

Reference Guide

Workload Automation

CRON Scheduler Challenges and Business Impact













Key Capabilities and What You Get with CRON	Why This is Important	Potential Impact to Your Business with CRON			What to Look for in an Enterprise Workload Increased Automation Solution
		Increased Manual Effort	Security/ Compliance Risk	Failed Jobs/ Missed SLAs	
Advanced Job Scheduling. CRON only offers time based job scheduling by awakening at one minute intervals to start scheduled jobs representing script or command processes.	Static and limited options in job scheduling hinders the ability to see how jobs or system activity affect other job streams or processes.	●	◐	●	<ul style="list-style-type: none"> Dynamic, event-driven scheduling of complex job streams with support for If/Then/Else constructs, built-in functions and symbolic substitution so scheduling decisions can be made in real-time. Scheduling based on the status of other jobs and system activity such as file or database updates in addition to date/time scheduling.
Workload Correlation/Relationships. With CRON you cannot correlate one job to the next or alter the flow of processing in a job-stream.	If a job fails or is not scheduled correctly, incorrect data feeds can be passed to other jobs.	●	◐	●	<ul style="list-style-type: none"> Support for scheduling of job-streams that map to business applications. Job-streams that break out complex internal scripts and processes that are error prone and run them as discrete jobs/tasks as part of a business-oriented work-flow.
Job Status and Completion Detail. CRON cannot tell if a job has finished early or late, and determining the status of jobs usually involves manual checks.	Time-sensitive processing requirements are unreliable, increasing error-prone manual tasks.	●	◐	●	<ul style="list-style-type: none"> Advanced notification of job status and the ability to take action when jobs finish early or late. Prediction of when jobs will complete and determine if they are on the critical path.
Job Error Resolution. In CRON, a problem with processing typically requires manual intervention.	Increased time and effort required for identifying and rectifying problems can impact SLAs and potentially result in penalties.	●	◐	●	<ul style="list-style-type: none"> Simulation of work-flows to identify errors prior to the workload becoming active. Alert generation of failed or overdue jobs which may negatively impact service level agreements. Automatically identify errors and initiate corrective measures, or notification.
Artificial Time Windows and Polling. Artificial time windows are often necessary in CRON and multiple job executions are often required to provide polling.	Using arbitrary time windows and polling intervals increases the batch window and must be revised as workload volumes or job times increase.	●	◐	◐	<ul style="list-style-type: none"> Flexible scheduling using absolute or relative time frames or, more dynamically, based on other system activities such as file arrival or database update. The ability to adjust job streams automatically to reflect critical jobs and the current status of the workflow.

“We reduced our operational hours by replacing CRON with Workload Automation. Scheduling is easy and reliable with Workload Automation.”

– Transportation Company

Impact Level Key:



Key Capabilities and What You Get with CRON	Why This is Important	Potential Impact to Your Business with CRON			What to Look for in an Enterprise Workload Increased Automation Solution
		Increased Manual Effort	Security/ Compliance Risk	Failed Jobs/ Missed SLAs	
Cross Organization Workload Management and Visualization. CRON delivers limited workload visibility since there is no centralized monitoring or control.	Support staff typically access several machines to monitor processing and determine the success or failure of individual jobs which can involve time delays and missed errors.				<ul style="list-style-type: none"> The ability to define, monitor and control all aspects of scheduled workload from a central graphical interface across servers, operating systems and geographical locations. Schedule workloads across disparate platforms such as Unix, Linux, Windows, i5/OS and z/OS, in addition to ERP solutions.
Failover Capabilities/Fault Tolerance. CRON does not have failover capabilities in the event of an outage of the server on which it is installed.	If outages occur, it takes longer to recover processing which impacts business continuity.				<ul style="list-style-type: none"> High availability capabilities to automatically move the scheduler from one server to another in the event of an outage. Support of clustering technology to enable jobs to be routed to different servers.
Restart and Recovery. Manual process to restart in CRON unless extensive scripting has been integrated.	Manual recovery requires investigation and is time consuming and subject to errors.				<ul style="list-style-type: none"> Automatically resubmit a process or initiate notification and backout/ recovery routines. Ability to recognize and take action based on generated exit codes.
Audit Trails/Compliance. CRON's audit trail capabilities are limited.	It is difficult to determine which users interacted with the schedule or where processes encountered an error.				<ul style="list-style-type: none"> Detailed logging to enable the tracking and determination of potential errors during processing. Audit trail capabilities to determine who performed certain actions and when.

“Workload Automation has made it easier for our application users to monitor their batch jobs by reducing reliance on system tools such as CRON. It has allowed us to manage all our workloads through a single point of control.”

– Telco Company

Impact Level Key:



Low



Medium



High

For more information, please visit broadcom.com/products/mainframe/workload-automation.