

SOFR IMPACTS FROM LIQUIDITY SPIKES

👤 John Feeney (https://www.clarusft.com/author/john_feeney/) 🕒 May 1, 2019

💬 No comments (<https://www.clarusft.com/sofr-impacts-from-liquidity-spikes/#respond>)

The Clarus website (<https://www.clarusft.com/>) has a very interesting free service under the LOGIN tab called 'Term RFRs' (<https://rfr.clarusft.com/>). This shows the compounded RFRs for the fixing date (yesterday) looking back overnight, 1, 2, 3 and 6 months for SOFR (USD), SONIA (GBP), TONA (JPY) and AONIA (AUD).

This blog will look at the compounded SOFR rates for 1 and 3 month since June 2018 which is a few weeks after SOFR was first published.

This is compared with a 'smoothed' version of the compounded SOFR to show the differences.

The Basics of SOFR Publication

The Federal Reserve Bank of New York publishes SOFR each day; the rates and description of SOFR can be found here (<https://apps.newyorkfed.org/markets/autorates/sofr>). The daily rate is published the following day and these daily rates are used to calculate the compounded rate over a specific tenor such as 1 month as found on the Clarus Term RFRs page.

The Clarus Term RFR page (<https://rfr.clarusft.com/>) shows the compounded SOFR rates over the terms on each row.

For example in the 1 month, the daily SOFR is compounded over the previous month and the simple interest rate is calculated from the discount factor: this is the published rate. On 22nd April 2019 the 1 month was 2.4792 which is the simple interest rate from 22nd March to 22nd April 2019 calculated by compounding the daily FED SOFR on each business day in the period. This is a snapshot of the Clarus page for the SOFR column.

CLARUSo1

Clarus SOFR Term RFRs:

CLARUS01 TERM RISK FREE RATES

FIXING DATE 2019-04-30



Term	USD-SOFR-FRB	GBP-SONIA-BOE	JPY-TONA-BOJ	AUD-AONIA-RBA
ON	2.4600	0.7107	--	1.5000
1M	2.4841	0.7079	--	1.5009
2M	2.4528	0.7069	--	1.5018
3M	2.4419	0.7069	--	1.5027
6M	2.4008	0.7059	--	1.5056
Day Count	ACT/360	ACT/365F	ACT/365F	ACT/365F
Last Value Date	2019-04-26	2019-04-26	--	2019-04-26

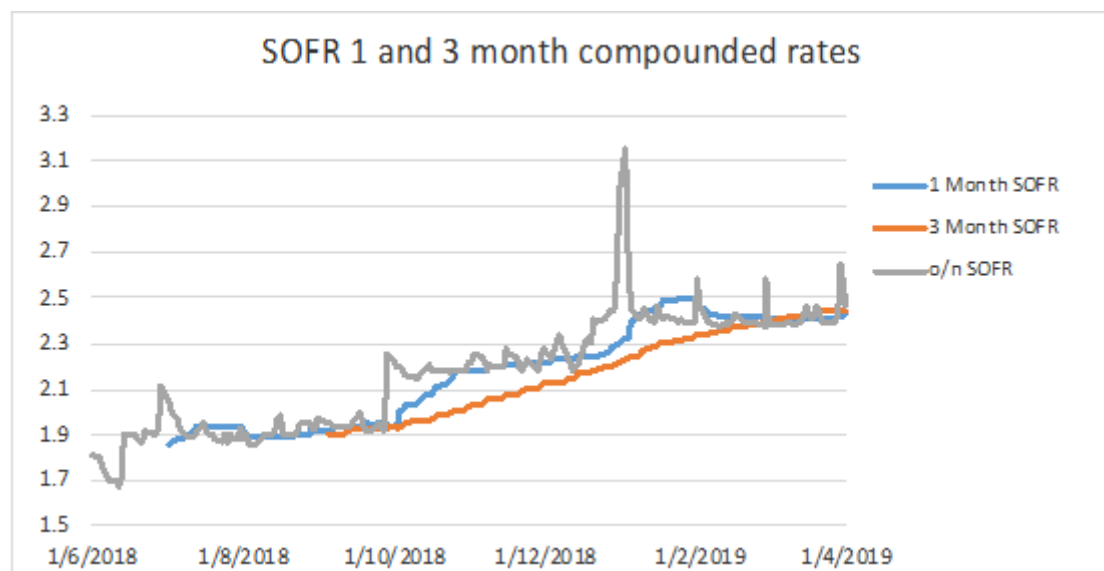
PUBLISHED AT 2019-04-30 07:00 UTC
COMPOUNDED IN-ARREARS FIXINGS
RATES CALCULATED T+2

[See here for more details](#)
[Contact us at info@clarusft.com](mailto:info@clarusft.com)

CLARUS01 at rfr.clarusft.com (<http://rfr.clarusft.com>)

Term SOFR since May 2018

The following graph shows the SOFR (overnight), 1 month and 3 month rates calculated each business day since May 2018.



The 1 month term rates start in July 2018 (i.e. looking back 1 month) while the 3 month term rates start in September 2018.

One of the most notable features of the overnight SOFR line is the periodic spikes in the rate over some month, quarter or year ends. This is quite typical of the USD repo markets (on which SOFR is based) which can experience short periods of tighter cash conditions leading to the rate spikes.

This feeds into the SOFR calculation which can be seen in the term rates especially in the 1 month rate. The impact on the 3 month rate is less than the 1 month as the spike is spread over a longer term and therefore the effect is averaged out against the other rates.

What If There Were No Spikes?

Recently there have been some suggestions

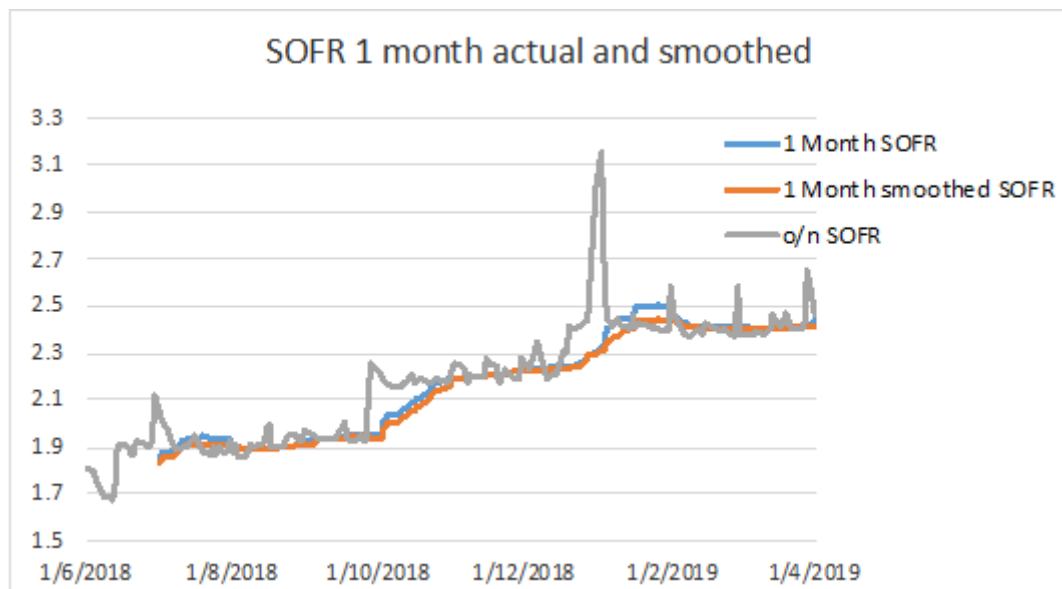
(<https://www.risk.net/derivatives/6495531/fed-repo-facility-may-fix-sofrs-image-problem>) that fewer and/or lower spikes in the SOFR might be beneficial to the adoption of SOFR by markets.

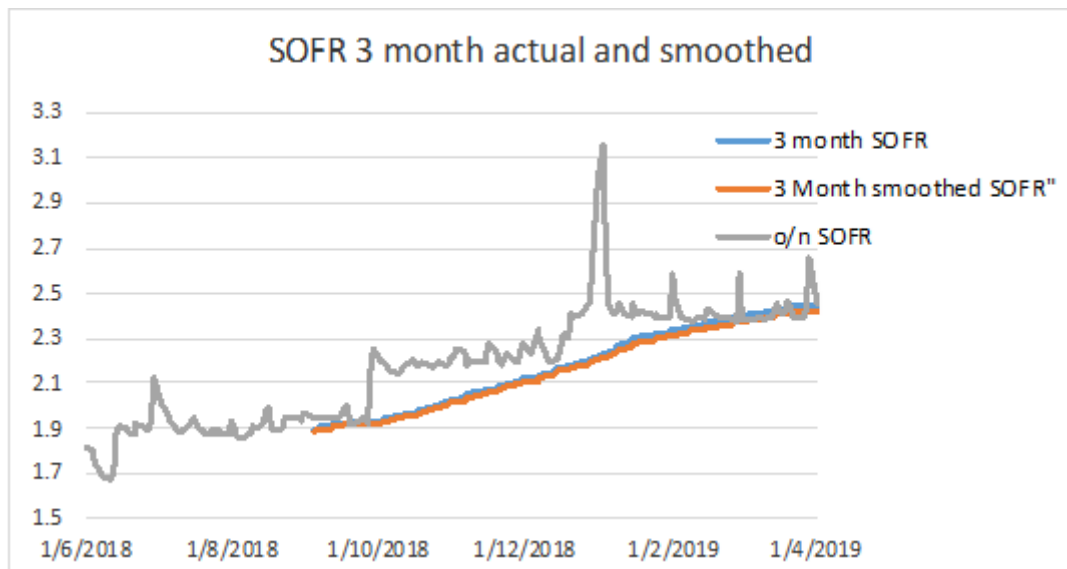
We used the same data as in the calculations above but 'smoothed' the data across the end of months where the SOFR often rose. We replaced the spike data points with the SOFR from the average of the last 5 days of 'normal' conditions.

For example, over the 2018 year end, SOFR average for the 5 days before 31st December 2018 was 2.43 but spiked to 3.00, 3.15 and 2.70 for the following 3 rate sets. We replaced these 3 rate sets with the average of 2.43.

This was also done for each month end.

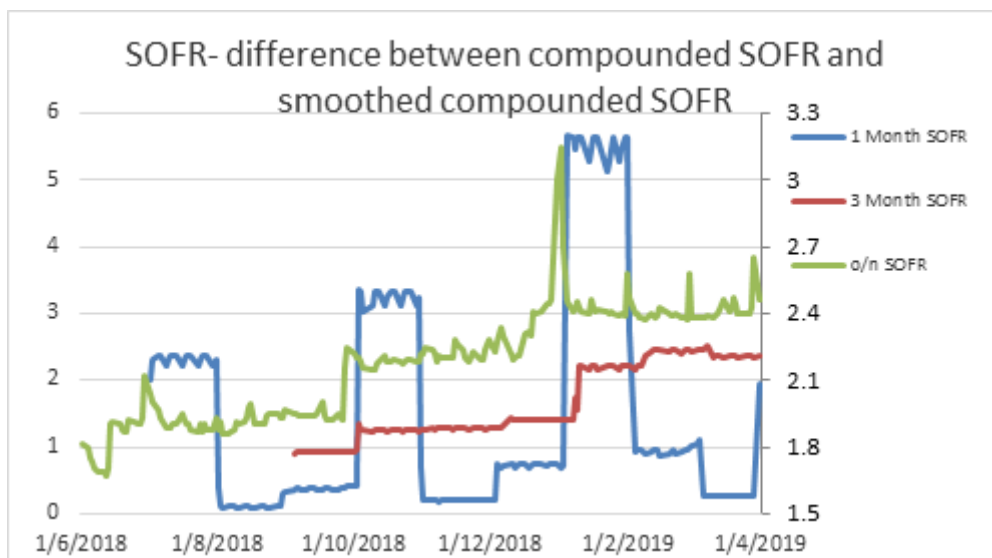
The following charts show the actual SOFR, the smoothed SOFR and the recalculated 1 and 3 month term rates.





The 1 month SOFR/smoothed SOFR does show some difference in rate especially over year end. But the 3 month rates are almost identical.

The following chart shows the basis point impact of the smoothing for the 1 and 3 month term rates, i.e. actual term SOFR minus the smoothed term RFR.



The smoothed term SOFR rates are less volatile than the real-world rates but the impact is only single figures in basis points. Specifically, the 1 month difference is up to 5 – 6 basis points and the 3 month difference is only a maximum of 2 – 3 basis points.

Is This a Feature or an Artefact?

This question is part of the current debate about the adoption of SOFR: should the FED actively add liquidity at critical times to reduce the number and size of the SOFR spikes to create more confidence in SOFR?

This is an outstanding question but for compounded SOFR (as used in derivatives and cash instruments) the impact would likely be less than 5 basis points for the much-used 1 and 3 month terms.

It is also worth noting that Libor has similar features over the 'turns' so markets have been accustomed to this effect for many years.

Summary

Much has been recently written about the impact of SOFR rate spikes at certain times. It has an impact on the term SOFR calculations (1 and 3 month) but this has been limited to a maximum of 5 -6 basis points and typically less than 3 basis points.

This can be seen as a feature of the SOFR benchmark and has some parallels in Libor. For some users a difference of 5 basis points in the 1 month is quite within expectation (when compared with Libor) while for others this may be a feature they would prefer did not exist.

We will have to wait for further developments in SOFR.

Stay informed with our FREE newsletter, subscribe here ([//www.clarusft.com/newsletter-subscription/](https://www.clarusft.com/newsletter-subscription/)).

✉ Posted in IBOR/RFR (<https://www.clarusft.com/category/iborrfr/>)

Indices are the best way to calculate compound interest (<https://www.clarusft.com/indices-are-the-best-way-to-calculate-compound-interest/>)

USD SOFR Volumes April 2019 (<https://www.clarusft.com/usd-sofr-volumes-april-2019/>)

NEWSLETTER

Stay informed with our **FREE** weekly newsletter.

Subscribe here ([//www.clarusft.com/newsletter-subscription/](https://www.clarusft.com/newsletter-subscription/))

CATEGORIES

Asia (<https://www.clarusft.com/category/asia/>) (28)

CDS Index (<https://www.clarusft.com/category/cds-index/>) (20)

Clearing (<https://www.clarusft.com/category/clearing/>) (154)

CME-LCH Basis (<https://www.clarusft.com/category/cme-lch-basis/>) (23)

Derivatives (<https://www.clarusft.com/category/derivatives/>) (94)

Engineering (<https://www.clarusft.com/category/engineering/>) (38)

ESG (<https://www.clarusft.com/category/esg/>) (4)

Europe (<https://www.clarusft.com/category/europe/>) (31)

Event (<https://www.clarusft.com/category/event/>) (25)

FRTB (<https://www.clarusft.com/category/frtb/>) (15)

Futures (<https://www.clarusft.com/category/futures/>) (4)

FX (<https://www.clarusft.com/category/fx/>) (40)

General (<https://www.clarusft.com/category/general/>) (35)

GSIBs (<https://www.clarusft.com/category/gsibs/>) (5)

IBOR/RFR (<https://www.clarusft.com/category/iborrfr/>) (157)

Internship (<https://www.clarusft.com/category/internship/>) (3)

ISDA SIMM (<https://www.clarusft.com/category/isda-simm/>) (34)

Japanese (<https://www.clarusft.com/category/japanese/>) (17)

LatAm (<https://www.clarusft.com/category/latam/>) (9)

MAC Swaps (<https://www.clarusft.com/category/mac-swaps/>) (8)

Margin/Risk (<https://www.clarusft.com/category/marginrisk/>) (71)

Microservices (<https://www.clarusft.com/category/microservices/>) (17)

MiFID II (<https://www.clarusft.com/category/mifid-ii/>) (44)

Regulation (<https://www.clarusft.com/category/regulation/>) (22)

SA-CCR (<https://www.clarusft.com/category/sa-ccr/>) (13)

Swap Data Repository (<https://www.clarusft.com/category/sdr-swap-data-repository/>) (180)

Swap Execution Facility (<https://www.clarusft.com/category/sef-swap-execution-facility/>) (159)

Swaps Review (<https://www.clarusft.com/category/swaps-review/>) (96)

AUTHOR



(https://www.clarusft.com/author/john_feeney/)

AUTHORS

Amir Khwaja (<https://www.clarusft.com/author/amir/>) (421)

Chris Barnes (<https://www.clarusft.com/author/chris/>) (416)

Tod Skarecky (<https://www.clarusft.com/author/tod/>) (145)

Gary Kennedy (<https://www.clarusft.com/author/gary/>) (44)

John Feeney (https://www.clarusft.com/author/john_feeney/) (28)

Jon Skinner (https://www.clarusft.com/author/jon_skinner/) (18)

Guest Author (<https://www.clarusft.com/author/guest1/>) (15)

Mark Bell (<https://www.clarusft.com/author/mark/>) (8)

Clarus Team (<https://www.clarusft.com/author/clarus/>) (7)

Maheen Khan (https://www.clarusft.com/author/maheen_khan/) (6)

ANNUAL ARCHIVE

2023 (<https://www.clarusft.com/2023/>)

2022 (<https://www.clarusft.com/2022/>)

2021 (<https://www.clarusft.com/2021/>)

2020 (<https://www.clarusft.com/2020/>)

2019 (<https://www.clarusft.com/2019/>)

2018 (<https://www.clarusft.com/2018/>)

2017 (<https://www.clarusft.com/2017/>)

2016 (<https://www.clarusft.com/2016/>)

2015 (<https://www.clarusft.com/2015/>)

2014 (<https://www.clarusft.com/2014/>)

2013 (<https://www.clarusft.com/2013/>)

2012 (<https://www.clarusft.com/2012/>)

MONTHLY ARCHIVE

February 2023 (<https://www.clarusft.com/2023/02/>) (3)

January 2023 (<https://www.clarusft.com/2023/01/>) (7)

December 2022 (<https://www.clarusft.com/2022/12/>) (4)

November 2022 (<https://www.clarusft.com/2022/11/>) (7)

October 2022 (<https://www.clarusft.com/2022/10/>) (5)

September 2022 (<https://www.clarusft.com/2022/09/>) (6)

August 2022 (<https://www.clarusft.com/2022/08/>) (5)

July 2022 (<https://www.clarusft.com/2022/07/>) (6)

June 2022 (<https://www.clarusft.com/2022/06/>) (6)

May 2022 (<https://www.clarusft.com/2022/05/>) (8)

April 2022 (<https://www.clarusft.com/2022/04/>) (7)

March 2022 (<https://www.clarusft.com/2022/03/>) (8)

February 2022 (<https://www.clarusft.com/2022/02/>) (8)

January 2022 (<https://www.clarusft.com/2022/01/>) (7)

December 2021 (<https://www.clarusft.com/2021/12/>) (5)

November 2021 (<https://www.clarusft.com/2021/11/>) (6)

October 2021 (<https://www.clarusft.com/2021/10/>) (5)

September 2021 (<https://www.clarusft.com/2021/09/>) (7)

August 2021 (<https://www.clarusft.com/2021/08/>) (1)

July 2021 (<https://www.clarusft.com/2021/07/>) (6)

June 2021 (<https://www.clarusft.com/2021/06/>) (8)

May 2021 (<https://www.clarusft.com/2021/05/>) (5)

April 2021 (<https://www.clarusft.com/2021/04/>) (7)

March 2021 (<https://www.clarusft.com/2021/03/>) (10)

February 2021 (<https://www.clarusft.com/2021/02/>) (7)

January 2021 (<https://www.clarusft.com/2021/01/>) (7)

December 2020 (<https://www.clarusft.com/2020/12/>) (8)

November 2020 (<https://www.clarusft.com/2020/11/>) (6)

October 2020 (<https://www.clarusft.com/2020/10/>) (7)
September 2020 (<https://www.clarusft.com/2020/09/>) (7)
August 2020 (<https://www.clarusft.com/2020/08/>) (8)
July 2020 (<https://www.clarusft.com/2020/07/>) (12)
June 2020 (<https://www.clarusft.com/2020/06/>) (8)
May 2020 (<https://www.clarusft.com/2020/05/>) (9)
April 2020 (<https://www.clarusft.com/2020/04/>) (9)
March 2020 (<https://www.clarusft.com/2020/03/>) (12)
February 2020 (<https://www.clarusft.com/2020/02/>) (8)
January 2020 (<https://www.clarusft.com/2020/01/>) (9)
December 2019 (<https://www.clarusft.com/2019/12/>) (8)
November 2019 (<https://www.clarusft.com/2019/11/>) (8)
October 2019 (<https://www.clarusft.com/2019/10/>) (11)
September 2019 (<https://www.clarusft.com/2019/09/>) (11)
August 2019 (<https://www.clarusft.com/2019/08/>) (9)
July 2019 (<https://www.clarusft.com/2019/07/>) (10)
June 2019 (<https://www.clarusft.com/2019/06/>) (10)
May 2019 (<https://www.clarusft.com/2019/05/>) (9)
April 2019 (<https://www.clarusft.com/2019/04/>) (12)
March 2019 (<https://www.clarusft.com/2019/03/>) (8)
February 2019 (<https://www.clarusft.com/2019/02/>) (9)
January 2019 (<https://www.clarusft.com/2019/01/>) (11)
December 2018 (<https://www.clarusft.com/2018/12/>) (6)
November 2018 (<https://www.clarusft.com/2018/11/>) (6)
October 2018 (<https://www.clarusft.com/2018/10/>) (10)
September 2018 (<https://www.clarusft.com/2018/09/>) (8)
August 2018 (<https://www.clarusft.com/2018/08/>) (9)
July 2018 (<https://www.clarusft.com/2018/07/>) (9)
June 2018 (<https://www.clarusft.com/2018/06/>) (8)
May 2018 (<https://www.clarusft.com/2018/05/>) (10)
April 2018 (<https://www.clarusft.com/2018/04/>) (9)
March 2018 (<https://www.clarusft.com/2018/03/>) (8)
February 2018 (<https://www.clarusft.com/2018/02/>) (9)
January 2018 (<https://www.clarusft.com/2018/01/>) (13)

December 2017 (<https://www.clarusft.com/2017/12/>) (6)
November 2017 (<https://www.clarusft.com/2017/11/>) (12)
October 2017 (<https://www.clarusft.com/2017/10/>) (15)
September 2017 (<https://www.clarusft.com/2017/09/>) (11)
August 2017 (<https://www.clarusft.com/2017/08/>) (12)
July 2017 (<https://www.clarusft.com/2017/07/>) (10)
June 2017 (<https://www.clarusft.com/2017/06/>) (9)
May 2017 (<https://www.clarusft.com/2017/05/>) (15)
April 2017 (<https://www.clarusft.com/2017/04/>) (12)
March 2017 (<https://www.clarusft.com/2017/03/>) (14)
February 2017 (<https://www.clarusft.com/2017/02/>) (10)
January 2017 (<https://www.clarusft.com/2017/01/>) (12)
December 2016 (<https://www.clarusft.com/2016/12/>) (8)
November 2016 (<https://www.clarusft.com/2016/11/>) (16)
October 2016 (<https://www.clarusft.com/2016/10/>) (12)
September 2016 (<https://www.clarusft.com/2016/09/>) (12)
August 2016 (<https://www.clarusft.com/2016/08/>) (15)
July 2016 (<https://www.clarusft.com/2016/07/>) (10)
June 2016 (<https://www.clarusft.com/2016/06/>) (17)
May 2016 (<https://www.clarusft.com/2016/05/>) (10)
April 2016 (<https://www.clarusft.com/2016/04/>) (13)
March 2016 (<https://www.clarusft.com/2016/03/>) (15)
February 2016 (<https://www.clarusft.com/2016/02/>) (11)
January 2016 (<https://www.clarusft.com/2016/01/>) (11)
December 2015 (<https://www.clarusft.com/2015/12/>) (10)
November 2015 (<https://www.clarusft.com/2015/11/>) (13)
October 2015 (<https://www.clarusft.com/2015/10/>) (12)
September 2015 (<https://www.clarusft.com/2015/09/>) (13)
August 2015 (<https://www.clarusft.com/2015/08/>) (9)
July 2015 (<https://www.clarusft.com/2015/07/>) (11)
June 2015 (<https://www.clarusft.com/2015/06/>) (12)
May 2015 (<https://www.clarusft.com/2015/05/>) (9)
April 2015 (<https://www.clarusft.com/2015/04/>) (12)
March 2015 (<https://www.clarusft.com/2015/03/>) (12)



February 2015 (<https://www.clarusft.com/2015/02/>) (12)
January 2015 (<https://www.clarusft.com/2015/01/>) (9)
December 2014 (<https://www.clarusft.com/2014/12/>) (9)
November 2014 (<https://www.clarusft.com/2014/11/>) (10)
October 2014 (<https://www.clarusft.com/2014/10/>) (11)
September 2014 (<https://www.clarusft.com/2014/09/>) (12)
August 2014 (<https://www.clarusft.com/2014/08/>) (9)
July 2014 (<https://www.clarusft.com/2014/07/>) (11)
June 2014 (<https://www.clarusft.com/2014/06/>) (12)
May 2014 (<https://www.clarusft.com/2014/05/>) (9)
April 2014 (<https://www.clarusft.com/2014/04/>) (5)
March 2014 (<https://www.clarusft.com/2014/03/>) (9)
February 2014 (<https://www.clarusft.com/2014/02/>) (10)
January 2014 (<https://www.clarusft.com/2014/01/>) (8)
December 2013 (<https://www.clarusft.com/2013/12/>) (10)
November 2013 (<https://www.clarusft.com/2013/11/>) (9)
October 2013 (<https://www.clarusft.com/2013/10/>) (11)
September 2013 (<https://www.clarusft.com/2013/09/>) (7)
August 2013 (<https://www.clarusft.com/2013/08/>) (8)
July 2013 (<https://www.clarusft.com/2013/07/>) (2)
June 2013 (<https://www.clarusft.com/2013/06/>) (9)
May 2013 (<https://www.clarusft.com/2013/05/>) (5)
April 2013 (<https://www.clarusft.com/2013/04/>) (4)
March 2013 (<https://www.clarusft.com/2013/03/>) (4)
February 2013 (<https://www.clarusft.com/2013/02/>) (3)
January 2013 (<https://www.clarusft.com/2013/01/>) (2)
December 2012 (<https://www.clarusft.com/2012/12/>) (2)
November 2012 (<https://www.clarusft.com/2012/11/>) (2)
October 2012 (<https://www.clarusft.com/2012/10/>) (2)
September 2012 (<https://www.clarusft.com/2012/09/>) (2)
August 2012 (<https://www.clarusft.com/2012/08/>) (1)
July 2012 (<https://www.clarusft.com/2012/07/>) (4)


Clarus Financial Technology

(<https://www.clarusft.com/legal/>) ([//www.clarusft.com](https://www.clarusft.com/))

(<https://www.clarusft.com/blog/>) (<https://www.clarusft.com/thanks/>)

in (<https://www.linkedin.com/company/clarus-financial-technology/>)

 (<https://twitter.com/clarusft>)  ([//www.clarusft.com/feed](https://www.clarusft.com/feed))

 ([//www.clarusft.com/legal](https://www.clarusft.com/legal))
