

# Chapter 9

## Annex

### 9.1 Performance evaluation

#### 9.1.1 Service Mesh comparison with basic configuration

##### 9.1.1.1 Graphics

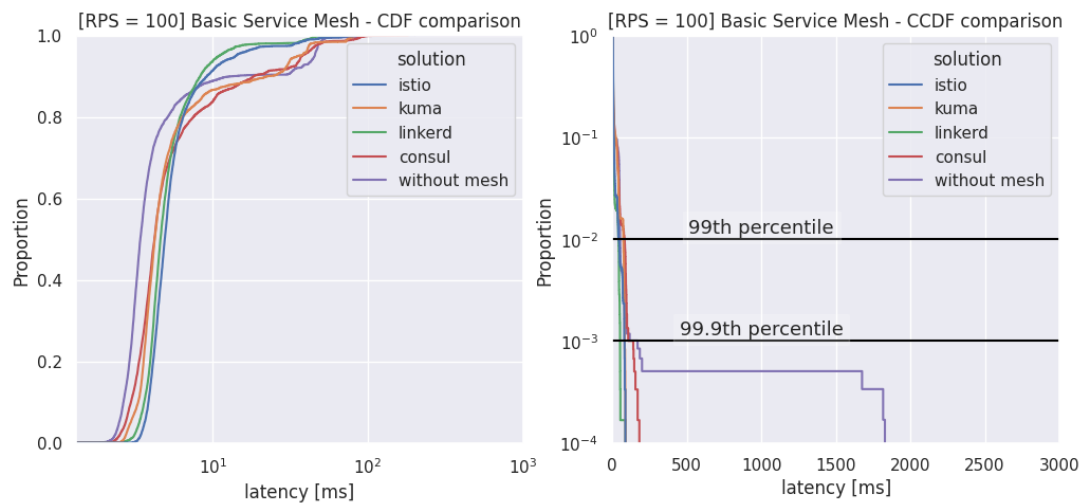


Figure 9.1: Service Mesh CDF and CCDF comparison with basic configuration and RPS = 100.

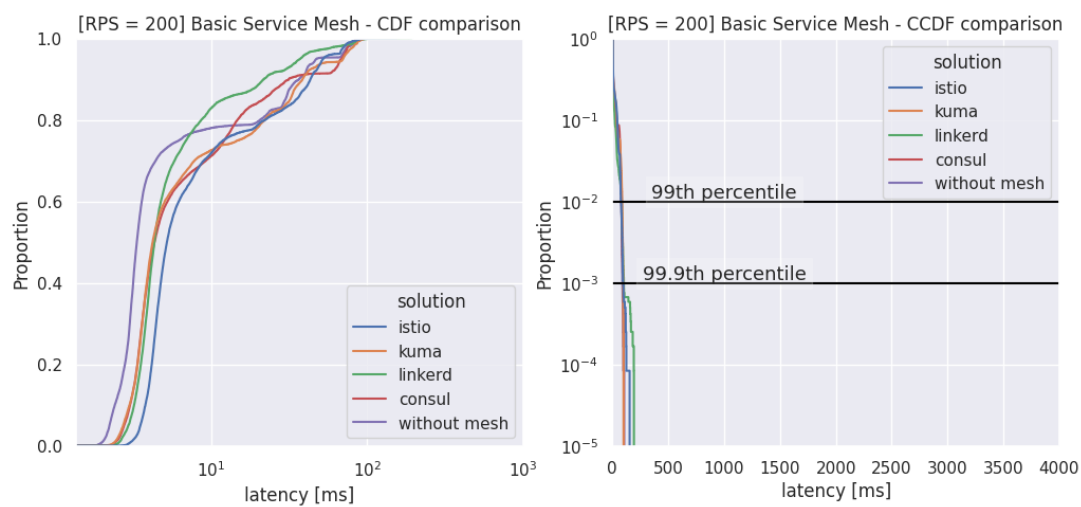


Figure 9.2: Service Mesh CDF and CCDF comparison with basic configuration and RPS = 200.

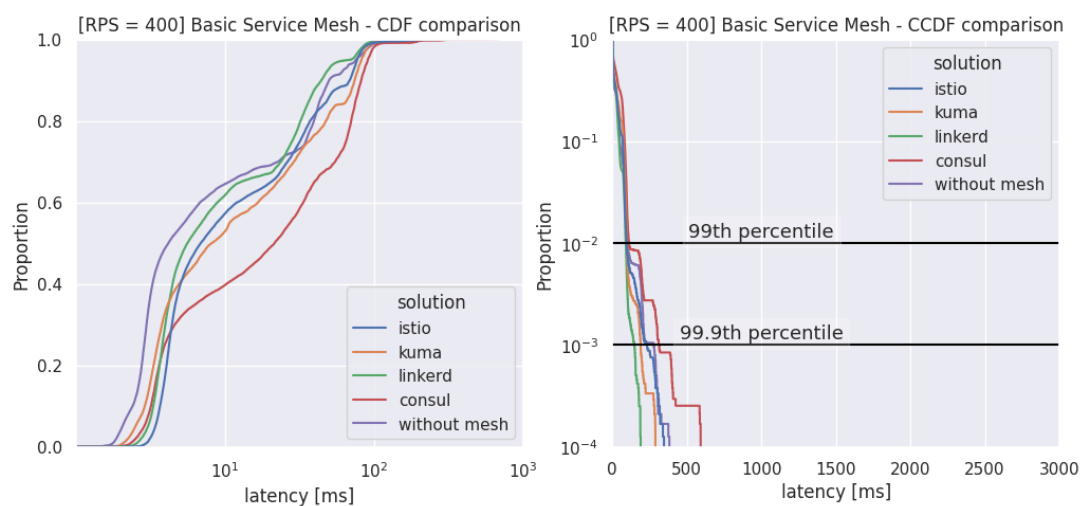


Figure 9.3: Service Mesh CDF and CCDF comparison with basic configuration and RPS = 400.

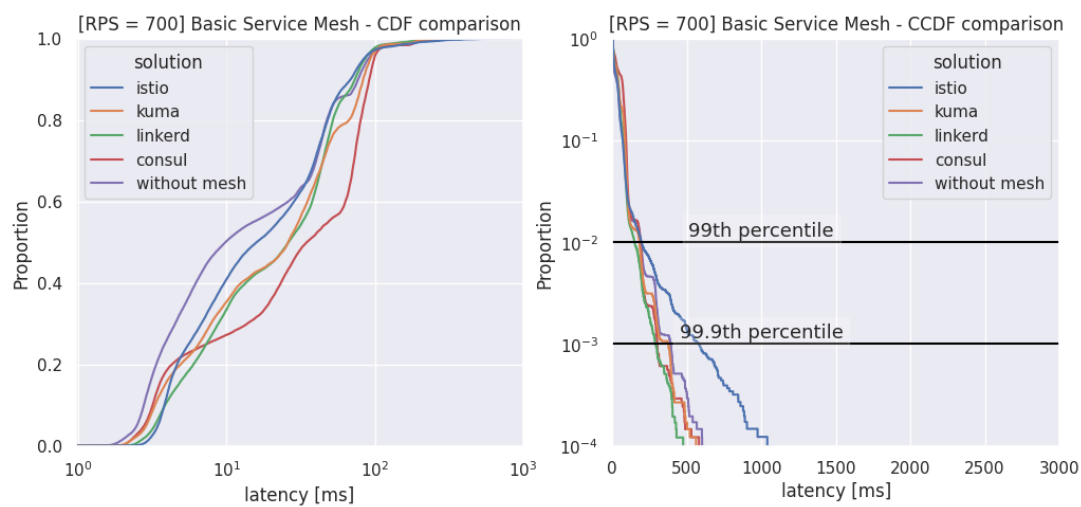


Figure 9.4: Service Mesh CDF and CCDF comparison with basic configuration and RPS = 700.

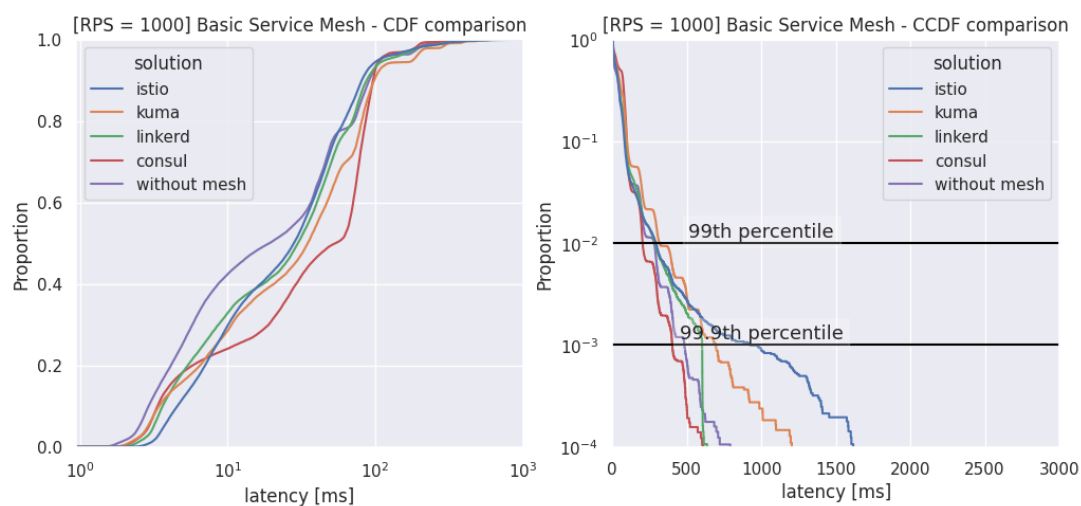


Figure 9.5: Service Mesh CDF and CCDF comparison with basic configuration and RPS = 1000.

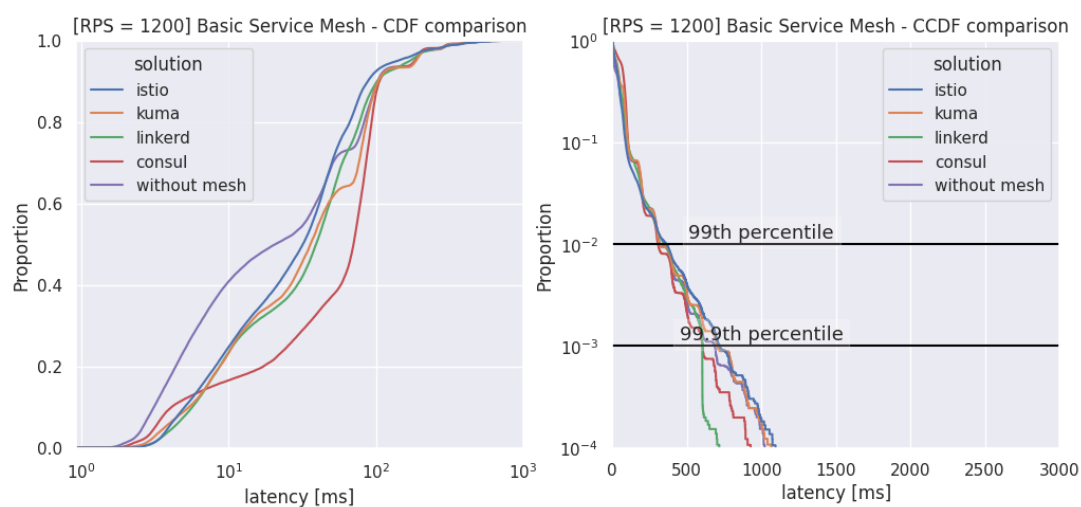


Figure 9.6: Service Mesh CDF and CCDF comparison with basic configuration and RPS = 1200.

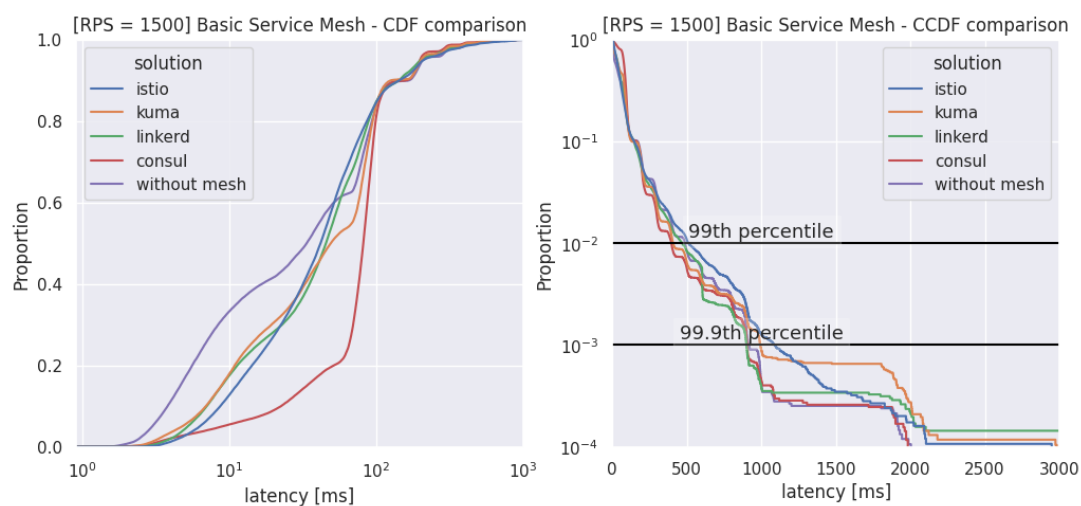


Figure 9.7: Service Mesh CDF and CCDF comparison with basic configuration and expected RPS = 1500.

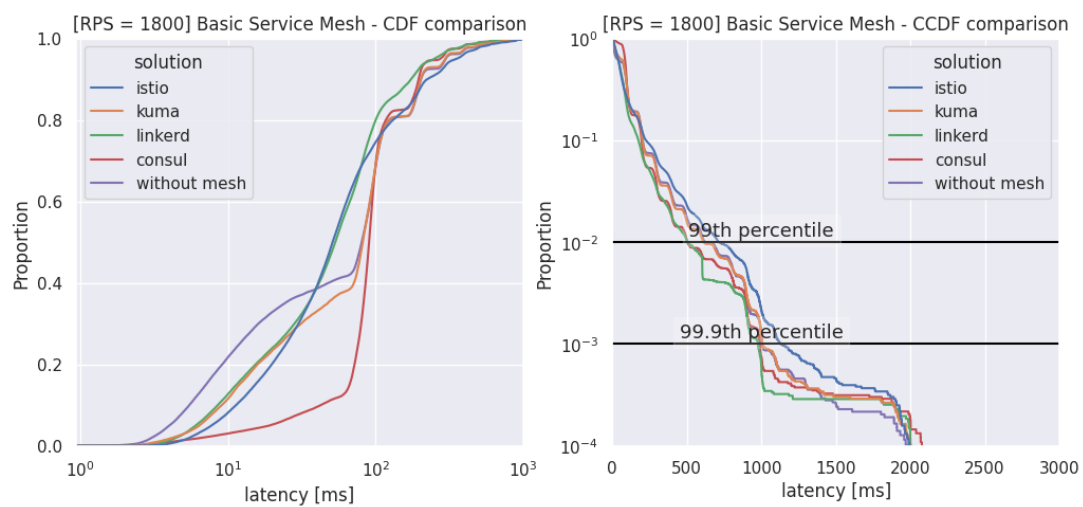


Figure 9.8: Service Mesh CDF and CCDF comparison with basic configuration and expected RPS = 1800.

### 9.1.1.2 Latencies table

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th PCTL</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
istio	100	100	6.653	4.898	9.171	41.31	79.99	87.26
kuma	100	99.98	8.431	4.221	22.62	73.51	82.5	87.65
linkerd	100	100	5.943	4.595	8.29	40.62	51.92	67.15
consul	100	99.95	8.8	4.203	18.45	80.7	106.2	174.1
without mesh	100	99.17	8.699	3.407	13.59	51.2	119	1822
istio	200	200.1	14.12	5.208	43.39	76.92	95.07	124.5
kuma	200	200.1	13.77	4.222	38.59	86.84	96.31	99.11
linkerd	200	199.9	9.408	4.332	21.81	83.47	102.1	189.8
consul	200	200.1	12.88	4.34	31.56	79.56	92.85	100.7
without mesh	200	200	11.68	3.342	36.66	84.38	89.41	97.99
istio	400	399.9	21.69	6.89	68.81	95.84	230.9	343.5
kuma	400	399.6	24.08	8.176	74.28	97.75	189.5	288.5
linkerd	400	400.1	17.43	5.604	44.4	89.36	146.7	188.8
consul	400	399.5	34.59	21.54	82.23	111.3	311.4	592.4
without mesh	400	398.3	19.23	4.184	50.07	102.3	275.9	379.8
istio	700	693.1	30.68	15.94	68.78	194.8	577.7	1034
kuma	700	694	35.28	26.02	83.46	180.4	375.5	555.9
linkerd	700	696.5	32.98	26.21	73.44	148.4	287.2	468
consul	700	693.5	45.94	34.84	91.79	187.4	300.9	575.1
without mesh	700	690.7	28.97	9.843	77.26	191.6	390.7	602.1

Table 9.1: Part 1. Latency of different Service Mesh **with basic configuration** and different RPS. The measured RPS is different to the expected RPS, particularly close to the saturation point. All latencies are given in milliseconds [ms].

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th PCTL</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
istio	1000	967.3	41.45	28.12	81.02	293.7	919.8	1608
kuma	1000	944.8	51.3	34.88	98.57	316.3	693.3	1201
linkerd	1000	967.7	42.82	29.94	87.56	286.7	602.5	621.1
consul	1000	978.5	53.43	53.88	96.52	203	402.1	604
without mesh	1000	968.2	38.82	19.23	91.07	279.4	482.2	741.6
istio	1200	1144	46.91	31.9	88.24	362.7	719.3	1082
kuma	1200	1130	56.12	35.94	103.6	315.4	704.1	1053
linkerd	1200	1132	53.33	39.24	102.1	348.3	602.9	709.5
consul	1200	1136	69	70.51	105.8	305.8	605.9	916.3
without mesh	1200	1127	47.65	20.83	102.8	319.1	686.5	1019
istio	1500	1330	68.53	42	144.6	509.3	1084	2532
kuma	1500	1364	71.16	49.37	127.8	407.3	993.2	2977
linkerd	1500	1361	67.44	45.7	143.9	467.6	900.1	3310
consul	1500	1367	90.1	81.99	162.5	395.9	904.3	1983
without mesh	1500	1342	64.7	33.81	169.1	487.1	914.4	1995
istio	1800	1387	96.87	51.16	224.8	714.9	1128	1991
kuma	1800	1441	100.9	81.99	202.7	613.2	1006	1993
linkerd	1800	1579	78.51	53.36	174.3	506.5	978.2	2001
consul	1800	1503	111.9	90.48	196	503.7	990.5	2075
without mesh	1800	1437	97.43	80.6	203.5	622.9	1004	1973

Table 9.2: Part 2. Latency of different Service Mesh **with basic configuration** and different RPS. The measured RPS is different to the expected RPS, particularly close to the saturation point. All latencies are given in milliseconds [ms].

### 9.1.1.3 Resources consumption table

Service Mesh	target RPS	Service RAM	Sidecar RAM	Service CPU	Sidecar CPU
istio	100	114	39.1	126	16.6
kuma	100	120	31.3	91.8	6.89
linkerd	100	118	4.85	123	10.5
consul	100	117	14.5	102	9.93
without mesh	100	114	-	109	-
istio	200	126	39.1	249	29
kuma	200	131	31	222	11
linkerd	200	131	7.23	208	18
consul	200	129	14.6	204	9.85
without mesh	200	129	-	240	-
istio	400	130	39.5	293	48
kuma	400	137	31.5	299	15.1
linkerd	400	139	10.3	310	31.2
consul	400	131	14.8	280	14.8
without mesh	400	129	-	295	-
istio	700	135	41.2	318	68.6
kuma	700	134	31.1	313	19
linkerd	700	134	11.2	323	42.6
consul	700	134	15	323	20.1
without mesh	700	138	-	317	-

Table 9.3: Part 1. RAM and CPU usage of different Service Mesh **with basic configuration** and different expected RPS. CPU measurements are given in *milli CPU [mCPU]* and memory measurements unit is *[Mi]*.



Service Mesh	target RPS	Service RAM	Sidecar RAM	Service CPU	Sidecar CPU
istio	1000	138	42.1	324	93.9
kuma	1000	133	31.3	324	22.9
linkerd	1000	139	12.1	324	58.9
consul	1000	131	15.3	319	26.1
without mesh	1000	138	-	322	-
istio	1200	138	42.8	324	104
kuma	1200	134	31.5	322	27.6
linkerd	1200	134	11.5	324	64.8
consul	1200	132	15.4	323	30.1
without mesh	1200	135	-	322	-
istio	1500	138	43.6	324	105
kuma	1500	134	31.7	325	32.1
linkerd	1500	137	12.4	325	84.2
consul	1500	140	15.8	324	34.6
without mesh	1500	134	-	325	-
istio	1800	145	46.4	325	117
kuma	1800	133	31.4	324	25.6
linkerd	1800	133	12.5	324	90.3
consul	1800	129	16	320	37.4
without mesh	1800	129	-	323	-

Table 9.4: Part 2. RAM and CPU usage of different Service Mesh **with basic configuration** and different expected RPS. CPU measurements are given in *milli CPU [mCPU]* and memory measurements unit is *[Mi]*.

## 9.1.2 Service Mesh comparison with mTLS enabled

### 9.1.2.1 Graphs

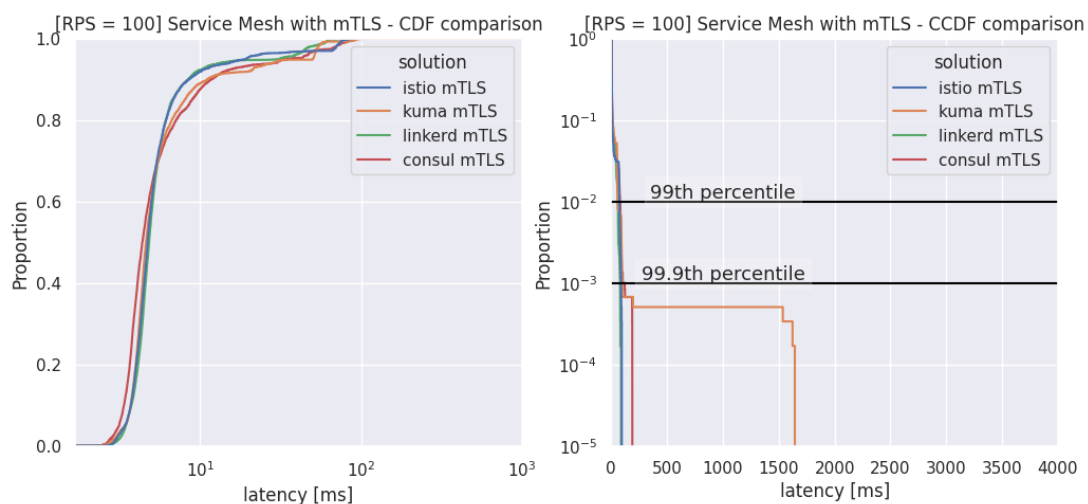


Figure 9.9: Service Mesh CDF and CCDF comparison with mTLS enabled and RPS = 100.

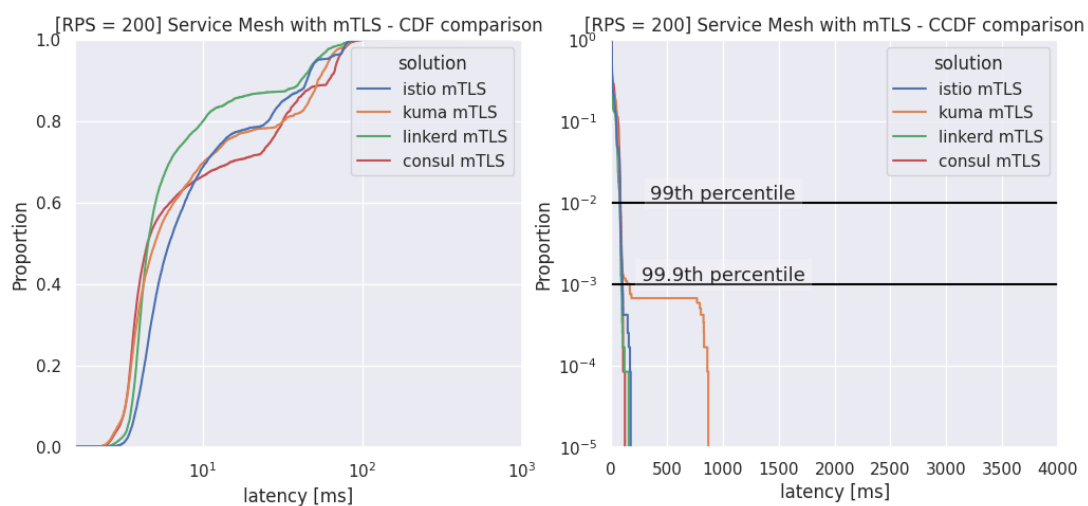


Figure 9.10: Service Mesh CDF and CCDF comparison with mTLS enabled and RPS = 200.

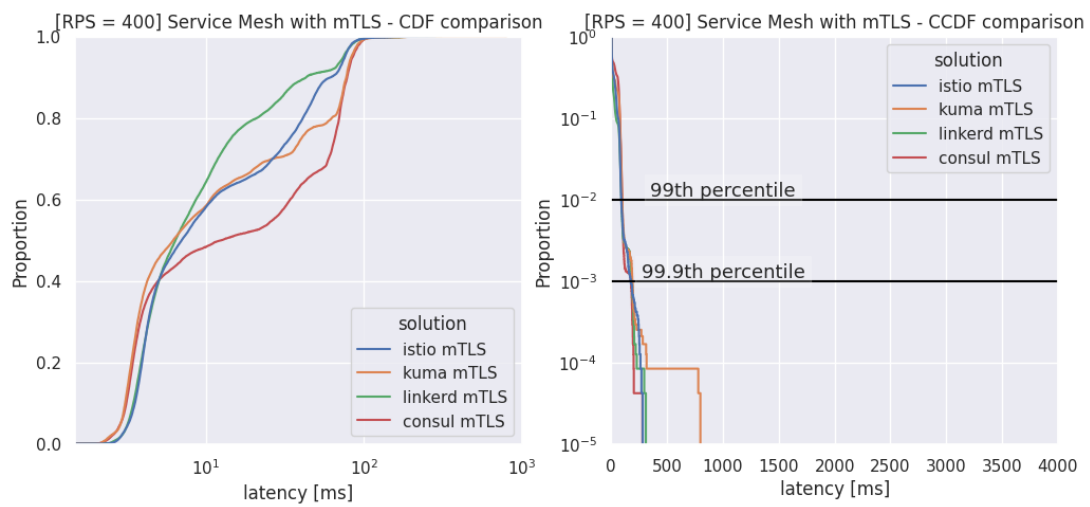


Figure 9.11: Service Mesh CDF and CCDF comparison with mTLS enabled and RPS = 400.

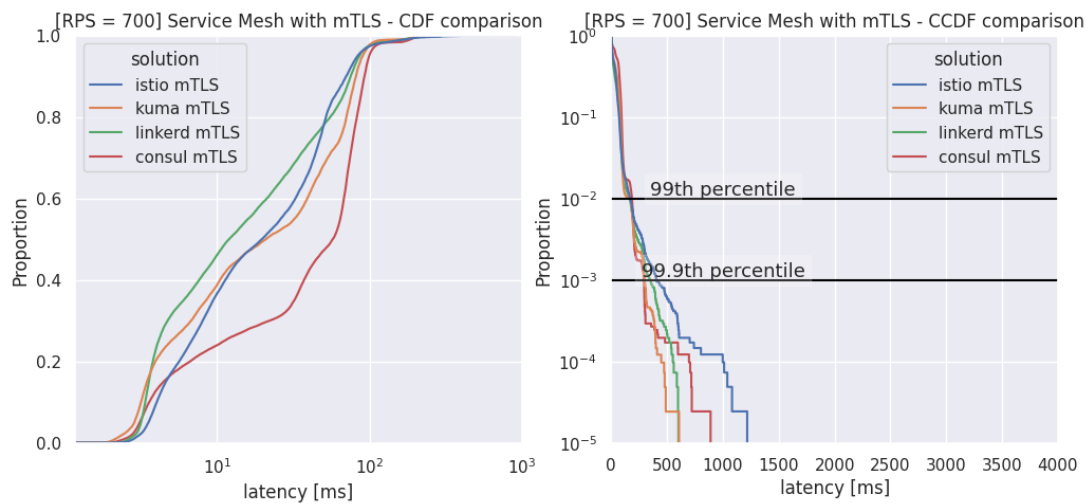


Figure 9.12: Service Mesh CDF and CCDF comparison with mTLS enabled and RPS = 700.

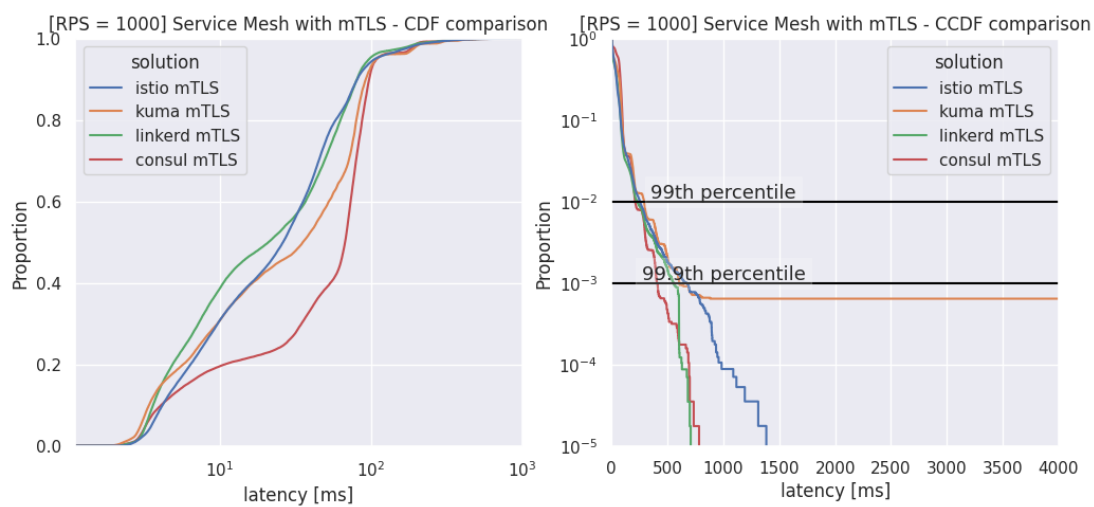


Figure 9.13: Service Mesh CDF and CCDF comparison with mTLS enabled and RPS = 1000.

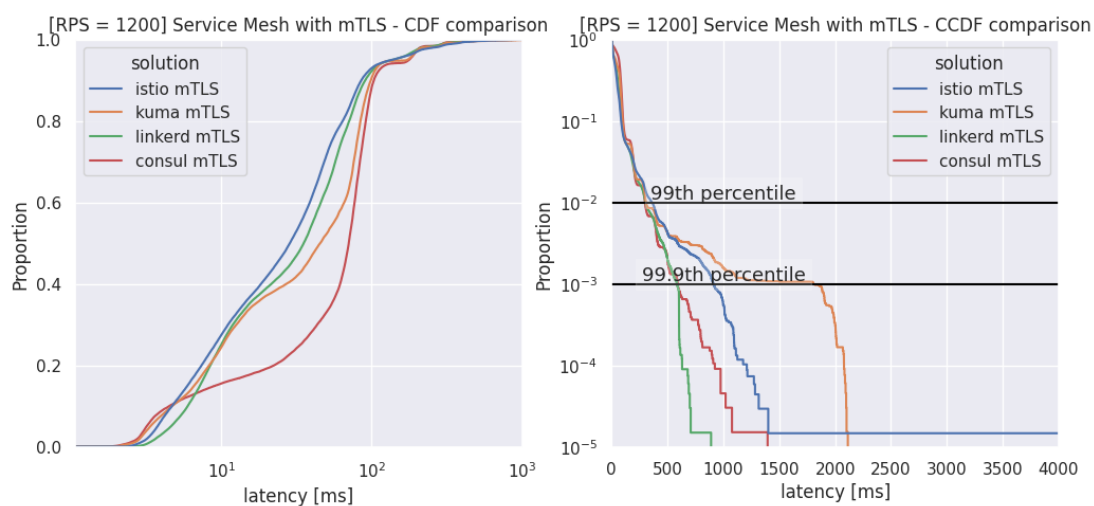


Figure 9.14: Service Mesh CDF and CCDF comparison with mTLS enabled and RPS = 1200.

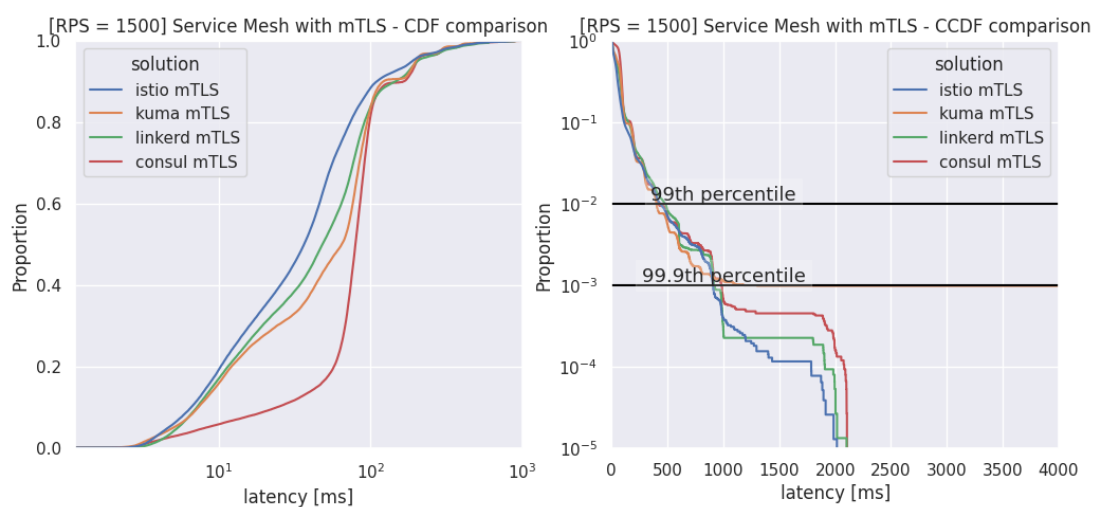


Figure 9.15: Service Mesh CDF and CCDF comparison with mTLS enabled and RPS = 1500.

### 9.1.2.2 Tables

Solution	target RPS	RPS	Mean	Median	90th PCTL	99th	99.9th	99.99th
istio mTLS	100	100	7.661	4.716	8.551	74.13	88.1	94.75
kuma mTLS	100	99.32	9.245	4.607	11.14	57.65	98.19	1632
linkerd mTLS	100	99.98	7.403	4.814	8.434	59.95	79.48	84.45
consul mTLS	100	99.9	8.53	4.373	11.75	78.93	103.7	188.9
istio mTLS	200	200	14.98	6.184	45.01	79.62	100.2	165.9
kuma mTLS	200	200.1	16.58	5.032	52.76	81.82	141.6	854.7
linkerd mTLS	200	200	11.46	4.56	41.3	76.77	91.9	116.2
consul mTLS	200	200	17.3	4.513	61.76	82.92	99.17	106.6
istio mTLS	400	399.4	21.15	7.065	62.08	90.34	174.4	259.1
kuma mTLS	400	399.3	24.73	6.258	77.62	97.5	189.3	315
linkerd mTLS	400	399.4	16.06	6.452	43.34	91.26	185.6	225.1
consul mTLS	400	399.6	32.07	12.69	78.6	98.67	176.1	200

Table 9.5: Part 1. Latency of different Service Mesh **with mTLS enabled** and different RPS. The measured RPS is different to the expected RPS, particularly close to the saturation point. All latencies are given in milliseconds [ms].

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th PCTL</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
istio mTLS	700	689.1	31.87	19.72	70.43	170	403.1	974.2
kuma mTLS	700	692.2	35.53	21	81.7	167.9	299.5	442.2
linkerd mTLS	700	691.2	28.44	12.02	75.39	163.4	344.9	550.5
consul mTLS	700	688.6	51.62	57.48	92.87	185.4	293.1	684.1
istio mTLS	1000	961.9	39.28	26.32	81.47	252.9	663.3	965
kuma mTLS	1000	953.5	51.64	35.57	92.62	291	605	6515
linkerd mTLS	1000	971.8	37.28	21.08	80.98	227.6	551.1	625.6
consul mTLS	1000	964.3	61.09	67.53	97.53	210.3	406	688.4
istio mTLS	1200	1170	45.68	28.61	85.43	361.3	910.6	1182
kuma mTLS	1200	1130	58.27	45.53	98.81	307.1	1805	2079
linkerd mTLS	1200	1140	47.64	35.35	90.7	302.9	583.9	630.6
consul mTLS	1200	1128	69.18	70.42	103.5	298.8	590.5	914.2
istio mTLS	1500	1364	57.27	36.64	110.9	431.6	907.5	1786
kuma mTLS	1500	1337	77.15	64.89	122.8	400.6	1164	6396
linkerd mTLS	1500	1334	69.34	48.46	147.5	476	916.2	1906
consul mTLS	1500	1341	91.95	79.78	167.4	415.6	981.3	2078

Table 9.6: Part 2. Latency of different Service Mesh **with mTLS enabled** and different RPS. The measured RPS is different to the expected RPS, particularly close to the saturation point. All latencies are given in milliseconds [ms].

## 9.2 Istio - Feature impact on performances

### 9.2.1 Graphs

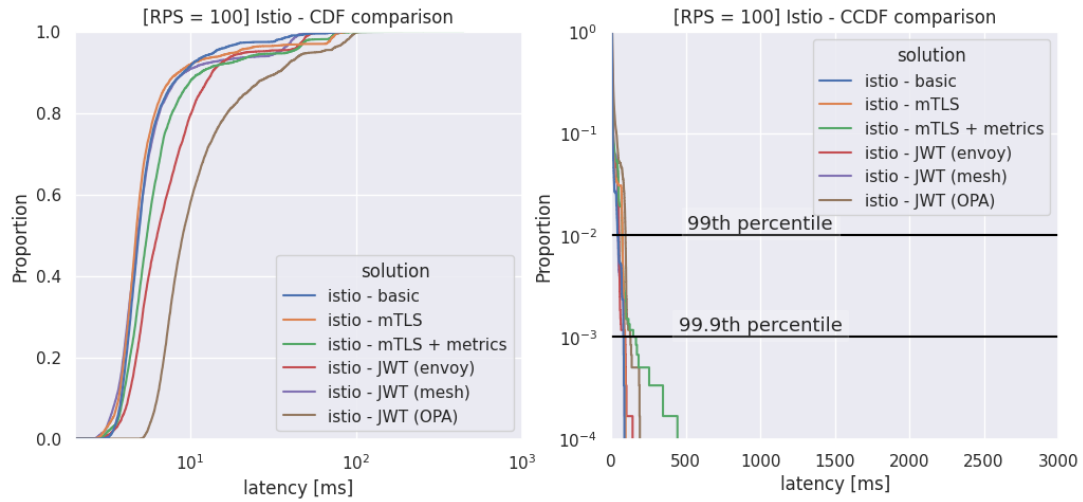


Figure 9.16: **Istio** Service Mesh CDF and CCDF comparison with different configurations. RPS = 100

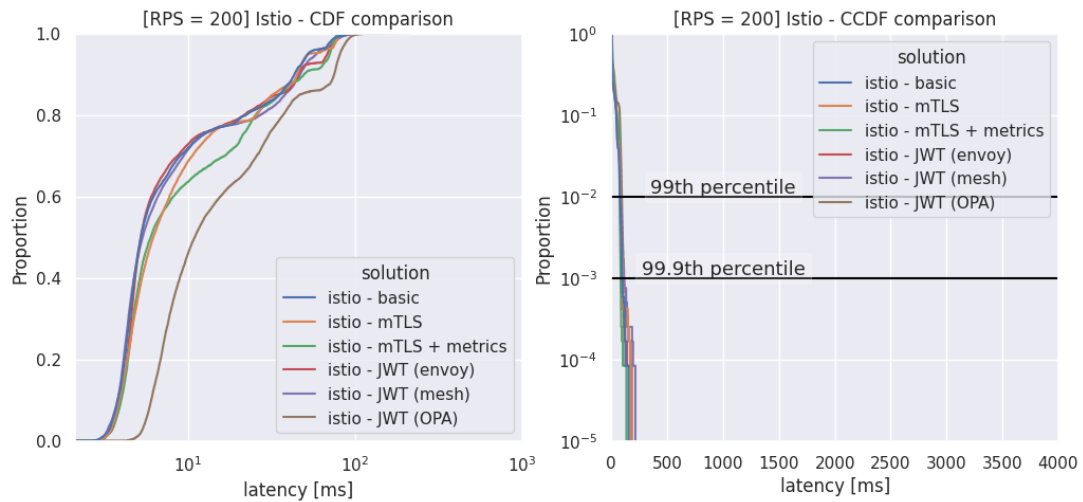


Figure 9.17: **Istio** Service Mesh CDF and CCDF comparison with different configurations. RPS = 200

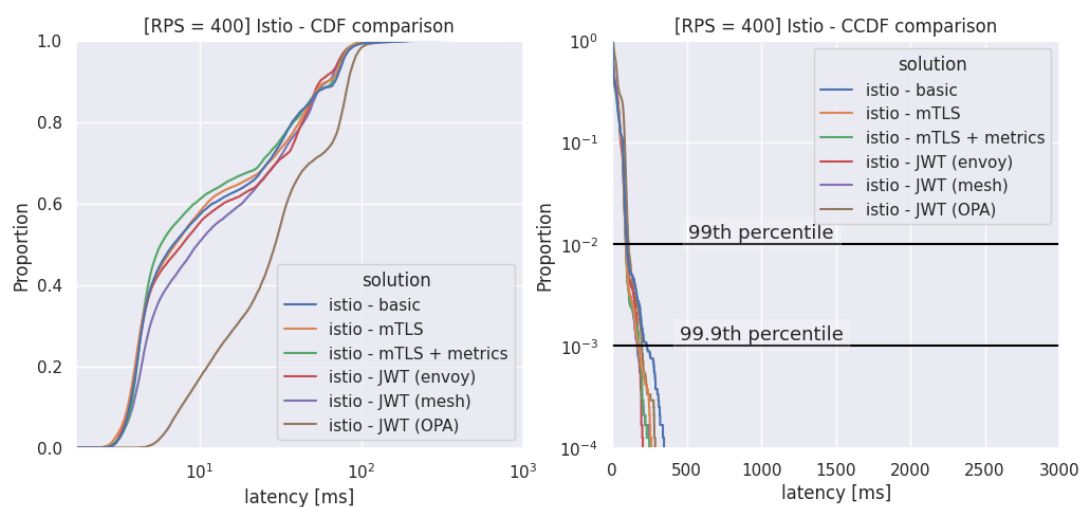


Figure 9.18: **Istio** Service Mesh CDF and CCDF comparison with different configurations. RPS = 400

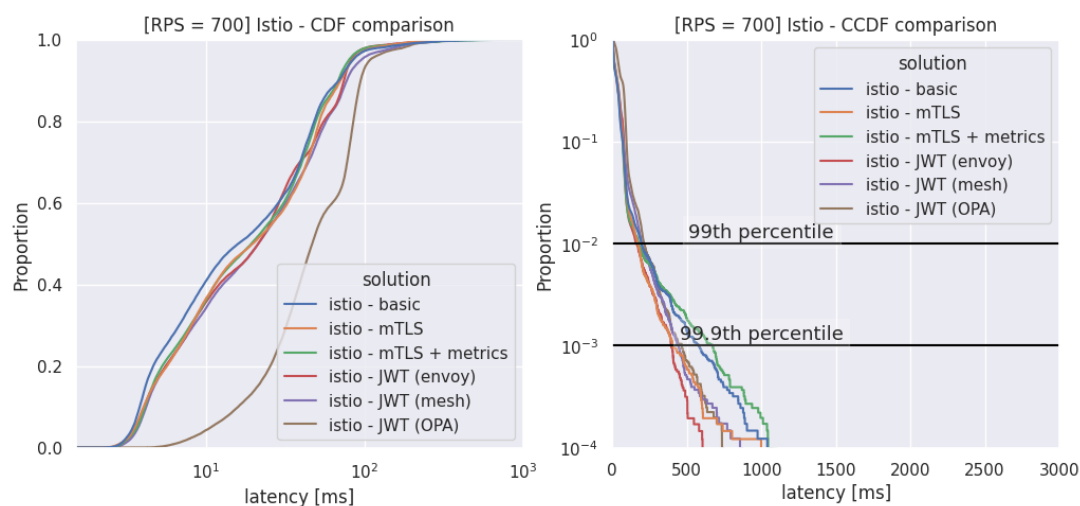


Figure 9.19: **Istio** Service Mesh CDF and CCDF comparison with different configurations. RPS = 700



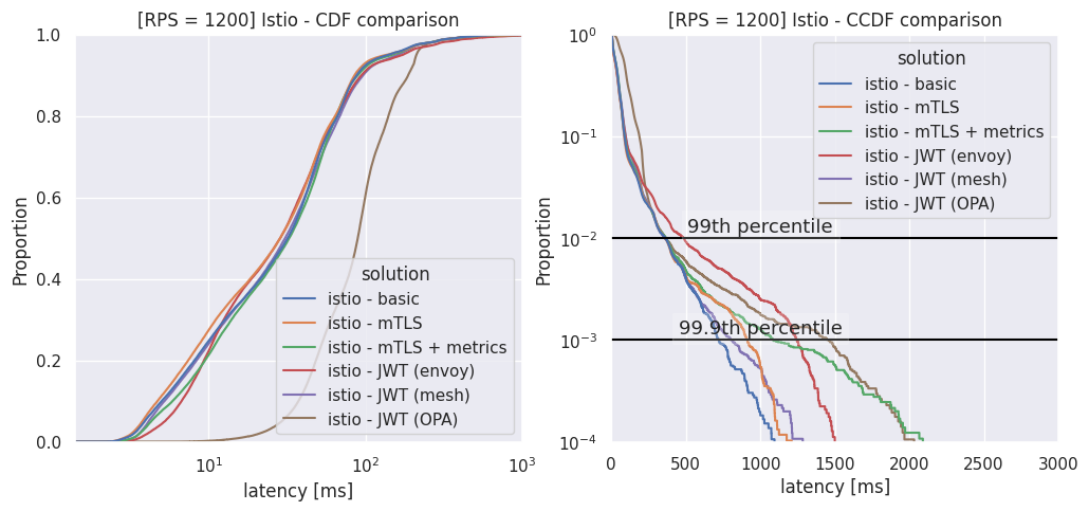


Figure 9.20: **Istio** Service Mesh CDF and CCDF comparison with different configurations. RPS = 1200

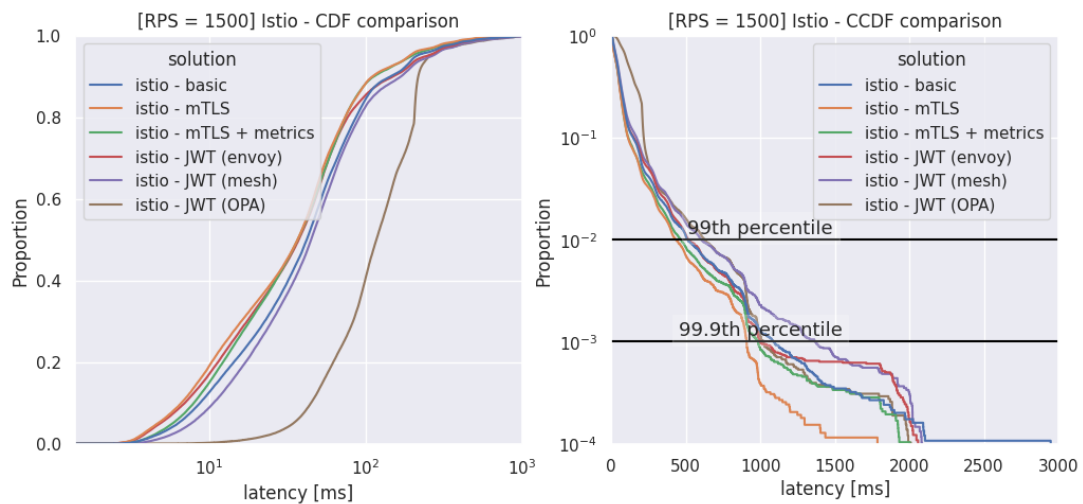


Figure 9.21: **Istio** Service Mesh CDF and CCDF comparison with different configurations. RPS = 1500

### 9.2.2 Latencies table

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
istio - basic	100	100	6.653	4.898	9.171	41.31	79.99	87.26
istio - mTLS	100	100	7.661	4.716	8.551	74.13	88.1	94.75
istio - mTLS + metrics	100	99.79	9.133	5.499	11.74	72.39	146.7	385.2
istio - JWT (envoy)	100	99.95	9.222	6.334	13.61	51.2	90.83	117.6
istio - JWT (mesh)	100	100	7.485	4.831	9.355	44.24	86.87	89.51
istio - JWT (OPA)	100	99.87	15.81	9.04	33.76	94.62	125.3	189.7
istio - basic	200	200.1	14.12	5.208	43.39	76.92	95.07	124.5
istio - mTLS	200	200	14.98	6.184	45.01	79.62	100.2	165.9
istio - mTLS + metrics	200	200	16.69	5.979	49.56	75.97	82.87	100.3
istio - JWT (envoy)	200	200.1	14.78	5.205	45.81	77.27	91.58	135.1
istio - JWT (mesh)	200	200.2	15.08	5.345	47	81.67	109.4	191.9
istio - JWT (OPA)	200	199.9	23.91	10.97	74.97	93.15	113.2	170
istio - basic	400	398.4	21.69	6.89	68.81	95.84	230.9	343.5
istio - mTLS	400	399.4	21.15	7.065	62.08	90.34	174.4	259.1
istio - mTLS + metrics	400	399.5	20.31	5.757	66.31	89.7	180	241.2
istio - JWT (envoy)	400	399.3	21.89	7.816	55.71	91.89	176	202.5
istio - JWT (mesh)	400	399.6	22.74	9.725	62.23	91.12	166.2	247.3
istio - JWT (OPA)	400	398.6	38.65	29.31	83.07	107.9	198.7	285

Table 9.7: Part 1. Latencies of Istio Service Mesh with different features and different RPS. All latencies are given in milliseconds [ms].

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
istio - basic	700	685.5	30.68	15.94	68.78	194.8	577.7	1034
istio - mTLS	700	689.1	31.87	19.72	70.43	170	403.1	974.2
istio - mTLS + metrics	700	686.2	31.46	19.31	68.25	176.5	669.1	1045
istio - JWT (envoy)	700	690.8	31.79	21.33	74.13	161.8	394.3	604.7
istio - JWT (mesh)	700	681.6	34.97	21.33	77.3	197.3	438.6	852
istio - JWT (OPA)	700	678.6	57.41	46.75	94.46	213.6	464.9	735.9
istio - basic	1200	1129	46.91	31.9	88.24	362.7	719.3	1082
istio - mTLS	1200	1170	45.68	28.61	85.43	361.3	910.6	1182
istio - mTLS + metrics	1200	1117	49.37	32.66	89.63	367.2	1085	2078
istio - JWT (envoy)	1200	1093	52.07	28.62	94.6	484.5	1243	1496
istio - JWT (mesh)	1200	1115	48.9	30.78	96.91	356.9	800.8	1246
istio - JWT (OPA)	1200	973.4	103.6	89.49	187.8	361.7	1446	1987
istio - basic	1500	1314	68.53	42	144.6	509.3	1084	2532
istio - mTLS	1500	1364	57.27	36.64	110.9	431.6	907.5	1786
istio - mTLS + metrics	1500	1357	59.77	36.75	113.4	466.2	982.9	1950
istio - JWT (envoy)	1500	1302	65.88	37.34	150.5	516.1	996.8	2054
istio - JWT (mesh)	1500	1261	76.46	44.79	168.7	602.3	1364	2082
istio - JWT (OPA)	1500	1004	139.3	117.2	216.8	624.8	1019	1996

Table 9.8: Part 2. Latencies of Istio Service Mesh with different features and different RPS. All latencies are given in milliseconds [ms].

## 9.3 Linkerd - Feature impact on performances

### 9.3.1 Graphs

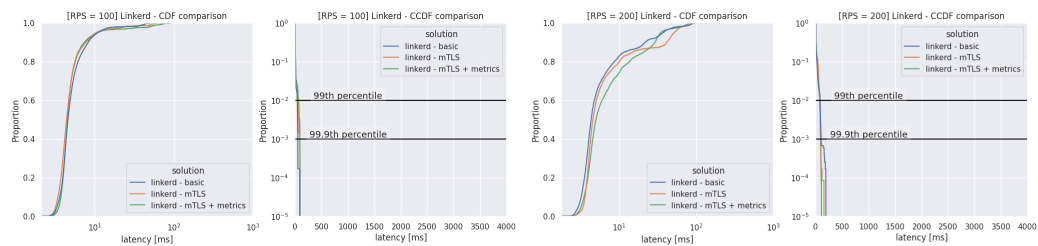


Figure 9.22: **Linkerd** Service Mesh CDF and CCDF comparison with different configurations. RPS = 100 and 200

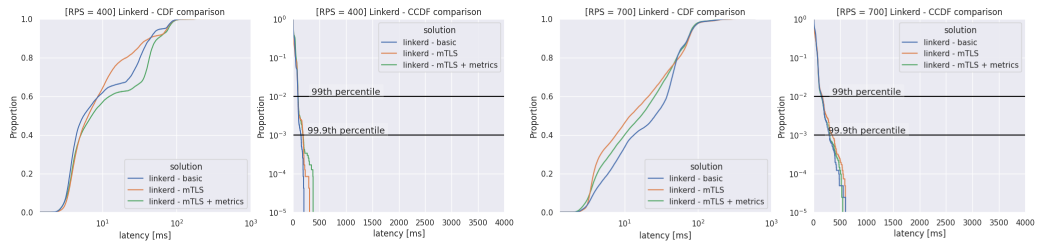


Figure 9.23: **Linkerd** Service Mesh CDF and CCDF comparison with different configurations. RPS = 400 and 700

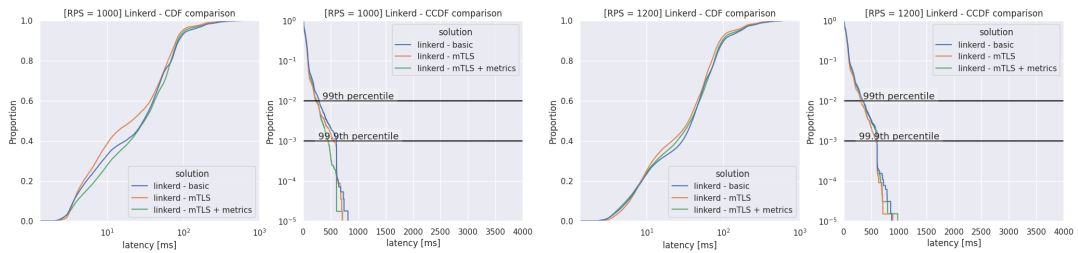


Figure 9.24: **Linkerd** Service Mesh CDF and CCDF comparison with different configurations. RPS = 1000 and 1200

### 9.3.2 Latencies table

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
linkerd - basic	100	100	5.943	4.595	8.29	40.62	51.92	67.15
linkerd - mTLS	100	100	5.933	4.407	7.738	51.51	84.54	88
linkerd - mTLS + metrics	100	100	6.582	4.529	7.474	66.11	90.56	94.48
linkerd - basic	200	199.9	9.408	4.332	21.81	83.47	102.1	189.8
linkerd - mTLS	200	200	11.46	4.56	41.3	76.77	91.9	116.2
linkerd - mTLS + metrics	200	200	10.77	5.006	29.22	74.32	91.44	101.1
linkerd - basic	400	399.9	17.43	5.604	44.4	89.36	146.7	188.8
linkerd - mTLS	400	399.4	16.06	6.452	43.34	91.26	185.6	225.1
linkerd - mTLS + metrics	400	399.2	22.48	7.21	56.4	94.32	186.7	362.8
linkerd - basic	700	692.8	32.98	26.21	73.44	148.4	287.2	468
linkerd - mTLS	700	691.2	28.44	12.02	75.39	163.4	344.9	550.5
linkerd - mTLS + metrics	700	693.5	29.08	16.95	73.29	142.8	300.1	505.1
linkerd - basic	1000	956.1	42.82	29.94	87.56	286.7	602.5	621.1
linkerd - mTLS	1000	971.8	37.28	21.08	80.98	227.6	551.1	625.6
linkerd - mTLS + metrics	1000	966.1	42.42	30.96	84.43	243.1	450.1	602.9
linkerd - basic	1200	1117	53.33	39.24	102.1	348.3	602.9	709.5
linkerd - mTLS	1200	1140	47.64	35.35	90.7	302.9	583.9	630.6
linkerd - mTLS + metrics	1200	1128	51.6	37.56	97.43	327.8	603.2	663.1
linkerd - basic	1500	1343	67.44	45.7	143.9	467.6	900.1	3310
linkerd - mTLS	1500	1334	69.34	48.46	147.5	476	916.2	1906
linkerd - mTLS + metrics	1500	1332	69.4	45.94	153.2	477.9	912	1893

Table 9.9: Latencies of Linkerd Service Mesh with different features and different RPS.  
All latencies are given in milliseconds [ms].

## 9.4 Kuma - Feature impact on performances

### 9.4.1 Graphs

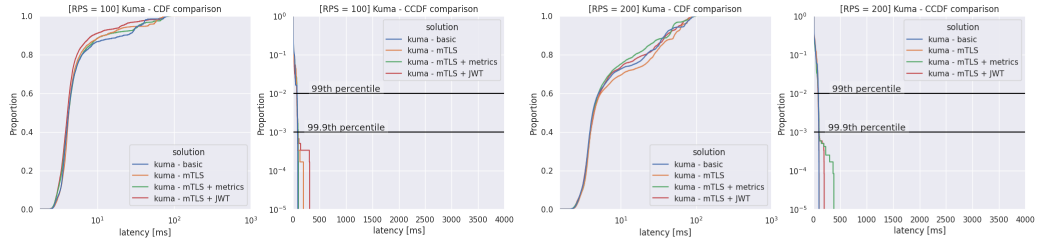


Figure 9.25: **Kuma** Service Mesh CDF and CCDF comparison with different configurations. RPS = 100 and 200

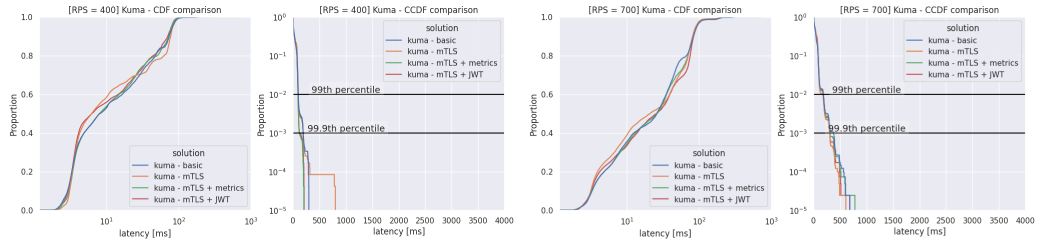


Figure 9.26: **Kuma** Service Mesh CDF and CCDF comparison with different configurations. RPS = 400 and 700

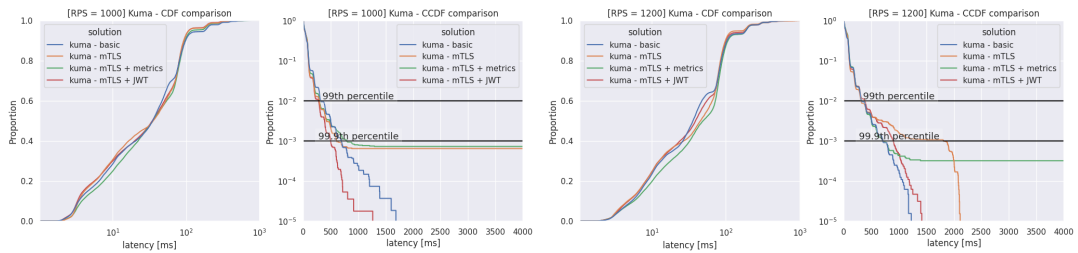


Figure 9.27: **Kuma** Service Mesh CDF and CCDF comparison with different configurations. RPS = 1000 and 1200

#### 9.4.2 Latencies table

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
kuma - basic	100	99.98	8.431	4.221	22.62	73.51	82.5	87.65
kuma - mTLS	100	100	8.183	4.262	12.9	68.62	82.2	155.3
kuma - mTLS + metrics	100	99.95	8.301	4.253	12.63	73.72	93.68	99.54
kuma - mTLS + JWT	100	99.9	6.897	4.089	8.779	69.55	92.87	309.1
kuma - basic	200	200.1	13.77	4.222	38.59	86.84	96.31	99.11
kuma - mTLS	200	200.1	15.54	4.38	51.6	83	93.86	101.9
kuma - mTLS + metrics	200	199.9	12.46	4.321	43.84	86.31	102.8	352.7
kuma - mTLS + JWT	200	200	13.44	4.418	40.25	81.13	100.1	195.7
kuma - basic	400	399.2	24.08	8.176	74.28	97.75	189.5	288.5
kuma - mTLS	400	399.3	24.73	6.258	77.62	97.5	189.3	315
kuma - mTLS + metrics	400	399.9	23.13	8.028	73	92.3	117.7	193.6
kuma - mTLS + JWT	400	400	22.21	6.3	70.77	91.98	117.5	202.2
kuma - basic	700	689.3	35.28	26.02	83.46	180.4	375.5	555.9
kuma - mTLS	700	692.2	35.53	21	81.7	167.9	299.5	442.2
kuma - mTLS + metrics	700	691	36.18	26.16	82.41	178.3	311.6	508.8
kuma - mTLS + JWT	700	690.1	38.28	25.88	84.02	182.6	302	489.2
kuma - basic	1000	933.3	51.3	34.88	98.57	316.3	693.3	1201
kuma - mTLS	1000	953.5	51.64	35.57	92.62	291	605	6515
kuma - mTLS + metrics	1000	944.5	55.34	35.29	96.86	295.7	788	6481
kuma - mTLS + JWT	1000	960.5	47.49	34.62	93.5	276.4	496.6	703.8
kuma - basic	1200	1116	56.12	35.94	103.6	315.4	704.1	1053
kuma - mTLS	1200	1130	58.27	45.53	98.81	307.1	1805	2079
kuma - mTLS + metrics	1200	1105	64.29	49.36	106.9	322.7	704.1	7989
kuma - mTLS + JWT	1200	1118	57.03	38.94	100.1	380.6	897.2	1177

Table 9.10: Latencies of Consul Service Mesh with different features and different RPS.  
All latencies are given in milliseconds [ms].

## 9.5 Consul - Feature impact on performances

### 9.5.1 Graphs

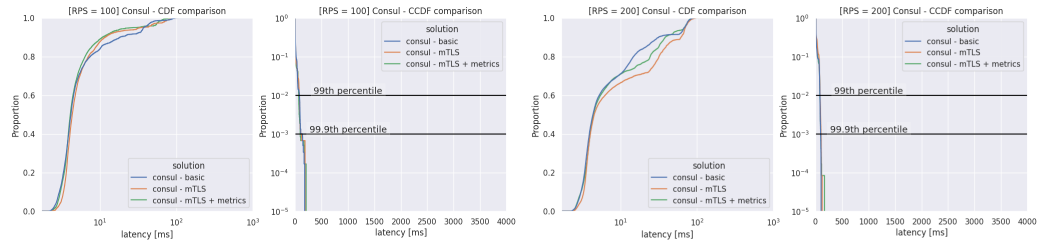


Figure 9.28: **Consul** Service Mesh CDF and CCDF comparison with different configurations. RPS = 100 and 200

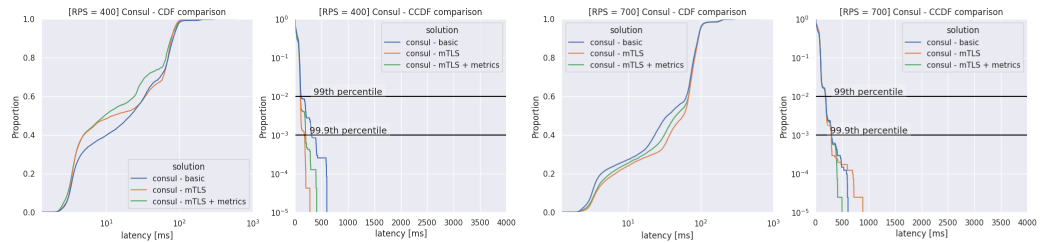


Figure 9.29: **Consul** Service Mesh CDF and CCDF comparison with different configurations. RPS = 400 and 700

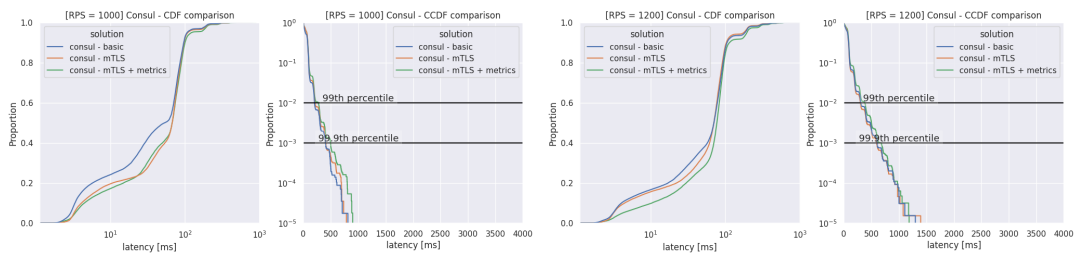


Figure 9.30: **Consul** Service Mesh CDF and CCDF comparison with different configurations. RPS = 1000 and 1200



### 9.5.2 Latencies table

<b>Solution</b>	<b>target RPS</b>	<b>RPS</b>	<b>Mean</b>	<b>Median</b>	<b>90th</b>	<b>99th</b>	<b>99.9th</b>	<b>99.99th</b>
consul - basic	100	99.93	8.8	4.203	18.45	80.7	106.2	174.1
consul - mTLS	100	99.9	8.53	4.373	11.75	78.93	103.7	188.9
consul - mTLS + metrics	100	99.94	7.743	4.119	10.87	65.32	95.78	192.1
consul - basic	200	200.1	12.88	4.34	31.56	79.56	92.85	100.7
consul - mTLS	200	200	17.3	4.513	61.76	82.92	99.17	106.6
consul - mTLS + metrics	200	200.1	14.14	4.4	38.43	78.97	95.2	110.9
consul - basic	400	396.4	34.59	21.54	82.23	111.3	311.4	592.4
consul - mTLS	400	399.6	32.07	12.69	78.6	98.67	176.1	200
consul - mTLS + metrics	400	398.5	28.22	9.591	76.83	102.1	198.4	354.5
consul - basic	700	688.6	45.94	34.84	91.79	187.4	300.9	575.1
consul - mTLS	700	688.6	51.62	57.48	92.87	185.4	293.1	684.1
consul - mTLS + metrics	700	689.3	49.11	45.65	92.06	184.1	298.1	401.8
consul - basic	1000	968.6	53.43	53.88	96.52	203	402.1	604
consul - mTLS	1000	964.3	61.09	67.53	97.53	210.3	406	688.4
consul - mTLS + metrics	1000	954.1	62.81	67.51	100.3	270.9	495.1	797.1
consul - basic	1200	1121	69	70.51	105.8	305.8	605.9	916.3
consul - mTLS	1200	1128	69.18	70.42	103.5	298.8	590.5	914.2
consul - mTLS + metrics	1200	1098	79.48	77.25	114.3	378.4	646.3	948.2
consul - basic	1500	1349	90.1	81.99	162.5	395.9	904.3	1983
consul - mTLS	1500	1341	91.95	79.78	167.4	415.6	981.3	2078
consul - mTLS + metrics	1500	1344	90.44	80.68	170.1	398.2	967.2	1894

Table 9.11: Latencies of Consul Service Mesh with different features and different RPS.  
All latencies are given in milliseconds [ms].