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| FIF, SIFMA, STA Cost Estimate Survey of CAT Reporting of Options Market Maker Quotes |
| Overview of Cost Estimate Survey Process |

**In order to assist the SROs and SEC in understanding the need for relief from broker dealer reporting of options market maker (MM) quotes**, FIF, SIFMA and STA (“the industry groups”) are joining together to conduct a cost estimate of option market maker Consolidated Audit Trail (CAT) reporting of quotes. A framework of cost components and assumptions to use for this cost estimate process has been defined and is included as part of this cost estimate survey. The industry groups are soliciting participation in the cost analysis process and will consolidate the results into an overall industry estimate of implementing this function. The industry estimate of cost to comply with Rule 613 for this function will be combined with a discussion of the options MM quote environment and the value and issues associated with options quote data provided by the broker-dealer community in order to provide a full understanding of this issue and the need for relief to the regulators. Please note this relief is being sought only with respect to the reporting of options market maker quotes NOT orders.

**Two cost estimates are being requested**:

1. **The cost of broker-dealer CAT reporting of options MM quotes.**
2. **The cost of adding a “sent” timestamp to the broker-dealer block quote message sent to the exchange(s).**

Providing both cost estimates to the SROs should demonstrate the significant difference in costs with virtually equivalent reporting value of providing either solution.

The assumptions have been vetted with the industry association members, SROs and options market makers. **We are now asking that market participants please respond to this survey**. The data provided by the respondents via the survey will be extrapolated to provide an industry view of costs by the industry groups. **Survey responses will be kept confidential and all results will be aggregated and presented without attribution to an individual firm**.

Please note that the CAT reporting requirements for options MM quotes are not known at this time. To aid the firms with the cost estimation process, **the main components of cost** for each of the two cost estimates are provided. In addition, **a set of assumptions are included**.

**Please complete the attached survey by Friday, July 19. Direct survey responses and any questions to both** [**fifinfo@fif.com**](mailto:fifinfo@fif.com) **and** [**egreene@sifma.org**](mailto:egreene@sifma.org).

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| FIF, SIFMA, STA Cost Estimate Survey of CAT Reporting of Options Market Maker Quotes |
| Cost Estimate Survey – Respondent Information |

FIF, SIFMA and STA (“industry associations”) are jointly sponsoring a survey on an estimate of the industry costs for **options market makers** to report options quotes to the Consolidated Audit Trail (CAT). The purpose of the cost estimate is to quantify the extent of the cost burden to the industry. The industry associations will anonymously compile the data received from this survey to present a cost-benefit analysis by September to the SROs in support of a request for relief from broker dealer reporting of options MM quotes to CAT (“CAT reporting of options MM quotes”).

**Please complete the survey by Friday, July 19 and return to both** [**fifinfo@fif.com**](mailto:fifinfo@fif.com) **and**  [**egreene@sifma.org**](mailto:egreene@sifma.org).

**Contact Information:**

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**Name:**

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**Company:**

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**Email address:**

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**Phone number:**

**Please characterize your firm’s options business:**

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**Specify the number of** **options** **exchanges on which your firm makes markets**

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**Specify the number of issues for which your firm is an options market maker.**

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**Specify the total number of issues over all exchanges for which your firm is a market maker.**

**For example, if your firm is a market maker in 12 issues on BATS and 10 issues on CBOE, the total number of issues would be 22.**

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**Average daily quote volume.**

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| FIF, SIFMA, STA Cost Estimate Survey of CAT Reporting of Options Market Maker Quotes |
| Cost Estimate #1 –CAT Reporting of Options MM Quotes – Hardware Cost Estimate |

**Please provide your response below.**

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| --- | --- | --- | --- |
|  | **One-time costs ($)** | **On-going costs ($/year)** | **Comments** |
| **Processors** |  |  |  |
| **Storage Devices** |  |  |  |
| **Telecom** |  |  |  |
| **Co-location services** |  |  |  |
| **Infrastructure Staff** |  |  |  |
| **Other** |  |  |  |
| **Note: If you prefer to provide total cost, please provide response below.** | | | |
| **TOTAL** |  |  |  |

**Additional Comments:**

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**Hardware (Equipment) Cost Considerations:** Consider the new CAT reporting will be subject to compliance and enforcement regulations. CAT reporting of all quote messages sent to exchanges **will be required by 8AM of the following business day** of quote issuance. Elements to consider are new or upgraded equipment needed for any additional processing, storage and telecommunications costs associated with reporting all options market maker quotes (in block format) to the CAT. Costs should cover equipment needed for **primary, backup, disaster recovery, development, test, QA and on-going maintenance charges**. Estimates should **assume a 25% annual growth** rate of the options quote volumes. For purposes of this cost estimate, an **average CAT report message size of 50 bytes** (based on current message size) should be assumed. Consider **your firm’s average and peak quote message volume** when considering storage costs. **Personnel costs for planning and installation** should be considered. If estimating in people-days, assume $1200/day for personnel costs.

1. **Processors -** Estimate of additional processing capacity required in systems listed above to absorb the message processing for reporting, reconciliations, reference data management, monitoring, alerting, error correction, archiving. Rule 613 requires time stamps at least to the millisecond level.
2. **Storage Devices –** Rule 613 imposes a 5 year retention requirement on the CAT Processor for the CAT reporting data. Currently FINRA Rule 7440 requires that OATS records be preserved at least 3 years, the first two years in an accessible place. For purposes of this cost estimate, **assume that firms match the 5 year record retention policy in order to** address market surveillance or reconstruction issues/questions that may be raised by the SEC/SROs. Message compression for storage purposes can be assumed. Cos
3. **Telecommunications -** Reports of optionsMM quotes are due to CAT by **8AM of following business day** ofquote issuance**.** Estimate the communications costs required to link and send to CAT the reporting of options quotes, **including lines, switches and other equipment**. Include costs for **primary, backup and disaster recovery links.**
4. **Co-location Services –** Consider any costs related to new hardware (identified above) requiring co-location.
5. **Infrastructure Staff -** Consider the costs for infrastructure support to plan, purchase, install, configure and test any additional equipment required by your firm for handling CAT reporting of options MM quotes.
6. **Other –** Identify any other hardware cost elements required for your firm to implement CAT reporting of options MM quotes.

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| FIF, SIFMA, STA Cost Estimate Survey of CAT Reporting of Options Market Maker Quotes |
| Cost Estimate #1 –CAT Reporting of Options MM Quotes – Software Cost Estimate |

**Please provide your response below.**

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| --- | --- | --- | --- |
|  | **One-time costs ($)** | **On-going costs ($/year)** | **Comments** |
| **Systems/App. Software** |  |  |  |
| **Development Staff** |  |  |  |
| **Other** |  |  |  |
| **Note: If you prefer to provide total cost, please provide response below.** | | | |
| **TOTAL** |  |  |  |

**Additional Comments:**

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**Software Cost Considerations:** Elements to consider are systems and applications installation **costs to configure any new processors** added to handle the increased capacity needed for CAT Reporting (see Question #1). Also to be considered are the costs incurred for **vendor enhancements or development/test of in-house software for CAT reporting of options MM quotes**. **Technical Assumptions are outlined below**. Software applications that should be considered include the market maker quotes data collection process and the market maker reporting process. Costs should include **business analysis, development of changes, validation (test, QA) of the changes**. System/vendor/application **maintenance charges** should be considered.

1. **Systems/Application Software –** Estimate the costs to configure the new processors noted in Question 4, including operating systems, systems and application software.
2. **Development Staff** – Changes are required to **application software to capture the MM options quotes and report to CAT**. If estimating in developer days, assume $1200/day for personnel costs.

**Technical assumptions** **to implement CAT reporting are**:

* **Mapping the exchange quote message to the CAT report message format** (format not defined at this time, but assume different from exchange message format), sending the report to CAT, and archiving the CAT Reports (in compressed format) for 5 years
* CAT reports are required for all events sent by B/D to exchange (e.g., original block quote, withdrawal of quote).
* **Each CAT report would include:** the quote data included in the block quote, the CAT Reporter ID, date of quote submission and timestamp of quote submission.
* CAT reporting life cycle linkages between orders, SIP/OPRA quotes and trades will not be required. For purposes of this cost estimate, **linkages between the original quote CAT report and subsequent CAT reports of quote withdrawals are considered out of scope.**
* For purposes of this cost estimate, assume the current options symbology protocol used by B/D in communicating with each exchange is to be used also for CAT reporting.
* Timestamp recording is assumed to be milliseconds (or lower if current application has more granular support).
* Compression of options MM quote sent to the CAT (either via message protocol or batch file transmission) is **NOT** assumed for this cost estimate (CAT protocols not known at this time).
* The CAT report should be sent to the CAT Processor by 8AM of the following business day of quote issuance.

1. **Other -** Identify any other software related cost elements required for your firm to implement CAT reporting of options MM quotes**.**

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| FIF, SIFMA, STA Cost Estimate Survey of CAT Reporting of Options Market Maker Quotes |
| Cost Estimate #1 –CAT Reporting of Options MM Quotes – Maintenance Cost Estimate |

**Please provide your response below.**

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|  | **One-time costs ($)** | **On-going costs ($/year)** | **Comments** |
| **Operations Staff** |  |  |  |
| **Compliance Staff** |  |  |  |
| **Other** |  |  |  |
| **Note: If you prefer to provide total cost, please provide response below.** | | | |
| **TOTAL** |  |  |  |

**Additional Comments:**

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**Maintenance Cost Considerations:** Elements to consider are the **additional staffing costs that may be required to manage the CAT reporting of options MM quotes**. This includes training, daily operations monitoring of message/communication traffic, daily compliance monitoring and error correction of CAT reports. Costs should also include **reconciliations** – to both verify correct CAT reporting, investigate issues raised by CAT on reporting, and normal correction of identified reporting errors to CAT). The timeframe for identification, communication and correction of errors from the time an event is received by the CAT processor is as follows (as defined in the CAT RFP):

1. 12:00 P.M. Eastern Time T+1 (transaction date + one day) – Initial data validation, lifecycle linkages and communication of errors to CAT Reporters
2. 8:00 A.M. Eastern Time T+3 (transaction date + three days) – Resubmission of corrected data
3. 8:00 A.M. Eastern Time T+5 (transaction date + five days) – Corrected data available to SRO regulatory staff and the SEC
4. **Operations Staff -** Identify the costs associated with any increased operations staffing requirements (e.g., managing reconciliation processes) needed to manage the CAT reporting of options MM quotes. If estimating in personnel days, assume $1200/day for personnel costs.
5. **Compliance Staff** – Identify the costs associated with any increased compliance staffing requirements (e.g., responding to inquiries) needed to manage the CAT reporting of options MM quotes. If estimating in personnel days, assume $1200/day for personnel costs.

1. **Other -** Identify any other staffing related cost elements required for your firm to implement CAT reporting of Options MM Quotes.

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| FIF, SIFMA, STA Cost Estimate Survey of CAT Reporting of Options Market Maker Quotes |
| Cost Estimate #2 – Add Timestamp to Option MM Quote Message Sent To Exchange |

While the value of providing the quote sent time on block quote messages is still a subject for discussion, **quote sent time does represent a data element that is not available if only exchanges report options MM quotes**. Therefore, the SROs are also **interested in understanding the cost to the broker-dealer community of adding the quote sent timestamp to the exchange message protocol from the broker-dealer to the exchange**. In parallel, the SROs are sizing the effort of adding the quote sent timestamp to the exchange message protocol and adding this data element to the exchange CAT reporting of options MM quotes.

**Please provide your response below.**

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| --- | --- | --- | --- |
|  | **One-time Costs ($)** | **On-going costs ($/year)** | **Comments** |
| **Software** |  |  |  |
| **Hardware** |  |  |  |
| **Maintenance Staff** |  |  |  |
| **Other** |  |  |  |
| **Note: If you prefer to provide total cost, please provide response below.** | | | |
| **TOTAL** |  |  |  |

**Additional Comments:** Following are the major components for consideration in this cost estimate.

1. **Software** – Consider the costs for vendor and/or in-house software that would need to be modified to for adding timestamp to block quote messages. Software applications that should be considered are the market maker quotes data collection process and the market maker reporting process. The message format should match current exchange message format, with the addition of a timestamp reflecting time that the message was sent to exchange. The timestamp should be in milliseconds (or lower granularity if current application captures more granular time units). The costs should include **business analysis, development of changes and validation (test, QA)** of the changes. Also consider any maintenance costs on the software changes for handling on-going improvements or regulatory changes.
2. **Hardware** – Consider if any additional hardware (equipment) is needed due to the addition of timestamp to the current options block quote message sent to the exchanges today. Is additional storage needed for archiving of a now larger message? Your firm’s current archive practice for quote messages does not need to change. Is additional processing capacity needed for timestamp capture and clock synchronization? Is any increased telecommunications capacity needed due to a larger message size (adding timestamp)?
3. **Maintenance Staff** – Consider the on-going monitoring and error correction to support quote sending time, if required. For the purposes of this cost estimate, assume that if CAT identifies timestamp discrepancies (e.g., broker-dealer sent time is equal or later than exchange receipt time), it will **not** represent a CAT reporting error.
4. **Other** - Identify any other related cost elements required for your firm to add timestamp to existing options quote message sent to an exchange.