



esProc

Innovated big data
computing engine

Agile Data Computing Engine

Issued by Raqsoft



what's esProc?



Report Data Source



JAVA Computing Layer



Offline Free Computing

Report Data Source

- ✓ The SQL for preparing data for reports is several K bytes long, which is difficult to write and more difficult to maintain.
- ✓ For large amount of data, report presentation is too slow, sometimes overflow happens. Users often complain.
- ✓ ...

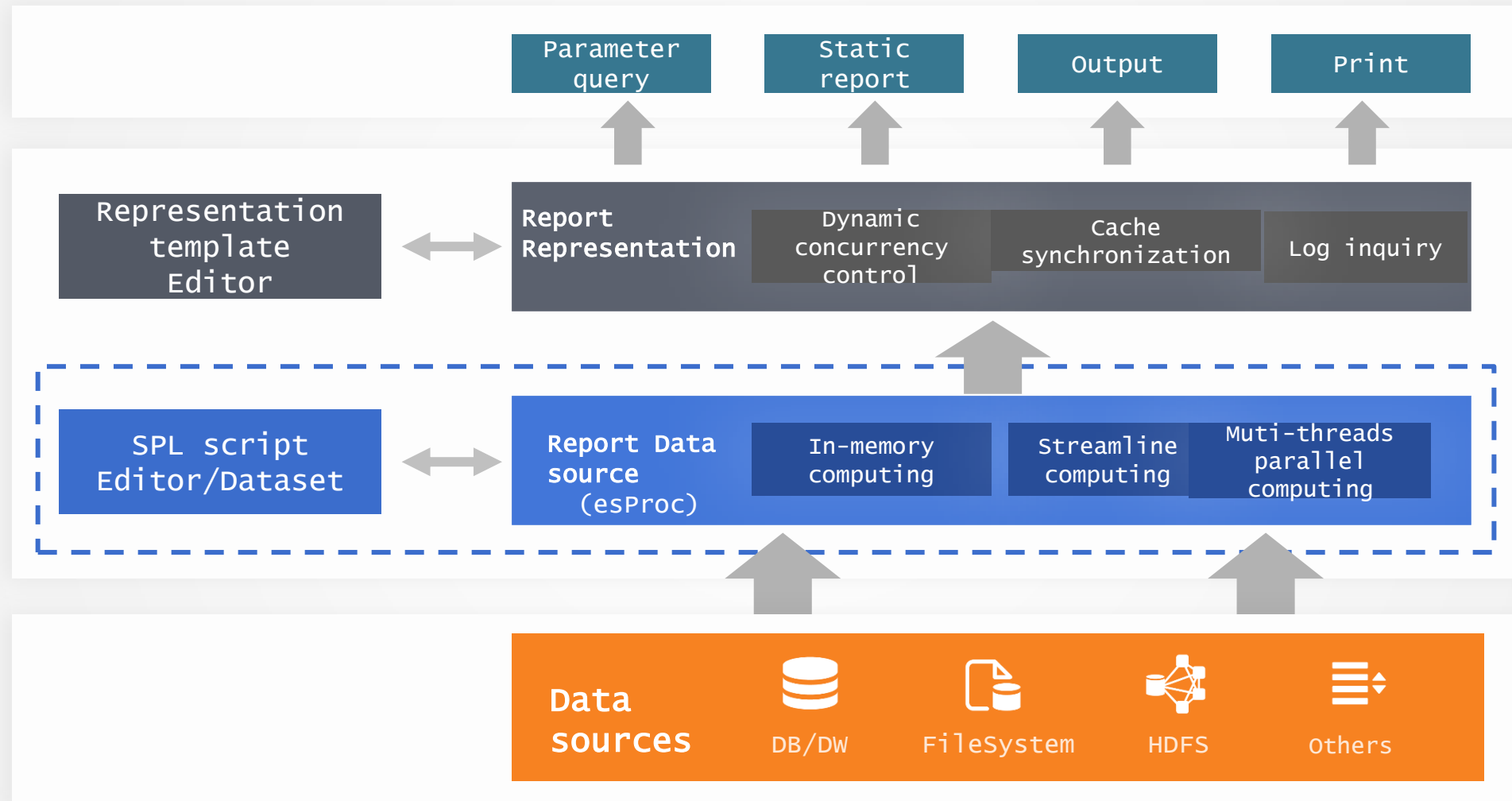
JAVA Computing Layer

- ✓ Java computing is too cumbersome. It takes hundreds of lines to write a simple filter grouping.
- ✓ If the algorithm logic is changed, the whole application will be restarted and it will be difficult to provide continuous service.
- ✓ ...

Offline Free Computing

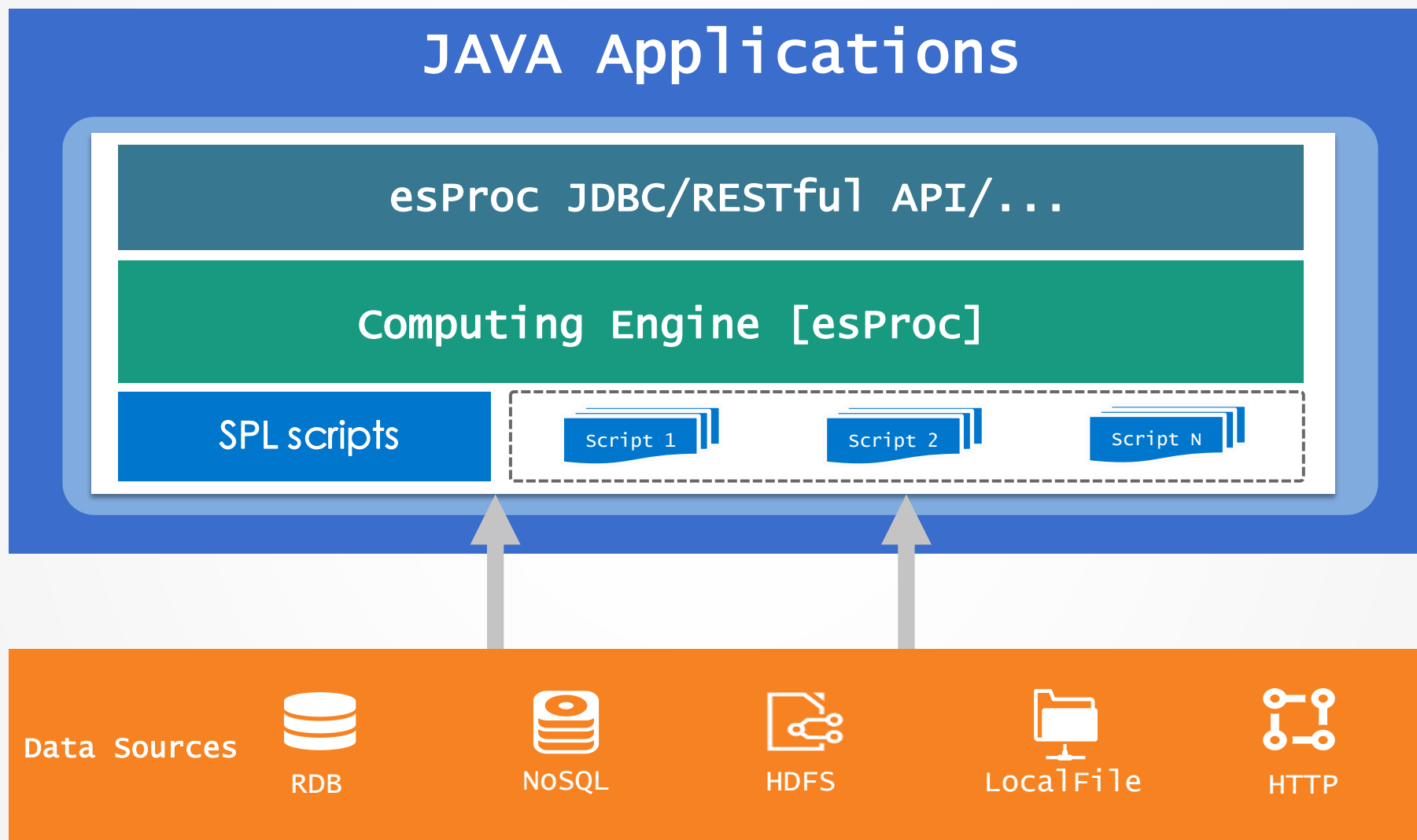
- ✓ A large number of TXT/CSV/XLS have to be processed, and SQL is NOT available. Everything is very complicated.
- ✓ SQL is not easy to write, Python is also difficult to learn, it always requires professional programmers to do, and the cost is high.
- ✓ ...

Report data source



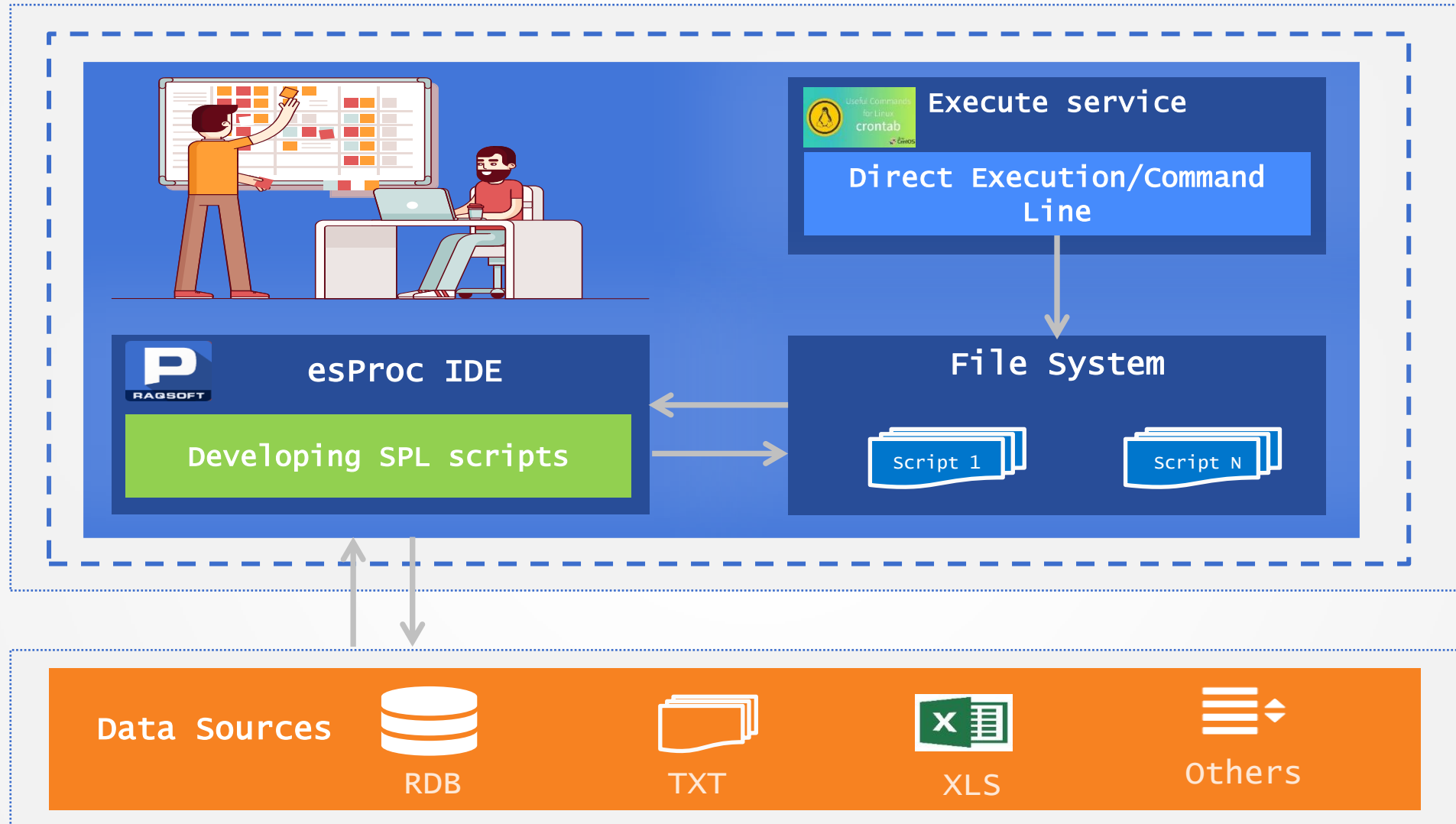
*For details: <http://c.raqsoft.com/article/1568252302676>

JAVA Computing Layer



*For details: <http://c.ragsoft.com/article/1568252093074>

offline Free Computing

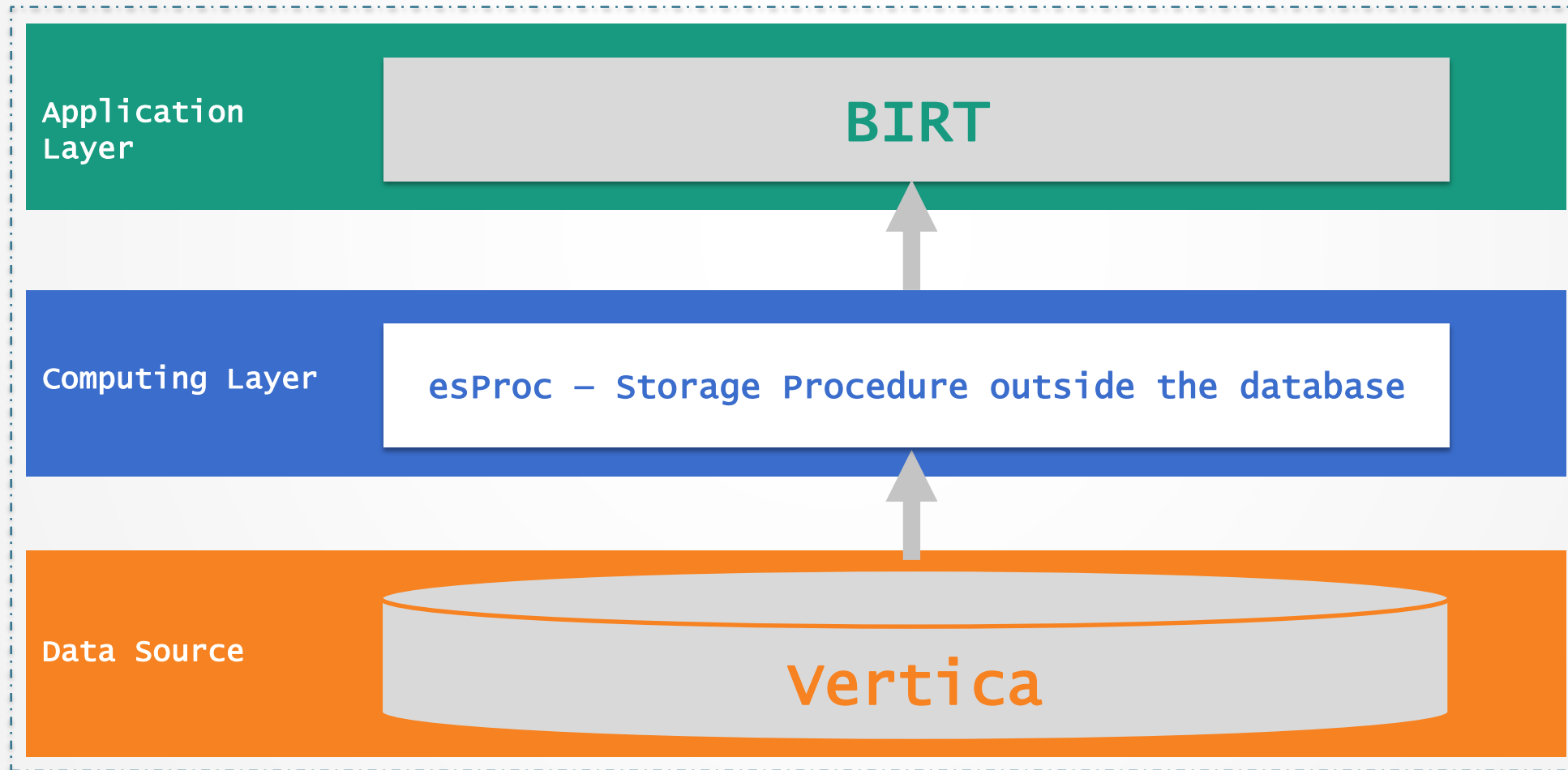


*For details: <http://c.ragsoft.com/article/1568252469105>

An Insurance Company – Storage Procedures outside the database



Vertica does not support stored procedures. Complex business logic can only be written in Java, which is cumbersome and difficult to maintain.



Application effect



User Evaluation

“The best use for us is to pass parameters to the Vertica database.”

“ Each cell becomes a data array that are easy to use, compare and manipulate. It is very logical and you have made it user friendly. ”

Application Effect


Make Vertica support stored procedures outside the database.

The procedural algorithm is simple and friendly to implement.

BIRT data preparation is simple and efficient.

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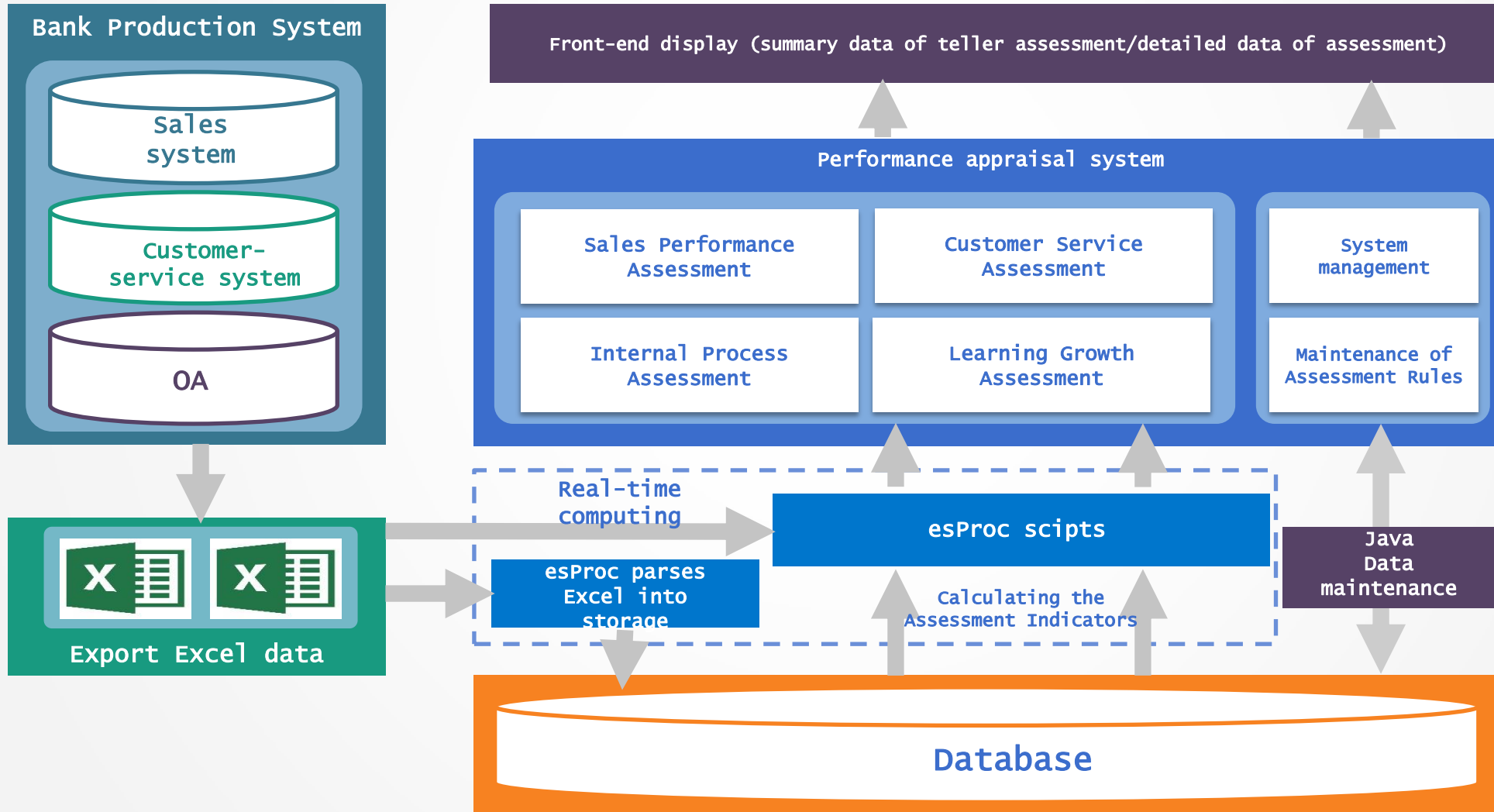


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A Bank-Computing Middleware



There are 44 kinds of Excel, which are parsed by Java and stored in database. The development cycle is long and hard-coding is difficult.



Application effect



Reducing Development Cost

All 44 kinds of Excel parses have been reduced from 32 person/day to 6 person/day

Improving Development Efficiency

Each Excel parsing code volume changes from 100 lines to 3 lines

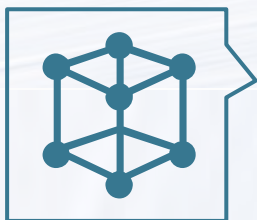
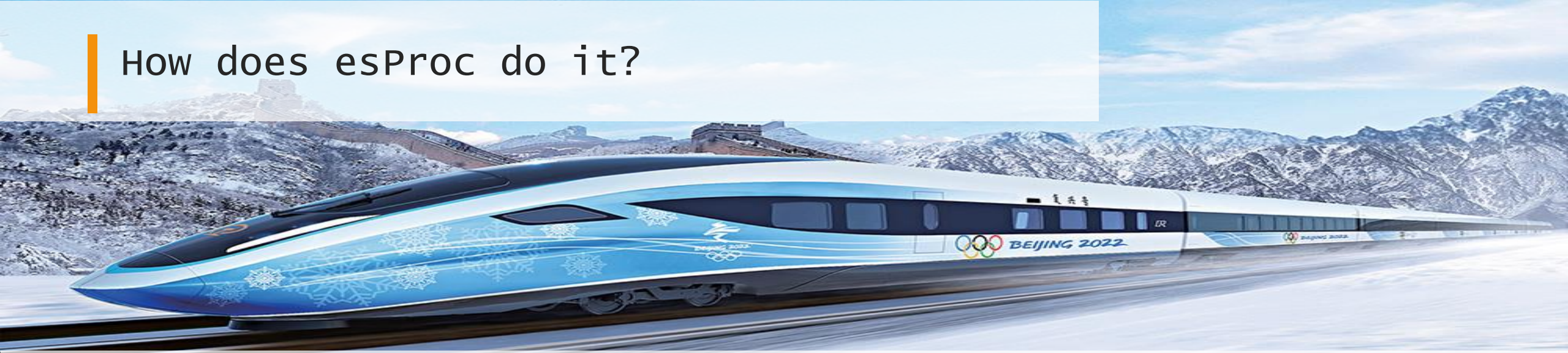
Reducing maintenance cost

Except for the short code size and easy maintenance, the hot deployment of the script takes effect as soon as the modification is made.

Contrast indicators	JAVA programming	esProc (SPL)	Advantage
Code Quantity	4400 lines	132 lines	33 times
Workload	32person/day	6person/day	5 times
Optimizable	None	Easy	Qualitative change
Coupling	High	Low	Modularization and Tooling
Maintainability	Poor	Good	Easy to manage, hot switching

*Case details: <http://c.raqsoft.com.cn/article/1560728208862>

How does esProc do it?



Openness

Independent of database
computing power
= lighter architecture



Language

New syntax adapts to complex
Procedure computing
= Codes are much simpler



Performance

Easy to implement high
performance algorithms and
parallelism
= Stronger computing power



Application

Standard Interface for Embedded
Integration
= Application deployment is easier

Independent Computing Engine



It does not depend on the computing power of the database and has a complete agile syntax system.

No database is needed in the computing process

It's not converted to SQL for database execution.

Computing can be performed for any data source.





SPL (Structured Process Language)

- Combining the advantages of SQL and Java
 - ✓ Adapt to set batch operations (SQL Advantage)
 - ✓ Good at step-by-step process computing (Java advantage)
- Well-designed rich library functions and consistency grammar
 - ✓ It's easier to master and performs better than Python



Count the longest consecutively rising trading days for a stock

```
1 import pandas as pd
2 def iterate(col):
3     prev = 0;
4     res = 0;
5     val = 0;
6     for curr in col:
7         if curr - prev > 0:
8             res += 1;
9         else:
10            res = 0;
11            prev = curr;
12            if val < res:
13                val = res;
14            return val;
```

```
15 data = pd.read_excel('D:/Stock.xlsx', sheet_name=0).
    sort_values('tradeDate').groupby('Company')['closePrice'].apply(iterate);
```

	A	
1	=stock.sort(tradeDate)	SPL
2	=0	
3	=A1.max(A2=if(closePrice>closePrice[-1],A2+1,0))	

SQL

Python

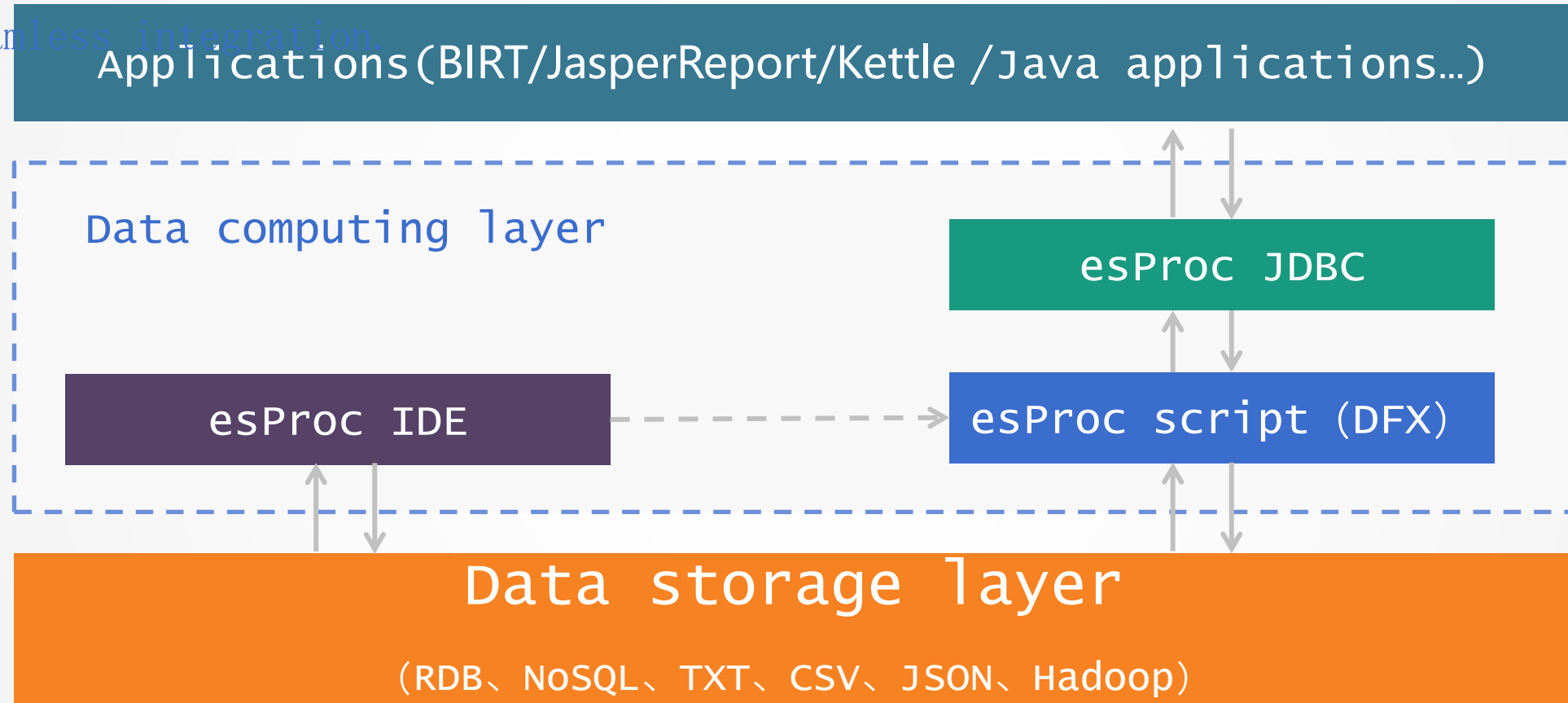
Syntax suitable for describing a natural way of thinking!

Professional grammar in the field of set operation, code is more concise for the same process!

Application Integration and Management



esProc is developed in JAVA and provides standard application interfaces for seamless integration.



Innovation makes progress!

