CLOUD KNIME
OUR JOURNEY TO MACHINE LEARNING WITH A PURPOSE

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ABOUT TODO1

• Mission to humanize the interaction between customers and their financial institutions through our Digital Banking Multichannel solution
• Born from DNA of leading Latam Banks and operating for 20+ years
• 500+ Employees in Latam and US
• Processing 5+ Billion transactions per year for 13+ million customers
• Relatively new to the Cloud and Machine Learning landscapes
WHY KNIME..?

• One platform “to rule them all”
• REST API
• Self-documented
• Sales processed center on our needs first
• Price
Transactionally fraud mitigation in the digital interactions between financial institutions and their customers

Typical digital interactions include: Login, password change, personal information update, transfers and all types of payments, etc.

Profiler leverages on a wide array of machine learning models using customer’s behavior, device information, fraud patterns and context to provide real-time decision capabilities to fight fraud.

Can run integrated with Todo1’s other solutions or standalone.

Fully hosted and maintained by Todo1.
USE CASE SUMMARY: ANTI-FRAUD (PROFILER)

- Significant transactional/behavioral/device FRAUD data is hard to get
- Feature engineering is tough
- Real-time (< 100ms) response is also hard to manage
- Sheer volume makes it even more complex (i.e. > 300 txns per sec.)
- Down time is not an option
- Scalable to accommodate wide array of institutions
• Started working with Knime in AWS: fast deployment, easy to test and scale.
• Benchmarking was key to understand limitations and optimize
• Seamlessly moved to Azure and reoptimized in light of real-time data
• Running Load balancer / 4 Knime servers / Rabbit MQ / 2x Executors
• System in production in the Cloud and fully operational for the past 3 months managing 650+ million transactions with NO down-time

• A Bank with 8+ million customers, peaks of 200+ transactions per second with overall improvement of +100% in detection rate at the same false positive rate vs market leader.

• A Bank with 2+ million customers, peaks of 100+ txns per sec. with overall improvement of 50% to 100% in detection rate at the same false positive rate vs market leader.

• Round-trip median time approx. 100ms

• No re-coding of mobile or web apps on either bank was needed.
CHALLENGES AND NEXT STEPS

• Optimize infrastructure cost (instances)
• Accommodate challenger models in production
• Improve run-time performance (proprietary nodes)
• New use cases
• Evangelize others in the organization
THANK YOU