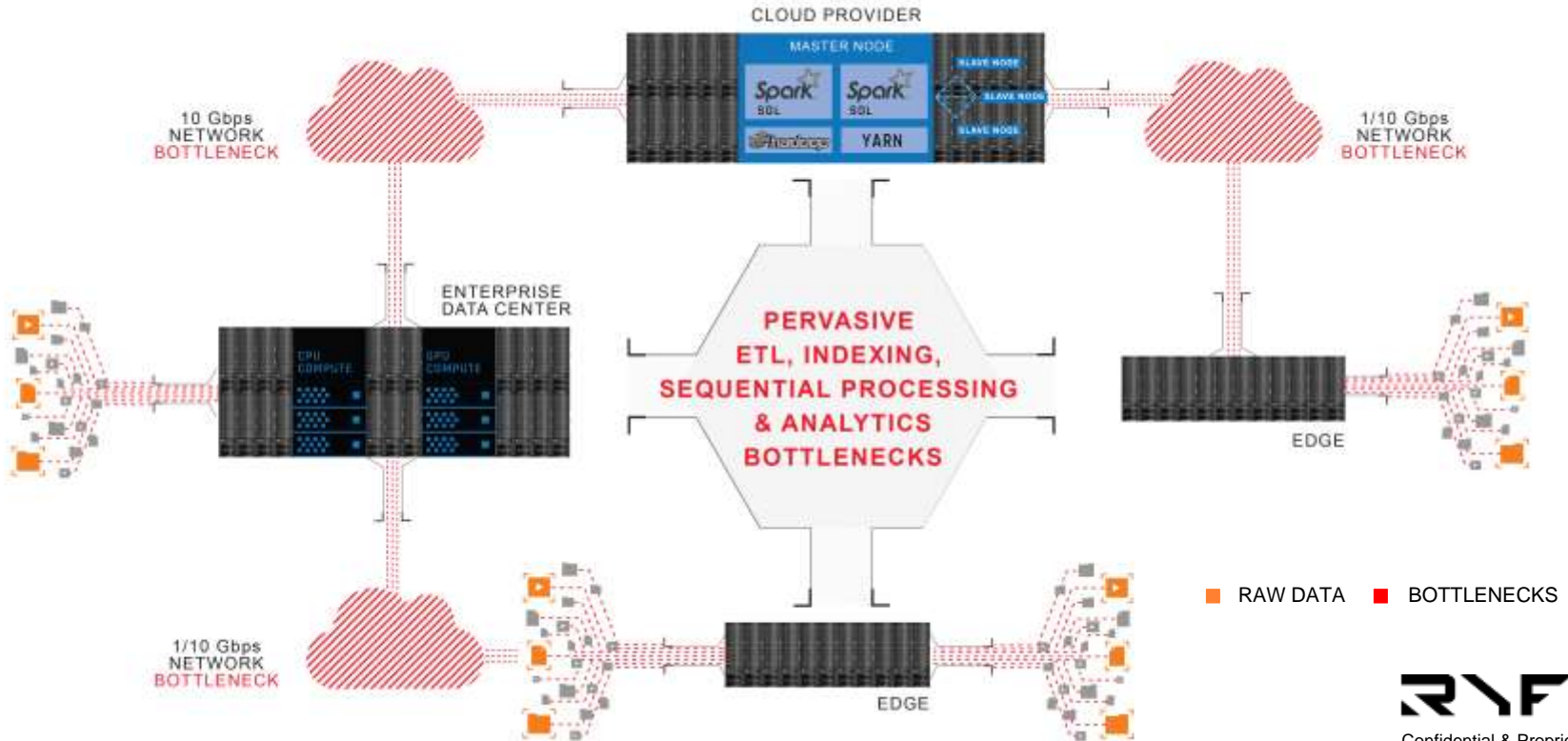# RYFT

Supercharging High Performance Analytics

Eliminating Bottlenecks with the World's Fastest Converged High-Speed
Network Attached Storage & Compute Appliances

Legacy Architectures Render **Big Data Useless**

Today's analytics systems were **never architected to deliver** instant insights from fast data

Big Data—**Meet the Power** of the Ryft ONE

Patented converged SSD-based Network Attached Storage (NAS) & hybrid FPGA/x86 compute
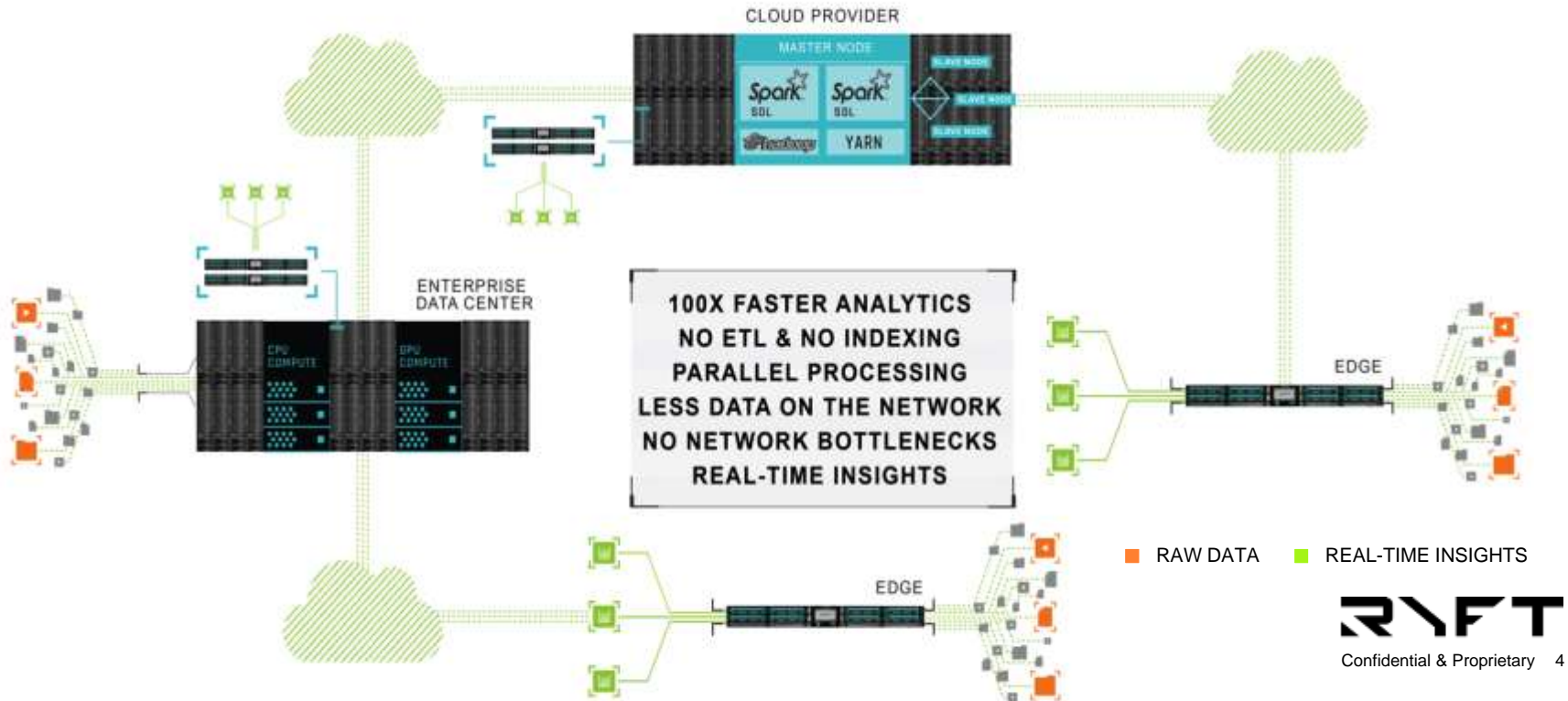

- Real-time analytics performance without transformation & indexing
- Flexible complex data mining interfaces
- Built-in library of algorithmic primitives
- Open compute API (www.ryft.com/api)
- Linux front end
- Designed for easy migration & integration
- Dedicated remote management
- Versatile & easy-to-manage scale-out architecture

- Compact 1U rack-mountable appliance form factor
  - 12-48 TB of All-Flash SSD storage
  - Encryption & Decompression with no performance loss
  - 1/10/40 GbE & InfiniBand network interfaces
  - NAS protocols including NFSv4
  - Ultra high efficiency at less than 750 watts
- 100 node Ryft CLUSTER delivers
  - Single file system & global namespace
  - 200+ GB/second throughput
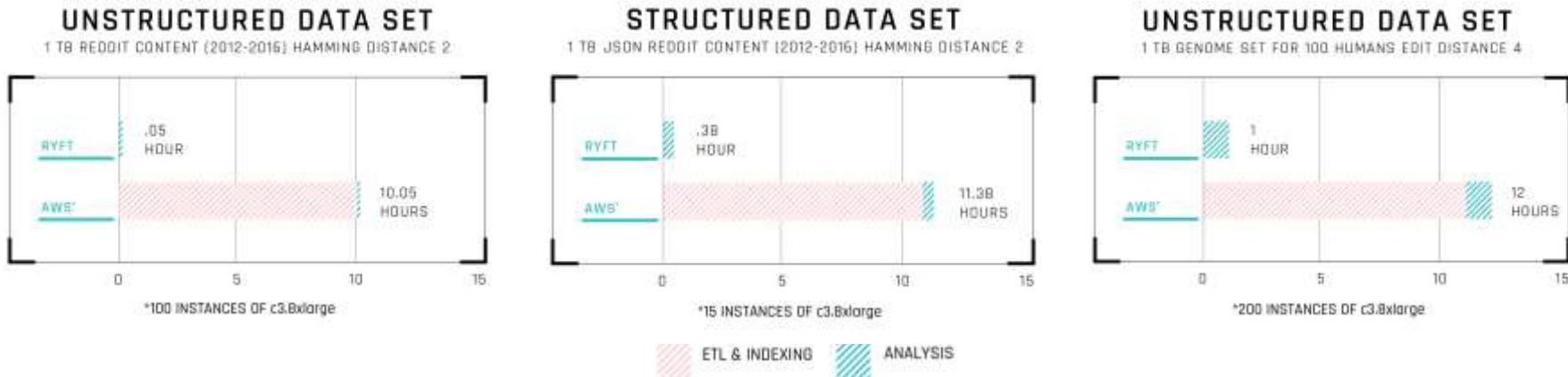 - 4.8 PB storage in only 2.5 racks

Ryft **Eliminates All Bottlenecks**—at the Edge, in the Data Center & in the Cloud

Deliver **instant insights into any data** without transformation & indexing
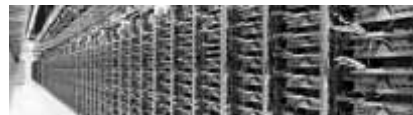

CLOUD PROVIDER

100X FASTER ANALYTICS
NO ETL & NO INDEXING
PARALLEL PROCESSING
LESS DATA ON THE NETWORK
NO NETWORK BOTTLENECKS
REAL-TIME INSIGHTS

ENTERPRISE DATA CENTER

EDGE

RAW DATA   REAL-TIME INSIGHTS

Ryft Renders Big Data **Relevant Now**

Competitive benchmarks prove **Ryft dramatically outperforms AWS** high performance clusters

UNSTRUCTURED DATA SET
1 TB REDDIT CONTENT (2012-2016) HAMMING DISTANCE 2

RYFT — .05 HOUR

AWS* — 10.05 HOURS

0   5   10   15

*100 INSTANCES OF c3.8xlarge

STRUCTURED DATA SET
1 TB JSON REDDIT CONTENT (2012-2016) HAMMING DISTANCE 2

RYFT — .38 HOUR

AWS* — 11.38 HOURS

0   5   10   15

*15 INSTANCES OF c3.8xlarge

UNSTRUCTURED DATA SET
1 TB GENOME SET FOR 100 HUMANS EDIT DISTANCE 4

RYFT — 1 HOUR

AWS* — 12 HOURS

0   5   10   15

*200 INSTANCES OF c3.8xlarge

ETL & INDEXING   ANALYSIS

1 VS 100+

- **Performance:** Up to 10 GB/second; no ETL or indexing latency
- **Storage:** 12-48 TB in 1 rack unit (1.75")
- **Energy:** 750 Watts

- **Performance:** 100- to 200-node Spark cluster to match Ryft speeds, based on workload
- **Storage:** 64-128 TB in 5–10 racks
- **Energy:** 110,000 to 220,000 Watts

Thank You

Backup Slides

Ryft Products Are Used in a **Broad Range of Use Cases** Across High-Growth Vertical Markets

FINANCIAL SERVICES
- Correlates data in milliseconds to stop non-compliant transactions
- Speeds fuzzy search to analyze massive volumes of uncertain data to detect & prevent fraudulent charges

CUSTOMER VISIBILITY
- Analyzes streaming & batch data together for a complete customer view
- Enables remote analytics without moving data for a more personalized customer experience

CALL CENTER RECORDS
- Speeds searches of large & complex data for immediate & personalized responses
- Leverages the most accurate fuzzy search to catch all variations of customer data

SECURITY & DEFENSE
- Scales analysis of Petabytes of raw text, audio, video & other data to 200 GB/second speeds
- Enables the most accurate intelligence gathering

E-MEDICAL RECORDS
- Enables instant patient identification & matching by accelerating the broadest possible fuzzy matching on raw unstructured data
- Reduces medical errors & administrative costs

GENOMIC RESEARCH
- Speeds DNA searches to just seconds to advance research discoveries & precision treatments
- Compresses entire data pipeline & enables multi-purpose analytics

IOT SENSOR & DEVICES
- Analyzes & thins fast data the instant it's captured
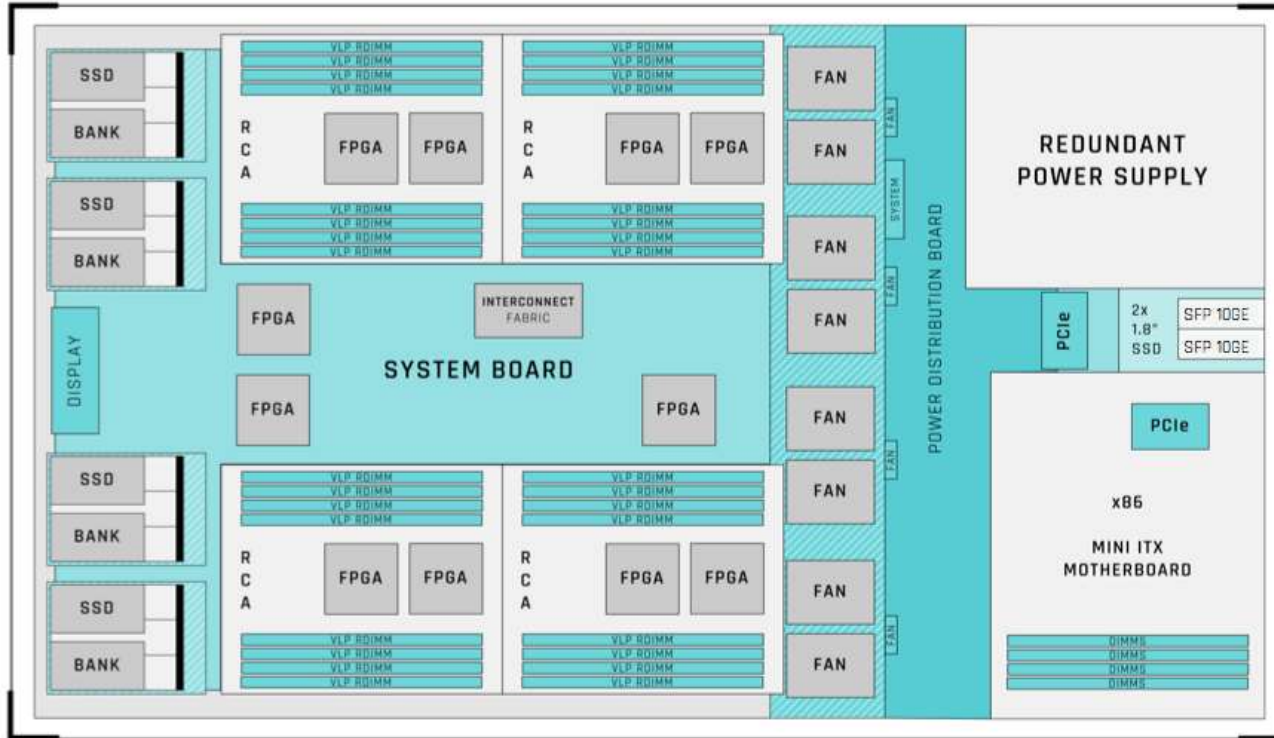- Informs in-the-moment decisions at the edge & powers new data-driven services

SUPPLY CHAIN LOGISTICS
- Accelerates end-to-end visibility across many forms of data to inform split second decisions
- Optimizes inventory management with faster & more accurate predictive analytics

The Ryft ONE Is the First Appliance to Leverage a **Hybrid x86/FGPA Architecture**