

## "Incredibly Shrinking Liquidity" as Goldman Flushed Quant Trading

by [vets74](#)

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"If ya ain't cheatin', ya ain't tryin'."

Apparently, Goldman Sachs has NOT been booted out from doing computerized quant trades at NYSE. Bad NYSE reporting.

-- GS had been making \$100,000,000 a day with computerized trades.  
 -- This diary outlines one spectacular and illegal way to succeed at that business.

Indeed, GS was "cornering the market" as cited from Zero Hedge by [bobswern at dkos](#).

New York City's finance sector dropped 25,600 jobs in April. May be that GS charlie-hoteled every last one of them.

Then, Sergey Aleynikov got himself arrested. NYTimes says its about "secret sauce" Goldman Sachs quant math. We'll consider Mr. Aleynikov's STORM patent with distributed processing agents. Recalls Triple Hop's text indexing tools. Nothing to do with quant math.

The big ticket, the magic wand for a rogue quant shop is technology to grab off FIX PROTOCOL, OCX, or SWIFT messages that **precede** every transaction\_commit at the Exchanges.

Grabbing information is way hotter for conquering Wall Street than owning a crystal ball. MoreBTF :::

[vets74's diary](#) :: ::

### AN APOLOGY TO LAY READERS:

**This diary is written to be useful for the security teams at the Exchanges and sell-side brokerages.**

**Translating this material to jargon-free English is far beyond my abilities. Zero Hedge and the referenced diaries give the basics.**

**Again, you have my apology in advance.**

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 Want to read the future ?

From DKOSer Ezekial:

...GS, through access to the system as a result of their special gov't perks, was/is able to read the data on trades before it's committed, and place their own buys or sells accordingly in that brief moment, thus allowing them to essentially steal buttlloads of money every day from the rest of the punters world.

Two things come out of this:

1. If true, this should be highly illegal, and would, in any sane country result in something like what happened to Arthur Andersen...

(2. ... is way off point....)

### SUMMARY:

Goldman Sachs may just possibly have used security access codes and built a system to acquire trading information PRIOR to transaction\_commit time points at NYSE.

The profitability of this split-second information advantage would have been and could have been extraordinary. Observed yielding profits at \$100,000,000 a day.

[summary to address complaints with respect to complexity.]

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GS has special access inside the system from its status assisting the Working Group on Financial Markets (colloquially the Plunge Protection Team) created by Presidential Order two decades ago. GC also acts as Special Liquidity Provider for NYSE.

With 60% dominance of NYSE program trading, what's good for Goldman defines what shows as overall market performance.

Control of to network and server access codes is unclear. A number of shops run their network and job control operations with UNIX shell scripts. Bloomberg and Merrill are typical. Problem with shell scripts is that they get run with superuser credentials -- soon as you have 1000 scripts, everybody gets access to the passwords.

It doesn't have to be the "root" user. Any networking user with access to TCP can grab values from memory.

Here is the most complex system that Mr. Aleynikov worked on.

### Strategic Telecom Optimized Routing Machine

Inventors: **Sergey Aleynikov**  
Agents: OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
Assignees: **IDT Corporation**  
Origin: ALEXANDRIA, VA US  
IPC8 Class: AH04M700FI  
USPC Class: 37922101

The patent application is a public document:

#### BACKGROUND OF THE INVENTION

##### Field of the Invention

[0001]The routing of calls through telephone networks to achieve least cost or best cost routing can be a complicated process. In the past, call routes through switches and carriers were decided through a combination of Microsoft Excel spreadsheets using a manual process. This process entailed dozens of linked Microsoft Excel spreadsheets. These spreadsheets were difficult to expand, and easily reached maximum capacity.

[0002]Additionally, these spreadsheets required the manual input of data across spreadsheets. Once all the commercial information was inputted into the spreadsheets, an additional three to four hours were required before the updates would actually hit the switches and affect routing. This delay in routing updates resulted in ineffective cost routing over the network and poor selection of carriers.

##### SUMMARY OF THE INVENTION

[0003]The strategic telecom optimized routing machine (STORM) suite of applications of the present invention provides computer-based call routing and management capabilities that are not constrained by limitations imposed by switch-based routing. Through the present invention, it is possible to achieve an improved profitability margin for each call, and quicker responses to carrier outages. STORM routing also more effectively achieves call routing with economic efficiency that satisfies individual customers' business needs.

[0004]To overcome the problem of switches being "unaware of each other," changes to routing options are no longer made offline and loaded onto the switches. Rather, the routing function is removed from the switches and placed on a server. This overcomes limitations in switches, which previously prevented the telecommunications provider from maximizing all possible carrier supplied rates.

[0005]Additionally, through the present invention, it is possible to route incoming calls on paths that are tailored to the individual customers' needs. It is also possible to change routing parameters based on the time of day (e.g., multiple peak and off-peak time periods). Through the present invention routing alterations may hit switches at desired intervals (e.g., instantly or after 15 minutes, etc.), which enables improved network performance.

Nice telecom system control. Uses servers -- or cycles at the switches -- to monitor packets in real time. One big trick is getting this software to run on the distributed assets of the system -- which in turn depends on getting the passwords to the switches, which can be changed daily.

If you've got a way to get the passwords, the implementation software for this STORM system is perfect for installing programs to capture text streams.

Back a few years ago, Oracle bought a company Triple Hop -- formerly of South Tower WTC -- because they had worked out a solution to this implementation problem. They did a first-rate job. Triple Hop used its access and remote programs to build text indexes at the target systems. It is more efficient to build-and-move these text indexes than to copy enormous volumes of text to a central server and build the

indexes in one place.

Front-end messaging for NYSE is done with small text messages. FIX Protocol messages are tiny things -- less than a k. Encryption is optional or nonexistent or easily enough made transparent. NYSE has any and all access codes involved.

[HERE is full text](#) for the Aleynikov patent application.

#### A quick look at IDT Corporation:

This assignee, originally "International Discount Telecommunications," shows them as Integrated Technology Corporation of Newark, New Jersey, with tag "IDT" on NYSE. IDT does phone cards and international call centers.

IDT lost \$43,000,000 on operations in 2007. Stock price has fallen from \$50 to \$1.75 over the last 5 years. Desperation setting in at IDT ? Stock price hit a bottom at \$ 0.72 last December 15th.

There has been no interruption to financing, no pause to this IDT buying assets. IDT bought Zedge -- a Norwegian comic book publisher serving 11,000,000 online nerd-heads -- and 75% of American Shale Oil Corporation. Funny mix.

The offices and call centers spread out worldwide: London, England; Guadalajara, Mexico; Jerusalem, Israel; and San Juan, Puerto Rico. Nothing in Russia.

In any case, IDT is not in the business of managing large telecom networks, which belong to huge companies. The telecoms generally do not seek outside help and never run someone else's non-vendor distributed software on their gear. (Voids warranties.) IDT sells phone cards. The how and why and what of this Mr. Aleynikov hooking up with IDT Corporation remains a mystery.

#### FIX Protocol, OCX, SWIFT -- messaging, transaction commit\_timing and split-second vulnerability.

K.I.S.S.

The flow to carry out financial transactions can be complex at the detail level. But if we make logical blocks for the different stages, overall patterns have a steady flow.

The Financial Information eXchange ("FIX") Protocol is a series of specifications for the electronic communication of trade-related messages. ISO 15022. FIX is used for NYSE stocks and for the options markets. FIX can also be used to support fixed-income trading activities for the following fixed income asset classes:

- \* US Treasury Bonds
- \* US Corporate Bonds
- \* Municipal Securities
- \* Agency Securities
- \* To-Be-Announced (TBA) Mortgage Backed Securities
- \* Euro Sovereign Bonds
- \* Euro Corporate Bonds
- \* US and European Commercial Paper

[HERE is the page](#) for the bond markets at FIX Protocol dot org.

Flow can go like this:

```
-- Iol: Indication of Interest to negotiate a deal. Similar to Trade Adverts. States the asset
      (by CUSIP number code) up for bid/offer

-- Quote Request

-- Quote

-- Quote Response

-- Execution Report
```

An Iol can also be published with an Executable tag value. Trades are executed more or less immediately.

All you need are the Execution Reports. CUSIPS, quantities, and prices will do it.

These trade events happens out in the front-end, prior to communication of the data to the Exchange. Messages go through the internet, local networks and sit on middleware application servers, as well as being stored on databases. FIX and SWIFT are compatible -- the aim of these systems is to make trading efficient, moving to support Straight Through Processing (STP.)

Access to FIX, OCX or SWIFT messages prior to transaction\_commit at the Exchanges would give a player an advantage parallel to seeing an opponent's cards in a game of poker.

We had always worried about information leakage, as a prospective/in-process deal could be anticipated with a play in the related options market. A Retail Working Group had this up for discussion, but that Group

is now inactive. The technical Encryption Working Group was replaced by a Global Technical Committee's Information Security Subcommittee. Goldman Sachs participates through two individuals in UK: James Bywater and Richard Van Horn. There is no interface to the U.S. National Threat Assessment Center.

If kossacks are interested in the details, then stocks, options and bonds share overall flow patterns at the simplest aggregation. The standard usage models are described for an Initiator and a Respondent. The examples at the FIX Protocol dot org site give you most of what you need.

These systems are used at millions of companies.

### "So... You Guys Want Keys To The Mint ?"

It takes a damn fool to steal money. That leads to vacation destinations such as Sing Sing and Folsom. Smart crooks steal either information, itself, or they steal whole books of business.

When Ronald Reagan said that "Government is the problem," he had no idea how totally wrong he was with respect to federal oversight to keep criminals' hands off the capital markets.

Reagan's disciples failed to appreciate what Straight Through Processing efforts were going to bring along -- in terms of opportunities to use computer trading to exploit near-instantaneous advantages in information access.

What is a quant ? What do they do that makes earlier access to trade information decisive, profitable beyond dreams ?

The market is a system of liquidity providers, who cushion open market trading mechanisms. One fact, since STP tools arrived, is the fact that the vast majority of transactions in today's market are in fact high frequency, small block trades that cross between the quant funds and program traders.

Retail and customer driven buy/sell orders are the lesser part of NYSE markets. Zero Hedge calculated that the S&P was up-ticked by 60 points from this pattern -- as liquidity inflow forced artificially high stock prices.

The key players operate in this is market predator/prey stratum, top rung of multiple split-second traders, from which the big players are Renaissance Technologies Medallion, Goldman Sachs and Global Electronic Trading (GETCO.)

"Anyone who is doing anything sensible right now is either losing money or is out of the market entirely."

That's Durden at Zero Hedge again, doing on-point quoting from a Wall Street trader.

**You can't play where the game is rigged.** Bye-bye those 25,600 jobs a month... and more to come.

(In passing: how's Hank Paulson doing ?)

What you see for descriptions from a quant is something like this from Global Electronic Trading:

What's good for the market is good for GETCO

GETCO's strategy is to align our business plan with what is best for the marketplace. We earn our revenues by providing enhanced liquidity and efficiency to electronic financial markets, which in turn results in lower costs for market participants (e.g. mutual funds, pension funds, and individual investors).

In addition to actively trading, we partner with many exchanges and their regulators to increase transparency throughout the industry and to create more efficient means for the transference of financial risk. ...

GETCO succeeds because our associates focus on making our team greater than the sum of its parts. We work to maximize one another's opportunities to contribute and to ensure the best ideas rise to the top. We live by core values that include cultivating a low-ego environment, practicing mental flexibility, frequently engaging in vigorous debate and treating everyone with respect.

Sure. I'll trust that. Dr. Phil in on Channel 7, too.

Goldman doubled quant market share. Increased profitability of the quant unit so that it was carrying the whole company, couple months back.

Mr. Aleynikov, the charged ??? They want us to think that he was just some doofus, who played with the GS network. A \$400,000 a year version of the nerd-spokesperson cell phone guy in television ads. (The bland one who shows up all over the damn place with 5-bar signals and his 1,000-employee network support crew.)

Sure. Trust that.

And Governor Palin is always sober, never dropped a diet pill faux-amphetamine in her life....

BTW: Zero Hedge has careful statistical analysis of what is going on. Bottom line is a 6-sigma proof of distortion. The "why" and "how" of the distortion is what goes outside the NY Times-printed claim that GS

developed a super-math engine.

<http://4.bp.blogspot.com/...>

ABTW: Matt Taibbi is another wet-behind-the-ears optimist.

### Poll

**Goldman Sachs bumped its computer trading business up to 60% of all NYSE quant trades.**

- 1. Ain't that wonderful. \$100,000,000 a day for Goldman is the schnizzle.
- 2. But now NYSE appears to have pulled the plug.
- 3. Goldman Sachs dropped to zero for NYSE quant trades.
- 5. OMG. WTF. And there's a Russky charged with something or other.
- 6. ALL OF THE ABOVE. AND the proles know next to nothing, SOP.
- 7. Thilla, thrilla, thrilla.....

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