	Hadoop MR Record	Spark Record	Spark 1 PB
Data Size	102.5 TB	100 TB	1000 TB
Elapsed Time	72 mins	23 mins	234 mins
# Nodes	2100	206	190

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## SparkR (R on Spark)

- Overview
- SparkDataFrame
  - Starting Up: SparkSession
  - Starting Up from RStudio
  - Creating SparkDataFrames
    - From local data frames
    - From Data Sources
    - From Hive tables
  - SparkDataFrame Operations
    - Selecting rows, columns
    - Grouping, Aggregation
    - Operating on Columns
    - Applying User-Defined Function
      - Run a given function on a large dataset using dapply or dapplyCollect
        - dapply
        - dapplyCollect
      - Run a given function on a large dataset grouping by input column(s) and using gapply or gapplyCollect
        - gapply
        - gapplyCollect
      - Run local R functions distributed using spark.lapply
        - spark.lapply
  - Running SQL Queries from SparkR
- Machine Learning
  - Algorithms
    - Classification
    - Regression
    - Tree
    - Clustering
    - Collaborative Filtering
    - Frequent Pattern Mining
    - Statistics
  - Model persistence
- Data type mapping between R and Spark
- Structured Streaming
- R Function Name Conflicts
- Migration Guida

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