| Concern (Identifier: Description) | Con#3: Which message broker/streaming platform should the system use? | | |
|---|---|---|---|
| **Ranking criteria (Identifier: Name)** | Cr#1: real time<br>Cr#2: storage (persistence)<br>Cr#3: history<br>Cr#4: team knowledge about the technology and documentation of it.<br>Cr#5: support for AMQP protocol | | |
| **Options** | *Identifier: Name* | Con#3-Opt#1: Apache Kafka | |
| | *Description* | Implementation of Apache Kafka as streaming platform | |
| | *Status* | Decided | |
| | *Relationship(s)* | - | |
| | *Evaluation* | Cr#1: it guarantees a message throughput up to 800k/sec<br>Cr#2: it is a durable message store, meaning that it is able to store the message in an undefined period of time<br>Cr#3: this point strictly follows from the one above: it is able to provide an history about the messages passed over the system<br>Cr#4: the team has studied the technology during the univerisity course and the kafka is very well documented<br>Cr#5: Kafka doesn't support AMQP protocol | |
| | *Rationale of decision* | This option permits us to reach the highest message speed on the network; it permits us to query any time of the history of the messages; it guarantees redundancy of data, thanks to its storing | |
| | *Identifier: Name* | Con#3-Opt#2: RabbitMQ | |
| | *Description* | Implementation of RabbitMQ as message broker | |
| | *Status* | Rejected | |
| | *Relationship(s)* | - | |
| | *Evaluation* | Cr#1: it guarantees a message throughput up to 100k/sec<br>Cr#2: it does not provide message storing, since every message is erased after the first consume request.<br>Cr#3: this point strictly follows from the one above: since the messages can be accessed once, history can not be obtained<br>Cr#4: the team hasn't studied/used the technology and the tool is quite documented online.<br>Cr#5: RabbitMQ supports the AMQP protocol. | |
| | *Rationale of decision* | This option does not achieve our goals | |
| | *Identifier: Name* | Con#3-Opt#3: Solace | |
| | *Description* | Implementation of Solace as message broker | |
| | *Status* | Rejected | |
| | *Relationship(s)* | - | |
| | *Evaluation* | Cr#1: it guarantees a message throughput up to 750k/sec<br>Cr#2: it provides message storing, meaning that it is able to store the message in a persistent manner<br>Cr#3: this point strictly follows from the one above: it is able to provide an history about the messages passed over the system<br>Cr#4: The team hasn't used this technology and it is not well documented online.<br>Cr#5: Solace supports AMQP protocol | |
| | *Rationale of decision* | This option is rejected beacuse the team isn't familiar with this tool and it is not well documented. Also it doesn't have something like "Kafka Connect" that allows our system to stream contents of external databases. | |