# Basic Timing Information on GMI

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The timing information below were obtained with:

- one-day integration of combined stratosphere/troposphere chemical mechanism
- 124 species
- 121 chemical species
- 117 active chemical species
- 68 advected species
- $2 \times 2.5$ honrizontal resolution and 42 vertical levels
- model time step of 30 minutes

9x7 = 63 processors

| Block | Min Time | Max Time | Avg Time |
|---|---|---|---|
| whole_GMI | 842.9362 | 843.0141 | 842.9601 |
| gmiTimeStepping | 773.3378 | 775.4813 | 774.0801 |
| procSyncBegStepping | 1.0650 | 3.2106 | 1.8059 |
| gmiEmission | 7.5113 | 8.0610 | 7.5410 |
| gmiDiffusion | 2.0009 | 2.3482 | 2.1170 |
| procSyncBeforeAdvection | 0.2282 | 1.1347 | 1.0033 |
| gmiAdvection | 77.9177 | 78.9366 | 78.8842 |
| gmiConvection | 4.6655 | 12.6235 | 8.4833 |
| gmiDryDeposition | 0.5783 | 1.1403 | 0.7806 |
| gmiWetDeposition | 7.1136 | 8.9838 | 7.9951 |
| gmiChemistry | 140.5785 | 497.1423 | 341.6406 |
| gmiPhotolysis | 5.1924 | 48.1437 | 29.2000 |
| procSyncEndStepping | 169.4039 | 523.4902 | 322.9148 |
| gmiWritingOutput | 35.1658 | 45.5605 | 44.0967 |

11x11 = 121 processors

| Block | Min Time | Max Time | Avg Time |
|---|---|---|---|
| whole_GMI | 541.0739 | 541.1197 | 541.1028 |

| | | | |
|---|---|---|---|
| gmiTimeStepping | 461.5172 | 467.9213 | 464.6045 |
| procSyncBegStepping | 0.9933 | 7.4049 | 4.0861 |
| gmiEmission | 11.0396 | 12.0051 | 11.2219 |
| gmiDiffusion | 0.7928 | 1.3231 | 1.0657 |
| procSyncBeforeAdvection | 0.6895 | 2.1456 | 1.7608 |
| gmiAdvection | 55.3105 | 56.1626 | 55.8819 |
| gmiConvection | 1.6163 | 6.0775 | 4.1244 |
| gmiDryDeposition | 0.2393 | 0.4921 | 0.3519 |
| gmiWetDeposition | 3.7472 | 5.0127 | 4.3225 |
| gmiChemistry | 40.9454 | 322.2511 | 175.7995 |
| gmiPhotolysis | 0.4408 | 28.4638 | 15.5451 |
| procSyncEndStepping | 57.8476 | 343.3024 | 205.5430 |
| gmiWritingOutput | 29.5422 | 35.9619 | 34.0993 |