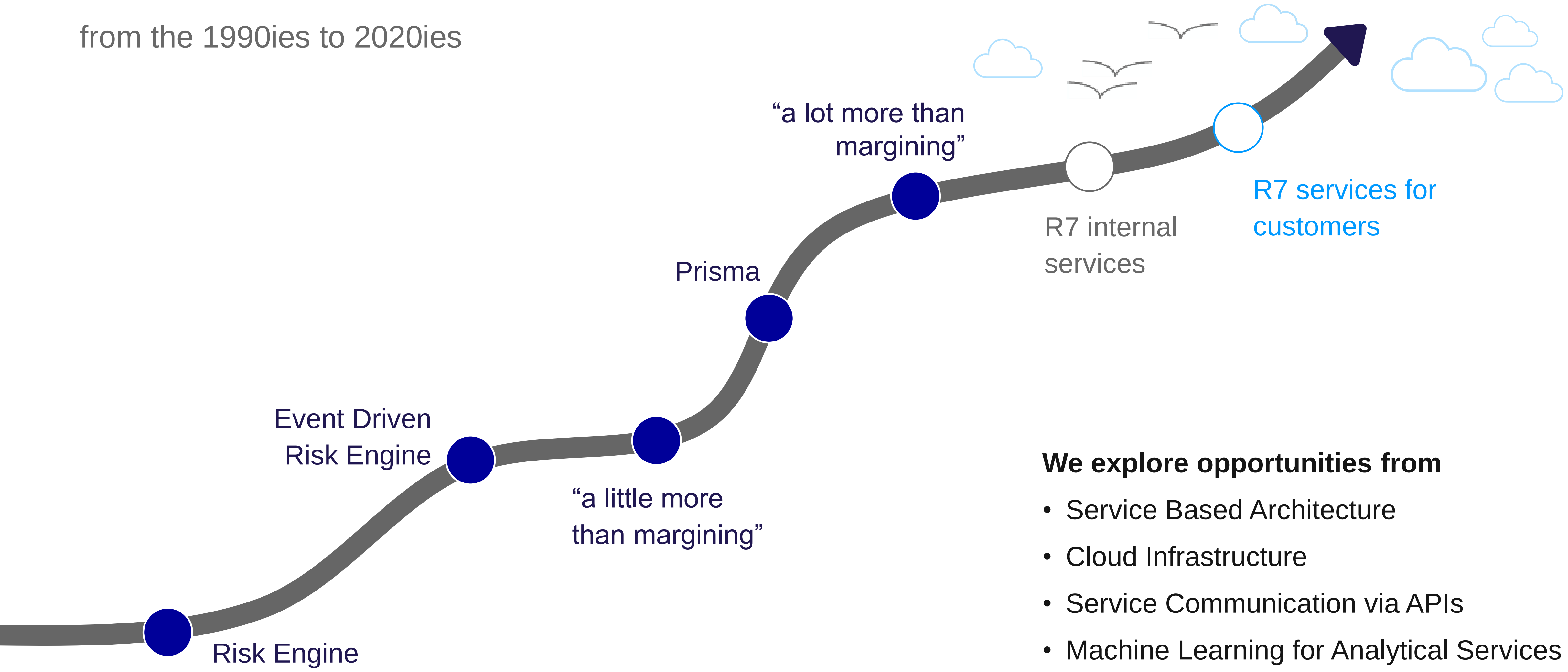
- Our **most well known service is** the major risk system **Prisma**, but Risk IT owns a number of other IT applications for market data management and risk analytics.

- We have **105 team members** who cover specification, build, test and release management for almost all of our applications
- Our team members are **located in Prague, Eschborn and Chicago**

- Our **applications run on shared infrastructure with** our sister teams **Trading and Clearing**, incl. the ECAG OpenShift cluster (on premise) for containerized applications
- Most of **Development and Cloud Portfolio margin Estimator (CPME) service runs on AWS**

Our Journey from basic service to sophisticated IT solutions

from the 1990ies to 2020ies



We explore opportunities from

- Service Based Architecture
- Cloud Infrastructure
- Service Communication via APIs
- Machine Learning for Analytical Services

Focus on Risk IT Services for Customers (1/3)

Reports

Confirm values resulting from your activity

What is my end of day margin requirement?

What-If

Calculate values for hypothetical future activity

How would my margin requirement look like for that trade?

Smart Service

Detect and Learn how to improve activity

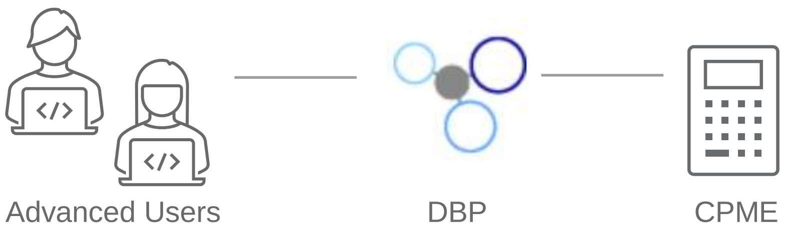
Did you know that you can optimize your Portfolio margin by…?

Focus on Risk IT Services for Customers (2/3)

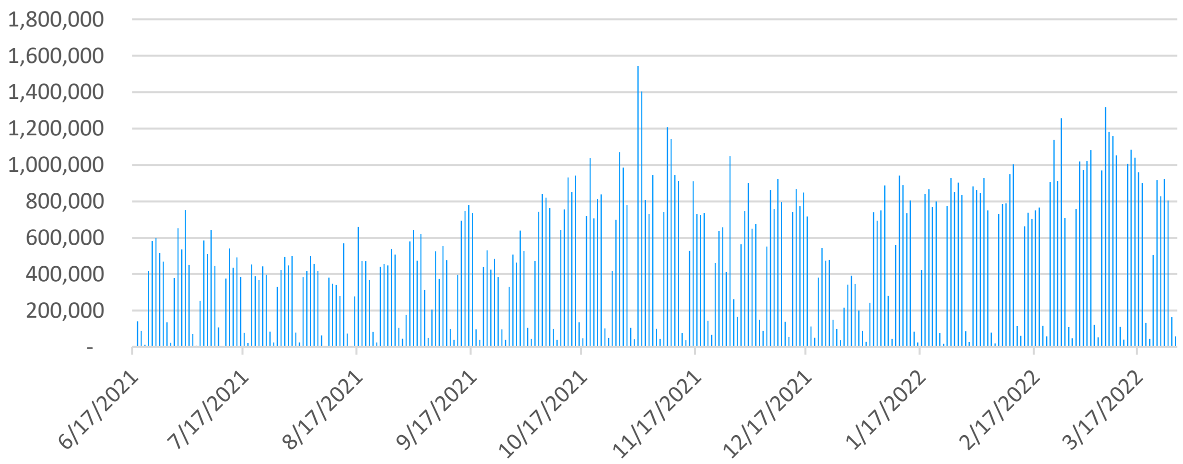
Taking the CPME as example of an exiting what-if service suggests there is growing demand

- Cloud PME runs on AWS and is operated by Risk IT.
- The main part of the service is the calculating (cross-) margin for a specified portfolio
- Cloud PME's API is available to customers through the Digital Business Platform (DBP), giving them access to Prisma margin estimations via API. DBP provides analytics about users and their behavior
- On an aggregated basis we saw **up to almost 20 Mio API-calls** for Cloud PME per month and **up to 100 calls per second** (technical limit)
- The **usage statistics suggests that multiple customer have already integrated the Cloud PME into their business processes**, potentially to build their own smart solutions…?

Accessing the CPME through Digital Business Platform



Accumulated number of API requests to CPME per day



Focus on Risk IT Services for Customers (3/3)

Sharing our ideas of future services *for you*

Activity Type	What-If	Smart Service
Trading	Calculate hypothetical margin for portfolio resulting from trading activity	Suggest hedge trades (incl. cross margining) to optimize portfolio with respect to preferred risk profile and current market situation
Manage Risk Limits	Calculate hypothetical margin and compare to pre-defined limit	Suggest Risk Limits based on observed trading behavior and current market situation
Monitor Risk Exposure	Extend hypothetical margin calculation to other risk metrics (such as stress testing)	Detect unusual changes in risk exposure (e.g. market risk, concentration risk) and send early warning signal
Risk Analytics	Calculate hypothetical margin and stress test results for changed risk model parameters	Detect unfavorable risk factor moves and send early warning signal for anticipated violation of preferred risk appetite

You are invited!

- Share your needs with us
- Take part in service design

Contact your technical key account manager and/or feel free to reach out personally to laura.nasello@deutsche-boerse.com

Thank you!

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