IBM Performance 2011

Smarter Decisions. Better Results.

Netezza,
Finally a database WITHOUT index support

Robert Hartevelt

9 November 2011

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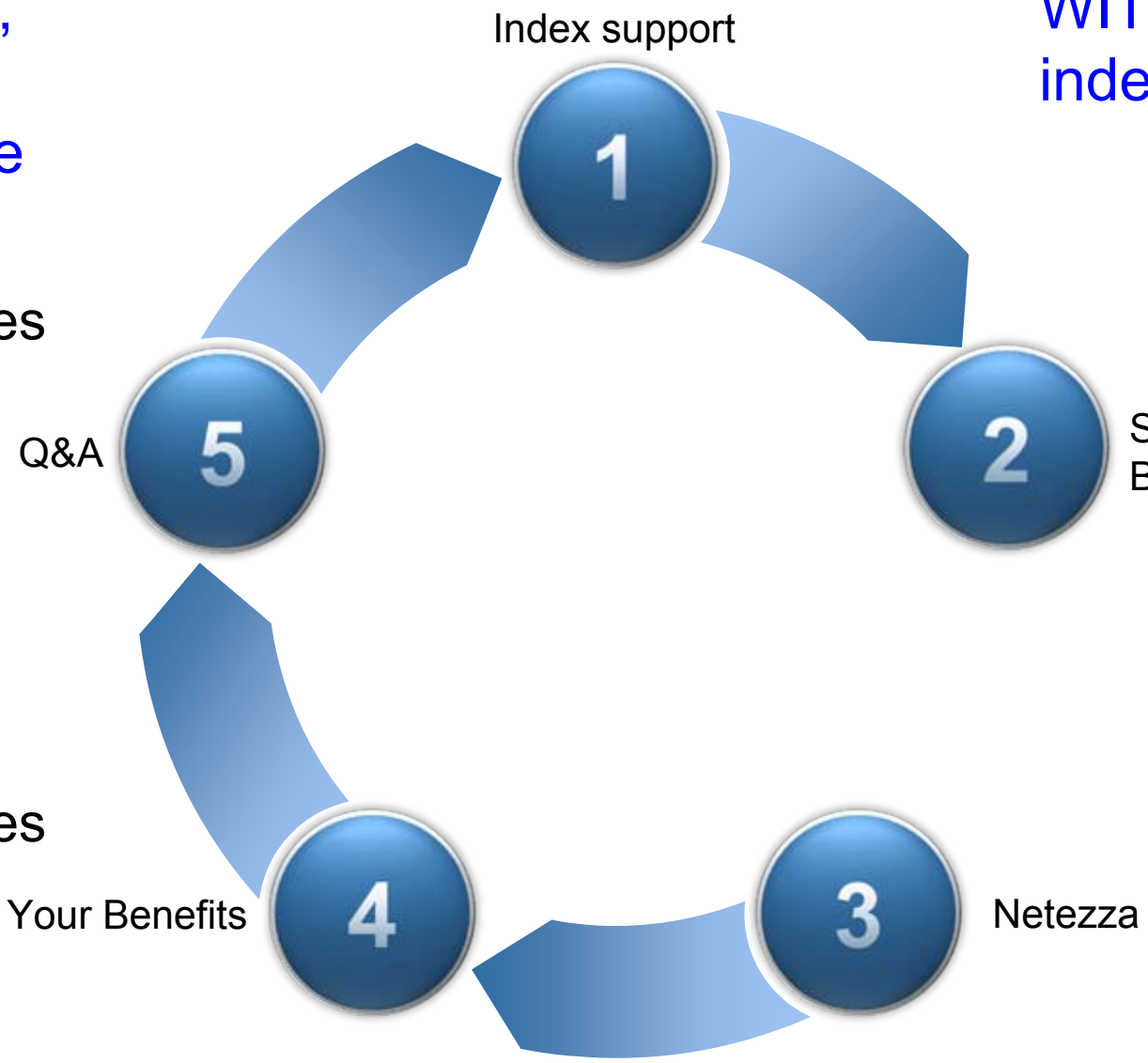
Netezza, Finally a database

WITHOUT index support

10 minutes

30 minutes



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Netezza,
Finally a
database

Index support

WITHOUT
index support

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Your data

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Finding one is easy (OLTP)

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Different question needs other sorting

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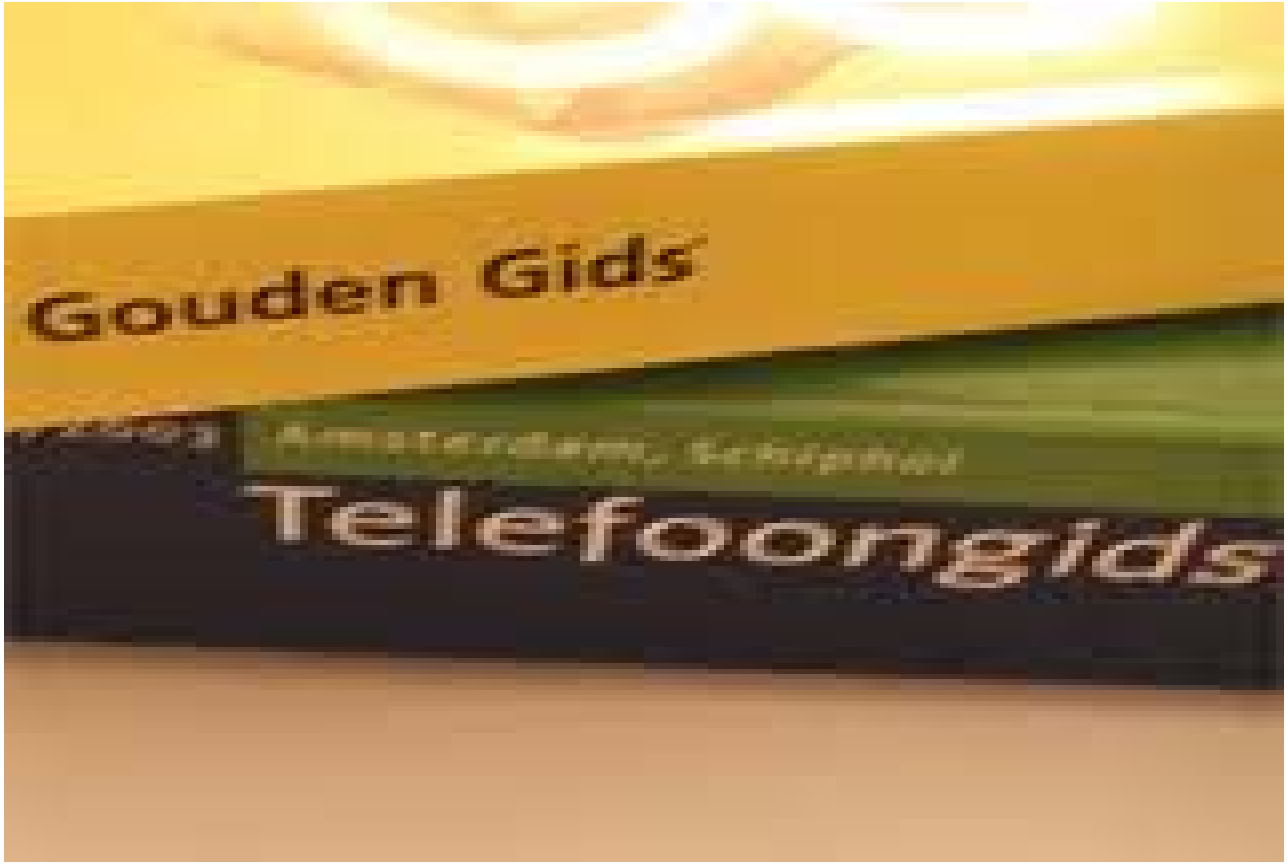
Every question must be prepared



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At risks of table/data scanning

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Case study in a missing index

Client who reported slow SQL and looking into v$sql revealed that the rows returned by each query were small, with this common where clause for their SQL:

WHERE customer_status = ':v1' and customer_age > :v2;

This was due to a missing concatenated index on these columns, and building an index concattenated index on customer_status and customer_age resulted in a 50x performance improvement and a reduction in disk I/O by over 600 percent.

For more complete SQL tricks for finding missing indexes, see the book Advanced SQL Tuning: The Definitive Reference.

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Index Advisors

- Index advisors report missing indexes
  - DB
  - Sybase IQ
  - Microsoft SQL
  - Oracle

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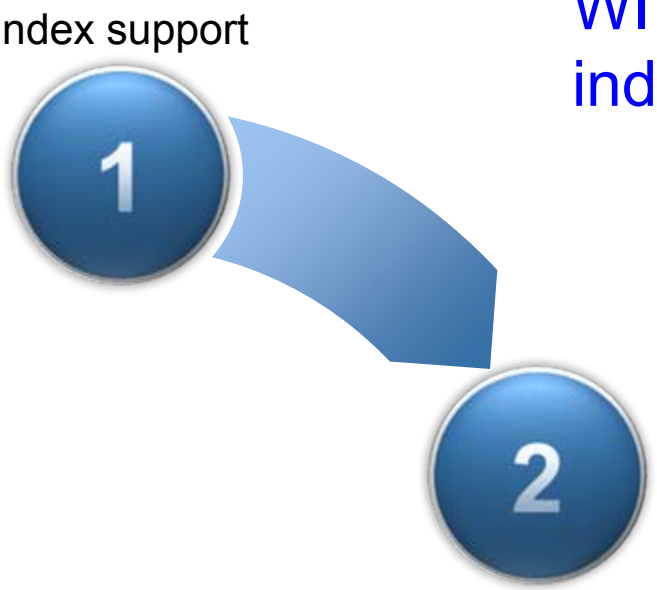
Netezza, finally a database



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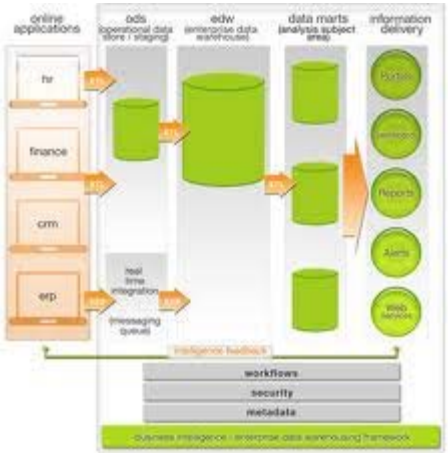
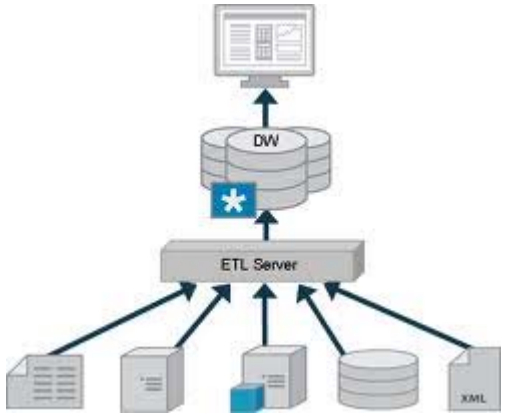
Smarter Decisions, Better Results

Data Silos → Trusted Information → Actionable Insight

- So yes, we need a DataWareHouse





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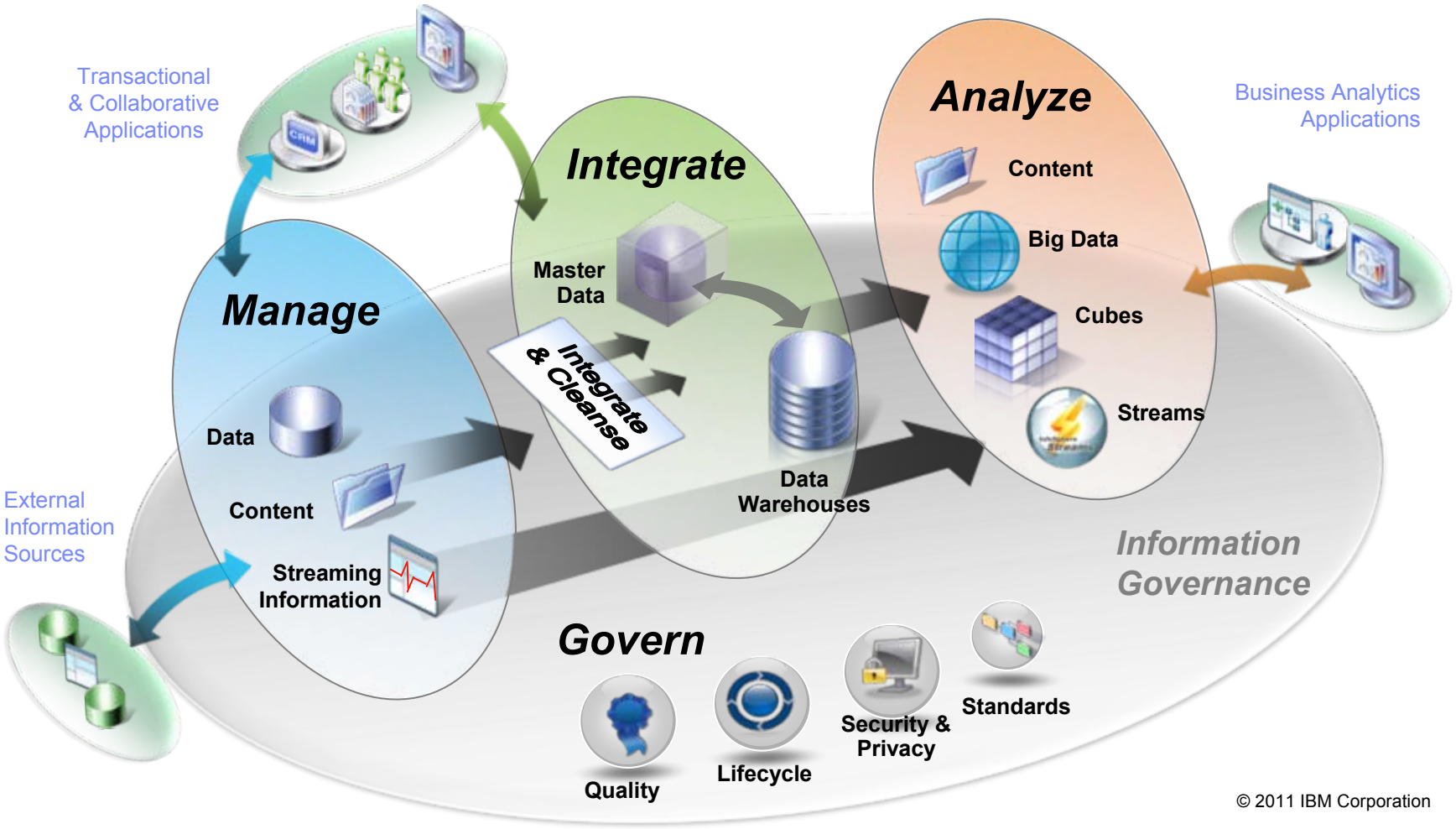
Mastering Information Across the Information Supply Chain

A Flexible Platform for Managing, Integrating, Analyzing and Governing Information

Trusted ◆ Relevant ◆ Governed



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In the end: End Users, makes results

- Correct Data makes trusted information
- Information drives decisions
- Decisions make results

User needs to turn & twist data to get the best insights

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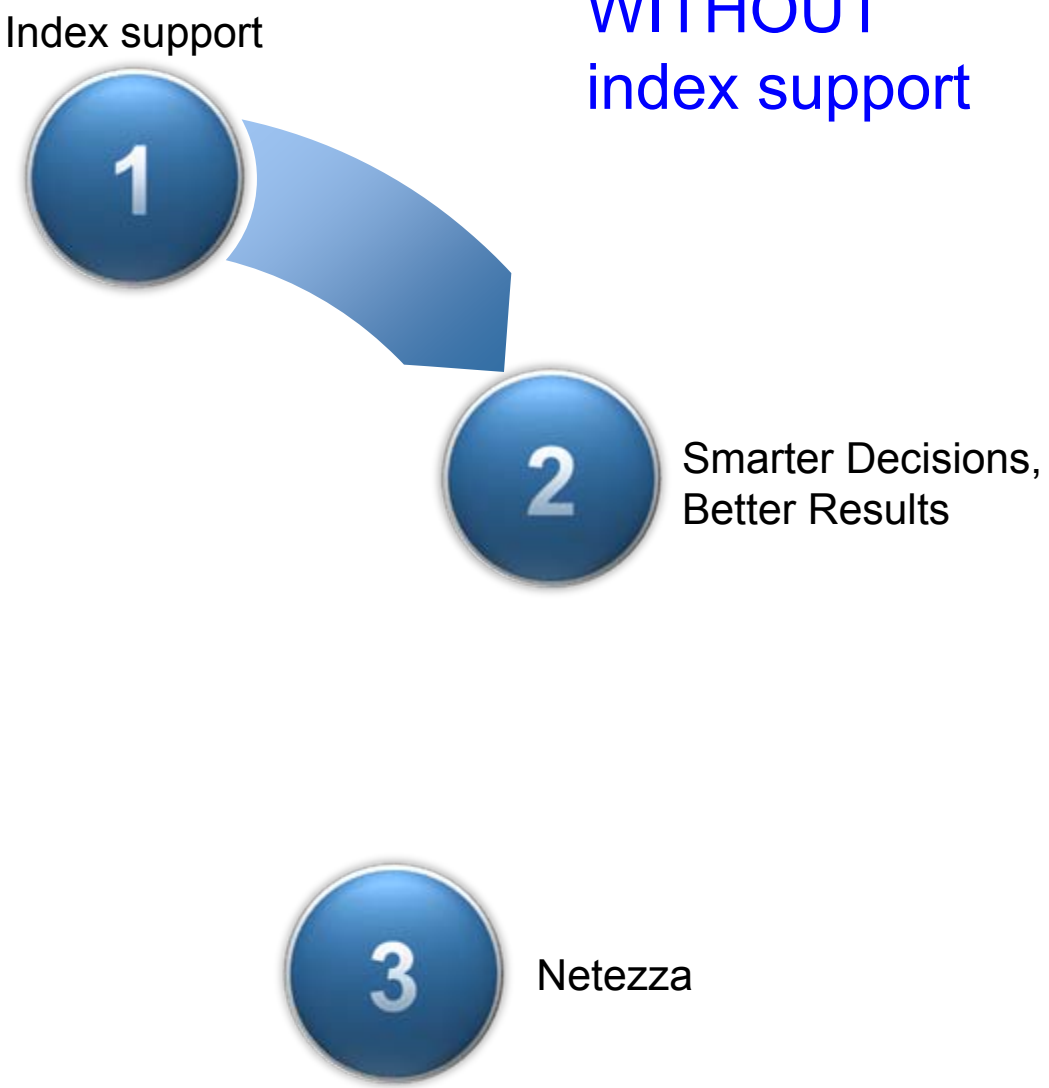
Netezza, finally a database



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Netezza's revolutionary approach

The Appliance

Simpler, faster, more accessible analytics

> "This is what Netezza has done in the data warehousing market: It has **totally changed the way we think** about data warehousing."
>
> - Philip Howard, Bloor Research

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Appliance

- Dedicated Device
- Optimized for purpose
- Complete solution
- Fast installation
- Very easy operation
- Standard interfaces
- Low cost

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- Purpose-built analytics engine
- Integrated database, server & storage
- Standard interfaces
- Low total cost of ownership
- Speed: 10-100x faster than traditional systems
- Simplicity: Minimal administration and tuning
- Scalability: Peta-scale user data capacity
- Smart: High-performance advanced analytics

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Appliance Simplicity

- **No indexes and tuning**
- **No storage administration**
  - No dbspace/tablespace sizing and configuration
  - No redo/physical/Logical log sizing and configuration
  - No page/block sizing and configuration for tables
  - No extent sizing and configuration for tables
  - No Temp space allocation and monitoring
  - No RAID level decisions for dbspaces
  - No logical volume creations of files
- **No software installation**

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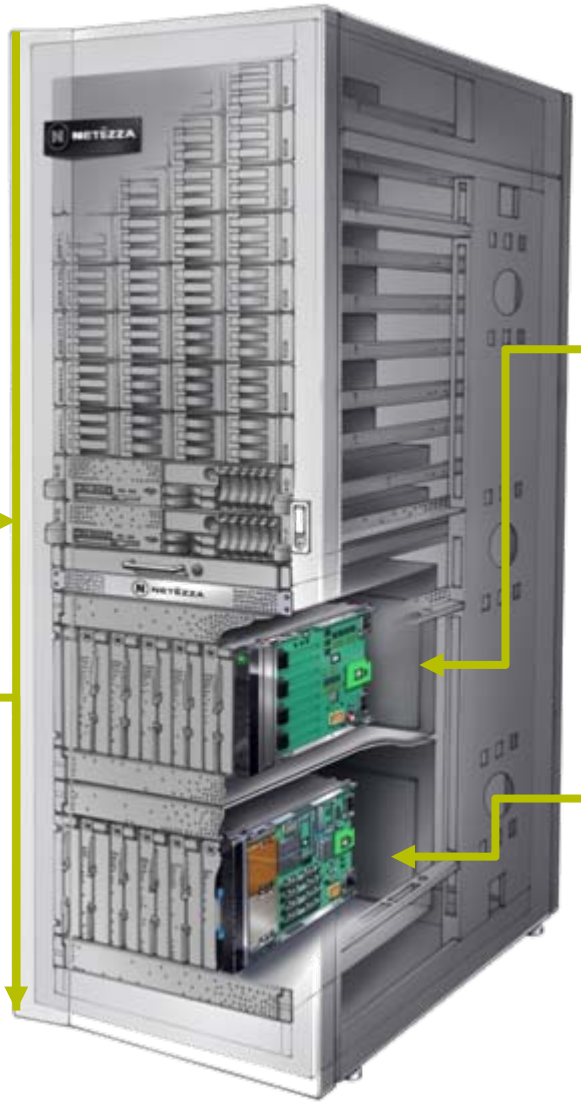
The IBM Netezza Architecture

Optimized Hardware + Software

- Purpose-built for high performance analytics
- Requires no tuning

True MPP

- All processors fully utilized
- Maximum speed and efficiency



Streaming Data

- Hardware-based query acceleration
- Blistering fast results

Deep Analytics

- Complex analytics executed in-database
- Deeper insights

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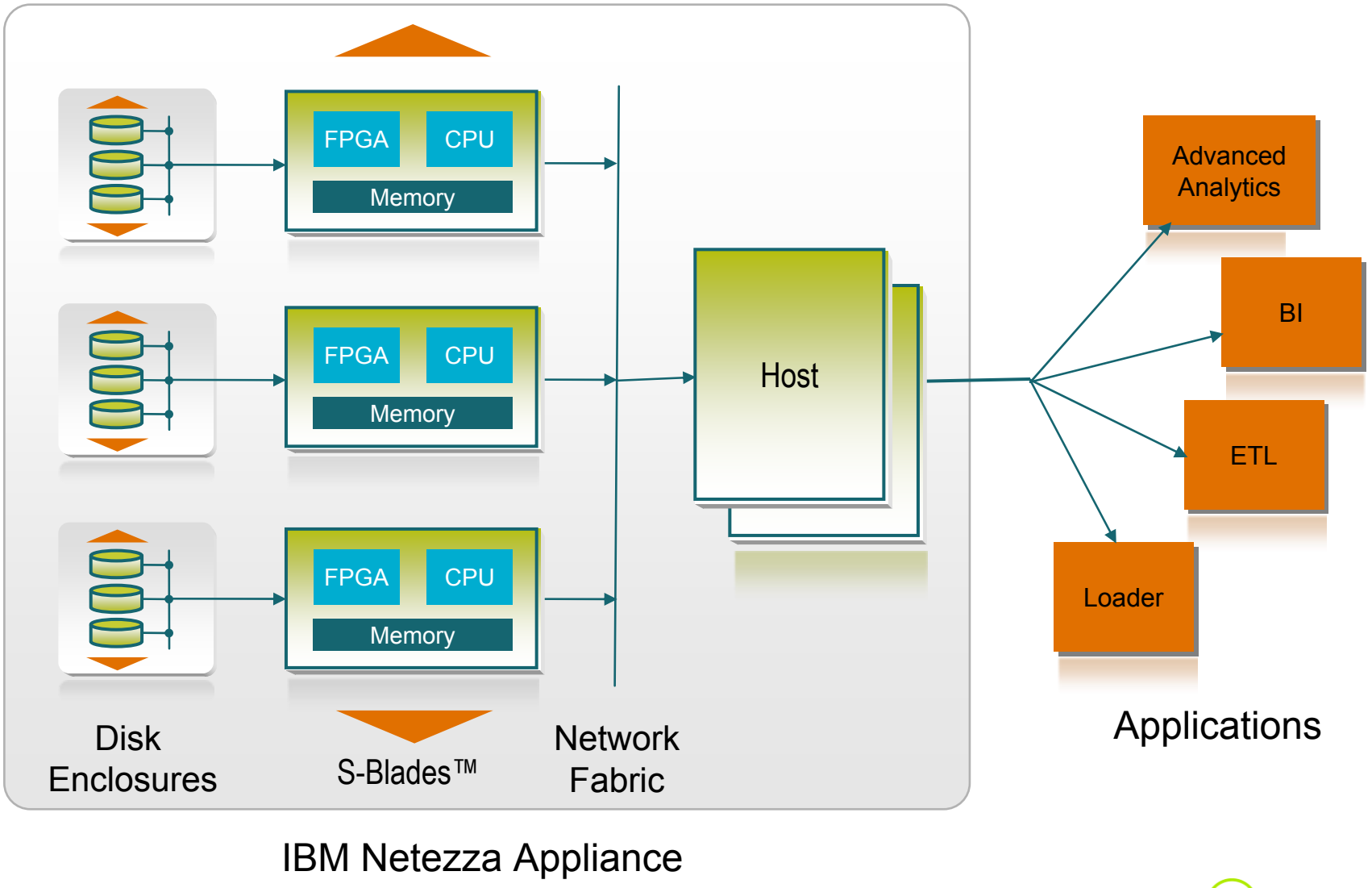
The IBM Netezza AMPP™ Architecture



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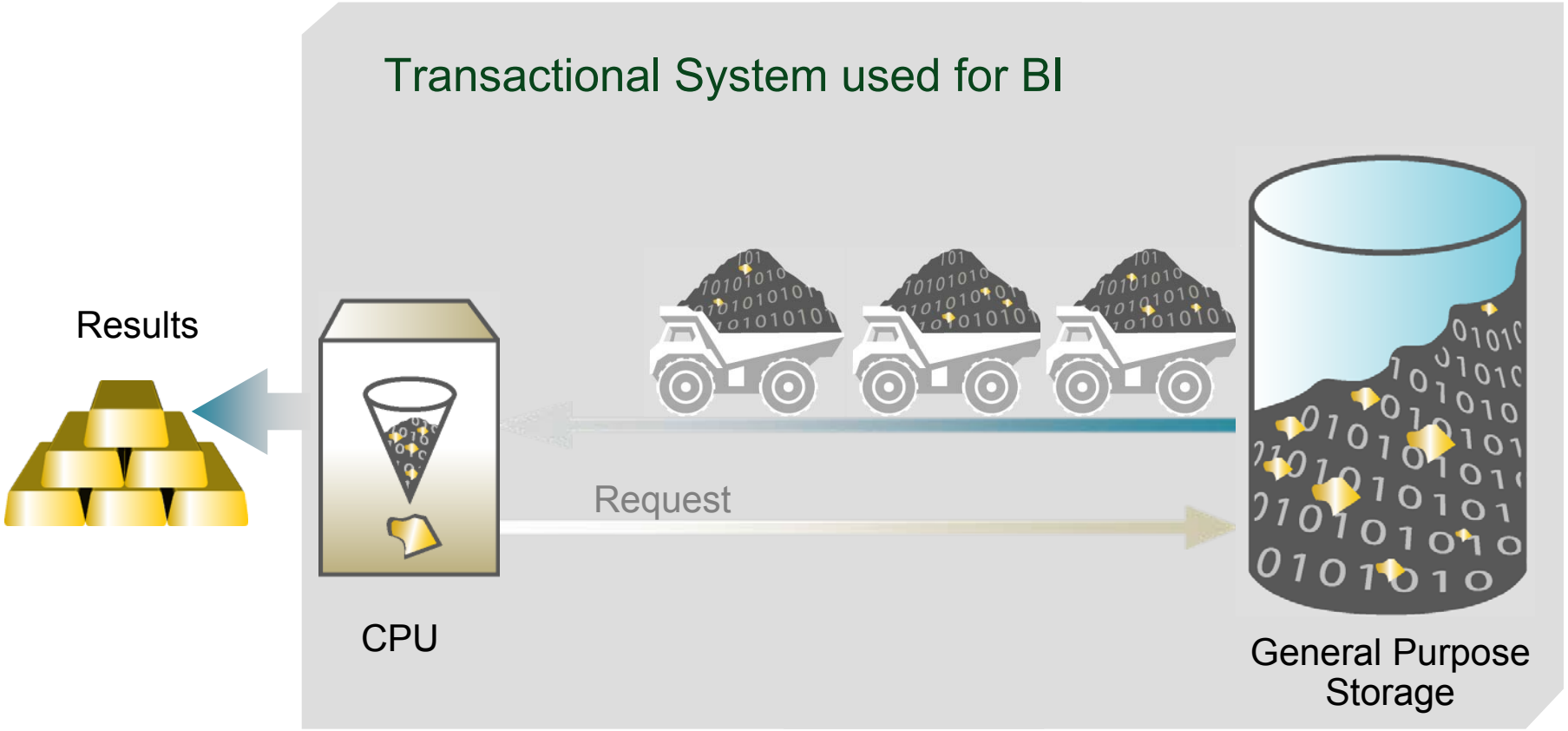
Data Warehouse Workload

Transaction systems are inefficient for data shuffling



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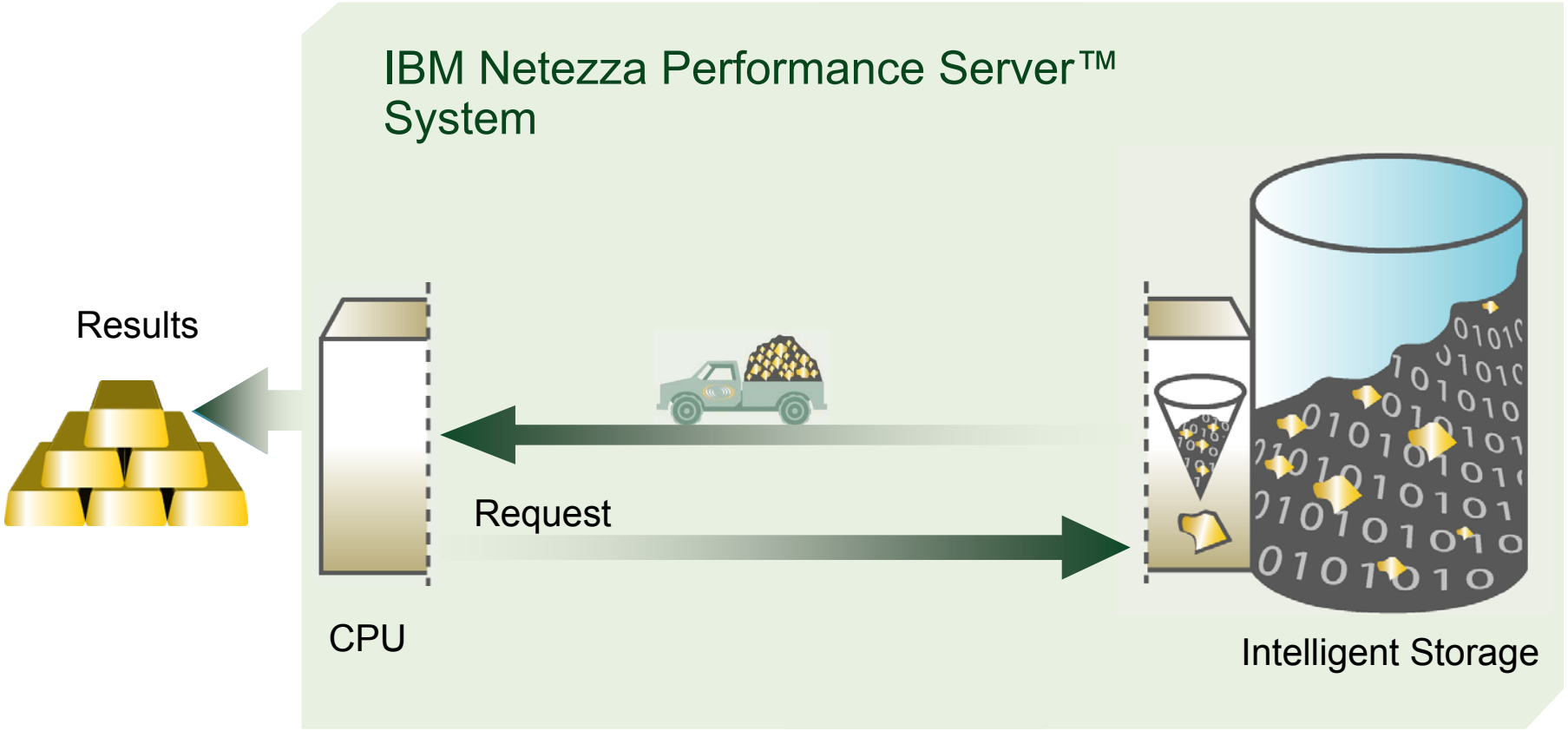
Data Warehouse Blades

Designed for Tera-scale Business Intelligence



Asymmetric Massively Parallel Processing

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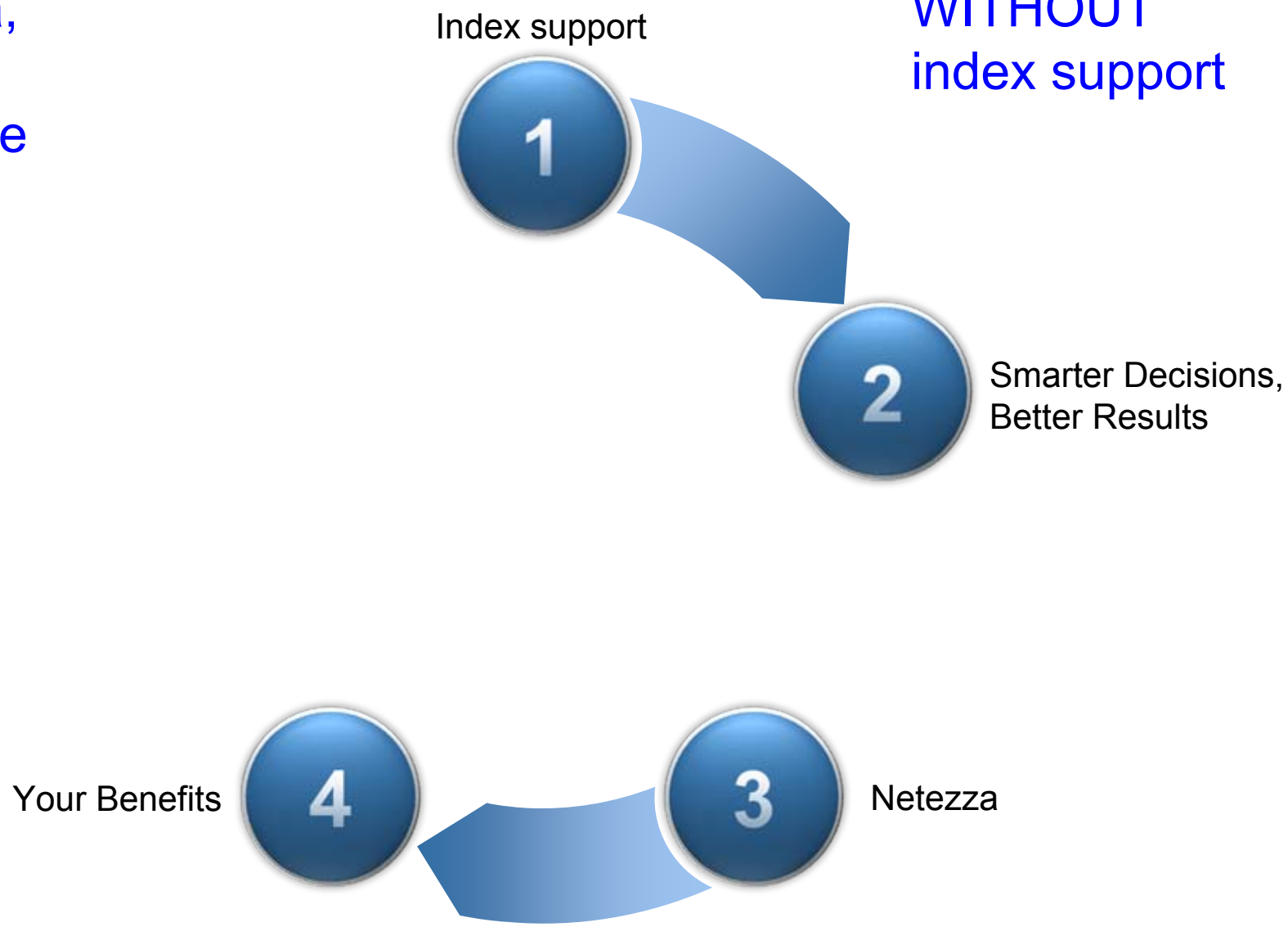
Netezza, finally a database



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Benefit 1: Happy end users

- End user can ask whatever (s)he wants!

- Having an answer quickly asks for new questions...

- Start asking questions without IT involvement (no index preparations needed)

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Benefit 2: Lower TCO

- Less storage
  - no index space
- One, all-in, pricing
  - Disks, cpu power and database licenses
- More DBA ers can be 'promoted' to data managers

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Benefit 3: Speed brings new possibilities

- Do things you could´t (were allowed to) do before
  - Geospatial data integration
  - Operational Datawarehouse
  - Fast predictive analyses with SPSS

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Netezza, Finally a database

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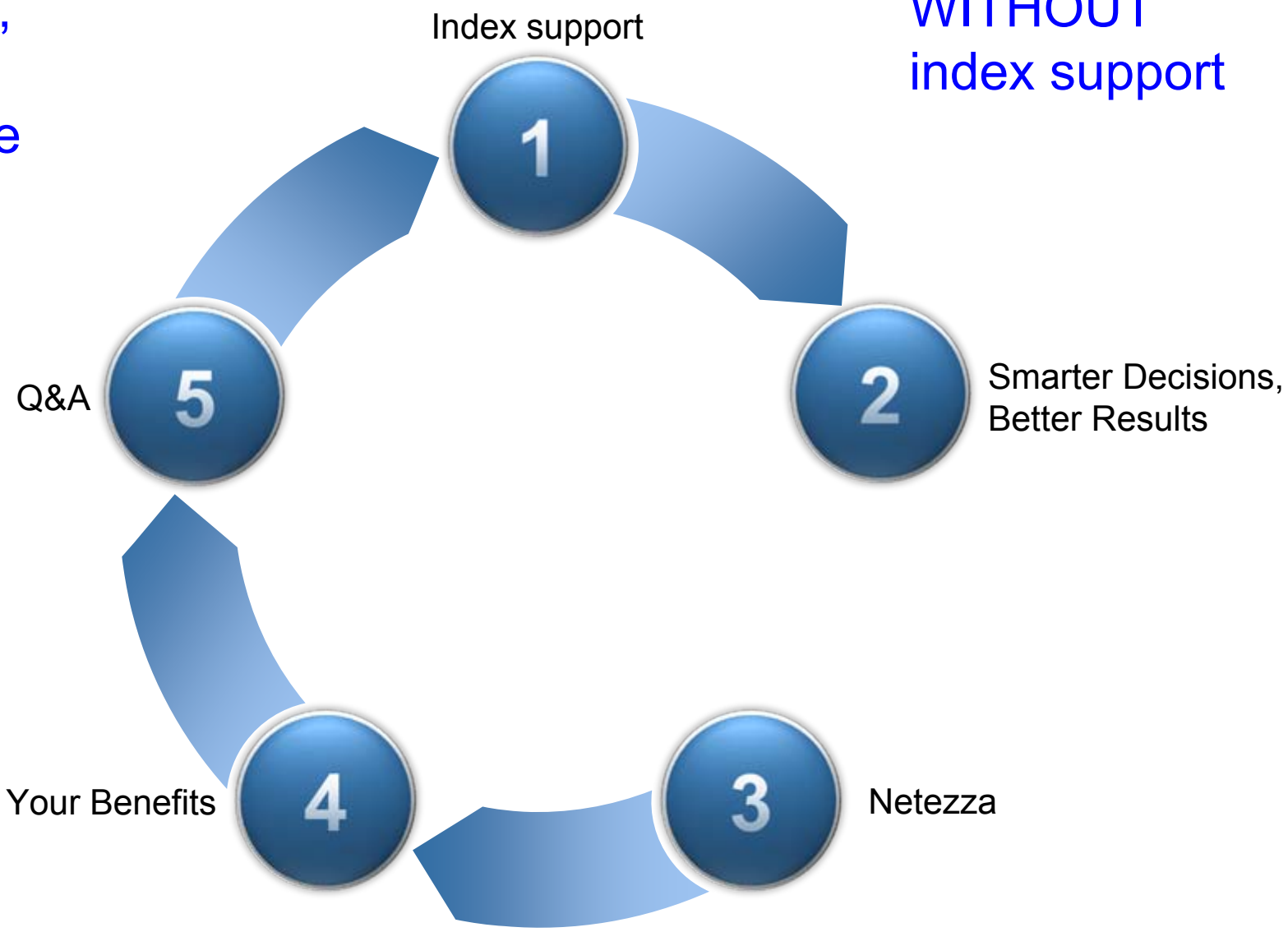

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Questions

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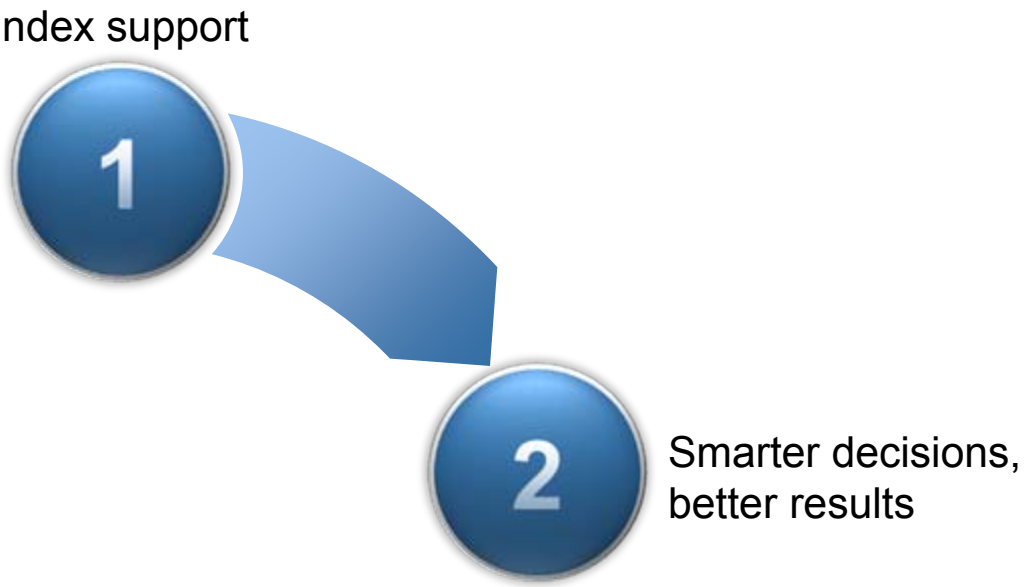
Index support

So What?

Every question needs preparation

Netezza, a database WITHOUT index support



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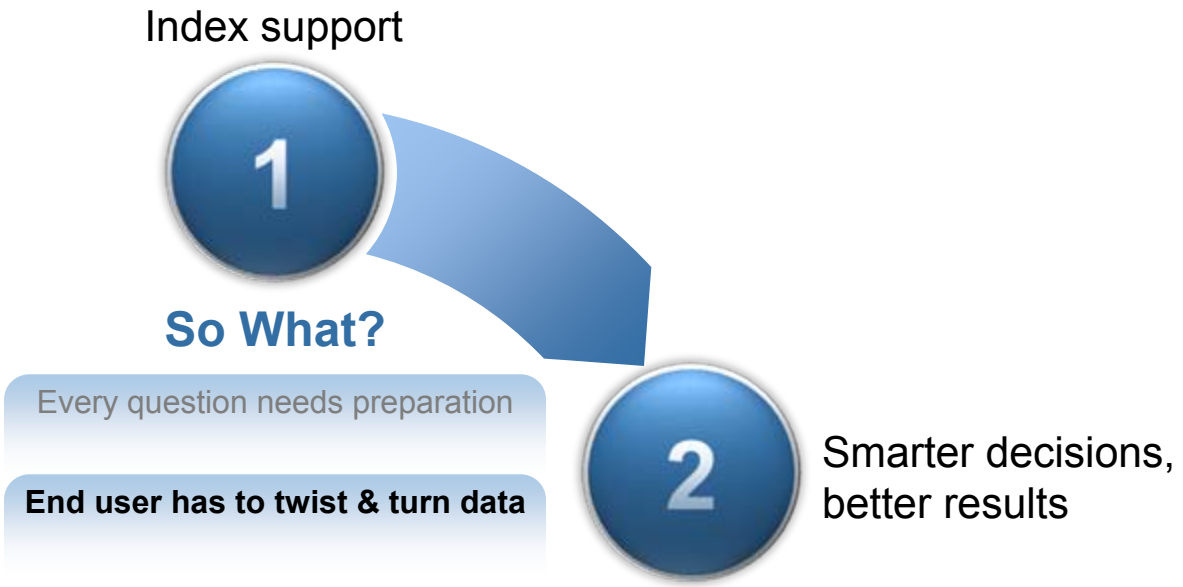

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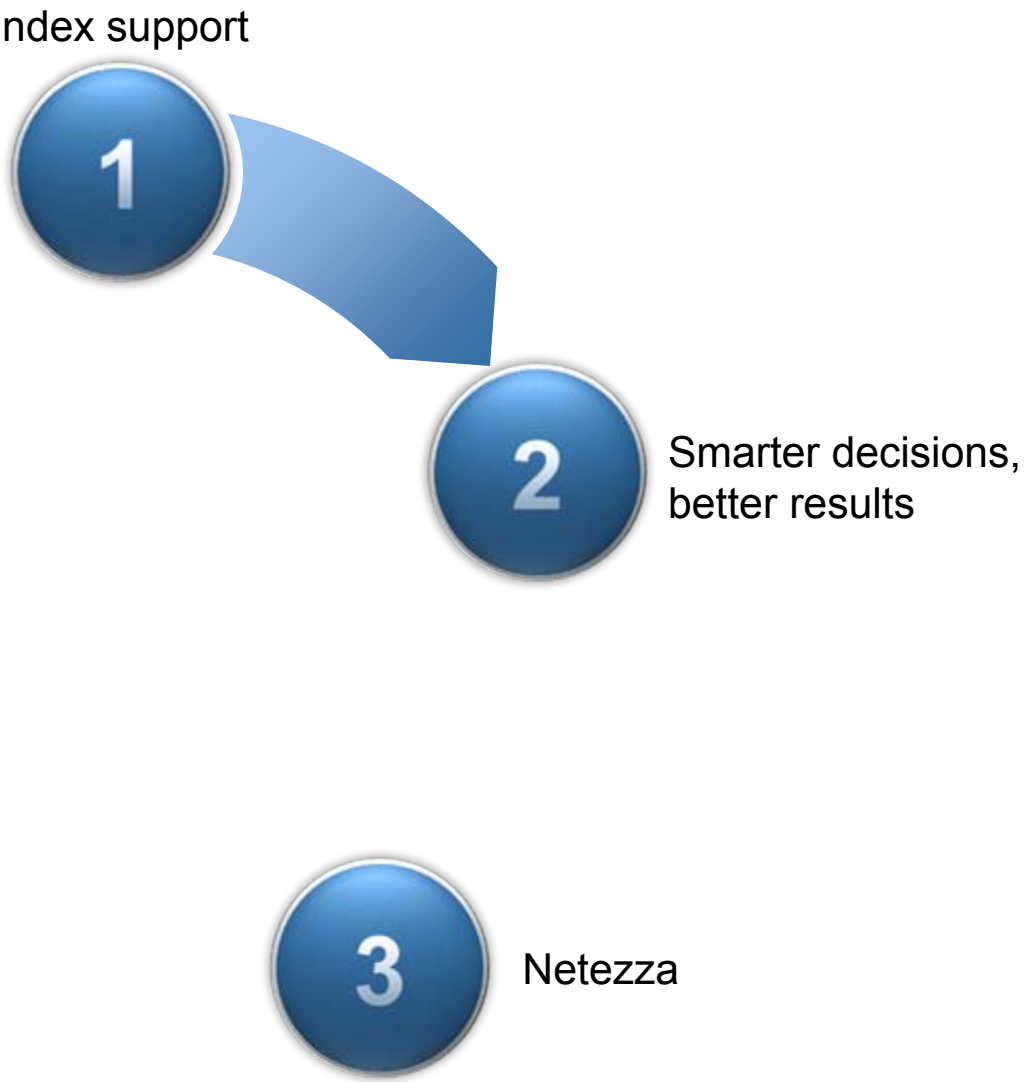

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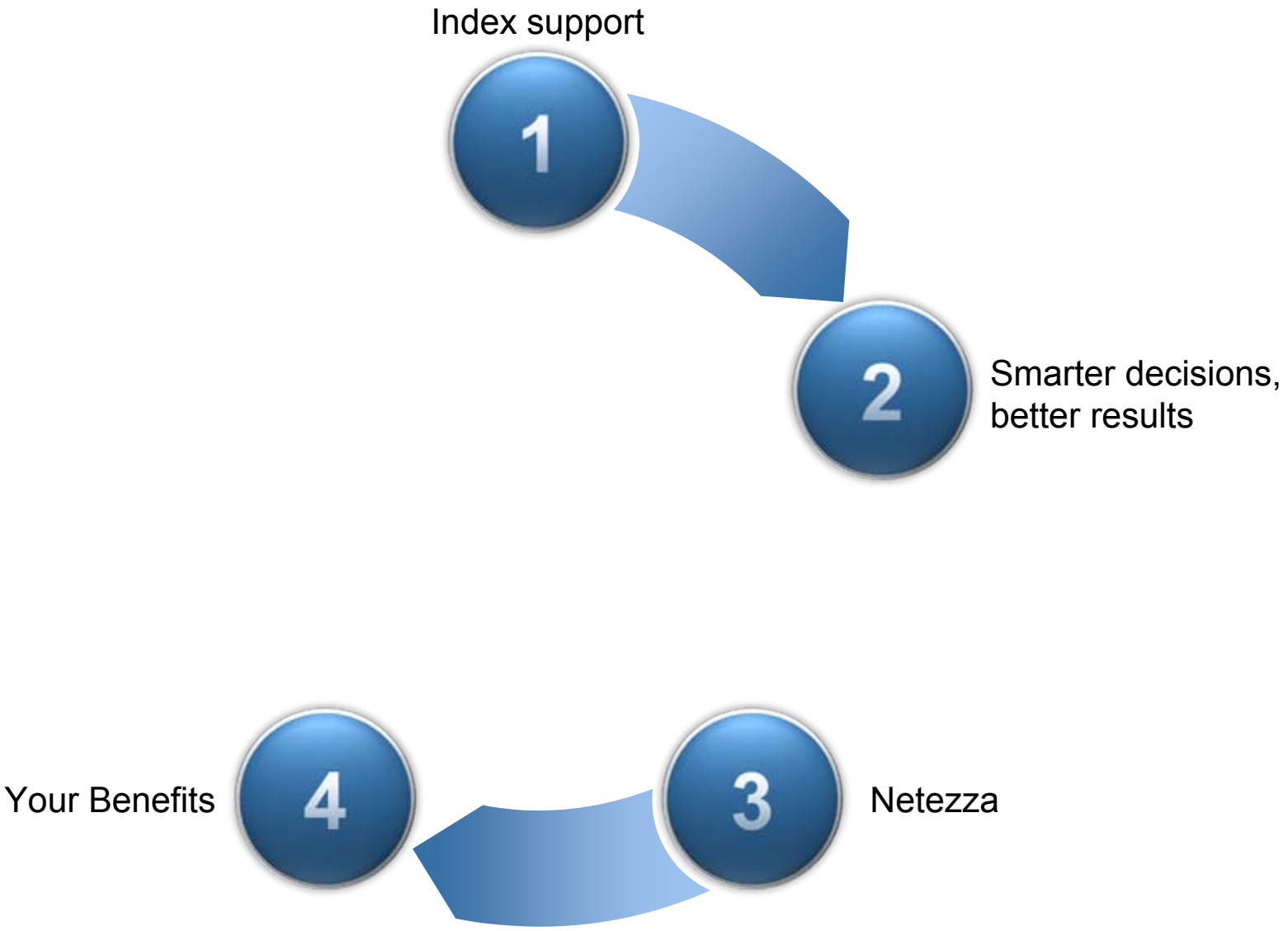

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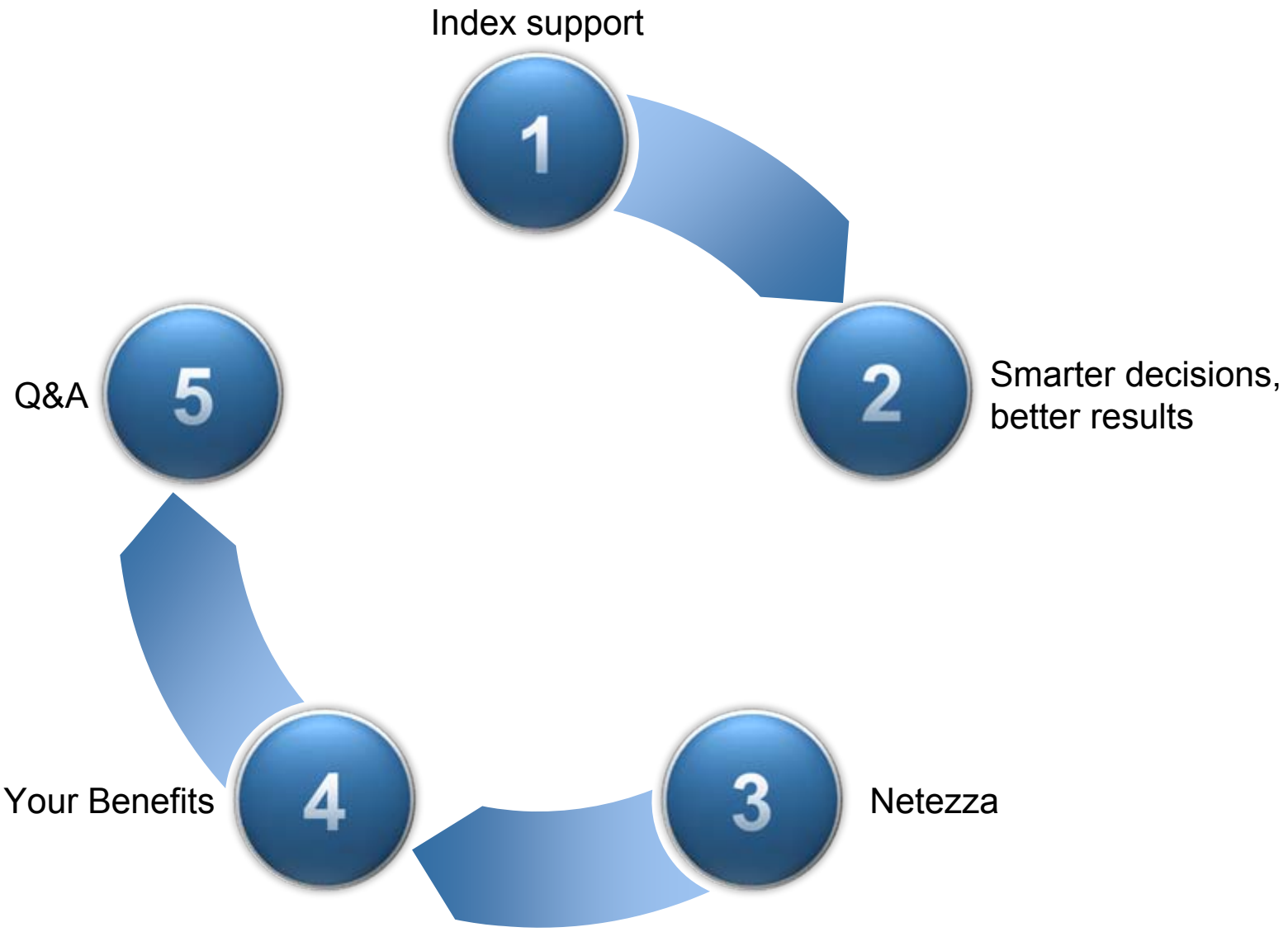

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