

Smart CITIES Data Management System

Xiufeng Liu, Per Sieverts Nielsen, Alfred Heller, Alexander Turecz

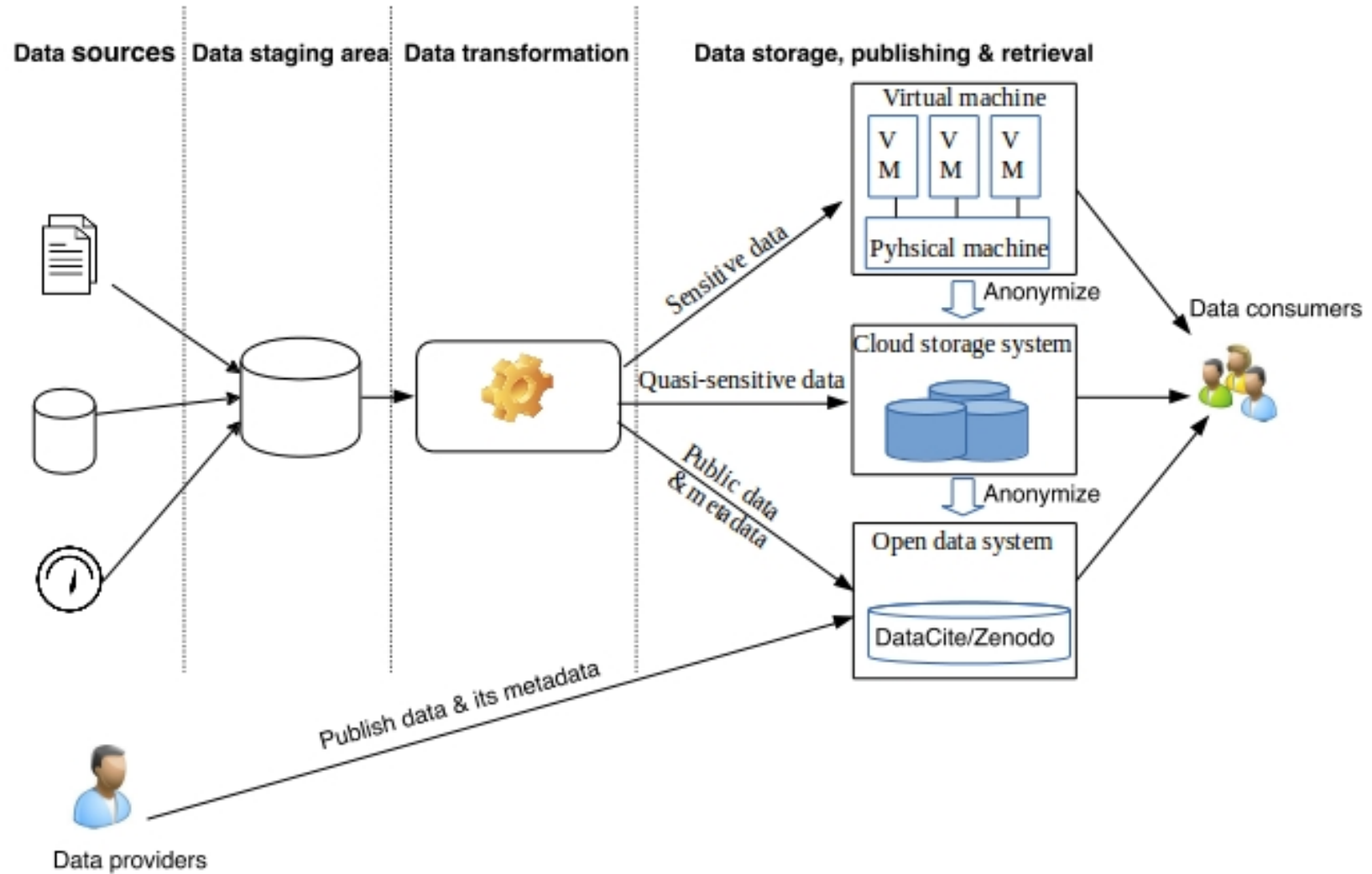
Smart City Data & Characteristics

- Data Types:
 - City info., GPS, Traffic, Mobile, LBS, Environment and Climate data, Social activity, IoT, etc.
- Data Characteristics:
 - Heterogeneous data sources
 - Featured with big data:
 - Variety (varied/complex formats/types/meanings):
 - Volume: Very large data volumes
 - Velocity: Data arrives very fast (data streams)
 - Temporal-spatial data
 - Fine granularity
 - Multi-dimensions

CITIESData Platform

- Data security assurance
 - Data anonymization (e.g., for sensitive data)
 - Secured data management (VM-based environment/private ownCloud)
- Quality assurance
 - Data cleansing/quality checking
- Data fusion
 - Open data platform
 - Linked data

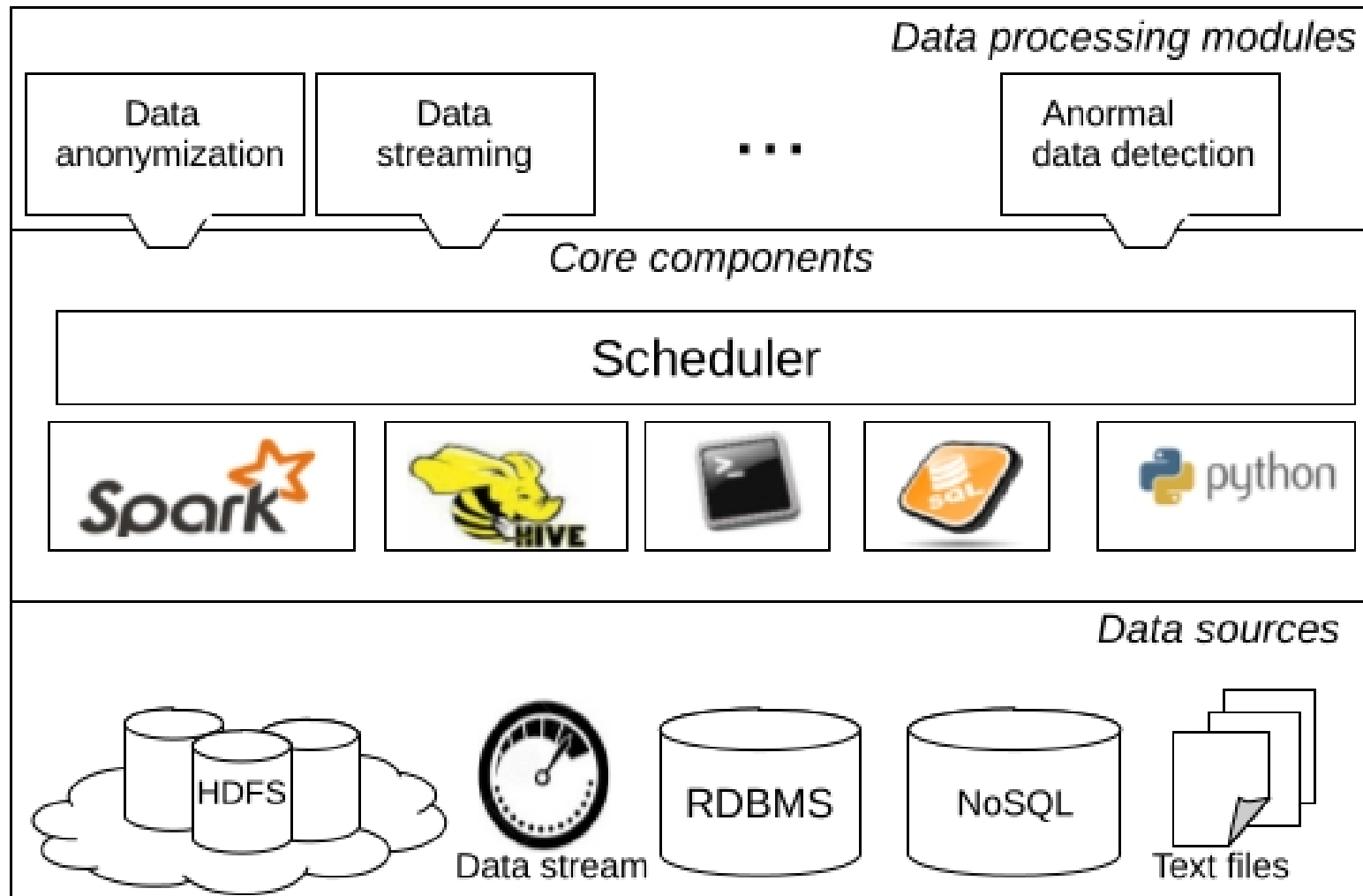
CITIESData Platform



Components of CITIESData Platform

- Support for
 - Diverse data sources
 - Multiple processing systems
 - Different processing modules/algorithms
- Big data technologies, e.g., Spark/Hadoop/Hive
- Real-time and batch jobs

Components of CITIESData Platform



CITIESData Platform

- (a) Administration interface
- (b) Web-based data processing/algorithm implementations
- (c) Analytics results visualization
- (d) Embed charts in a web page

