BatchWatch

The solution for a better control of batch application performance through an integrated view of Automatic Scheduler, Systems and Storage.

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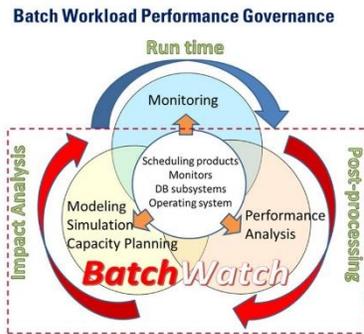
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BatchWatch

Growth and development, a natural trend towards the future.

In information systems mostly based on IBM's z/ OS platform, batch processing is still of strategic importance.

The classic batch window, typically processed during off hours, represents a criticality from the point of view of respect for production processing targets and SLAs.

For this reason, batch processing is kept under control, but too often just from a details point of view, thus trying to analyse and solve the issues that arise on individual Executions, typically jobs and scheduling networks.

This methodology, developed over the past several years in numerous projects for large customers, is based on a series of indicators and metrics which are very useful for better control of processing. It integrates with existing monitors and it is used for targeting any possible areas that can benefit from additional optimization.
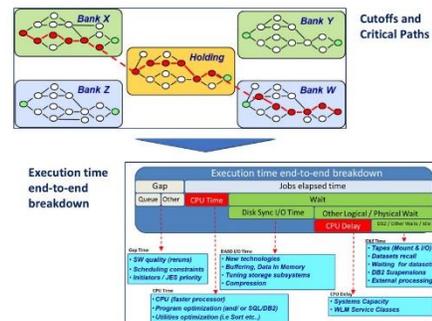
The BatchWatch solution

The fundamental objective of BatchWatch is to correctly address the monitoring in two main macro- areas:

Procedures and scheduling

A more efficient processing environment requires an analysis of the issues closest to the organization of the procedures themselves, in particular of the characteristics of specific planning along with the relationships/dependencies between processes at all levels (Applications=>Scheduling Networks=>Job=> Step).

Systems and storage

It is essential to understand the duration and behaviour of batch applications in relation to the use of available HW/SW resources. In this case, the potential for optimization actions are related to the tuning of systems, subsystems and optimum utilization of available resources.

Objectives and Functionality

System perspective: breakdown of processing durations and technology factors from the "system" point of view, the duration of each critical path (timeline) can be broken down into its primary processing segments to better understand where time is "spent".

Each time-segment limits the potential areas of technological intervention (e.g. specific tuning rather than HW upgrades), highlighting their impact and therefore the maximum possible benefit on the overall duration.

- Gap wait – scheduling and queuing
- CPU Time – application logic and processor
- Disk I/O – Available power/capacity
- Idle/Wait time other wait conditions

- I.T. management, which generally requires a high-level view

- Application development, which requires technical and functional information about the components and data

- Operations and production control, which has the need to better govern the infrastructure components and batch processes.

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Procedures and scheduling: areas of optimization

BatchWatch is able, in combination with other RES Suite components such as Docet/EV, CPF, Reengineering, etc., to carry out "proactive" activities (in some cases also operational) in the areas associated with optimization. While the analysis of "system" as previously mentioned can be considered as "horizontal", the BatchWatch process has a more vertical cut, generally confined to a defined number of objects, because it can be limited to single applications/procedures.

In this context we normally reference to "targets" to be addressed:

1. Time interval analysis (Time Dependent operations/ Special Resources/External events).

2. **Dependencies and parallel processes** ("Proactive" and/or "Operational" tasks with automated processing/Eliminate redundant links/ Easy or Full Re-engineering for increasing parallel processing for "JOBs" and/or "STEPs").

3. **Redundant utilities** (analysis and elimination - where possible - of duplicate SORT and DB2 unloads).

4. **Distribution of the workload** (Evaluation, in regards to peak use of resources, looking at the possibility of intervening in the timing of IWS applications to distribute the workload in alternate ways).

5. **Other areas of potential intervention** (Identification of "dead branches" in the production schedule/JCL parameter optimization/Rationalizing IWS Run Cycles (IWS 9.2 or higher), from applications to "centralized management"/Analysis of the quality of the application code including areas related to "performance", especially relative to (but not limited to) any SQL code).

In combination with the findings produced by BatchWatch, other features can be activated, such as Easy and/or Full Reengineering. In this case, since they involve the implementation of operational changes that in various ways can affect the business applications, they must be verified/discussed with the application programming teams

Batch simulation

The increase in volumes, new service requirements, new applications, etc. are events that can potentially lead to a modification and/or lengthening of the batch processing times and therefore to possible critical issues for compliance with the desired service levels.

In general, processing time projections are based on the combination of two macro-elements: organizational and technological.

Simulation scenarios

For the evaluation of the effects of the longer duration of any individual jobs on the total batch window, RES BatchWatch makes available simulation models of the processing cycle, including the introduction of various correction factors for the expected duration of the individual jobs.

Parallel processing and consumption

The models, in addition to the new durations for the planned simulation scenarios, will provide elements to evaluate parallel processing levels, CPU consumption and I / O load over time.

Gap Analysis and Execution time breakdown

Grouping and Hierarchies

KPIs trend evaluation
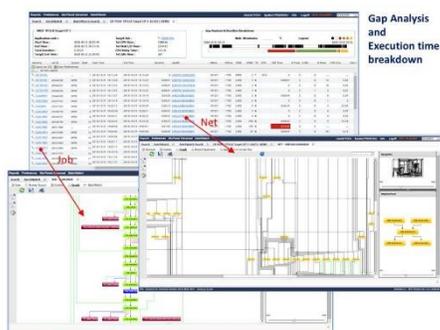
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Benefits

- Better control of batch service levels;

- Aggregated view of system characteristics and scheduling;

- Summary of the main elements affecting the durations of the executions;

- Detailed reporting with aggregation, views history and trends of the main indicators;

- Decision support for optimization and consumption reduction (procedures and systems);

- Balancing of batch loads in relation to the levels of service;

- Projection of batch durations for new W/SW organizational and technological scenarios;

- Capacity Planning support for HW resources (CPU/Storage).