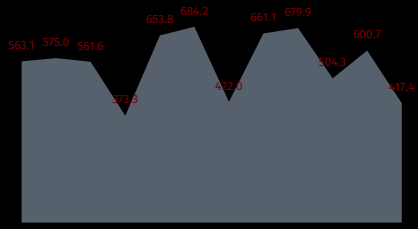
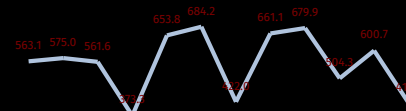
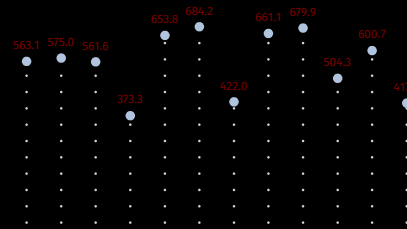
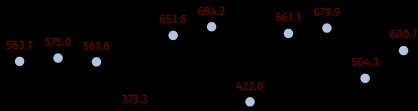
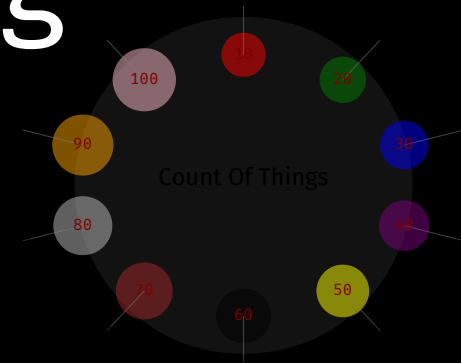
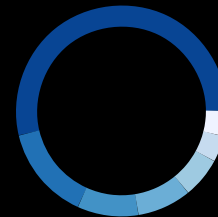
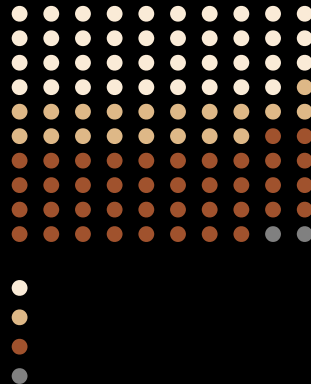
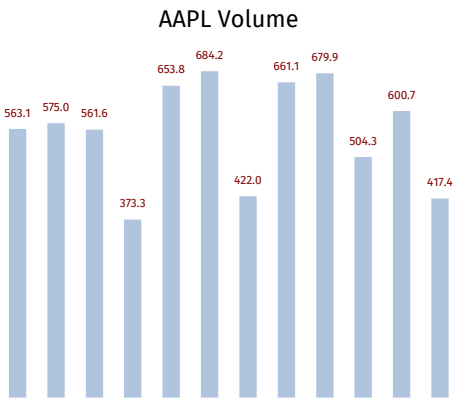


# dchart

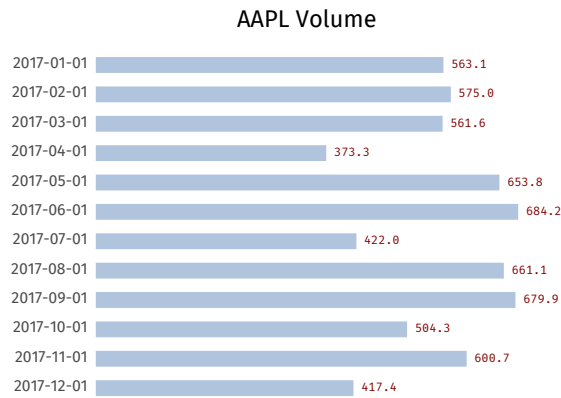


# deck/decksh charting

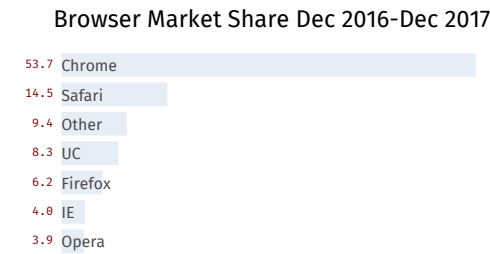




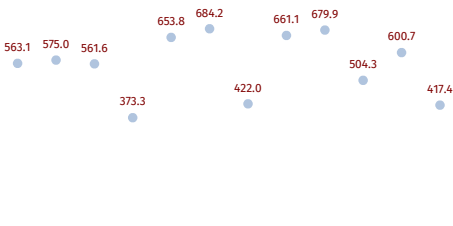
Column



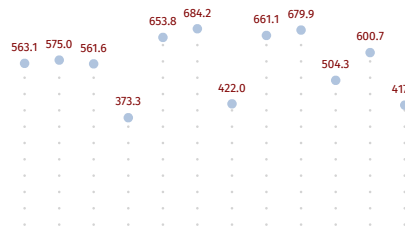
Bar



Word Bar



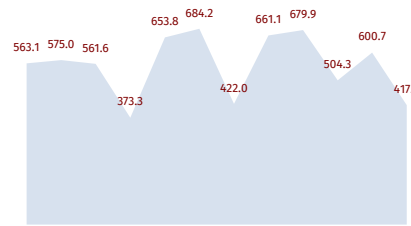
Dot



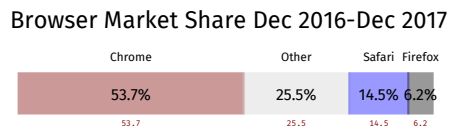
Scatter



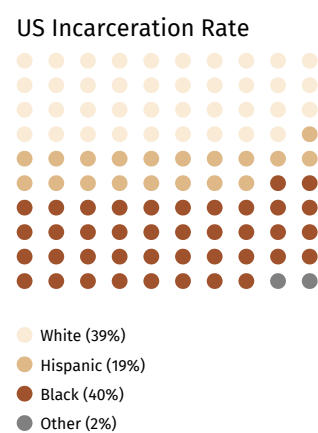
Line



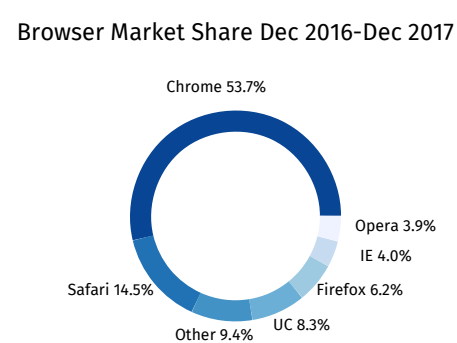
Area



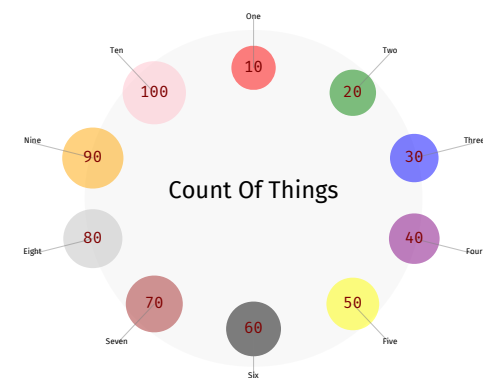
Proportional Map



Proportional Grid



Donut/Pie

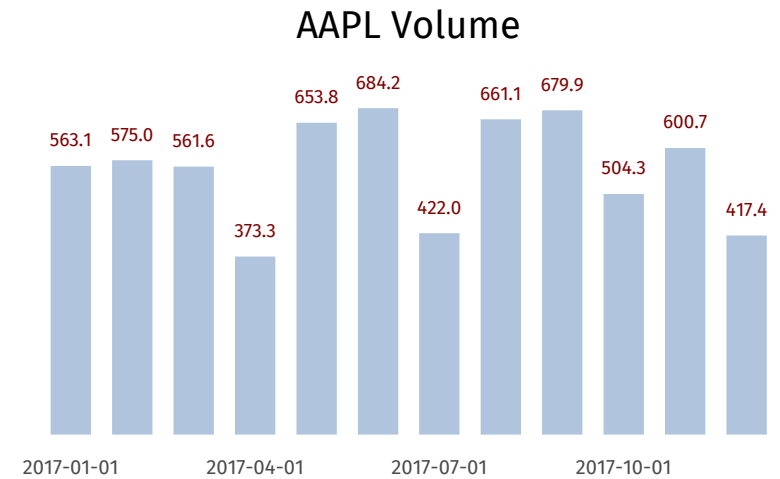


Radial

# Data to Chart

```
# AAPL Volume
2017-01-01 563.122
2017-02-01 574.969
2017-03-01 561.628
2017-04-01 373.304
2017-05-01 653.755
2017-06-01 684.178
2017-07-01 421.992
2017-08-01 661.069
2017-09-01 679.879
2017-10-01 504.291
2017-11-01 600.663
2017-12-01 417.354
```

```
<deck>
  <canvas width="0" height="0" />
  <slide bg="white">
    <text ...>AAPL Volume</text>
    <line ... color="lightsteelblue" />
    <text ... color="rgb(127,0,0)">563.1</text>
    <text ... color="rgb(75,75,75)">2017-01-01</text>
    .
    .
    .
  </slide>
</deck>
```



Data

Markup

PDF Rendition

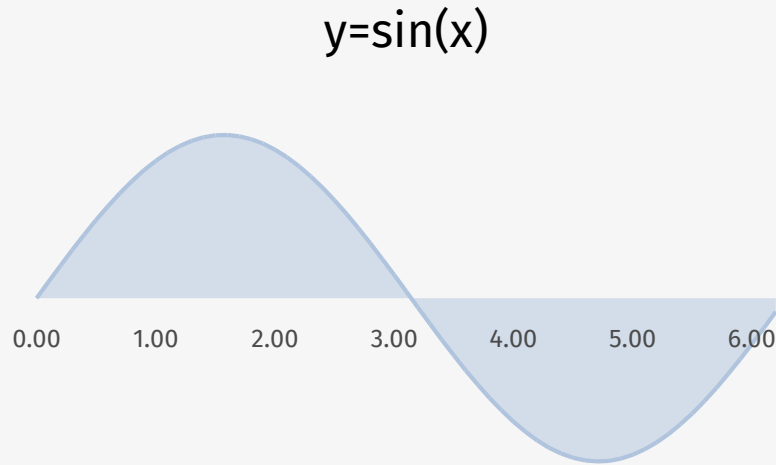
dchart AAPL.d | pdf

# Generating data for charts

```
package main
```

```
import (  
    "fmt"  
    "math"  
)
```

```
func main() {  
    fmt.Println("# y=sin(x)")  
    for x := 0.0; x < math.Pi*2; x += 0.1 {  
        fmt.Printf("%.2f\t%.4f\n", x, math.Sin(x))  
    }  
}
```



```
# y=sin(x)
```

```
0.00    0.0000  
0.10    0.0998  
0.20    0.1987  
0.30    0.2955  
0.40    0.3894  
0.50    0.4794  
0.60    0.5646  
0.70    0.6442  
0.80    0.7174  
.  
.  
5.80    -0.4646  
5.90    -0.3739  
6.00    -0.2794  
6.10    -0.1822  
6.20    -0.0831
```

```
go run sine.go |  
dchart -bar=f -val=f -xlabel=10 -line -vol -bottom=50 |  
pdfdeck -stdout - > sine.pdf
```

## Chart Types

-bar	true	bar chart
-wbar	false	word bar chart
-hbar	false	horizontal bar chart
-donut	false	donut chart
-dot	false	dot plot
-line	false	line chart
-pgrid	false	proportional grid
-pmap	false	proportional map
-radial	false	radial chart
-scatter	false	scatter chart
-vol	false	volume plot

## Position and Scaling

-top	80	top of the chart
-bottom	30	bottom of the chart
-left	20	left margin
-right	80	right margin
-min	data min	set the minimum data value
-max	data max	set the maximum data value

## Chart Elements

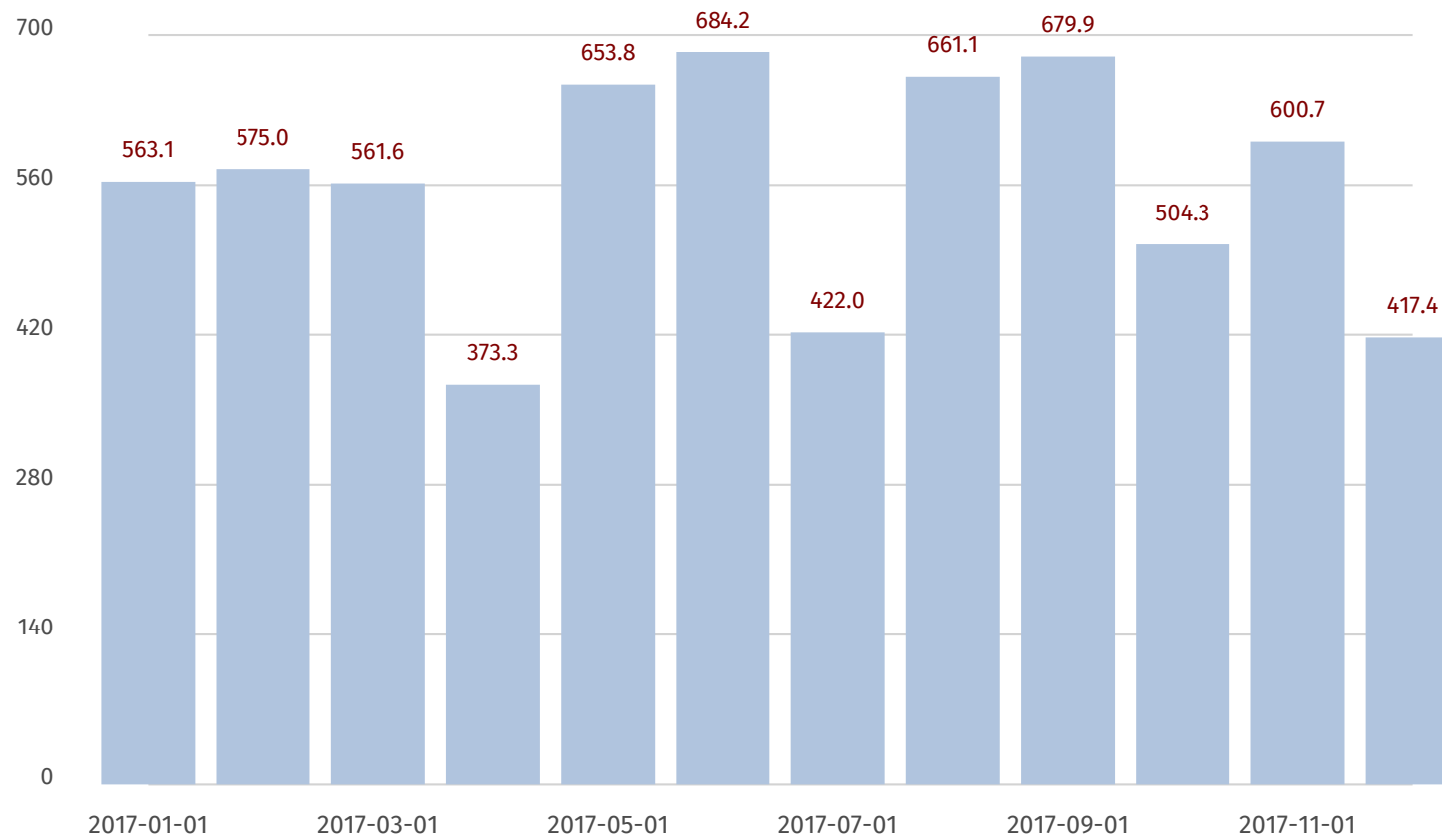
-csv	false	read CSV files
-frame	false	show a colored frame
-fulldeck	true	generate full deck markup
-grid	false	show gridlines on the y axis
-note	true	show annotations
-pct	false	show computed percentage
-rline	false	show a regression line
-solidpmap	false	show solid pmap colors
-spokes	false	show spokes in radial chart
-title	true	show the title
-val	true	show values
-xlast	false	show the last x label
-yaxis	false	show a y axis
-chartitle	override title in data	specify the title
-datacond	low,high,color	conditional data colors
-hline	value,label	label horizontal line at value
-valpos	t=top, b=bottom, m=middle	value position
-xlabel	default=1, 0 to suppress	x axis label interval
-yrange	min,max.step	specify the y axis label range

## Measures and Attributes

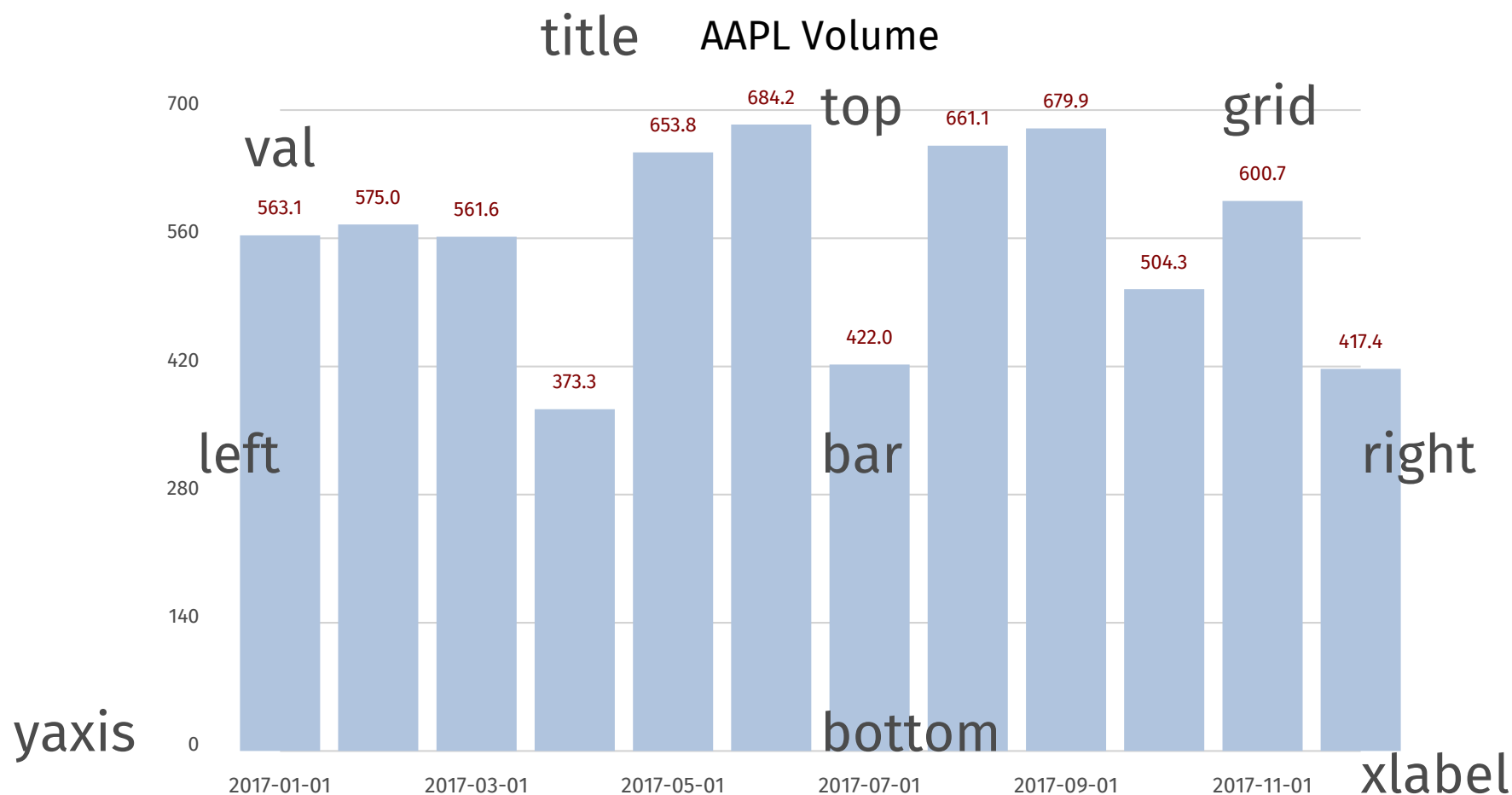
-bgcolor	white	background color
-barwidth	computed from data size	barwidth
-color	lightsteelblue	data color
-csvcol	labe1,label2	specify csv columns
-datafmt	%.1f	data format for values
-dmin	false	use data minimum, not zero
-framecolor	rgb(127,127,127)	frame color
-lcolor	rgb(75,75,75)	label color
-linewidth	0.2	linewidth
-ls	2.4	linespacing
-noteloc	c=center, r=right, l=left	annotation location
-pmlen	20	pmap label length
-psize	30	diameter of the donut
-pwidth	3	width of the donut or pmap
-rlcolor	rgb(127,0,0)	regression line color
-textsize	1.5	text size
-xlabrot	0	xlabel rotation (deg.)
-vcolor	rgb(127,0,0)	value color
-volop	50	volume opacity %

# Command Option Examples

## AAPL Volume



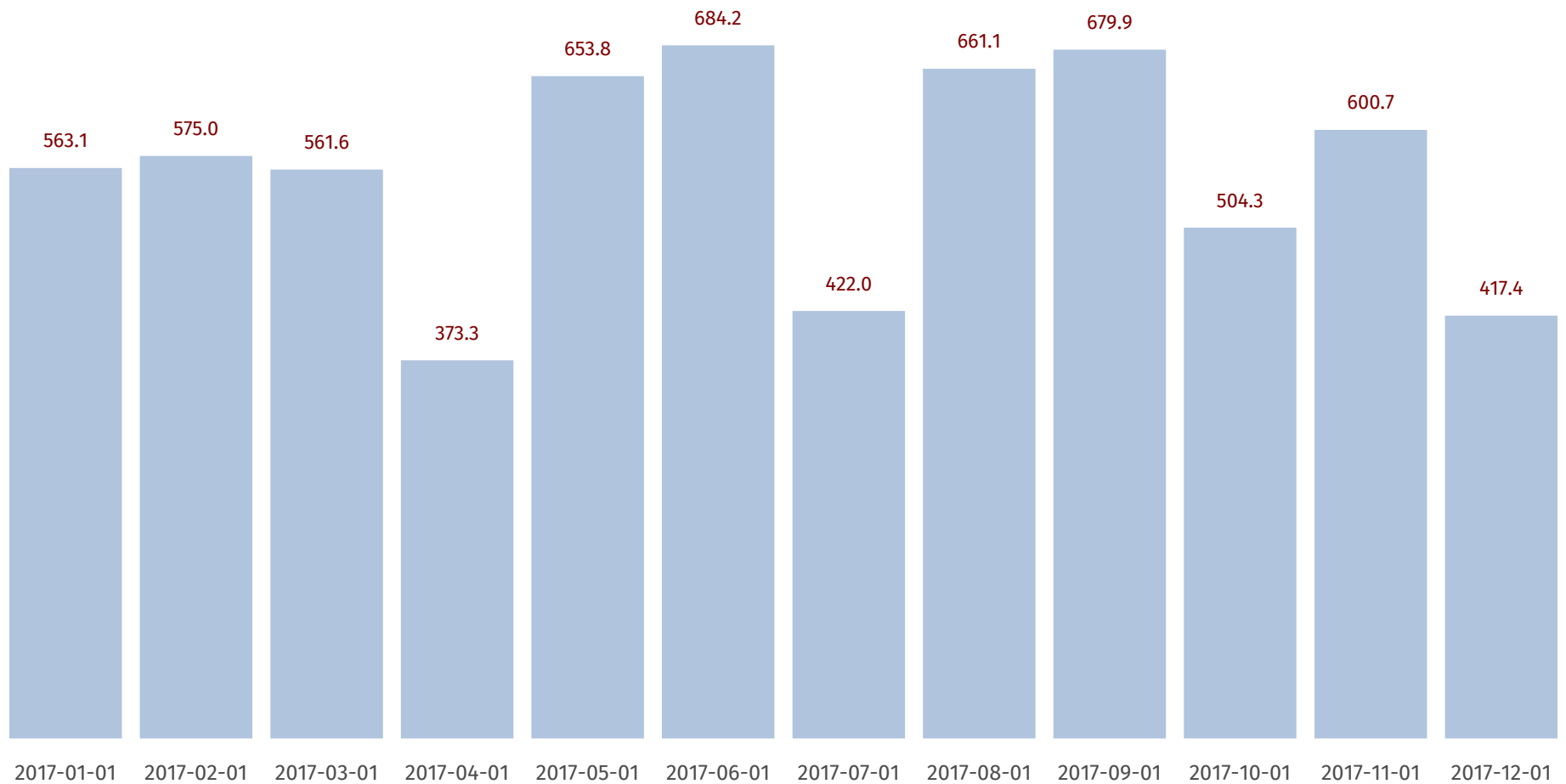
# Chart Attributes



```
dchart -left=20 -right=80 -top=75 -bottom=30 -yaxis -grid -xlabel=2 -val AAPL.d
```



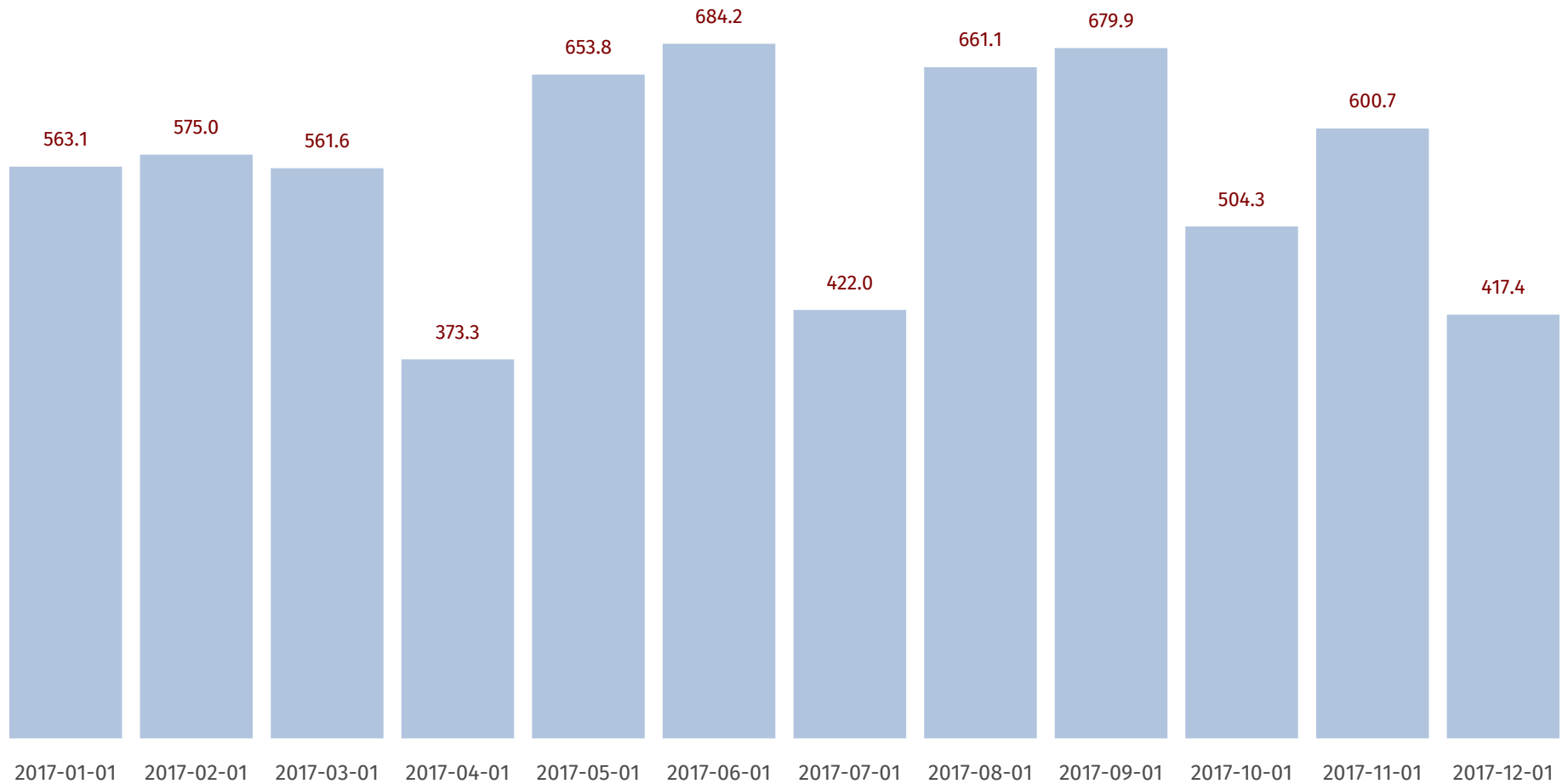
## AAPL Volume



## Default Bar Chart

dchart AAPL.d

## Volume

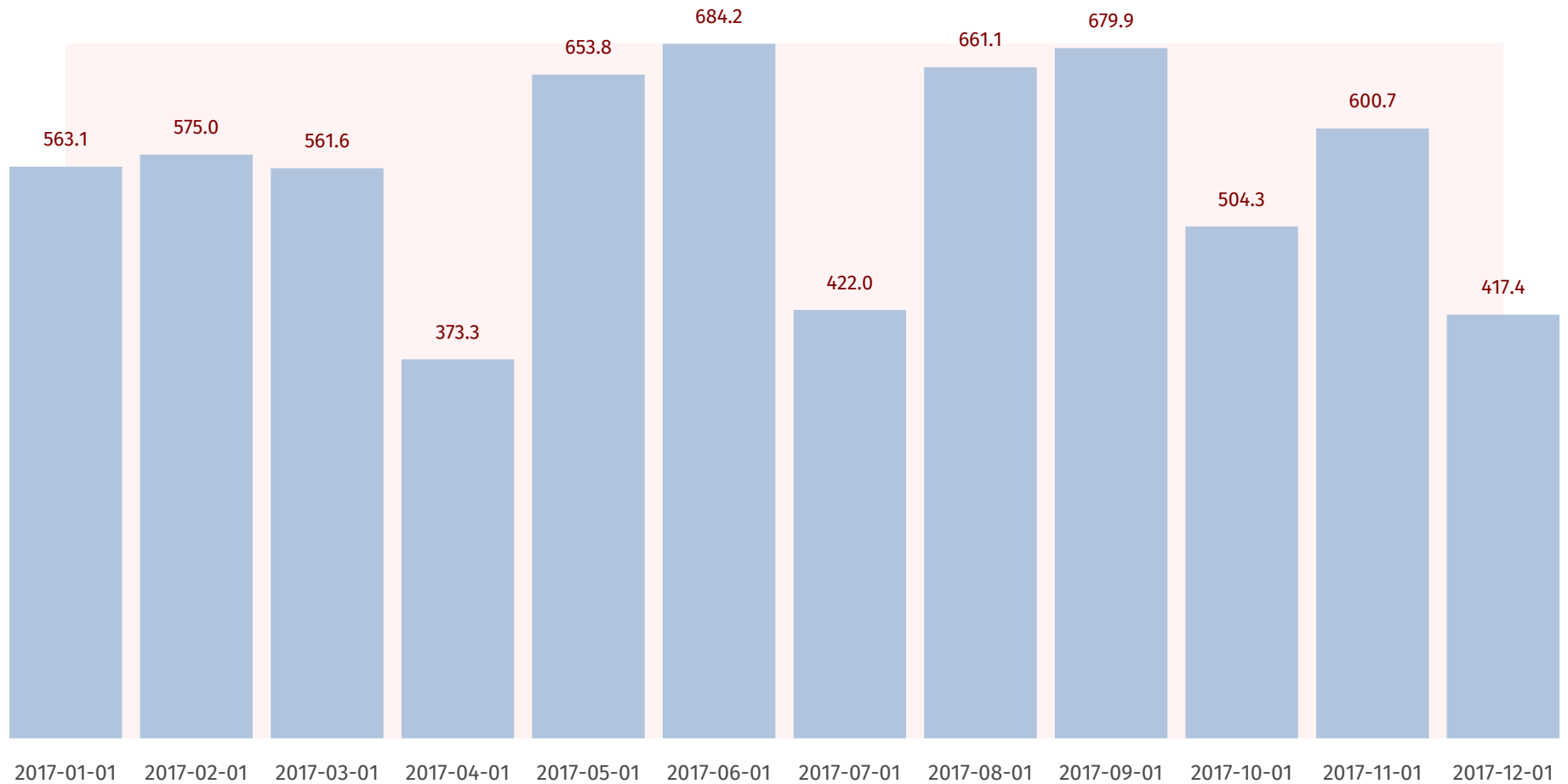


## Reading CSV files

```
dchart -csv -csvcol=Date,Volume AAPL.csv
```

```
Date,Volume
2017-01-01,563.122
2017-02-01,574.969
2017-03-01,561.628
2017-04-01,373.304
2017-05-01,653.755
2017-06-01,684.178
2017-07-01,421.992
2017-08-01,661.069
2017-09-01,679.879
2017-10-01,504.291
2017-11-01,600.663
2017-12-01,417.354
```

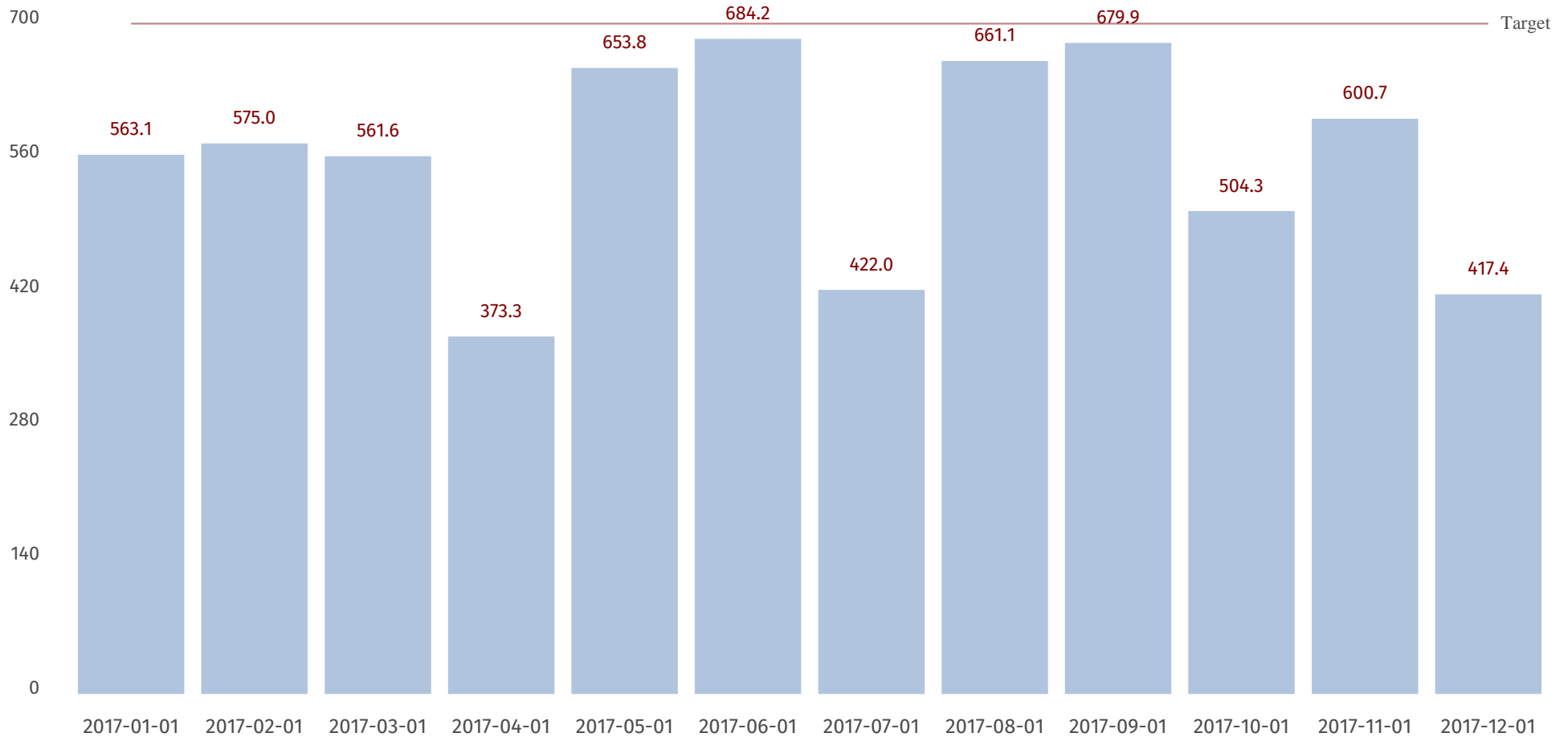
## AAPL Volume



Frame, Frame Color

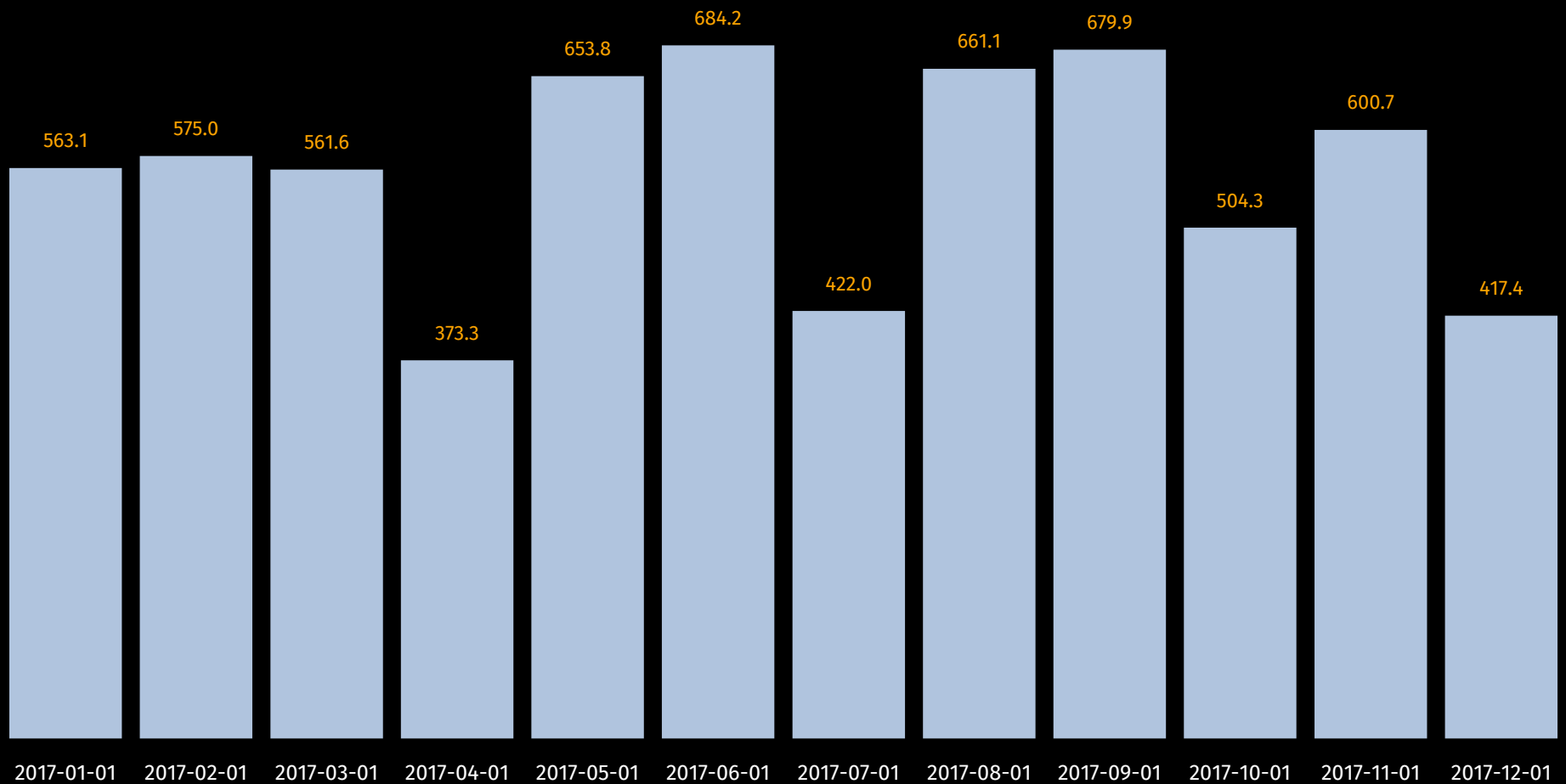
```
dchart -frame=t -framecolor=red AAPL.d
```

## AAPL Volume



Target Line, Y-Axis

```
dchart -hline=700,Target -yaxis AAPL.d
```



## Background, Label, Value Color

```
dchart -bgcolor=black -lcolor=white -vcolor=orange AAPL.d
```

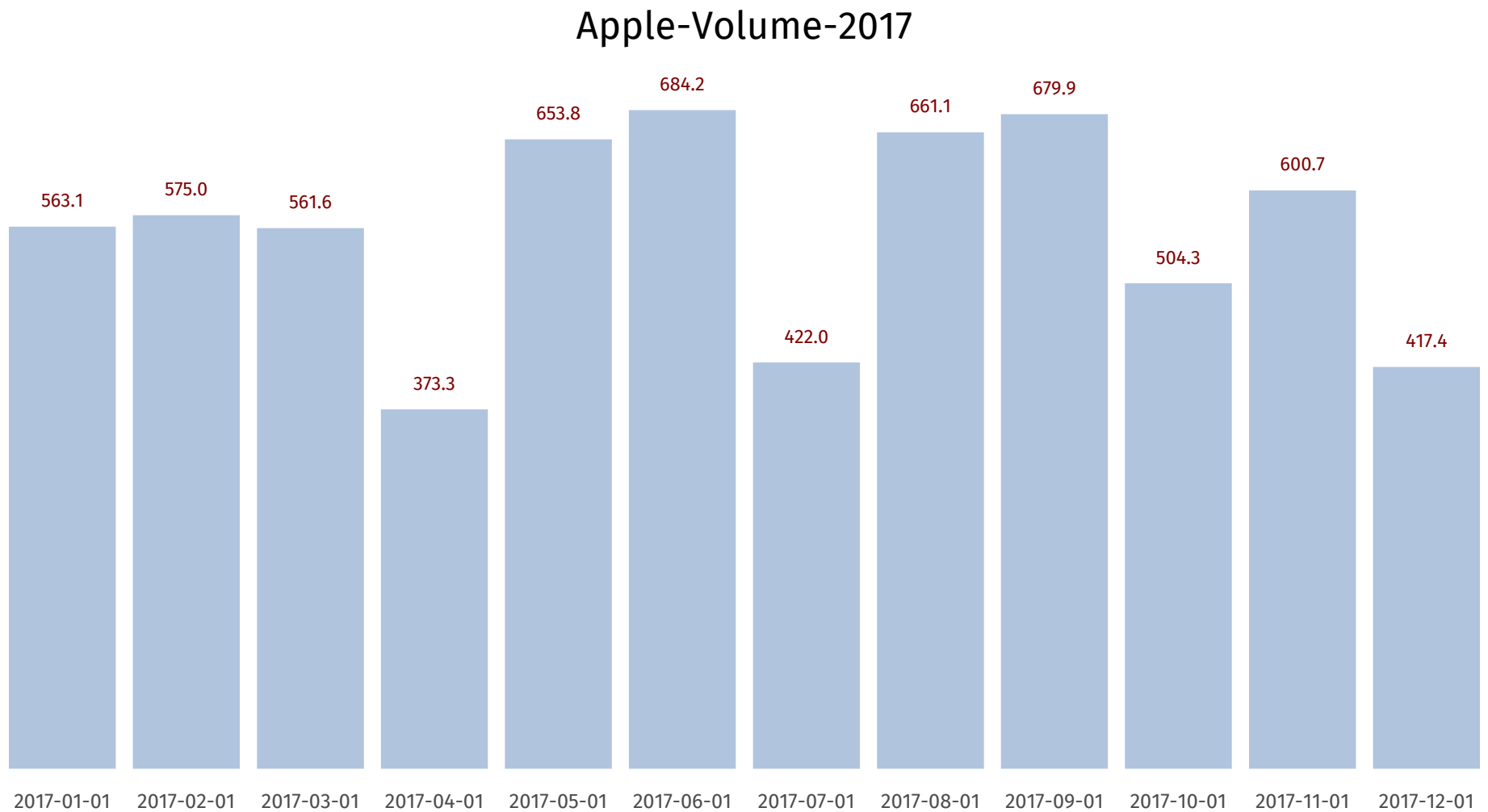


Chart Title

```
dchart -charttitle="Apple-Volume-2017" AAPL.d
```

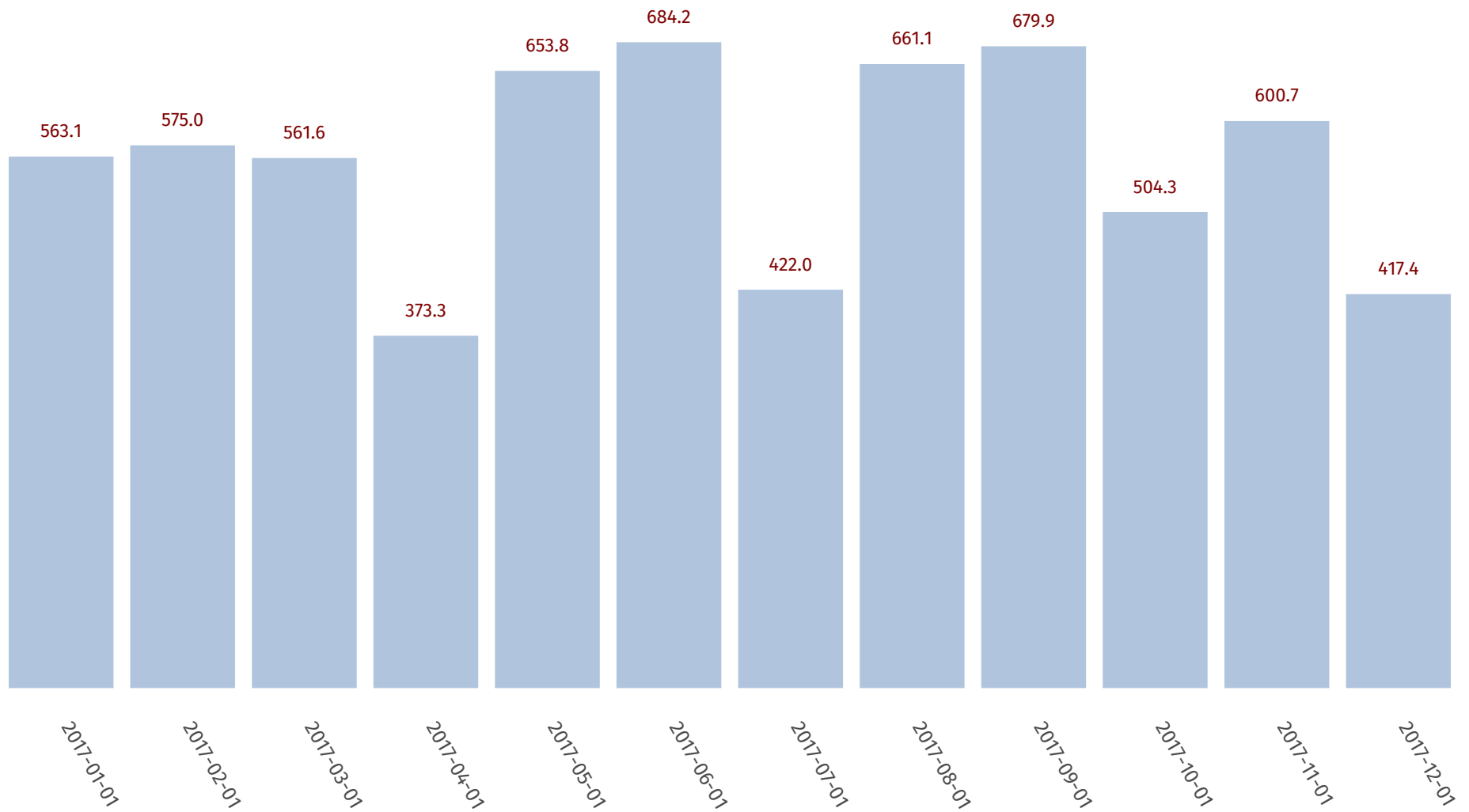
## AAPL Volume



## Data Conditions

dchart -datacond=300,450,orange AAPL.d

## AAPL Volume

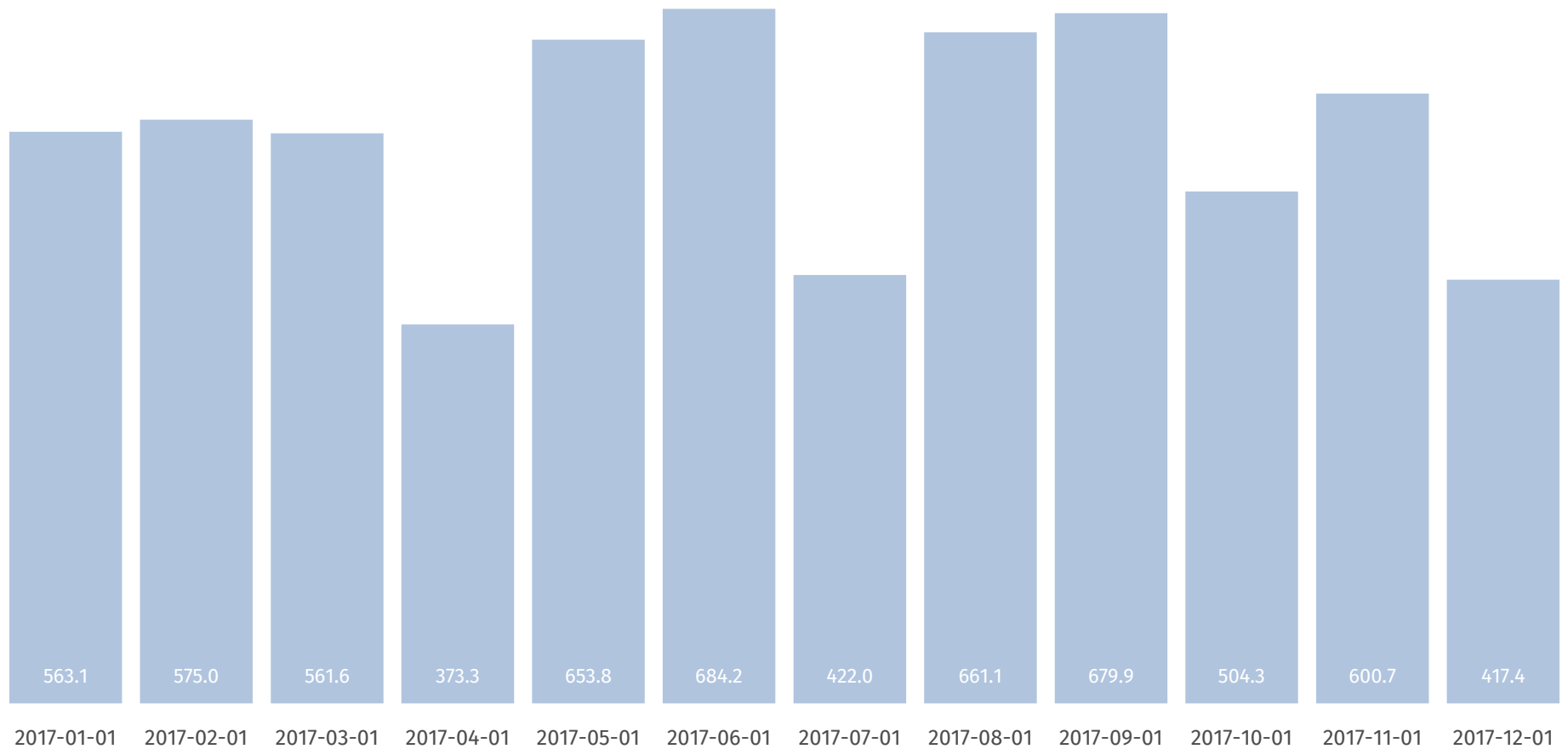


X-Axis Label Rotation

dchart -xlabrot=300 AAPL.d



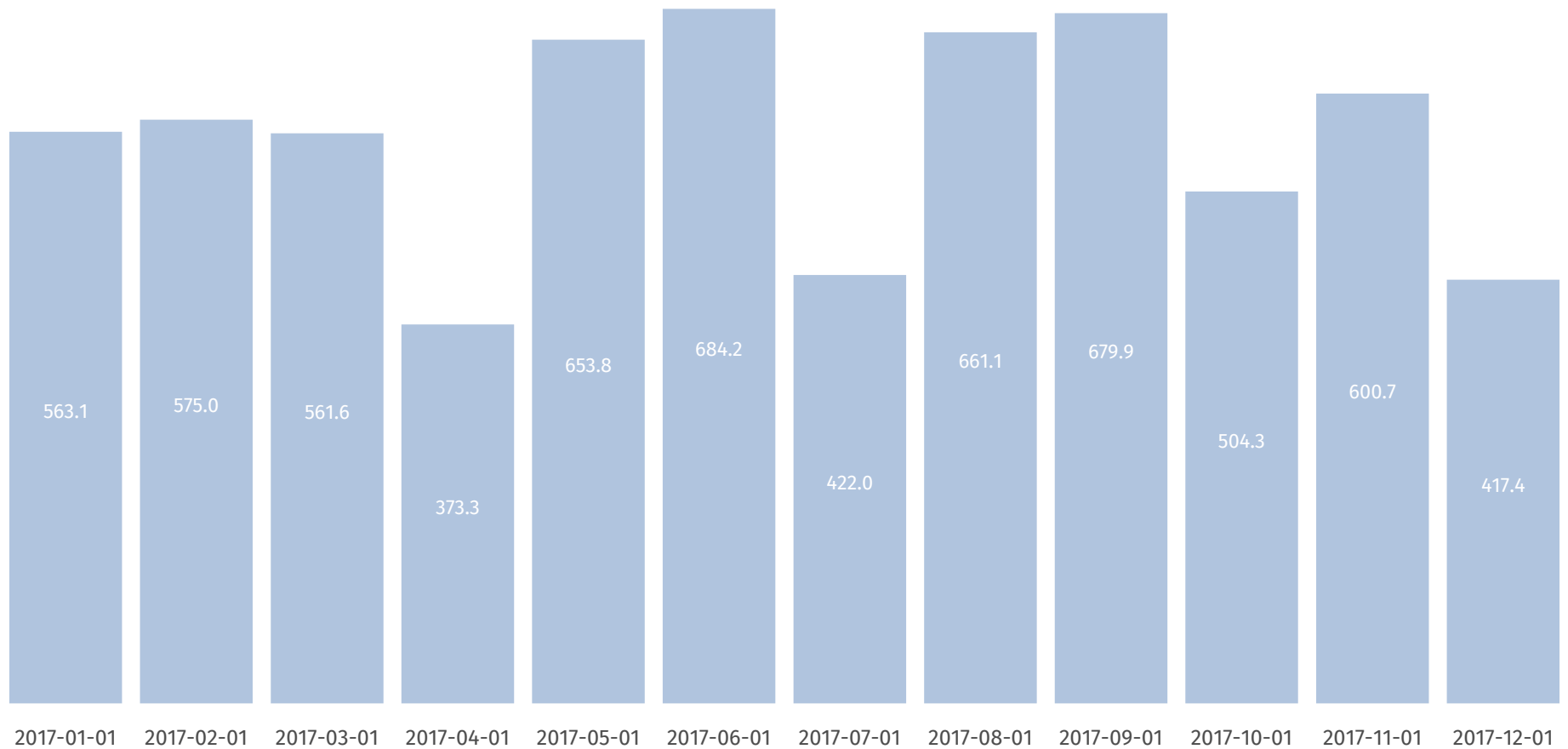
## AAPL Volume



Value Color, Value Position Bottom

```
dchart -vcolor=white -valpos=b AAPL.d
```

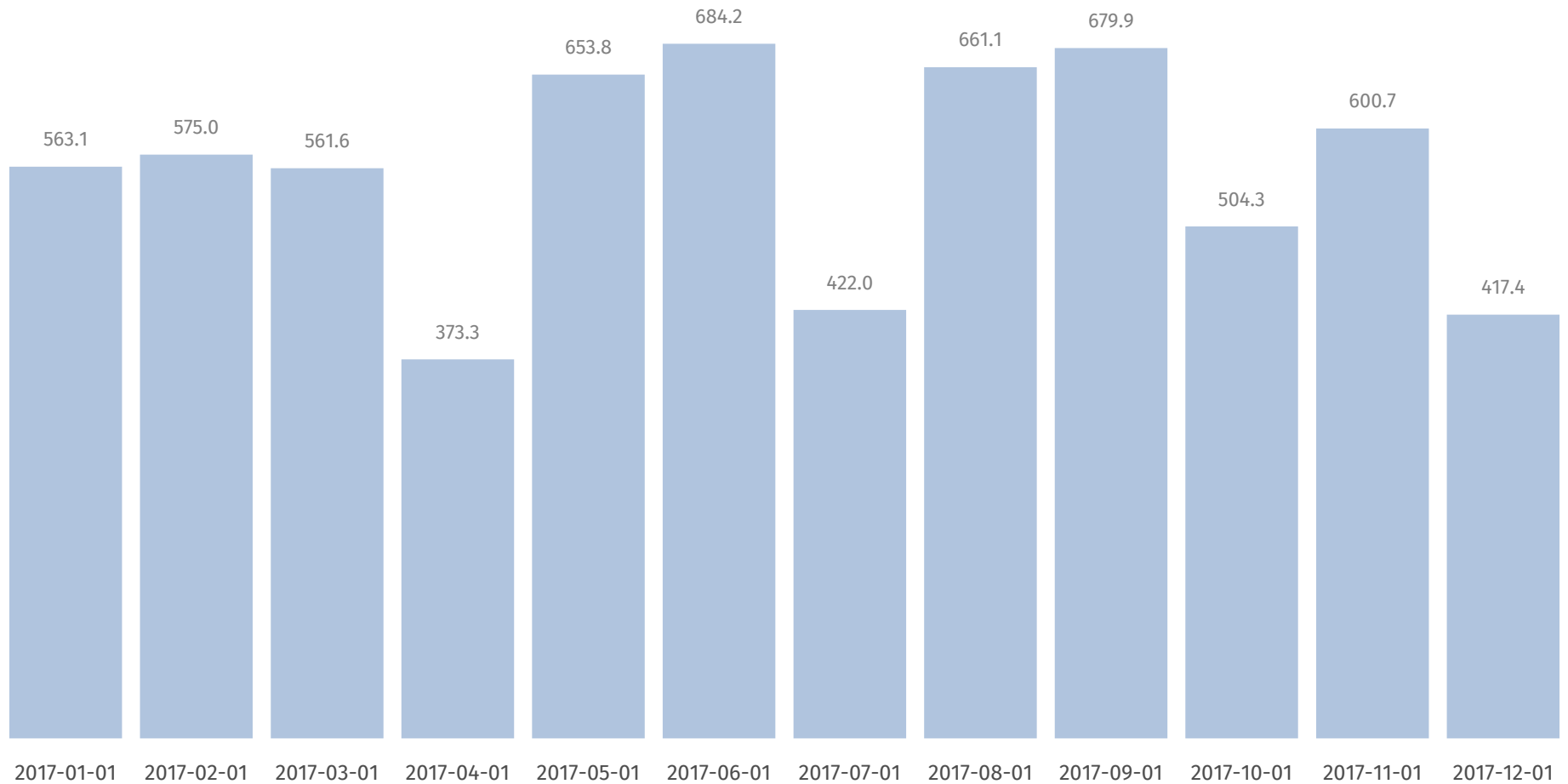
## AAPL Volume



Value Color, Value Position Middle

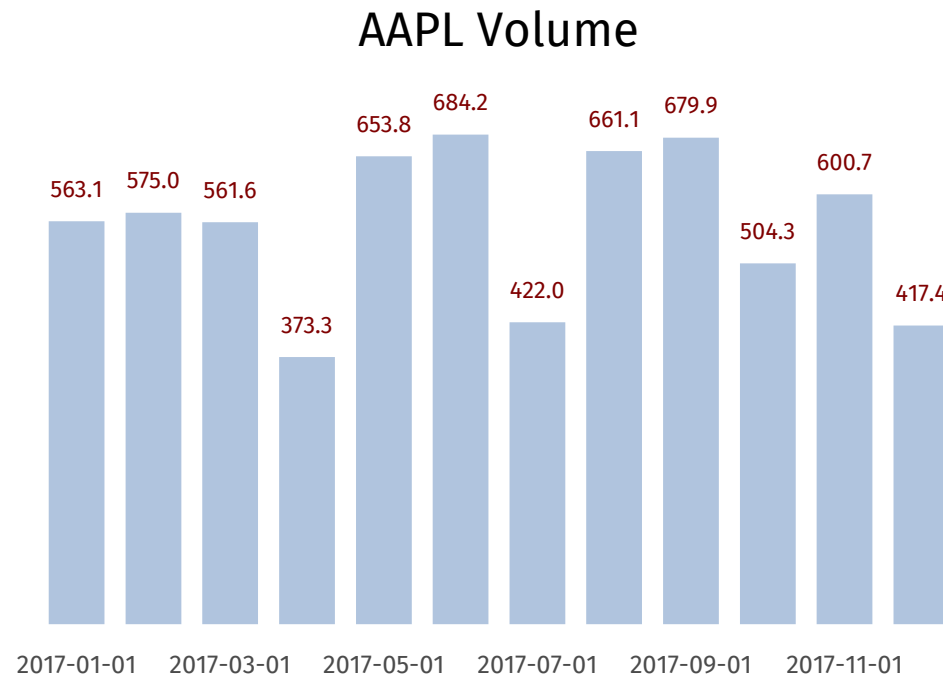
```
dchart -vcolor=white -valpos=m AAPL.d
```

## AAPL Volume



Value Color, Value Position Top

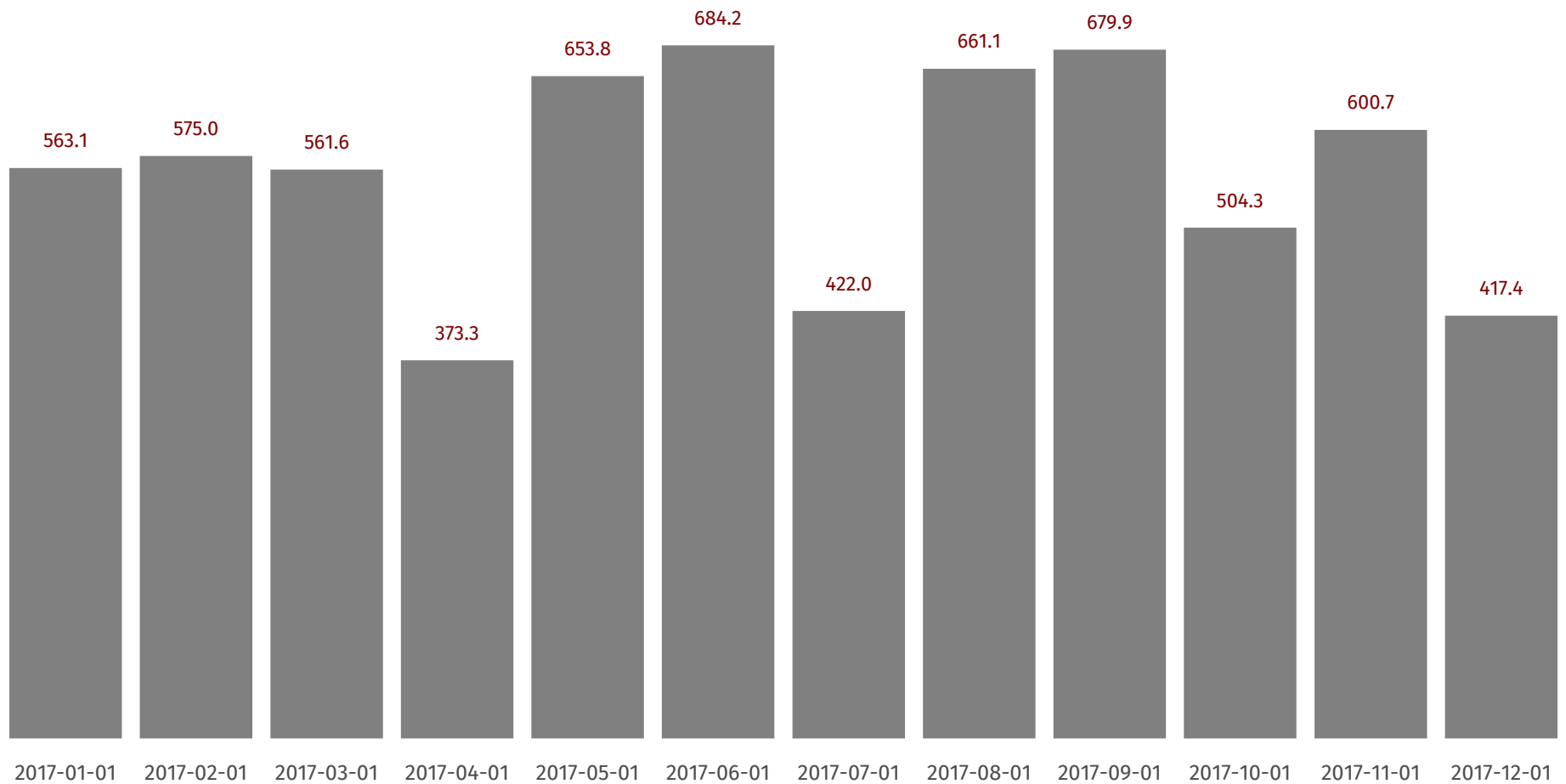
dchart -vcolor=gray AAPL.d



## Scaling, X-Axis Labels

```
dchart -xlabel=2 -left 30 -right 70 -top 70 -bottom 40 AAPL.d
```

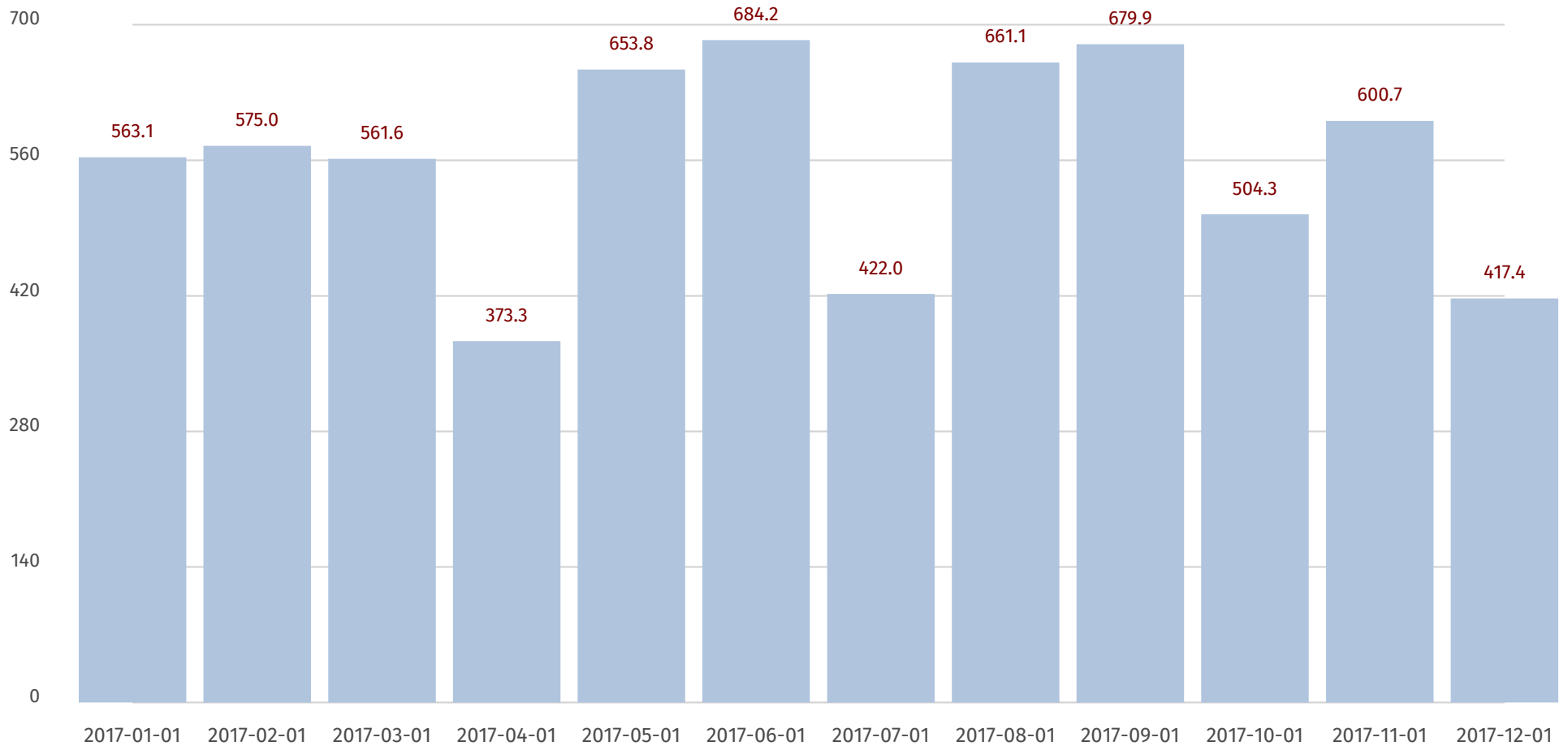
## AAPL Volume



Color

```
dchart -color gray AAPL.d
```

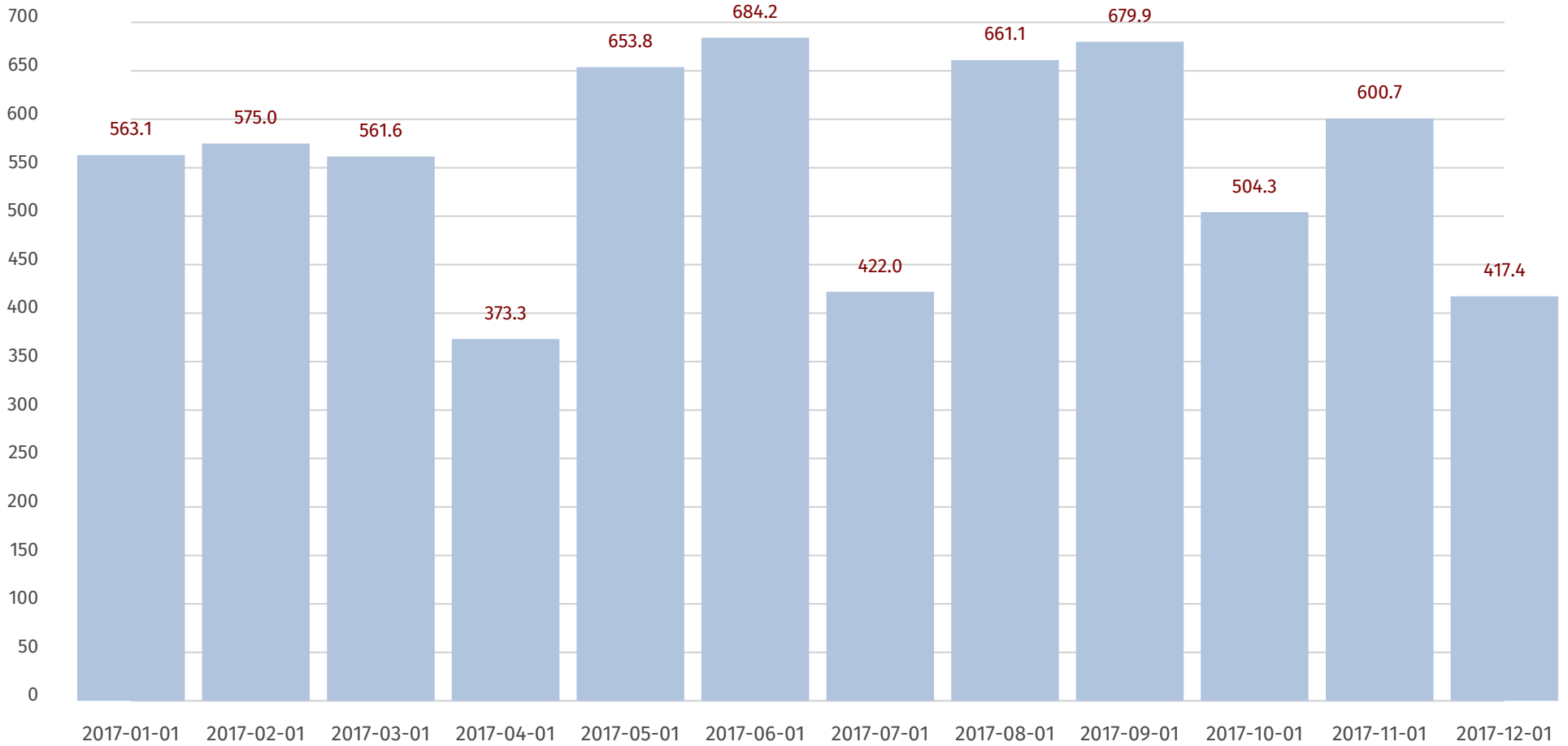
## AAPL Volume



Y-Axis, Grid

```
dchart -grid -yaxis AAPL.d
```

## AAPL Volume



## Y-Range

```
dchart -yrange=0,700,50 -grid -yaxis AAPL.d
```

## AAPL Volume

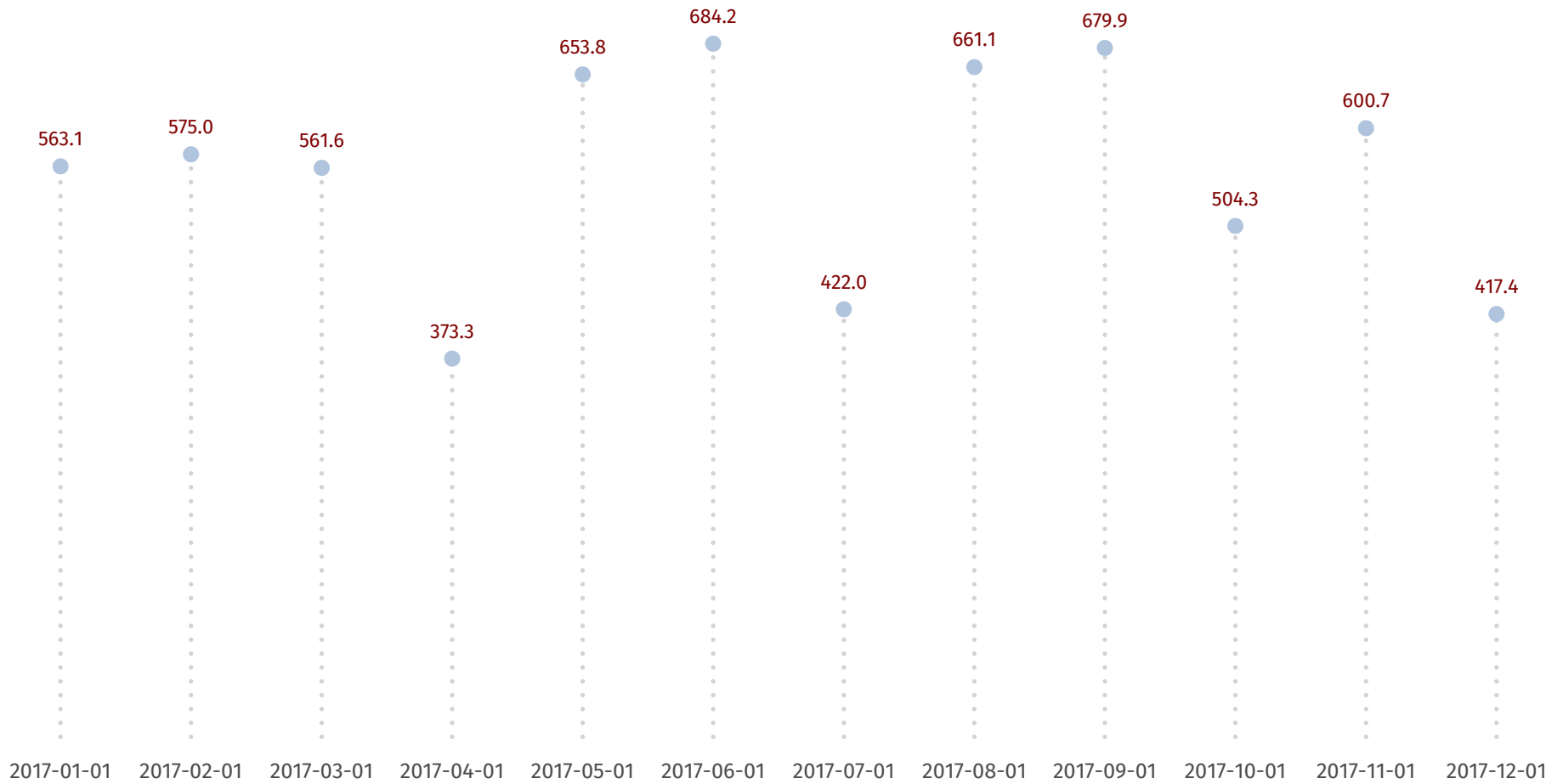


## Adjusting Bar Width

```
dchart -barwidth=1 AAPL.d
```



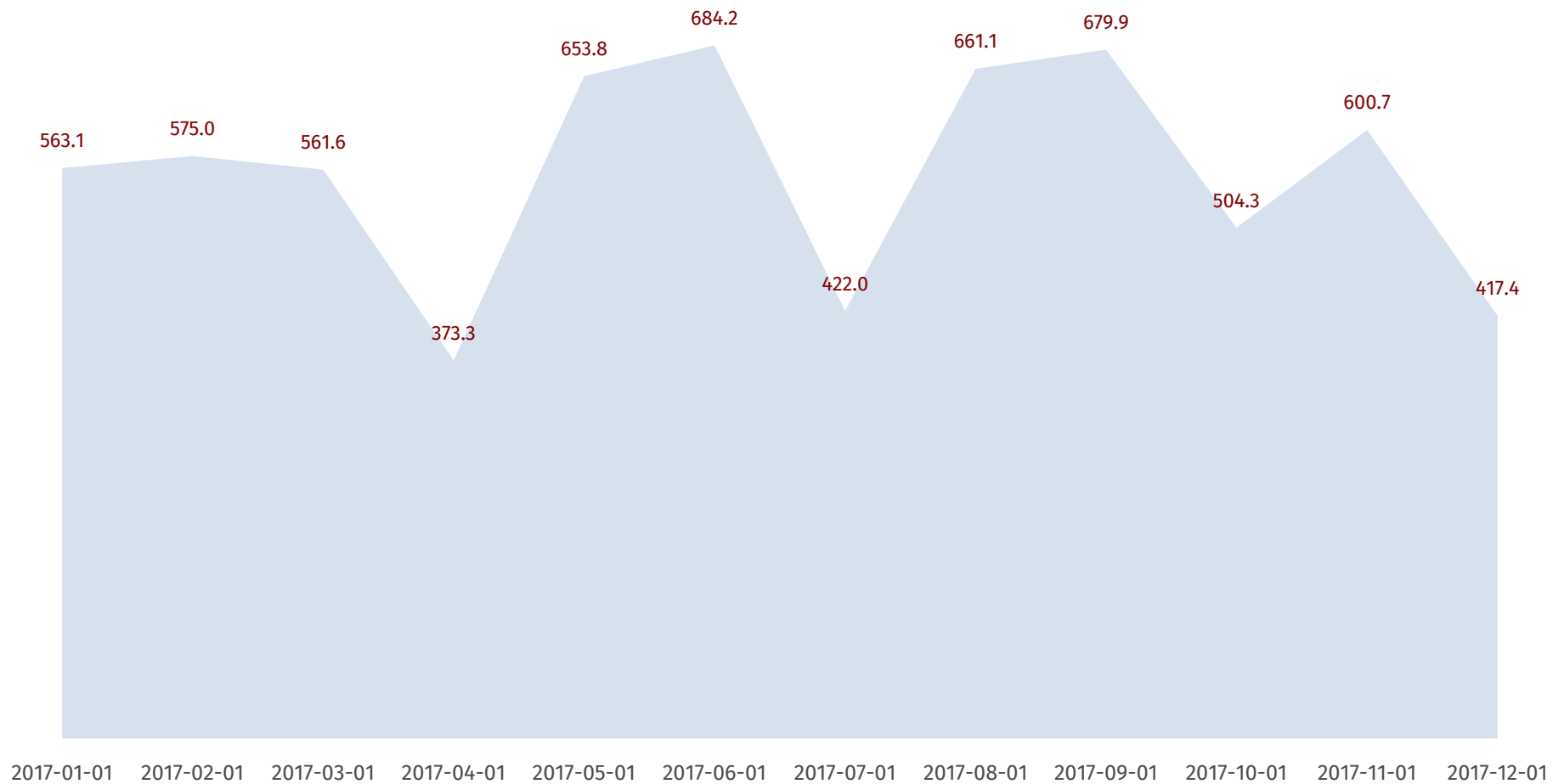
## AAPL Volume



## Dot Chart

```
dchart -bar=f -dot AAPL.d
```

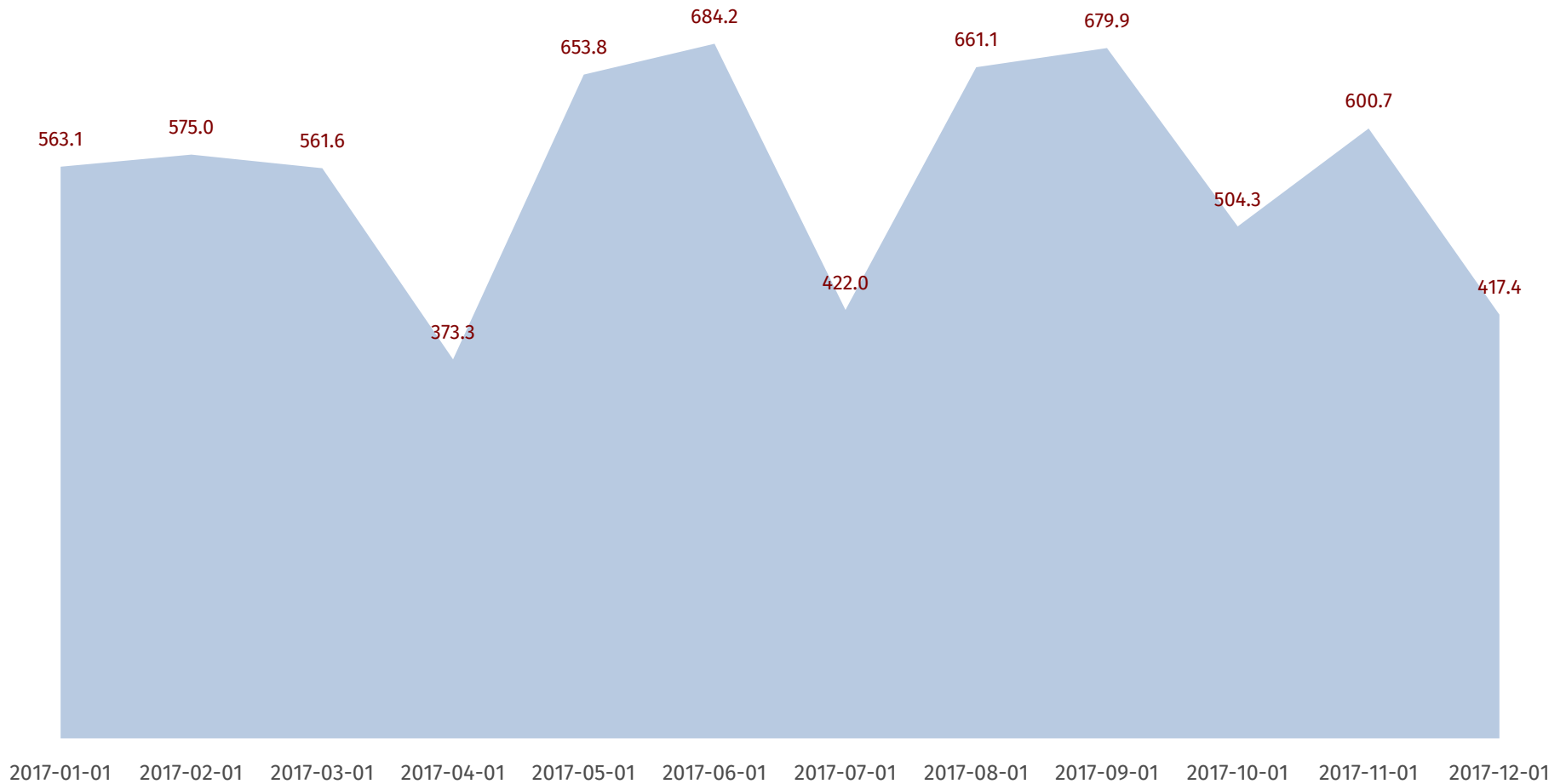
## AAPL Volume



## Area Chart

```
dchart -bar=f -vol AAPL.d
```

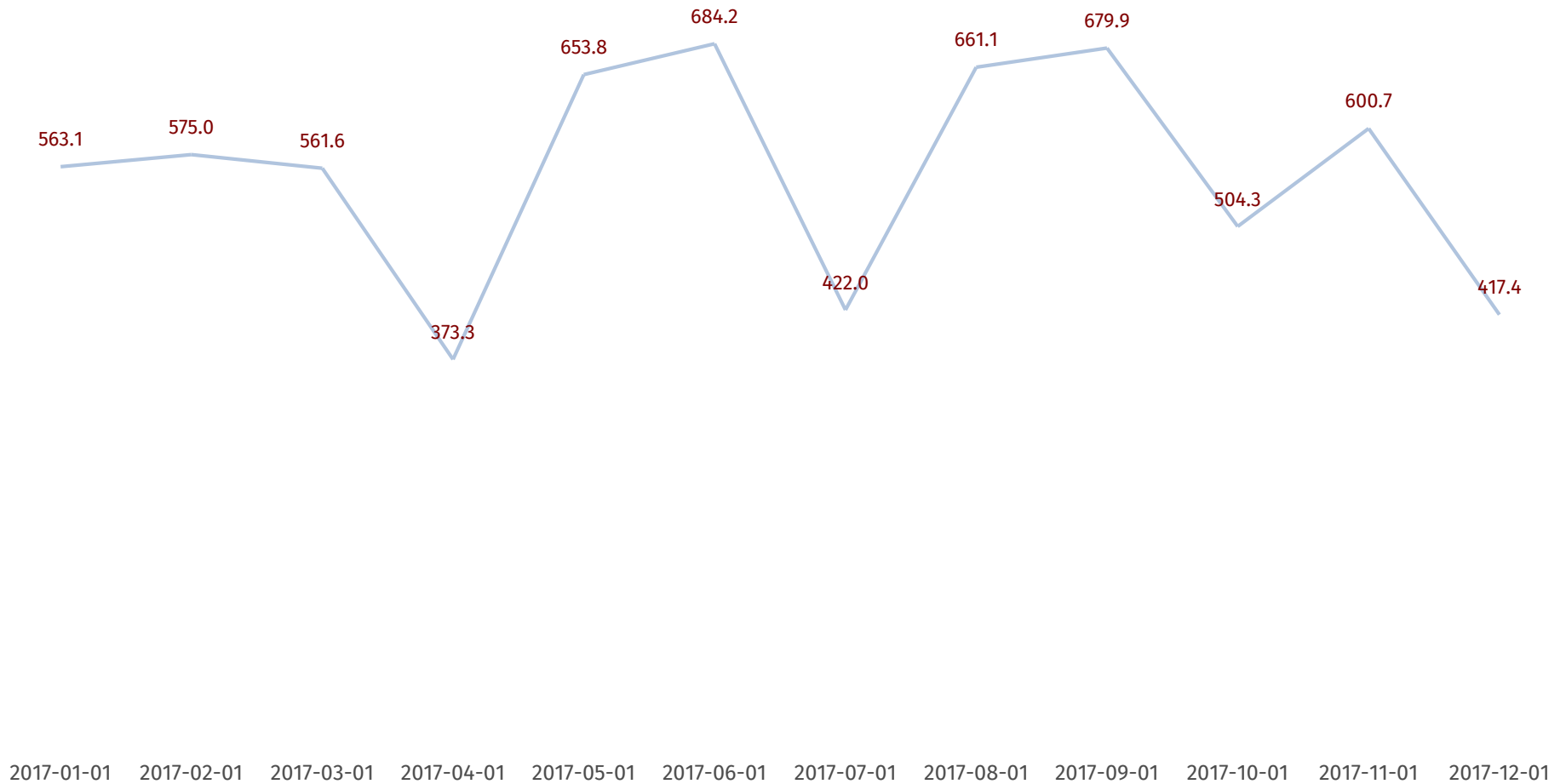
## AAPL Volume



## Area Chart, Opacity

```
dchart -bar=f -vol -volop=90 AAPL.d
```

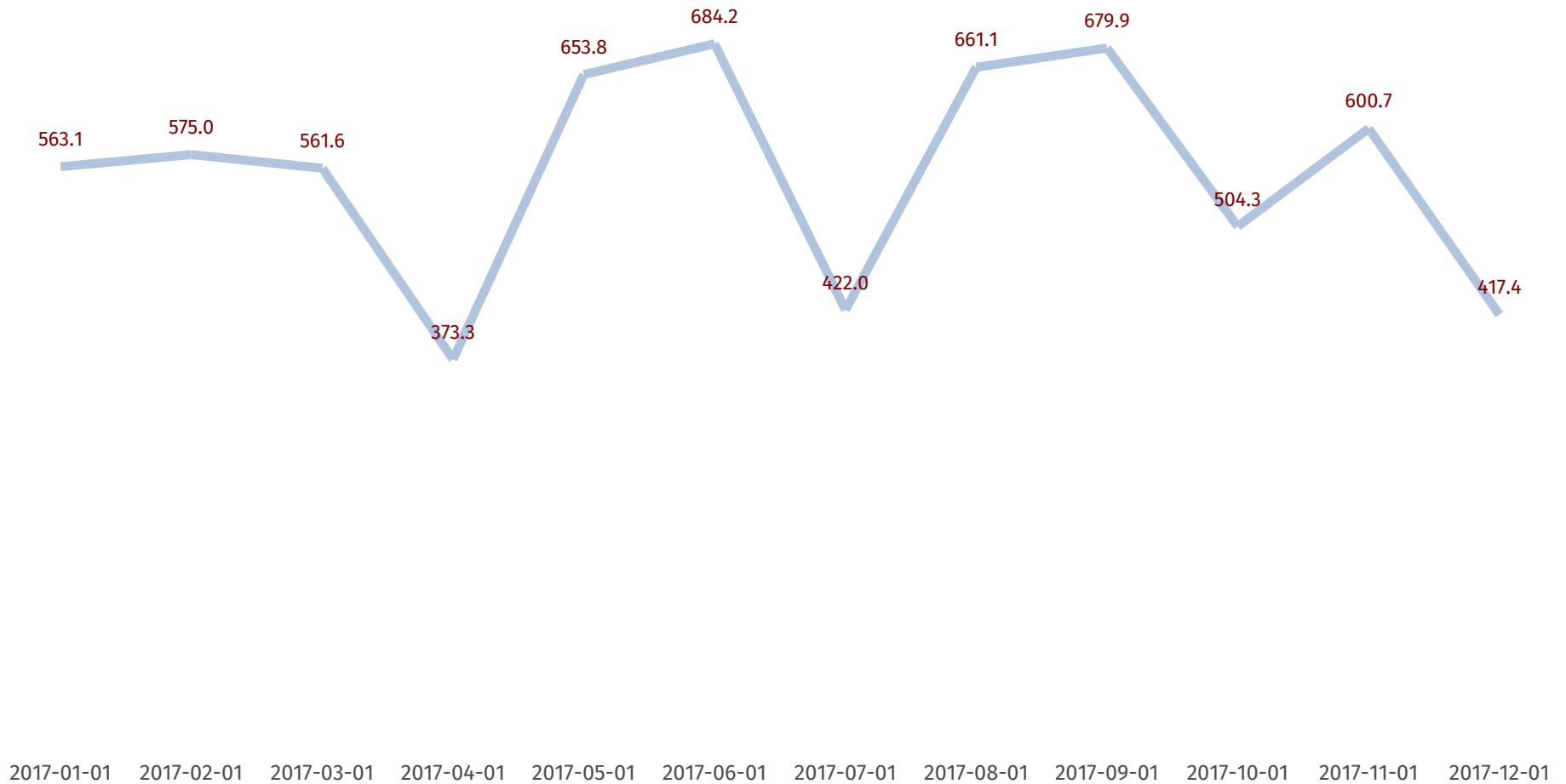
## AAPL Volume



## Line Chart

```
dchart -bar=f -line AAPL.d
```

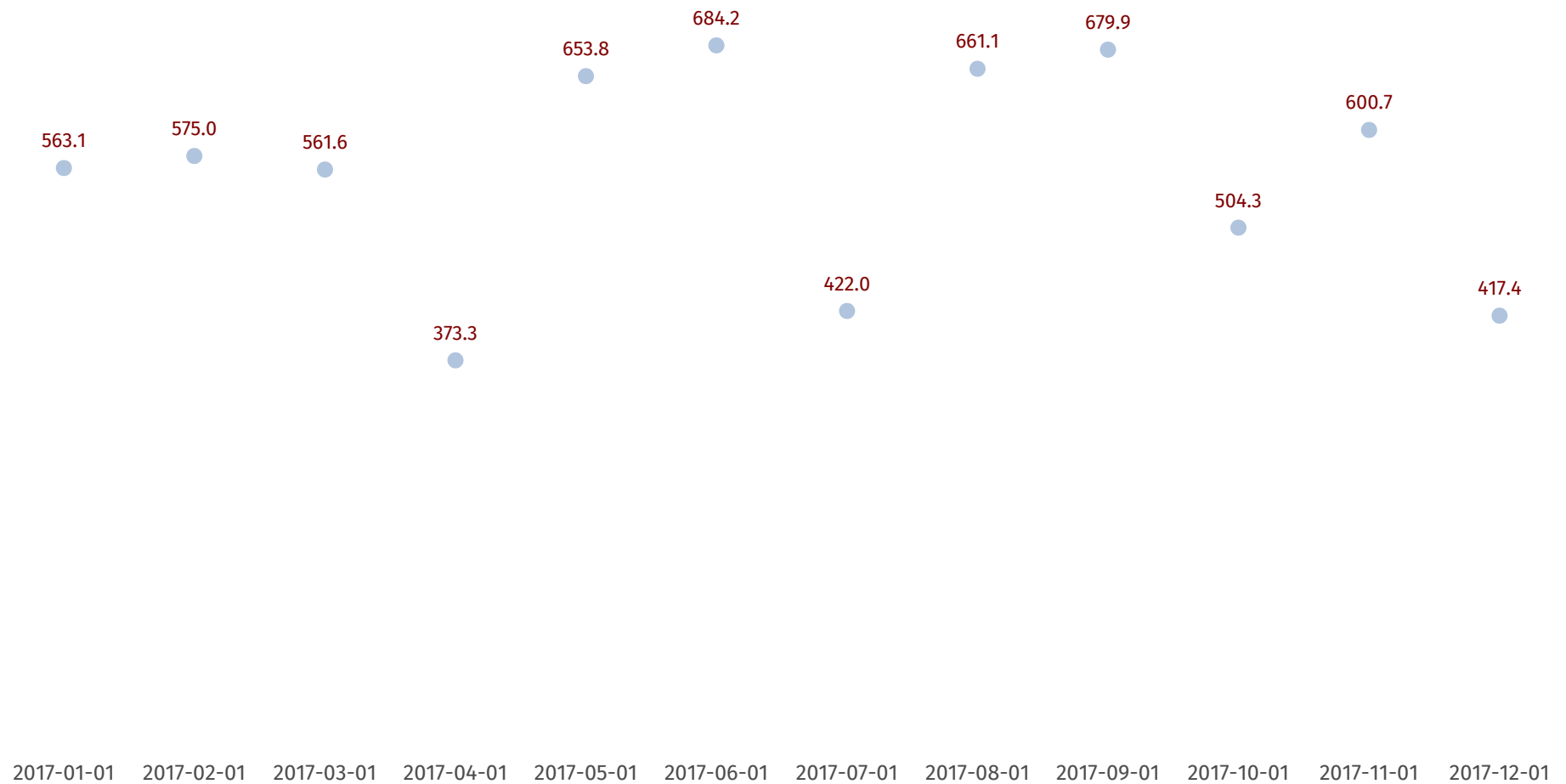
## AAPL Volume



## Line Chart, Line Width

```
dchart -bar=f -line -linewidth=0.5 AAPL.d
```

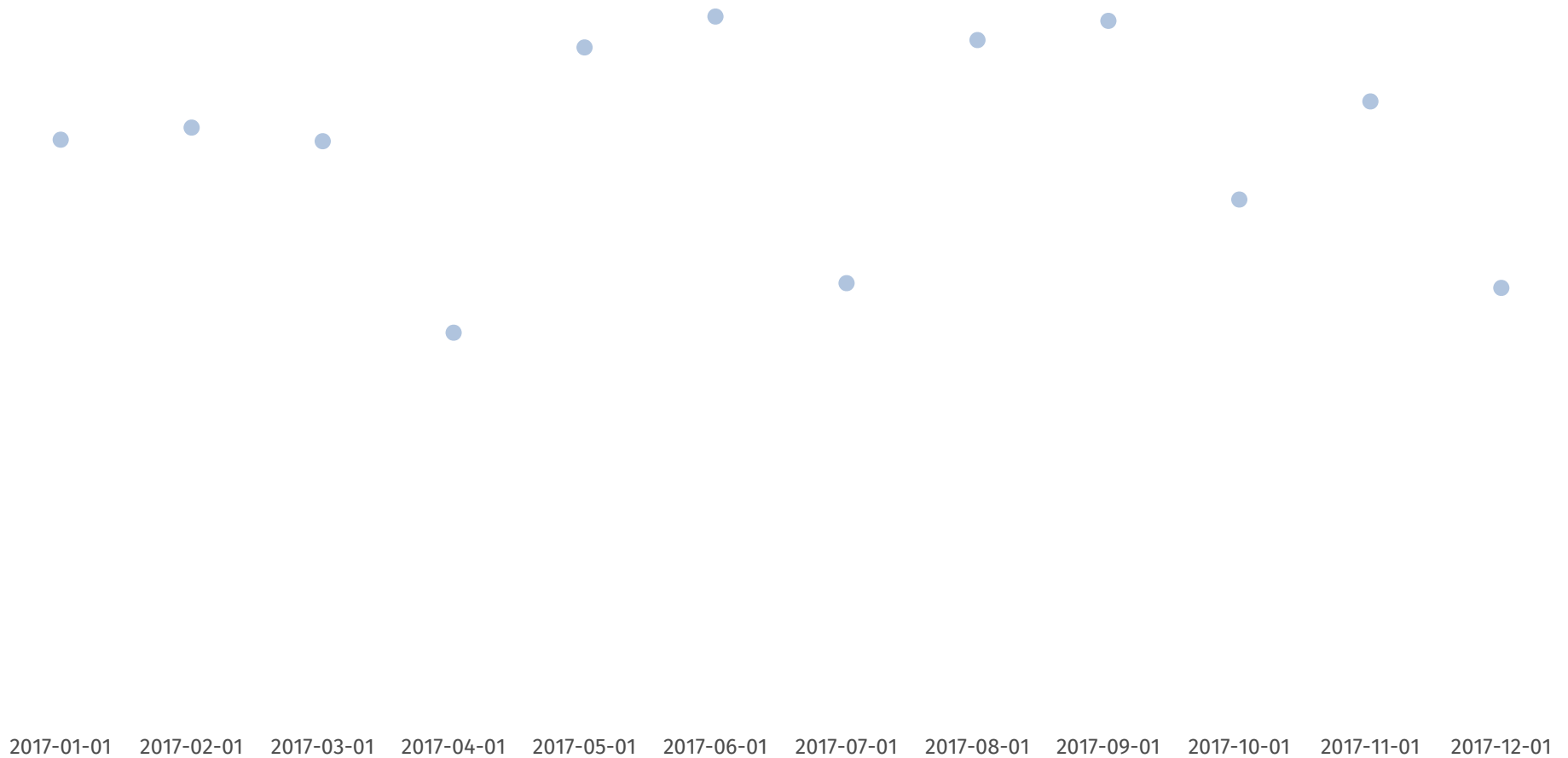
## AAPL Volume



## Scatter Chart

```
dchart -bar=f -scatter AAPL.d
```

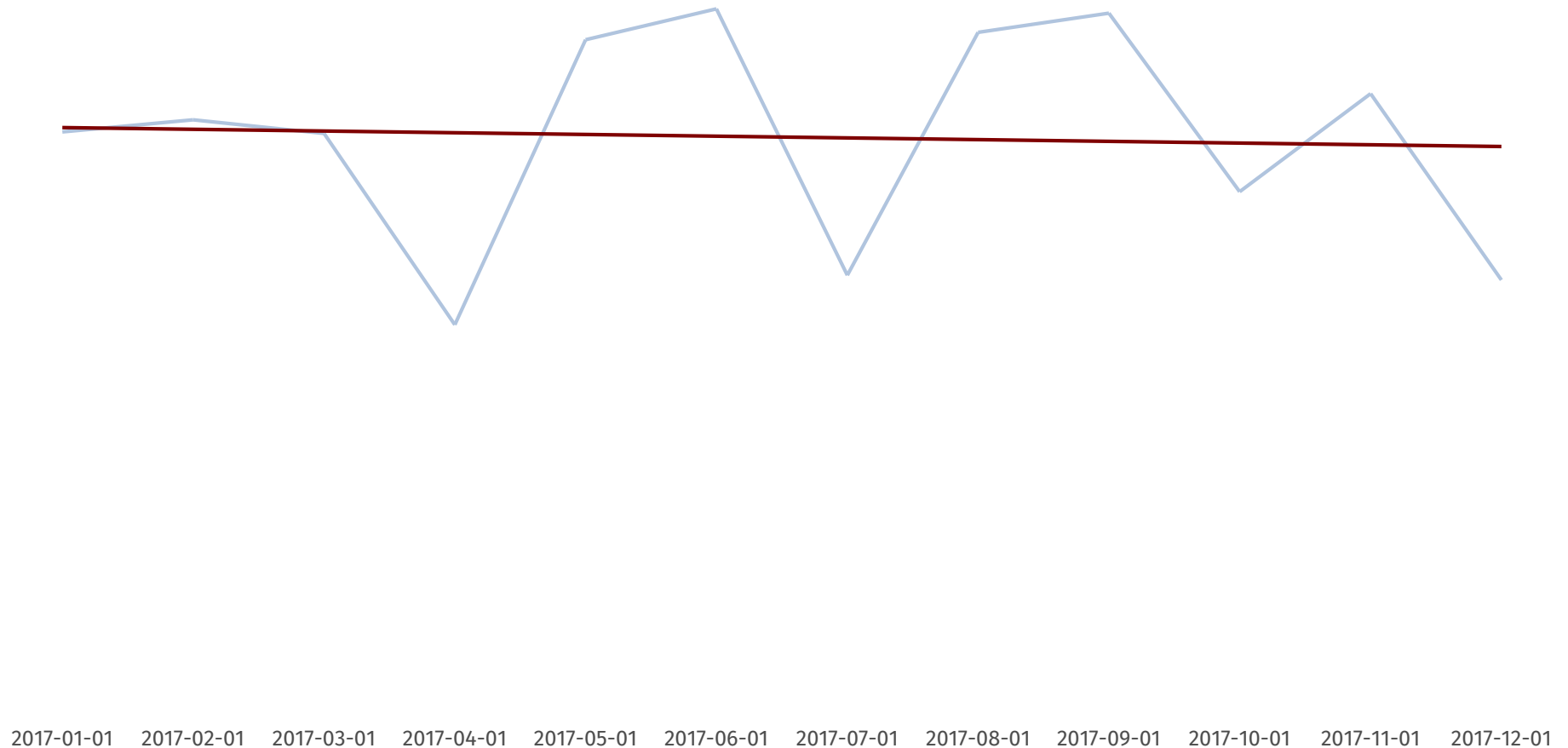
## AAPL Volume



## Scatter Chart, No Values

```
dchart -bar=f -scatter -val=f AAPL.d
```

## AAPL Volume

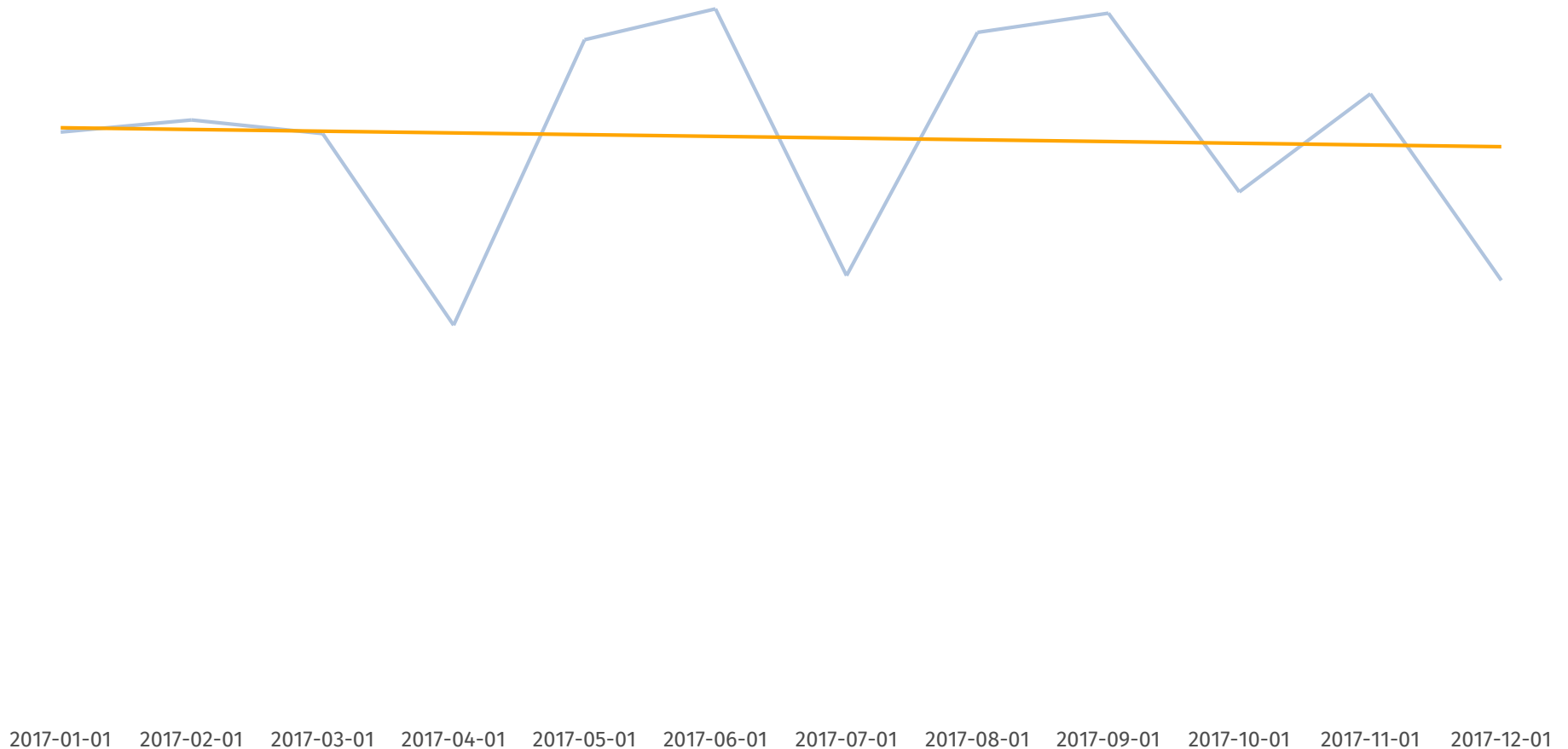


## Line Chart, No Values, Regression Line

```
dchart -bar=f -line -val=f -rline AAPL.d
```



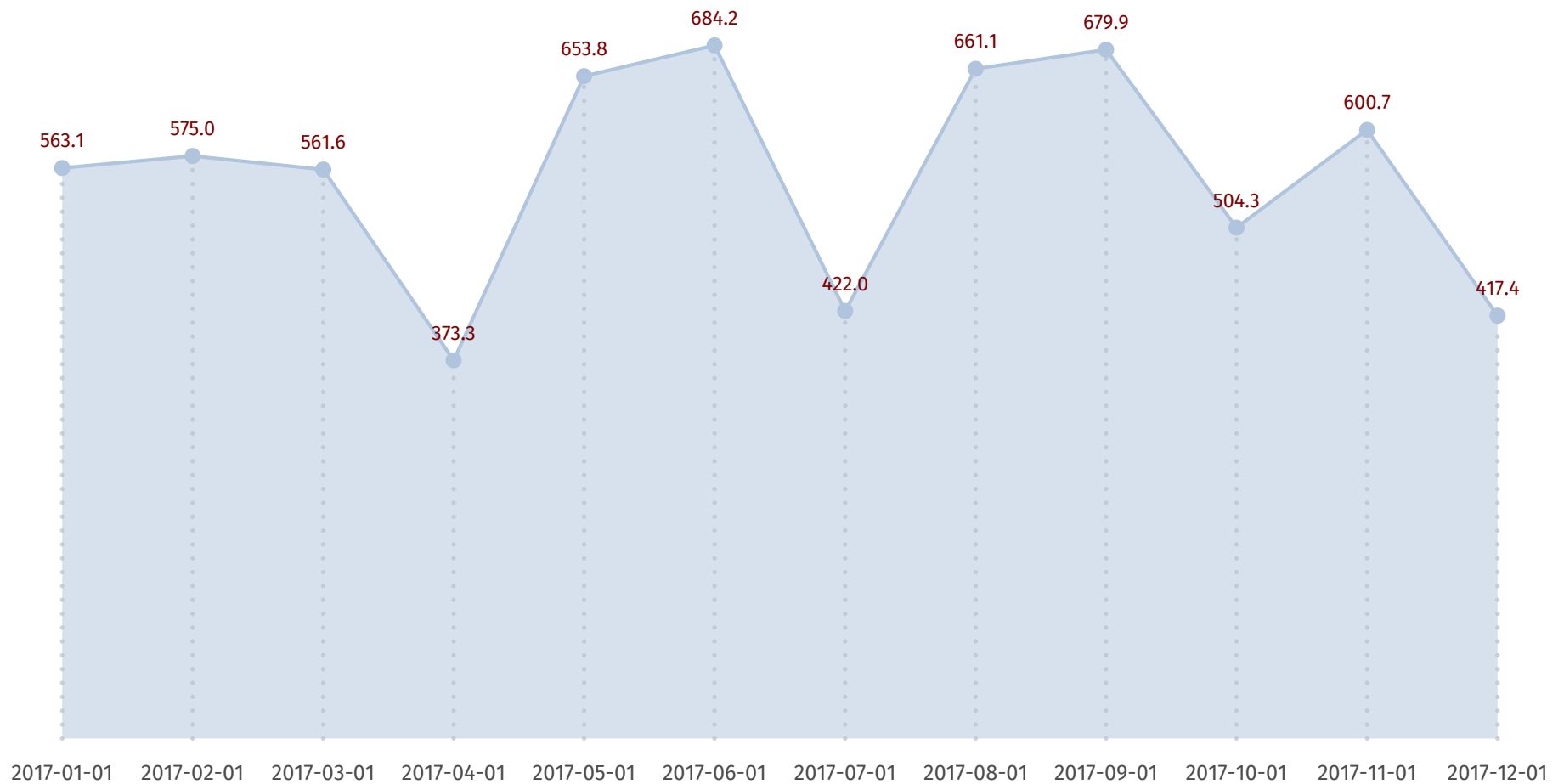
## AAPL Volume



Line Chart, No Values, Regression Line Color

```
dchart -bar=f -line -val=f -rlcolor=orange AAPL.d
```

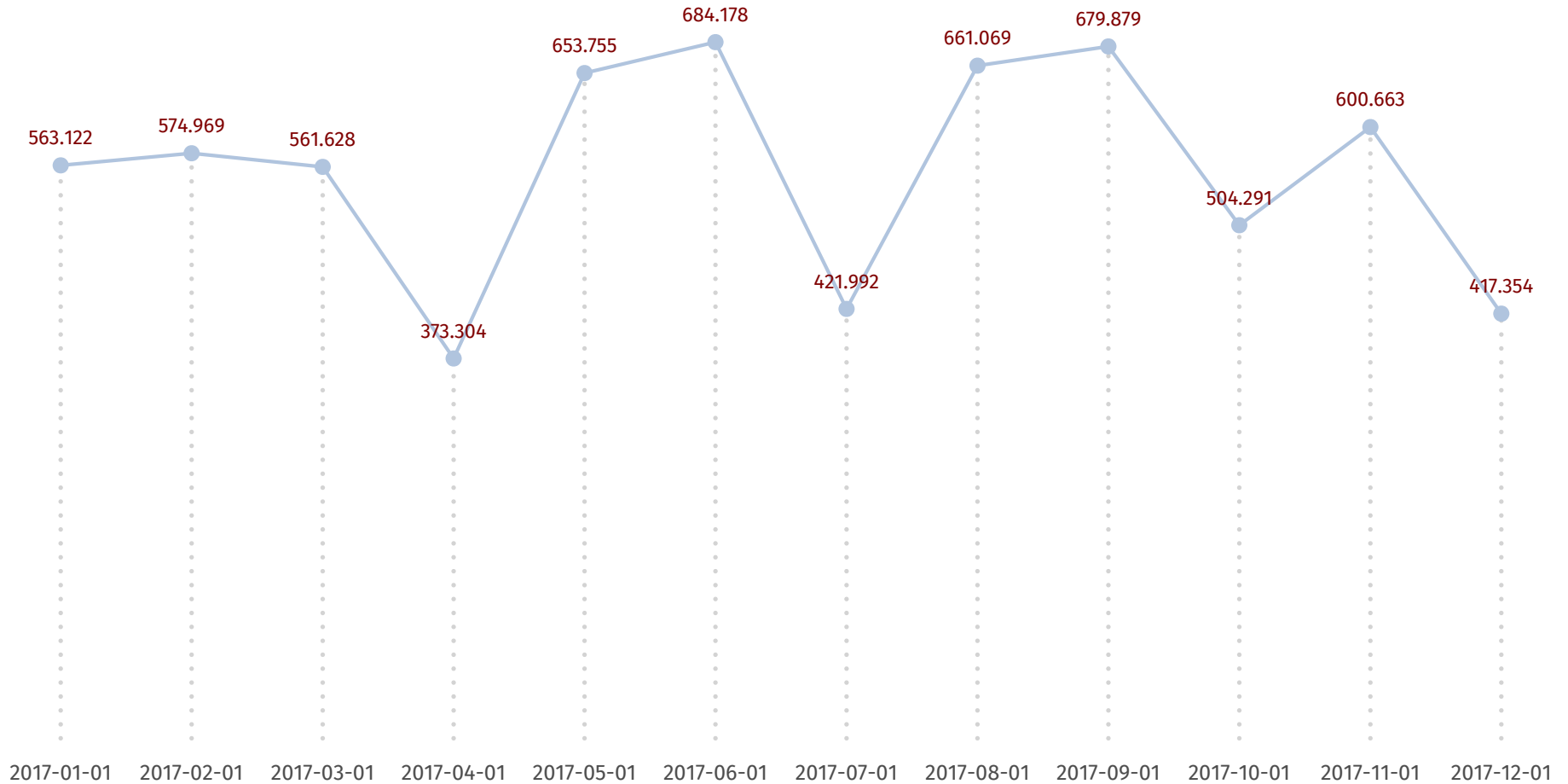
## AAPL Volume



# Volume, Line, Dot

```
dchart -bar=f -line -vol -dot AAPL.d
```

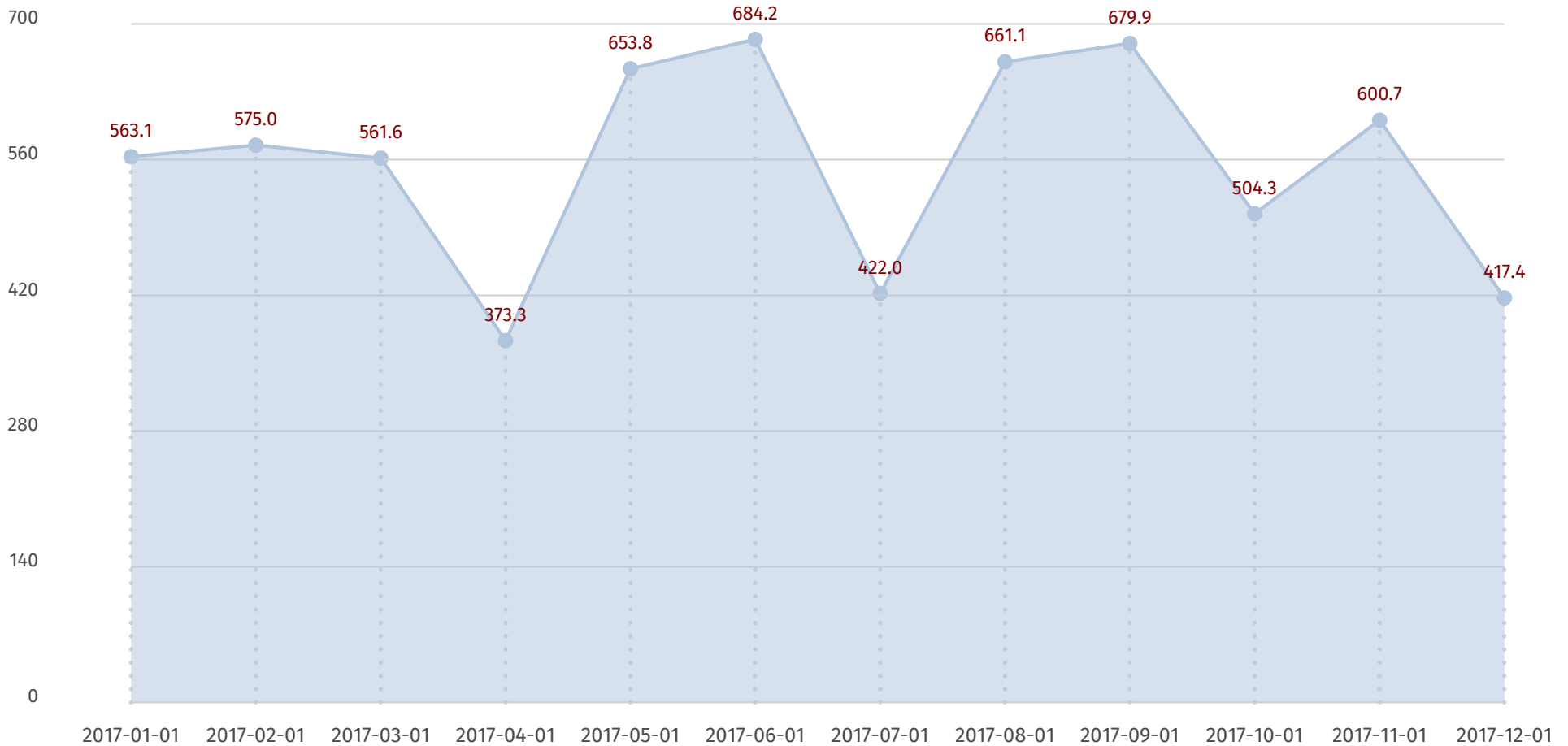
## AAPL Volume



## Dot, Line, Data Format

```
dchart -datafmt %0.3f -bar=f -dot -line AAPL.d
```

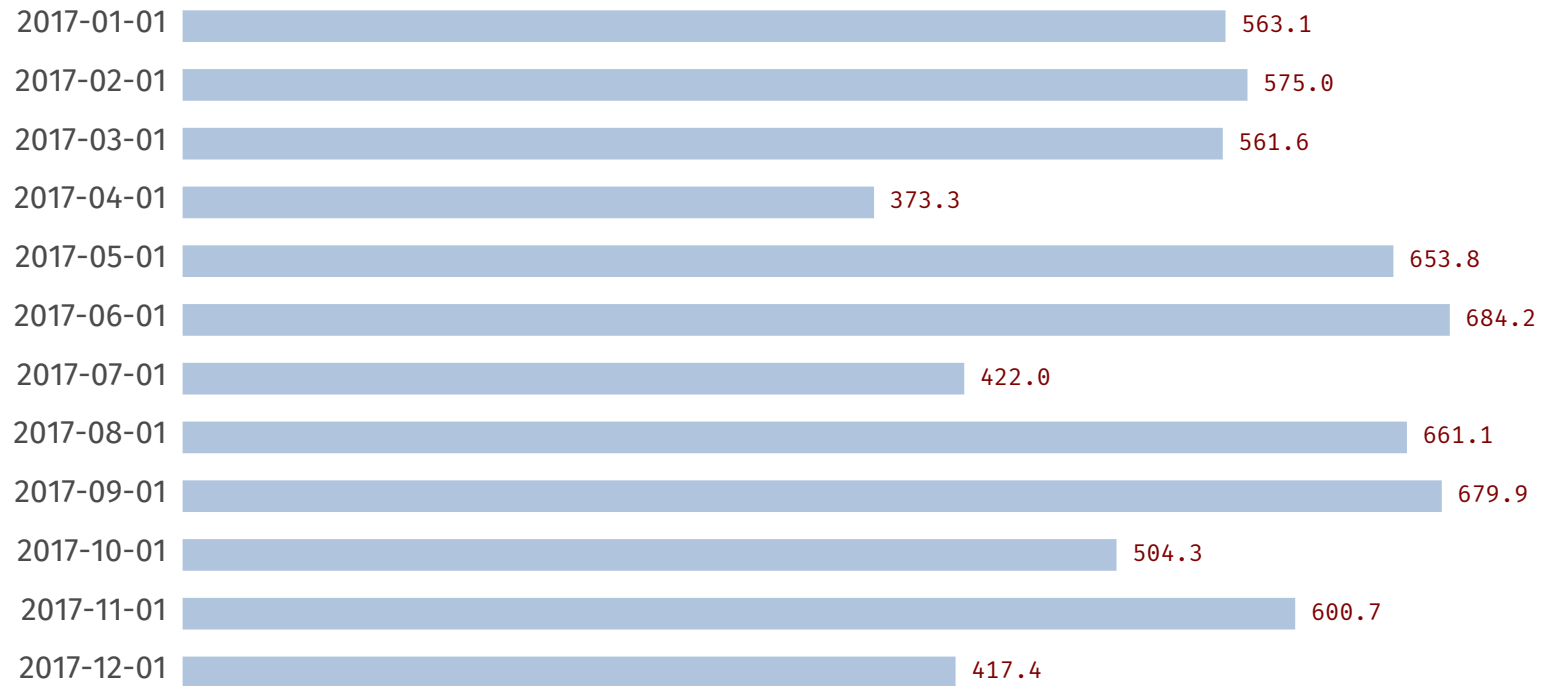
## AAPL Volume



Line, Area, Dot, Y-Axis, Grid

```
dchart -bar=f -line -vol -dot -grid -yaxis AAPL.d
```

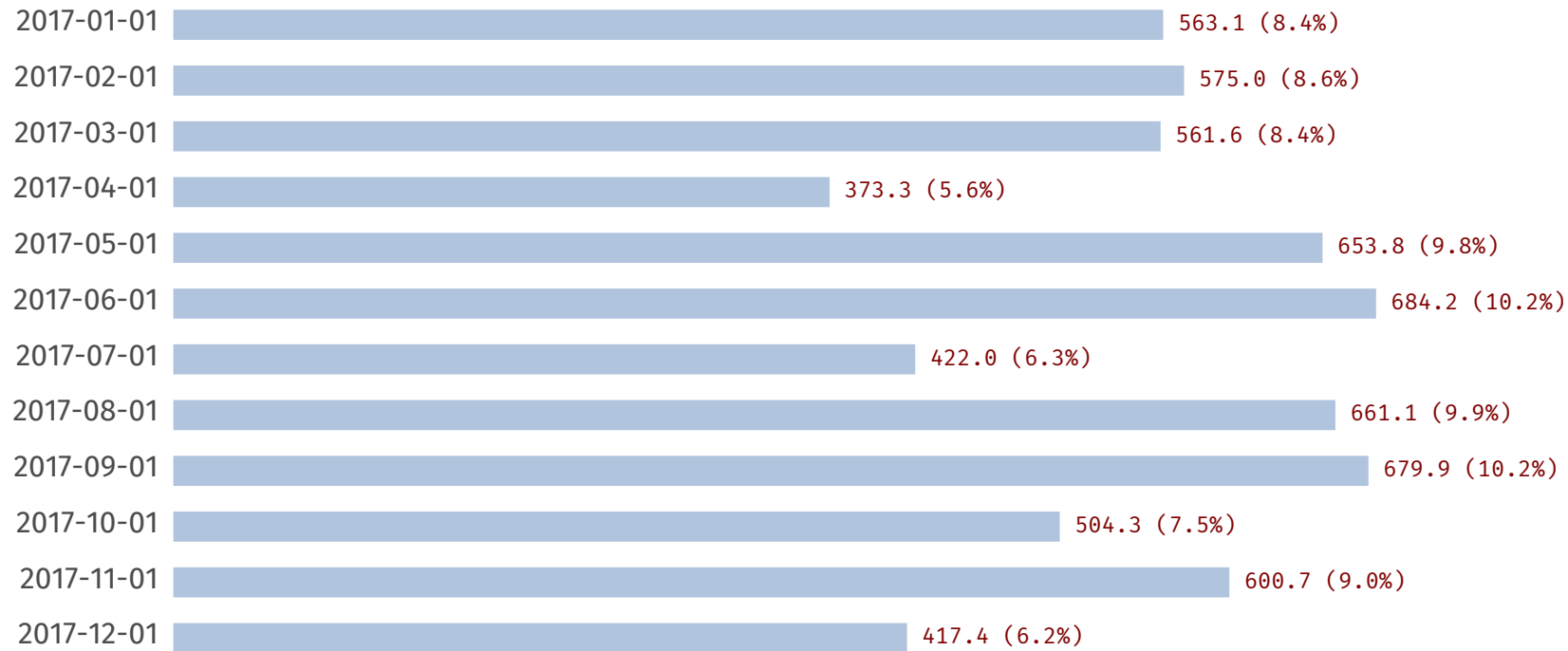
## AAPL Volume



## Horizontal Bar

```
dchart -hbar AAPL.d
```

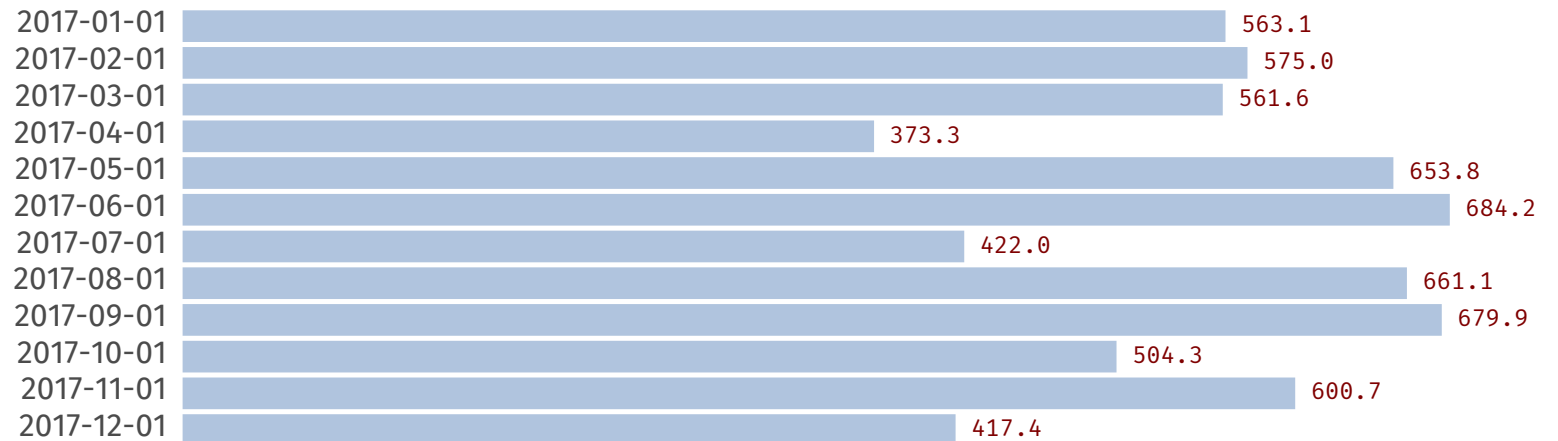
## AAPL Volume



# Horizontal Bar, Show Percentages

```
dchart -hbar -pct AAPL.d
```

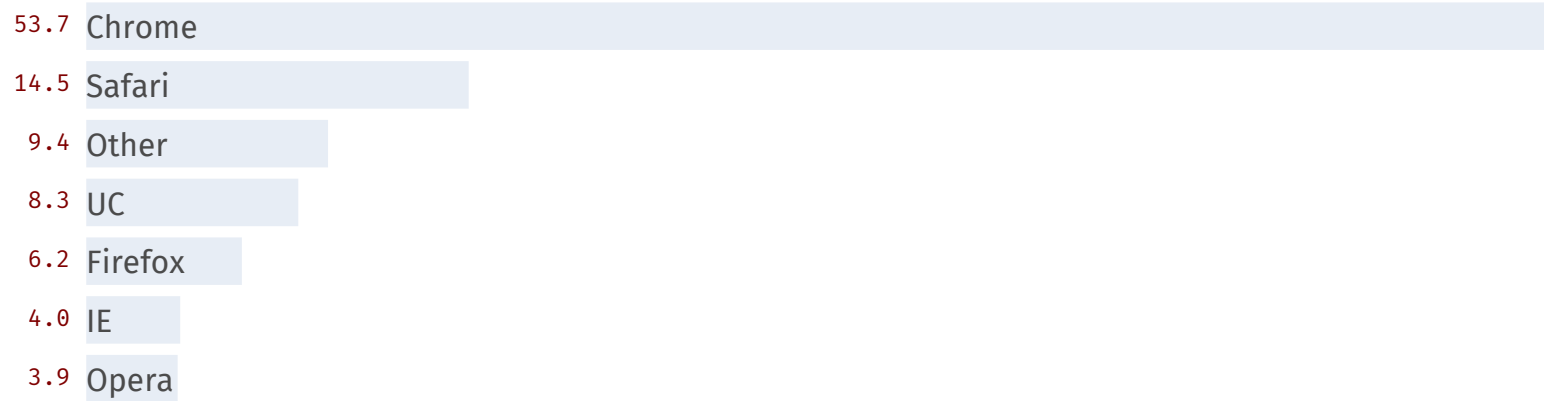
## AAPL Volume



## Horizontal Bar, Line Spacing

```
dchart -hbar -ls 1.5 AAPL.d
```

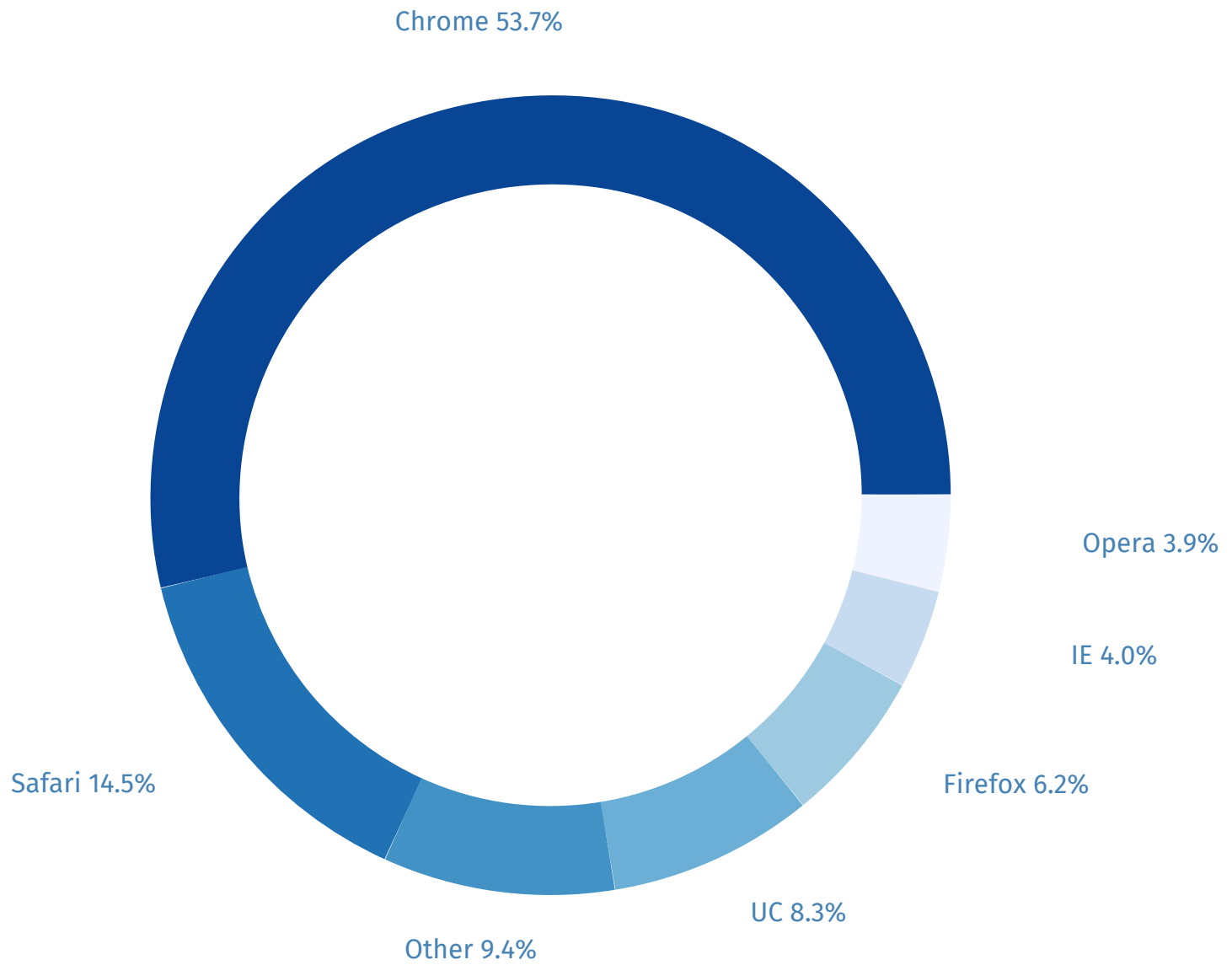
## Browser Market Share Dec 2016-Dec 2017



## Word Bar

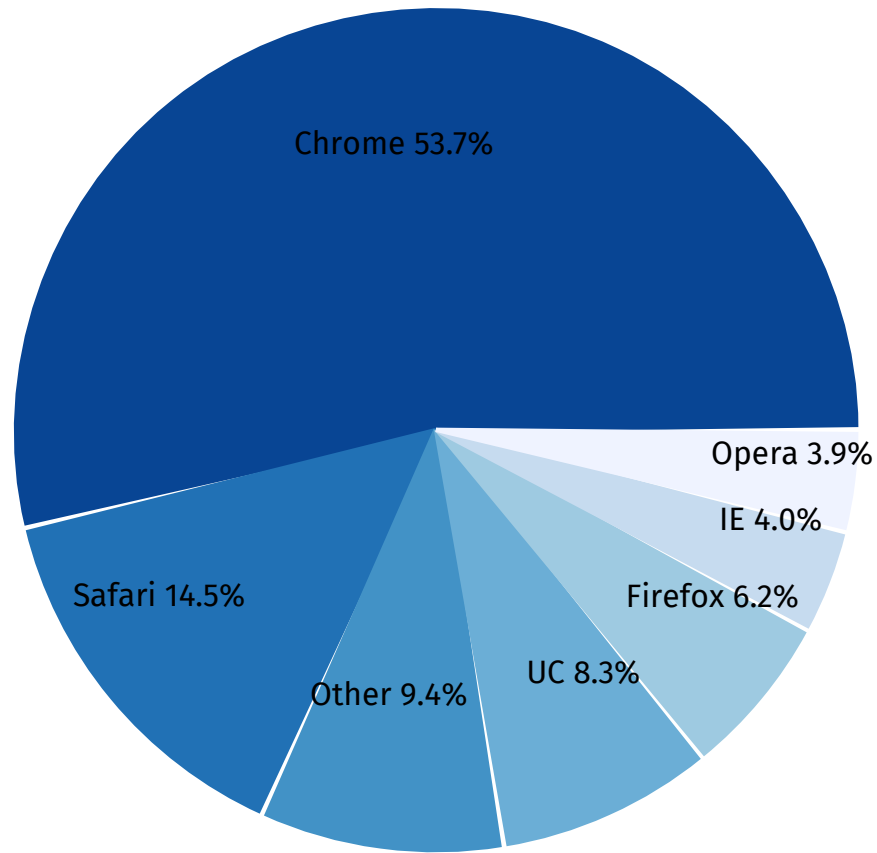
`dchart -wbar AAPL.d`





## Donut

```
dchart -donut -color=std -pwidth=5 browser.d
```



Pie

```
dchart -donut -color=std -title=f -top=70 -pwidth=20 -psize=20 browser.d
```

## Browser Market Share Dec 2016-Dec 2017



# Pmap

```
dchart -pmap -pwidth=5 -textsize=1 browser.d
```

Browser Market Share Dec 2016-Dec 2017



## Pmap with Solid Colors

```
dchart -pmap -pwidth=5 -textsize=1 -solidpmap browser.d
```

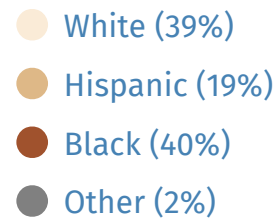
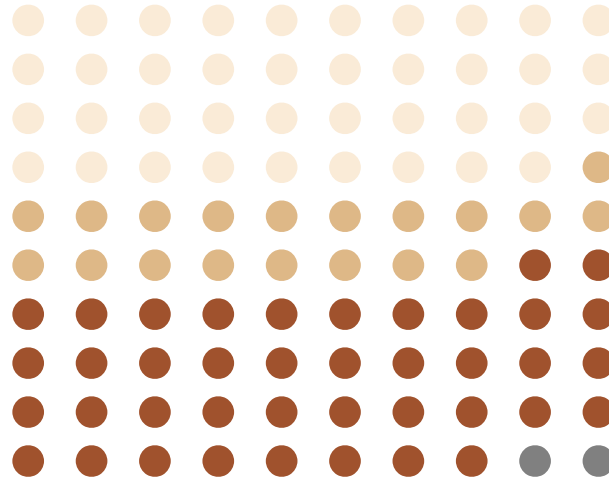
Browser Market Share Dec 2016-Dec 2017



## Pmap with Solid Colors, Length Threshold

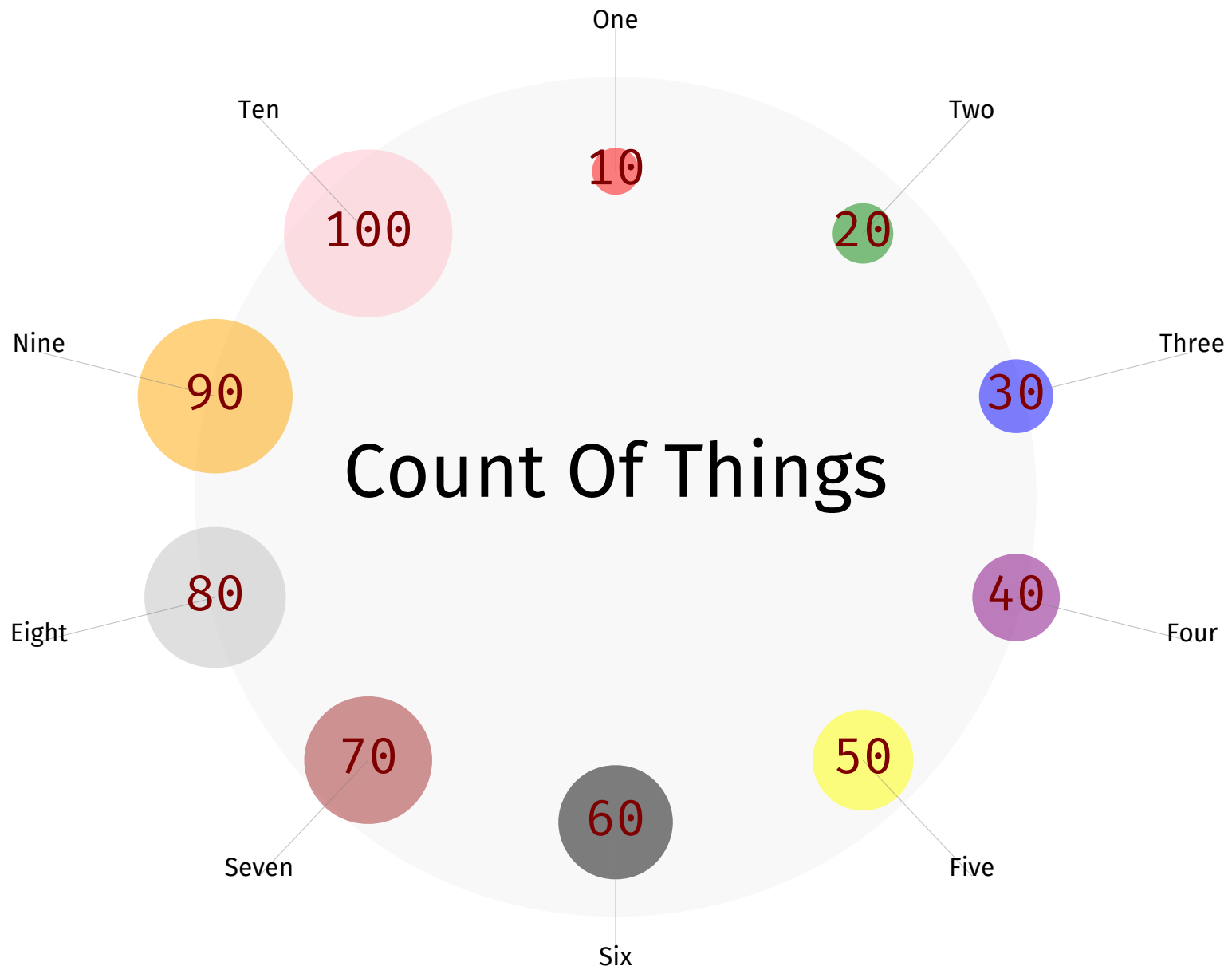
```
dchart -pmap -pwidth=5 -textsize=1 -solidpmap -pmlen=30 browser.d
```

## US Incarceration Rate



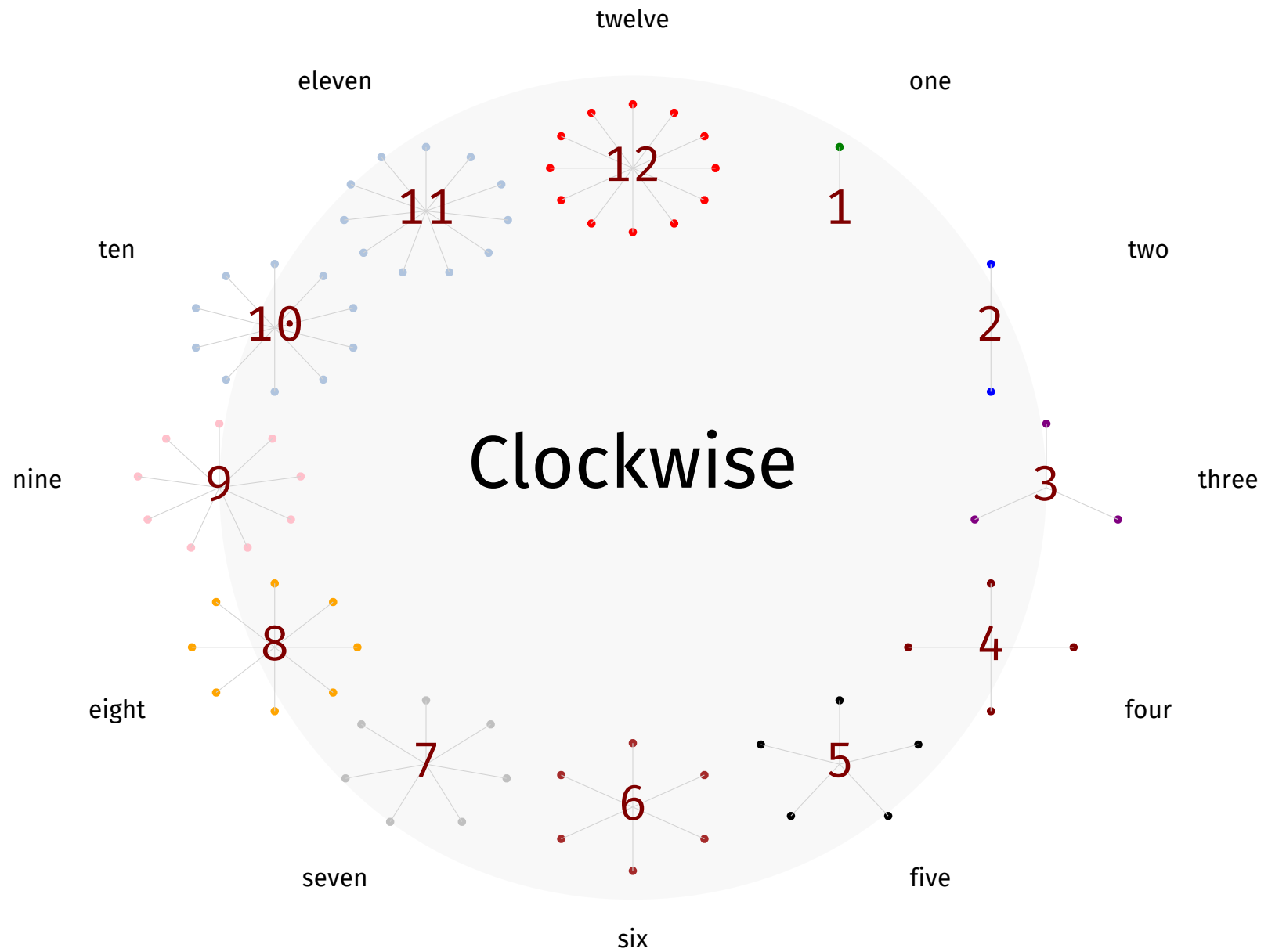
Pgrid

```
dchart -left 35 -top 80 -ls 3 -pgrid -val=f incar.d
```



Radial

```
dchart -radial -psize=10 -pwidth=25 -top=60 -textsize=3 count.d
```



## Radial with Spokes

```
dchart -radial -psize=10 -pwidth=25 -top=60 -textsize=3 -spokes clock.d
```



# Data Files

## AAPL.d

```
# AAPL Volume
2017-01-01    563.122
2017-02-01    574.969
2017-03-01    561.628
2017-04-01    373.304
2017-05-01    653.755
2017-06-01    684.178
2017-07-01    421.992
2017-08-01    661.069
2017-09-01    679.879
2017-10-01    504.291
2017-11-01    600.663
2017-12-01    417.354
```

## AAPL.csv

```
Date,Volume
2017-01-01,563.122
2017-02-01,574.969
2017-03-01,561.628
2017-04-01,373.304
2017-05-01,653.755
2017-06-01,684.178
2017-07-01,421.992
2017-08-01,661.069
2017-09-01,679.879
2017-10-01,504.291
2017-11-01,600.663
2017-12-01,417.354
```

## incar.d

```
# US Incarceration Rate
White    39    antiquewhite
Hispanic  19    burlywood
Black    40    sienna
Other     2    gray
```

## browser.d

```
# Browser Market Share Dec 2016-Dec 2017
Chrome    53.72    maroon
Safari    14.47    blue
Other     9.36    lightgray
UC         8.28    purple
Firefox    6.23    bluegray
IE         3.99    green
Opera      3.9    red
```

## count.d

```
# Count Of Things
One    10    red
Two    20    green
Three  30    blue
Four   40    purple
Five   50    yellow
Six    60    black
Seven  70    brown
Eight  80    silver
Nine   90    orange
Ten   100    pink
```

## clock.d

```
# Clockwise
twelve    12    red
one        1    green
two        2    blue
three      3    purple
four       4    maroon
five       5    black
six        6    brown
seven      7    silver
eight      8    orange
nine       9    pink
ten        10
eleven     11
```