

Orchestrating a brighter world **NEC**

**MasterScope**

# Introduction of MasterScope JobCenter

September, 2017  
NEC Corporation



# MasterScope JobCenter Overview



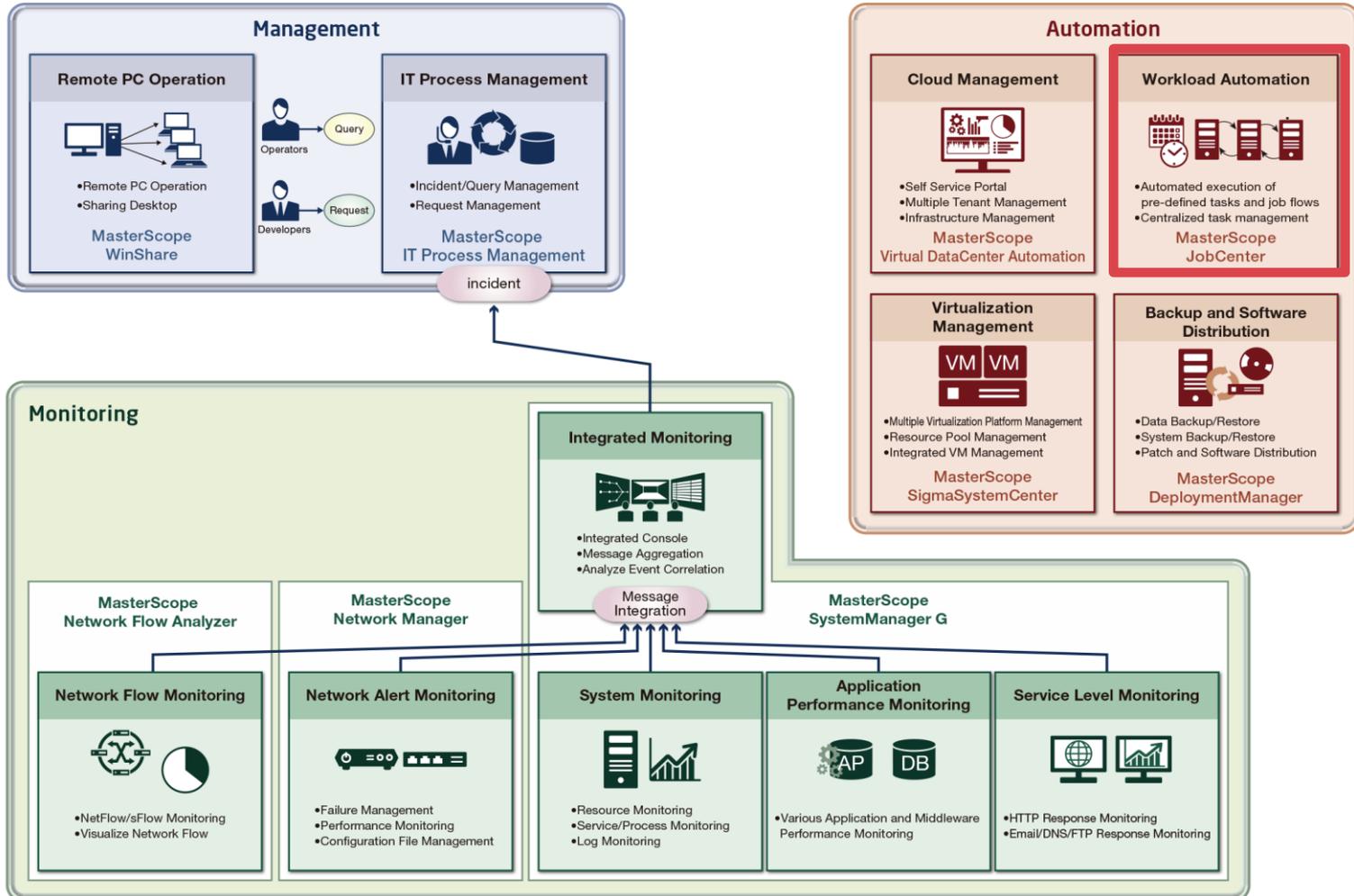
## MasterScope JobCenter Overview

Use Case of JobCenter

Operation Steps of JobCenter

# JobCenter in MasterScope

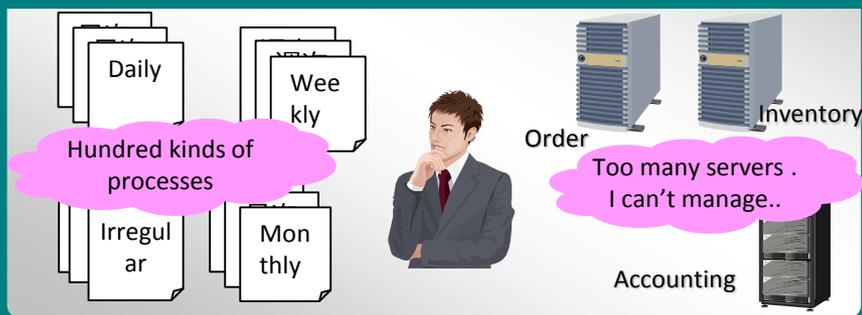
MasterScope JobCenter automates routine work in system operations and support accurate and efficient system operation.



# Frequent System Operations Issues

Manual system operation is a risk to cause several issues

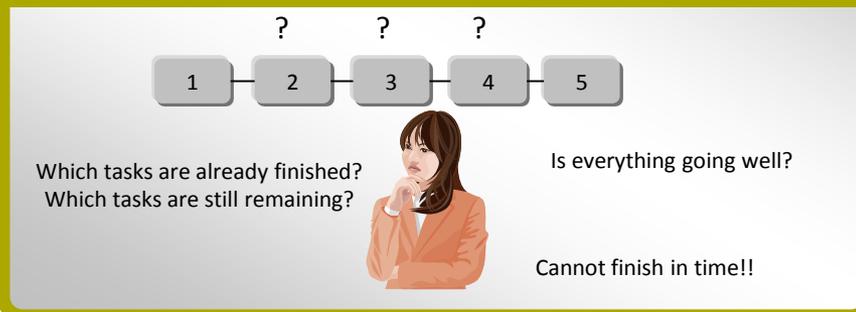
Cannot deal with large transaction volumes and operation cost



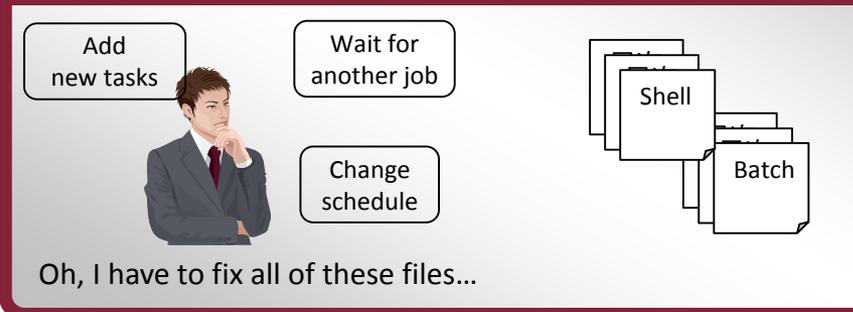
Manual job management often cause human operation errors



Cannot confirm if a batch command has ended successfully or not



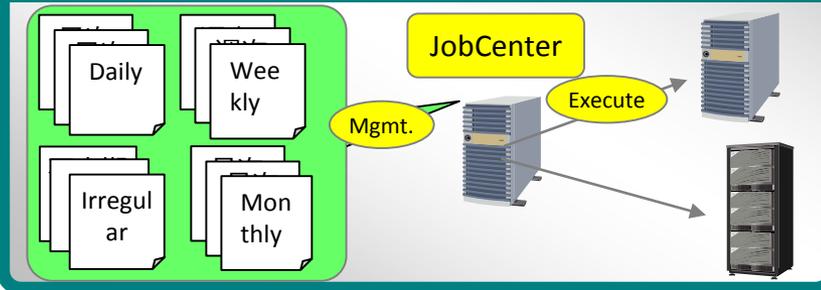
Need to fix all script files according to system operation



# JobCenter Can Assist to Solve It!

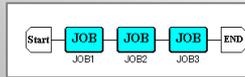
JobCenter automates routine tasks and enables both accurate and efficient system operations

Automating routine tasks and jobs reduces workload



Jobs are automatically executed at scheduled time in correct order

Name	Sched.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu
Administrator																							
FileA	testt																						
FileB	job																						

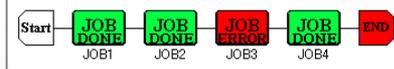


No operation mistake will happen



Job tracker visually shows job execution status and result

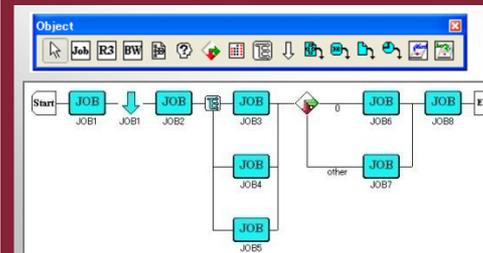
Easy to pin point where the error and issues has occurred.



Name	Status	Comment	Expected Start Time	Expected End Time
Root				
SystemA				
DailyAccount	DONE		2008/03/28 02:59:46	2008/03/28 02:59:46
delivery	DONE		2008/03/28 02:59:46	2008/03/28 02:59:46
DailyAccount	DONE(ERROR)		2008/03/28 03:00:14	2008/03/28 03:00:14
DailyAccount	PREPARE		2008/03/28 06:13:00	2008/03/28 06:13:05



Easy-to-use GUI reduces cost to modify automation flow



Modify job flow by just drag&drop job objects.



# JobCenter Advantages

JobCenter is a reasonably priced product coming with numerous handy functions already accepted by a huge customer base

**Rich and  
Easy-to-Use  
Functions**

**Multi Platform  
Supported**

**Reasonable  
Price**

**Many Customer Introduction Result**



# Advantage 2. Multi Platform Supported

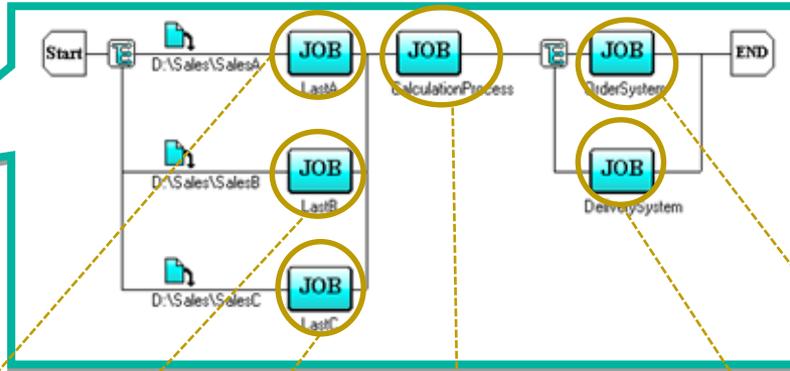
Compatible with various OS, Virtual and Clustering Software available on the market allowing a centralized yet flexible job controlling and monitoring. English, Chinese, Japanese ready.

## Various OS Supported

Unified management with various OS usage (Windows, Linux, Unix)



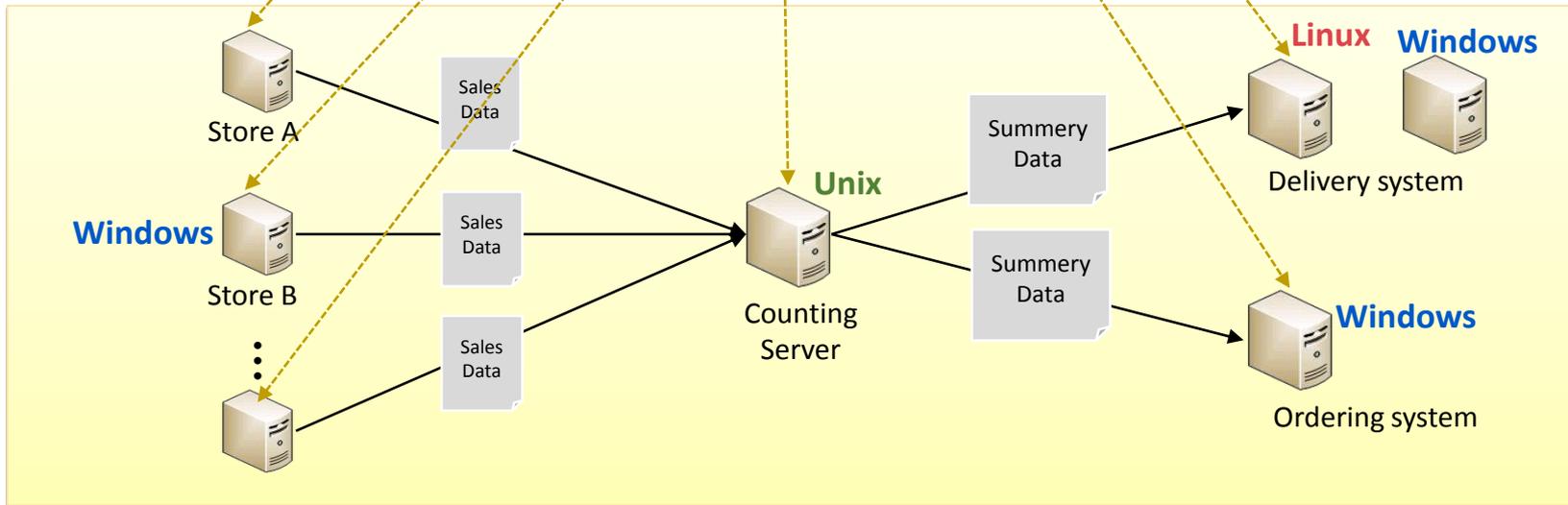
Mgmt. Server



Supports known HA Clustering Software on the market to date (EXPRESSCLUSTER, MSFC, ServiceGuard etc.)

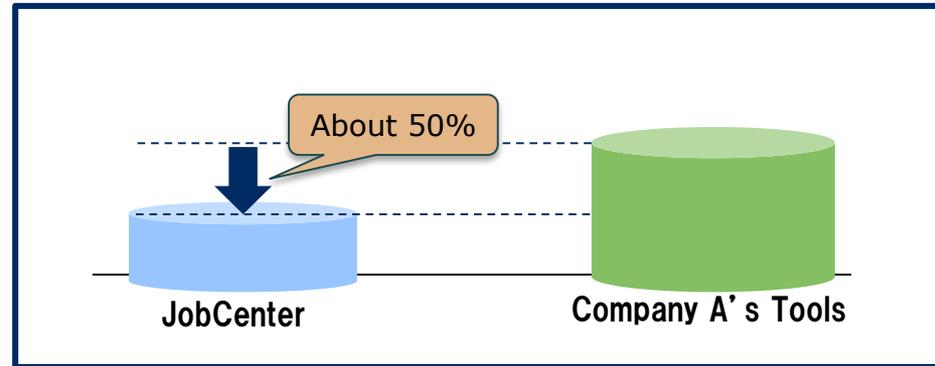
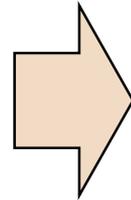
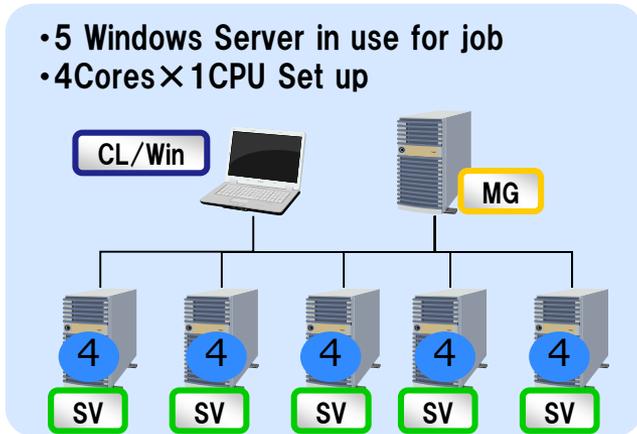
Also supports major hypervisors such as vSphere &/or Hyper-V.

English, Chinese, Japanese ready



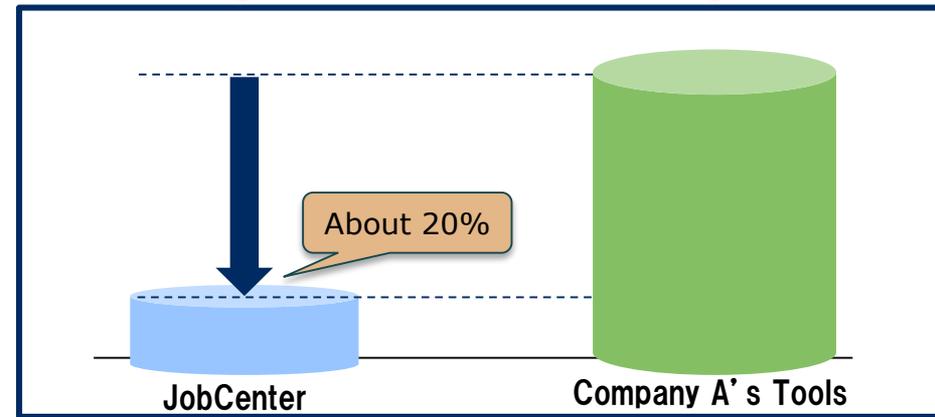
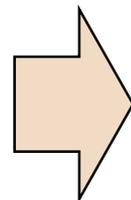
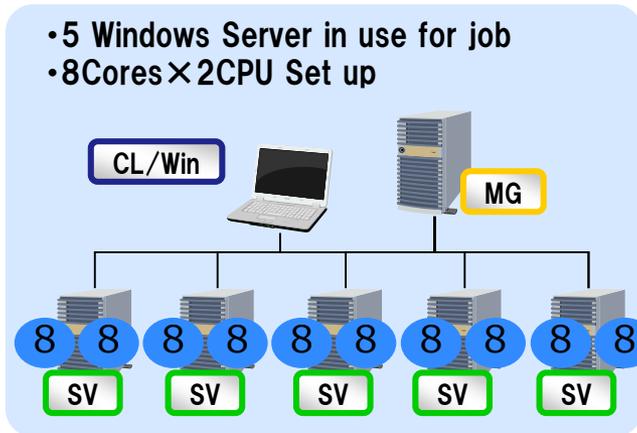
# Advantage 3. Reasonable Price

The Price of JobCenter does not depend on the number of CPU/Core. So, you can use JobCenter at reasonable price.



Same price despite an increase in CPU.

Price increases with number of Core and CPU in use



# Advantage 4. Many Customer Introduction Result

Since the first shipment in 1994, JobCenter has been selling in various industry type.

Over 10 Countries

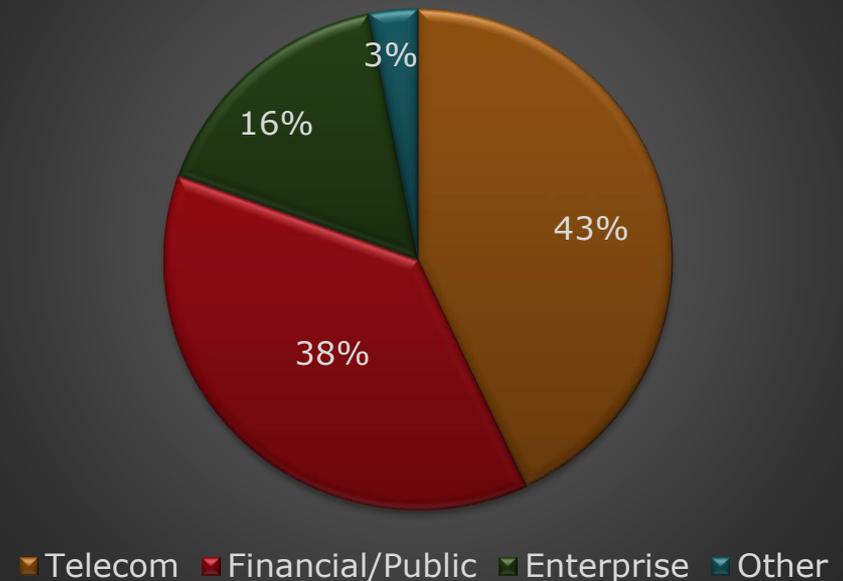
Over 1,500 Users

OEM to  
Hewlett Packard Enterprise

### The number of the users



### Sales Ratio in industry segment



# Use Case of JobCenter

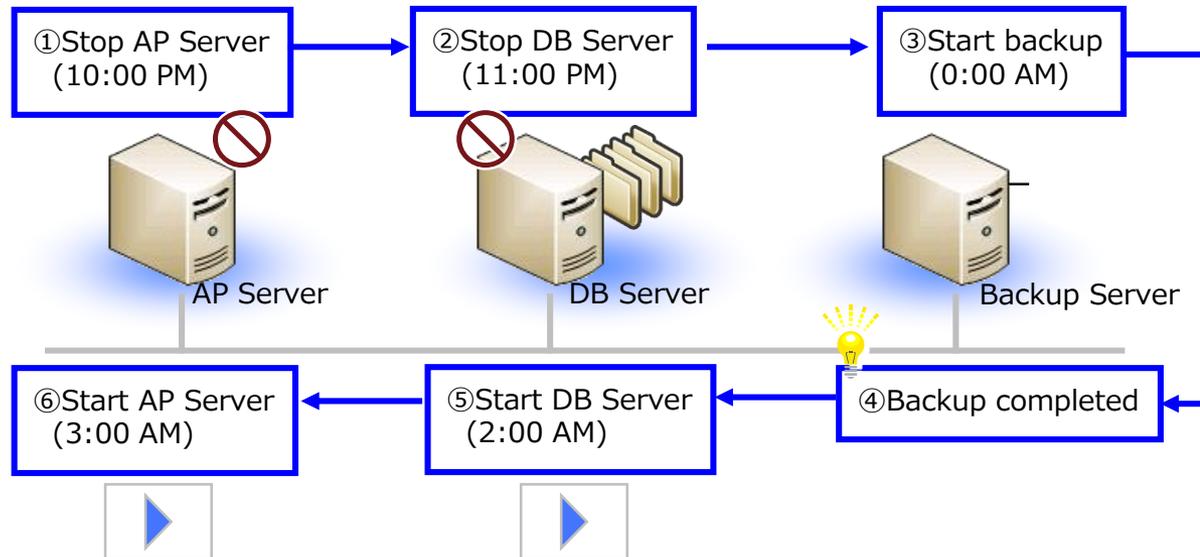
MasterScope JobCenter Overview

**Use Case of JobCenter**

Operation Steps of JobCenter

# Use Case : Automate Backup Tasks

Customer needs to shutdown services considering service dependency and schedule to execute backup safely.



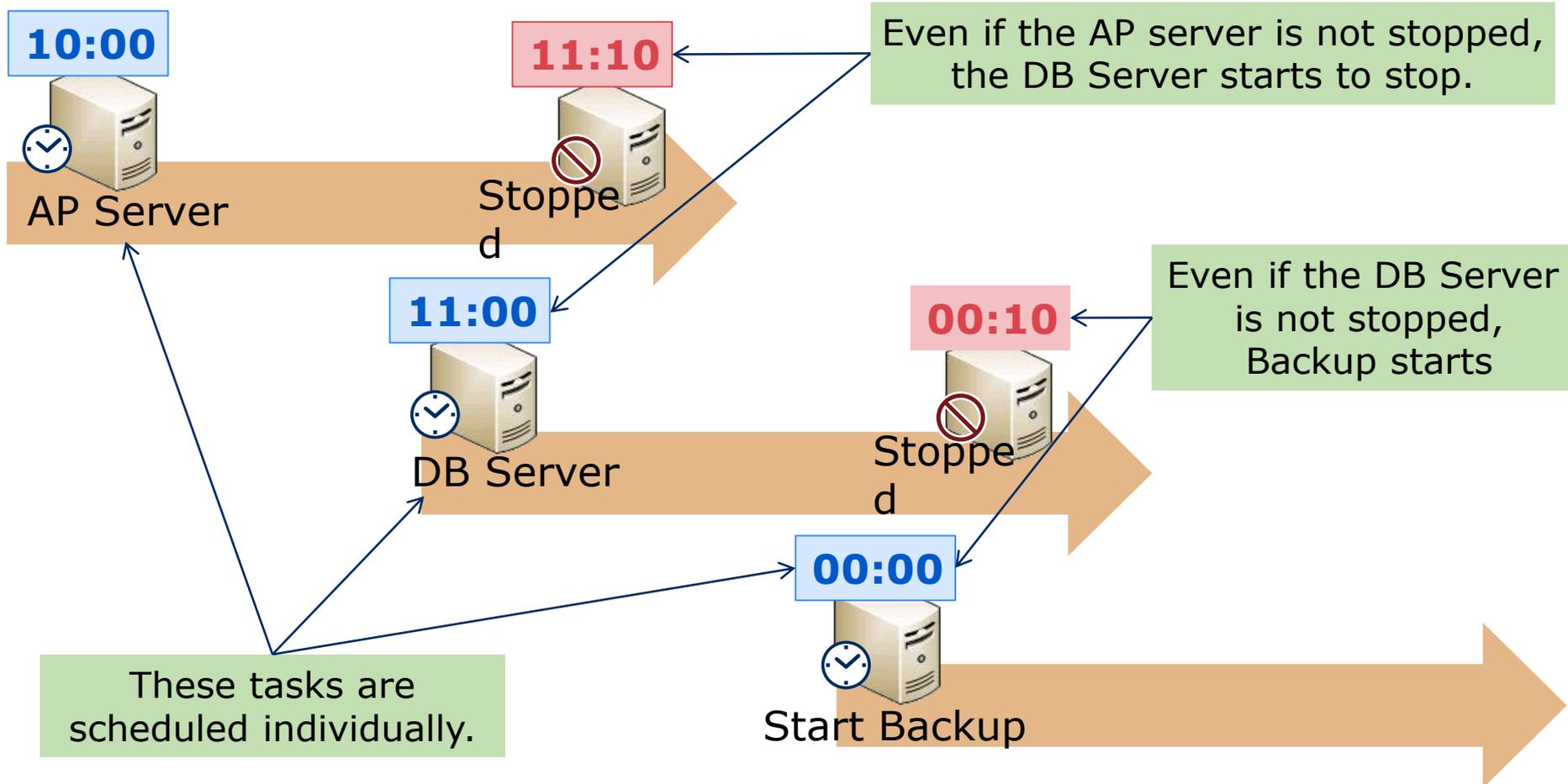
## Backup Operation Rule

1. Stop AP server first, then stop DB server.
2. Start DB server first, then start AP server.
3. Those tasks are done according to schedule above
4. If failed to stop servers, cancel backup and restart servers.

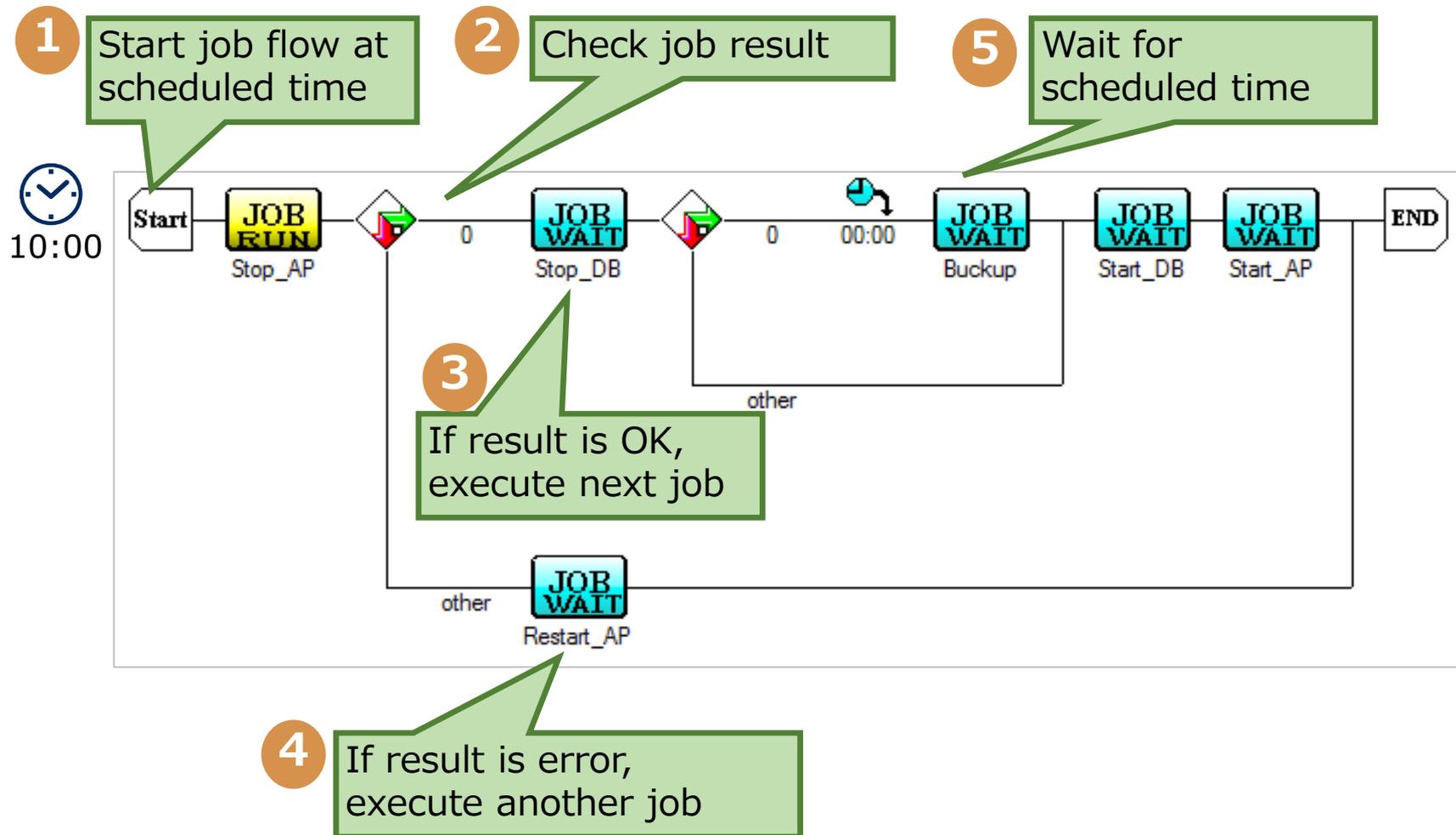
# Use Case : Automate Backup Tasks

**Before**

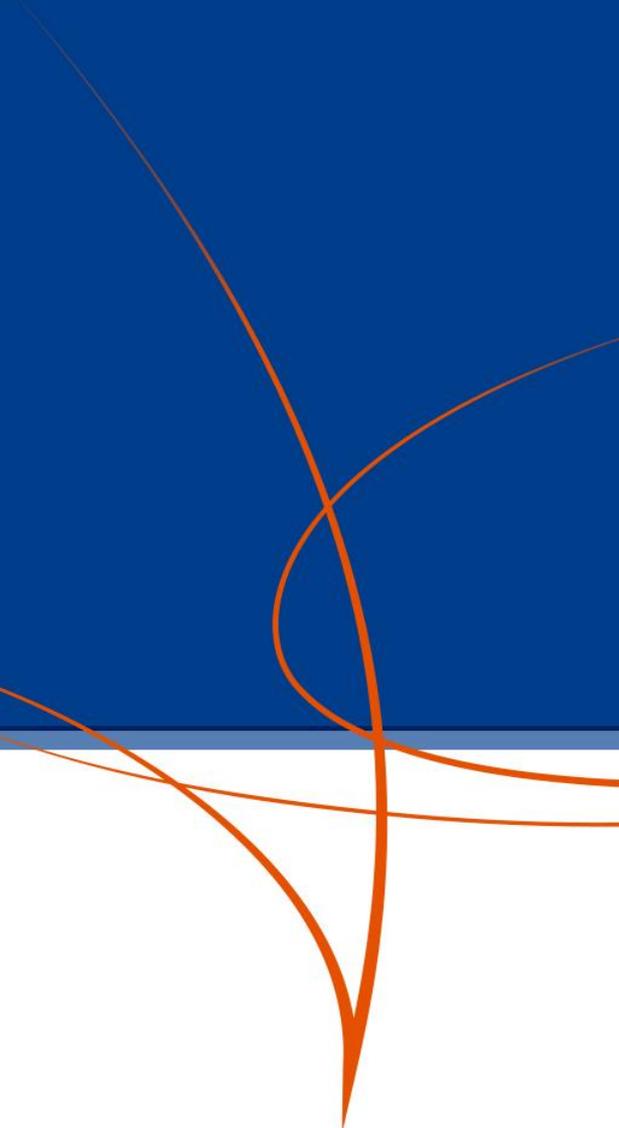
In case using cron, the task is scheduled individually. So, even if previous task is not finished, next task starts. For the result confirmation, it is necessary to introduce the structure of monitoring.



JobCenter can automate the backup considering schedule and execution result.



# Operation Steps of JobCenter



MasterScope JobCenter Overview

Use Case of JobCenter

**Operation Steps of JobCenter**

# Operation Steps of JobCenter

JobCenter automates routine tasks both quickly and accurately by performing 3 simple steps

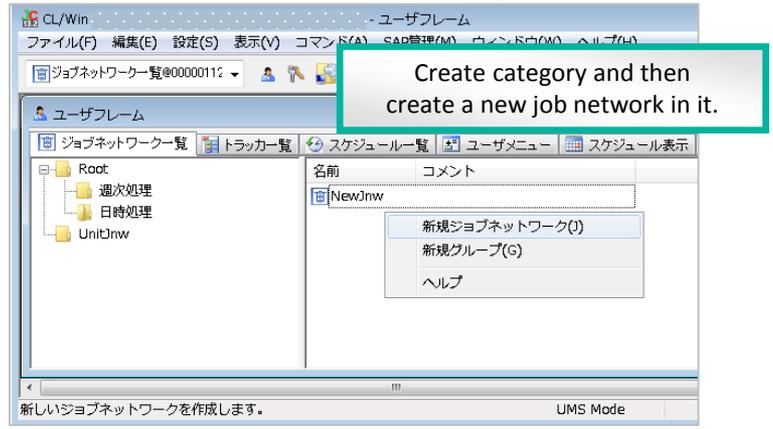


# 1. Create Job Network

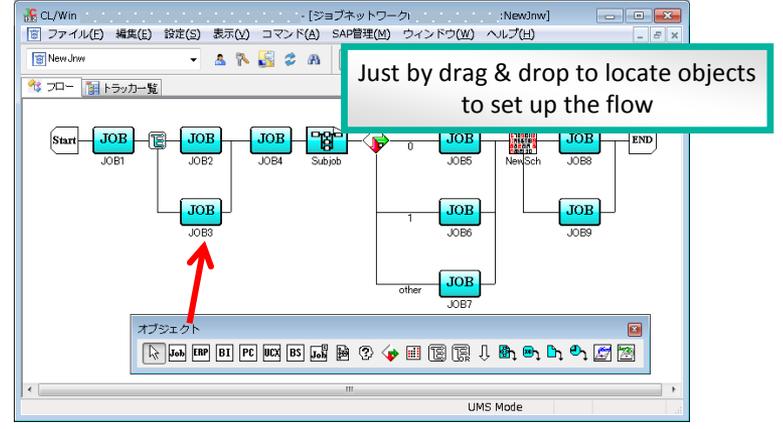
The workflow automates routine tasks is called "Job Network(JNW)" in JobCenter.

Simple "Drag & Drop" action to create a job network according to the operation.

1 Open the window and create a new job network

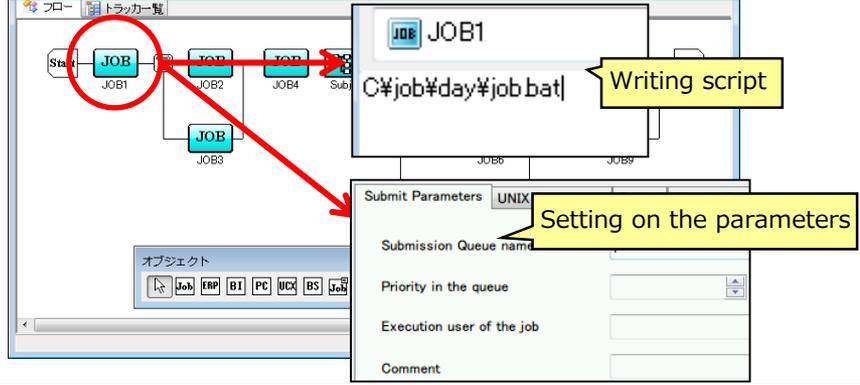


2 Drag and drop objects(parts) to create flow



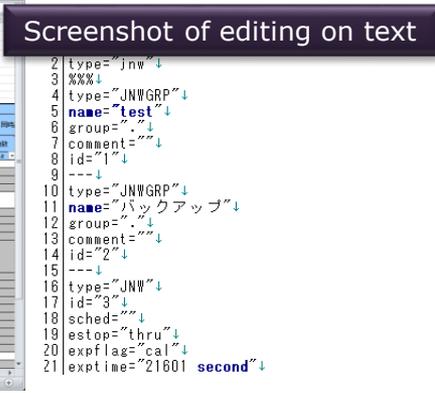
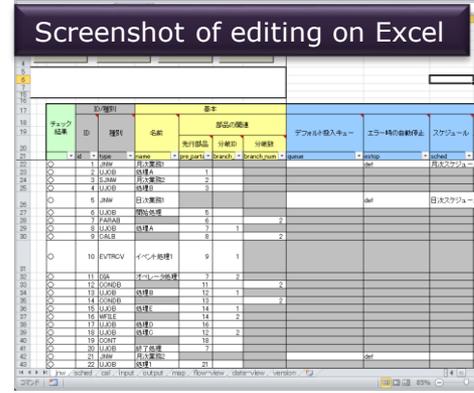
3 Right-click to write script or configure parameters

Edit parameters and set the server (queue) to execute the script and jobs.



With various kinds of job parts, it's very easy to create complex flow.

Rules can be created/edited by Excel (option) or text based editors.



## 2. Set up Calendar/Schedule

Define the date/time of job execution by creating operation calendar/schedule.

Then link with the job network made in the previous step to automatically execute jobs.

**1** Create calendar which defines operation day and holiday.

Calendar setting SystemA

Calendar

2016 Year Aug

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Operation day : Black  
Non-operation day: Red

Rule

+/-	Type	Break s...	Term
+	Inc. Daily		2016/07/29-2017/12/31
-	Exc. WeeklySaturday	None	2016/07/29-2017/12/31
-	Exc. WeeklySunday	None	2016/07/29-2017/12/31

**2** Create schedule to set up execution date/time EX) • 9:00 AM on every Thursday  
• 10:00 PM of the last day of every month

Rule setting

+Inclusion Weekly 2010 Year Dec 10 Day

1st Friday

Break day shift None Relative Indication 0 Day 1st Weekend

Start Time 0 : 0 Range Min End Time 0 : 0

Term(rule applied to) 2010 Year Dec 10 Day  
2011 Year Dec 31 Day

OK Cancel Help

**3** Link Job Network and schedule

Schedule LinkingJNW

LinkingJNW

FlowA  
FlowB  
FlowE

FlowC  
FlowD

<<Add

# 3. Monitor Job Network Execution Status

Tracker function displays processes of the executed job network and their results, as well as planned job network.

Operation such as re-execution or skipping job also can be performed through the same window.

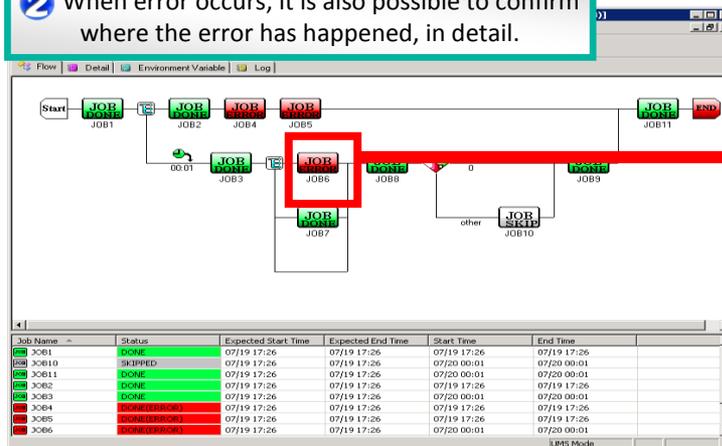
## ◆ Tracker List

1 The job status are distinguished by colors and labels, enabling errors to be recognized easily.

Name	Status	Comment	Expected Start Time
Root			
SystemA			
FileCopy	RUN		08/24 09:40
Backup	STOP(ERROR)		08/24 09:40
UnitJnw			

Drill down to see detail

2 When error occurs, it is also possible to confirm where the error has happened, in detail.



3 Possible to confirm detailed information

Unit job detail information	
Status	DONE
End reason	exit(0) Application done.
Start time	2013/07/15 02:00:42
End time	2013/07/15 02:00:43
Exec machine	WIN-3HMLGVF803U
RequestID	8 WIN-3HMLGVF803U
Past end reason	

# Appendix

# Web GUI (CL/Web Option)

In Web GUI, it is possible to execute Job Network, confirm the result, and re-execution.

There is a customizable dashboard.

The screenshot displays the JobCenter CL/Web Web GUI interface. The top navigation bar includes 'マイページ', 'ジョブネットワーク', 'トラッカ', 'スケジュール', 'マシン', and 'カレンダー'. The main content area is divided into several sections:

- 実行状況サマリ (Task execution results summary screen):** A donut chart and a table showing the status of tasks. The table data is as follows:

状況	トラッカ数
成功	66
警告	1
応答待ち	2
失敗	4
未完了	13
<b>合計</b>	<b>86</b>
- 基盤管理操作 on AWS (Most used job listing):** A table listing various AWS management tasks with '実行' (Execute) buttons for each.

名前	アクション	コメント
AMI作成SV1	実行	SV1のAMIを作成します
AMI作成SV2	実行	SV2のAMIを作成します
AMI作成SV3	実行	SV3のAMIを作成します
インスタンス起動SV1	実行	SV1のインスタンスを起動します
インスタンス起動SV2	実行	SV2のインスタンスを起動します
インスタンス起動SV3	実行	SV3のインスタンスを起動します
スナップショット作成SV1	実行	SV1のスナップショットを作成します
スナップショット作成SV2	実行	SV2のスナップショットを作成します
スナップショット作成SV3	実行	SV3のスナップショットを作成します
各種状態取得	実行	基盤管理システムの各種情報を取得しメール通知します
- 実行推移 (Visualization of executed tasks progress):** A line graph showing the progress of tasks over time. The x-axis represents time from 00:00 to 20:00, and the y-axis represents the number of tasks (0 to 4500). The legend includes: ルートJNW(計画) (blue), サブJNW(計画) (orange), ルートJNW(即時) (green), and サブJNW(即時) (purple).
- 実行実績一覧 (Task execution result detailed screen):** A table providing detailed information about task execution, including status and completion times.

名前	状況	コメント	予定開始時間
基盤システムバックアップ	実行中(待合)		2015/01/19 17:21:57
マスター更新	タイアログ		2015/01/19 17:21:01
各種状態取得	正常終了	基盤管理システムの各種情報を取得しメール通知します	2015/01/19 17:19:05
スナップショット作成SV3	正常終了	SV3のスナップショットを作成します	2015/01/19 17:18:49
スナップショット作成SV2	正常終了	SV2のスナップショットを作成します	2015/01/19 17:18:45
スナップショット作成SV1	正常終了	SV1のスナップショットを作成します	2015/01/19 17:18:41
インスタンス起動SV3	正常終了	SV3のインスタンスを起動します	2015/01/19 17:18:36
インスタンス起動SV2	正常終了	SV2のインスタンスを起動します	2015/01/19 17:18:32
インスタンス起動SV1	正常終了	SV1のインスタンスを起動します	2015/01/19 17:18:22

Task execution results summary screen

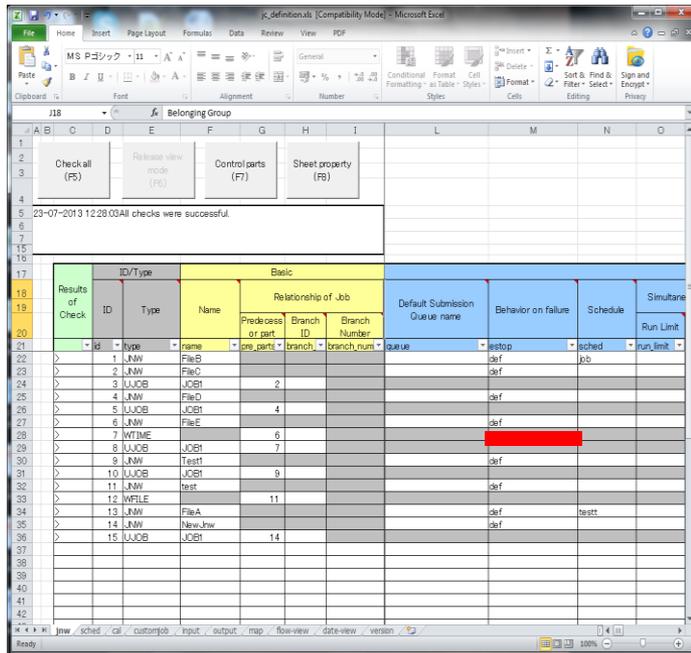
Most used job listing

Task execution result detailed screen

Visualization of executed tasks progress

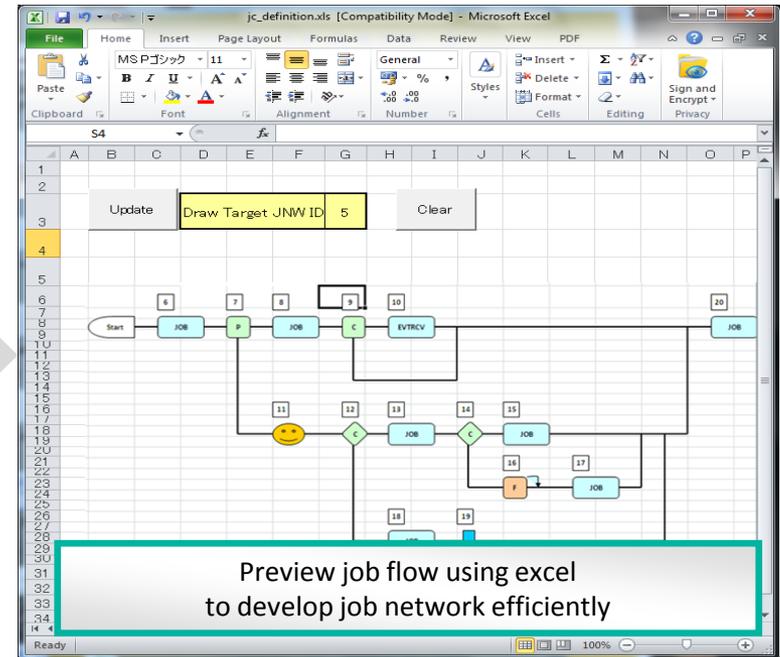
# Editing Definition Using Excel (Definition Helper Option)

It is possible to edit job network definition, schedule and calendar by Excel.



Results of Check	ID	Type	Name	Predecessor or part	Branch ID	Branch Number	Default Submission Queue name	Behavior on failure	Schedule	Simultane	Run Limit
>	1	JNW	FileB				queue	estop			
>	2	JNW	FileC					def			
>	3	JJOB	JCB1	2							
>	4	JNW	FileD								
>	5	JJOB	JCB1	4							
>	6	JNW	FileE								
>	7	WTIME		6							
>	8	JJOB	JCB1	7							
>	9	JNW	Test1								
>	10	JJOB	JCB1	9							
>	11	JNW	test								
>	12	WFILE		11							
>	13	JNW	FileA								testt
>	14	JNW	New_Jnw								
>	15	JJOB	JCB1	14							

Preview



Upload / download



JobCenter

Definition information

Schedule

Calendar

Export in the format that can be imported to Job management server

 **Orchestrating** a brighter world

**NEC**