

**Seventh SG13 Regional Workshop on
“Standardization of Future Networks towards
Building a Better Connected Africa”**

Cloud Computing and Big Data
(Shifting the lens to a new Oil)

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Focus Areas



What is Cloud Computing and what it portend for a “connected” Africa



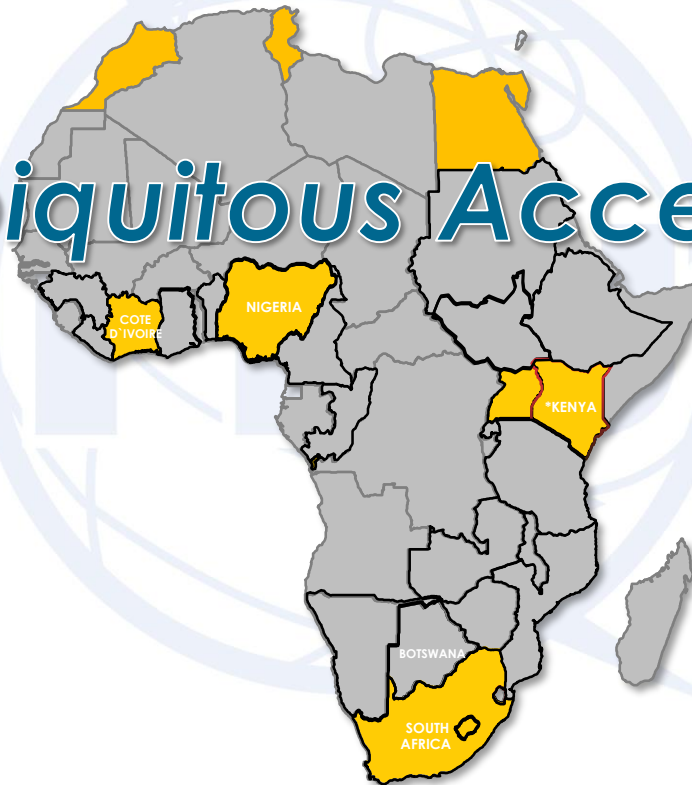
Big Data and what opportunities does it herald



Use Cases

Tech facts on Africa

Ubiquitous Access



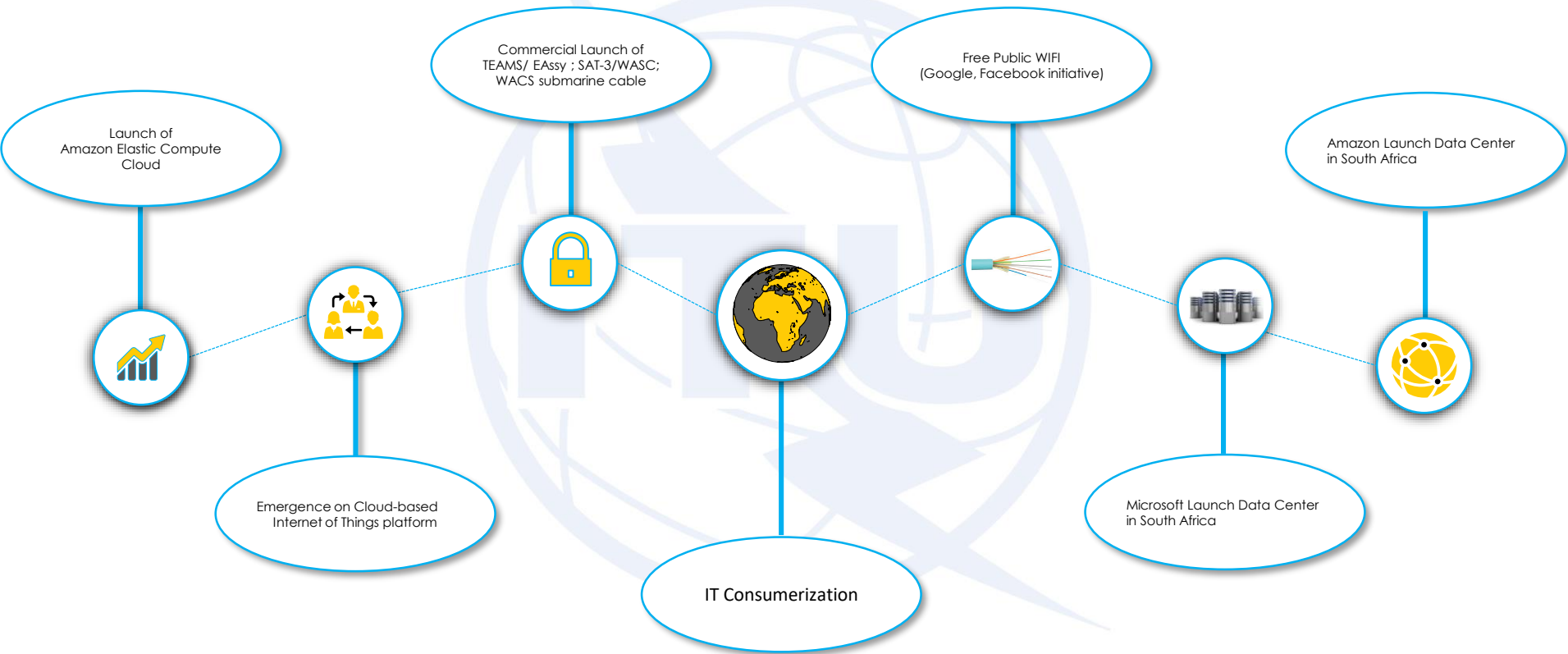
“Connected”
Africa

- ~ US\$3.8 billion revenue forecast by 2023
- ~1 Million Route-KM Fibre
- Over 20 Submarine cables

Source: Hamilton Research (2019) Africa Bandwidth Maps

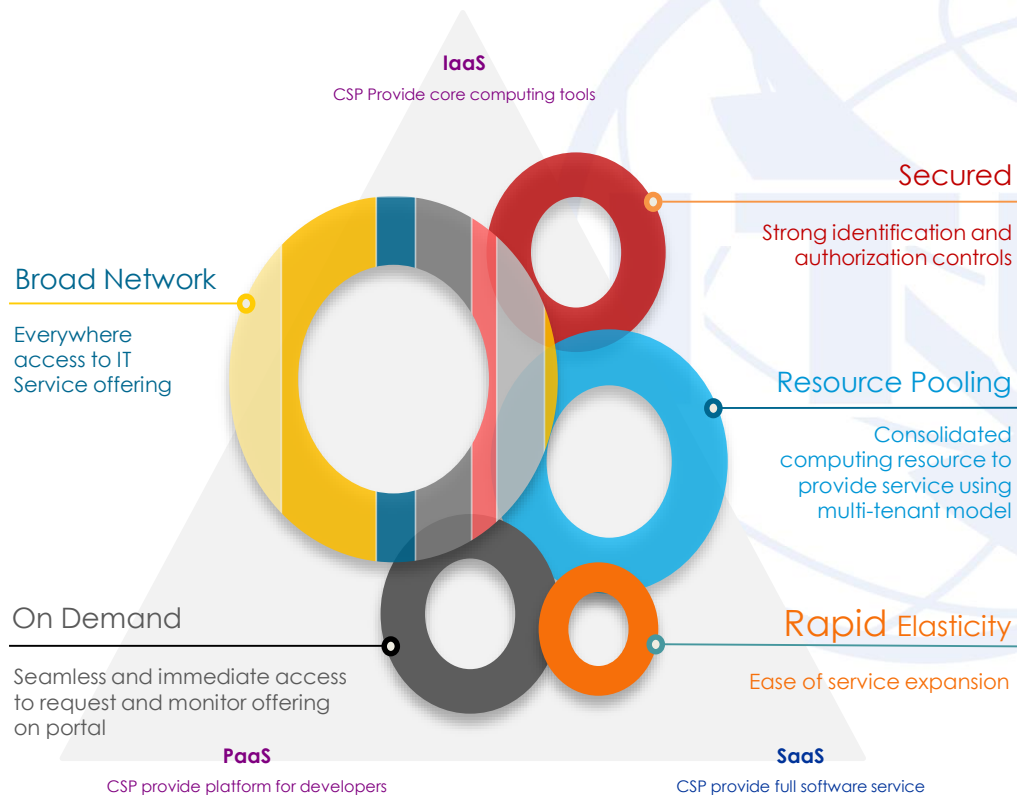


Key moments that shape tech Africa



The salient features of Cloud Computing are as follows:

Definition of Cloud computing : "A style of computing where scalable and elastic IT-enabled capabilities are provided 'as a service' to customer using internet technologies." [Gartner, 2020]



Key drivers for adoption:



Accelerate software delivery faster time to value



Balance speed, cost, quality and risk
increased capacity to innovate



Increase Customer Service Levels
Consistently deliver excellent customer experience

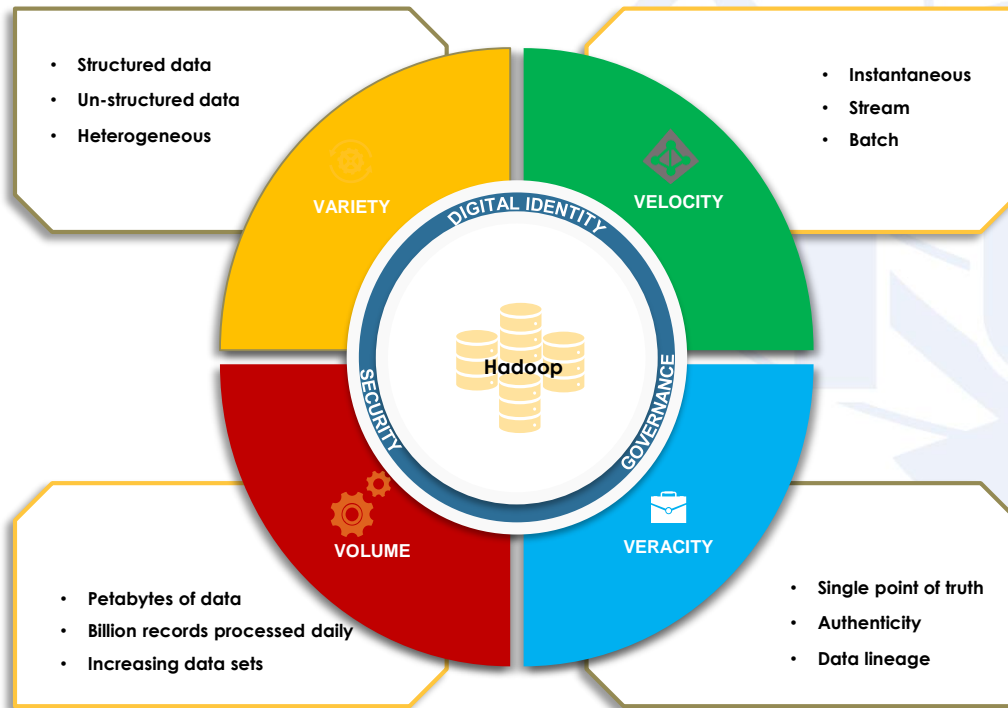


Leverage technological innovation to increase operational efficiency

What is Big Data?

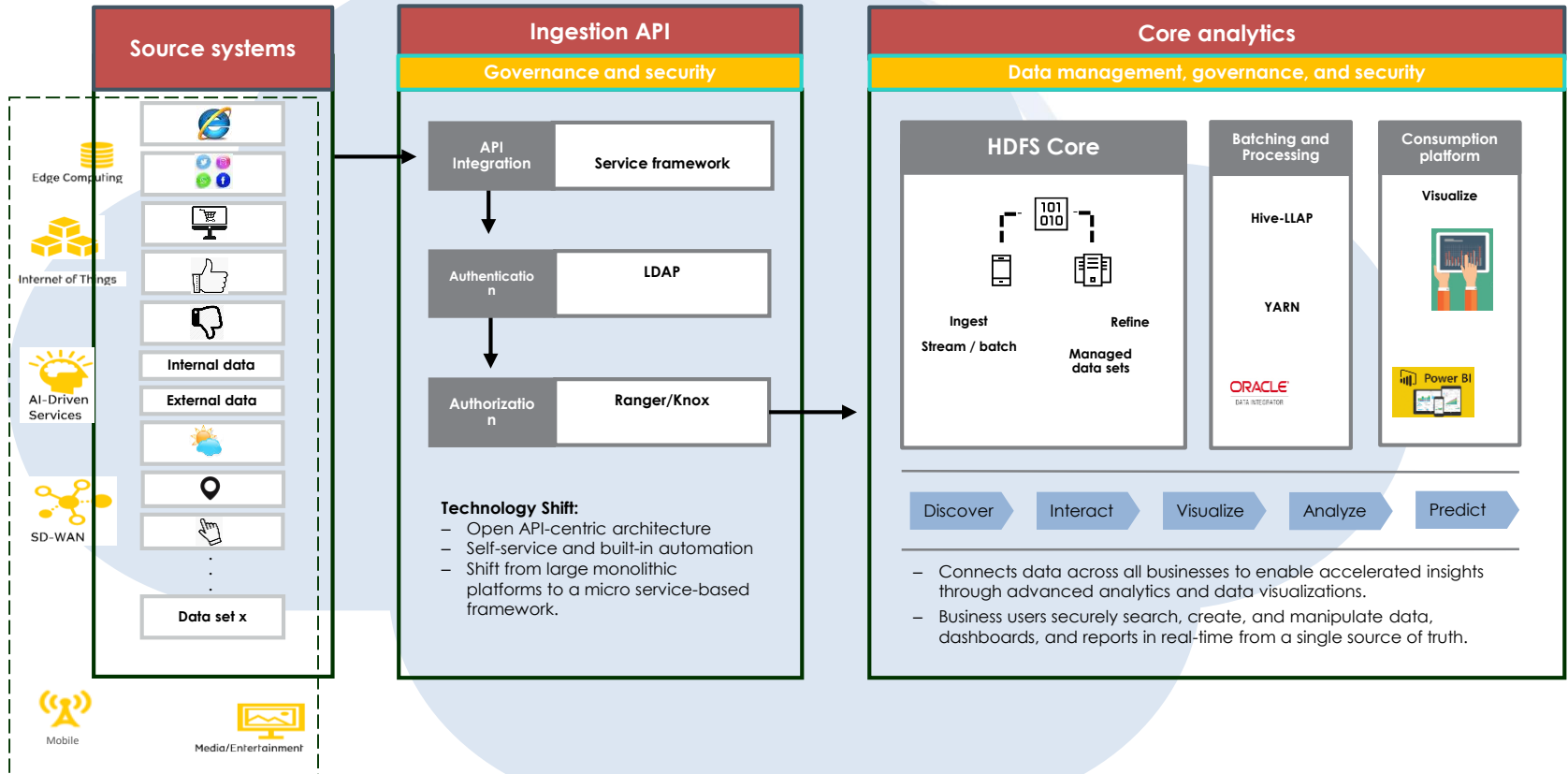
“**Big Data** technologies as a new generation of technologies and architectures designed to extract value economically from very large volumes of a wide variety of data by enabling high-velocity capture, discovery, and/or analysis.” [IDC, 2012]

Because of the nature and volume of unstructured data, it is impossible to process such data using relational database (RDBMS). Big data is hard to capture, store, search, analyze and visualize.



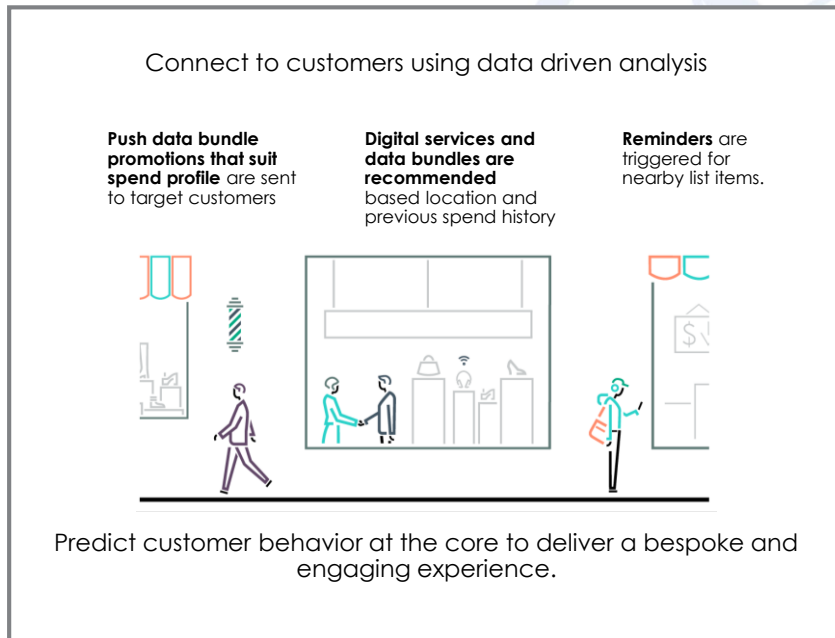
Global organizations are switching to Hadoop - an open-source software framework for storing data and running applications on clusters of commodity hardware. This is largely due to volume of storage required and enormous processing power required to handle multiple batch jobs.

Convergence of Cloud Computing and Big Data



Use Cases

Micro-targeted Campaign - Use personalized, location-based promotions to provide customer with a rich, data-enabled experience



Inspire more customer loyalty due to a better, faster, more personalized, and rewarding experience.



Reduce Churn and recapture lost purchase opportunities via seamless online ordering and push notifications to help customers locate items in-store.



Increase insight into customers' behavior and respond in real-time with actions

...contd use cases

Socio-cultural analysis

Insight into circumstances surrounding citizen and influencing behaviors to address real social challenges

Smart customer interaction

Increase customer experience by providing a 360° and generating picture of the customer in near real-time

Digital Partnering:

Develop digital partnerships with external content providers, to enrich digital product portfolio and generate income for home grown technopreneur

On-demand analytics

Enable real-time monitoring & reporting to support business and government decision making

Challenges that could inhibit adoption in Africa

- ❖ Lower internet penetration across Africa still pose a huge challenge
- ❖ Trust and security still remains a critical factor in cloud computing
- ❖ Poor data collection mechanism
- ❖ Absence of clear data governance strategy across many Africa countries. Policy makers must explore establishment of a Data Officer Council saddled with the responsibility of establishing best practices for the usage, protection, generation and dissemination of data.

Reference

- Hamilton Research 2020, Africa Bandwidth Maps. Available from: http://www.africabandwidthmaps.com/?page_id=27. [21 December 2019]
- Gartner 1999, accessed 14 January 2020, <https://www.gartner.com/en/information-technology/glossary/public-cloud-computing>
- BCS 2020, The Chartered Institute of IT. Available from: <https://www.bcs.org/content-hub/history-of-the-cloud/> [17 January 2020]
- IDC 2012, Big Data: Global Overview: Market Analysis