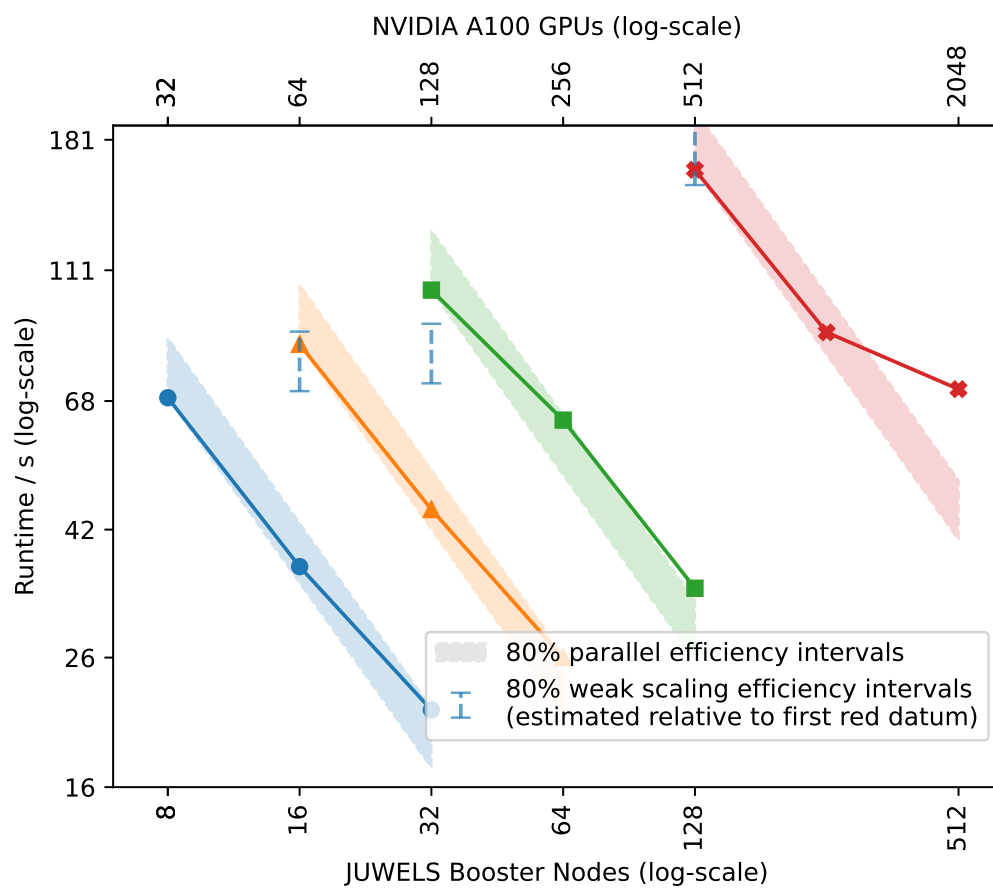


Scaling Evaluation Report

November 12, 2024

1 JEDI Evaluation Plot



Caption

system	version	queue	variant	jobid	nodes	taskpernode	threadspertask	runtime	success	qbits	ngates	gpus	mem/gpu[GiB]	totaltime	initime	npstime	comptime	circuitime	norm	directoryjwellsbooster	2024.01	booster	strong.tiny	10463839	8	4	32	68.84	true	36	396	32	32.0	68.84	3.88	43.87	24.97	65.99	1.000000	./../.._outpath/000000/000000_execute/work/jwellsbooster
--------	---------	-------	---------	-------	-------	-------------	----------------	---------	---------	-------	--------	------	--------------	-----------	---------	---------	----------	------------	------	------------------------	---------	---------	-------------	----------	---	---	----	-------	------	----	-----	----	------	-------	------	-------	-------	-------	----------	--

Table 1: Caption

system	version	queue	variant	jobid	nodes	taskspernode	threadspertask	runtime	success	qubits	ngates	gpus	mem/gpu[GiB]	totaltime	initime	mpitime	comptime	circuitime	norm	directoryjwsh booster	2024.05	booster	strong_small	104684	16	4	11	84.09	true	37	407	64	32.0	84.09	4.05	58.35	15.74	81.09	1.000000	.././_outpath/000000/000000_execute/work/837
--------	---------	-------	---------	-------	-------	--------------	----------------	---------	---------	--------	--------	------	--------------	-----------	---------	---------	----------	------------	------	-----------------------	---------	---------	--------------	--------	----	---	----	-------	------	----	-----	----	------	-------	------	-------	-------	-------	----------	--

Table 2: Caption

2 Raw JSON Data

```
{
  "version": 1,
  "reporter": {
    "generator": "jureap-gitlab-exacb",
    "info": {
      "pipeline": "225295",
      "job": "1175768",
      "commit": "a6230291534d94871aa4c0799d57194bfd7775de",
      "username": "willsch1",
      "project": "/p/project1/ehqcs",
      "budget": "ehqcs",
      "system": "juwelsbooster",
      "version": "2024.12",
      "timestamp": "2024-10-18T23:20:49+02:00"
    }
  },
  "parameter": {},
  "experiment": {
    "system": "juwelsbooster",
    "version": "2024.12",
    "variant": "strong.tiny",
    "timestamp": "2024-10-18T23:20:49+02:00"
  },
  "data": [
    {
      "success": "true",
      "runtime": "68.84",
      "parameter": {
        "nodes": "8",
        "taskspernode": "4",
        "threadspertask": "12"
      },
      "slurm_jobid": "10463839",
      "queue": "booster",
      "metrics": {
        "qubits": "36",
        "ngates": "396",
        "gpu": "32",
        "mem/gpu[GiB]": "32.0",
        "totaltime": "68.84",
        "inittime": "3.88",
        "mpitime": "43.87",
        "comptime": "24.97",
        "circuittime": "65.99",
        "norm": "1.000000",
        "directory": "../.../outpath/oooooo/oooooo_execute/work/h36"
      }
    },
    {
      "success": "true",
      "runtime": "36.56",
      "parameter": {
        "nodes": "16",
```

```
        "taskspernode": "4",
        "threadspertask": "12"
    },
    "slurm_jobid": "10463840",
    "queue": "booster",
    "metrics": {
        "qubits": "36",
        "ngates": "396",
        "gpus": "64",
        "mem/gpu[GiB]": "16.0",
        "totaltime": "41.27",
        "inittime": "2.98",
        "mpitime": "28.27",
        "comptime": "13.00",
        "circuittime": "39.33",
        "norm": "1.200000",
        "directory": "../../../outpath/000000/000001_execute/work/h36"
    }
},
{
    "success": "true",
    "runtime": "21.37",
    "parameter": {
        "nodes": "32",
        "taskspernode": "4",
        "threadspertask": "12"
    },
    "slurm_jobid": "10463842",
    "queue": "booster",
    "metrics": {
        "qubits": "36",
        "ngates": "396",
        "gpus": "128",
        "mem/gpu[GiB]": "8.0",
        "totaltime": "27.01",
        "inittime": "2.81",
        "mpitime": "19.73",
        "comptime": "7.28",
        "circuittime": "25.28",
        "norm": "1.400000",
        "directory": "../../../outpath/000000/000002_execute/work/h36"
    }
}
]
```

Listing 1: Caption

```
{
  "version": 1,
  "reporter": {
    "generator": "jureap-gitlab-exacb",
    "info": {
      "pipeline": "225295",
      "job": "1175770",
      "commit": "a6230291534d94871aa4c0799d57194bfd7775de",

```

```
    "username": "willsch1",
    "project": "/p/project1/ehqcs",
    "budget": "ehqcs",
    "system": "juwelsbooster",
    "version": "2024.12",
    "timestamp": "2024-10-18T23:20:50+02:00"
  },
  "parameter": {},
  "experiment": {
    "system": "juwelsbooster",
    "version": "2024.12",
    "variant": "strong.small",
    "timestamp": "2024-10-18T23:20:50+02:00"
  },
  "data": [
    {
      "success": "true",
      "runtime": "84.09",
      "parameter": {
        "nodes": "16",
        "taskspernode": "4",
        "threadspertask": "12"
      },
      "slurm_jobid": "10463841",
      "queue": "booster",
      "metrics": {
        "qubits": "37",
        "ngates": "407",
        "gpus": "64",
        "mem/gpu[GiB]": "32.0",
        "totaltime": "84.09",
        "inittime": "4.05",
        "mpitime": "58.35",
        "comptime": "25.74",
        "circuittime": "81.09",
        "norm": "1.000000",
        "directory": "../.../outpath/oooooo/oooooo_execute/work/h37"
      }
    },
    {
      "success": "true",
      "runtime": "45.28",
      "parameter": {
        "nodes": "32",
        "taskspernode": "4",
        "threadspertask": "12"
      },
      "slurm_jobid": "10463843",
      "queue": "booster",
      "metrics": {
        "qubits": "37",
        "ngates": "407",
        "gpus": "128",
        "mem/gpu[GiB]": "16.0",
```

```
        "totaltime": "50.56",
        "inittime": "3.36",
        "mpitime": "36.96",
        "comptime": "13.60",
        "circuittime": "48.33",
        "norm": "1.166667",
        "directory": "../../../outpath/oooooo/ooooo1_execute/work/h37"
    }
},
{
    "success": "true",
    "runtime": "26.01",
    "parameter": {
        "nodes": "64",
        "taskspernode": "4",
        "threadspertask": "12"
    },
    "slurm_jobid": "10463845",
    "queue": "booster",
    "metrics": {
        "qubits": "37",
        "ngates": "407",
        "gpus": "256",
        "mem/gpu[GiB]": "8.0",
        "totaltime": "32.00",
        "inittime": "3.46",
        "mpitime": "23.95",
        "comptime": "8.05",
        "circuittime": "29.65",
        "norm": "1.333333",
        "directory": "../../../outpath/oooooo/ooooo2_execute/work/h37"
    }
}
]
```

Listing 2: Caption

```
{
  "version": 1,
  "reporter": {
    "generator": "jureap-gitlab-exacb",
    "info": {
      "pipeline": "225295",
      "job": "1175772",
      "commit": "a6230291534d94871aa4c0799d57194bfd7775de",
      "username": "willsch1",
      "project": "/p/project1/ehqcs",
      "budget": "ehqcs",
      "system": "juwelsbooster",
      "version": "2024.12",
      "timestamp": "2024-10-18T23:20:50+02:00"
    }
  },
  "parameter": {},
  "experiment": {
```

```
"system": "juwelsbooster",
"version": "2024.12",
"variant": "strong.medium",
"timestamp": "2024-10-18T23:20:50+02:00"
},
"data": [
  {
    "success": "true",
    "runtime": "103.04",
    "parameter": {
      "nodes": "32",
      "taskspernode": "4",
      "threadspertask": "12"
    },
    "slurm_jobid": "10463844",
    "queue": "booster",
    "metrics": {
      "qubits": "38",
      "ngates": "418",
      "gpus": "128",
      "mem/gpu[GiB]": "32.0",
      "totaltime": "103.04",
      "inittime": "4.48",
      "mpitime": "76.25",
      "comptime": "26.79",
      "circuittime": "99.65",
      "norm": "1.000000",
      "directory": "../../../outpath/000000/000000_execute/work/h38"
    }
  },
  {
    "success": "true",
    "runtime": "63.30",
    "parameter": {
      "nodes": "64",
      "taskspernode": "4",
      "threadspertask": "12"
    },
    "slurm_jobid": "10463846",
    "queue": "booster",
    "metrics": {
      "qubits": "38",
      "ngates": "418",
      "gpus": "256",
      "mem/gpu[GiB]": "16.0",
      "totaltime": "70.08",
      "inittime": "4.34",
      "mpitime": "54.25",
      "comptime": "15.83",
      "circuittime": "66.84",
      "norm": "1.142857",
      "directory": "../../../outpath/000000/000001_execute/work/h38"
    }
  },
  {

```

```
"success": "true",
"runtime": "33.71",
"parameter": {
  "nodes": "128",
  "taskspernode": "4",
  "threadspertask": "12"
},
"slurm_jobid": "10463847",
"queue": "booster",
"metrics": {
  "qubits": "38",
  "ngates": "418",
  "gpus": "512",
  "mem/gpu[GiB]": "8.0",
  "totaltime": "40.77",
  "inittime": "4.29",
  "mpitime": "31.79",
  "comptime": "8.98",
  "circuittime": "37.66",
  "norm": "1.285714",
  "directory": "../.../outputpath/oooooo/ooooo2_execute/work/h38"
}
}
]
```

Listing 3: Caption

```
{
  "version": 1,
  "reporter": {
    "generator": "jureap-gitlab-exacb",
    "info": {
      "pipeline": "225295",
      "job": "1175774",
      "commit": "a6230291534d94871aa4c0799d57194bfd7775de",
      "username": "willsch1",
      "project": "/p/project1/ehqcs",
      "budget": "ehqcs",
      "system": "juwelsbooster",
      "version": "2024.12",
      "timestamp": "2024-10-18T23:20:50+02:00"
    }
  },
  "parameter": {},
  "experiment": {
    "system": "juwelsbooster",
    "version": "2024.12",
    "variant": "strong.large",
    "timestamp": "2024-10-18T23:20:50+02:00"
  },
  "data": [
    {
      "success": "true",
      "runtime": "161.74",
      "parameter": {
```

```
        "nodes": "128",
        "taskspernode": "4",
        "threadspertask": "12"
    },
    "slurm_jobid": "10463848",
    "queue": "booster",
    "metrics": {
        "qubits": "40",
        "ngates": "440",
        "gpus": "512",
        "mem/gpu[GiB]": "32.0",
        "totaltime": "161.74",
        "inittime": "6.38",
        "mpitime": "131.00",
        "comptime": "30.74",
        "circuittime": "156.57",
        "norm": "1.000000",
        "directory": "../../../outpath/000000/000000_execute/work/h40"
    }
},
{
    "success": "true",
    "runtime": "87.96",
    "parameter": {
        "nodes": "256",
        "taskspernode": "4",
        "threadspertask": "12"
    },
    "slurm_jobid": "10463850",
    "queue": "booster",
    "metrics": {
        "qubits": "40",
        "ngates": "440",
        "gpus": "1024",
        "mem/gpu[GiB]": "16.0",
        "totaltime": "95.75",
        "inittime": "7.26",
        "mpitime": "77.86",
        "comptime": "17.89",
        "circuittime": "90.03",
        "norm": "1.111111",
        "directory": "../../../outpath/000000/000001_execute/work/h40"
    }
},
{
    "success": "true",
    "runtime": "71.09",
    "parameter": {
        "nodes": "512",
        "taskspernode": "4",
        "threadspertask": "12"
    },
    "slurm_jobid": "10463851",
    "queue": "largebooster",
    "metrics": {
```

```
        "qubits": "40",
        "ngates": "440",
        "gpus": "2048",
        "mem/gpu[GiB]": "8.0",
        "totaltime": "83.81",
        "inittime": "10.22",
        "mpitime": "69.95",
        "comptime": "13.86",
        "circuittime": "75.92",
        "norm": "1.222222",
        "directory": "../../../outpath/oooooo/ooooo2_execute/work/h40"
    }
}
]
```

Listing 4: Caption