




# Document Conversion Engine

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| <p>Problem</p>     | <p>Our client's core system was an AS400 and had a requirement to convert a high volume of documents - PDF to TIF, PCL to PDF, TIF splitting and combining, and TIF to PDF. The AS400 was generating the bulk of the documents but the system was not ideal for the conversion process. A fleet of Windows PCs were set up, each one running a different type of conversion process, however, they were unreliable and often needed user intervention to resolve errors. The conversions were driven by AS400 data queues from which new jobs were taken and results returned to.</p>  |
| <p>Approach</p>   | <ul style="list-style-type: none"><li>• Continue using the AS400 as the core system to generate documents.</li><li>• Analyze document conversions tools and APIs to determine the best fit for each conversion type.</li><li>• Analyze problem patterns with the old setup (performance bottlenecks, unresponsive servers, conversion errors etc.) and develop strategies to prevent them.</li></ul>   |
| <p>Solution</p>  | <ul style="list-style-type: none"><li>• Quad Nova built a sophisticated Java-based management engine to run on a powerful Microsoft Windows Server as a service.</li><li>• A SOAP interface allows applications to request conversions and check their status.</li><li>• The management engine executes conversions using a set of tools and parses their output to determine common error types like secured or faulty documents.</li><li>• Separate queues were created for each type of conversion with different priorities assigned based on customer requirements. This enables on-the-fly balancing of the jobs processing the queues and jobs are ramped up in high volume situations to handle the additional demand while lower priority queues are processed with fewer jobs.</li></ul> |

Results



- Consolidation of multiple servers into one decreased maintenance effort and resulted in cost savings.
- Moving the management overhead of conversions away from the AS400 into the new management engine and exposing its functionality as a web service enables easy integration with other applications using a modern standardized interface.
- Analysis of conversion tools and the document types they are able to handle properly reduced error rates and led to more successful documents conversions.
- The system is more efficient as it's able to manage and distribute the load based on demand.