

EdgeX Performance Summary Collection (No security images)

Resource usage:

Micro service	Image Footprint	Executable	Memory used at startup	CPU Usage at startup
edgex-core-consul	101.53 MB	0.00 MB	20.19 MB	5.50 %
edgex-mongo	194.14 MB	0.00 MB	44.19 MB	1.35 %
edgex-core-data	24.87 MB	17.32 MB	6.86 MB	1.49 %
edgex-core-metadata	18.07 MB	18.06 MB	6.59 MB	1.04 %
edgex-core-command	14.65 MB	14.64 MB	4.09 MB	0.00 %
edgex-support-logging	16.49 MB	15.69 MB	6.77 MB	2.16 %
edgex-support-notifications	18.24 MB	17.44 MB	4.76 MB	1.60 %
edgex-support-scheduler	17.58 MB	17.58 MB	4.45 MB	1.50 %
edgex-export-client	17.30 MB	17.30 MB	4.73 MB	1.29 %
edgex-export-distrotro	23.01 MB	15.46 MB	4.93 MB	0.00 %
edgex-support-rulesengine	145.14 MB	66.48 MB	229.43 MB	0.37 %
edgex-device-virtual	18.77 MB	18.75 MB	7.84 MB	0.00 %

Startup time using Mongo without security:

Micro service	Startup time(Binary)	Startup time(Container+Binary)	Startup time(Binary) without creating container	Startup time(Container+Binary) without creating container
edgex-core-data	2.04979078s	92.58399176597595 seconds	945.180232ms	77.64146161079407 seconds
edgex-core-metadata	2.959030494s	92.59807777404785 seconds	1.675435947s	77.53452467918396 seconds
edgex-core-command	989.763615ms	101.56737279891968 seconds	311.027178ms	82.18991351127625 seconds
edgex-support-logging	5.531409885s	68.8505756855011 seconds	10.481451764s	62.180991649627686 seconds
edgex-support-notifications	988.115701ms	92.33636665344238 seconds	1.486770885s	76.97435760498047 seconds
edgex-support-scheduler	829.931492ms	93.8345878124237 seconds	1.535971361s	77.56188654899597 seconds
edgex-export-client	624.873058ms	101.83482384681702 seconds	416.416108ms	84.17036366462708 seconds
edgex-export-distrotro	2.26583554s	128.88105273246765 seconds	1.730837962s	90.942129611969 seconds
edgex-support-rulesengine	139.501 seconds	183.07403564453125 seconds	117.535 seconds	150.7472746372223 seconds
edgex-device-virtual	8.545505835s	134.94126772880554 seconds	4.010031296s	91.87171053886414 seconds
Total startup time		183.07403564453125 seconds		150.7472746372223 seconds

Startup time using Redis without security:

Micro service	Startup time(Binary)	Startup time(Container+Binary)	Startup time(Binary) without creating container	Startup time(Container+Binary) without creating container
edgex-core-data	1.880236309s	81.10108804702759 seconds	378.065394ms	46.416056632995605 seconds
edgex-core-metadata	278.246711ms	82.60485005378723 seconds	219.269754ms	48.61475467681885 seconds
edgex-core-command	675.051107ms	89.04524898529053 seconds	1.866884702s	67.25461053848267 seconds
edgex-support-logging	373.366743ms	70.79761409759521 seconds	1.26553663s	30.36383056640625 seconds
edgex-support-notifications	1.367731831s	81.33560705184937 seconds	284.867638ms	46.533931732177734 seconds
edgex-support-scheduler	279.614388ms	89.25771617889404 seconds	1.957477816s	67.33613467216492 seconds
edgex-export-client	1.195149852s	87.72649216651917 seconds	309.154384ms	49.73171663284302 seconds
edgex-export-distrotro	1.824873281s	102.73026013374329 seconds	2.43926398s	69.65725660324097 seconds
edgex-support-rulesengine	72.187 seconds	185.78046107292175 seconds	69.381 seconds	147.85539770126343 seconds
edgex-device-virtual	7.216021443s	110.62553405761719 seconds	3.408849457s	76.09800052642822 seconds
Total startup time		185.78046107292175 seconds		147.85539770126343 seconds

Startup time using Mongo without security (exclude rulesengine):

Micro service	Startup time(Binary)	Startup time(Container+Binary)	Startup time(Binary) without creating container	Startup time(Container+Binary) without creating container
edgex-core-data	652.932201ms	64.32011032104492 seconds	931.160957ms	45.16799330711365 seconds
edgex-core-metadata	2.344305192s	62.86591029167175 seconds	508.784246ms	46.438432455062866 seconds
edgex-core-command	2.088094752s	69.58053731918335 seconds	202.191982ms	48.95941925048828 seconds
edgex-support-logging	11.89606981s	57.94479942321777 seconds	717.51403ms	35.640467405319214 seconds
edgex-support-notifications	371.421676ms	64.29667139053345 seconds	623.428398ms	46.22058629989624 seconds
edgex-support-scheduler	742.378035ms	58.551703453063965 seconds	1.550520309s	44.87284827232361 seconds
edgex-export-client	212.735321ms	70.12317442893982 seconds	262.771448ms	50.04385542869568 seconds
edgex-export-distrotro	1.24232023s	75.75612425804138 seconds	1.296394028s	54.45050024986267 seconds
edgex-device-virtual	2.247126089s	77.58825325965881 seconds	1.935035137s	54.33657240867615 seconds
Total startup time		77.58825325965881 seconds		54.45050024986267 seconds

Startup time using Redis without security(exclude rulesengine):

Micro service	Startup time(Binary)	Startup time(Container+Binary)	Startup time(Binary) without creating container	Startup time(Container+Binary) without creating container
edgex-core-data	338.923567ms	53.351054191589355 seconds	460.998106ms	50.39883041381836 seconds
edgex-core-metadata	294.799708ms	49.489646196365356 seconds	718.320581ms	49.22589659690857 seconds
edgex-core-command	1.517669488s	58.86598515510559 seconds	715.65083ms	56.64015746116638 seconds
edgex-support-logging	145.60515ms	42.316232204437256 seconds	1.355143834s	40.60039758682251 seconds
edgex-support-notifications	293.879901ms	51.26325607299805 seconds	906.285537ms	48.02546548843384 seconds
edgex-support-scheduler	629.3569ms	59.723143100738525 seconds	288.545258ms	57.21237540245056 seconds
edgex-export-client	269.447308ms	60.16674208641052 seconds	326.188749ms	54.42383646965027 seconds
edgex-export-distrotro	2.044974841s	73.79197120666504 seconds	1.47567915s	60.96700048446655 seconds
edgex-device-virtual	5.193201397s	77.75865721702576 seconds	3.510764046s	75.06968951225281 seconds
Total startup time		77.75865721702576 seconds		75.06968951225281 seconds

Startup time using Redis(deploy one by one):

Micro service	Startup time(Binary)	Startup time(Container+Binary)	Startup time(Binary) without creating container	Startup time(Container+Binary) without creating container
edgex-core-data	95.197869ms	24.16040849685669 seconds	2.095031691s	16.148863315582275 seconds
edgex-core-metadata	119.47699ms	21.01856756210327 seconds	229.325997ms	13.730934619903564 seconds
edgex-core-command	134.654551ms	20.672703504562378 seconds	103.634875ms	13.990838050842285 seconds
edgex-support-logging	73.782734ms	27.115009546279907 seconds	98.693497ms	14.063698768615723 seconds
edgex-support-notifications	146.414162ms	19.48364543914795 seconds	83.171702ms	13.71599793434143 seconds
edgex-support-scheduler	302.04183ms	26.360559701919556 seconds	2.532288016s	19.221946954727173 seconds

edgex-support-rulesengine	66.26 seconds	90.6702299118042 seconds	66.891 seconds	86.82709622383118 seconds
edgex-export-client	192.016692ms	20.381031274795532 seconds	99.557342ms	13.781105279922485 seconds
edgex-export-distro	1.16805198s	20.48181390762329 seconds	1.122758854s	15.458661317825317 seconds
edgex-device-virtual	1.317228986s	26.981719970703125 seconds	1.120090605s	19.05409336090088 seconds

Startup time using Mongo(deploy one by one):

Micro service	Startup time(Binary)	Startup time(Container+Binary)	Startup time(Binary) without creating container	Startup time(Container+Binary) without creating container
edgex-core-data	331.905506ms	23.149206161499023 seconds	281.080917ms	20.887975692749023 seconds
edgex-core-metadata	313.399705ms	22.124562740325928 seconds	1.458089516s	22.51213049888611 seconds
edgex-core-command	135.150134ms	20.967628240585327 seconds	139.619467ms	19.410985708236694 seconds
edgex-support-logging	200.70308ms	23.019113302230835 seconds	1.758186043s	16.210197687149048 seconds
edgex-support-notifications	196.477082ms	18.329334259033203 seconds	515.954444ms	17.483166217803955 seconds
edgex-support-scheduler	357.444303ms	18.208897829055786 seconds	299.340934ms	22.37951135635376 seconds
edgex-support-rulesengine	66.815 seconds	88.57676815986633 seconds	67.791 seconds	88.80356287956238 seconds
edgex-export-client	205.81408ms	23.983838081359863 seconds	179.430611ms	25.35138201713562 seconds
edgex-export-distro	1.180412735s	22.85399031639099 seconds	1.336515356s	21.87509536743164 seconds
edgex-device-virtual	2.929992399s	25.17173743247986 seconds	2.026804799s	20.498528003692627 seconds

Ping API latency:

Micro service	response body	response time
edgex-core-data	pong	26.59 ms
edgex-core-metadata	pong	15.224 ms
edgex-core-command	pong	7.744 ms
edgex-support-scheduler	pong	12.486 ms
edgex-support-logging	pong	14.916 ms
edgex-support-rulesengine	pong	24.653 ms
edgex-support-notifications	pong	14.378 ms
edgex-export-client	pong	7.7 ms
edgex-export-distro	pong	7.957000000000001 ms
edgex-device-virtual	1.0.0	7.91 ms

Measure event exported time using Mongo:

The table shows end to end period of the 5 events as calculation samples extracted from core-data according to the 3 device names

Total average exported time: 39.86666666666667 ms

Device	Event exported time (pushed - origin)				
Random-Integer-Device	104 ms (1565779375532 - 1565779375428)	26 ms (1565779373081 - 1565779373055)	24 ms (1565779372766 - 1565779372742)	28 ms (1565779372667 - 1565779372639)	122 ms (1565779360490 - 1565779360368)
Random-Boolean-Device	23 ms (1565779370547 - 1565779370524)	19 ms (1565779360472 - 1565779360453)	20 ms (1565779348720 - 1565779348700)	26 ms (1565779338661 - 1565779338635)	101 ms (1565779328578 - 1565779328477)
Random-Float-Device	16 ms (1565779357159 - 1565779357143)	23 ms (1565779356533 - 1565779356510)	26 ms (1565779327129 - 1565779327103)	23 ms (1565779326495 - 1565779326472)	17 ms (1565779295593 - 1565779295576)

Measure event exported time using Redis:

The table shows end to end period of the 5 events as calculation samples extracted from core-data according to the 3 device names

Total average exported time: 22.9 ms

Device	Event exported time (pushed - origin)				
Random-Integer-Device	N/A	N/A	N/A	N/A	20 ms (1565779667260 - 1565779667240)
Random-Boolean-Device	N/A	59 ms (1565779657584 - 1565779657525)	25 ms (1565779667591 - 1565779667566)	17 ms (1565779677932 - 1565779677915)	12 ms (1565779688028 - 1565779688016)
Random-Float-Device	19 ms (1565779667167 - 1565779667148)	19 ms (1565779667219 - 1565779667200)	21 ms (1565779697240 - 1565779697219)	13 ms (1565779697316 - 1565779697303)	24 ms (1565779727283 - 1565779727259)