

# 2008 NASCIO AWARD NOMINATION

*Government: Government to Business*

## Oklahoma State Treasurer's Electronic Trading System



### A. Cover Page

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**Title of Nomination:** Oklahoma State Treasurer's Electronic Trading System

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**Category:** Digital Government: Government to Business (G to B)

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## **B. Executive Summary**

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Over \$1.9 billion dollars and 165 live trades have been processed since the launch of the Oklahoma State Treasurer's Electronic Trading System in March of 2006. The system is a Web-based application where the Oklahoma State Treasurer (OST) conducts real-time electronic trading on state investments.

Prior to the innovative government-to-business online service, OST conducted trades by phone with a maximum participation of three brokers. This traditional trade process could take over half an hour to conduct one trade session. Now, depending on the investment being traded, sessions only last about 5 - 20 minutes. With the Electronic Trading System, OST can receive quotes from all authorized financial institutions at one time, thus increasing the competition and providing the state with the opportunity to earn the highest returns on its investments.

At this time, the application enables OST to buy and sell Treasury Notes and Treasury Bills, and Agency Securities Investments. These investment earnings are used to fund the general operations of state government, and provide an additional source of revenue for schools, correctional facilities and transportation improvements. Numerous safeguards are in place to ensure that the online system functions with complete accountability and that taxpayers are assured the best deal at the most reasonable price.

### **STATE TREASURER TESTIMONIAL**

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*“Our online trading system is bringing new efficiencies and increased earnings to our investment process. The new system allows all of our authorized financial institutions to participate in investment bids - helping to ensure the state will receive the best possible price and maximize our earnings.”*

*- Scott Meacham  
Oklahoma State Treasurer*

## C. Description

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The Treasurer's Electronic Trading System is a one-of-a-kind innovative service operating at the state level, which was designed to address the traditional paper-intensive/phone operated process of conducting trades for the state of Oklahoma. OST is the first state agency in the United States to implement a real-time online trading system for state investments with no fees to the participants. The system is located at [ok.gov/ostbid](http://ok.gov/ostbid).

Features of the Treasurer's Electronic Trading System include:

- System security features such as SSL encryption and password protection
- Report generating capabilities for auditing purposes
- Ongoing display of the current time synchronized with Bloomberg® time
- Screen display refreshes constantly providing up-to-the-second status of trading session
- Notifications of bids won and lost

The innovative technology features implemented into this system allow for (see Significance to the Improvement of Government):

- Increased competition for state investments
- A non-editable auditing trail
- Reduced paperwork

With its simple design, the Oklahoma standardized agency template was implemented into this application, providing for a consistent header, footer and left navigation.

End-to-end, the OST Electronic Trading System operates with easy-to-use functionality resulting in an application that is highly complex on the back-end, but is simple on the front-end with user-friendly menus, graphics and transactions.

Treasury Notes and Bills: (Phase One – deployed in March, 2006)

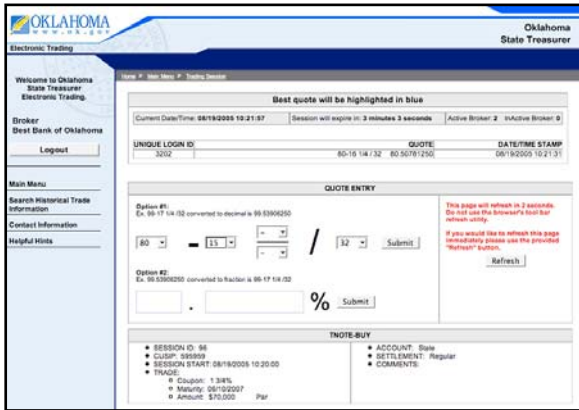
The objective of this phase was to enable OST to request and receive four types of online quotes for desired investments from approved Oklahoma brokers. Phase one enables a trade session to be initiated with the following types of Treasuries:

- Treasury Note Buy – the lowest price wins
- Treasury Note Sell – the highest price wins
- Treasury Bill Buy – highest discount rate wins
- Treasury Bill Sell – lowest discount rate wins

The OST Electronic Trading Process utilizes a consistent flow for user-friendly transactions amongst all users, utilizing the same template. Listed below are the specific operations of the Treasury Notes and Bills trades in chronological order.

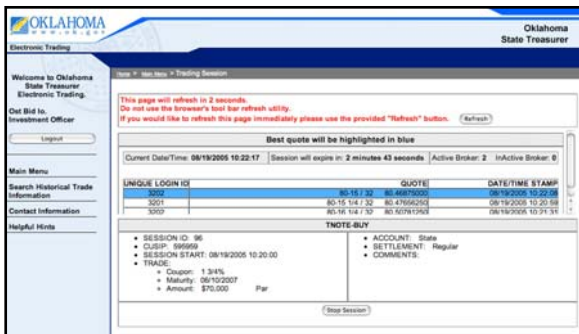
1. OST Investment Officer creates a trade session by completing a setup form.
2. After the Investment Officer creates a session, an email notification is sent out to all brokers.
3. Participating brokers then log in to the upcoming session.
4. Investment Officer activates the trade session.
5. Once the session begins, the brokers submit quotes. (see Image A)

6. Quotes are displayed at the top of the broker's screen in chronological order. If they have a current best quote, it is highlighted in blue.
7. The Investment Officer's screen displays the incoming quotes from the brokers. The best quote is highlighted in blue. (see Image B)
8. For compliance purposes, the Investment Officer screen only displays a Unique Login ID for each broker, ensuring anonymity.
9. The built in automatic refresh function updates the quotes every two seconds. Once a session has expired, OST may accept the best quote, or decline all quotes by the click of a button.
10. If the Investment Officer accepts the best quote, that broker will receive an acceptance notification and has 60 seconds to confirm or deny their quote.
11. Upon acceptance, the broker with the best quote receives a congratulations notification screen. All other participating brokers receive a notification informing them they did not have a winning quote and what the winning quote was.
12. The ability of the application to generate reports is available to all users, allowing them to search previous trading sessions and review details of the session.



**Image A:**

Broker's screen during a trade session. Recent quotes from the broker are displayed at the top. If the broker has the winning quote, it is highlighted in blue. Broker submits quote as a fraction or as a decimal. System utilizes formula conducive to Bloomberg results converting fraction quotes to decimals.



**Image B:**

The Investment Officer's screen during a trade session displaying a listing of all quotes. The best quote is highlighted in blue. The built-in auto refresh utility refreshes the screen every two seconds, displaying the most recent quotes. The Investment Officer may terminate the session by selecting the "Stop Session" button.

Agency Securities Investments: (Phase Two – deployed in September, 2007)

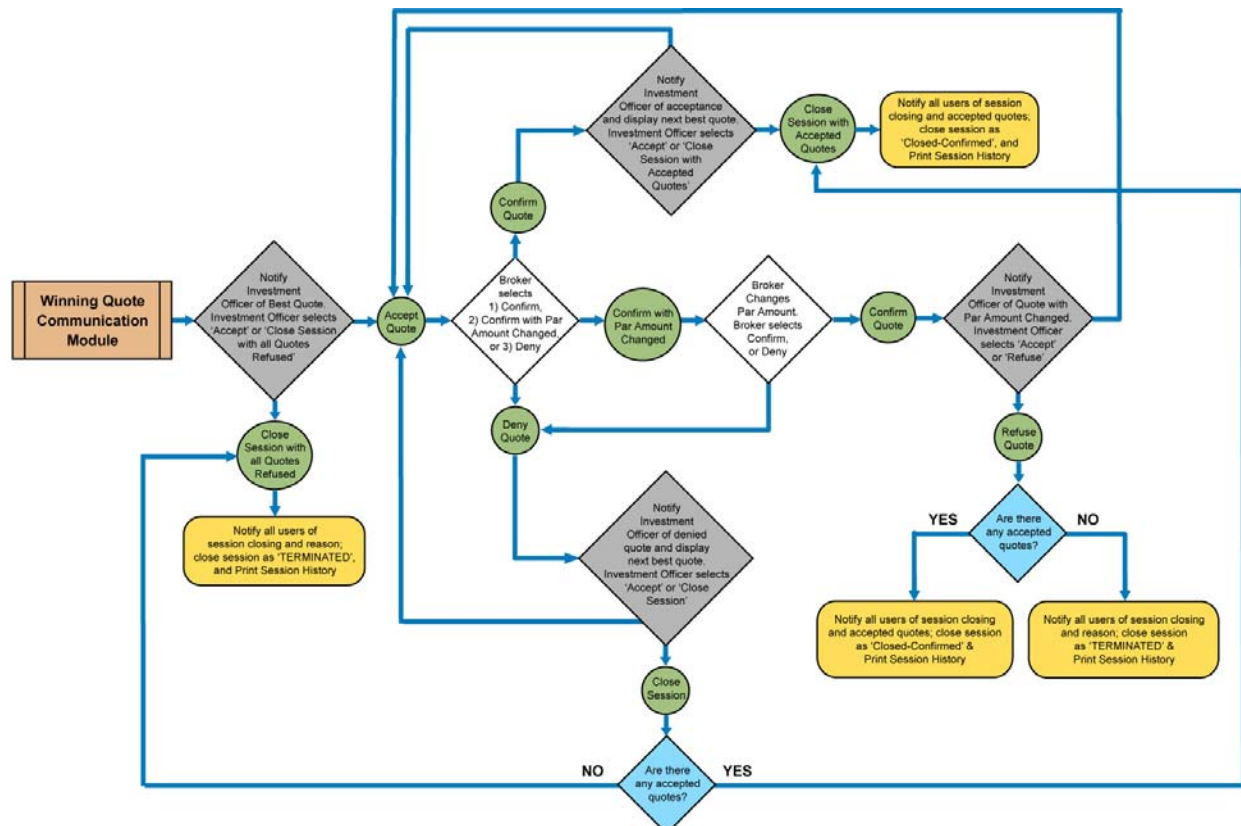
The objective of this phase was to enable OST to request and receive five additional types of online quotes for desired investments from approved Oklahoma brokers. Phase two enables a trade session to be initiated with the following types of Agency Securities:

- Agency Discount Note Buy – highest bond equivalent yield wins
- Agency Discount Note Sell – lowest discount, highest dollar price wins
- Agency Bullet Buy – highest yield to maturity wins
- Agency Bullet Sell – highest dollar price wins
- Agency Less Than One Year Buy (Agency Discount Note / Agency Bullet) – highest bond equivalent yield or yield to maturity wins

The differences in the Agency Security trade process vs. the Treasury trade process include the following:

- OST may accept multiple offers for a single trade. If OST is looking to purchase \$10,000,000 in securities, then they have the ability to accept multiple securities in smaller increments to accumulate the initial goal.
- Brokers may edit and delete the securities they have entered into the trade. This functionality enables the brokers to react to fluctuating market conditions.
- At the end of a trade session, the security acceptance process enables both brokers and OST to change the par amount to be accepted on a security, creating a volleyball type effect where the security goes back and forth between the broker and the state until a final amount is agreed upon. (See Image C)

**Image C: Agency Securities Winning Quote Communication Flow Chart**



## **D. Significance to the Improvement of Government**

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The innovative technology features implemented into this system allow for:

- Increased competition for state investments
- A non-editable auditing trail
- Reduced paperwork

### Increased Competition

This integrated system also enables brokers to know immediately if they have not submitted the best quote. During the trade session, a broker's recent quotes are displayed at the top of their screen in chronological order. If they have the current best quote, the quote listing is highlighted. With a built-in automatic refresh function for both brokers and the Investment Officer, quotes are updated every two seconds with new entries and the winning order; thus, creating increased competition.

### Auditing Trail

OST auditors have instant access to a non-editable report system. In order to preserve the integrity of each individual trade, all trade session details are stored in a separate table. Such details include: trade session details, quotes, quote time/date stamp, institution names, and participant login and logout times.

Trade session reports can be viewed as a trade ticket, in chronological order, or by institution. Each of these reports enables OST auditors to review past trade sessions, confirm quotes and confirm quote confirmations by institutions and the Investment Officer.

### Reduced Paperwork

In order to properly document a trade, OST traditionally produced "mounds" of paperwork, which needed to be stored at the agency, during and after a trade. This system removes the paperwork, allowing for a more efficient process of conducting trades for OST.

## **E. Benefits of the Project**

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The Electronic Trading System provides two major benefits to the OST broker community: 1) reduced trade time and 2) reduced paperwork. These two benefits provide brokers with more time to work with other investors.

*"OSTbid helps to level the playing field from primary to regional dealers by allowing the broker community the flexibility to go directly to the trading desk. With built-in safeguards like the broker's 60-second quote confirmation, the application is also flexible to market movement. It certainly instills the e-bay mentality. It also takes away the paperwork,"*

- Mike Minahan, Vice-President, JP Morgan Securities Inc

OST is able to conduct trades with an unlimited number of brokers per session; thus increasing the competition and the state's returns on investments. Because OST gains higher earnings on investments, Oklahoma taxpayers directly benefit by receiving additional dollars to allocate to state projects.

Due to the built-in trade report system, additional time and money are gained by OST. The one stop solution reduces paperwork associated with conducting a trade and the time spent on the

paperwork by OST staff members. OST is also able to provide auditors and brokers with reports detailing each transaction from all trades.

### Return on Investment

OST estimates an average savings of \$300,000 per year from the time saved by their four staff members plus the competitive pricing received by conducting trades through the Electronic Trading System. OST has invested less than \$15,000 into the development of the trading system and has almost doubled their projected usage rate. The projected usage rate was 1 to 2 trades per week; however, OST has conducted an average of 3.7 trades per week.

OST estimated an earnings increase of one basis point per investment conducted utilizing the Electronic Trading System. With over \$1.9 billion traded since launch, the increase in earnings equated to over \$1.9 million.

An additional phase is in progress which will allow OST to buy and sell Mortgage -Backed Securities, which will increase the return on investment and earnings for the state of Oklahoma.

### Adoption of the Service

User's guides are utilized as a tool for promoting and educating the public about the electronic trading process. Per request, OST will provide a user's guide to interested parties. The user's guide depicts the entire trade process and allows OST to give a visual presentation without having to conduct a mock trade session with the online service.

The application users consist of brokers from authorized financial institutions. Most of the brokers were participants of OST's traditional form of trading (via phone). In order to initiate the process of transferring the brokers from traditional trading to the new electronic trading process, training classes were held in Oklahoma City and Tulsa, Oklahoma. The training classes were open to brokers and other interested parties from authorized financial institutions. Brokers from Oklahoma, Missouri, Texas and Kansas attended the training classes. As a result of the training classes, OST increased the number of participating brokers by 32%. Registered brokers represent institutions such as AG Edwards, Bank of America, Bank of Oklahoma, JP Morgan Securities, Merrill Lynch, and Morgan Stanley.

The classes provided an opportunity for OST to train the brokers, promote the application, recruit new brokers, receive valuable feedback and most of all provide an online service for multi-state use which benefits Oklahoma in day-to-day government-to-business interactions.