CELTIC AI Proposers Webinar
31st March 2020, 14:00 – 17:00 CET

Pitch of the Project Proposal

Unified Communication Behavior Analytics - UCBA

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Teaser

CELTIC-NEXT

What is the main benefit of the idea/proposal?
- *The project is proposed as a behavior based analytics platform focusing on the Telecommunication / Unified Communication.*
- *Detecting behavior patterns can be used not only for security but also for network optimization and customer experience.*

What makes the added value?
- *Communication Service Providers can identify and mitigate new threats and frauds more effectively with threat intelligence and machine learning capabilities as well as policy-based mitigation capabilities.*
- *The key points of the proposed platform would be intelligent behavior and threat models for the real-time communications environments, cloud communication platforms and 5G communication networks.*

Why should I participate in the project?
- *Behavior is the leading threat indicator.*
- *For the real-time communications environments, cloud communication platforms and 5G communication networks*
  - *If you interest machine learning and behavior analytics,*
  - *If you want to predict, detect and deter large scale fraud and anomalies of both internal and external users.*
  - *If you want to provide cyber context to anomaly activities*
  - *If you want to maintain regulatory and compliance requirements*

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EUREKA

Organisation Profile
NetRD

Working experience with global technology vendors and **250+** telcos in **100+** countries

Total **2,800 ManYears**, average 8 years experience

High quality R&D Center with **32 years** of experience on Telecom and Information Technology

200 million lines of software developed

350+ R&D Engineers, **25%+** have **MSc or PhD**

Technical Expertise @ Technology Domains

Real Time Telecom Session Control Applications

Mobile and Web Technologies

Cloud and Platform

Automated Systems

Edge Computing

Big Data and Analytics

EUREKA

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Organisation Profile
Turkcell Teknoloji

More than **100 million** subscibers in **15** countries

Active **board membership ps** in Celtic and ITEA clusters of EUREKA

26 years of experience as GSM operator (Turkcell Group) and **13 years** in ICT R&D (Turkcell Teknoloji)

Around **10M hours** of R&D efforts in **800+** projects

900+ R&D Engineers, **25%+** have **MSc or PhD**

Technical Expertise @ Technology Domains

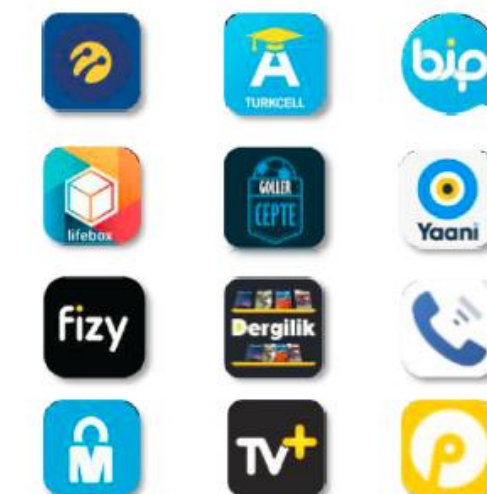| 5G	Artificial Intelligence	Blockchain	IoT	AR/VR	Several Digital Services

Proposal Introduction

Targeted Top Use Cases:

- **Telecommunication frauds** *such as call forwarding/diversion fraud, (multiple) call transfer fraud, wangiri fraud, (IP) PBX fraud.*
- **Cloud Communication analytics** *for visibility and control problems, managing multiple or hybrid cloud environments and services together, providing and proving regulatory compliance*
- **5G Network Analytics** *for security and monitoring needs such as tenant isolation, secure software de-fined mobile network control, physical VNF (Virtual Network Functionality) separation, reactive security controls, security orchestration, reliable fallback.*

- Compromised system/host/account misuse detection
- Privileged access misuse and insider threats detection
- Identity theft with unusual claims (geo-location, providers, category…)

Behavior & Threat Model Libraries		
Use Cases (Fraud and Threats)		
Real Time Comm. Platforms	Cloud Comm. Platforms	5G Comm. Network
Machine Learning Model Libraries		

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Proposal Introduction

Vision:

- *Taking prescriptive actions to detect and prevent malicious behaviors, fraud and anomalies*
- *Creating risk prioritized alarms*
- *Creating behavior models*

Motivation:

- *Fraud is the most common crime in the telecommunication sector and the Communication Service Providers (CSP) face issues of the troublesome and complex networks.*
- *According to 2019 Global Fraud Loss Survey of the Communications Fraud Control Association (CFCA), it estimated that the industry is losing $28.3 billion per year from fraud.*
- *For decades of real-time communication environments, cloud communication platforms, and new paradigms that come with 5G, there is a need to consider new attack surfaces, threats, security issues and requirements, and review incident response methods.*

Behavior & Threat Model Libraries

Use Cases (Fraud and Threats)

Real Time Comm. Platforms

Cloud Comm. Platforms

5G Comm. Network

Machine Learning Model Libraries

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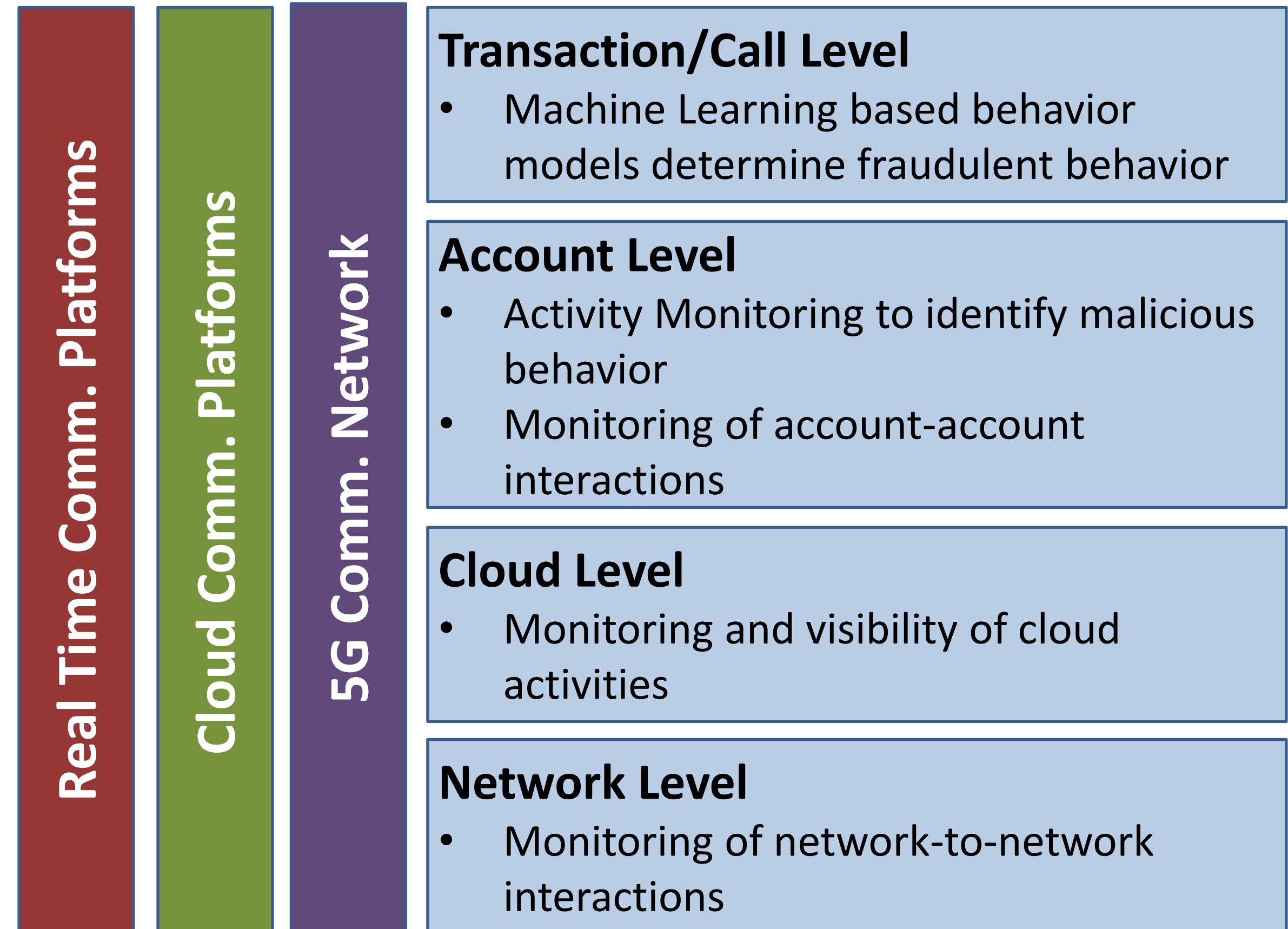
Proposal Introduction

Expected Outcome:
- *AI and Analytic Platform*
- *ML Algorithms*
- *Behavior Analytics*
- *Linked Context*
- *Risk scoring and prioritized alerts*

Impacts:
- *Achieve better understanding of user/entity behavior*
- *Develop new algorithms and techniques to predict/detect malicious actions based on behavior and linked context.*
- *More behavior models equals better coverage*

Schedule
- *Project duration 36 month*

Real Time Comm. Platforms

Cloud Comm. Platforms

5G Comm. Network

Transaction/Call Level
- Machine Learning based behavior models determine fraudulent behavior

Account Level
- Activity Monitoring to identify malicious behavior
- Monitoring of account-account interactions

Cloud Level
- Monitoring and visibility of cloud activities

Network Level
- Monitoring of network-to-network interactions

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Partners

- **We want to create a new consortium**

- **Expertise Needed**

  - *Communication Service Providers, Turkcell*

  - *Cloud Communication R&D Centers, NetRD*

  - *Cybersecurity, NetRD*
    - *Telecommunication security*
    - *Cloud communication security*
    - *5G Network Security*

  - *Data analytics, AI, machine learning, deep learning, NetRD, Turkcell*

  - *Policies, rules, privacy, regulation facilitator*

Contact Info

For more information and for interest to participate please contact:

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