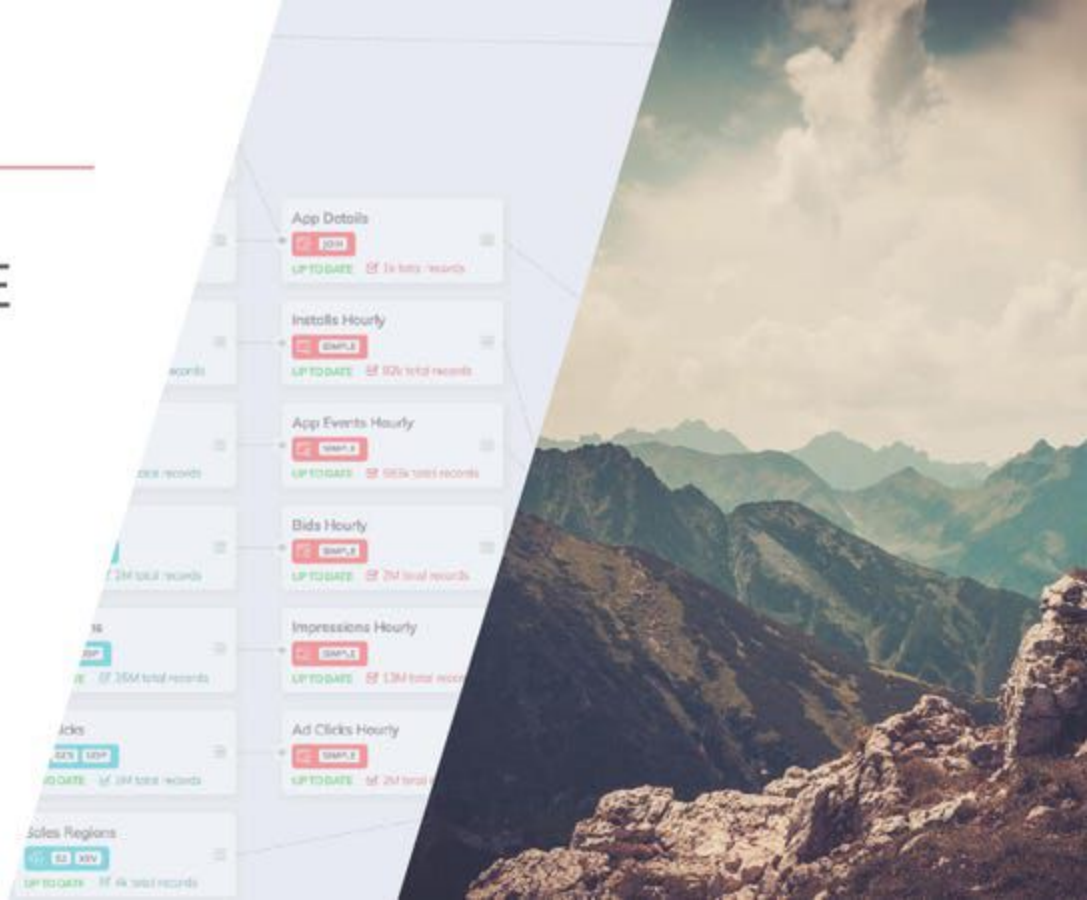


ASCEND

ENTERPRISE INTELLIGENCE PLATFORM



ASCEND.IO LEADERSHIP

- **Sean Knapp, CEO**

- Co-founder, CTO & CPO @ Ooyala ('07-'15)
- Led 200 person R&D org through \$60M+ growth
- Architected 4 generations of big data platforms
- Orchestrated the \$410M acquisition by Telstra
- Web Search Frontend Lead @ Google ('04-07)
- B.S. & M.S. in Computer Science from Stanford

- **Steven Parkes, Head of Technology**

- Staff Engineer @ Twitter
- Building Big Data systems since 2001 @ IBM Research
- PhD in Electrical Engineering from UIUC
- B.S. & M.S. in Electrical Engineering from UC Davis

- **Dan Gordon, Head of Product & Strategy**

- VP, Product Management @ Guidewire ('03-'15)
- Led 37 person Product org during \$2M-\$350M growth
- B.A. in Political Science from Yale, M.B.A. from Stanford

THE BIG DATA OPPORTUNITY

 Lookout Series B, C, D, E, F \$275.5M*	 Hortonworks Series D \$150M	 cloudera Series A, B, C, D, E \$141M	 sumologic Series C, D, E \$140M	 Couchbase Series B, C, D, E, F \$139M	 nimblestorage Series C, D, E \$81.7M	 TRIFACTA Series A, B, C \$76.3M
 Savi The Value of Knowing Series B, C \$67.5M	 Qubit. Series B, C \$66M	 AMOBEE Series A, B, C \$54M	 duetto Series B, C \$51M	 OPOWER Series C \$50M	 KRUX Series A, B \$48M	 FUSION-io Series C \$45M
 altiscale Series A, B \$42M	 ZOOMDATA Series B, C \$42M	 RelateIQ Series A, B \$29M	 Origami logic Series A, B \$24.3M	 TERRACOTTA Series B \$23.5M	 Jut Series B \$20M	 Algolia Series A \$18.3M
 causata Series A, B \$15.5M	 Qlik Series A \$12.5M	 StreamSets Series A \$12.5M	 SelfScore Series A, B \$12.35M	 VARONIS Series B \$10.14M	 Shift Technology Series A \$10M	 SIG {·} TUPLE Series A \$5.8M

*Amounts sourced from Crunchbase inclusive of funding from all investors.

“ AS MORE ORGANIZATIONS INVEST IN BIG DATA, THE SHORTAGE OF AVAILABLE SKILLS AND CAPABILITIES WILL BECOME MORE ACUTE. ”

- Gartner Big Data Survey, Sep 2015

COMMON CHALLENGES

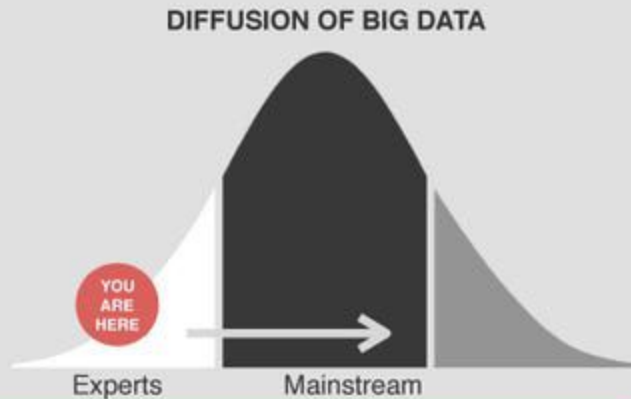
- “When using big data technology, things always take 10x longer.”
- “The technologies are changing too fast and our teams don’t understand them.”
- “I have hundreds of engineers that understand SQL, and none that do Scala.”
- “My Data Scientists are constantly being abused as Data Analysts.”

HISTORY TELLS US

COMPLEX TECHNOLOGIES GO **MAINSTREAM** WHEN THEY **ABSTRACT** AWAY THE COMPLEXITY AND BECOME **ACCESSIBLE**

EXAMPLES

- **Operating Systems:** Windows, iOS
- **Databases:** Oracle
- **Applications:** Excel, Powerpoint
- **Cloud:** AWS



ASCEND'S BET

- Early adopters are finding modest wins, demonstrating the potential, and they **want more now**
- Big data will **continue to expand** its presence across industries
- Big data tools will **inevitably** abstract the complexity away and make big data accessible to regular users
- **Ascend will be the platform to get them there**

ASCEND TARGETS

Company

- Fortune 2000
- Cloud friendly
- Existing investments in data
- Industry
 - Media
 - Consumer
 - Retail
 - Finance
 - IoT

Buyer

- Role
 - CIO/CTO/CDO/VPE
 - LoB head
- Pressures
 - Lack of big data experts
 - Too many pending projects
 - Migrating to cloud
 - Scaling data volumes from traditional systems
 - Future proofing
- Specific project as driver

User

- Role
 - Non Big Data Developer
 - Data Engineer
 - Data Analyst
- Skillset
 - SQL
 - Data Modeling
 - Coding Optional

THE ASCEND PLATFORM

Ascend allows your team to focus on your business, while we automate the technology.

- Business Logic
- Integrate data sources
- Data De-Duplication
- Data Consistency
- Monitor for new data
- Schedule Jobs
- Monitor Jobs
- Commit Jobs
- Error Recovery
- Data Storage Format
- Data Partitioning
- Trigger Downstream

You Ascend



The screenshot displays a data pipeline in the Ascend platform. The pipeline is titled 'Oryza Demo' and 'Oryza Pipeline'. It consists of several stages:

- Video records by user**: A connector stage that connects to a data source.
- Video user with IP**: A connector stage that connects to a data source.
- Video user with IP by geo**: A connector stage that connects to a data source.
- Geo to movie classifier**: A connector stage that connects to a data source.
- IP to geo mapper**: A connector stage that connects to a data source.
- IP to geo cleaned**: A connector stage that connects to a data source.
- Behavior tracking source**: A connector stage that connects to a data source.
- Behavior cleaned**: A connector stage that connects to a data source.

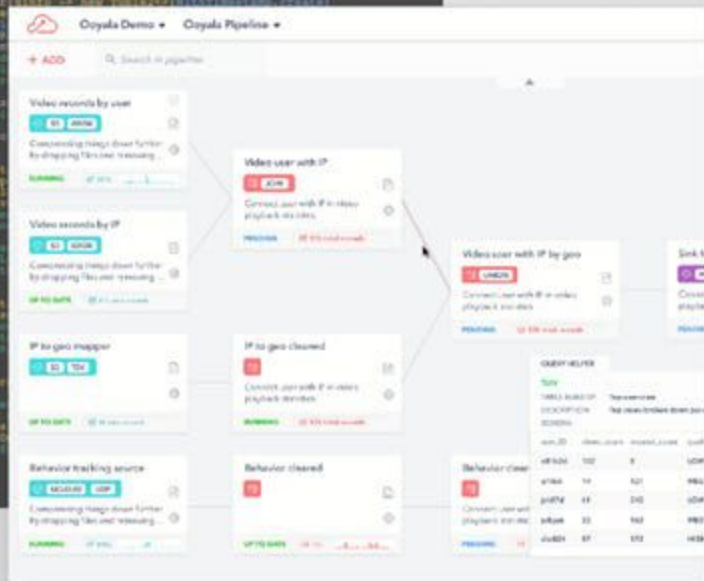
The pipeline also includes a **Scheduler class** and a **Table view** showing data for 'Oryza Demo'.

DATE	DESCRIPTION	STATUS	OPERATION	QUANTITY	CATEGORY
2023-01-01	Video user with IP by geo	Success	100	100	100
2023-01-02	Video user with IP by geo	Success	100	100	100
2023-01-03	Video user with IP by geo	Success	100	100	100
2023-01-04	Video user with IP by geo	Success	100	100	100
2023-01-05	Video user with IP by geo	Success	100	100	100

CONFIDENTIAL

HOW ASCEND WORKS

```
final Long allowedLatencyMs = Durations.minutes(120).toMillis();  
final Long beamWindowDurationMs = Durations.minutes(60).toMillis();  
  
gameEventio  
...  
} else {  
    filterInfo -> glInfo.getTimestamp() + System.currentTimeMillis() -  
    allowedLatencyMs - beamWindowDurationMs  
    .mapToPair((gameEvent, timestamp) -> new Tuple2<>(gameEvent, timestamp));  
}  
glInfo.glInfo -> glInfo.getTimestamp() + System.currentTimeMillis() -  
    allowedLatencyMs - beamWindowDurationMs  
    .mapToPair((gameEvent, timestamp) -> new Tuple2<>(gameEvent, timestamp));  
}  
private static  
List<Op  
Optional  
final prim  
withTime  
private In  
Bundle<game  
List<Op  
return 1  
final In  
if (event  
return  
if (error  
withTime  
Integer  
return 0  
return 1  
}
```



Data Modeling Interface

Users define business logic as higher-level models, called the Declarative Data Graph



Automation Engine

Ascend monitors for changes in data, translating business logic into new underlying tasks



Distributed Workers

Execute tasks and orchestrate underlying infrastructure



Processing Infrastructure

Existing big data infrastructure continues to perform the majority of data processing

COMPETITIVE ADVANTAGES

BUSINESS

- Remove need for big data expertise
- Reduce project times by up to 90%
- Capture canonical knowledge for entire org
- Drive collaboration across teams
- Leverage existing big data investments

TECHNICAL

- Automated Big Data Operations: “design once, run forever”
- Non-Disruptive to existing Big Data systems
- Game-changing combination of *mutable, persistent, and declarative*

LANDSCAPE

Category

Ascend Viewpoint

BI & OTHER TOOLS

Domo, Tableau

Partners that sit downstream from Ascend. Strong lessons to be learned from this industry.

BIG DATA ORCHESTRATION TOOLS

Cask, StreamSets

A natural next step, but the Imperative (“how”) vs Declarative (“what”) nature fundamentally limits mainstream usability.

OPEN SOURCE BIG DATA ECOSYSTEM

Cloudera, Qubole, Databricks

Great technologies upon which we already, or will in the future, rely.

CLOUD

Amazon, Microsoft, Google

Strong partner potential. Some risk of expanding product offerings in our direction.

BIG DATA IS SUCH A CLUSTER
SEE LIFE FROM THE TOP OF THE STACK WITH ASCEND.IO

