Gentran Integration Suite™

Asynchronous and Synchronous Business Processing

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Asynchronous and Synchronous Business Processing

The application supports asynchronous and synchronous processing. It is important to understand the difference between Asynchronous and Synchronous modes:

- Synchronous mode - All of the steps in the business process run on the same thread as the caller thread (or the thread where the bootstrapping of the business process has taken effect). This thread will only be released when the business process completes. If there are multiple business processes that need to be bootstrapped by a service or adapter, the processes are executed one at a time until they all have completed. Consequently, if you choose to run in synchronous mode, no load balancing takes place and there is a potential to have performance issues.
- Asynchronous mode (default mode) - Once the business process starts, it looks for an available thread in the system. If an available thread is not available, the business process gets placed in a queue and waits until one is available. This thread is not the same as the caller thread. Asynchronous mode takes advantage of the application's load balancing and scalability features.

Predominantly, business processes need to be configured in asynchronous mode to utilize the system's capabilities. The following are some cases where business processes can be processed in sync mode:

- If the business process needs to be processed immediately before the calling adapter finishes its processing executing as part of the caller thread.
- Business process level transactions need to be part of the parent transaction.