Data Transformation Manger processing threads – Informatica tutorial

Data Transformation Manger processing threads

Data Transformation Manager (DTM) allocates process memory for the session and divides it into buffers. This is also known as buffer memory. The DTM uses multiple threads to process data in a session. The main DTM thread is called the master thread. Different *Data transformation Manger processing threads* created for a session are

Different Data transformation Manger processing threads

Mapping threads : The master thread creates one mapping thread for each session. The mapping thread fetches session and mapping information, compiles the mapping, and cleans up after session execution.

Pre and post-session threads : The master thread creates one pre-session and one post-session thread to perform pre and post-session operations.

Reader threads : The master thread creates reader threads to extract source data. The number of reader threads depends on the partitioning information for each pipeline. The number of reader threads equals the number of partitions. Relational sources use relational reader threads, and file sources use file reader threads.

The PowerCenter Integration Service creates an SQL statement for each reader thread to extract data from a relational source. For file sources, the PowerCenter Integration Service can create multiple threads to read a single source.

Transformation threads : The master thread creates one or more transformation threads for each partition. Transformation threads process data according to the transformation logic in the mapping.

The master thread creates transformation threads to transform data received in buffers by the reader thread, move the data from transformation to transformation, and create memory caches when necessary. The number of transformation threads depends on the partitioning information for each pipeline.

Transformation threads store transformed data in a buffer drawn from the memory pool for subsequent access by the writer thread. If the pipeline contains a Rank, Joiner, Aggregator, Sorter, or a cached Lookup transformation, the transformation thread uses cache memory until it reaches the configured cache size limits. If the transformation thread requires more space, it pages to local cache files to hold additional data.

When the PowerCenter Integration Service runs in ASCII mode, the transformation threads pass character data in single bytes. When the PowerCenter Integration Service runs in Unicode mode, the transformation threads use double bytes to move character data.

Writer threads : The master thread creates writer threads to load target data. The number of writer threads depends on the partitioning information for each pipeline. If the pipeline contains one partition, the master thread creates one writer thread.

If it contains multiple partitions, the master thread creates multiple writer threads. Each writer thread creates connections to the target databases to load data. If the target is a file, each writer thread creates a separate file. You can configure the session to merge these files.

If the target is relational, the writer thread takes data from buffers and commits it to session targets. When loading targets, the writer commits data based on the commit interval in the session properties. You can configure a session to commit data based on the number of source rows read, the number of rows written to the target, or the number of rows that pass through a transformation that generates transactions, such as a Transaction Control transformation.

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