Guaranteed Publisher 🡪 Processor 🡪 Subscriber

## Persistent Publish ACKs and NACKs

Publish Receipt in new APIs, or session event or

New APIs and JMS allow for blocking publish

## User Properties

Another part of the Solace message that you can configure is the *User Properties*. This is an optional part of the message that an application can specify, and it is represented by a map of key/value pairs.

Values can be specified

Note that earlier “classic” Solace APIs such as JCSMP, CCSMP, etc. allow for nesting in the User Properties (i.e. a map of maps), but this practice is discouraged due to interoperability and incompatibility with other protocols such as MQTT, AMQP, and REST.

### A Quick Note on Selectors

User Properties are exceptionally useful to provide an additional level of filtering in the Solace broker through the use of ***Selectors***. Selectors in Solace operate only on Guaranteed messages, as they are applied through a connection to a Queue Endpoint or Topic Endpoint. Selectors are specified by consuming applications, and have a syntax similar to SQL. Note that filtering performed using Selectors is much more computationally intensive in the broker vs. topic filtering, therefore for performance reasons Solace usually recommends and prefers the use of a detailed topic hierarchy and wildcards for filtering if possible.