Overview

Checkpoint intervals

For each checkpoint that the service policy defines, the service policy specifies a time interval. The **interval** is the amount of time that you expect a job to take to complete a phase. The interval does not include estimated durations set for steps in the workflow.

The interval for each phase starts from the checkpoint start time, which is the same time for all intervals. The **checkpoint start time** is one of these times:

- The time that the last file for a job arrives in the system (the **Job arrival time**). If child jobs are created for the job, they have the same job arrival time as the parent job.
- A start time set by RICOH ProcessDirector or by an authorized user (the **Adjusted arrival time**).
- A fixed start time specified in the service policy (the **Service policy start time**).

By default, the adjusted arrival time is the same as the job arrival time. RICOH ProcessDirector might set a new adjusted arrival time:

- When a job is assigned to a new workflow
- When a job enters a certain step
- When a job is split or commingled

A service policy might specify a fixed start time if all jobs must be printed by a fixed time. For example, if all jobs must be printed by 10:00 the next day, the service policy specifies a start time of 10:00 and an interval of 24 hours for the Print phase.

When a service policy specifies a fixed start time, it can specify one of these adjustment methods. The **Adjustment method** tells RICOH ProcessDirector how to adjust the checkpoint start time. The adjustment methods are:

- **Cutoff:** The checkpoint start time depends on whether the adjusted arrival time is before or after the service policy start time. If the adjusted arrival time is:
  - Before the service policy start time, the checkpoint start time is the service policy start time on the same day as the adjusted arrival time
  - After the service policy start time, the checkpoint start time is the service policy start time on the next day

  If the adjusted arrival time changes, the checkpoint start time might also change.
- **Start:** The checkpoint start time is the start time specified in the service policy on the same day as the adjusted arrival time.

This diagram shows how the checkpoint start time and the intervals for successive phases relate to each other. Notice that the interval for each phase starts from the same checkpoint start time, not from the end of the previous phase. Therefore, the interval for each phase includes the time that it takes to complete all previous phases.

Checkpoint start time <– Receive interval –> End of Receive phase
Checkpoint start time <–– Prepare interval ––> End of Receive + Prepare phases
Checkpoint start time <––– Print interval –––> End of Receive + Prepare + Print phases
Checkpoint start time <–––– Complete interval ––––> End of Receive + Prepare + Print + Complete phases

Note: You can change the phase names to match the functions that you do in that phase better.

These examples show sample start times and intervals that a service policy might specify when using different adjustment methods.

No adjustment method: In this example, jobs must be printed 4 hours after the adjusted arrival time. Because the adjustment method is **None**, the checkpoint start time is the same as the adjusted arrival time. If the adjusted arrival time has not been reset, it is the same as the time the job arrived in the system.

Start time:	not specified
Adjustment method:	None
Interval for Receive checkpoint:	20 minutes
Interval for Prepare checkpoint:	2 hours
Interval for Print checkpoint:	4 hours

Job arrival time <– Receive interval = 20 minutes –> Job arrival + 20 minutes
Job arrival time <––– Prepare interval = 2 hours –––> Job arrival + 2 hours
Job arrival time <–––––– Print interval = 4 hours ––––––> Job arrival + 4 hours

Cutoff adjustment method: In this example, jobs must be printed by 18:00 if the adjusted arrival time is before 10:00. Otherwise, the job must be printed by 18:00 on the next day. Because the adjustment method is **Cutoff**, the checkpoint start time is the start time (10:00) on the same day as the adjusted arrival time or on the next day.

Start time:	10:00
Adjustment method:	Cutoff
Interval for Receive checkpoint:	20 minutes
Interval for Prepare checkpoint:	4 hours
Interval for Print checkpoint:	8 hours

10:00 <– Receive interval = 20 minutes –> 10:20
10:00 <–––––– Prepare interval = 4 hours ––––––> 14:00
10:00 <––––––––––– Print interval = 8 hours –––––––––––> 18:00

Start adjustment method: In this example, jobs must be printed by 16:00 on the day after the adjusted arrival time. Because the adjustment method is **Start**, the checkpoint start time is the start time (23:59) on the same day as the adjusted arrival time.

Start time:	23:59
Adjustment method:	Start
Interval for Receive checkpoint:	20 minutes
Interval for Prepare checkpoint:	4 hours
Interval for Print checkpoint:	16 hours

23:59 <– Receive interval = 20 minutes –> 00:19
23:59 <–––––– Prepare interval = 4 hours ––––––> 03:59
23:59 <––––––––––––––––– Print interval = 16 hours –––––––––––––––––> 15:59

Note: In these examples, each service policy defines a final checkpoint for the Print phase and intermediate checkpoints for the Receive and Prepare phases. The intermediate checkpoints let you find jobs that are late before they miss their final checkpoint. For example, if an error (such as a transform error) occurs during the Prepare phase, RICOH ProcessDirector marks the job "late" when it misses the Prepare checkpoint. If the operator corrects the error, the job might be able to complete printing on time.

Parent topic: Service policies