



ClickHouse Meetup
Plug and Play Tech Center
23rd April 2018



Agenda:

18:00 ClickHouse Analytical DBMS. Introduction and usage
(Alexander Zaitsev, Altinity)

18:30 ClickHouse New Features Overview and Development
Roadmap (Alexey Milovidov, Yandex)

18:45 ClickHouse in Plug and Play Cloud (Som Sikdar, Kodiak
Data)

20:00 Lightning talks, ClickHouse demo, Q&A



ClickHouse Analytical DBMS

Introduction and Usage

Alexander Zaitsev, Altinity

Plug And Play Tech Center, Sunnyvale, 23 Apr 2018



Altinity

www.altinity.com
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What Is ClickHouse?



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ClickHouse DBMS is

- Column Store
- MPP
- SQL
- Open Source



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Why Yet Another DBMS?



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Vertica
MemSQL
Actian
Snowflake
RedShift
...

EXPENSIVE

InfiniDB (MariaDB cs)
InfoBright
MonetDB
GreenPlum
Spark
...

SLOW or LIMITED



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ClickHouse

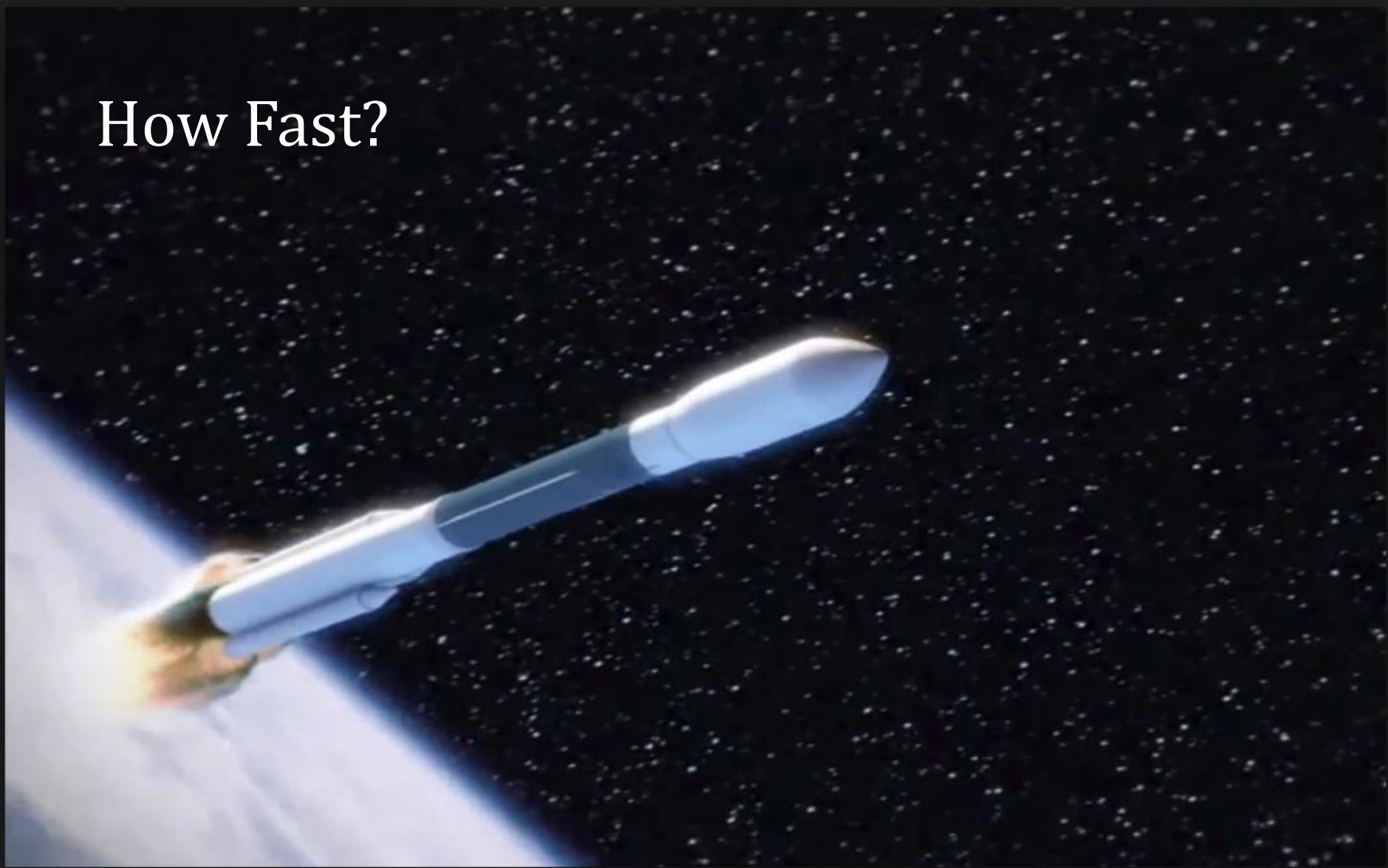
- Fast!
- Flexible!
- Free!



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How Fast?



```
:) select count(*) from dw.T
```

```
SELECT count(*)  
FROM dw.T
```

count() 1185063669477

```
1 rows in set. Elapsed: 4.361 sec. Processed 1.19 trillion  
rows, 1.19 TB (271.73 billion rows/s., 271.73 GB/s.)
```



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Query 1	Query 2	Query 3	Query 4	Setup
0.034	0.061	0.178	0.498	MapD & 2-node p2.8xlarge cluster
0.051	0.146	0.047	0.794	kdb+/q & 4 Intel Xeon Phi 7210 CPUs
0.762	2.472	4.131	6.041	BrytlytDB 1.0 & 2-node p2.16xlarge cluster
1.034	3.058	5.354	12.748	ClickHouse, Intel Core i5 4670K
1.56	1.25	2.25	2.97	Redshift, 6-node ds2.8xlarge cluster
2	2	1	3	BigQuery
6.41	6.19	6.09	6.63	Amazon Athena
8.1	18.18	n/a	n/a	Elasticsearch (heavily tuned)
14.389	32.148	33.448	67.312	Vertica, Intel Core i5 4670K
22	25	27	65	Spark 2.3.0 & single i3.8xlarge w/ HDFS
35	39	64	81	Presto, 5-node m3.xlarge cluster w/ HDFS
152	175	235	368	PostgreSQL 9.5 & cstore_fdw

“1.1 Billion Taxi Rides Benchmarks”

<http://tech.marksblogg.com/benchmarks.html>



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0.051	0.146	0.047	0.794	kdb+/q & 4 Intel Xeon Phi 7210 CPUs
-	2.415	3.599	4.962	ClickHouse at Plug And Play demo server
0.762	2.472	4.131	6.041	BrytlytDB 1.0 & 2-node p2.16xlarge cluster
1.034	3.058	5.354	12.748	ClickHouse, Intel Core i5 4670K
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“1.1 Billion Taxi Rides Benchmarks”

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ClickHouse runs at

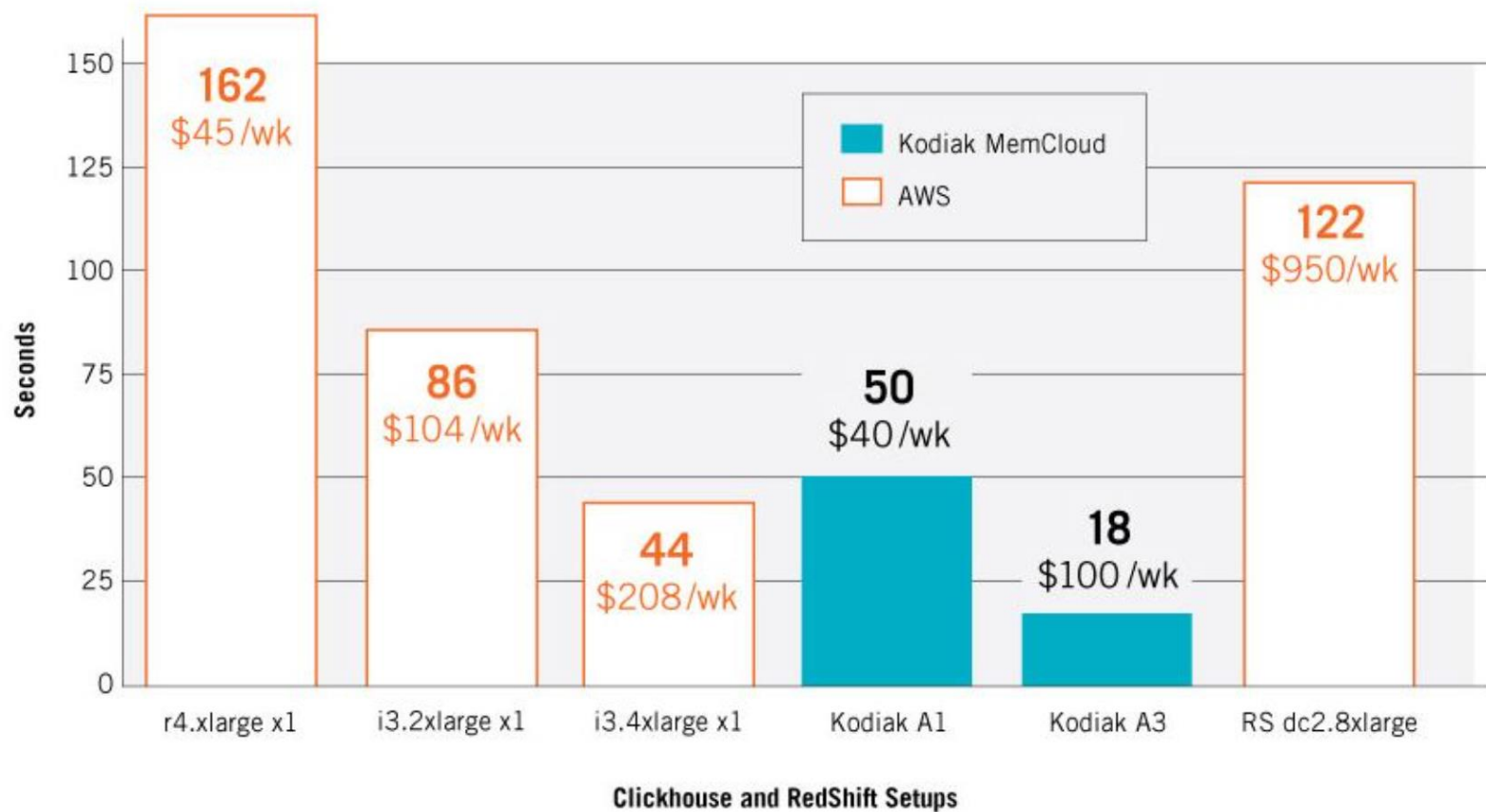
- Bare metal (any Linux)
- Amazon
- Azure
- Kubernetes, VM Ware etc.
- Kodiak Data cloud



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Total Query Time (For different ClickHouse and RedShift setups, less is better)



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What Is It For?



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What Is It For?

- Fast analytical queries
- Low latent data ingestion/aggregation
- Distributed computations
- Fault-tolerant data warehousing

All scaled from 1 to 1000s servers



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Who Is It For?



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Who Is It For?

- Analysts
 - who need analyze huge amounts of data
- Startups
 - build high performance analytics with low investment
- Companies
 - having performance problems with their analytics
 - paying too much for license or infrastructure



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Successful Production Deployments

- DNS queries analytics (CloudFlare)
- AdTech (multiple companies worldwide)
- Operational logs analytics (multiple companies worldwide)
- Stock correlation analytics, investor tools (Canadian company)
- Hotel booking analytics SaaS (Spanish company)
- Security audit (Great Britain, USA)
- Fintech SaaS (France)
- Mobile App and Web analytics (multiple companies worldwide)



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Evaluating/implementing:

- Telecom companies
- Satellite data processing
- Search ranking analytics
- Blockchain platform/ICO analysis
- Manufacturing process control



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Happy Transitions!

- From MySQL/InfoBright/PostgreSQL/Spark to ClickHouse



SPEED!

- From Vertica/RedShift to ClickHouse



COST!
VENDOR UN-LOCKING!

23.04 18:30 CLICKHOUSE GATE 2 boarding
23.04 19:30 CLICKHOUSE GATE 3
23.04 20:00 CLICKHOUSE GATE 4



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ClickHouse Timeline

- Developed in Yandex in 2012-2015
- Open Sourced June 2016
- First non-Yandex deployments Q4 2016
- 100+ deployments by Q4 2017
- 15+ meetups, 10+ conferences in 2017-Q12018



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ClickHouse Today

- Mature Analytic DBMS. Proven by many
- 2- years in Open Source
- Transparent development roadmap
- 20+ community contributors
- Emerging eco-system (tools, drivers, integrations)
- Support and Consulting from Altinity



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<https://www.prnewswire.com/news-releases/clickhouse-experiencing-explosive-growth-in-eu-us-and-asia-in-q1-2018-300633698.html>

LONDON, April 23, 2018 /PRNewswire/ -- Altinity, a leading service provider for ClickHouse, today announced explosive 10x quarter-over-quarter revenue growth in Q1 2018 for its ClickHouse services. The spike in demand for ClickHouse Support mirrors the trend of companies increasingly relying on ClickHouse as a solution for their data analytics and data warehousing needs.



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Q&A



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<http://meetup.com/San-Francisco-Bay-Area-ClickHouse-Meetup>



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