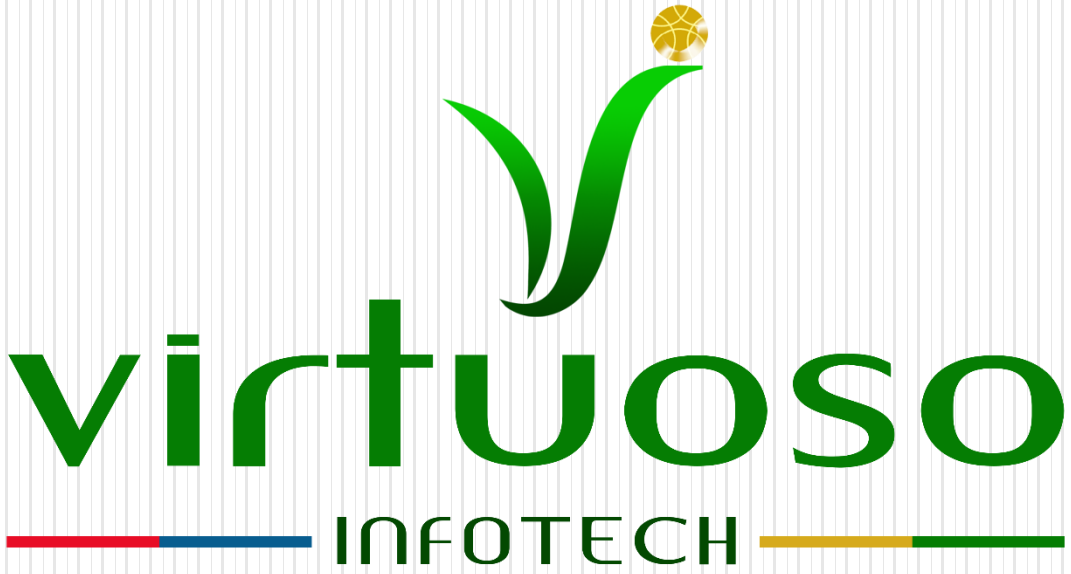
Virtuoso Infotech Pvt. Ltd.



About Virtuoso Infotech

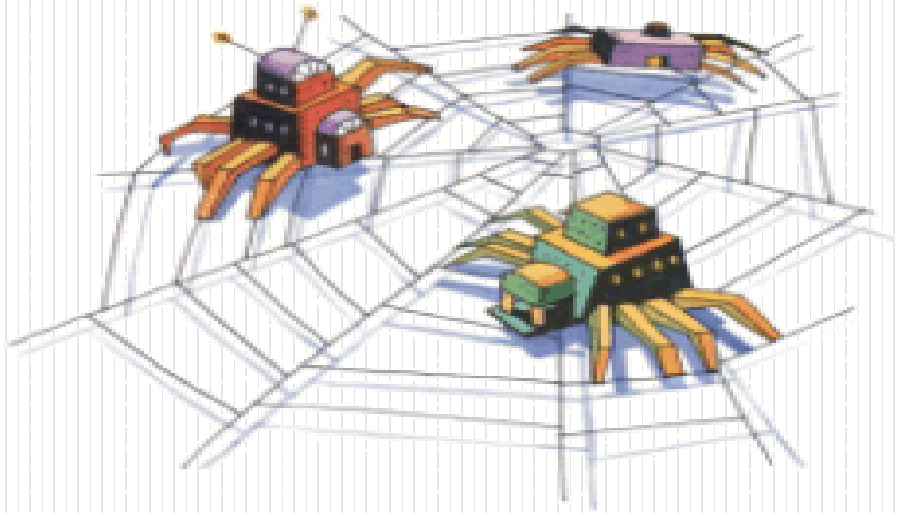
- Fastest growing IT firm; Offers the flexibility of a small firm and robustness of over 30 years experience collectively within the leadership team
- Technology expertise & passionate team
- Successful client engagements across India, USA, UK, Australia and Argentina
- Handle enterprise solutions that involve **30,000 active users**, more than 20 servers, **data volume as big as 5 million entries per day**

Agenda

- An Introduction of Hadoop.
- Sub Projects of Hadoop.
- An Architecture of Hadoop.
- How Does Hadoop Work?
- Advantages of Hadoop.
- Disadvantages of Hadoop.

An Introduction of Hadoop

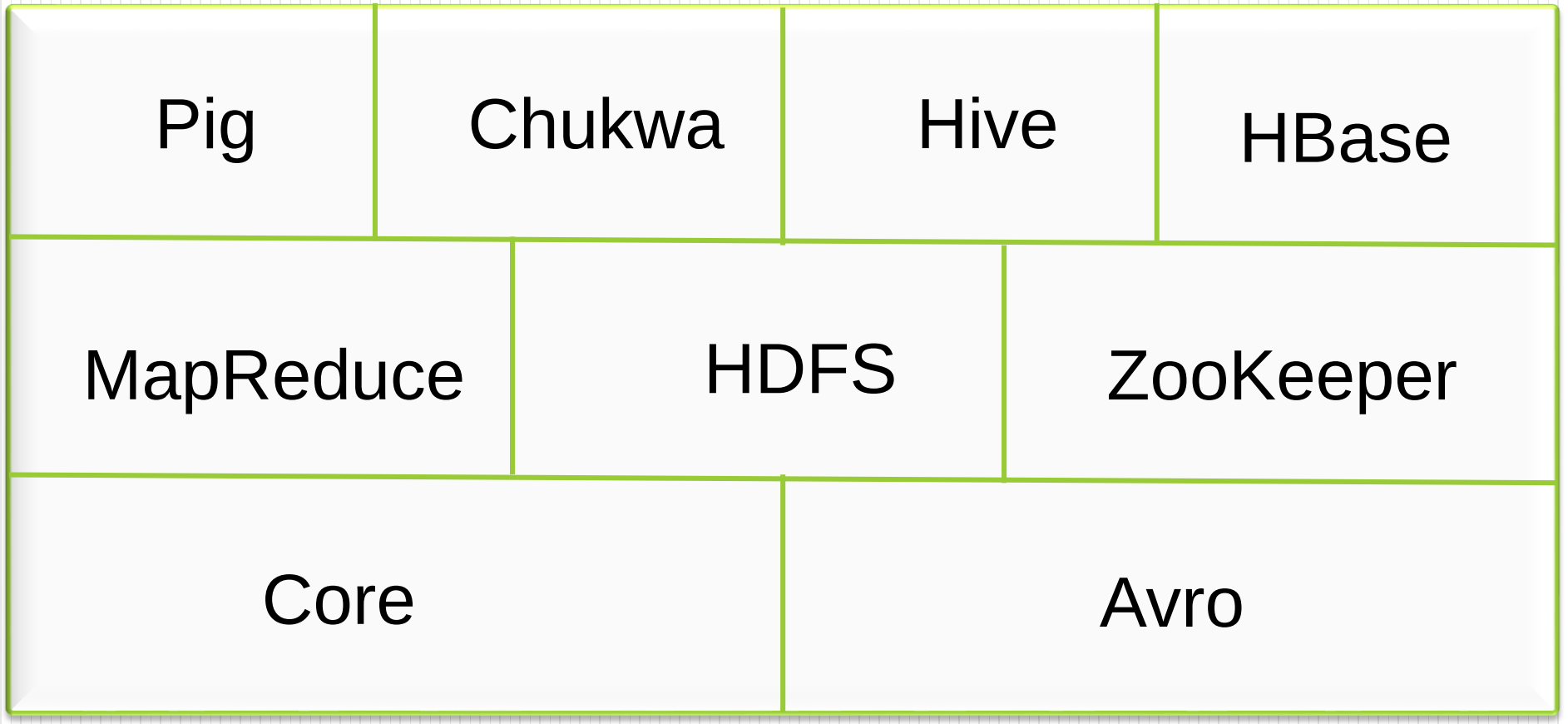
Designed to answer the question: **“How to process big data with reasonable cost and time?”**



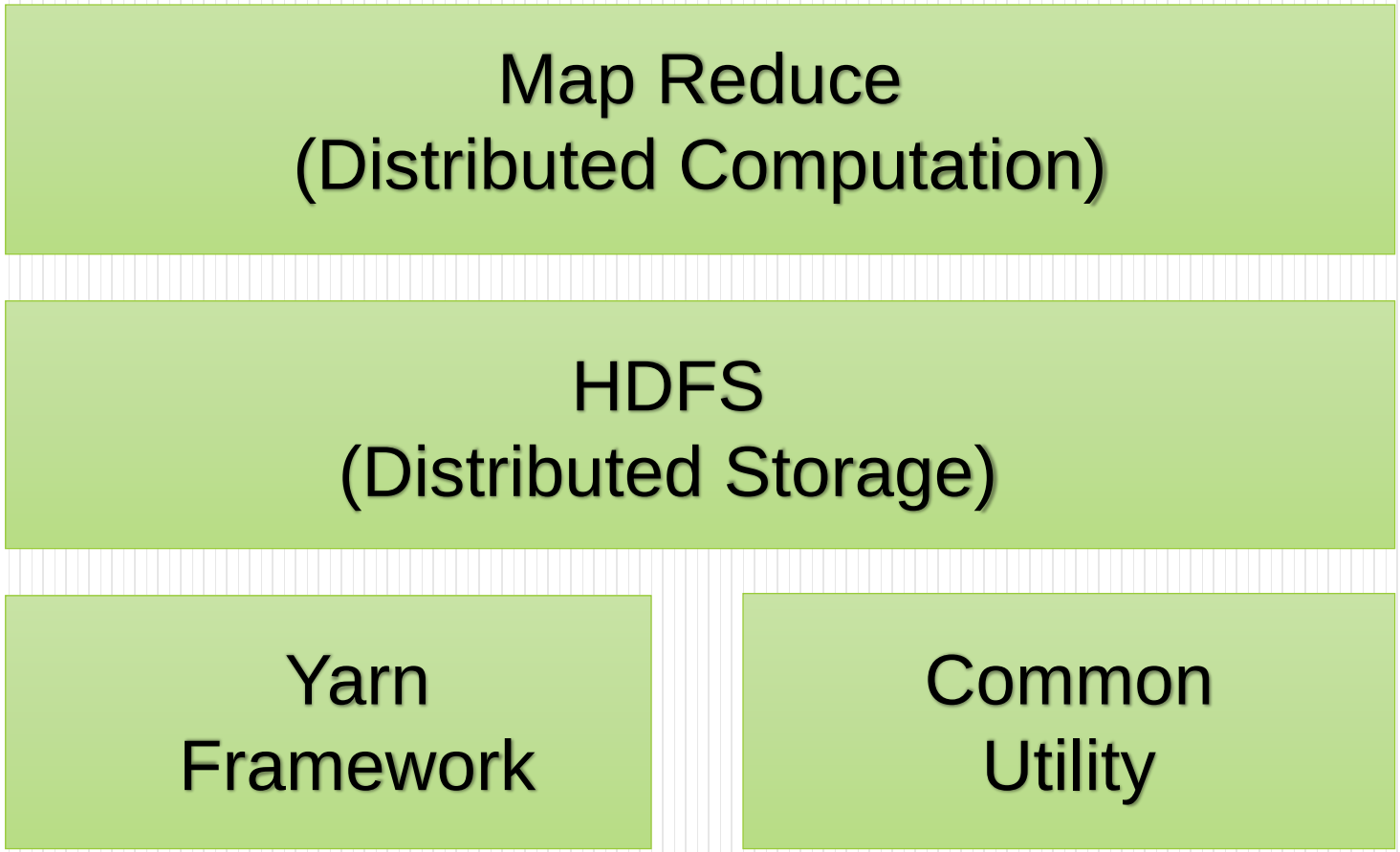
An Introduction of Hadoop

- Open-source software framework for distributed storage and distributed processing of very large data sets on computer clusters built from commodity hardware.
- Created by Doug Cutting(Creator of Apache Lucene, widely used text search library.)
- Has its origins in Apache Nutch , an open source web search engine.
- Uses Google’s MapReduce Algorithm.

Sub Projects of Hadoop



An Architecture of Hadoop



How Does Hadoop Work?

This process includes the following core tasks that Hadoop performs:

- Data is initially divided into directories and files. Files are divided into uniform sized
- blocks of 128M and 64M (preferably 128M). These files are then distributed across various cluster nodes for further processing.
- HDFS, being on top of the local file system, supervises the processing.

How Does Hadoop Work?

- Blocks are replicated for handling hardware failure.
- Checking that the code was executed successfully.
- Performing the sort that takes place between the map and reduce stages.
- Sending the sorted data to a certain computer.
- Writing the debugging logs for each job.

Advantages of Hadoop?

- Distributed Data.
- Independent Task.
- Linear scaling.
- Simple programming model.
- Flat scalability.
- HDFS store large simple and robust coherency model.
- Can be offered as an on-demand service.

Disadvantages of Hadoop

- Rough manner.
- Programming model is very restrictive.
- Joins of multiple datasets are tricky and slow.
- Cluster management is hard.
- Still single master which requires care and may limit scaling
- Managing job flow isn’t trivial when intermediate data should be kept
- Optimal configuration.

Thank You!

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