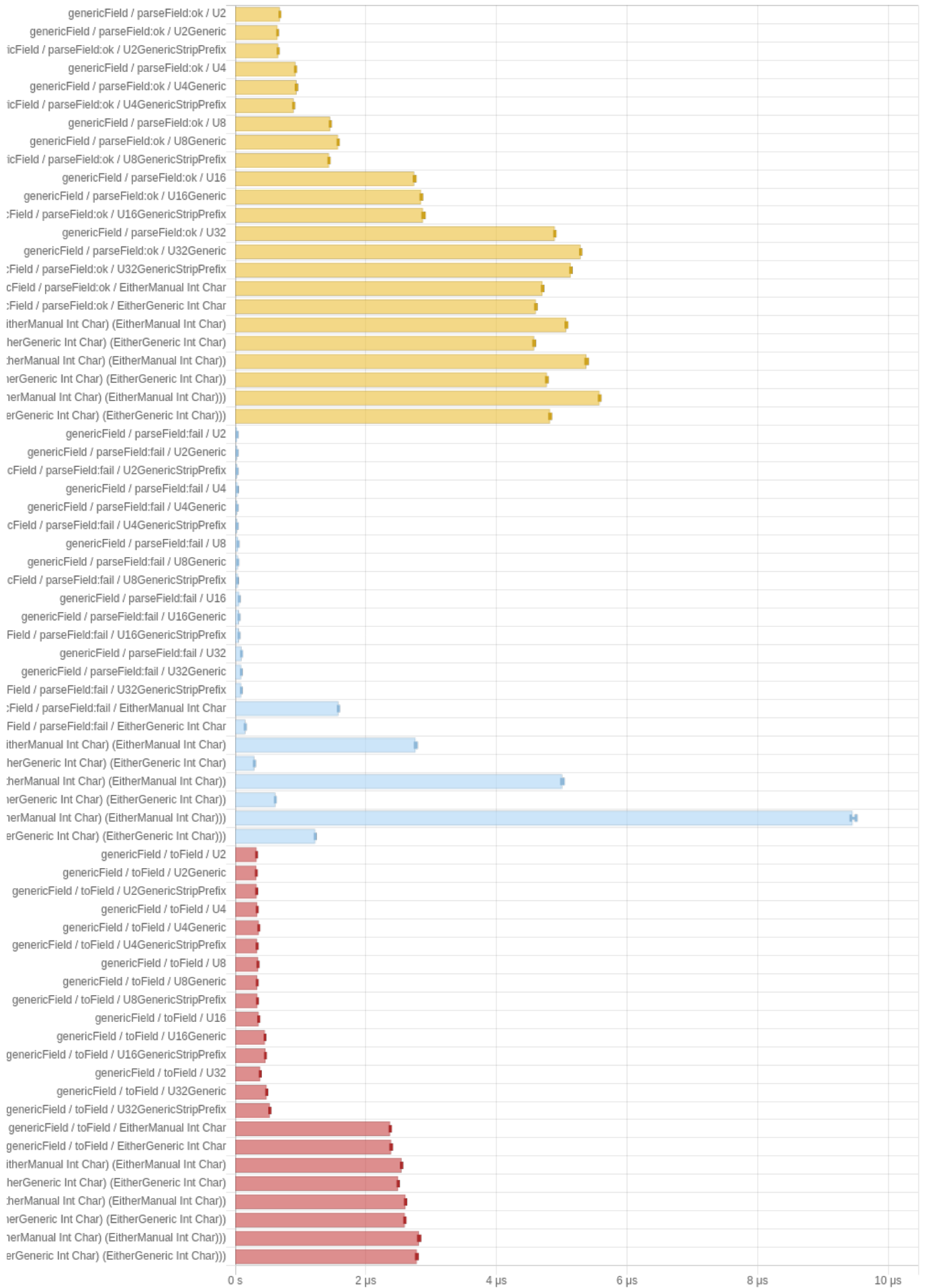
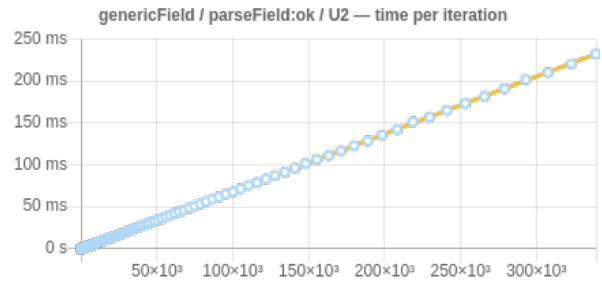
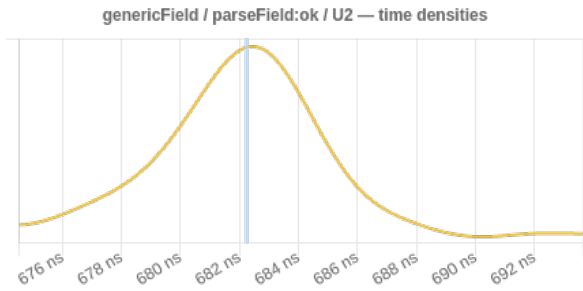


# **critierion performance measurements**

overview



## genericField / parseField:ok / U2

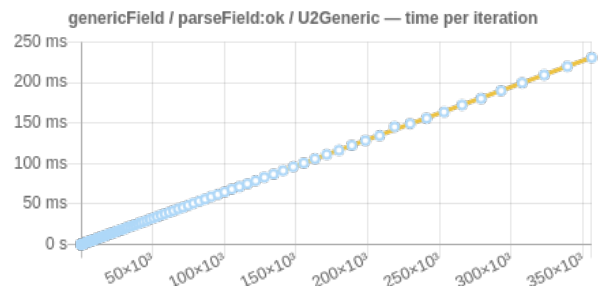
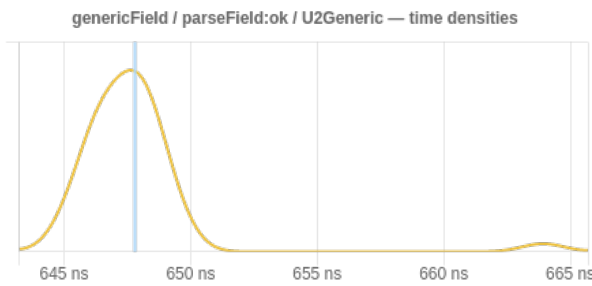


**lower bound estimate upper bound**

OLS regression	683 ns	684 ns	685 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	682 ns	682 ns	683 ns
Standard deviation	2.24 ns	2.90 ns	4.15 ns

Outlying measurements have no (0.455%) effect on estimated standard deviation.

## genericField / parseField:ok / U2Generic

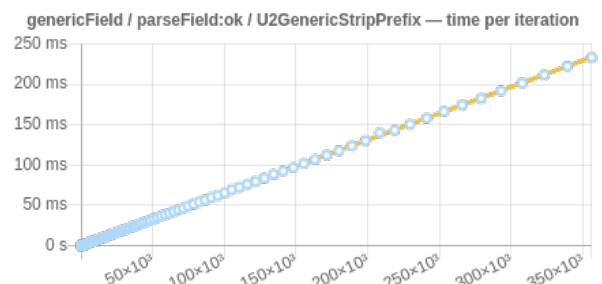
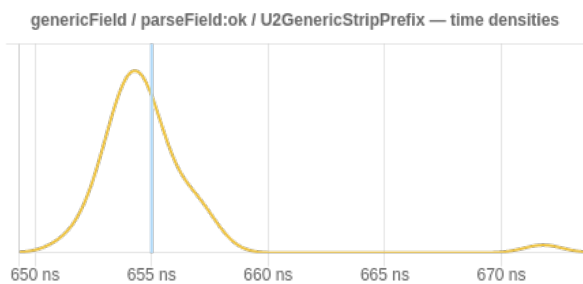


**lower bound estimate upper bound**

OLS regression	647 ns	648 ns	650 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	647 ns	648 ns	649 ns
Standard deviation	1.09 ns	2.78 ns	5.59 ns

Outlying measurements have no (0.452%) effect on estimated standard deviation.

## genericField / parseField:ok / U2GenericStripPrefix

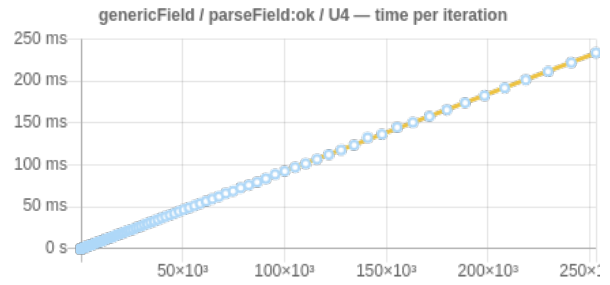
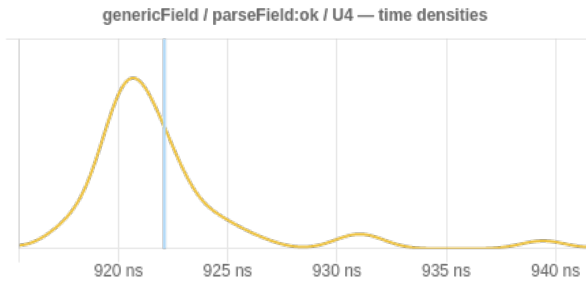


**lower bound estimate upper bound**

OLS regression	654 ns	655 ns	657 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	654 ns	655 ns	657 ns
Standard deviation	1.31 ns	2.94 ns	6.15 ns

Outlying measurements have no (0.452%) effect on estimated standard deviation.

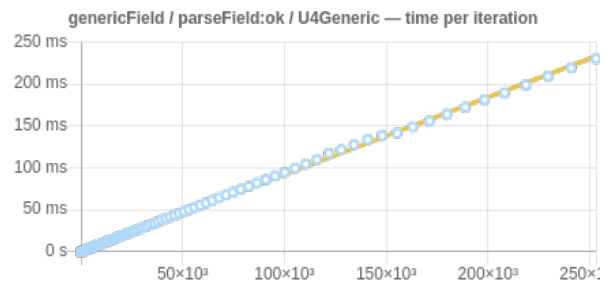
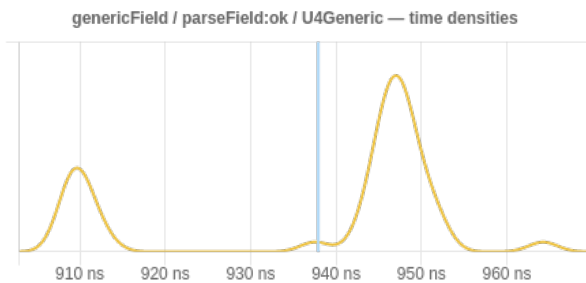
## genericField / parseField:ok / U4



	lower bound	estimate	upper bound
OLS regression	921 ns	922 ns	924 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	921 ns	922 ns	924 ns
Standard deviation	2.37 ns	3.87 ns	7.10 ns

Outlying measurements have no (0.467%) effect on estimated standard deviation.

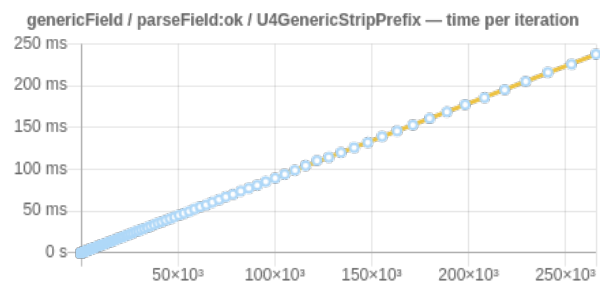
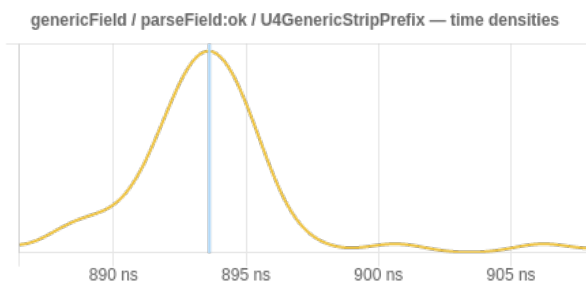
## genericField / parseField:ok / U4Generic



	lower bound	estimate	upper bound
OLS regression	915 ns	921 ns	930 ns
R <sup>2</sup> goodness-of-fit	0.999	1.00	1.00
Mean execution time	932 ns	938 ns	942 ns
Standard deviation	13.5 ns	16.8 ns	19.1 ns

Outlying measurements have a moderate (20.1%) effect on estimated standard deviation.

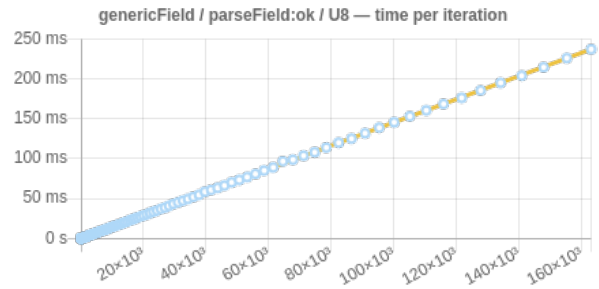
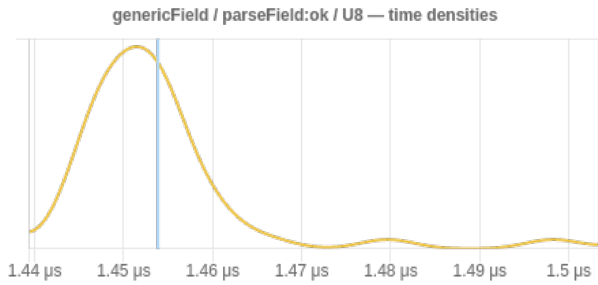
## genericField / parseField:ok / U4GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	893 ns	894 ns	895 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	893 ns	894 ns	895 ns
Standard deviation	1.96 ns	2.94 ns	4.78 ns

Outlying measurements have no (0.465%) effect on estimated standard deviation.

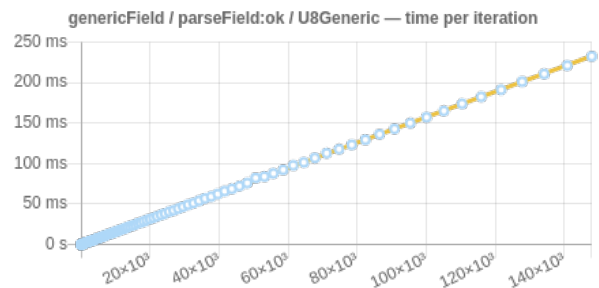
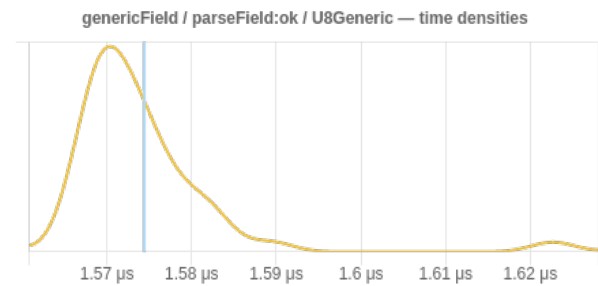
## genericField / parseField:ok / U8



	lower bound	estimate	upper bound
OLS regression	1.45 $\mu$ s	1.45 $\mu$ s	1.46 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	1.45 $\mu$ s	1.45 $\mu$ s	1.46 $\mu$ s
Standard deviation	5.34 ns	9.31 ns	17.0 ns

Outlying measurements have no (0.488%) effect on estimated standard deviation.

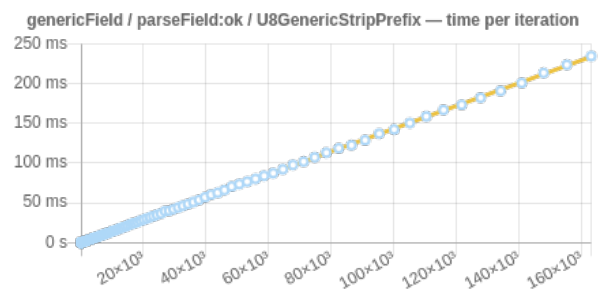
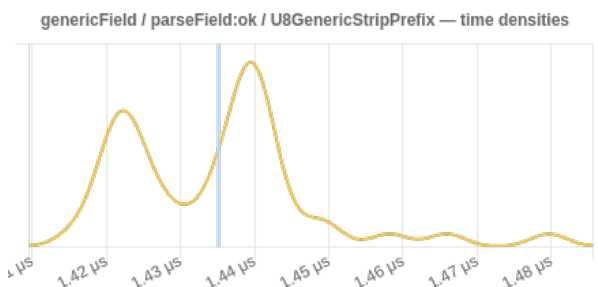
## genericField / parseField:ok / U8Generic



	lower bound	estimate	upper bound
OLS regression	1.57 $\mu$ s	1.57 $\mu$ s	1.57 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	1.57 $\mu$ s	1.57 $\mu$ s	1.58 $\mu$ s
Standard deviation	4.80 ns	9.07 ns	16.7 ns

Outlying measurements have no (0.493%) effect on estimated standard deviation.

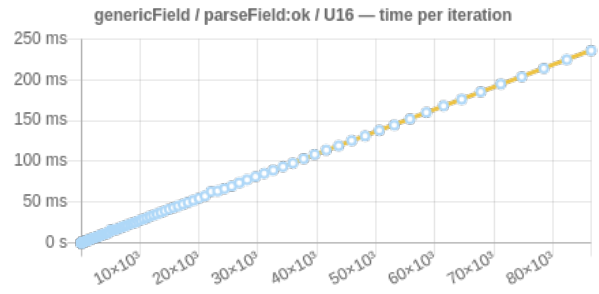
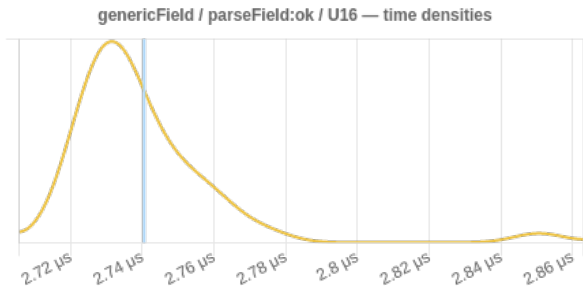
## genericField / parseField:ok / U8GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	1.43 $\mu$ s	1.43 $\mu$ s	1.44 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	1.43 $\mu$ s	1.44 $\mu$ s	1.44 $\mu$ s
Standard deviation	10.0 ns	12.9 ns	20.1 ns

Outlying measurements have a slight (5.55%) effect on estimated standard deviation.

## genericField / parseField:ok / U16

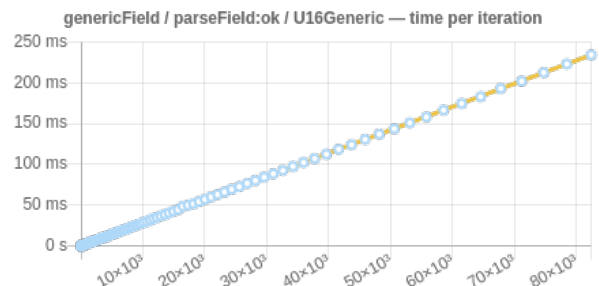
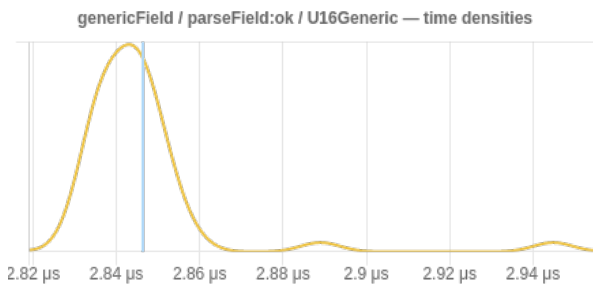


**lower bound estimate upper bound**

OLS regression	2.73 $\mu$ s	2.73 $\mu$ s	2.73 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.74 $\mu$ s	2.74 $\mu$ s	2.76 $\mu$ s
Standard deviation	12.3 ns	21.6 ns	43.3 ns

Outlying measurements have no (0.521%) effect on estimated standard deviation.

## genericField / parseField:ok / U16Generic

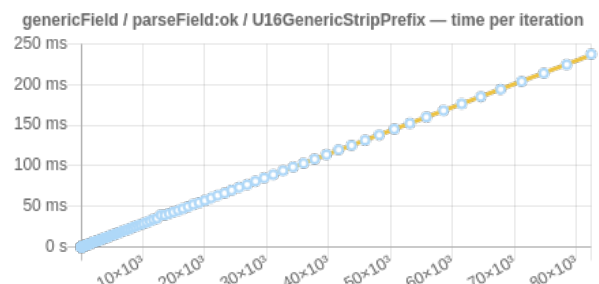
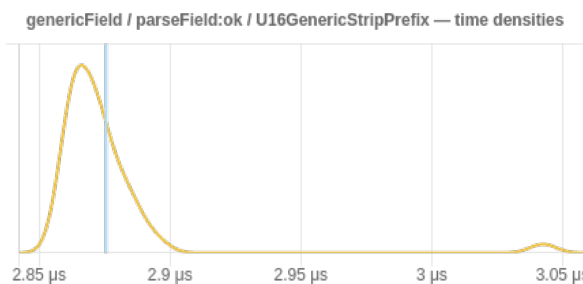


**lower bound estimate upper bound**

OLS regression	2.84 $\mu$ s	2.84 $\mu$ s	2.84 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.84 $\mu$ s	2.85 $\mu$ s	2.86 $\mu$ s
Standard deviation	7.23 ns	18.0 ns	34.0 ns

Outlying measurements have no (0.524%) effect on estimated standard deviation.

## genericField / parseField:ok / U16GenericStripPrefix

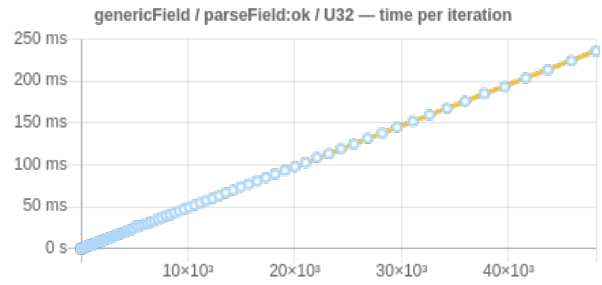
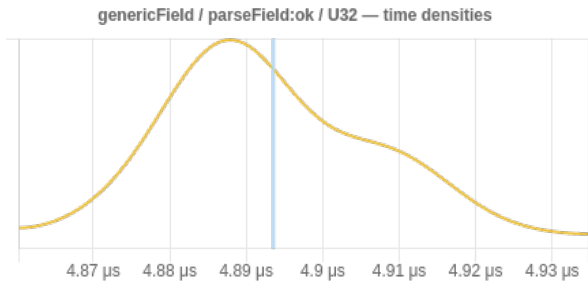


**lower bound estimate upper bound**

OLS regression	2.86 $\mu$ s	2.87 $\mu$ s	2.87 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.87 $\mu$ s	2.88 $\mu$ s	2.89 $\mu$ s
Standard deviation	8.38 ns	27.4 ns	60.6 ns

Outlying measurements have a slight (5.95%) effect on estimated standard deviation.

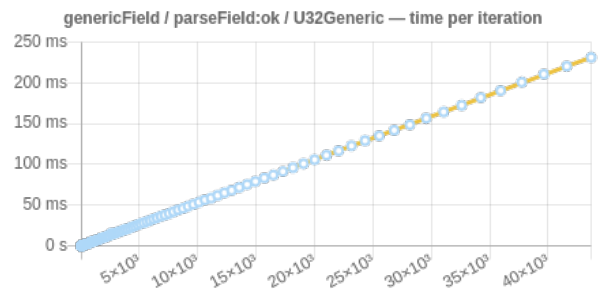
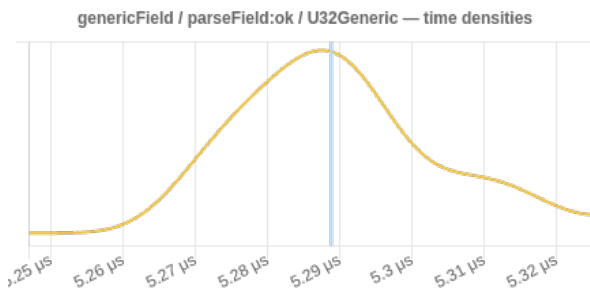
## genericField / parseField:ok / U32



	lower bound	estimate	upper bound
OLS regression	4.89 μs	4.89 μs	4.89 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	4.89 μs	4.89 μs	4.90 μs
Standard deviation	11.2 ns	13.5 ns	17.3 ns

Outlying measurements have no (0.556%) effect on estimated standard deviation.

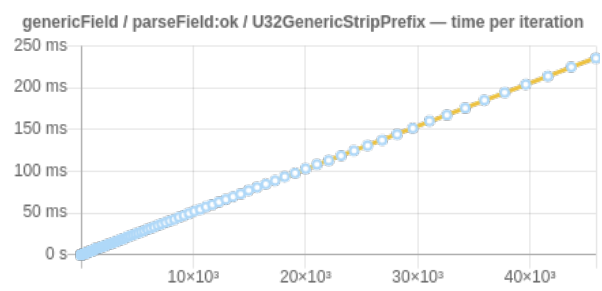
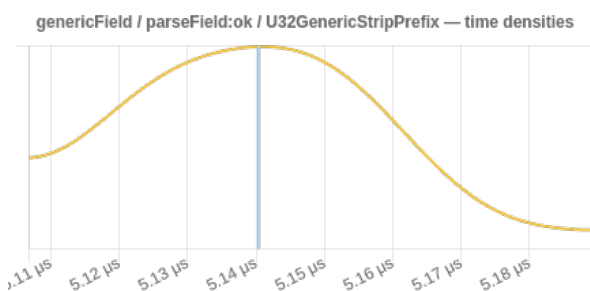
## genericField / parseField:ok / U32Generic



	lower bound	estimate	upper bound
OLS regression	5.29 μs	5.29 μs	5.30 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	5.28 μs	5.29 μs	5.29 μs
Standard deviation	11.3 ns	14.0 ns	17.5 ns

Outlying measurements have no (0.562%) effect on estimated standard deviation.

## genericField / parseField:ok / U32GenericStripPrefix

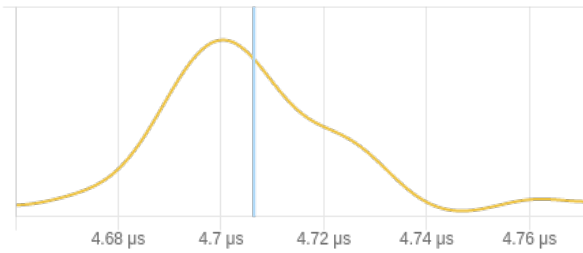


	lower bound	estimate	upper bound
OLS regression	5.13 μs	5.13 μs	5.14 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	5.14 μs	5.14 μs	5.15 μs
Standard deviation	13.2 ns	15.6 ns	19.4 ns

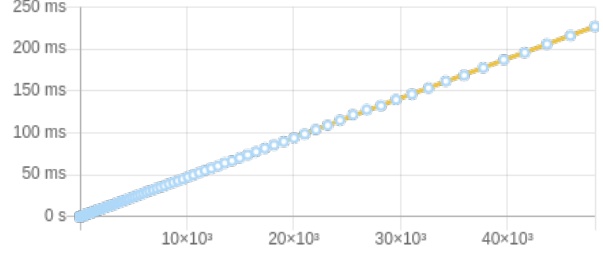
Outlying measurements have no (0.559%) effect on estimated standard deviation.

## genericField / parseField:ok / EitherManual Int Char

genericField / parseField:ok / EitherManual Int Char — time densities



genericField / parseField:ok / EitherManual Int Char — time per iteration



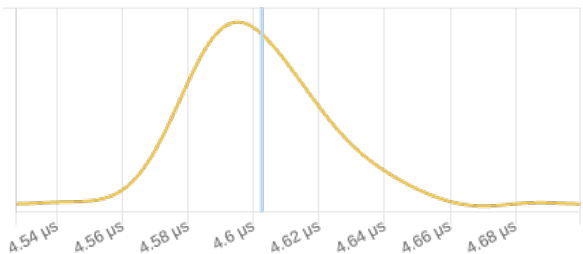
**lower bound estimate upper bound**

OLS regression	4.70 $\mu$ s	4.71 $\mu$ s	4.72 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	4.70 $\mu$ s	4.71 $\mu$ s	4.71 $\mu$ s
Standard deviation	14.5 ns	18.6 ns	25.2 ns

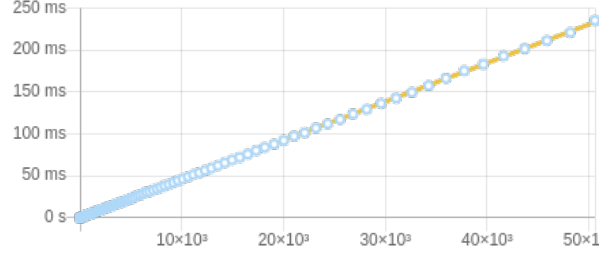
Outlying measurements have no (0.556%) effect on estimated standard deviation.

## genericField / parseField:ok / EitherGeneric Int Char

genericField / parseField:ok / EitherGeneric Int Char — time densities



genericField / parseField:ok / EitherGeneric Int Char — time per iteration



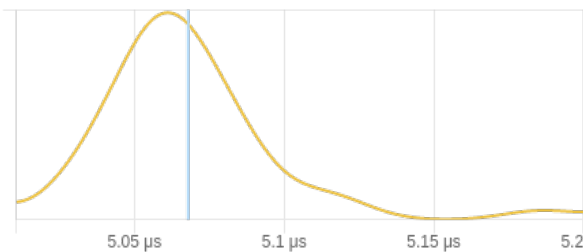
**lower bound estimate upper bound**

OLS regression	4.60 $\mu$ s	4.61 $\mu$ s	4.62 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	4.60 $\mu$ s	4.60 $\mu$ s	4.61 $\mu$ s
Standard deviation	18.5 ns	23.9 ns	33.5 ns

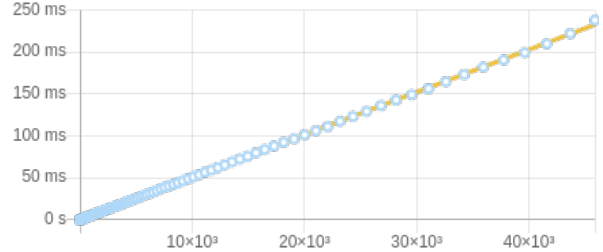
Outlying measurements have no (0.552%) effect on estimated standard deviation.

## genericField / parseField:ok / EitherManual (EitherManual Int Char) (EitherManual Int Char)

genericField / parseField:ok / EitherManual (EitherManual Int Char) (EitherManual Int Char) — time densities



genericField / parseField:ok / EitherManual (EitherManual Int Char) (EitherManual Int Char) — time per iteration



**lower bound estimate upper bound**

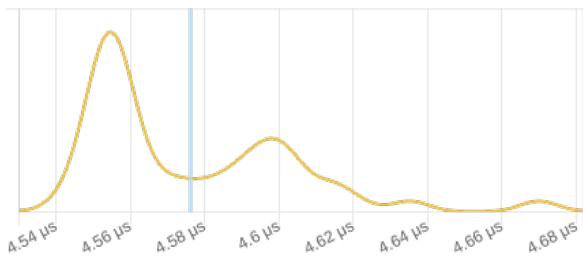
OLS regression	5.05 $\mu$ s	5.07 $\mu$ s	5.09 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	5.06 $\mu$ s	5.07 $\mu$ s	5.08 $\mu$ s
Standard deviation	19.4 ns	27.6 ns	44.6 ns

Outlying measurements have no (0.559%) effect on estimated standard deviation.



# genericField / parseField:ok / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)

genericField / parseField:ok / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char) — time densities

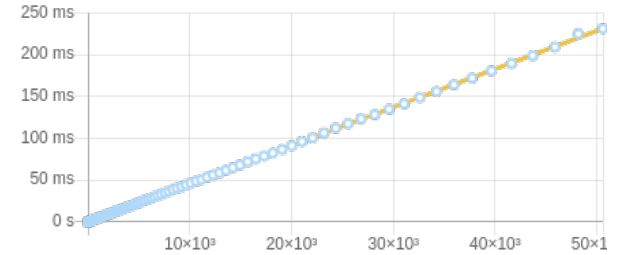


**lower bound estimate upper bound**

OLS regression	4.56 $\mu$ s	4.57 $\mu$ s	4.59 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	4.57 $\mu$ s	4.58 $\mu$ s	4.59 $\mu$ s
Standard deviation	22.4 ns	27.9 ns	40.2 ns

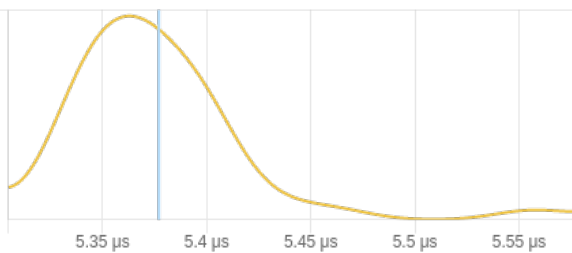
Outlying measurements have no (0.552%) effect on estimated standard deviation.

genericField / parseField:ok / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char) — time per iteration



# genericField / parseField:ok / EitherManual (EitherManual Int Char) (EitherManual Int Char) (EitherManual (EitherManual Int Char) (EitherManual Int Char))

genericField / parseField:ok / EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char)) — time densities

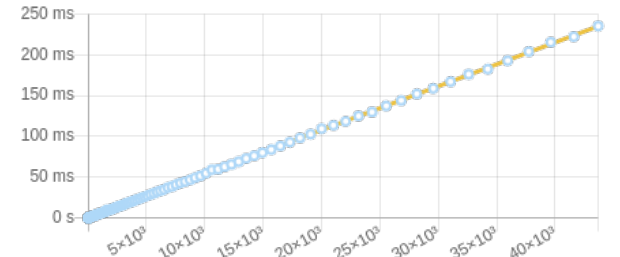


**lower bound estimate upper bound**

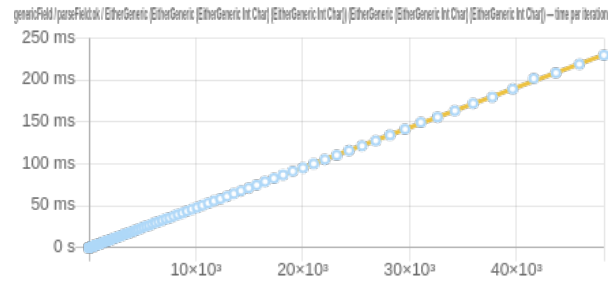
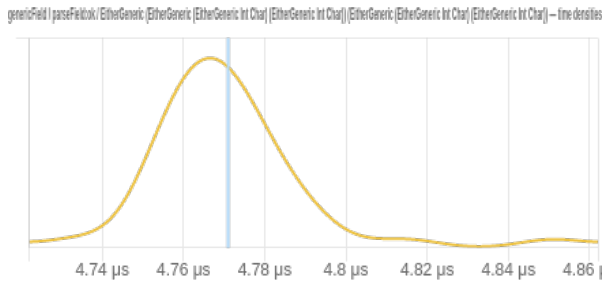
OLS regression	5.36 $\mu$ s	5.38 $\mu$ s	5.39 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	5.37 $\mu$ s	5.38 $\mu$ s	5.39 $\mu$ s
Standard deviation	26.6 ns	40.0 ns	64.6 ns

Outlying measurements have no (0.562%) effect on estimated standard deviation.

genericField / parseField:ok / EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char)) — time per iteration



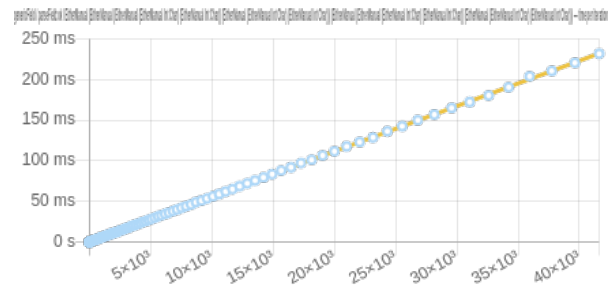
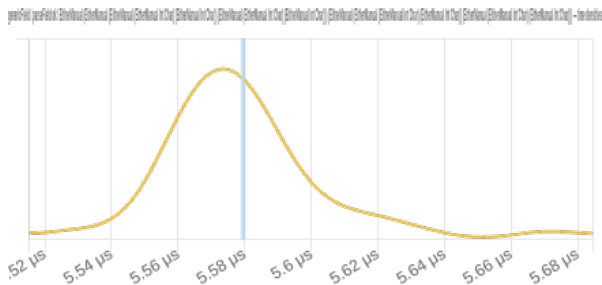
# genericField / parseField:ok / EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char))



	lower bound	estimate	upper bound
OLS regression	4.77 $\mu$ s	4.78 $\mu$ s	4.79 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	4.77 $\mu$ s	4.77 $\mu$ s	4.78 $\mu$ s
Standard deviation	12.2 ns	18.7 ns	30.3 ns

Outlying measurements have no (0.556%) effect on estimated standard deviation.

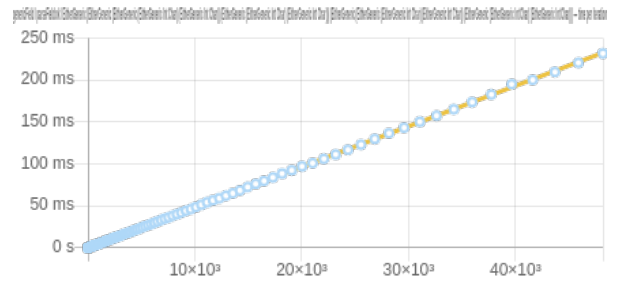
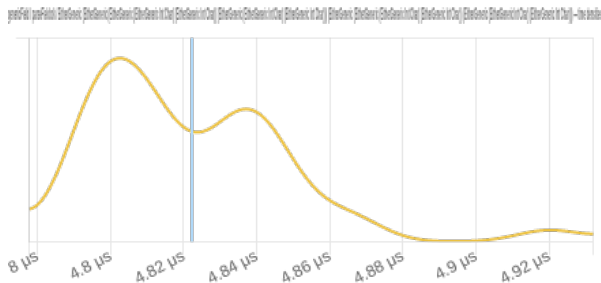
# genericField / parseField:ok / EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char)))



	lower bound	estimate	upper bound
OLS regression	5.56 $\mu$ s	5.58 $\mu$ s	5.60 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	5.57 $\mu$ s	5.58 $\mu$ s	5.59 $\mu$ s
Standard deviation	16.8 ns	23.8 ns	37.0 ns

Outlying measurements have no (0.565%) effect on estimated standard deviation.

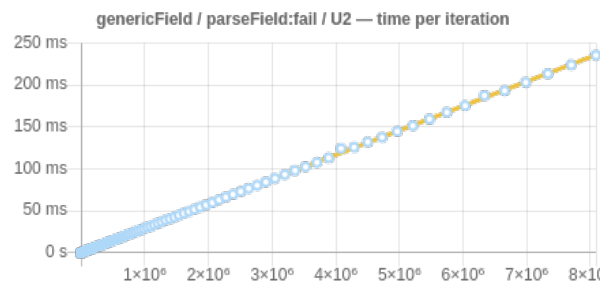
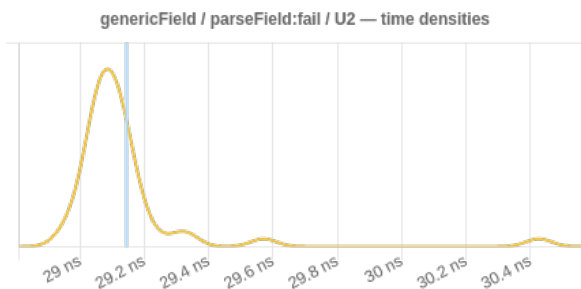
genericField / parseField:ok / EitherGeneric (EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char))) (EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)))



	lower bound	estimate	upper bound
OLS regression	4.81 $\mu$ s	4.83 $\mu$ s	4.84 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	4.82 $\mu$ s	4.82 $\mu$ s	4.83 $\mu$ s
Standard deviation	20.1 ns	26.1 ns	39.1 ns

Outlying measurements have no (0.556%) effect on estimated standard deviation.

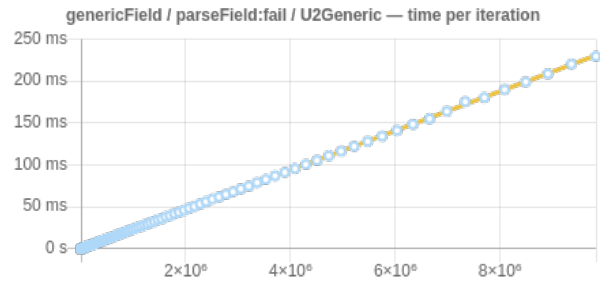
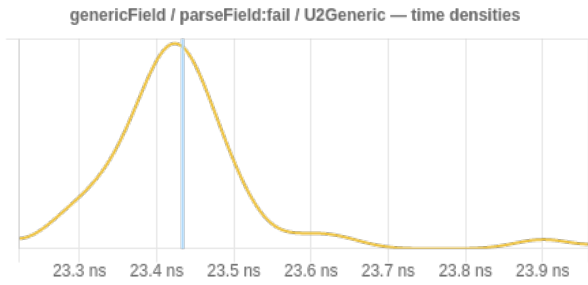
## genericField / parseField:fail / U2



	lower bound	estimate	upper bound
OLS regression	29.1 ns	29.2 ns	29.3 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	29.1 ns	29.1 ns	29.3 ns
Standard deviation	79.2 ps	224 ps	465 ps

Outlying measurements have a slight (5.65%) effect on estimated standard deviation.

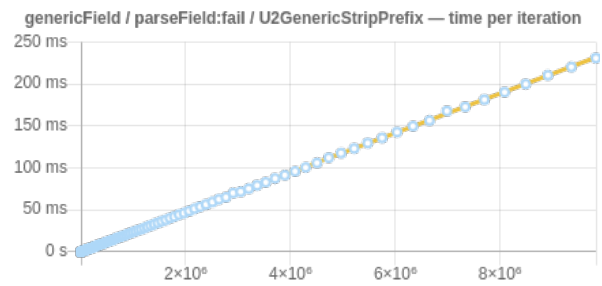
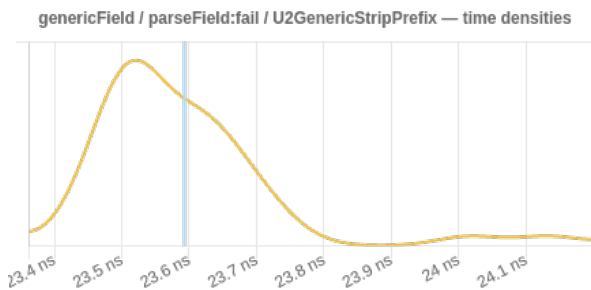
## genericField / parseField:fail / U2Generic



	lower bound	estimate	upper bound
OLS regression	23.4 ns	23.4 ns	23.5 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	23.4 ns	23.4 ns	23.5 ns
Standard deviation	64.4 ps	101 ps	170 ps

Outlying measurements have no (0.346%) effect on estimated standard deviation.

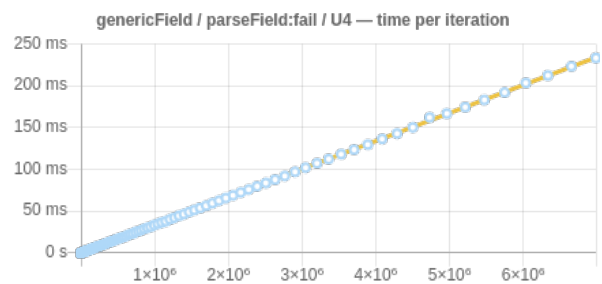
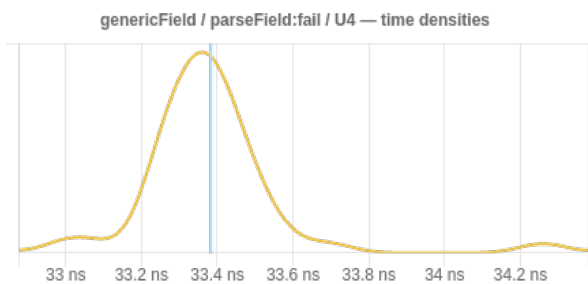
## genericField / parseField:fail / U2GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	23.5 ns	23.6 ns	23.6 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	23.6 ns	23.6 ns	23.6 ns
Standard deviation	80.8 ps	134 ps	203 ps

Outlying measurements have no (0.346%) effect on estimated standard deviation.

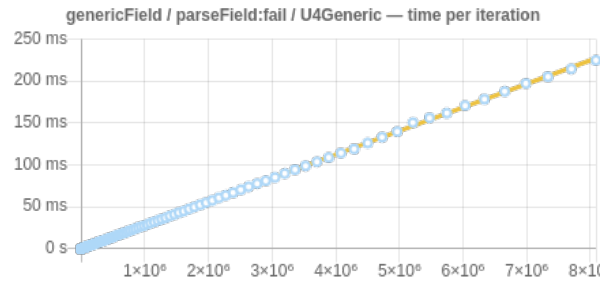
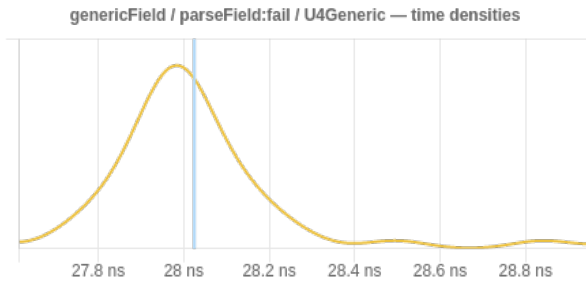
## genericField / parseField:fail / U4



	lower bound	estimate	upper bound
OLS regression	33.4 ns	33.5 ns	33.6 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	33.3 ns	33.4 ns	33.5 ns
Standard deviation	105 ps	182 ps	315 ps

Outlying measurements have no (0.355%) effect on estimated standard deviation.

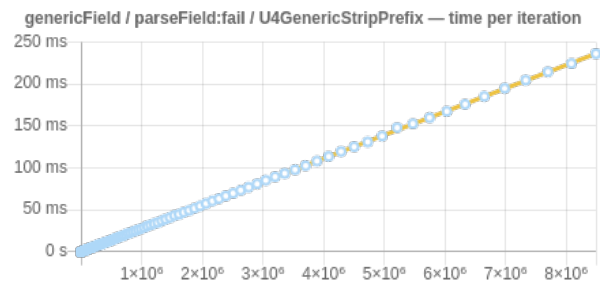
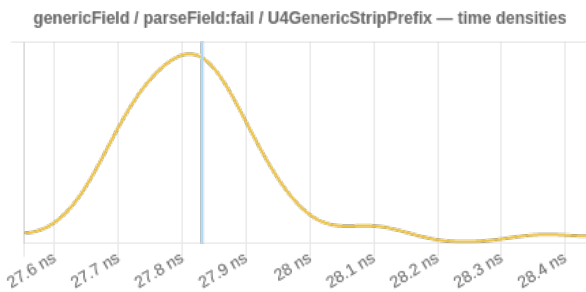
## genericField / parseField:fail / U4Generic



	lower bound	estimate	upper bound
OLS regression	28.0 ns	28.1 ns	28.2 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	28.0 ns	28.0 ns	28.1 ns
Standard deviation	121 ps	188 ps	310 ps

Outlying measurements have no (0.351%) effect on estimated standard deviation.

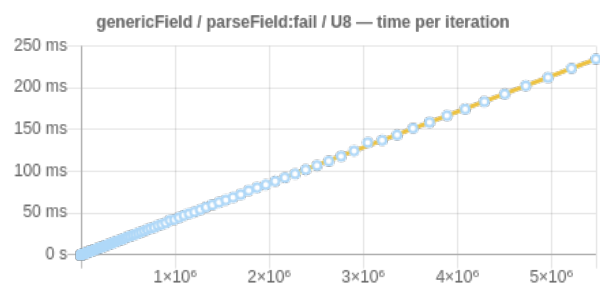
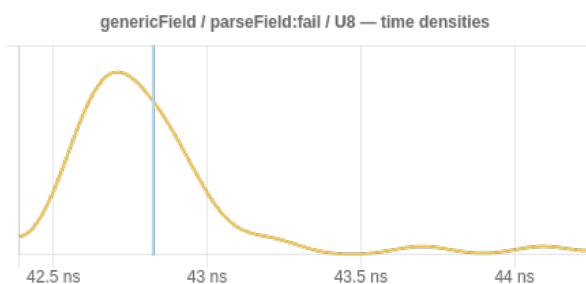
## genericField / parseField:fail / U4GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	27.8 ns	27.8 ns	27.9 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	27.8 ns	27.8 ns	27.9 ns
Standard deviation	90.2 ps	128 ps	201 ps

Outlying measurements have no (0.350%) effect on estimated standard deviation.

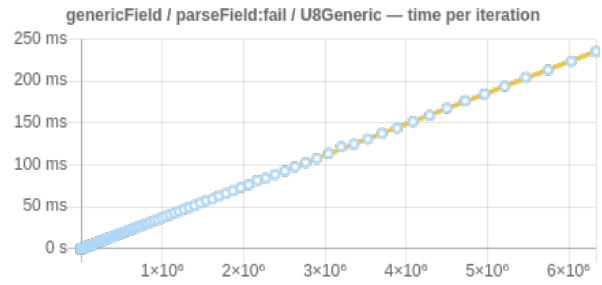
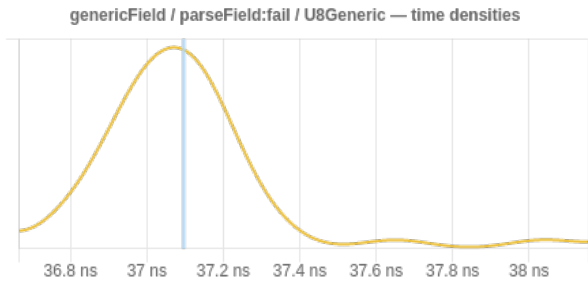
## genericField / parseField:fail / U8



	lower bound	estimate	upper bound
OLS regression	42.7 ns	42.8 ns	42.9 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	42.8 ns	42.8 ns	42.9 ns
Standard deviation	172 ps	287 ps	463 ps

Outlying measurements have no (0.361%) effect on estimated standard deviation.

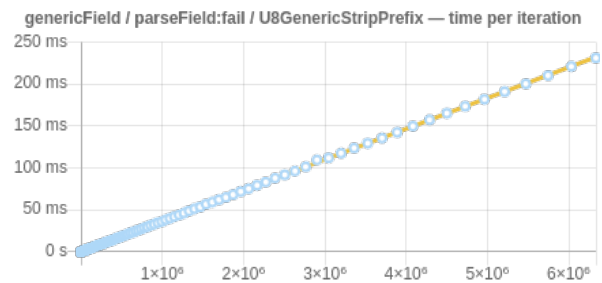
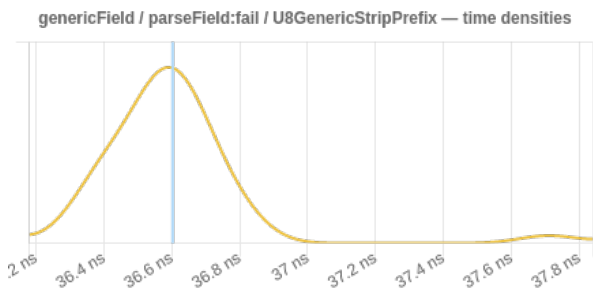
## genericField / parseField:fail / U8Generic



	lower bound	estimate	upper bound
OLS regression	37.1 ns	37.1 ns	37.2 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	37.0 ns	37.1 ns	37.2 ns
Standard deviation	139 ps	212 ps	384 ps

Outlying measurements have no (0.357%) effect on estimated standard deviation.

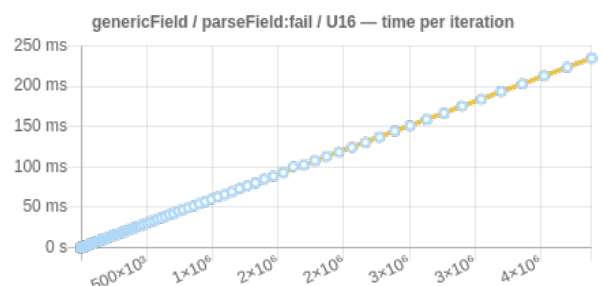
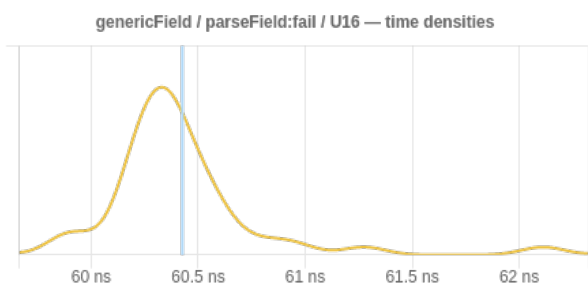
## genericField / parseField:fail / U8GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	36.6 ns	36.6 ns	36.7 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	36.6 ns	36.6 ns	36.7 ns
Standard deviation	114 ps	212 ps	414 ps

Outlying measurements have no (0.357%) effect on estimated standard deviation.

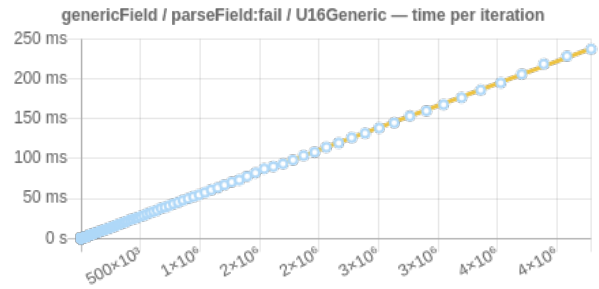
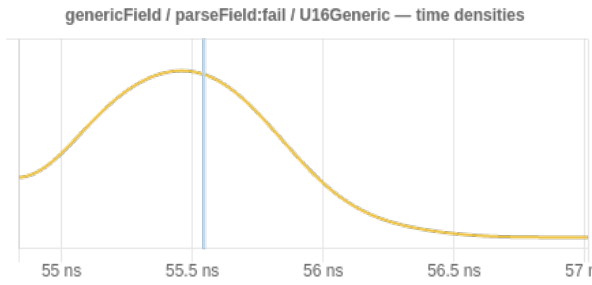
## genericField / parseField:fail / U16



	lower bound	estimate	upper bound
OLS regression	60.3 ns	60.4 ns	60.5 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	60.3 ns	60.4 ns	60.6 ns
Standard deviation	228 ps	362 ps	674 ps

Outlying measurements have no (0.370%) effect on estimated standard deviation.

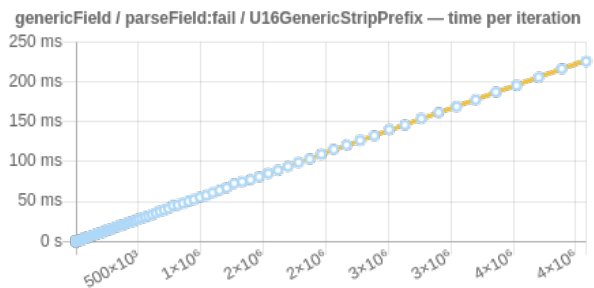
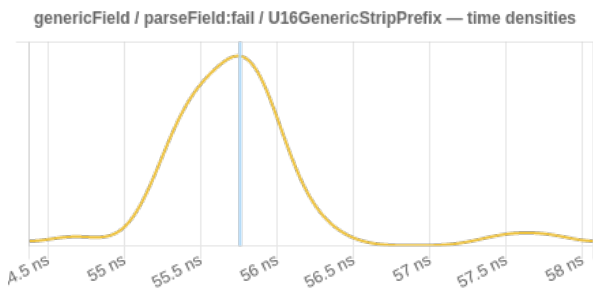
## genericField / parseField:fail / U16Generic



	lower bound	estimate	upper bound
OLS regression	55.3 ns	55.5 ns	55.7 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	55.5 ns	55.5 ns	55.7 ns
Standard deviation	296 ps	383 ps	540 ps

Outlying measurements have no (0.368%) effect on estimated standard deviation.

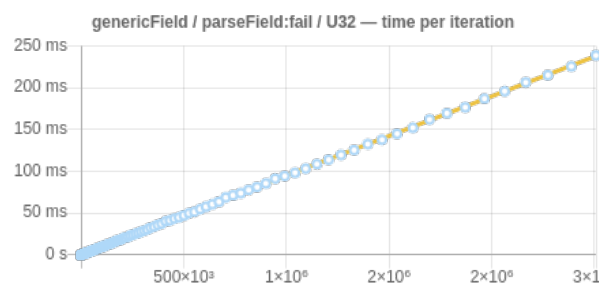
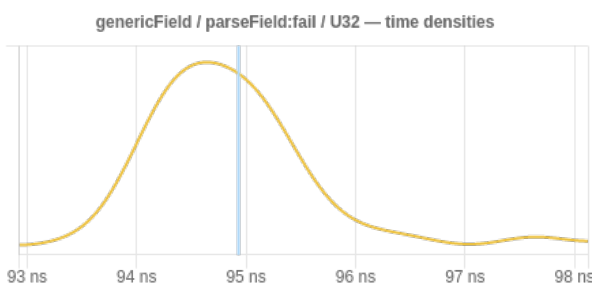
## genericField / parseField:fail / U16GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	55.5 ns	55.6 ns	55.7 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	55.6 ns	55.8 ns	56.0 ns
Standard deviation	310 ps	515 ps	826 ps

Outlying measurements have a slight (7.70%) effect on estimated standard deviation.

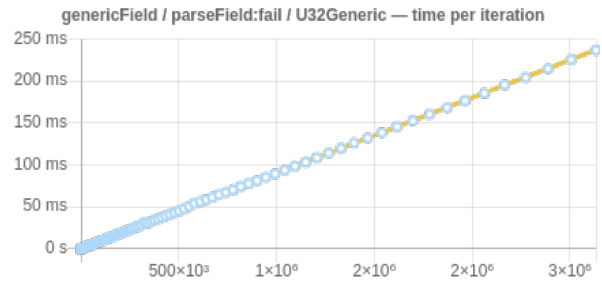
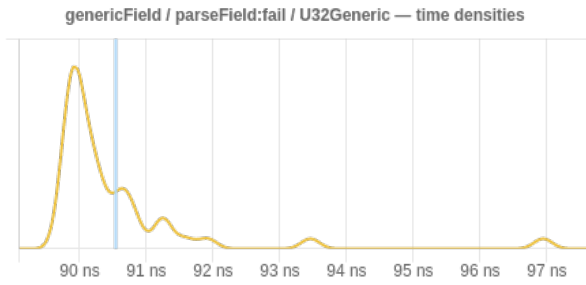
## genericField / parseField:fail / U32



	lower bound	estimate	upper bound
OLS regression	94.6 ns	94.8 ns	95.0 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	94.7 ns	94.9 ns	95.3 ns
Standard deviation	634 ps	861 ps	1.16 ns

Outlying measurements have a slight (7.26%) effect on estimated standard deviation.

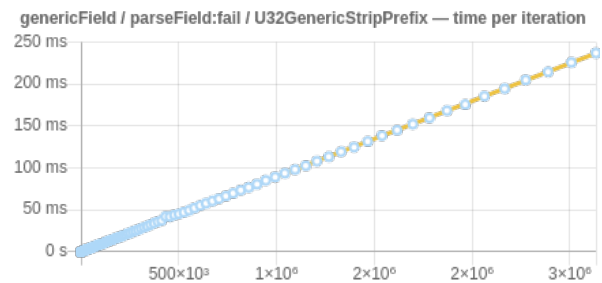
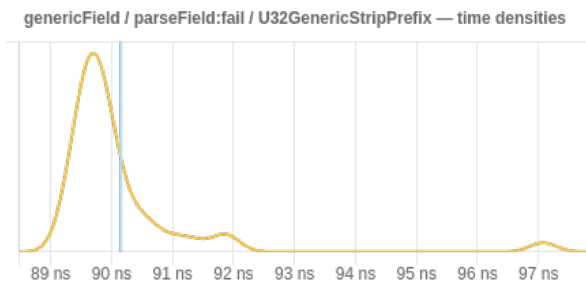
## genericField / parseField:fail / U32Generic



	lower bound	estimate	upper bound
OLS regression	89.9 ns	90.0 ns	90.1 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	90.3 ns	90.5 ns	91.1 ns
Standard deviation	607 ps	1.21 ns	2.34 ns

Outlying measurements have a moderate (14.5%) effect on estimated standard deviation.

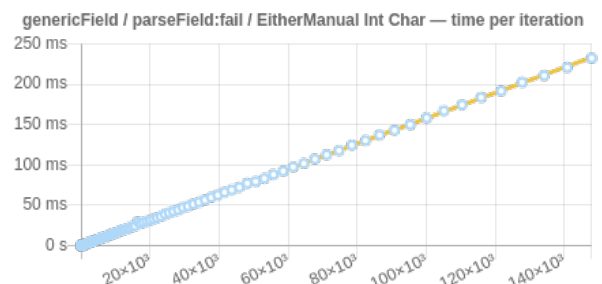
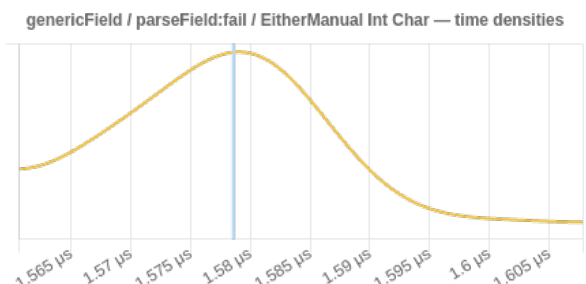
## genericField / parseField:fail / U32GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	89.7 ns	89.8 ns	89.9 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	89.9 ns	90.2 ns	90.7 ns
Standard deviation	548 ps	1.24 ns	2.19 ns

Outlying measurements have a moderate (15.3%) effect on estimated standard deviation.

## genericField / parseField:fail / EitherManual Int Char



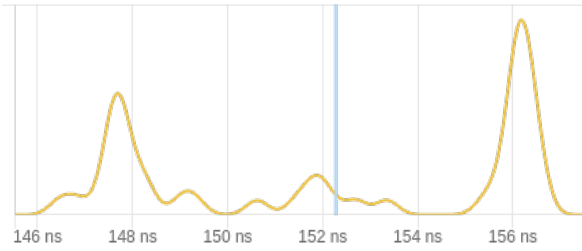
	lower bound	estimate	upper bound
OLS regression	1.57 μs	1.58 μs	1.58 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	1.58 μs	1.58 μs	1.58 μs
Standard deviation	6.84 ns	8.75 ns	11.3 ns

Outlying measurements have no (0.493%) effect on estimated standard deviation.

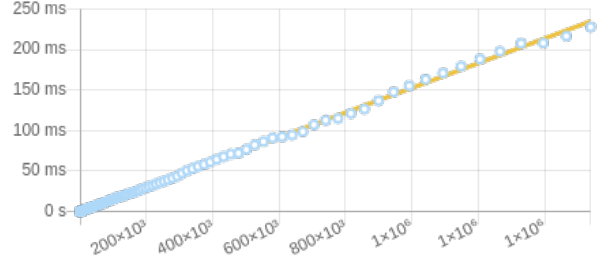


## genericField / parseField:fail / EitherGeneric Int Char

genericField / parseField:fail / EitherGeneric Int Char — time densities



genericField / parseField:fail / EitherGeneric Int Char — time per iteration



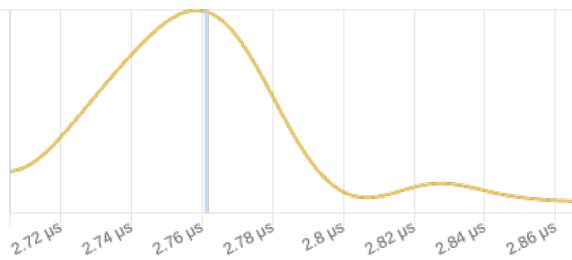
**lower bound estimate upper bound**

OLS regression	151 ns	153 ns	154 ns
R <sup>2</sup> goodness-of-fit	0.999	0.999	0.999
Mean execution time	151 ns	152 ns	153 ns
Standard deviation	3.53 ns	3.85 ns	4.15 ns

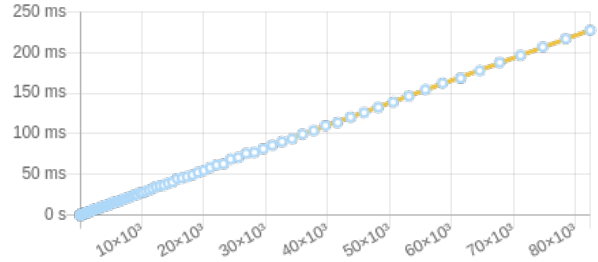
Outlying measurements have a moderate (37.0%) effect on estimated standard deviation.

## genericField / parseField:fail / EitherManual (EitherManual Int Char) (EitherManual Int Char)

genericField / parseField:fail / EitherManual (EitherManual Int Char) (EitherManual Int Char) — time densities



genericField / parseField:fail / EitherManual (EitherManual Int Char) (EitherManual Int Char) — time per iteration



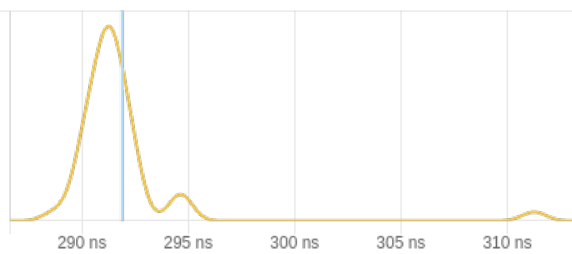
**lower bound estimate upper bound**

OLS regression	2.75 µs	2.76 µs	2.76 µs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.75 µs	2.76 µs	2.77 µs
Standard deviation	21.4 ns	29.0 ns	39.8 ns

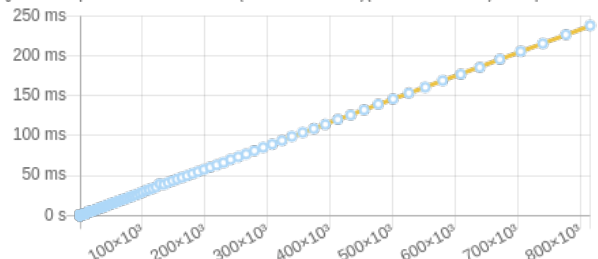
Outlying measurements have a slight (6.96%) effect on estimated standard deviation.

## genericField / parseField:fail / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)

genericField / parseField:fail / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char) — time densities



genericField / parseField:fail / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char) — time per iteration

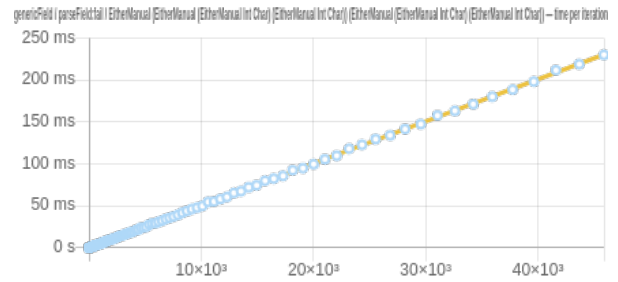
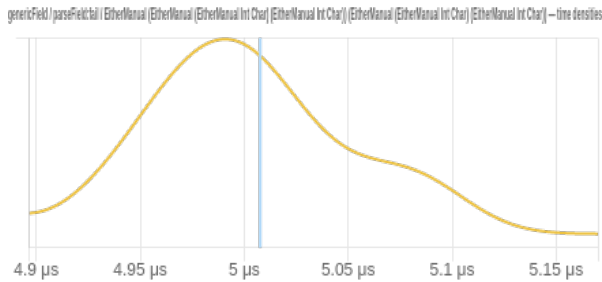


**lower bound estimate upper bound**

OLS regression	291 ns	291 ns	291 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	291 ns	292 ns	293 ns
Standard deviation	1.04 ns	3.23 ns	7.01 ns

Outlying measurements have a slight (9.58%) effect on estimated standard deviation.

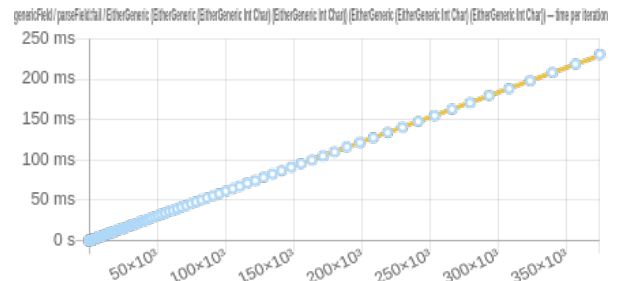
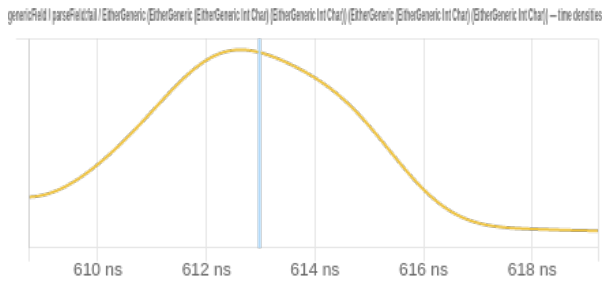
# genericField / parseField:fail / EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual Int Char))



	lower bound	estimate	upper bound
OLS regression	5.00 µs	5.02 µs	5.04 µs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	4.99 µs	5.01 µs	5.03 µs
Standard deviation	40.6 ns	50.3 ns	64.0 ns

Outlying measurements have a slight (6.35%) effect on estimated standard deviation.

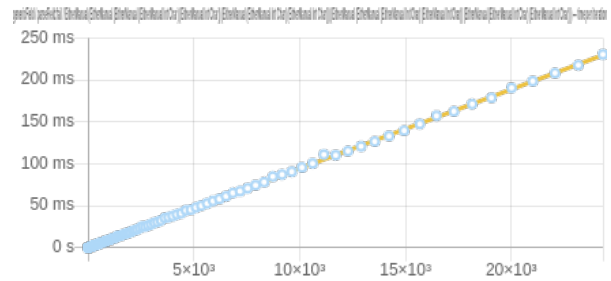
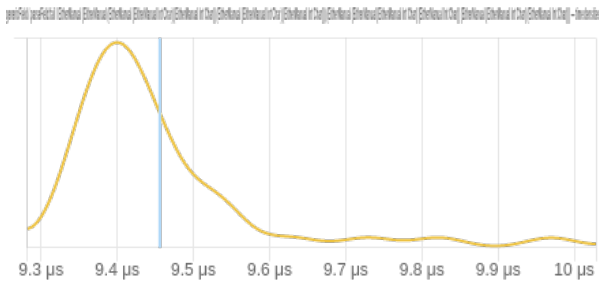
# genericField / parseField:fail / EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric Int Char))



	lower bound	estimate	upper bound
OLS regression	613 ns	614 ns	614 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	613 ns	613 ns	614 ns
Standard deviation	1.53 ns	1.87 ns	2.49 ns

Outlying measurements have no (0.450%) effect on estimated standard deviation.

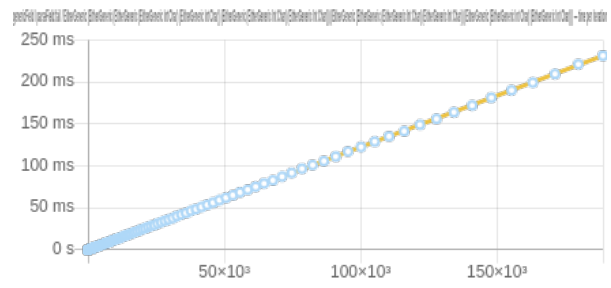
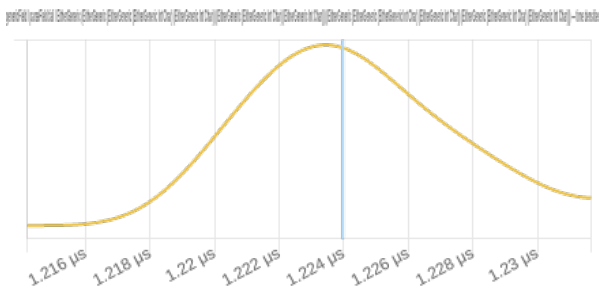
genericField / parseField:fail / EitherManual (EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char))) (EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char))) (EitherManual (EitherManual Int Char) (EitherManual Int Char)))



	lower bound	estimate	upper bound
OLS regression	9.41 μs	9.44 μs	9.48 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	9.43 μs	9.46 μs	9.51 μs
Standard deviation	82.3 ns	127 ns	202 ns

Outlying measurements have a slight (9.74%) effect on estimated standard deviation.

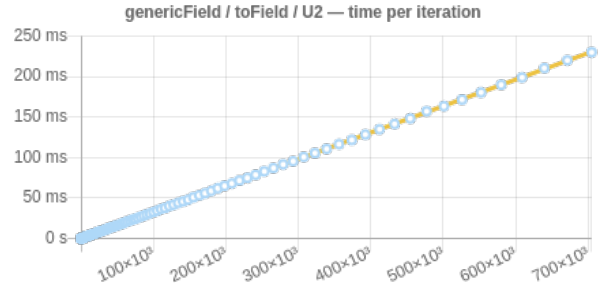
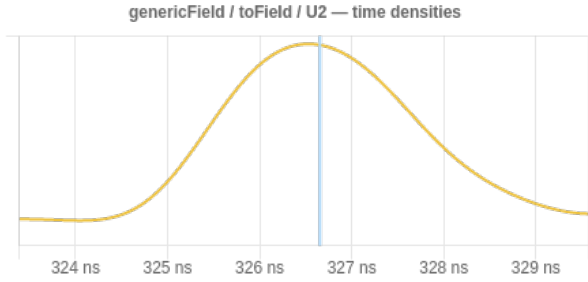
genericField / parseField:fail / EitherGeneric (EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char))) (EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char))) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)))



	lower bound	estimate	upper bound
OLS regression	1.22 μs	1.22 μs	1.23 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	1.22 μs	1.22 μs	1.22 μs
Standard deviation	2.51 ns	3.05 ns	3.97 ns

Outlying measurements have no (0.481%) effect on estimated standard deviation.

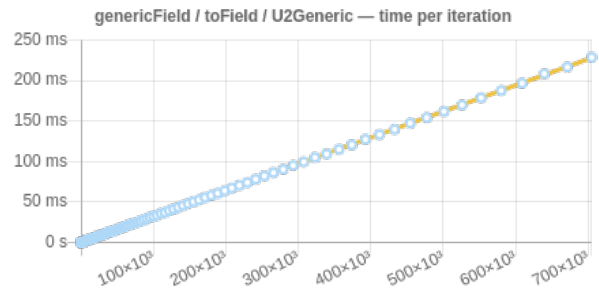
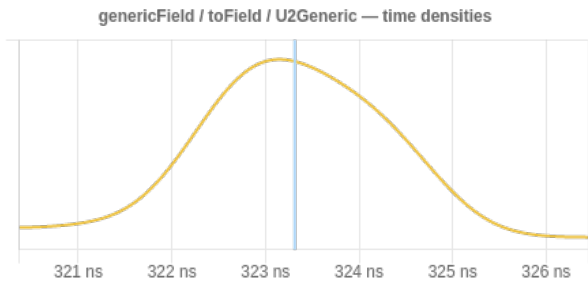
# genericField / toField / U2



	lower bound	estimate	upper bound
OLS regression	326 ns	327 ns	327 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	326 ns	327 ns	327 ns
Standard deviation	904 ps	1.11 ns	1.46 ns

Outlying measurements have no (0.426%) effect on estimated standard deviation.

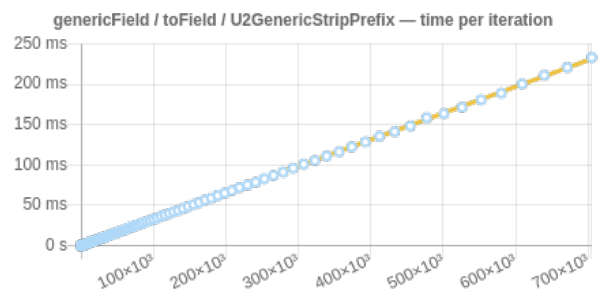
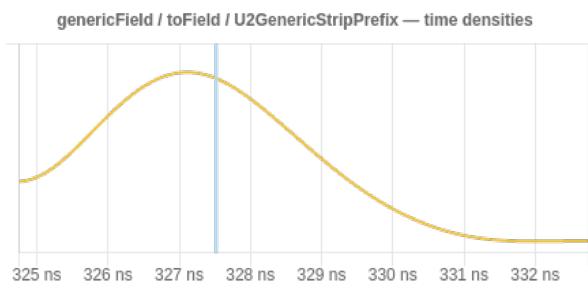
# genericField / toField / U2Generic



	lower bound	estimate	upper bound
OLS regression	323 ns	323 ns	324 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	323 ns	323 ns	324 ns
Standard deviation	815 ps	991 ps	1.30 ns

Outlying measurements have no (0.426%) effect on estimated standard deviation.

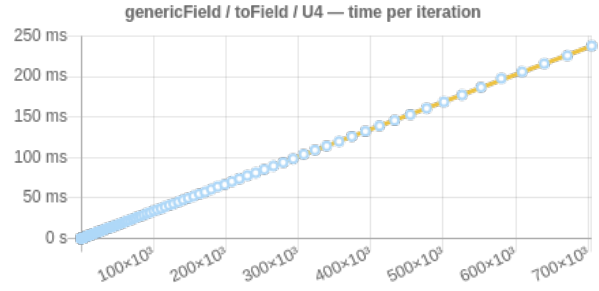
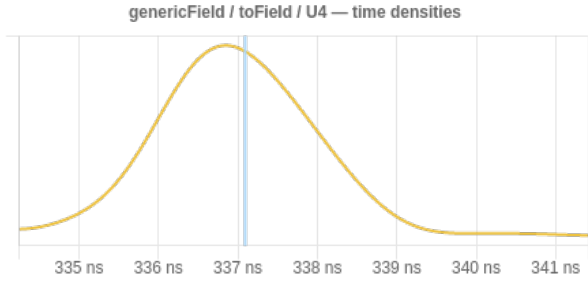
# genericField / toField / U2GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	327 ns	328 ns	329 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	327 ns	328 ns	328 ns
Standard deviation	1.13 ns	1.41 ns	1.94 ns

Outlying measurements have no (0.426%) effect on estimated standard deviation.

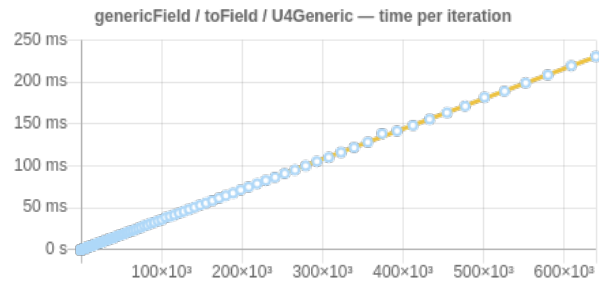
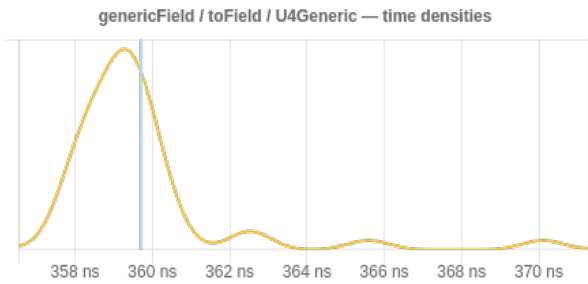
# genericField / toField / U4



	lower bound	estimate	upper bound
OLS regression	337 ns	337 ns	338 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	337 ns	337 ns	338 ns
Standard deviation	839 ps	1.11 ns	1.57 ns

Outlying measurements have no (0.426%) effect on estimated standard deviation.

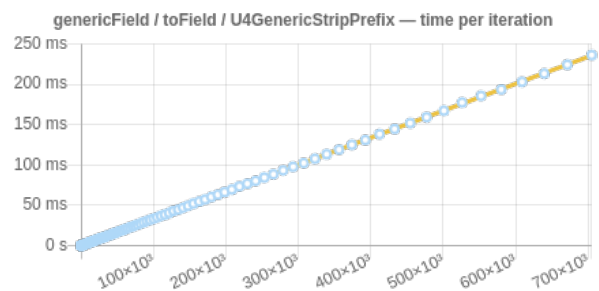
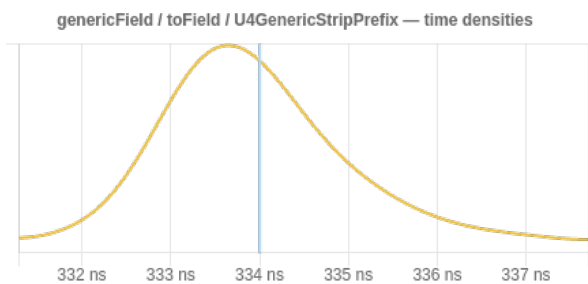
# genericField / toField / U4Generic



	lower bound	estimate	upper bound
OLS regression	359 ns	360 ns	361 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	359 ns	360 ns	361 ns
Standard deviation	1.31 ns	2.15 ns	4.05 ns

Outlying measurements have no (0.429%) effect on estimated standard deviation.

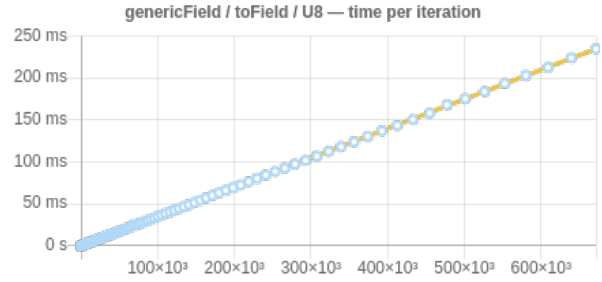
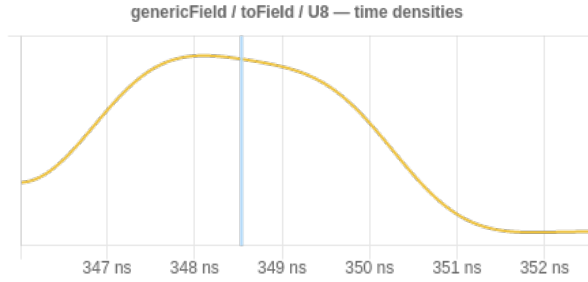
# genericField / toField / U4GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	334 ns	334 ns	335 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	334 ns	334 ns	334 ns
Standard deviation	855 ps	1.08 ns	1.41 ns

Outlying measurements have no (0.426%) effect on estimated standard deviation.

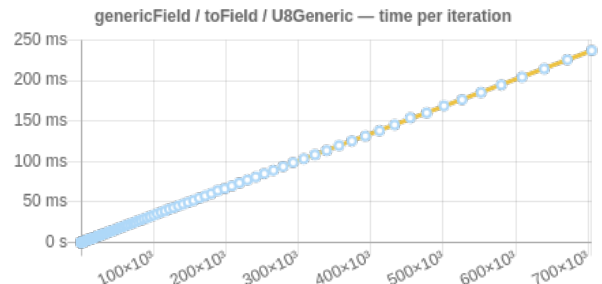
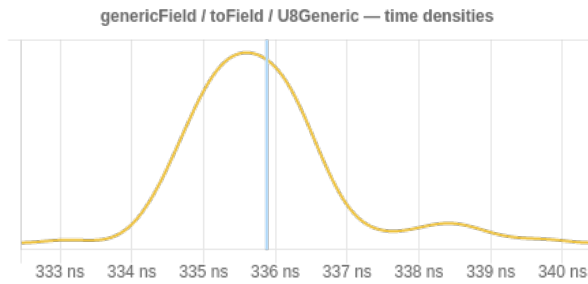
## genericField / toField / U8



	lower bound	estimate	upper bound
OLS regression	349 ns	349 ns	350 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	348 ns	349 ns	349 ns
Standard deviation	986 ps	1.16 ns	1.51 ns

Outlying measurements have no (0.427%) effect on estimated standard deviation.

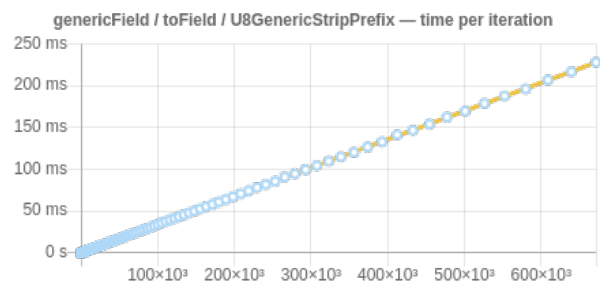
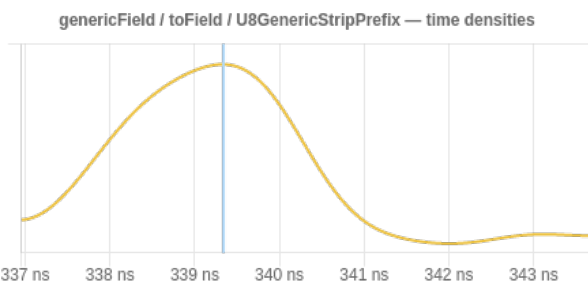
## genericField / toField / U8Generic



	lower bound	estimate	upper bound
OLS regression	335 ns	336 ns	336 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	336 ns	336 ns	336 ns
Standard deviation	892 ps	1.20 ns	1.66 ns

Outlying measurements have no (0.426%) effect on estimated standard deviation.

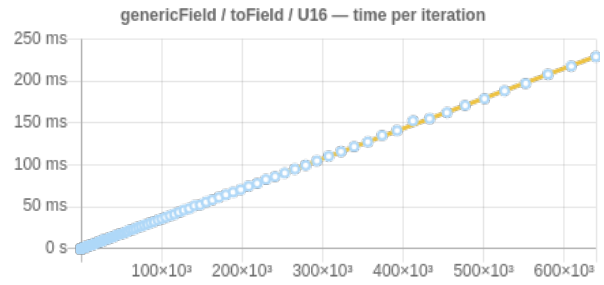
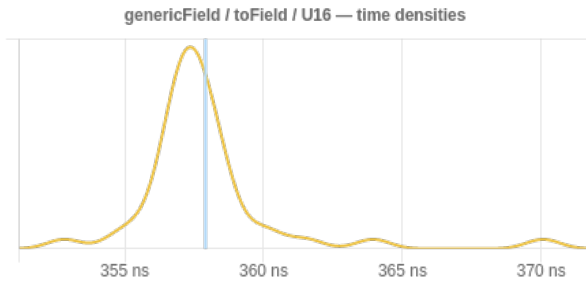
## genericField / toField / U8GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	339 ns	339 ns	340 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	339 ns	339 ns	340 ns
Standard deviation	830 ps	1.16 ns	1.62 ns

Outlying measurements have no (0.427%) effect on estimated standard deviation.

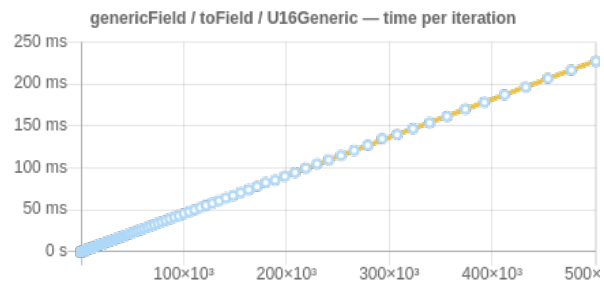
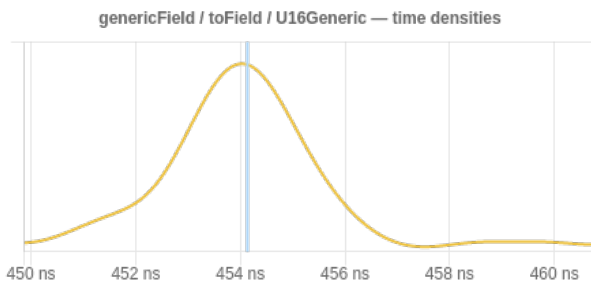
## genericField / toField / U16



	lower bound	estimate	upper bound
OLS regression	357 ns	358 ns	359 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	357 ns	358 ns	359 ns
Standard deviation	1.45 ns	2.56 ns	4.58 ns

Outlying measurements have no (0.429%) effect on estimated standard deviation.

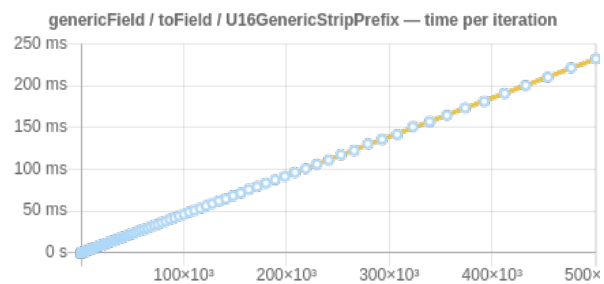
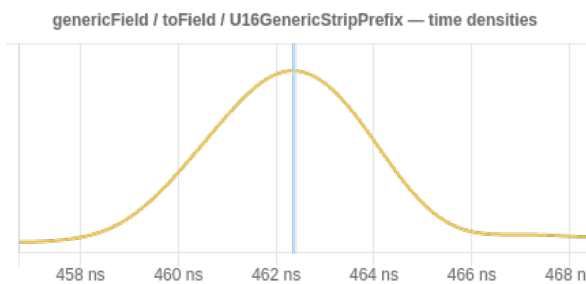
## genericField / toField / U16Generic



	lower bound	estimate	upper bound
OLS regression	454 ns	454 ns	455 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	454 ns	454 ns	455 ns
Standard deviation	1.15 ns	1.62 ns	2.35 ns

Outlying measurements have no (0.439%) effect on estimated standard deviation.

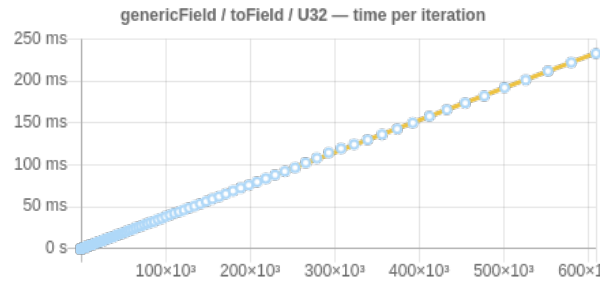
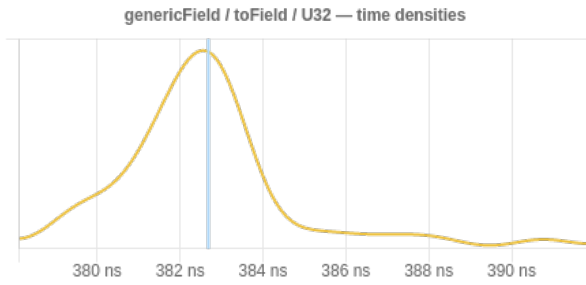
## genericField / toField / U16GenericStripPrefix



	lower bound	estimate	upper bound
OLS regression	462 ns	463 ns	463 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	462 ns	462 ns	463 ns
Standard deviation	1.46 ns	1.83 ns	2.51 ns

Outlying measurements have no (0.439%) effect on estimated standard deviation.

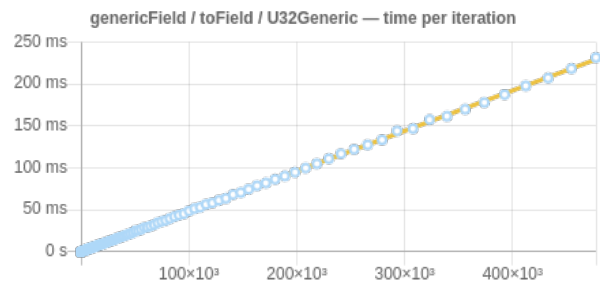
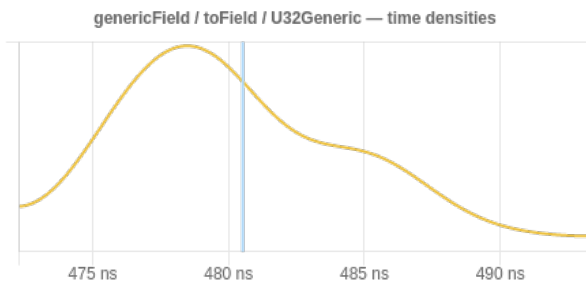
## genericField / toField / U32



	lower bound	estimate	upper bound
OLS regression	383 ns	383 ns	384 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	382 ns	383 ns	383 ns
Standard deviation	1.55 ns	2.16 ns	3.32 ns

Outlying measurements have no (0.431%) effect on estimated standard deviation.

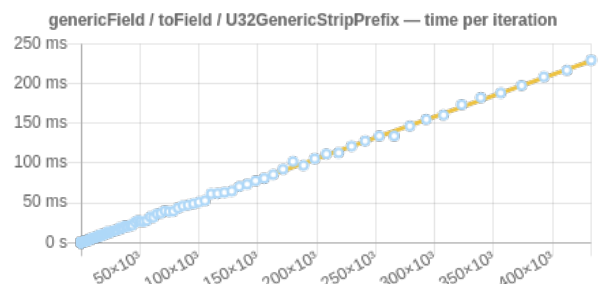
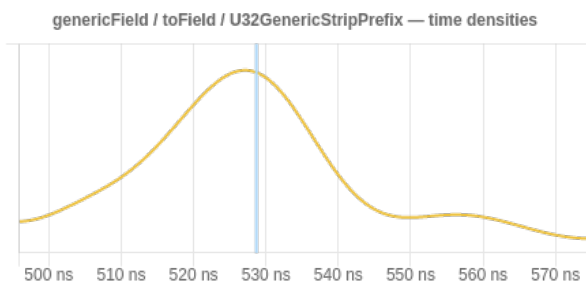
## genericField / toField / U32Generic



	lower bound	estimate	upper bound
OLS regression	479 ns	480 ns	482 ns
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	479 ns	481 ns	482 ns
Standard deviation	3.37 ns	4.09 ns	4.99 ns

Outlying measurements have a slight (4.77%) effect on estimated standard deviation.

## genericField / toField / U32GenericStripPrefix

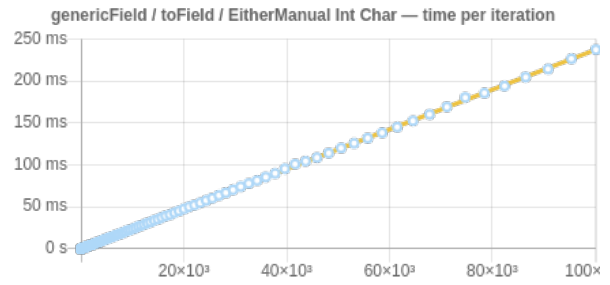
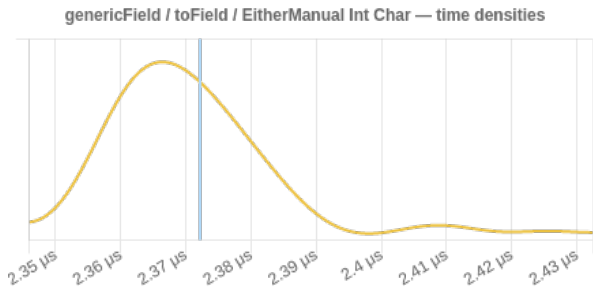


	lower bound	estimate	upper bound
OLS regression	525 ns	528 ns	531 ns
R <sup>2</sup> goodness-of-fit	0.999	1.00	1.00
Mean execution time	525 ns	529 ns	534 ns
Standard deviation	12.3 ns	15.1 ns	19.1 ns

Outlying measurements have a moderate (40.1%) effect on estimated standard deviation.



## genericField / toField / EitherManual Int Char

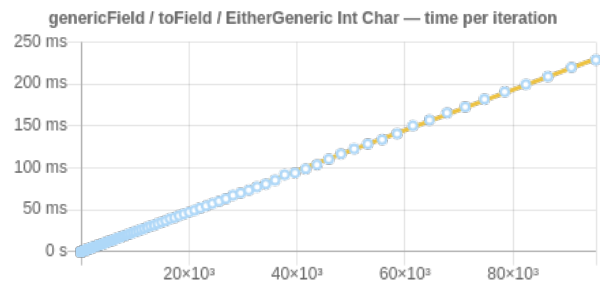
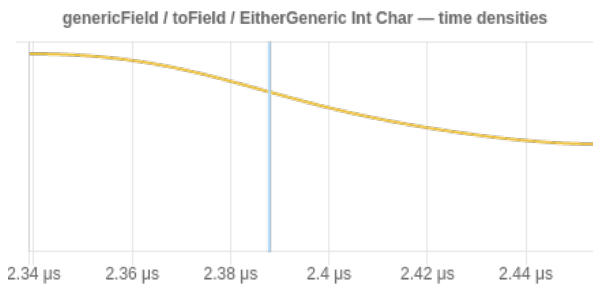


**lower bound estimate upper bound**

OLS regression	2.37 $\mu$ s	2.37 $\mu$ s	2.38 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.37 $\mu$ s	2.37 $\mu$ s	2.38 $\mu$ s
Standard deviation	10.2 ns	14.3 ns	23.2 ns

Outlying measurements have no (0.513%) effect on estimated standard deviation.

## genericField / toField / EitherGeneric Int Char

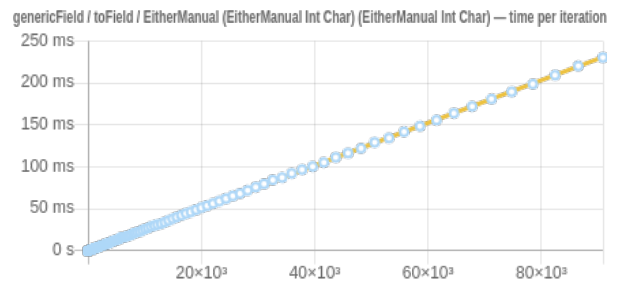
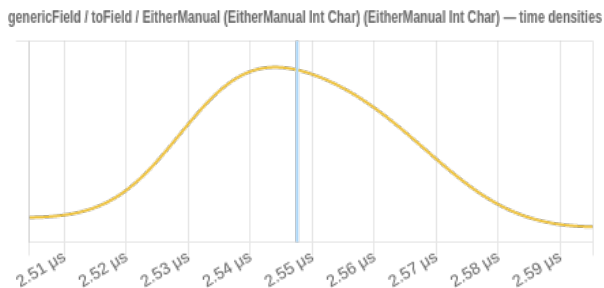


**lower bound estimate upper bound**

OLS regression	2.40 $\mu$ s	2.41 $\mu$ s	2.42 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.38 $\mu$ s	2.39 $\mu$ s	2.40 $\mu$ s
Standard deviation	26.7 ns	30.2 ns	34.8 ns

Outlying measurements have a moderate (10.3%) effect on estimated standard deviation.

## genericField / toField / EitherManual (EitherManual Int Char) (EitherManual Int Char)



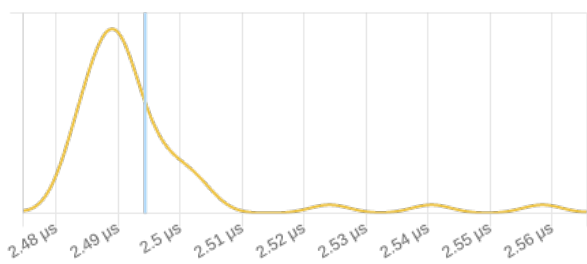
**lower bound estimate upper bound**

OLS regression	2.54 $\mu$ s	2.54 $\mu$ s	2.54 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.54 $\mu$ s	2.55 $\mu$ s	2.55 $\mu$ s
Standard deviation	12.9 ns	15.8 ns	20.3 ns

Outlying measurements have no (0.518%) effect on estimated standard deviation.

# genericField / toField / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)

genericField / toField / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char) — time densities

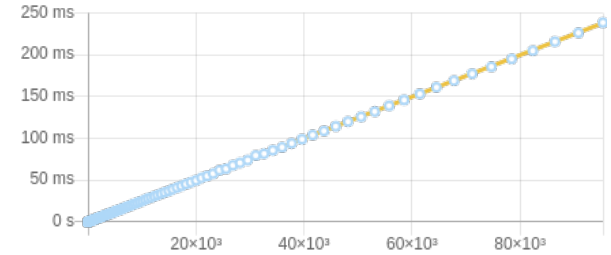


**lower bound estimate upper bound**

OLS regression	2.49 μs	2.49 μs	2.49 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.49 μs	2.49 μs	2.50 μs
Standard deviation	7.65 ns	14.4 ns	23.9 ns

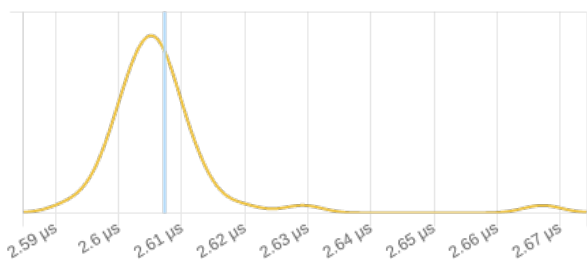
Outlying measurements have no (0.515%) effect on estimated standard deviation.

genericField / toField / EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char) — time per iteration



# genericField / toField / EitherManual (EitherManual Int Char) (EitherManual Int Char) (EitherManual (EitherManual Int Char) (EitherManual Int Char))

genericField / toField / EitherManual (EitherManual Int Char) (EitherManual Int Char) (EitherManual Int Char) — time densities

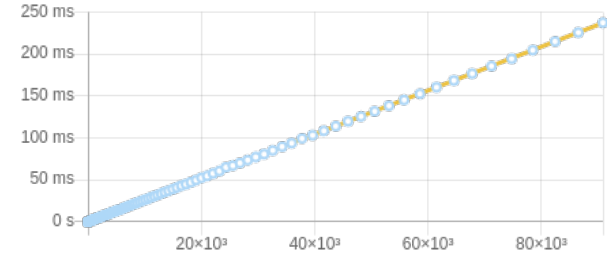


**lower bound estimate upper bound**

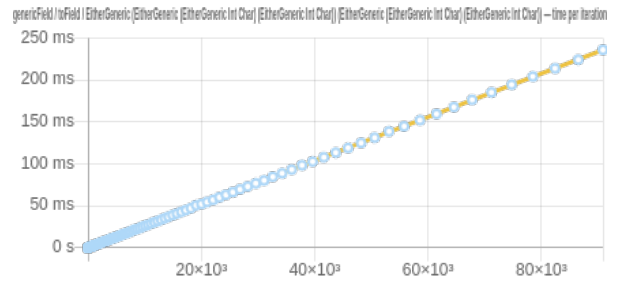
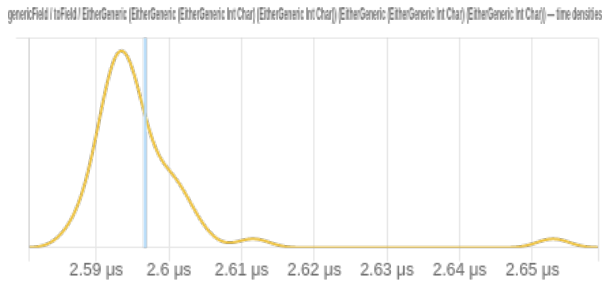
OLS regression	2.60 μs	2.61 μs	2.61 μs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.60 μs	2.61 μs	2.61 μs
Standard deviation	5.38 ns	11.1 ns	21.8 ns

Outlying measurements have no (0.518%) effect on estimated standard deviation.

genericField / toField / EitherManual (EitherManual Int Char) (EitherManual Int Char) (EitherManual Int Char) — time per iteration



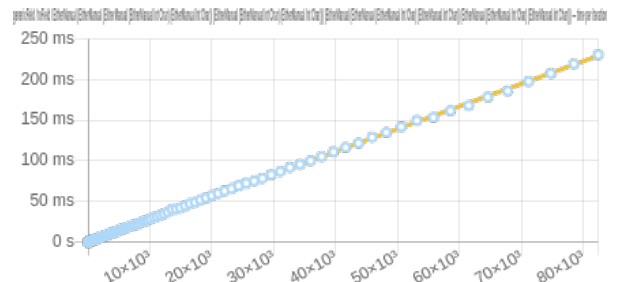
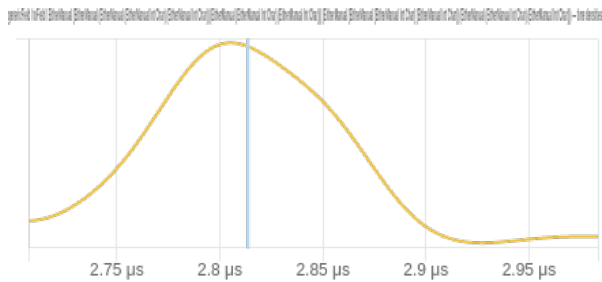
genericField / toField / EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char))



	lower bound	estimate	upper bound
OLS regression	2.59 $\mu$ s	2.60 $\mu$ s	2.60 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.59 $\mu$ s	2.60 $\mu$ s	2.60 $\mu$ s
Standard deviation	4.12 ns	9.85 ns	19.1 ns

Outlying measurements have no (0.518%) effect on estimated standard deviation.

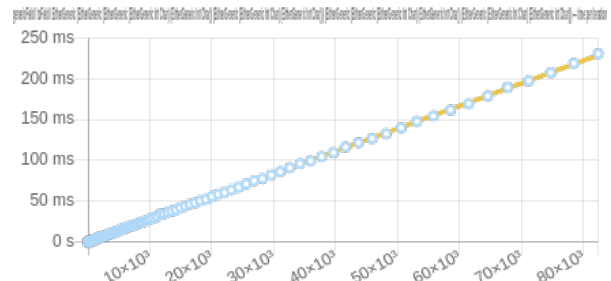
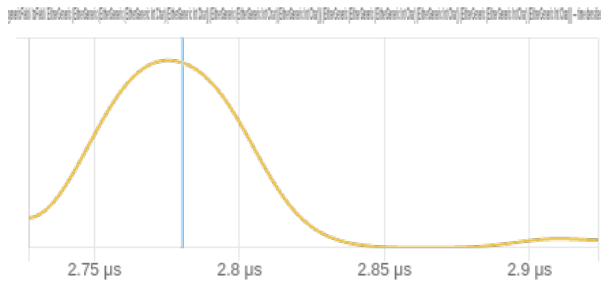
genericField / toField / EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual (EitherManual Int Char) (EitherManual Int Char)) (EitherManual (EitherManual Int Char) (EitherManual Int Char)))



	lower bound	estimate	upper bound
OLS regression	2.77 $\mu$ s	2.78 $\mu$ s	2.79 $\mu$ s
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.80 $\mu$ s	2.81 $\mu$ s	2.83 $\mu$ s
Standard deviation	32.7 ns	42.1 ns	62.6 ns

Outlying measurements have a moderate (13.5%) effect on estimated standard deviation.

genericField / toField / EitherGeneric (EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char))) (EitherGeneric (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)) (EitherGeneric (EitherGeneric Int Char) (EitherGeneric Int Char)))



	lower bound	estimate	upper bound
OLS regression	2.77 µs	2.78 µs	2.79 µs
R <sup>2</sup> goodness-of-fit	1.00	1.00	1.00
Mean execution time	2.77 µs	2.78 µs	2.79 µs
Standard deviation	17.2 ns	27.1 ns	49.9 ns

Outlying measurements have a slight (6.44%) effect on estimated standard deviation.

## understanding this report

In this report, each function benchmarked by criterion is assigned a section of its own.

- The chart on the left is a [kernel density estimate](#) (also known as a KDE) of time measurements. This graphs the probability of any given time measurement occurring. A spike indicates that a measurement of a particular time occurred; its height indicates how often that measurement was repeated.
- The chart on the right is the raw data from which the kernel density estimate is built. The x-axis indicates the number of loop iterations, while the y-axis shows measured execution time for the given number of loop iterations. The line behind the values is the linear regression estimate of execution time for a given number of iterations. Ideally, all measurements will be on (or very near) this line. The transparent area behind it shows the confidence interval for the execution time estimate.

Under the charts is a small table. The first two rows are the results of a linear regression run on the measurements displayed in the right-hand chart.

- *OLS regression* indicates the time estimated for a single loop iteration using an ordinary least-squares regression model. This number is more accurate than the *mean* estimate below it, as it more effectively eliminates measurement overhead and other constant factors.
- *R<sup>2</sup>; goodness-of-fit* is a measure of how accurately the linear regression model fits the observed measurements. If the measurements are not too noisy, R<sup>2</sup>; should lie between 0.99 and 1, indicating an excellent fit. If the number is below 0.99, something is confounding the accuracy of the linear model.
- *Mean execution time* and *standard deviation* are statistics calculated from execution time divided by number of iterations.

We use a statistical technique called the [bootstrap](#) to provide confidence intervals on our estimates. The bootstrap-derived upper and lower bounds on estimates let you see how accurate we believe those estimates to be.

A noisy benchmarking environment can cause some or many measurements to fall far from the mean. These outlying measurements can have a significant inflationary effect on the estimate of the standard deviation. We calculate and display an estimate of the extent to which the standard deviation has been inflated by outliers.

## colophon

This report was created using the [criterion](#) benchmark execution and performance analysis tool.

Criterion is developed and maintained by [Bryan O'Sullivan](#).