



Leverage Big Data Analytics For Wireless Networks and Devices

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Big Data for Wireless Network and Device



- ▶ Where to leverage big data in wireless network/device
 - Network/Device Performance
 - Network/Device Capacity
 - Network/Device Service Quality
 - Network/Device User Quality of Experience

- ▶ Why big data for wireless and device?
 - Legacy method---simulation
 - Big data analytics outperforms simulation
 - True data reflects fact
 - Conclusion based upon statistics
 - Supervised/unsupervised learning to reveal hidden facts from unknown

▶ Opportunities

- Incentives for both telecom operators and vendors to
 - Reduce CAPEX/OPEX
 - Improve Quality of Service
 - Improve Quality of Experience

▶ Weakness

- Monetization
 - Big data in wireless and device mostly applies for cost saving rather than revenue generating
 - Need to find opportunities for monetization

Readiness for Standardization



- ▶ Standardize wireless and device big data in
 - Accessibility
 - Retain-ability
 - Availability
 - Service Integrity
 - Mobility
- Plus
 - Service Quality
 - User Perception

Adequate Participation



- ▶ Stake Holders from operator, vendors, academia
 - Verizon Wireless
 - AT&T
 - T-Mobile
 - Samsung
 - Qualcomm
 - Huawei
 - ZTE
 - University of Duisburg-Essen
 - Stevens Institute of Technology
 - New Jersey Institute of Technology

Exemplary Wireless Big Data Analytics Products in Industry



- ▶ Device Analytics & Modeling System by Verizon
- ▶ Expert Analytics by Ericsson
- ▶ Network Guardian by ALU Bell Labs
- ▶ BigInsights by IBM
- ▶ Reflex by Guavus
- ▶ Nano Cubes for Data Visualization by AT&T Labs
- ▶ Tableau by Tableau
- ▶ Big Cloud by China Mobile
- ▶ Iris Analytics by NetScout
- ▶ Deeplan by Howso Technology

Potential Champion/Group Members



- ▶ Wireless Big Data Analytics Working Group
 - Tentatively led by Dr. Jin Yang, Huawei USA
 - Verizon Wireless
 - Samsung
 - Qualcomm
 - AT&T
 - University of Duisburg-Essen
 - Stevens Institute of Technology
 - NJIT

Potential Champion/Group Members



- ▶ Device Big Data Analytics Working Group
 - Led by Dr. Ye Ouyang, VzW
 - Samsung
 - ZTE
 - LG
 - HTC
 - Huawei
 - Qualcomm
 - Stevens Institute of Technology
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