What is Big Data.....?

**Concept definitions**
- Only volume issue
- Unstructured vs structured data
- 3V's - Volume, Velocity, Variety
- 7V's – Volume, Velocity, Variety, Variability, Veracity, Value, Visualization

**The story**
- Google invented technology, published through the whitepapers,
- Rewritten by open-source community
- Heavily used by all big internet companies, internet scale capabilities
Hadoop has been adopted!

Big Data technical stack
The values of Big Data

- Collect and store all data generated during the manufacturing
- Analyzing all data Batch or Real-Time
- Apply Machine Learning to find patterns from all data
- Put the data driven focus into the business models

BIG DATA technology cornerstones

- Scales out horizontally
- It is tested in extreme performance measures
- Linear cost increase, step-by-step rollout
- Mostly open-source technology
- No costly license fees
Supervised and Unsupervised learning

Supervised learning
- Classification
- Regression
- Decision Trees

Unsupervised learning
- Clustering
- Hidden Markov Chains
- Dimensionality reduction

We have previous knowledge about the sample cases that are basis for learning

We do not have any previous knowledge about the sample cases that are basis for learning

What to do next as technology is there ….?

What are possible problems to be solved?

How to start?
Nortal 4 steps approach for Big Data problems

STEP 1 Knowledge creation
- Seminars, workshops
- Real-life examples

STEP 2 IDEAs discovery
- Find potentially valuable data
- Apply short validation, test

STEP 3 Plan and prototype
- Minimalistic Prototypes
- Setup and business value validation

STEP 4 Implementation
- Implement: fast, low risk, scalable technology
- Integrate with existing processes

Use cases in manufacturing

- Manufacturing data analytics
- Predictive event modeling
- Predictive maintenance
- Defects detection/analytics – quality controls
- Product feedback collection
- Product performance analytics
- etc
Nortal Group

Nortal is an international high-end software development solutions & services provider in public and private sector.

- 1120+ implemented projects
- 36 MEUR turnover (2013)
- 445 clients in 22 countries
- 650 professionals in 8 countries
- 10 operation countries

Hortonworks partner

Nortal is Hortonworks system integration partner in Finland and Baltics

Hortonworks Data platform is industry’s only 100-percent open source Hadoop distribution
Thank you!

Questions?

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