Orchestrating a brighter world

NEC

WebOTX Batch Server

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NEC Corporation,
Cloud Platform Division,
WebOTX Group

Orchestrating a brighter world

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1. Product Overview

Advantages to develop batch processing with Java

Enables high productivity and cost reduction by using Java as a single development language

Difference of development language between online processing and batch processing leads to low productivity and maintainability

Challenge

COBOL engineer reduced
- Difficulty to keep engineer
- Cost increase

Execution performance concern for batch processing with Java...

Java VM & H/W performance improve

Performance concern is resolved!

Advantage of Java implementation

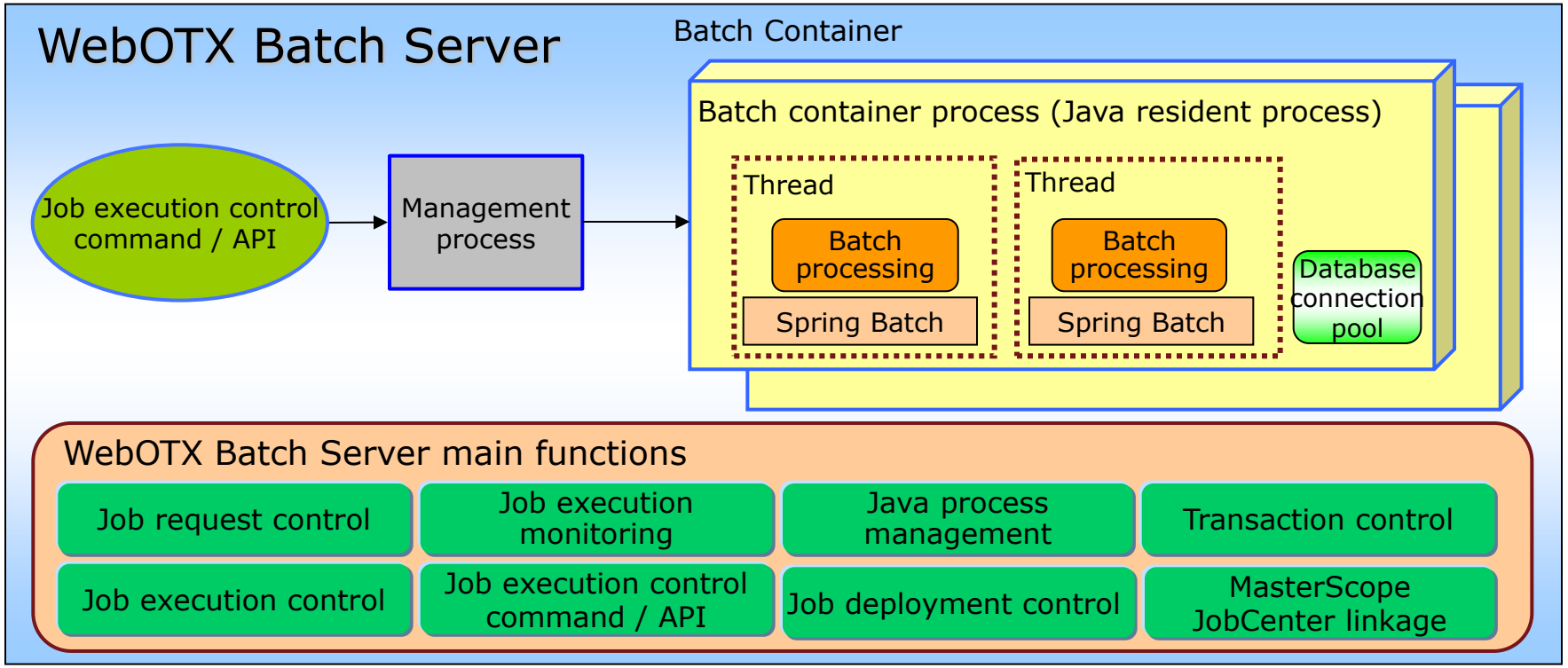
- Easy to find Java engineers
- Some programs can be shared by unifying development language between online processing and batch processing
- Improved productivity and maintainability by integration with Java language

WebOTX Batch Server V8.4 Overview

Execution platform with improved performance & improved usability using Spring Batch* framework

Main Features

- Executes batch processing on the thread of resident Java VM.
- Controls Java resident process / thread parallelism, and realizes parallel execution of batch processing.
- Offers feature of batch container such as database connection pool, transaction control, and so on.



2. Solution with WebOTX Batch Server

Challenge of constructing batch processing with Java

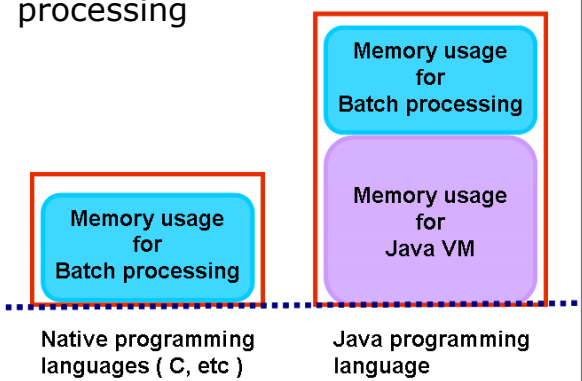
Challenge of processing performance / development productivity in case system is implemented with Java

Challenge 1

Overhead of Java VM

Compared to native code such as C language, there are issues in memory consumption and execution time

- Java VM start/termination overhead
- Memory equal to Java VM is consumed per each batch processing

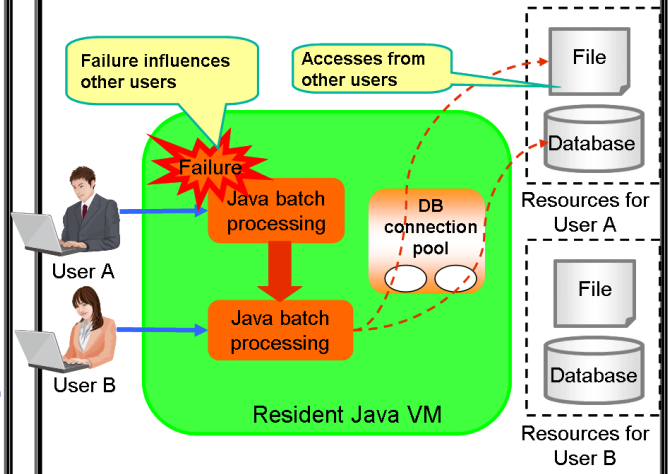


Challenge 2

Issue of resident Java VM

Ensures isolation of jobs on resident Java VM

- Minimizes batch processing failure at one user influencing other users
- Ensures isolation in terms of security

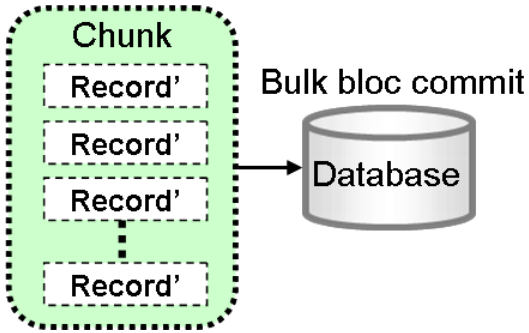


Challenge 3

Build for batch processing

Build is necessary for improving performance and operability specified in batch processing.

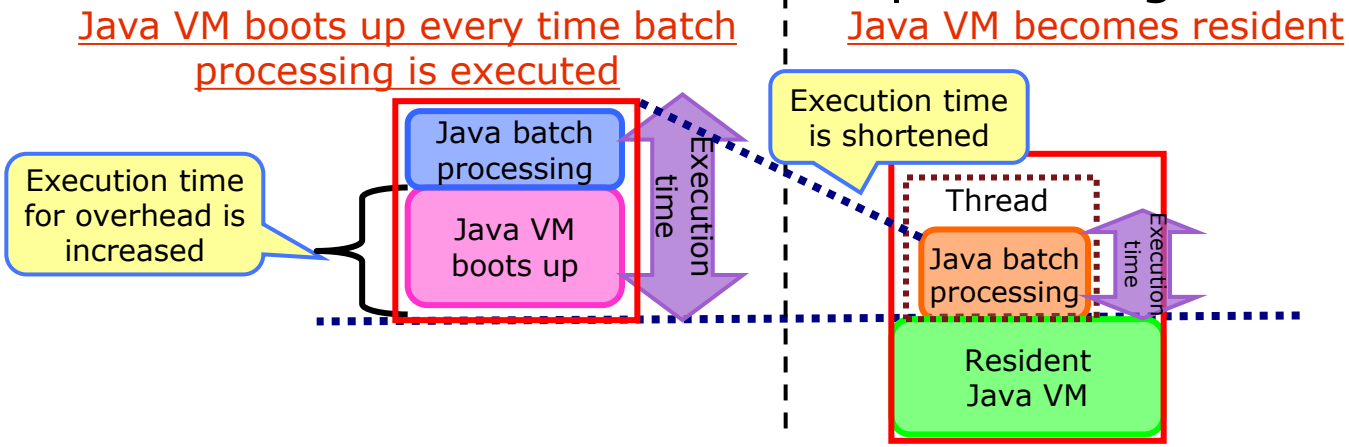
- Commits multiple records at one time (Chunk processing)
- Check point/restart function for shortening batch processing re-execution time



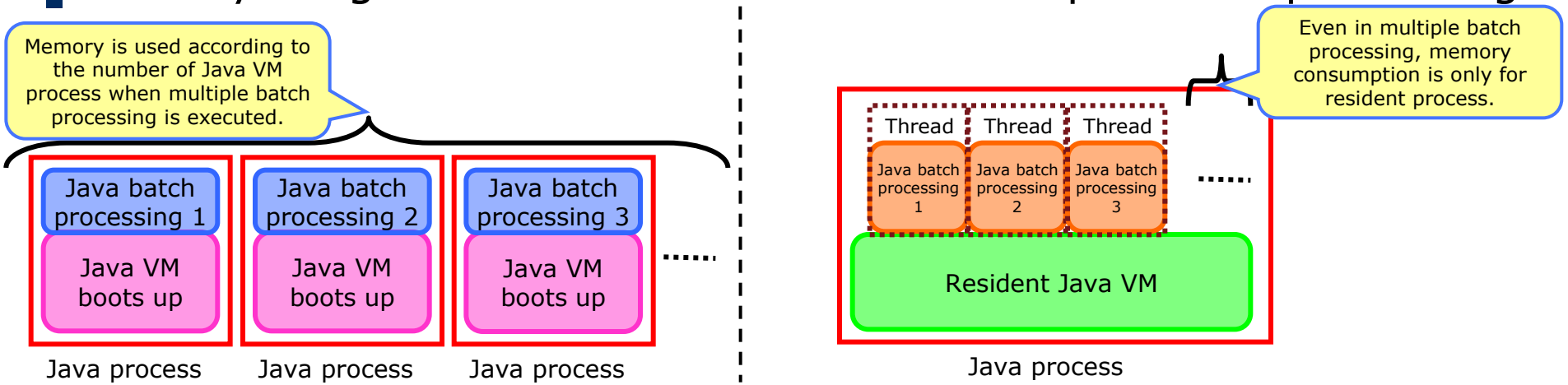
Challenge 1　Resolution for “Overhead of Java VM”

Executes batch processing on resident Java VM

Shortens execution time of batch processing



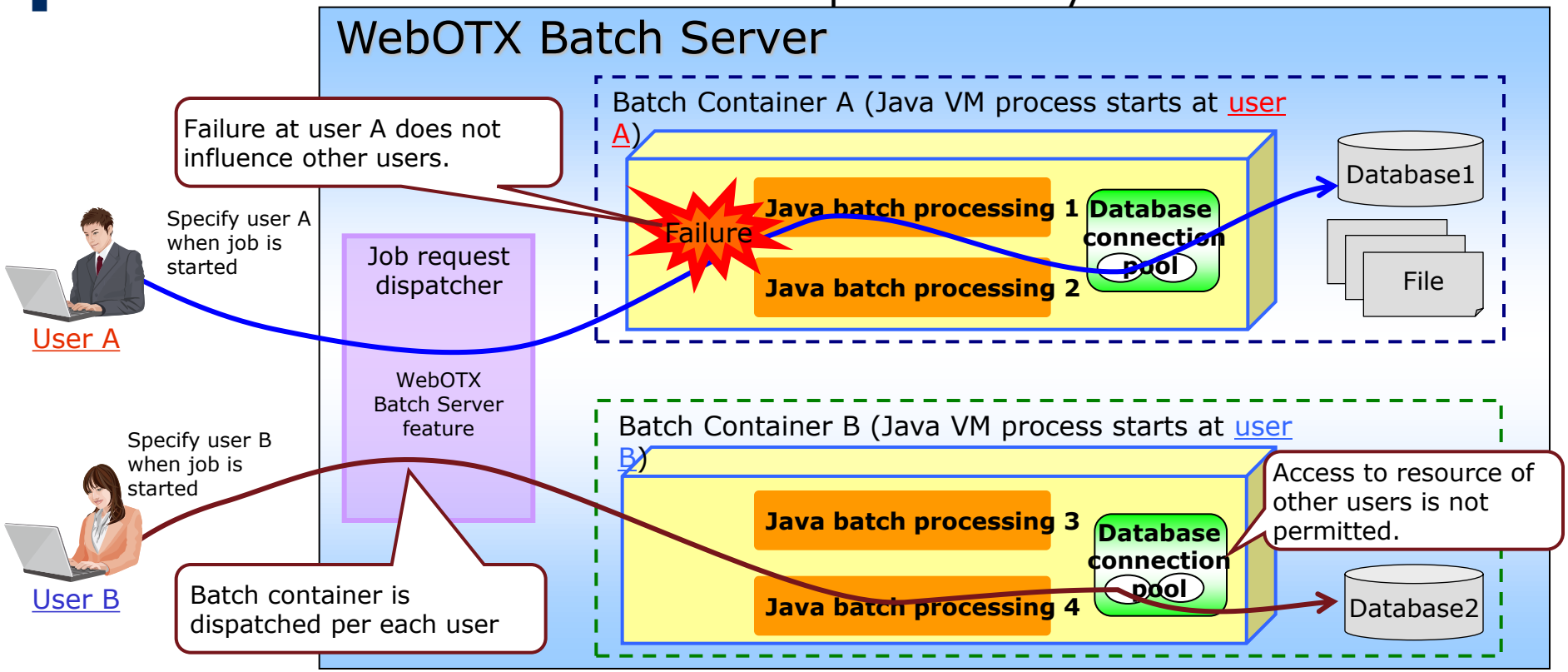
Memory usage is not increased even in multiple batch processing



Challenge 2　Resolution for “Issue of resident Java VM”

With WebOTX Batch Server function, isolation in user unit is ensured and failure can be localized

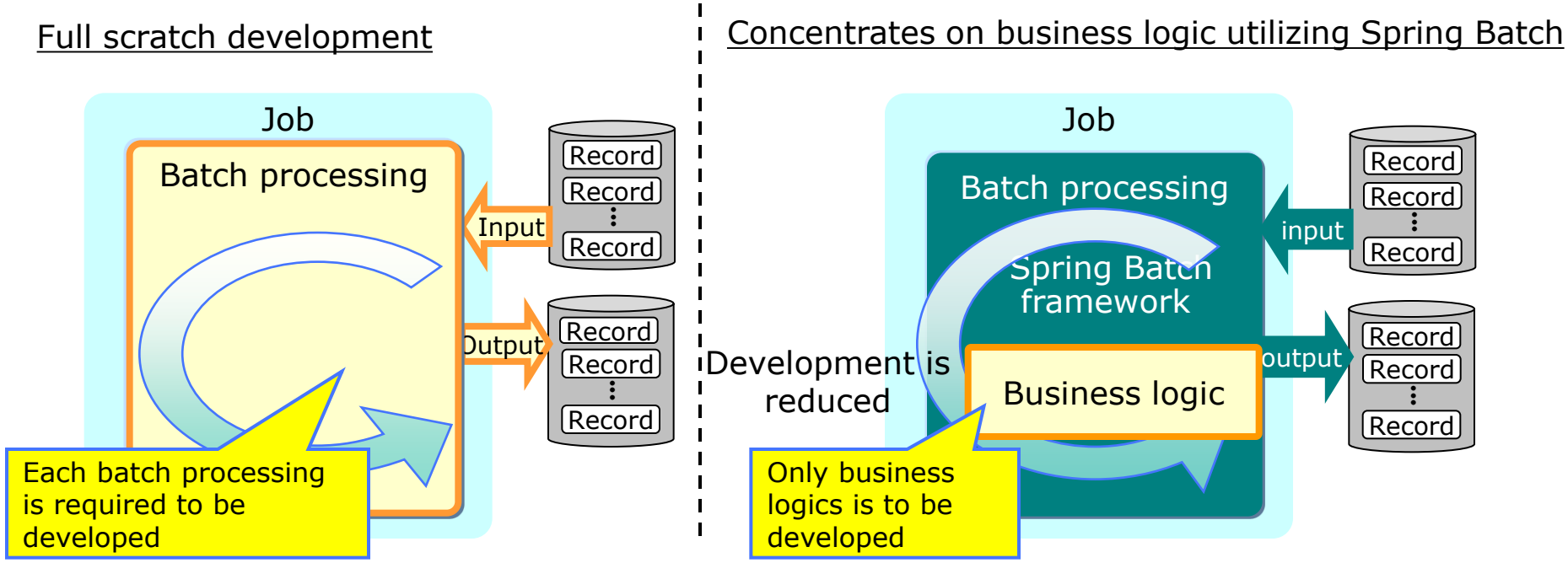
- Failure in executing batch processing by one user does not influence batch processing of other users.
- Resource access to other users is not permitted by access control.



Challenge 3　Resolution for “Build for batch processing”

Spring Batch improves development productivity by handling batch processing specific functions

- Spring Batch is the Spring Framework based batch processing framework provided by SpringSource.
- Developers only need to develop business logics as they can utilize common function of batch processing from framework (chunk processing, check point restart processing, and so on) leading to higher productivity.

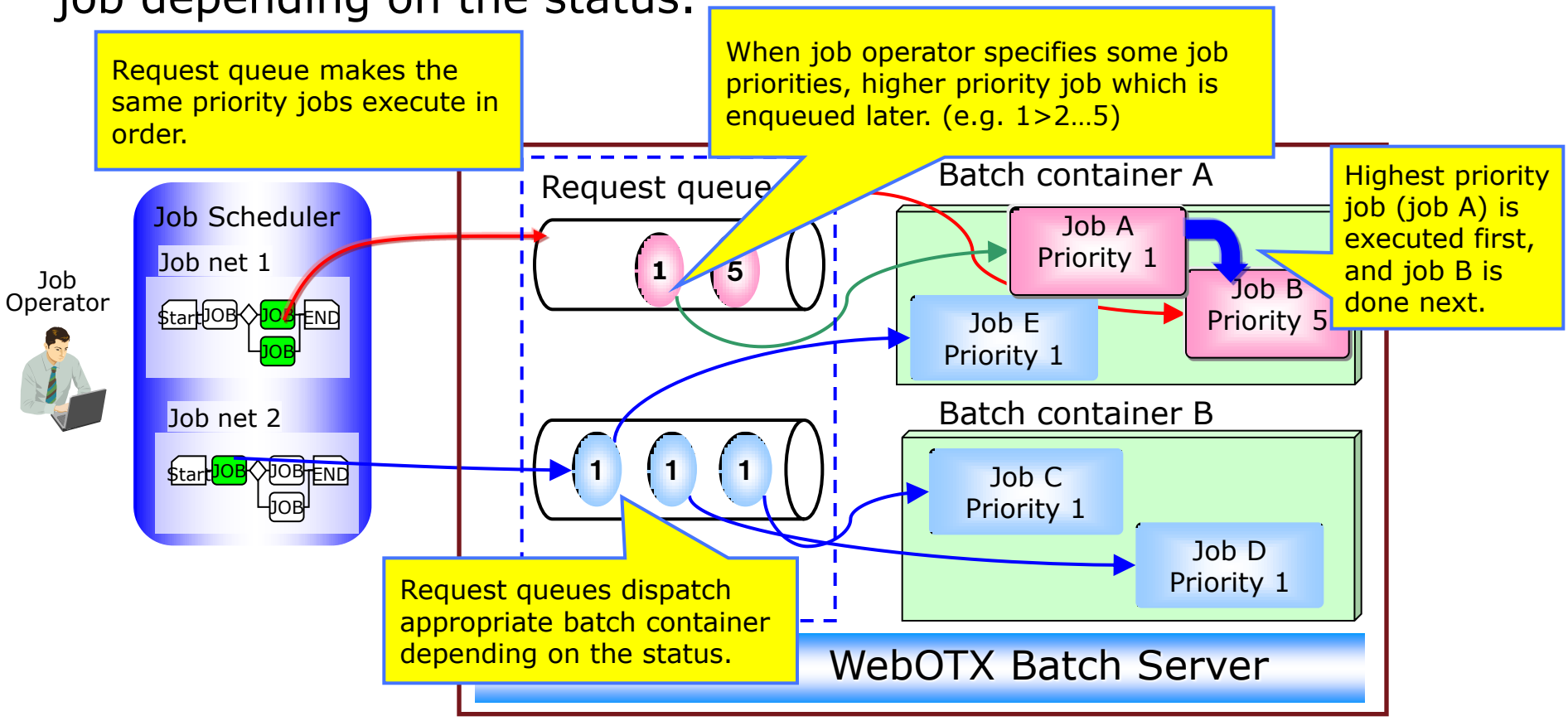


3. WebOTX Batch Server V8.4 enhanced features

Priority control of batch processing execution

Execute large scale of batch processing flexibly and stably

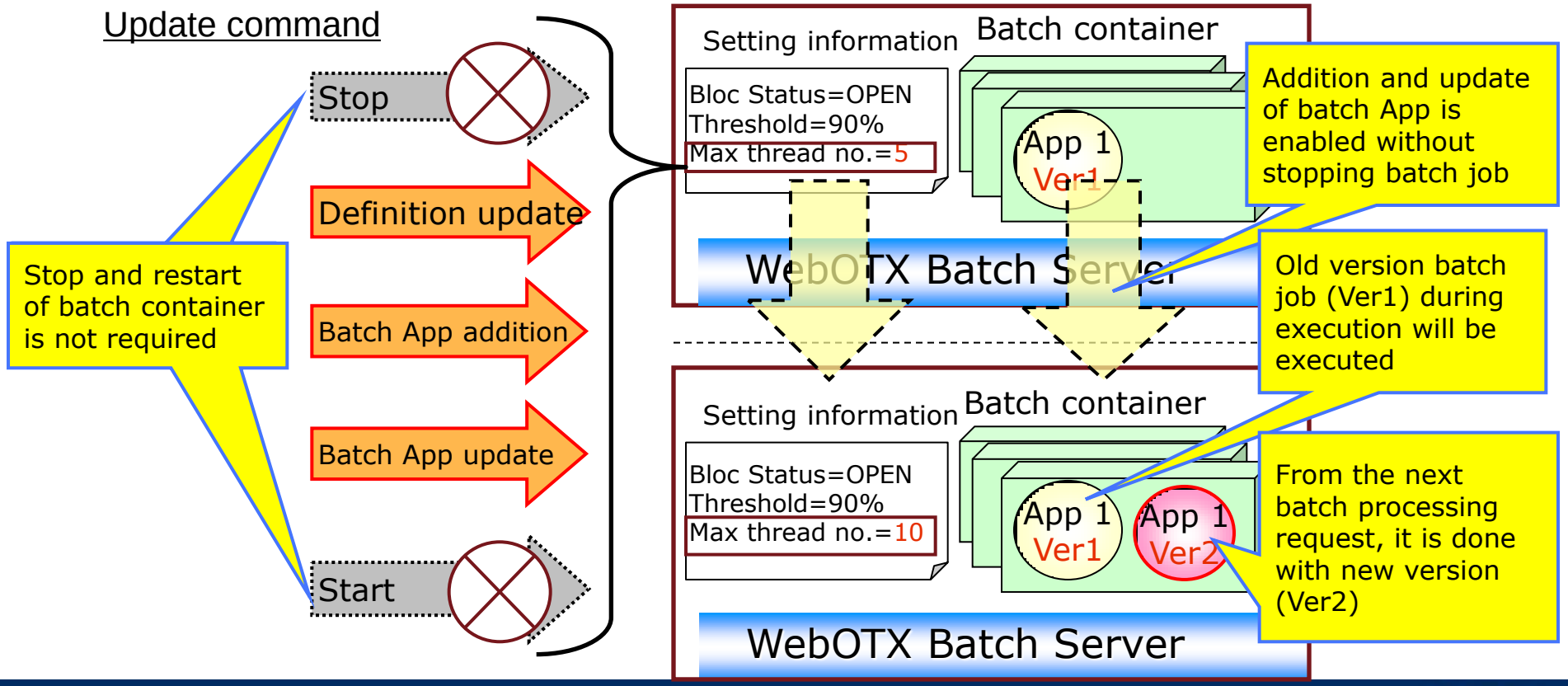
- Job priority control function to execute in order priority.
- Job dispatch function to dispatch to appropriate batch container job depending on the status.



Batch App update without stopping batch processing

Continuous batch job operation in an uninterrupted operation system

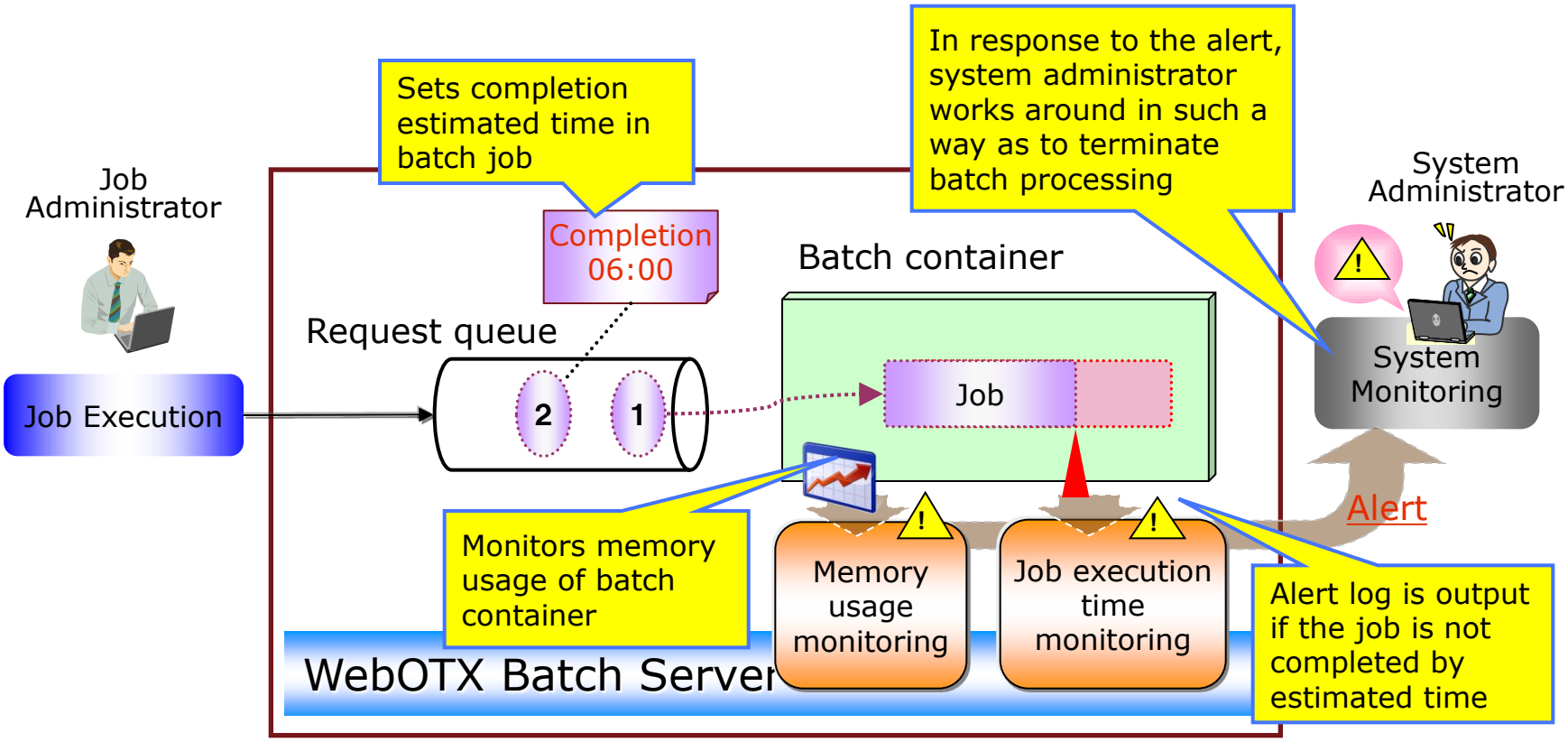
- Achieves addition & update of batch App without stopping batch job.
- Achieves update of setting information (thread multiplicity, etc.) without stopping batch container.
  - Dynamically increases threads to resolve overload of job execution.



Execution monitoring for batch processing

Stable operation by monitoring batch application

- Alert log is output if job is not completed by specified time.
- Alert log is output if monitored memory usage of batch container is over threshold.
  - System administrator can prevent failure by working around when alert log is sent.



Appendix

Product line of WebOTX Batch Server V8.4

2 models for the customer's system requirements

Highly reliable batch platform is required to achieve stable operation of middle-to-large scale batch processing.

BS V8.4 Standard

High-value added model. For middle-to-large scale system requiring high reliability.

BS V8.4 Express

Entry model with easy implementation, and basic features.

Small scale system needs to be established with easy implementation. Only a few night batch processing are to be simultaneously operated.

System Requirements

Category	Details
Hardware	Express 5800, 5800/1000 series, PC/AT compatible machine
Memory	1GB or more recommended (WebOTX Batch Server Express Edition, and Standard Edition)
HDD	200MB or more (WebOTX Batch Server Express Edition, and Standard Edition)
OS	Windows Server® 2008 R2 Standard (Intel x64) Red Hat Enterprise Linux 5.x (Intel x86, Intel x86_64) (Supported OS is expanding. Please contact us for latest information)
Java execution environment	Java SE 6 (*) * Oracle Java SE Development Kit (JDK) Update 24 or later * Oracle JRockit JVM is not supported * Regarding Java SE 5, please contact us with implementation configuration
Database	Oracle Database 11g R1 or later (11g is required) PostgreSQL 8.4.2 or later (must be 8.4)

Thank You

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For more information, feel free to contact us - global@soft.jp.nec.com


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