William Blair Sell Side - Held NMS Stocks and Options Order Routing Public Report Generation Date: 2022-04-25 16:01:14.570 GMT-0400

rear: 2022 Quai	ter: 1	
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Year: 2022	Quarter: 1												
January 2022 Summary				S&P 500 Stocks									
,	Market Orders as Percent of Non- Directed Orders 96.69%	Marketable Limit Orders as Percent of Non-Directed Orders 0.51%	Non-Marketable Limit Orders as Percent of Non-Directed Orders 1.78%	Other Orders as Percent of Non-Directed Orders 1.02%									
Venues - Non Directed Orders													
				Non-Marketable Limit Orders		Net December Deld/December of	Net Payment Paid/Received for Market Orders (cents per	Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)		Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Virtu Americas LLC (NITE) Wall Street Access (VNDM)	33.84% 33.65%	33.89% 33.65%	32.00% 26.00%	32.39% 33.52%	32.67% 37.62%	0.0000	0.0000	0		0	0.0000	0	0.0000
Citadel Securities LLC (CDRG)	32.51%	32.46%	42.00%	34.09%	29.70%	0.0000	0.0000	0	0.0000	0	0.0000	0	0.0000
January 2022 Summary				Non-S&P 500 Stocks									
	Market Orders as Percent of Non-	Percent of Non-Directed	Non-Marketable Limit Orders as Percent of Non-Directed	Other Orders as Percent of									
Percent of All Orders 100.00%	Directed Orders 92.65%	Orders 1.27%	Orders 4.98%	Non-Directed Orders 1.10%									
Venues - Non Directed Orders													
venues - Non Directed Orders							Not Payment Paid/Received	Not Payment Paid/Received	Not Payment Paid/Received	Net Payment Paid/Received	Not Payment Paid/Received		Net Payment Paid/Received
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders (USD)	for Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders (cents per hundred shares)	Non-Marketable Limit Orders	Non-Marketable Limit Orders (cents per hundred shares)	Net Payment Paid/Received	Other Orders (cents per hundred shares)
Citadel Securities LLC (CDRG) Virtu Americas LLC (NITE)	34.95% 32.76%	34.29% 33.00%	46.89% 26.55%	36.42% 33.53%	69.28% 16.34%	0.0000	0.0000	0		0	0.0000	0	0.0000
Wall Street Access (VNDM) RBC Capital Markets	32.28%	32.70%	26.55%	29.77%	14.38%	0.0000	0.0000	0		0	0.0000	0	0.0000
Corporation (RBCM)	0.01%	0.00%	0.00%	0.29%	0.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
January 2022 Summary				Option Contracts									
	Market Orders as Percent of Non-	Percent of Non-Directed	Non-Marketable Limit Orders as Percent of Non-Directed	Other Orders as Percent of									
Percent of All Orders 100.00%	Directed Orders 67.63%	Orders 5.54%	Orders 25.50%	Non-Directed Orders 1.33%									
Venues - Non Directed Orders													
				Non-Marketable Limit Orders			for Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders		Non-Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue National Financial Services LLC (NFSC)	Non-Directed Orders (%) 100.00%	Market Orders (%) 100.00%	Marketable Limit Orders (%) 100.00%	(%) 100.00%	Other Orders (%) 100.00%	for Market Orders (USD) 0	hundred shares) 0.0000	(USD)	(cents per hundred shares) 0.0000	(USD) 0	(cents per hundred shares) 0.0000	Other Orders (USD)	hundred shares) 0.0000
Virtu Americas LLC - William Bl Wall Street Access - William Bla National Financial Services LLC													
February 2022 Summary				S&P 500 Stocks									
Non-Directed Orders as	Market Orders as Percent of Non-		Non-Marketable Limit Orders as Percent of Non-Directed	Other Orders as Percent of									
Percent of All Orders 100.00%	Directed Orders 96.07%	Orders 0.65%		Non-Directed Orders 0.87%									
Venues - Non Directed Orders													
							Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	for Market Orders (USD)	for Market Orders (cents per hundred shares)	Marketable Limit Orders (USD)	(cents per hundred shares)		(cents per hundred shares)	Net Payment Paid/Received Other Orders (USD)	Other Orders (cents per hundred shares)
Virtu Americas LLC (NITE)	33.38%	33.36%	34.69%	35.16%	30.30%	0	0.0000	0		0	0.0000	0	0.0000
Citadel Securities LLC (CDRG) Wall Street Access (VNDM)	33.32% 33.30%	33.20% 33.44%	44.90% 20.41%	35.71% 29.12%	30.30% 39.39%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
February 2022				Non-S&P 500 Stocks									
Summary		Marketable Limit Orders as	Non-Marketable Limit Orders										
Non-Directed Orders as Percent of All Orders 100 00%	Market Orders as Percent of Non- Directed Orders 91.26%	Percent of Non-Directed Orders 1.07%	as Percent of Non-Directed Orders 6.59%	Other Orders as Percent of Non-Directed Orders 1.08%									
Venues - Non Directed Orders	91.20%	1.07%	0.39%	1.08%									
Directed officers							Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders (USD)	for Market Orders (cents per hundred shares)	Marketable Limit Orders (USD)	Marketable Limit Orders	Non-Marketable Limit Orders (USD)	Non-Marketable Limit Orders	Net Payment Paid/Received Other Orders (USD)	Other Orders (cents per hundred shares)
Citadel Securities LLC (CDRG)	Non-Directed Orders (%) 34.34%	Market Orders (%)	Marketable Limit Orders (%) 44.14%	35.29%	Other Orders (%) 54.46%	for Market Orders (USD)	0.0000	(USD)		(USD)	(cents per nundred snares) 0.0000		0.0000
Wall Street Access (VNDM)	32.85%	33.11%	23.42%	32.36%	23.21%	0	0.0000	0		0	0.0000	0	0.0000
Virtu Americas LLC (NITE) Clearpool Execution Services, LLC (CPEM)	32.80% 0.01%	32.97% 0.00%	32.43% 0.00%	32.21% 0.15%	22.32%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

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February 2022				Option Contracts
Summary				
		Marketable Limit Orders as	Non-Marketable Limit Orders	
Non-Directed Orders as	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders
100.00%	64.83%	8 96%	25.12%	1.09%

Venues - Non Directed Orders

							Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
			N	on-Marketable Limit Orders		Net Payment Paid/Received	or Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders	Non-Marketable Limit Orders	Non-Marketable Limit Orders	Net Payment Paid/Received	Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%) Mark	etable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
National Financial Services LLC (NFSC)	100.00%	100.00%	100.00%	100.00%	100.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Material Aspects:

material raspects:
Citadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.
Virtu Americas LLC - William Blair did not receive payment for order flow from NITE for these trades.
Wall Street Access - William Blair did not receive payment for order flow from VMDM for these trades.
National Financial Services LLC - William Blair did not receive payment for order flow from NFSC for these trades.

Clearpool Execution Services, LLC - William Blair did not receive payment for order flow from CPEM for these trades. March 2022 S&P 500 Stocks

Summary				
		Marketable Limit Orders as	Non-Marketable Limit Orders	
Non-Directed Orders as	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders
100.00%	97.87%	0.21%	1.44%	0.48%

Venues - Non Directed Orders

				Non-Marketable Limit Orders		Net Payment Paid/Received f		Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received Marketable Limit Orders N			Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)		Other Orders (%)	for Market Orders (USD)	hundred shares)		(cents per hundred shares)		(cents per hundred shares)	Other Orders (USD)	hundred shares)
Wall Street Access (VNDM)	34.59%	34.78%	0.00%	19.05%	57.14%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Citadel Securities LLC (CDRG)	32.94%	32.75%	66.67%	47.62%	14.29%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Virtu Americas LLC (NITE)	32.46%	32.47%	33.33%	33.33%	28.57%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

March 2022 Non-S&P 500 Stocks Marketable Limit Orders as Non-Marketable Limit Orders Non-Directed Orders os Percent of All Orders 100.00% Non-Directed Orders as Market Orders as Percent of Non-Directed and September 1 of Non-Directed Orders Orde Orders as Percent S... Directed Orders 92.24% ent of Non-Unico Orders

Venues - Non Directed Orders

Venue	Non-Directed Orders (%)	Market Orders (%)	No Marketable Limit Orders (%)	n-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders (USD)				Net Payment Paid/Received Non-Marketable Limit Orders (cents per hundred shares)	Net Payment Paid/Received Other Orders (USD)	Net Payment Paid/Received Other Orders (cents per hundred shares)
Citadel Securities LLC (CDRG)	34.78%	34.10%	40.74%	46.23%	0.00%	0	0.0000	0	0.0000	0.0000	0	0.0000
Virtu Americas LLC (NITE) Wall Street Access (VNDM) Clearpool Execution Services, LLC (CPEM)	33.33% 31.72% 0.17%	33.43% 32.47% 0.00%	22.22%	30.19% 21.70% 1.89%	42.86% 42.86% 14.29%	0 0	0.0000 0.0000 0.0000	0 0	0.0000	0.0000 0.0000 0.0000	0	0.0000 0.0000 0.0000

March 2022 Option Contracts Marketable Limit Orders as Non-Marketable Limit Orders Non-Directed Orders as Market Orders as Percent of Non-Percent of Non-Directed as Percent of Non-Directed Other Orders as Percent of Percent of All Orders 100.00% Directed Orders 64.30% Orders 6.90% Orders 27.31% Non-Directed Orders 1.49%

Venues - Non Directed Orders

							Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
				Non-Marketable Limit Orders		Net Payment Paid/Received f			Marketable Limit Orders N				
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
National Financial Services	100.00%	100.00%	100.00%	100.00%	100.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

Material Aspects:
Citadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.

Virtua Menicas Lic - William Blair did not receive payment on once flow from NITE for these trades. Virtua Menicas Lic - William Blair did not receive payment for order flow from NITE for these trades. Wall Street Access - William Blair did not receive payment for order flow from YNDM for these trades. National Financia Services LIC - William Blair did not receive payment for order flow from MPS for these trades Clearpool Execution Services, LIC - William Blair did not receive payment for order flow from CPEM for these trades.