



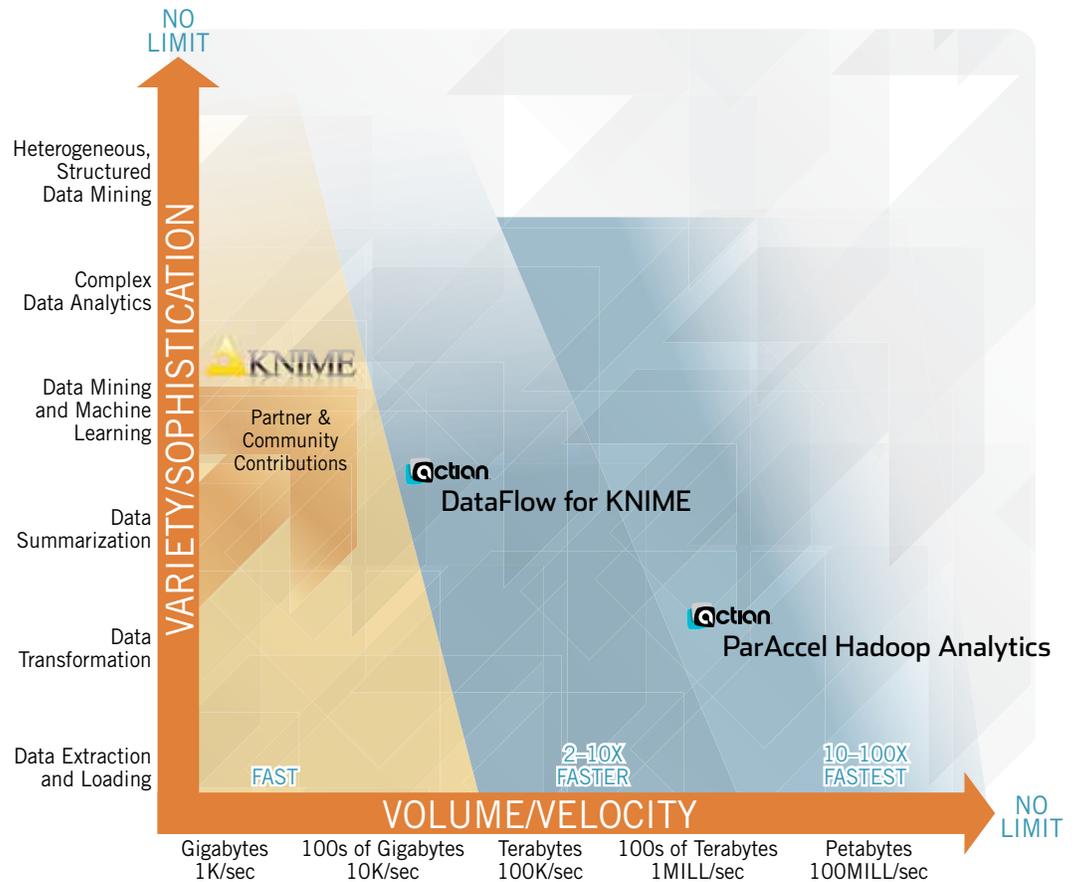
Scale Up and Scale Out

AUTOMATICALLY WITH PREDICTIVE ANALYTICS

Data becomes 'big' when existing systems are overwhelmed by the absolute volume (both static and streaming data), or cannot function fast enough for the time window in which analyses must be executed, or when the cost of adding hardware to remedy the first two problems is too high. The Action/KNIME alliance provides the answer to tackling these challenges head on, radically changing the performance and economics of analytics.

“Many companies touch on part of what Action does, but few can match its performance, scalability and ease of use when it comes to processing large volumes of data.”

Krishna Roy
ANALYST, BI AND ANALYTICS
451 RESEARCH



“The combined capabilities of KNIME and the ParAccel DataFlow Engine give data mining practitioners easy and intuitive access to unprecedented performance throughput for big data mining and analytics projects.”

Michael Berthold, CEO, KNIME.com

Give the Power to Get Answers to the People Asking Questions

- > Know when customers consider leaving
- > Target markets by region
- > Analyze research for scientific insight

- > Make your unhappy customers happy
- > Market to your competitors' unhappy customers
- > Catch costly mistakes and fraud in claims and billing

Do Things that Weren't Possible Before

- > Optimize smart grids to save energy and money
- > Catch short-term cyber threats before the damage is done
- > Prevent fraud, don't just detect it after the fact

- > Discover new leaps forward in science
- > Locate malfunctioning routers and servers to optimize network service

Design Without Coding



KNIME, the number-one customer satisfaction* ranked open source data mining platform, with literally thousands of data prep and analytics functions, enables business users to build analytics workflows, including data preparation, transformation, analysis, visualization and delivery.

Over 1000 KNIME-created, partner-created and community-created analytics components (nodes) put the power in your hands.

- > **Develop** analytics models faster with easy drag, drop, configure interface. No coding!
- > **Test and deploy** analytics models faster without having to re-design or re-build.

Rated #1 in Customer Satisfaction* for:

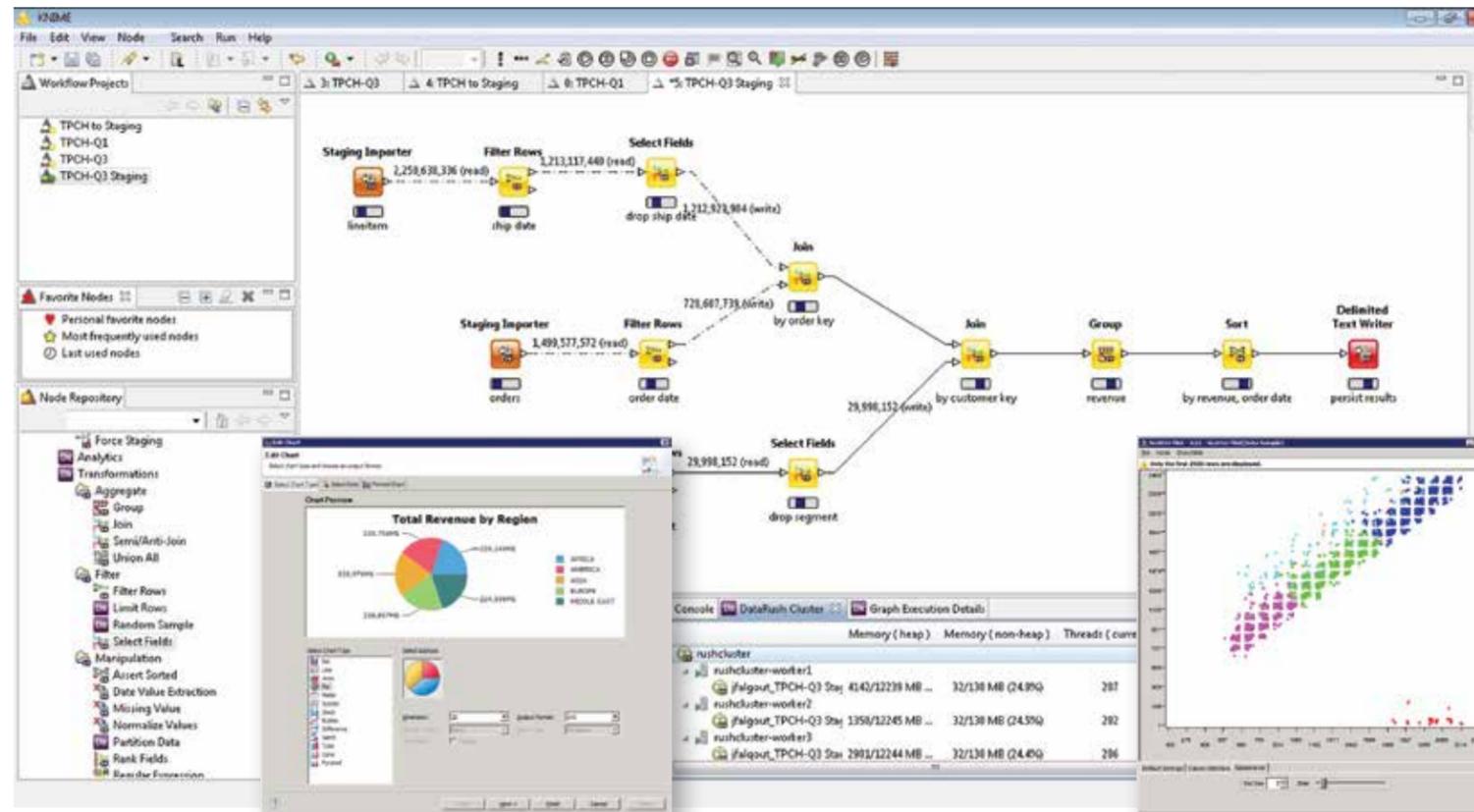
- > User Interface Quality
- > Ease of Use
- > Data Manipulation Capabilities

Rated First in Open Source for:

- > Speed
- > Ease of Model Deployment
- > Data Quality Assessment and Data Prep
- > Dependability/Stability
- > And More

*Rexer Analytics Data Mining Survey 2011

Example: A claims processing service took **48 days for 250 million claims**. With the ParAccel DataFlow Engine's ability to scale across all cores available, they did the same thing **in less than a day**, dramatically expanding their ability to detect fraud or claims mismanagement.



Action DataFlow for KNIME

KNIME is now tightly integrated with Action's ParAccel DataFlow Engine, the world's fastest compute engine for commodity hardware and big data clusters, to provide a breadth of functionality for big data at a price/performance level never seen before. Data preparation at **2-10 times faster** than KNIME's already rapid pace!

- > **Iterate** models faster with parallel processing. Refine, tweak and get better answers.
- > **Execute** models across large data sets faster without buying a ton of hardware.

Example: A global financial bank got their risk management solution processing time down **from 15+ hours to about 20 minutes while reducing the hardware required by 50%**.

Example: For a government cyber security analytics company, they needed to process machine data at extreme scale on reasonable commodity hardware, in this case, **a 40-node Hadoop cluster**. Action did **1.2 billion rows in 12 seconds**, no problem.

Process Millions of Events/Sec Without Shelling Out Millions for Hardware

ParAccel Hadoop Analytics

Highly optimized auto-scaling parallel dataflow operators built on the patented ParAccel DataFlow Engine technology can provide **10-100X or greater** boost in processing speed.

Design and test powerful new analytics workflows in hours or minutes, not days. Power through entire data sets in the time it used to take to test a tiny sample.

- > Design once, deploy to server or cluster
- > Natively execute on Hadoop clusters
- > Super-fast parallelized data access, data quality, transformation and analysis operators
- > Mix-and-match specialized ParAccel Hadoop Analytics operators with KNIME operators in a single workflow
- > Output in PMML and integrate with other analytics apps
- > Call R and Weka routines in workflows
- > Extend operators with any JVM-compatible language—Java, Jython, Javascript, JRuby...

Example: Netflow data streams are essential for network performance monitoring and problem diagnostics, but existing technology chokes on the volume and velocity. Action captured, transformed into HBase and analyzed more than **3 million Netflow events/second, on a sustained basis, using just a 3-node cluster**. They can now get precise usage measurements, catch network breaches, recognize when a machine is down and spot attacks such as invalid requests, page redirects and SQL injection attacks.



	KNIME	Action DataFlow for KNIME Desktop	Action DataFlow for KNIME Enterprise	ParAccel Hadoop Analytics Desktop	ParAccel Hadoop Analytics Enterprise
End-to-End Data Access, Prep, Quality, Transformation, Analysis, Visualization, Delivery	✓	✓	✓	✓	✓
Click, Drag, Configure User Interface	✓	✓	✓	✓	✓
Over 1000 Data Mining Operators	✓	✓	✓	✓	✓
Clustering, Classification, Machine Learning, Regression and More	✓	✓	✓	✓	✓
Works with R, WEKA, & Other Tools	✓	✓	✓	✓	✓
Access to flat files, RDBMS, PMML, text, docs, social media feeds	✓	✓	✓	✓	✓
PMML output	✓	✓	✓	✓	✓
Dataflow multi-step in-memory processing		✓	✓	✓	✓
Automatic scaling to use all available parallel processing hardware (3-10X speed boost)		✓	✓	✓	✓
High performance connectivity to NoSQL, HBase, HDFS, ARFF, Google BigQuery, AWS S3, Redshift				✓	✓
Parallel optimized analytics and data prep operators (30-100X speed boost)				✓	✓
Action Hadoop DataFlow SDK Scripting Interface for Extensibility				✓	✓
Unlimited auto-scaling parallel processing (others limited to 2 streams)	N/A		✓		✓
Runs Natively on Hadoop Clusters			✓		✓

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