

# SOLUSI**247**

24 hours 7 days integrated ICT solution

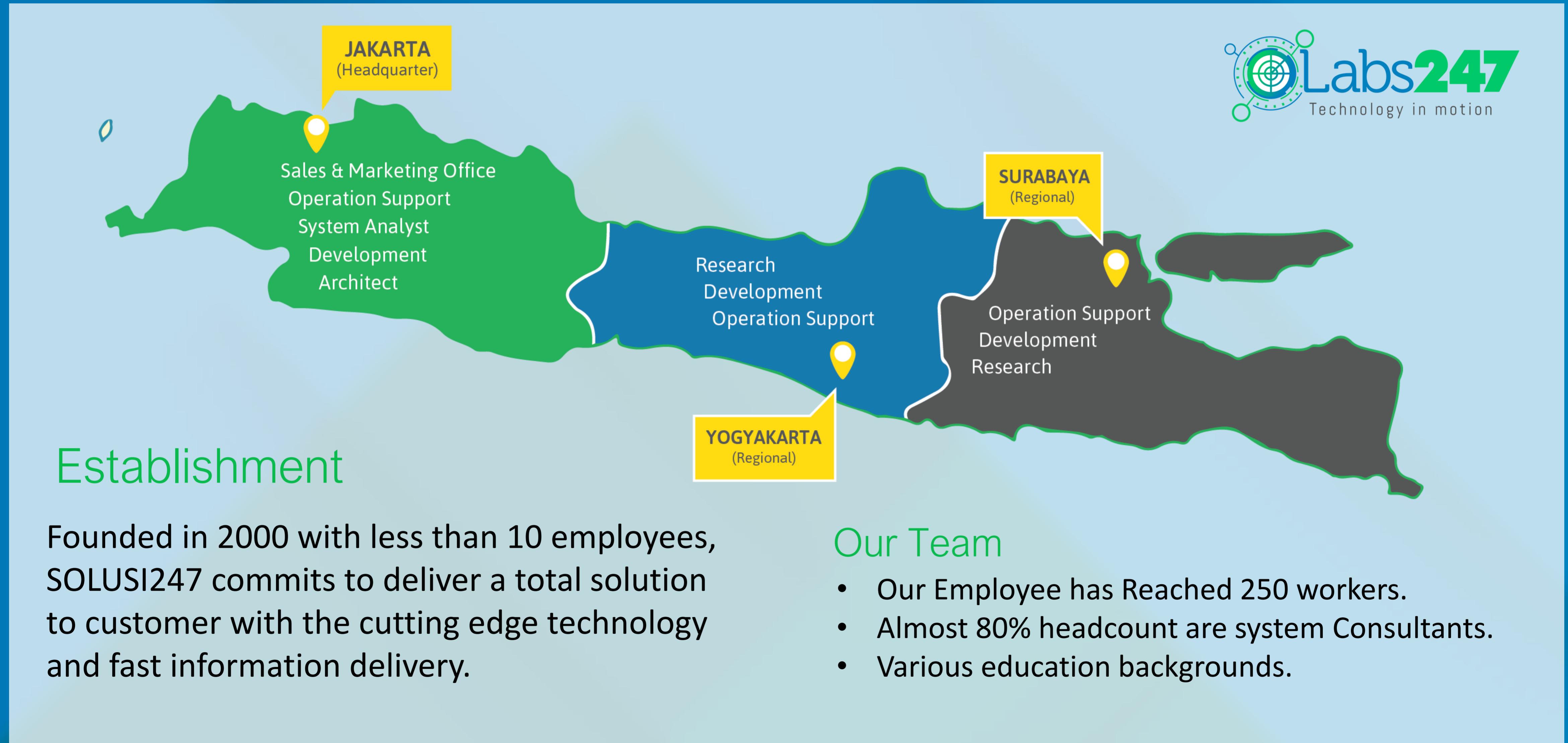


PT. Dua Empat Tujuh



# COMPANY Overview

OVERVIEW



# Information Technology



Scalable hadoop  
Data processing

Scalable real-time  
Data processing

# High Tech



Radar Indera  
X & S Band



INECDIS



FPGA

# Product and Service

## Hybrid

Surveillance  
Framework with  
Multi-Sensor  
Fusion

Vessel Traffic  
Services Devices  
for port operation

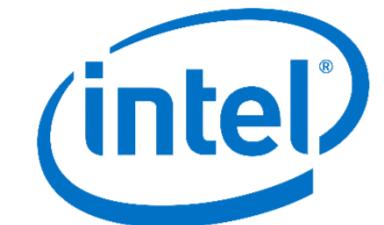
## Services

Custom Application  
Development

Manage Service /  
Operation

Company overview

## Partners

**ORACLE®****TERADATA®****cloudera****ab initio****cascading****Hortonworks****IRI**  
The CoSort Company**FUJITSU****Telkom Indonesia**  
*the world in your hand***Len****DIRGANTARA INDONESIA****IBM****PAN INDONESIA**

## Client

**TELKOMSEL****smartfren**  
live smart**Telkom Indonesia**  
*the world in your hand***BRITISH AMERICAN TOBACCO****Indosat ooredoo****XL****3****AXIS**

# Partners

## Universities



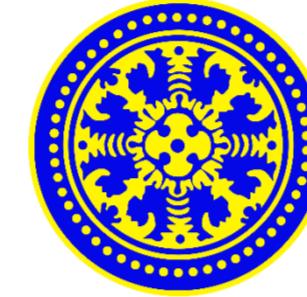
Institut Teknologi Bandung



Institut  
Teknologi  
Sepuluh Nopember



UNIVERSITAS  
INDONESIA  
*Veritas, Probitas, Justitia | Est. 1849*



Universitas  
Gadjah Mada



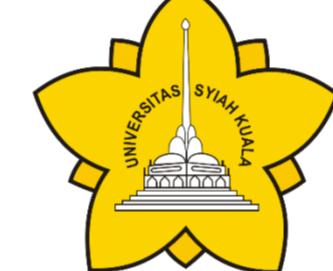
UNS  
UNIVERSITAS  
SEBELAS MARET



Telkom  
University



UNIVERSITAS DIPONEGORO  
SEMARANG



Universitas Al Azhar Indonesia



ITERA

## Research



# TECHNICAL CAPABILITY

## BIG DATA

### Database

Oracle	DB2, Informix
Greenplum	Teradata
MySQL	PostgreSQL
VoltDB	Vertica
HBase	

### ETL

BODI	ODI
Data Stage	

### ELT

DB2	Teradatal
Greenplum	

### BIG DATA Infrastructure

<u>BIG DATA HADOOP</u>
<u>BIG DATA Analytic</u>

## BUSINESS INTELLIGENCE

Business Object	Cognos
Oracle BIEE	
Tableau	Custom: FussionChart ChartDirector
Microstategy	

## ESB / MIDDLE ARE

JBoss	Mule
Rabbit MQ	Open DDS Open Splice

## DATA MINING

SPSS	Rapid Miner, R
Mahout, Pattern	Custom: OpenLib

## PROGRAMMING

JAVA	C / C++
Python/Shell Script	PHP , PSP
Open CL, Open GL	.Net
JavaScript , Ajax , Action Script	

## ELECTRONIC / SIMULATOR

Matlab	Feko, ADS, CFT
FPGA, DSP	RTOS

## FRAMEWORK WEB

APEX, PSP	PHP:
Sharepoint	Zend, CodeIgniter, Drupal, Joomla

## DESIGN

Photoshop	Illustrator
Flash Designer	AutoCAD
iMovie	CorelDraw

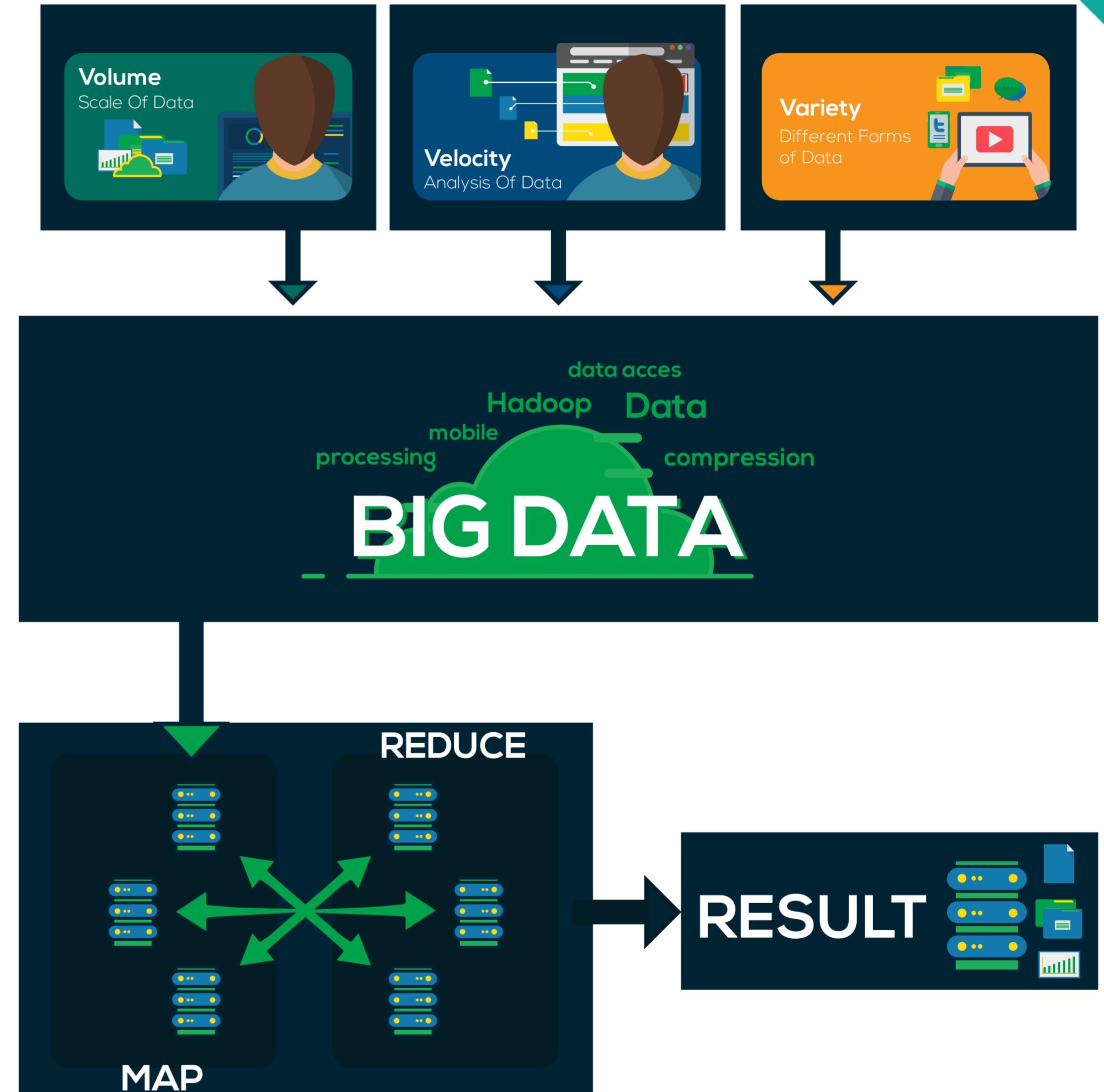


# BIG DATA

Flagship Product

**Big Data** is a broad term for data sets so large or complex, that traditional data processing applications are inadequate.

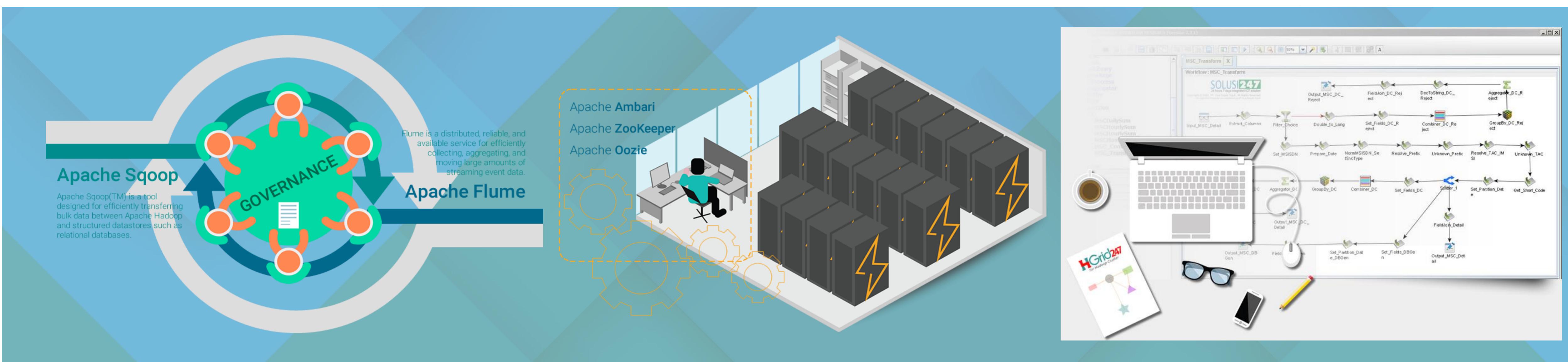
- Volume: big data doesn't sample. It just observes and tracks what happens.
- Variety: big data draws from text, image, audio, video; plus it completes missing pieces through data fusion.
- Velocity: big data is often available in real-time.



# WE ARE HADOOPERS



BIG DATA IS NOT A  
TECHNOLOGY  
It's a **Movement**  
Demanding more  
Analytics on **ALL DATA**



Web Inovasi RISTEKDIKTI

# BRAJA-YAVA SOFTWARE STACK

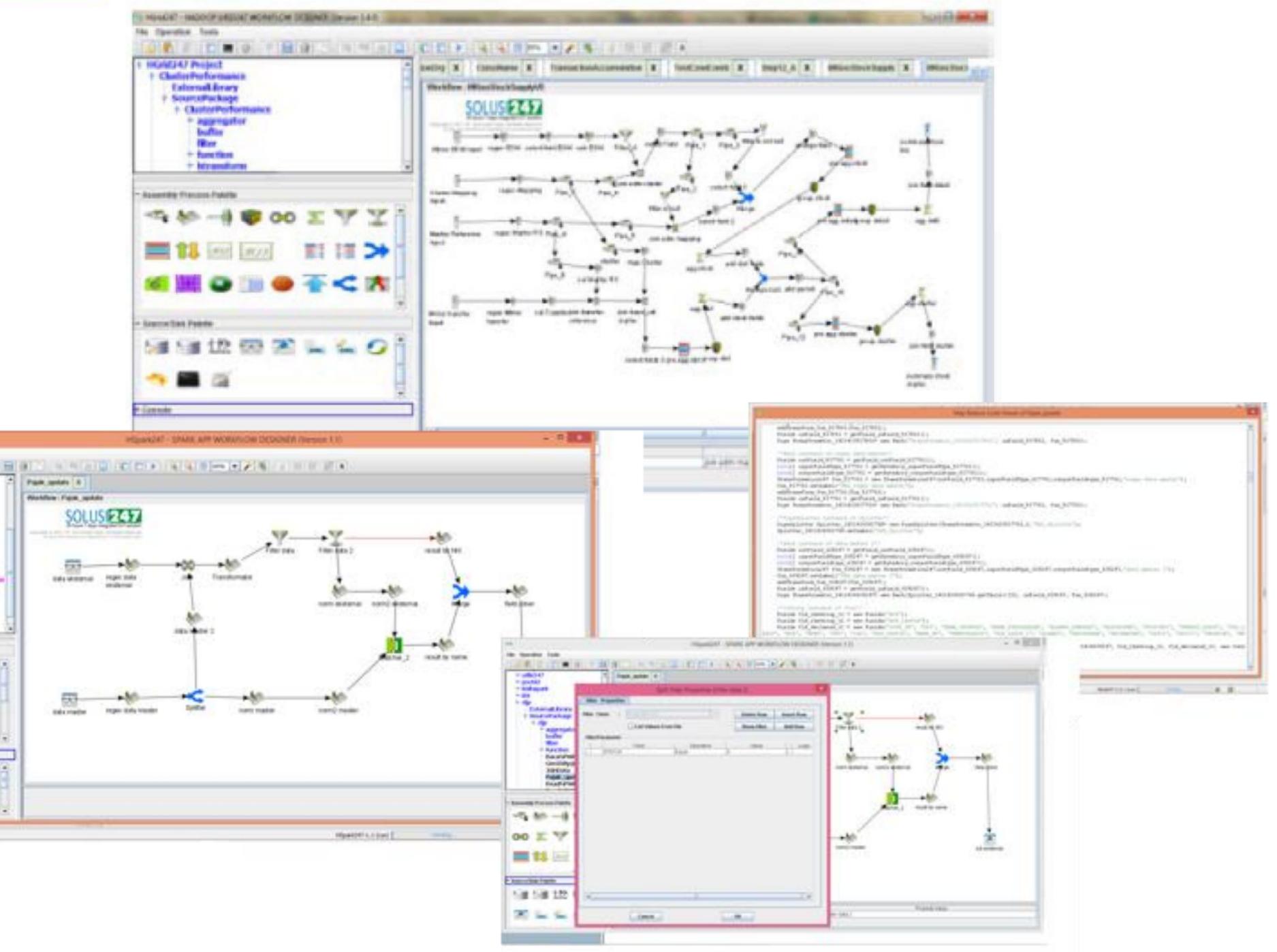
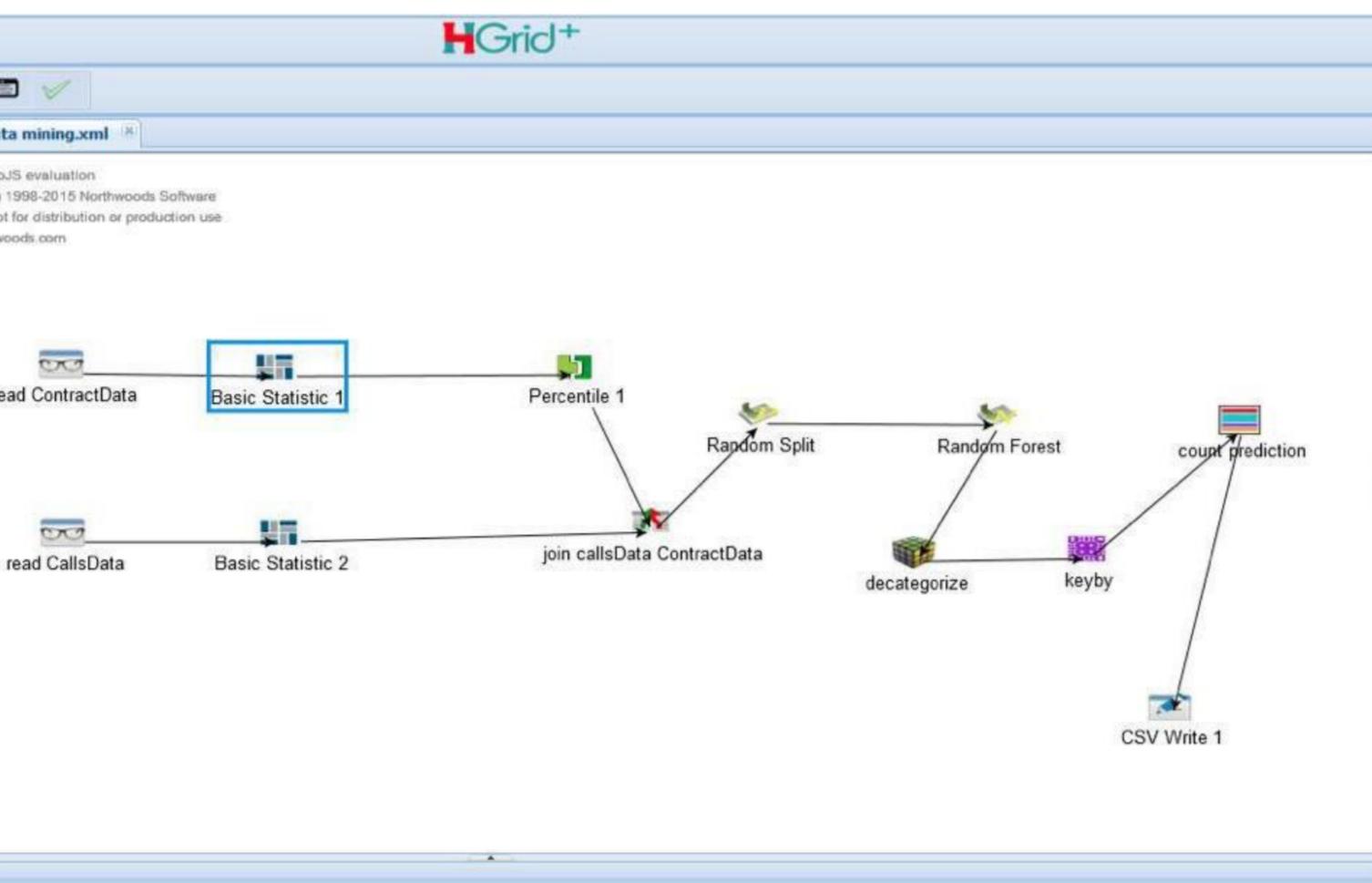
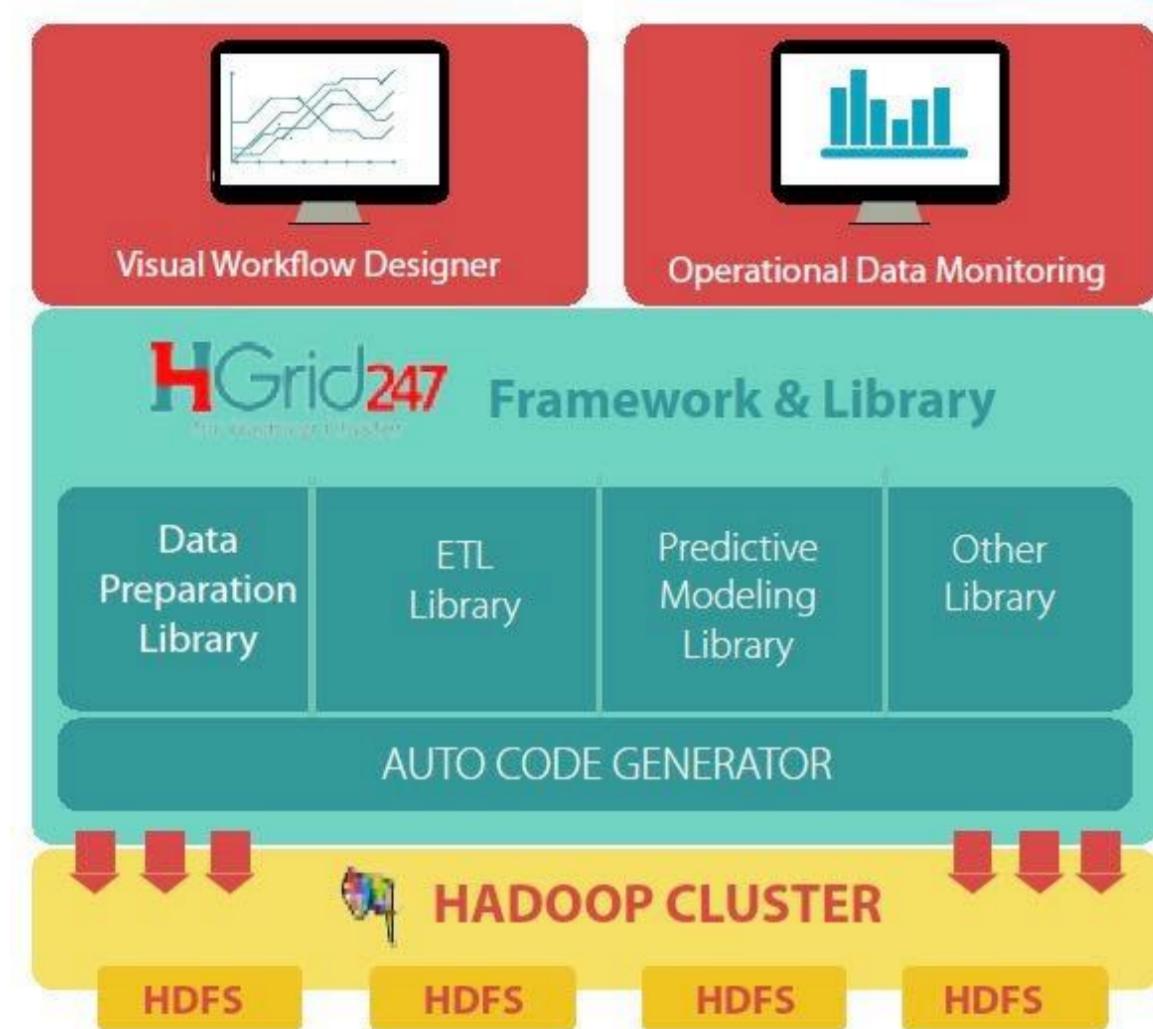


Applications Run



YARN  
(Cluster Management)

Big Data Work Flow



**s@ms** business portal

One – stop application used for selling activities, using newest technology with n-tier application by the utilising horizontal data expansion.

**diamond**

Web Based application which is able to show card distribution and monitoring distribution.



Channel Distribution management (by district) and loyalty program for Distributor (reward program).



**SingleMediation**

Making sure that the revenue can be tracked, finding the loss from mistakes/problems, exploring the potency of incoming realization.



Integrated NE Inventory, based on maps data.



Dealer management toward PT. Telkom Indonesia sales channel.



Web based application to do encrypting process for SMS content that pulled from FDA.



Real-time application reporting for Ericsson network.

**Big Data Work Flow**

**247 Big Data Tools****FEATURES****Simple**

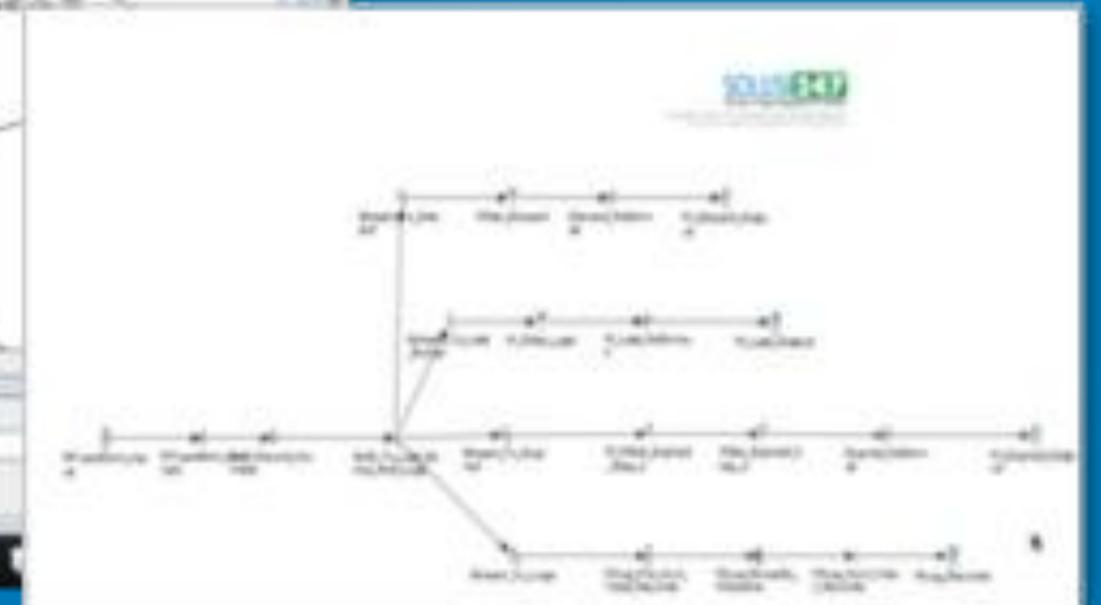
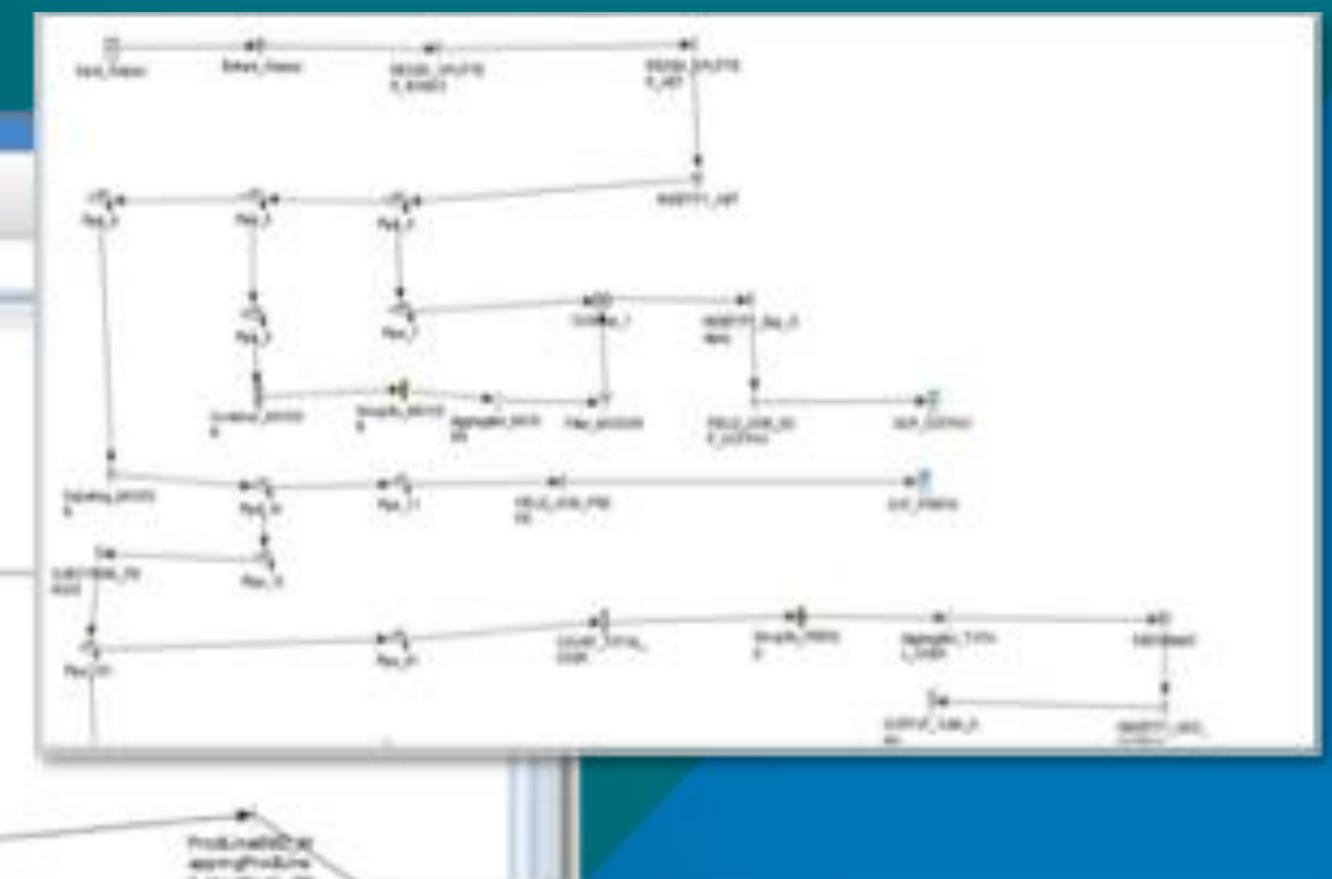
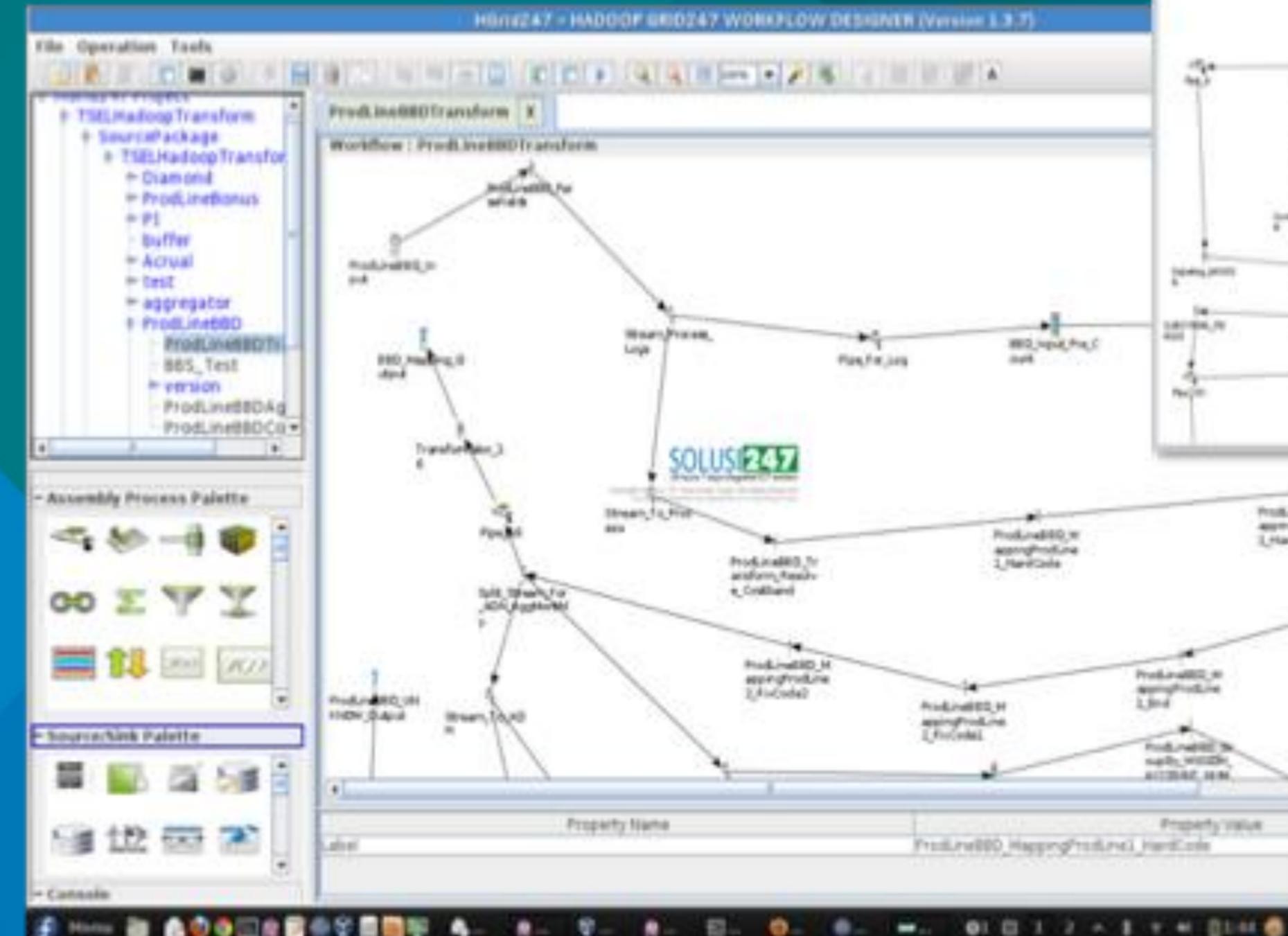
Additional functions can be easily and simply added as UDF in Java, no need to learn any new language or script.

**No coding**

Instead of writing Java programs, MapReduce jobs and scripts, HGrid247 empowers developers to design and develop big data jobs using visual tools resulting in greater team productivity and reducing the need for specialised skills.

**Powerful**

Statistical and data mining operators based on Weka through PMML and rapid miner library for churn prediction, fraud, cross selling, etc.

**247 Big Data Product****Robust**

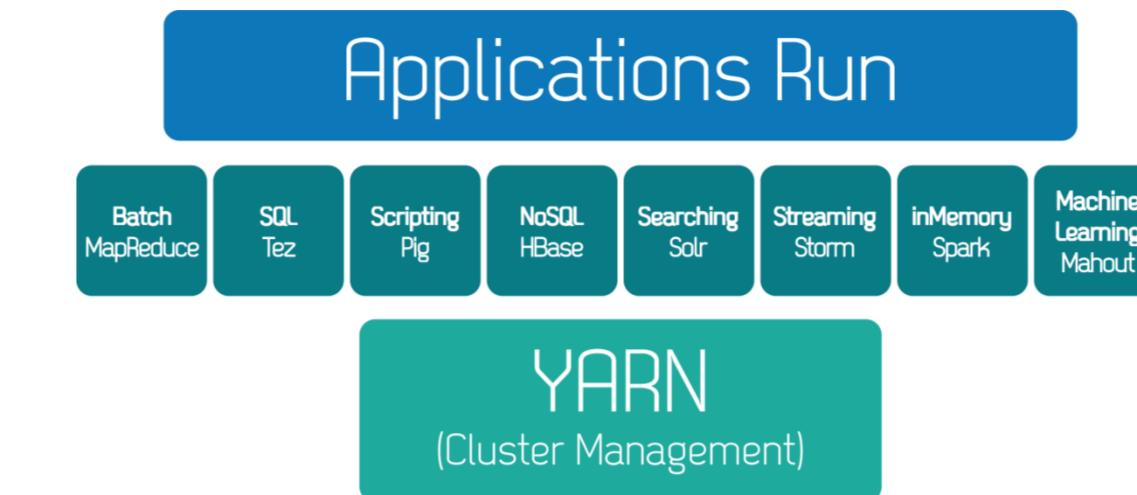
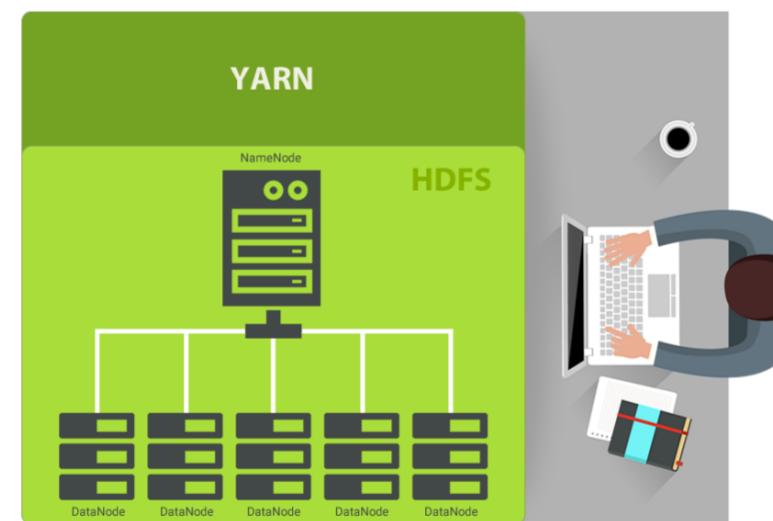
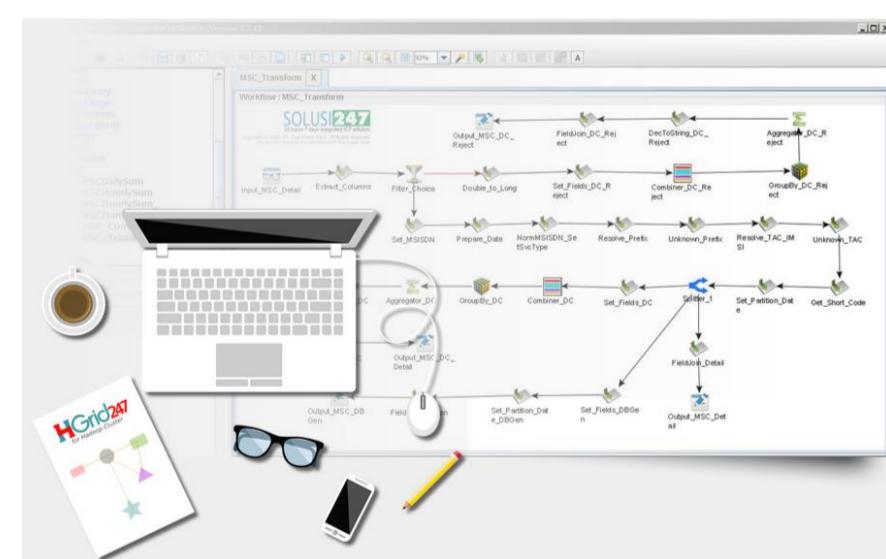
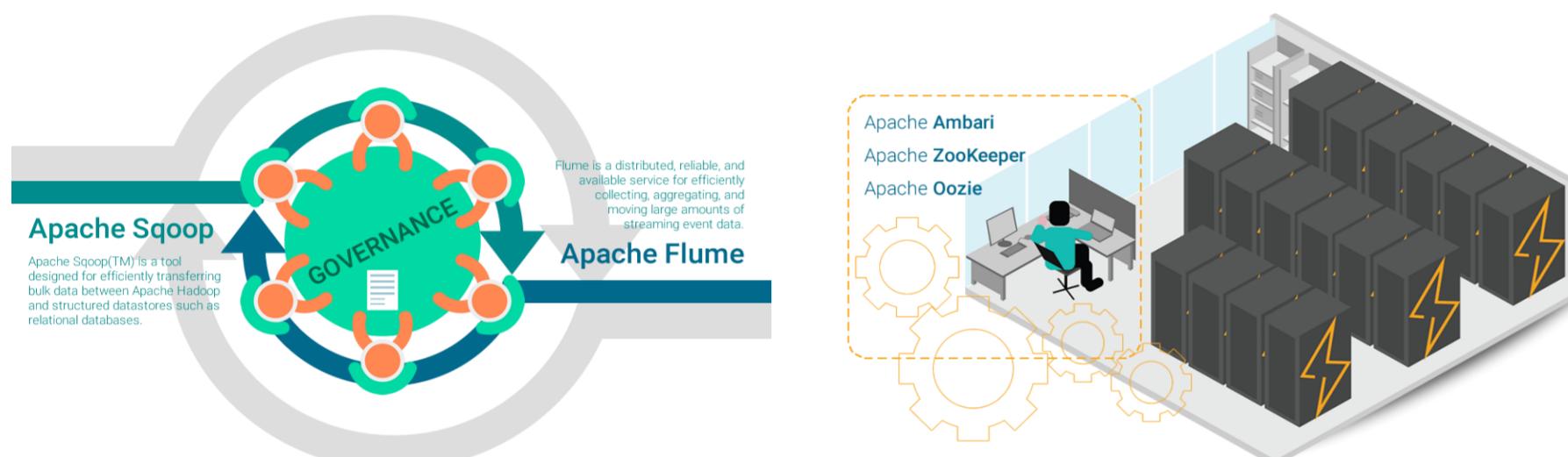
Many of robust and proven functionality are now available in HGrid247. All of which has been tested and implemented in a production environment.

**Easy**

HGrid247 ease of use and its intuitive drag-and-drop interface enables ETL designer and programmer, simplifying and reducing time and complexity of data integration.

# BIG DATA APPLIANCE

## Apache Hadoop



Operating System



Hadoop Ecosystem

Data Processing

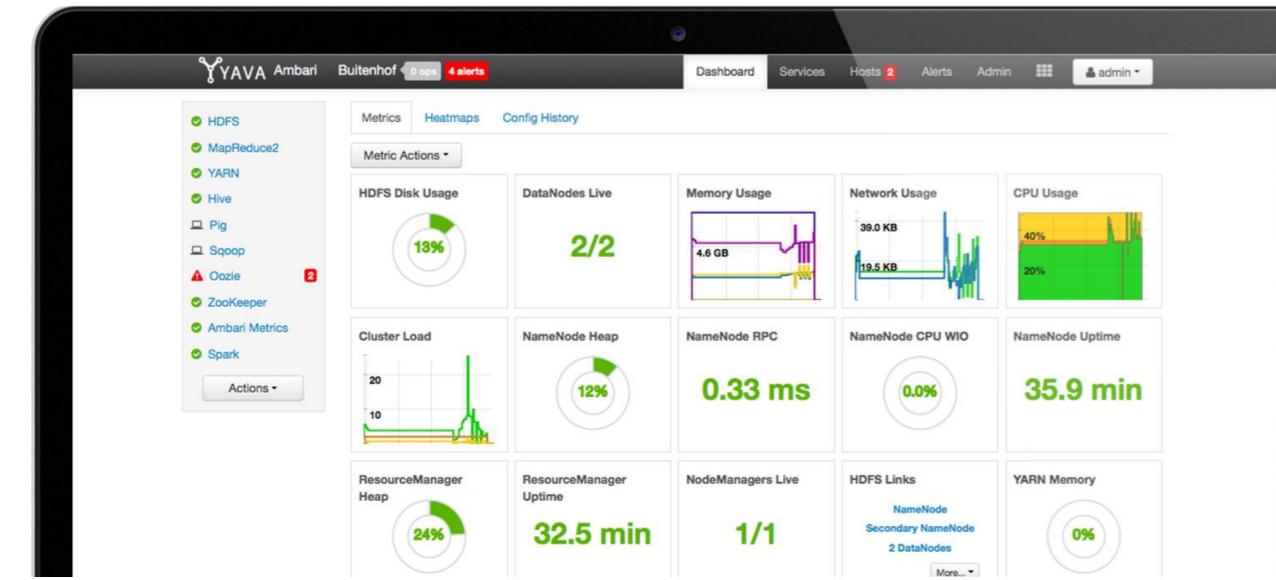


Hardware

**BRAJA** is **BIG DATA** Hadoop Appliance which running **YAVA** Hadoop, **Hgrid247** on top of Intel Hardware with **UGOS** OS  
For Commercial purposes, Braja is compatible with major Hadoop Distributions

Big Data Work Flow

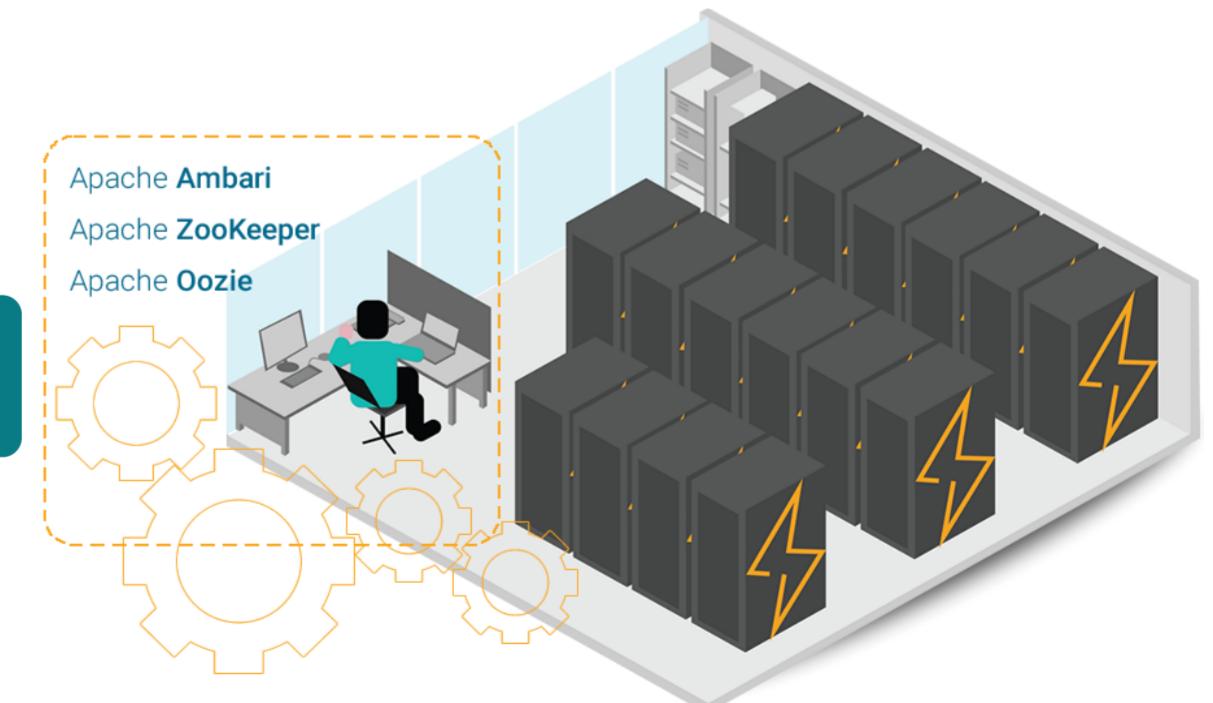
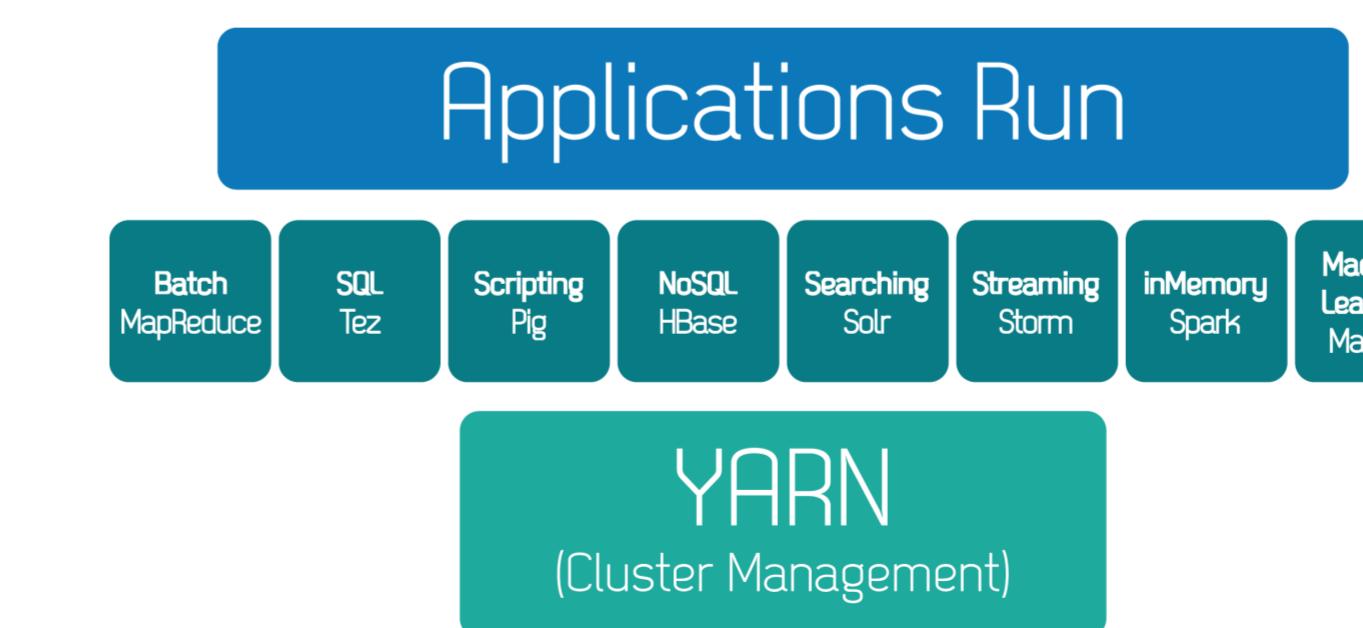
# UNIVERSITY RESEARCH Colaboration



UGOS is Localized Linux Distribution



YAVA is Localized Apache Vanilla Hadoop Distribution



Big Data Work Flow

# BIG DATA Telco Customer Implementation



TRANSACTIONAL

ANALYTICS

1 Node - 2 CPU 4 Cores, 64 GB Mem, 24 TB HD  
No External Storage  
NO DB License  
LOCAL CONSULTANT

Illustration with 10K US\$ per Node

**10K US\$ : 10 nodes, 80 Cores, 64GB Mem, 80TB HD (usable, 3x Replication)**

**1M US\$ : 100 nodes, 800 Cores, 6.4TB Mem, 80TB HD (usable, 3x Replication)**

**1.5M US\$ : 150 nodes, 1200 Cores, 9.6TB Mem, 1.2PB HD (usable, 3x Replication)**  
LOCAL CONSULTANT

Big Data Work Flow

# Case Study: Data Warehouse Offloading



## Problem

- Heavy load data warehouse
- Unscalable Architecture
- Unreliable data source from mediation
- Cannot provide H-1 reports



## Solution

- Use commodity PC
- Move ETL process to hadoop
- Keep raw & data detail, for further use



## Benefit

- Scalable Architecture
- More data retention
- Performance vs Cost

- ✓ 40 Nodes
- ✓ 10 TB per day

# + Benefit

- Scalable Architecture
- More data retention
- Performance vs Cost

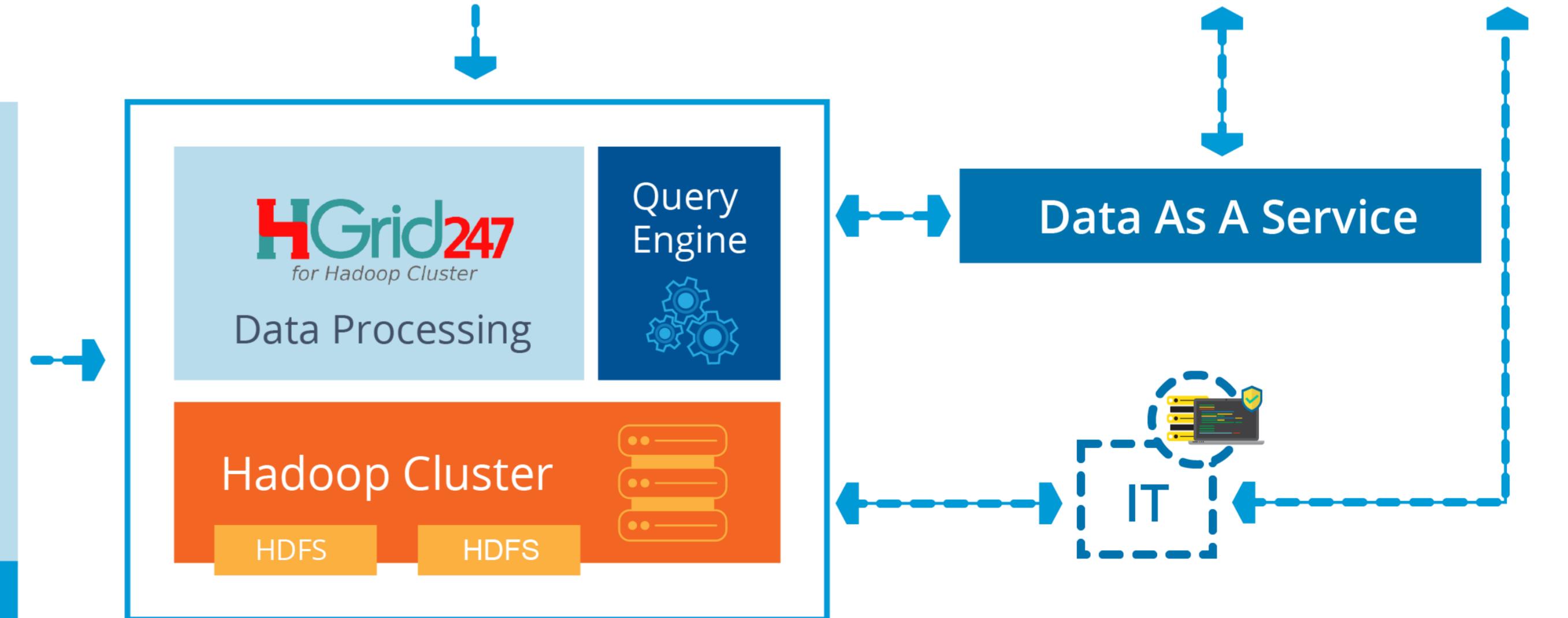
✓ 300 Nodes  
✓ 50 TB per day

**Data Sources**

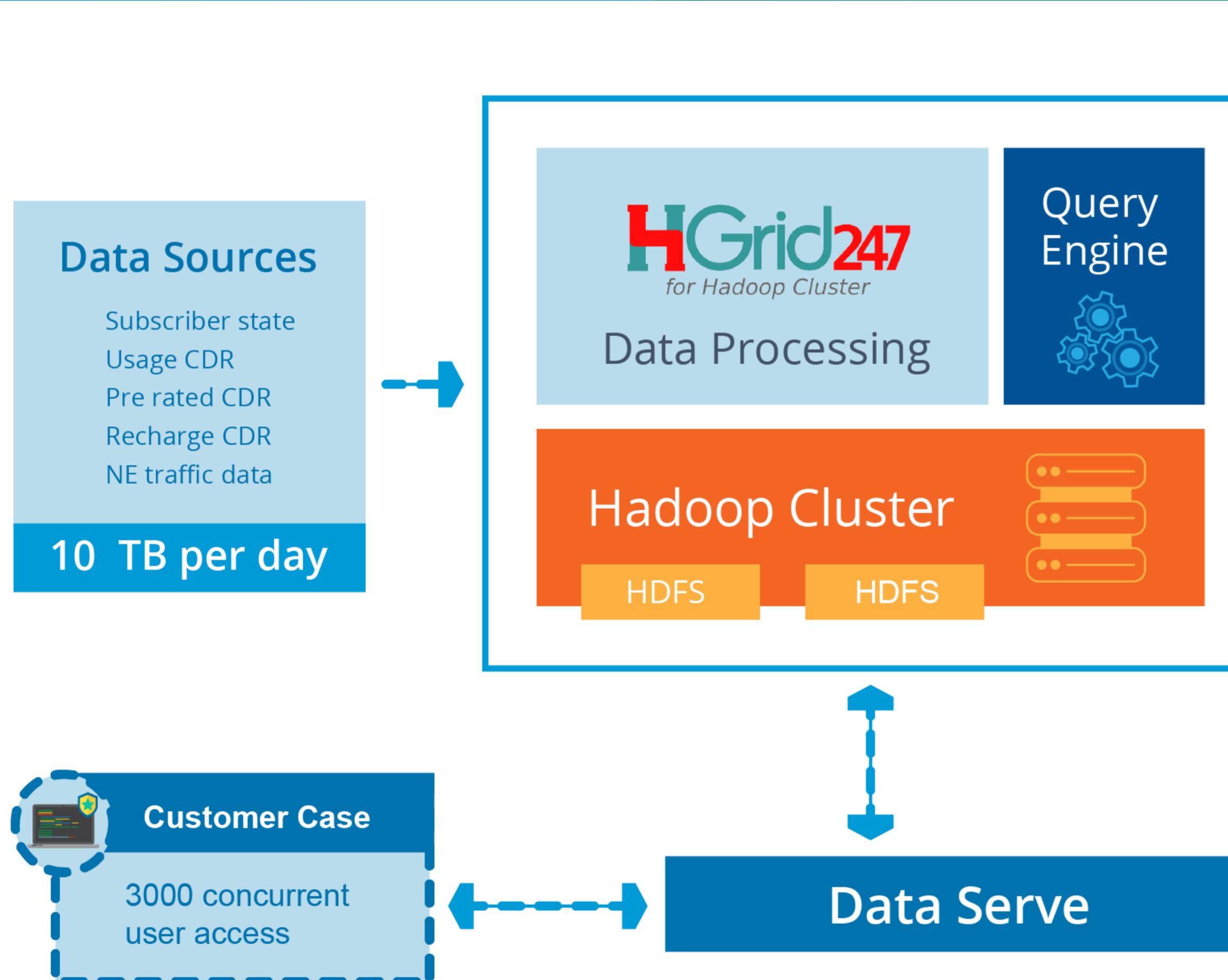
- Subscriber state
- Usage CDR
- Pre rated CDR
- Recharge CDR
- NE traffic data
- Kios data
- Billing
- Interconnect
- VAS
- GPRS traffic

50 TB per day

## Case Study: Data Lake



# Case Study: Customer Care Data Access



## Problem

- Data Space



## Solution

- Use Existing Hadoop Farm
- Required data has been in Hadoop



## Benefit

- Scalable Architecture
- More data retention
- Performance vs Cost

- ✓ 40 Nodes
- ✓ 10 TB per day
- ✓ 3000 concurrent Access

Mediation Scenario

HGrid247 5 Hours 15 Minutes

Existing System

18 Hours

Speed Up  
**342.86%**  
3 Times Faster

Tax Processing Scenario

HGrid247 45 Minutes

Existing System

18 Hours

Speed Up  
**933.33%**  
9 Times Faster

s@ms business portal

One – stop application used for selling activities, using newest technology with n-tier application by the utilising horizontal data expansion.

diamond

Web Based application which is able to show card distribution and monitoring distribution.

PRM

Channel Distribution management (by district) and loyalty program for Distributor (reward program).

Revenue Assurance

Making sure that the revenue can be tracked, finding the loss from mistakes/problems, exploring the potency of incoming realization.

SingleMediation

Mediation application for CDMA, Integrated NE Inventory, IDD, Long Distance, VOIP, Conference, etc. for providing billing target, customer care etc.

COIN

Dealer management based on maps data.

DMS  
Data Management System

toward PT. Telkom Indonesia sales channel.

OSS  
PERFORMANCE

Real-time application reporting for Ericsson network.

SMS CONTENT  
WEB APPLICATION

Web based application to do encrypting process for SMS content that pulled from FDA.

# A Tool to Easily Build Scalable BigData Processing

## Processing Data



7 TB Data Size

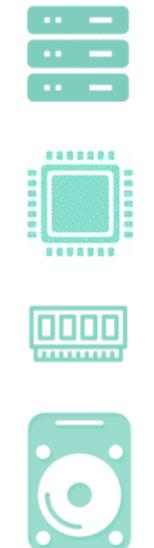


40 Bio Record



Data Sources

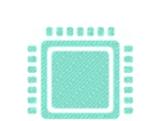
## Hardware Specification



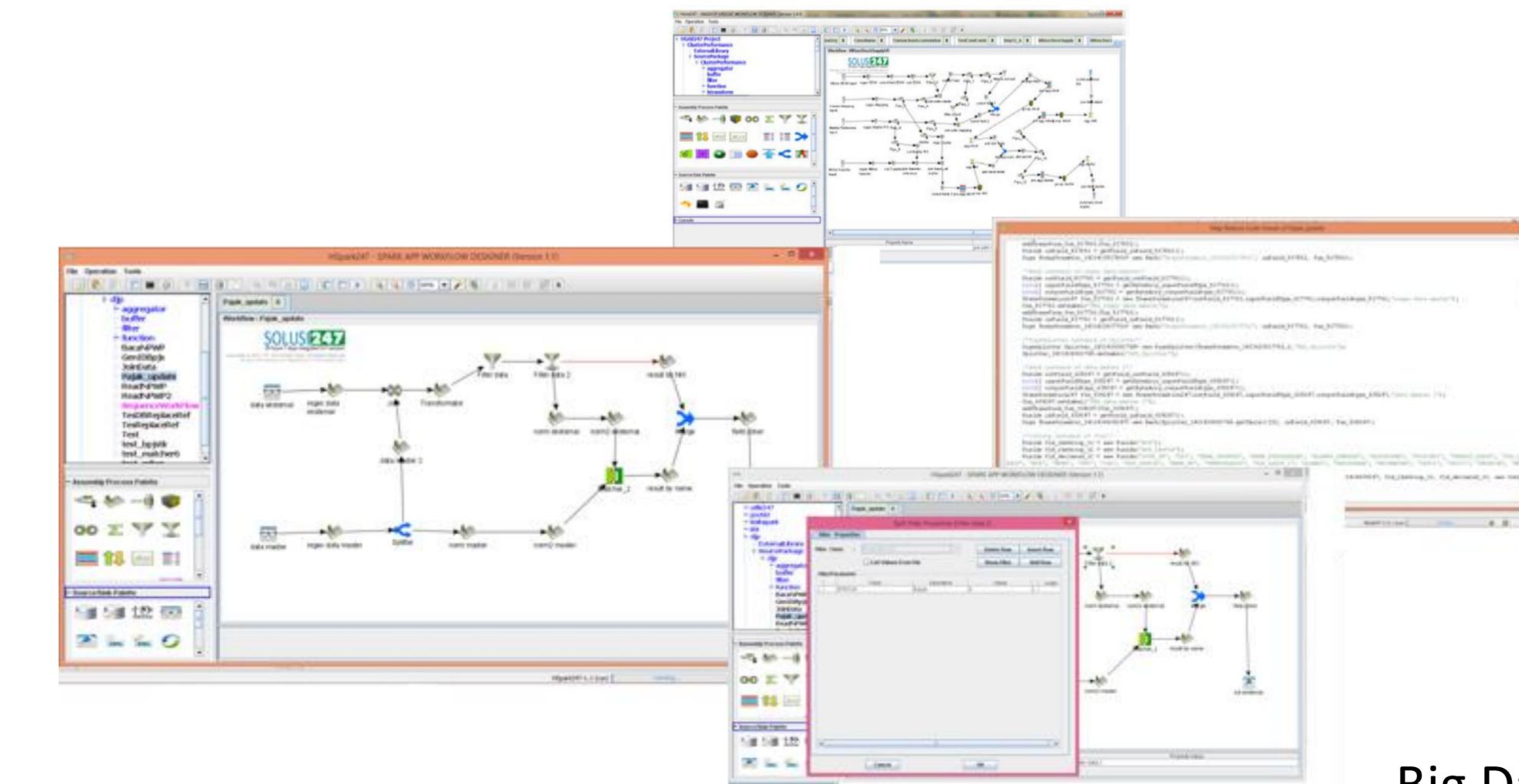
70 Nodes

2 Quadcore CPU  
Intel Xeon

32 GB Mem



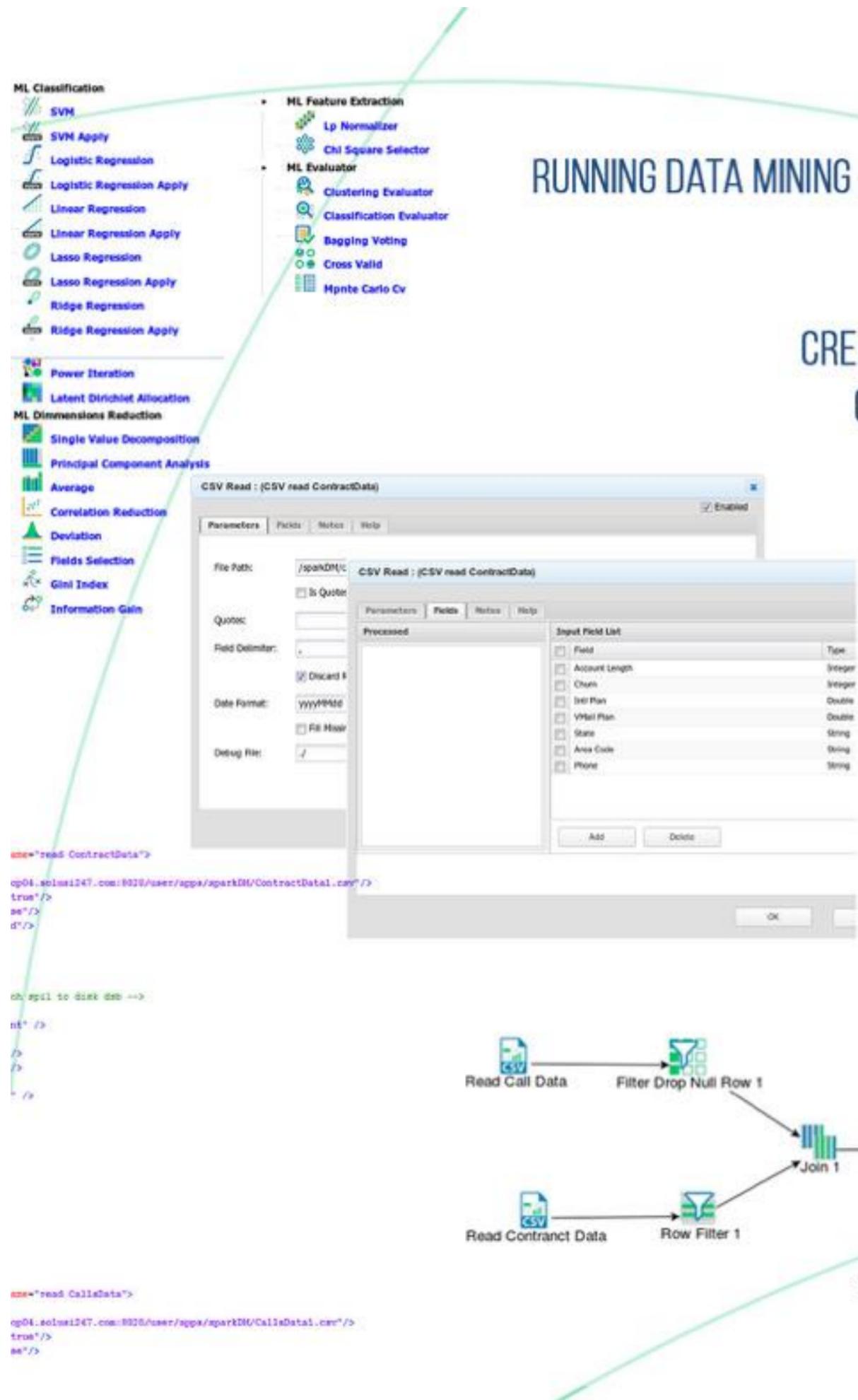
6 x 3TB HDD



6 Application running in cluster multitenancy  
Cost Saving for more than half

Data Engineering  
**Web Inovasi**  
RistekDikti

Big Data Work Flow



## FEATURES

RUNNING DATA MINING AND MACHINE LEARNING ALGORITHM ON HADOOP PLATFORM  
 CONSISTING OF 80 OPERATORS AND 12 ALGORITHMS  
 CARRYING OUT DATA PRE-PROCESSING (DATA CLEANSING)  
 CREATING COMPATIBLE OUTPUT TO OTHER ANALYTIC SOFTWARE  
 CREATING OPEN PMML FORMAT SAVE AND XML LOAD MODEL  
 CREATING EASY-USE WEB-BASED INTERFACE  
 ENABLING USER-FRIENDLY PROCESS WITH DRAG AND DROP  
 OPEN SOURCE-BASED SOFTWARE  
 USING COMMON BROWSERS TO BROWSE HDFS FILES  
 PROVIDING VISUAL MODELS AND GRAPHICAL PLOTS  
 MATCHING ALGORITHMS

# ANALYTICS & DATA MINING



# HAnalytics

HGrid for Data Analytics

CLASSIFICATION, PREDICT DATA GROUP GIVEN KNOWN EXISTING SUBGROUPS DATA  
 - SVM, NAIVE BAYES, RANDOM FOREST

CLUSTERING, PREDICT DATA GROUP, BUT WE DON'T KNOW ANY SUBGROUPS IN DATA  
 - GAUSSIAN MIXTURE, K-MEANS, POWER ITERATION, LDA

REGRESSION, ESTIMATE DATA BY FINDING FUNCTION THAT MODEL THE DATA  
 - LINEAR, LOGISTIC, RIDGE, LASSO,

ASSOCIATION RULE, SEARCH FOR RELATIONSHIP IN DATA  
 - ALTERNATING LEAST SQUARE (RECOMMENDATION)

ATTRIBUTE WEIGHTING AND DIMENSIONS REDUCTION  
 - INFORMATION GAIN, GINI INDEX, SVD, PCA

TEXT MINING  
 - SENTIMENT ANALYSIS, TF-IDF



Big Data Work Flow

# Benefit

- Indexing Engine
- Storage
- Parallel Access
- Analytics on Data

Casebox helps visualize complex litigation and advocacy campaigns

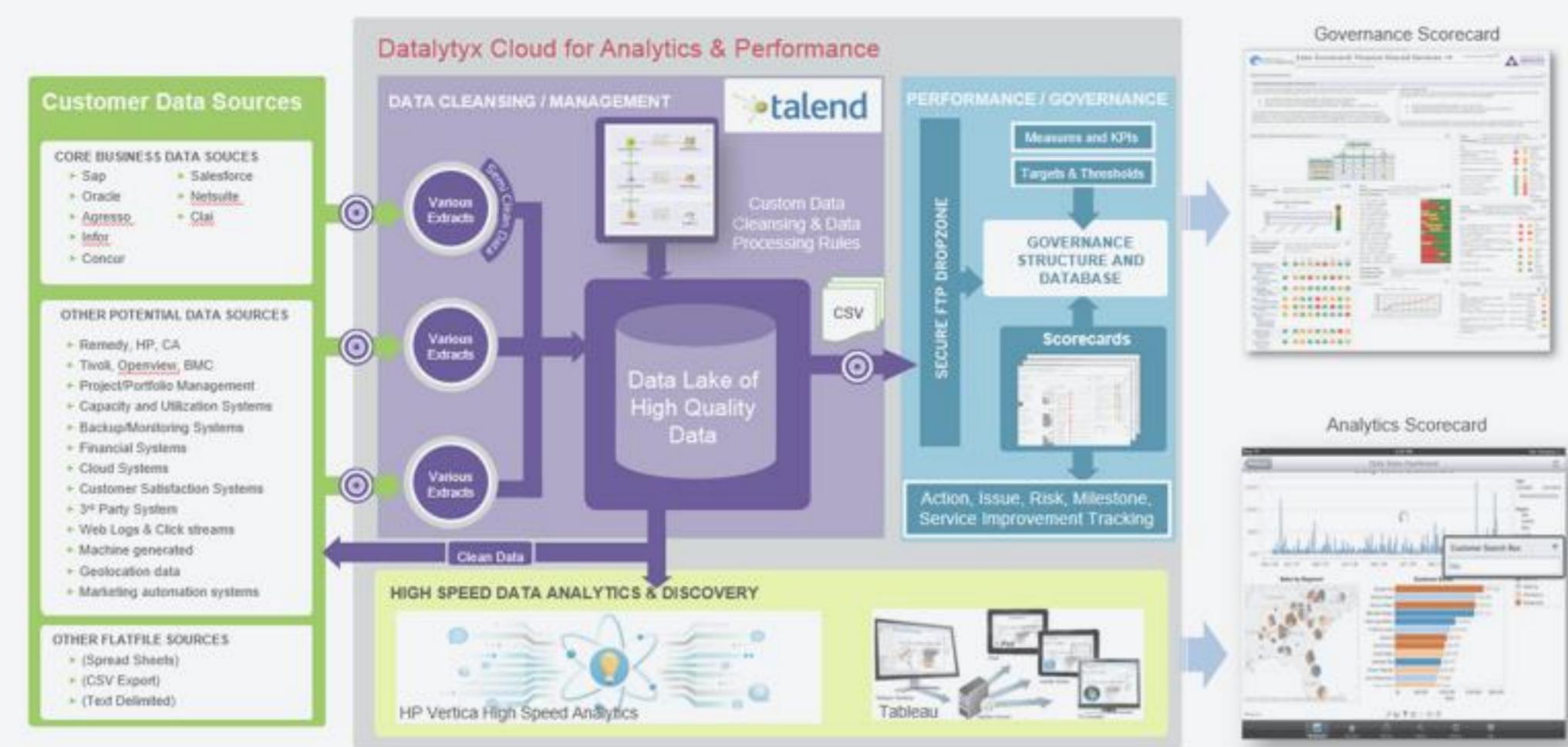
With voice to Text and Video / Voice Streaming

# Document Management on Big Data

The collage illustrates the integration of document management, workflow, and big data analytics:

- Casebox Screenshots:**
  - A screenshot of the Casebox interface showing a detailed case file for "Petrov vs. Zambia". It includes sections for Tasks (0. Incoming, 1. Correspondence, 2. Filings, 3. Evidence, 4. Research, 5. Administrative), Case details (Number: 456, Date: 19/03/2014, Court: ECHR, Office: Buenos Aires, Country: Argentina, Status: Active), and a calendar view.
  - A screenshot of the Casebox interface showing a "Browser" view of a folder structure. A specific folder is highlighted with a red arrow, labeled "selected folder".
  - A screenshot of the Casebox interface showing a "Browser" view of a folder structure. A specific item in the list is highlighted with a red arrow, labeled "selected folder contents".
  - A screenshot of the Casebox interface showing a "Comments" section with a comment from "Svetlana Zhuk" and another from "John v. US". A red arrow points to the "Comments plugin".
  - A screenshot of the Casebox interface showing a "Properties" section for a selected item. A red arrow points to the "Properties plugin".
- Chantel Analytics Screenshot:**
  - A screenshot of the Chantel interface titled "Tree > Analytics". It displays various charts and graphs, including a donut chart for "Graph Donut 1" and a bar chart for "data2", "data4", "data1", and "data3".

Big Data Work Flow



## INTEGRATED REPORTING AND ANALYTICS : ACTIONABLE INSIGHT

### ENERGY

SMART BUILDINGS  
CONDITION BASED MAINTENANCE  
REMOTE OUTAGE NOTIFICATION  
SMART WASTE MANAGEMENT

### UTILITY

WATER TREATMENT  
WATER MANAGEMENT  
EQUIPMENT MONITORING/CONTROL  
HAZARDOUS MATERIALS EMERGENCY RESPONSE

### VEHICLE

SMART PARKING  
PARKING ENFORCEMENT  
VEHICLE DETECTION  
MOBILE PAYMENTS  
EV CHARGING

### TRANSIT

INTELLIGENT RAIL TRANSIT SOLUTION  
FLEET MANAGEMENT  
ASSET TRACKING  
MOBILE PAYMENTS  
SMART ROADS

### PUBLIC SAFETY

VIDEO SURVEILLANCE  
REMOTE SECURITY MONITORING  
EMERGENCY RESPONSE  
SMART STREETLIGHTS  
MASS NOTIFICATIONS

# Case Implementasi

## Smart Government



eGovernment, Open Data, Linked Data, eDemocracy, eAuction, etc

## Smart Transportation



Sensors like cctv, traffic radar, meteo and hydro, Air Port, haven, etc, all connected, all easily accessed

## Smart Health Care System



Entrepreneur It is defined as an individual who organizes or operates a business or businesses.

## Smart Media & Information



A prescription for lower costs, better outcomes and healthier societies



Big Data Work Flow

# Indonesia idBigData Community

## BIG DATA



### idBigData MeetUp

Routine activities held by Big Data Indonesia Community. At idBigData MeetUp, we bring together experts and professionals for sharing knowledge and experience in Big Data technology utilization.

### idBigData Hub

An online discussion forum for the Big Data Indonesia Community. All about Big Data technology is here, from the basic level to the expert level built by experts from academia and professionals.

### idBigData Channel

An online channel provided for multimedia sharing. IdBigData Channel contains videos produced by idBigData multimedia team.  
[Http://channel.idbigdata.com/](http://channel.idbigdata.com/)

### idBigData Workshop

Trainings and seminars, that give opportunity to learn more from BigData.

“SOLUSI247 become a contributor, supporter, and part of idBigData.”

### Universities partners



# Asosiasi Ilmuwan Data Indonesia (AIDI)

## BIG DATA

ASOSIASI  
ILMUWAN DATA  
INDONESIA

TENTANG AIDI

KONTAK

Asosiasi Ilmuwan Data Indonesia

Membangun Ekosistem Data Scientist Indonesia yang Bermanfaat, Aman, Sejahtera, Berdaya-saing dan Sustainable untuk kedaulatan data Indonesia



Big Data Work Flow

# EDUKASI & SERTIFIKASI

## BIG DATA

### YAVA Data Engineering Course

Designed to provide the essential knowledge and skill needed to support data-driven decision making by collecting, transforming, and visualizing data with Hadoop cluster and its ecosystem. The course covers designs, builds, maintains, and troubleshoots data processing systems.

**Target Audience:**

Developer, ETL Engineer, Data Analyst

### Apache Spark Course

(with R, Scala, or Python)

Specifically designed to provide the knowledge and skills needed to become a data analyst. This course covers the concept of data preparation, data manipulation, data exploration and data visualization.

**Target Audience:**

Developer, ETL Engineer, Data Analyst

### YAVA Cluster Administration Course

Gives participants the expertise in all the steps necessary to operate and maintain Hadoop clusters, from planning, installation, configuration, monitoring to troubleshooting. This training provides hands-on preparation for the real-world challenges faced by Hadoop Administrators.

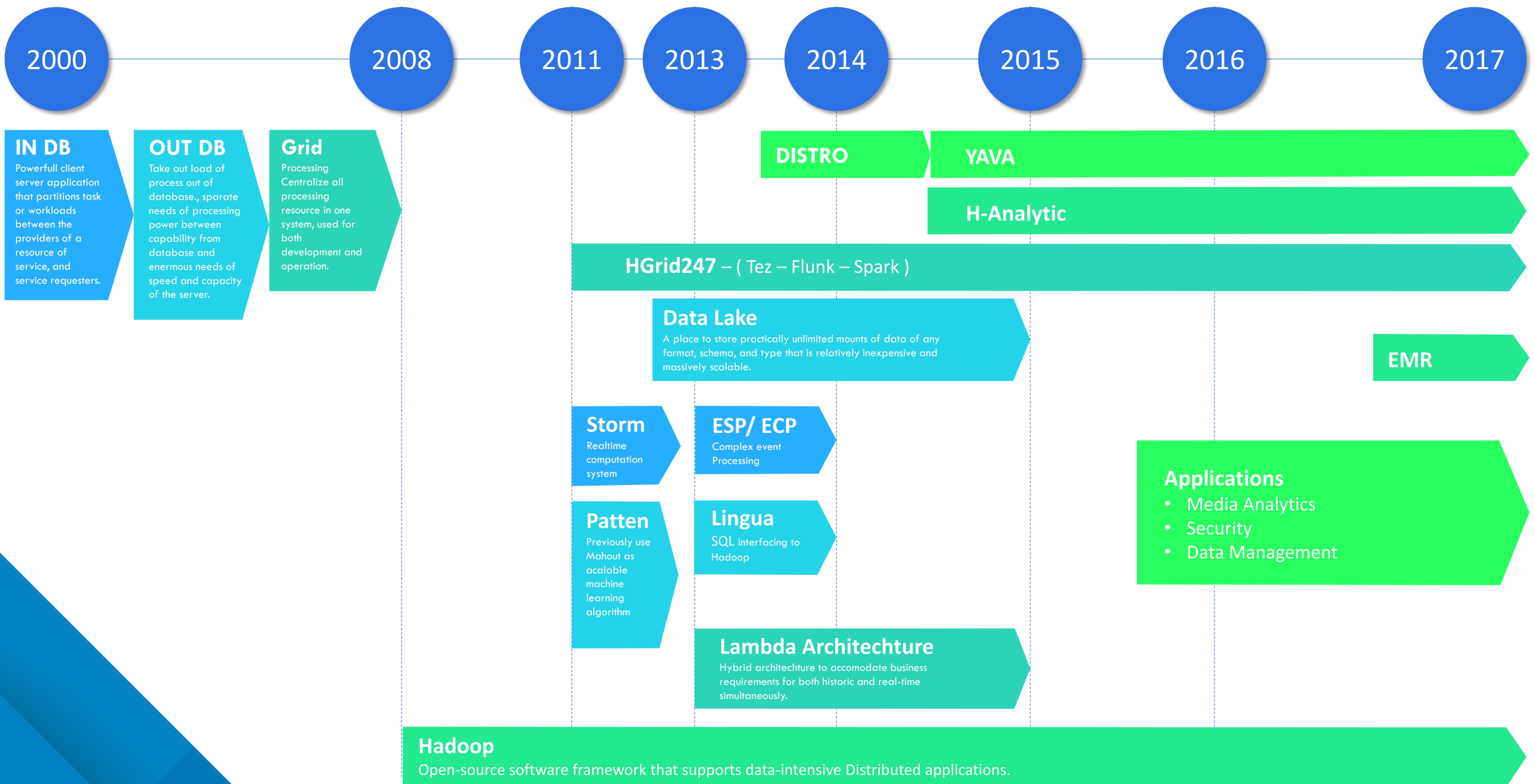
**Target Audience:**

Unix/Linux administrator, Database administrator, System administrator, People who want to develop careers become administrator hadoop.



Portofolio  
Solusi247

# 247 Big Data Evolution



# 247 Fact – Daily Data Processing

## Processing Data

 **80 TB Data Size**

 **120 Bio Record**

 **Data Sources**

## Hardware Specification



**700 Nodes**



**2 Hexacore CPU  
Intel Xeon**



**128 GB Mem**



**12 x 3TB HDD**

**More than 10 Application running in cluster multitenancy  
Cost Saving for more than half**

## Mission Critical System

### Data Collector & Processor Expansion

- TELKOMSEL – 2013
  - Data Size: 80TB / day
  - Nodes: 700
  - Users : >100

## Business Critical System

### Hadoop Watch (Data Processing)

- INDOSAT – 2014
  - Data Size: 2TB / day
  - Nodes: 11
  - Users : >100

### Partner Relationship Management

- INDOSAT – 2011
  - Data Size: 500GB / day
  - Nodes: 14
  - Users : >100

### Sales Management System

- BAKRIE TELECOM – 2011
  - Data Size: 200GB / day
  - Nodes: 4
  - Users : >50

# INDONESIA BIG DATA TOOLS

From many experiences SOLUSI247 finally made tools Big Data that sancta which is helping in implementation.

## Features:

- Drag and drop workflow design and visualisation
- Ready to use ETL library:
- Custom library editor
- Source and Sink Library
- Executable map reduce generator
- Audit log counter process
- Performance optimization
- Ready to use workflow library
- Ready to use Matching Algorithm

## Support and compatible with :



# KERJASAMA HGrid247 dan IRI

HGrid rolling in Big Data Internasional Implementation.



**IRI and Solusi247 Form Big Data Management Platform Partnership**

**SOLUSI**247****

**Contact**

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**MELBOURNE, Fla. – (BUSINESS WIRE) –** 10 March 2015  
Innovative Routines International (IRI), Inc. (The Cofort® Company), and PT. Dua Empat Tujuh (Solusi247) of Jakarta, have formed a joint technology venture to augment IRI's emerging Viracity™ data integration and management platform with optional Hadoop engine deployments. In addition to Cofort v10's SMP engine, big data transformation and protection workloads will run in parallel across multiple commodity servers using Mapreduce, Spark, Storm, or Tez engines.

The companies' collaboration dates back to 2003 when they used the term 'big data' to refer to telco customers' huge call detail record files being transformed in Cofort's Sort Control Language (SortCL) program for billing and analytic data warehouses. "As the largest country in southeast Asia, Indonesia has massive telco data processing requirements. We deploy both Cofort and Hadoop solutions to exceed our customers' production SLAs and budgetary requirements," noted Solusi247 CEO Beno Pradeko.

Today's announcement represents the next generation of technical and business

# Developed Application



One – stop application used for selling activities, using newest technology with n-tier application by the utilising horizontal data expansion.



Making sure that the revenue can be tracked, finding the loss from mistakes/problems, exploring the potency of incoming realization.



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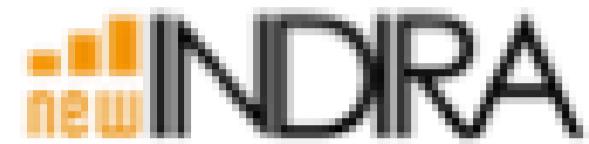


Integrated NE Inventory, based on maps data.



Real-time application reporting for Ericsson network.

# Dashboard & Business Intelligence



An application to accommodate CDR for prepaid recharge, billing and payment either in aggregation or detail for customer-care, CRM and management reporting.



Storage and data processing system that have horizontal scalability. As a central for many application data that used for reporting and closing needs.



Developed for integrating data from many sources to build central data repository



Data warehouse for call usage, recharge, SMS, etc. to daily report and customer care.



Operational Data Storage (ODS) is tactical application that stored detail data, instant report for transactional data that posted to the system.



Dashboard which used by management as business indicator.

## Implemented Technology



# Triple Helix Collaboration

UNIVERSITY  
UNIVERSITAS



UNIVERSITAS  
INDONESIA  
*Veritas, Probitas, Justitia | Est. 1849*



A UAI  
Universitas Al Azhar Indonesia



Universitas  
Gadjah Mada



Research Center  
RISTEKDIKTI



# Collaboration

SOLUSI247 is collaborating with universities in Indonesia



**Universitas  
Gadjah Mada**

- Research
- Resources Data Science (BA)
- Development and Research
- Big Data Transactional (Riset Hibah)



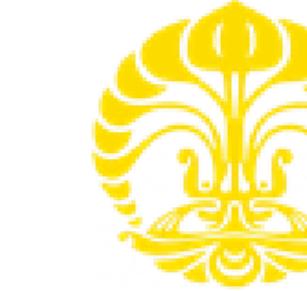
Institut Teknologi Bandung

- Data Research and Text Mining
- Smart City, Smart Home, and Smart Office Research
- [WCPL] Weather Analyze Research using BigData



**Telkom  
University**

- Social Network Analysis Research(data base and data processing)
- Smart City, Smart Home, dan Smart Office Research
- [WCPL] Weather Analyze Research using BigData



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**UAI**  
Universitas Al Azhar Indonesia

- BigData Certification Program(TUV)
- Teleheld Research
- Radar Antenna Research
- Semantic Web and Data Mining Research
- [KORINA] Smart Data Center and Mobile Radar Research.
- Bioinformatic and Life Science Research
- HGrid Development Research
- Big Data Curriculum and Research
- Instructor Cooperation Research
- BigData Curriculum and Research
- Instructor Cooperation Research
- HGrid Development Research
- BioInformatic Research

# Collaboration

SOLUSI247 is collaborating with Research Organization in Indonesia



- Big Data Implementation Research
- Riset Kerjasama Tenaga Pengajar
- Instructor Cooperation Research



- Health information System Development Research
- BigData Research
- Health Care Research



- Weather Radar Development Research
- BigData Implementation for Weather Data Research

# 247 Achievement

## International Conference

- **Performance Comparison of Various Windowing on FMCW radar Signal Processing**, Conference Paper, November 2016, International Symposium on Electronics and Smart Devices (ISESD)
- **High – Gain Antenna with Asymmetric Flares**, Conference Paper, October 2015, CRAMET 2015
- **UNDIP ICITACEE 2014**, Semarang, Indonesia, 8 Nopember 2014
- **TSSA 2014**, Bali, Indonesia, 23 - 24 Oktober 2014
- **CD-ROM Proceedings of ISAP 2008**, Taipei, Taiwan, Oct. 2008.
- **Invited paper, Proceedings of the 2007 IEEE ICUWB 2007**, pp. 294 – 298, Singapore, Sep. 2007.
- **CD-ROM Proceedings of ISAP 2007**, Niigata, Japan, Aug. 2007.
- **Proceedings of the 4th IWAGPR 2007**, pp. 197 – 202, Naples, Italy, Jun. 2007.
- **Proceedings of the 4th IWAGPR 2007**, pp. 226-229, Naples, Italy, Jun. 2007.
- **Proceedings of PIERS 2007**, pp. 2217-2220, Beijing, China, Mar. 2007.

## National Conference

- AAU **Journal of Defense Science and Technology**, Vol. 1, No. 2, pp. 33 – 37, 5 Oct. 2010.
- Proc. The 5th **International Conference on TSSA** 2009, Bandung, Indonesia, Nov. 2009.
- Proc. **Konferensi Nasional Sistem dan Informatika** 2009, Bali, Indonesia, Nov. 2009.
- **Seminar Radar Nasional III**, Bandung, Indonesia, 30 April 2009
- Proceedings of **Seminar Radar Nasional** 2008, Jakarta, Indonesia, 30 April 2008
- Proceeding **Seminar Radar Nasional** 2008, pp. 91-96, Jakarta, Indonesia, April 2008.
- and more..

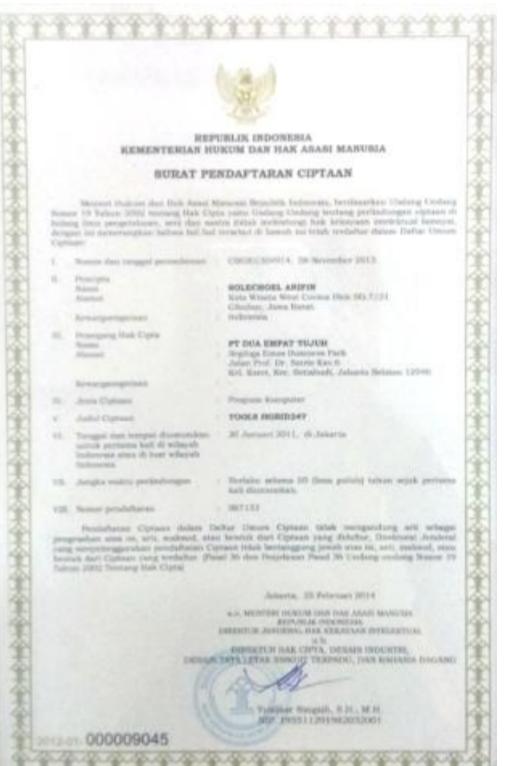
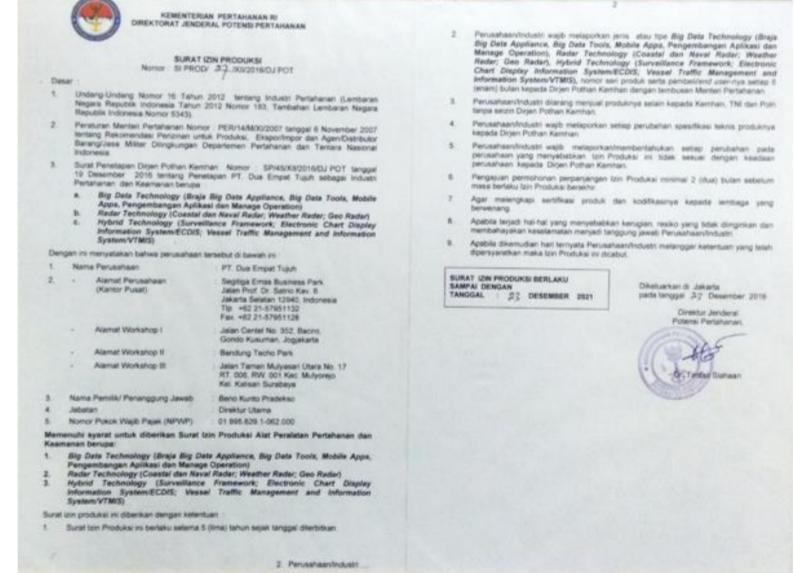
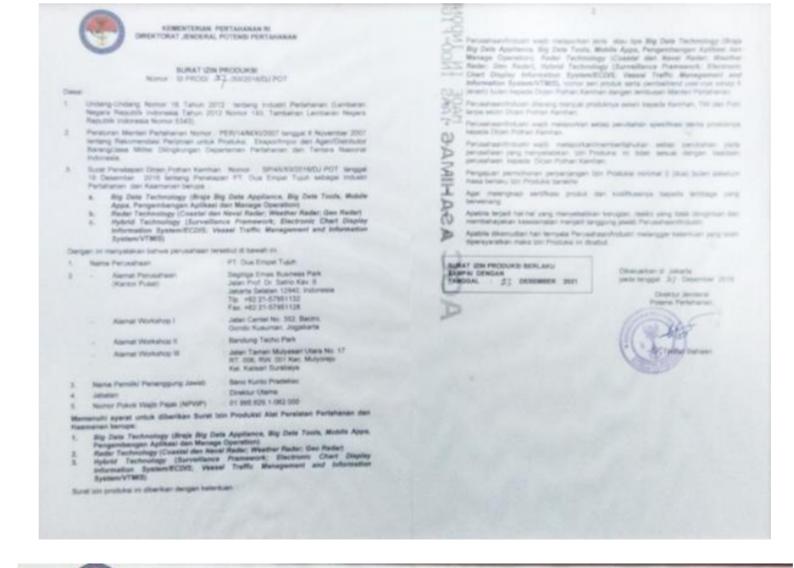
## Journal

- INSISNAS2014 , Bandung, Indonesia, 1-2 Oktober 2014
- INSISNAS2013 , Jakarta, Indonesia, 7-8 November 2013
- iNSISNAS2012 , Bandung, Indonesia, 29-30 November 2012

# Patent & Intellectual Property

247 Product & Research that listed in Directorate General of Intellectual Property Rights.

- H-Grid247
- Software MATA
- SGrid-247
- FMCW Frequency Agility
- ECS-247
- Radar Indera Design
- RF Front End Hybrid Radar – Pulse Compression
- FMCW X-Band Radar
- FMCW S- Band Radar
- X-Band FMCW Radar Antenna
- Pulse Compression S-Band
- INDERA Trade Mark



# Awards & Events

## Awards

- SUN Microsystems - Best 1st Tier System Integrator
- LIPI - LIPI Science Based Industrial Innovation Award 2013
- Best Research paper ICITACEE 2014, Semarang, Indonesia
- LIPI - LIPI Science Based Industrial Innovation Award 2015
- Merit Awards APICTA 2015
- Minister of Research, Technology, and high education. - Abyudaya Science and Technology Award 2017

## Events

- INDO DEFENCE 2008, Jakarta, Indonesia
- INDO DEFENCE 2010, Jakarta, Indonesia
- Harteknas Ritech Expo 2011, Tangerang, Indonesia
- ICITACEE 2014, Semarang, Indonesia
- CEBIT 2014, Hannover, Germany
- Communicasia 2014, Singapore
- Konferensi BIG DATA Indonesia 2014, Yogyakarta, Indonesia
- CEBIT 2015, Hannover, Germany
- Communicasia 2015, Singapore
- Gitex Expo 2015, Dubai, UAE
- Konferensi BIG DATA Indonesia 2015, Bandung, Indonesia
- CEBIT 2016, Hannover, Germany
- Konferensi BIG DATA Indonesia 2016, Jakarta, Indonesia
- CEBIT 2017, Hannover, Germany

**CommunicAsia 2016**



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