

# Specialized HPC Architectures and Enhanced Infrastructure Services

Overview of Rescale Coretypes and Service Level Agreements

## Data sheet

### The Largest Global Network of Specialized Infrastructure

Rescale partners with the world's leading and boutique cloud service providers to meet organization's cloud digital transformation goals. From ensuring global business continuity to engineering velocity, Rescale gives IT departments and their end users seamless access to any cloud of their choice while making multicloud operations simplified and cost effective.

### Leading Infrastructure Providers

**HYPERSCALE**

**SPECIALTY**

#### Global Data Center Coverage

- Arizona, USA
- California, USA
- Illinois, USA
- Iowa, USA
- Ohio, USA
- Oregon, USA
- S. Carolina, USA
- Texas, USA
- Virginia, USA
- Washington, USA
- Ontario, Canada
- Iceland, Europe
- Ireland, Europe
- W.C. Germany
- Paris, France
- Eemshaven, NL
- Stockholm, Sweden
- London, UK
- Mumbai, India
- Pune, India
- Busan, Korea
- Seoul, Korea

### Broad Selection of the Latest High Performance Computing Architectures

Benefit from access to a wide variety of the latest computing architectures, pre-configured and tuned for various needs



#### CPU



E.g. Intel Xeon Skylake, Phi, Broadwell, AMD EPYC Milan, Xilinx FPGA

#### GPU



E.g. NVIDIA Volta V100, NVIDIA Tesla P100, NVIDIA Tesla K80

#### Memory



3.2-3.10 GB/Core up to 2TB/Server

#### Interconnect



Low latency 10 GigE, 25 GigE and Infiniband, NVIDIA NVlink

#### Storage



Solid State Disks (SSD) 15-400 GB/Core or Unlimited

### Rescale Coretypes: Pre-Configured and Optimized Architectures for Every Workload

Choose from intelligently recommended architecture combinations, continuously optimized for cost, performance, and reliability

1 Select your software...



Thousands of available software packages and versions

2 Browse Rescale Coretypes...



Hundreds of available HPC configurations

3 Run your workload on the best-fit configurations, more efficiently.



## Rescale Coretype List (as of H2 2022)
































Browse the latest Rescale Coretype options available to select in the job setup under “Hardware Settings”




















Coretype	Memory (GB/Core)	Network IO (GB/s)	Storage (GB/Core)	Primary Architecture
<b>General Purpose:</b> Ideal for HPC workloads that require a balance of compute, memory, and networking capabilities (E.g. FEA, CFD)				
Emerald Max	4.00	25.00	36.00	Intel Xeon Platinum P-8124 (Skylake)
Emerald	4.00	25.00	36.00	Intel Xeon Platinum P-8124 (Skylake)
Luna Max	4.00	25.00	36.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake)
Luna	4.00	25.00	36.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake)
Ferrite Max	4.00	10.00	16.00	Intel Xeon Platinum 8168 (Skylake)
Ferrite	4.00	10.00	16.00	Intel Xeon Platinum 8168 (Skylake)
Willow	4.00	20.00	12.00	AMD EPYC 7002 series
Spruce v2	8.00	30.00	32.00	3rd generation AMD EPYC 7763v
Spruce	8.00	30.00	16.00	AMD EPYC 7452 (Rome)
Ruby	16.00	25.00	75.00	Intel Xeon Platinum 8175M (Skylake)
Luna Lite	4.00	25.00	36.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake)
Emerald Lite	4.00	25.00	36.00	Intel Xeon Platinum P-8124 (Skylake)
Calcite v2	8.00	35.00	32.00	3rd Generation Intel Xeon Platinum 8370C (Ice Lake)
Calcite	8.00	30.00	75.00	Intel Xeon Platinum 8272CL (Cascade Lake)
Granite	7.00	10.00	50.00	Intel Xeon E5-2673 v3 (Haswell)
Kyanite	8.00	50.00	36.00	Intel Xeon Scalable processors (Ice Lake)
Starlite Max	4.00	50.00	36.00	Intel Xeon Scalable processors (Ice Lake)
Starlite	4.00	50.00	36.00	Intel Xeon Scalable processors (Ice Lake)
Tanzanite	4.00	40.00	8.00	AMD EPYC 7742
Spinel	4.00	40.00	7.11	Intel Xeon IceLake
Larimar	4.00	40.00	8.00	AMD EPYC Milan
Zeolite	4.00	10.00	18.00	AWS Graviton3 Processor with 64-bit ARM Neoverse cores
Palladium Max	4.00	25.00	18.00	AWS Graviton2 Processor with 64-bit ARM Neoverse cores
Palladium	4.00	25.00	36.00	AWS Graviton2 Processor with 64-bit ARM Neoverse cores
Gallium	4.00	10.00	18.00	AWS Graviton2 Processor with 64-bit ARM Neoverse cores
Antimony	8.00	10.00	18.00	AWS Graviton2 Processor with 64-bit ARM Neoverse cores
<b>High-Speed Interconnect:</b> Ideal for HPC workloads that are able to scale and benefit from faster node to node communication (E.g. CFD, MPI apps)				
Catseye Max	5.25	100.00	36.00	Intel Xeon Platinum P-8124 (Skylake)
Catseye	5.25	100.00	36.00	Intel Xeon Platinum P-8124 (Skylake)
Carbon	8.00	100.00	15.91	Intel Xeon Platinum 8168 (Skylake)
Amber v2	4.00	200.00	8.00	AMD EPYC 7742 (Rome)

Coretype	Memory (GB/Core)	Network IO (GB/s)	Storage (GB/Core)	Primary Architecture
<b>High-Speed Interconnect Continued</b>				
■ Jasper	7.10	200.00	16.00	AMD EPYC 7742 (Rome)
■ Ammonite	4.30	200.00	8.57	AMD EPYC 7742 (Rome)
■ Pyrite Max	8.00	100.00	80.00	Intel Xeon Scalable (Cascade Lake)
■ Pyrite	8.00	100.00	80.00	Intel Xeon Scalable (Cascade Lake)
■ Amber	4.00	100.00	11.67	AMD EPYC 7551 (Naples)
■ Peridot	10.91	200.00	21.82	AMD EPYC 7742 (Rome)
■ Apatite	5.45	200.00	10.91	AMD EPYC 7742 (Rome)
■ Rozenite	3.75	200.00	16.00	AMD EPYC 7V73X (Milan-X)
■ Limonite	4.67	200.0	20.00	AMD EPYC 7V73X (Milan-X)
■ Hematite	7.00	200.00	30.00	AMD EPYC 7V73X (Milan-X)
■ Graphite v2	16.00	100.00	1250.00	Intel Xeon Scalable (Skylake)
■ Edenite	14.00	200.00	60.0	AMD EPYC 7V73X (Milan-X)
■ Albite	28.00	200.00	120.00	AMD EPYC 7V73X (Milan-X)
■ Pine	16.00	100.00	48.00	AMD EPYC (Rome)
■ Juniper	5.33	100.00	16.00	AMD EPYC (Rome)
■ Elm	4.00	100.00	12.00	AMD EPYC (Milan)
■ Deodar	16.00	100.00	48.00	AMD EPYC (Milan)
■ Cypress	5.30	100.00	16.00	AMD EPYC (Milan)
■ Cedar	4.00	100.00	12.00	AMD EPYC (Rome)
■ Birch	8.00	100.00	24.00	AMD EPYC (Rome)
■ Yttrium	10.66	100.00	164.92	Bare Metal - Intel Xeon Gold 6154 (Skylake)
■ Tsavorite	14.20	100.00	98.94	Bare Metal - Intel Icelake
■ Proteus	16.20	50.00	30.00	Bare Metal - AMD EPYC Milan
<b>High Memory: Ideal for workloads that require intensive use of memory with high memory to CPU ratio (E.g. EDA, Structural Non-Linear, Multi-physics)</b>				
■ Sequoia v2	16.00	32.00	32.00	3rd generation EPYC 7763v
■ Sequoia	14.00	30.0	32.00	AMD EPYC 7452 (Rome)
■ Ruby	16.00	25.00	75.0	Intel Xeon Platinum 8175M (Skylake)
■ Readwood	32.00	32.00	64.00	3rd generation EPYC 7763v
■ Oak	16.00	20.00	36.00	AMD EPYC 7000 series
■ Malachite	16.00	50.00	32.00	3rd generation Intel Xeon Scalable processors (Ice Lake)
■ Chromium v2	16.00	35.00	32.00	3rd Generation Intel Xeon Platinum 8370C (Ice Lake)
■ Chromium	15.75	30.00	75.00	Intel Xeon Platinum 8272CL (Cascade Lake)
■ Peridot	10.91	200.00	21.82	AMD EPYC 7742 (Rome)

Coretype	Memory (GB/Core)	Network IO (GB/s)	Storage (GB/Core)	Primary Architecture
<b>High Memory Continued</b>				
■ Moonstone Max	16.00	25.00	40.00	Intel Xeon Platinum 8175M (Skylake)
■ Tremolite	64.00	100.00	59.38	3rd generation Intel Xeon Scalable processors (Ice Lake)
■ Moonstone	16.00	25.00	40.00	Intel Xeon Platinum 8175M (Skylake)
■ Karlite Metal	64.00	100.00	32.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake) @ 3.9 GHz
■ Karlite	64.00	100.00	32.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake) @ 3.9 GHz
■ Graphite v2	16.00	100.00	1250.00	Intel Xeon Scalable (Skylake)
■ Edenite	14.00	200.00	60.00	AMD EPYC 7V73X (Milan-X)
■ Albite	28.00	200.00	120.00	AMD EPYC 7V73X (Milan-X)
■ Quartz	15.25	20.00	400.00	Intel Xeon E5-2670 v2 (Ivy Bridge)
■ Pine	16.00	100.00	48.00	AMD EPYC (Rome)
■ Diamond	16.00	25.0	75.0	Intel Xeon Platinum 8151
■ Yttrium	10.66	100.0	164.92	Bare Metal - Intel Xeon Gold 6154 (Skylake)
■ Tsavorite	14.20	100.0	98.94	Bare Metal - Intel Icelake
■ Proteus	16.20	50.00	30.00	Bare Metal - AMD EPYC Milan
■ Niter	16.00	100.00	93.75	Intel Cascade Lake
■ Galaxite	13.00	10.00	46.88	Intel Xeon E5 (Sandy Bridge), v2 (Ivy Bridge), v3 (Haswell), or v4 (Broadwell)
■ Zinc Max	15.25	25.00	40.00	Intel Xeon E5-2686 v4 (Broadwell)
■ Zinc	15.25	25.00	40.00	Intel Xeon E5-2686 v4 (Broadwell)
■ Sapphire	14.00	56.00	125.0	Intel Xeon E5-2667 v3 (Haswell)
■ Graphite	15.25	25.00	475.00	Intel Xeon E5-2686 v4 (Broadwell)
■ Topaz	30.50	25.00	56.25	Intel Xeon E7-8880 v3 (Haswell)
■ Rhenium	16.00	10.00	18.00	AWS Graviton2 Processor with 64-bit ARM Neoverse cores
■ Gold	15.25	10.00	40.00	Intel Xeon E5-2670 v2 (Ivy Bridge)
<b>High Clock-Rate: Ideal for workloads that benefit from accelerated cycle times / shorter runtimes (E.g. FEA)</b>				
■ Luna Max	4.00	25.00	36.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake)
■ Luna	4.00	25.00	36.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake)
■ Pyrite Max	8.00	100.00	80.00	Intel Xeon Scalable (Cascade Lake)
■ Pyrite	8.00	100.00	80.00	Intel Xeon Scalable (Cascade Lake)
■ Malachite	16.00	50.000	32.00	3rd generation Intel Xeon Scalable processors (Ice Lake)
■ Luna Lite	4.00	25.000	36.00	2nd Generation Intel Xeon Scalable Processors (Cascade Lake)
■ Graphite v2	16.00	100.00	1250.00	Intel Xeon Scalable (Skylake)
■ Serpentine	8.00	20.00	93.75	Intel Cascade Lake

Coretype	Memory (GB/Core)	Network IO (GB/s)	Storage (GB/Core)	Primary Architecture
<b>High Clock-Rate Continued</b>				
■ Pine	16.00	100.00	48.00	AMD EPYC (Rome)
■ Juniper	5.33	100.00	16.00	AMD EPYC (Rome)
■ Diamond	16.00	25.00	75.00	Intel Xeon Platinum 8151
■ Birch	8.00	100.00	24.00	AMD EPYC (Rome)
■ Sapphire	14.00	56.00	125.00	Intel Xeon E5-2667 v3 (Haswell)
■ Magnesium	7.00	56.00	125.00	Intel Xeon E5-2667 v3 (Haswell)
<b>Large Disk: Ideal for storage-intensive workloads that will benefit from high disk throughput and input/output (E.g. CFD, multi-physics, DOE)</b>				
■ Pyrite Max	8.00	100.00	80.00	Intel Xeon Scalable (Cascade Lake)
■ Melanite Max	8.00	25.00	80.00	Intel Xeon Platinum 8175 (Skylake)
■ Ruby	16.00	25.00	75.00	Intel Xeon Platinum 8175M (Skylake)
■ Pyrite	8.00	100.00	80.00	Intel Xeon Scalable (Cascade Lake)
■ Melanite	8.00	25.00	80.00	Intel Xeon Platinum 8175 (Skylake)
■ Chromium v2	16.00	35.00	32.00	3rd Generation Intel Xeon Platinum 8370C (Ice Lake)
■ Chromium	15.75	30.00	75.00	Intel Xeon Platinum 8272CL (Cascade Lake)
■ Calcite	8.00	30.00	75.00	Intel Xeon Platinum 8272CL (Cascade Lake)
■ Moonstone Max	16.00	25.00	40.00	Intel Xeon Platinum 8175M (Skylake)
■ Moonstone	16.00	25.00	40.00	Intel Xeon Platinum 8175M (Skylake)
■ Graphite v2	16.00	100.00	1250.00	Intel Xeon Scalable (Skylake)
■ Edenite	14.00	200.00	60.00	AMD EPYC 7V73X (Milan-X)
■ Albite	28.00	200.00	120.00	AMD EPYC 7V73X (Milan-X)
■ Quartz	15.25	20.00	400.00	Intel Xeon E5-2670 v2 (Ivy Bridge)
■ Granite	7.00	10.00	50.00	Intel Xeon E5-2673 v3 (Haswell)
■ Serpentine	8.00	20.00	93.75	Intel Cascade Lake
■ Pine	16.00	100.00	48.00	AMD EPYC (Rome)
■ Diamond	16.00	25.00	75.00	Intel Xeon Platinum 8151
■ Yttrium	10.66	100.00	164.92	Bare Metal - Intel Xeon Gold 6154 (Skylake)
■ Tsavorite	14.20	100.00	98.94	Bare Metal - Intel Icelake
■ Tanzanite	4.00	40.00	8.0	AMD EPYC 7742
■ Spinel	4.00	40.00	7.11	Intel Xeon IceLake
■ Larimar	4.00	40.00	8.00	AMD EPYC Milan
■ Niter	16.00	100.0	93.75	Intel Cascade Lake
■ Garnet	1.80	10.00	46.88	Intel Xeon E5 (Sandy Bridge), v2 (Ivy Bridge), v3 (Haswell), or v4 (Broadwell)
■ Galaxite	13.00	10.00	46.88	Intel Xeon E5 (Sandy Bridge), v2 (Ivy Bridge), v3 (Haswell), or v4 (Broadwell)

Coretype	Memory (GB/Core)	Network IO (GB/s)	Storage (GB/Core)	Primary Architecture
<b>Large Disk Continued</b>				
 Zinc Max	15.25	25.00	40.00	Intel Xeon E5-2686 v4 (Broadwell)
 Zinc	15.25	25.00	40.00	Intel Xeon E5-2686 v4 (Broadwell)
 Titanium	8.00	25.00	80.00	Intel Xeon E5-2676 v3 (Haswell)
 Sapphire	14.00	56.00	125.00	Intel Xeon E5-2667 v3 (Haswell)
 Magnesium	7.00	56.00	125.00	Intel Xeon E5-2667 v3 (Haswell)
 Graphite	15.25	25.00	475.00	Intel Xeon E5-2686 v4 (Broadwell)
 Topaz	30.50	25.00	56.25	Intel Xeon E7-8880 v3 (Haswell)
<b>GPU: Ideal for workloads that benefit from single/double precision floating computations (E.g. AI/ML/DL, graphical rendering, particle fluidics)</b>				
 Mallorn	9.17	24.00	93.58	AMD EPYC 7V13 w/ NVIDIA Ampere A100, NVIDIA A100 80GB
 Iolite-4	7.00	32.00	45.00	AMD EPYC 7V12(Rome), NVIDIA Tesla T4
 Iolite-1	7.00	32.00	45.00	AMD EPYC 7V12(Rome), NVIDIA Tesla T4
 Iolite	7.00	32.00	22.50	AMD EPYC 7V12(Rome), NVIDIA Tesla T4
 Celestine	18.75	24.00	62.50	AMD EPYC w/ NVIDIA Ampere A100, NVIDIA A100
 Aquamarine v3	18.67	10.00	122.83	Intel Xeon E5-2690 v4 (Broadwell) CPUs, Tesla V100
 Ankerite	24.0	400.00	166.67	NVIDIA A100-enabled w/ NVLink, 2nd Generation Intel Xeon Scalable (Cascade Lake), A100 Tensor Core
 Rhodium	15.25	25.00	37.50	NVIDIA V100-enabled w/ NVLink, Intel(R) Xeon(R) CPU E5-2686 v4 (Broadwell), Tesla V100
 Dolomite Lite	15.25	25.00	75.00	NVIDIA V100-enabled w/ NVLink, Intel(R) Xeon(R) CPU E5-2686 v4 (Broadwell), Tesla V100
 Dolomite	15.25	25.00	75.00	NVIDIA V100-enabled w/ NVLink, Intel(R) Xeon(R) CPU E5-2686 v4 (Broadwell), Tesla V100
 Raspbite	12.20	80.00	40.00	AMD EPYC 74F3V(Milan) CPUs, NVIDIA A10
 Obsidian	30.50	25.00	37.5	Intel Xeon E5-2676 v3 (Haswell), Tesla K80
 Grossular-8	8.00	100.00	79.17	2nd generation AMD EPYC processors, NVIDIA A10 GPU
 Grossular-4	8.00	100.00	158.33	2nd generation AMD EPYC processors, NVIDIA A10 GPU
 Grossular-1 8 Core	8.00	25.00	75.00	2nd generation AMD EPYC processors, NVIDIA A10 GPU
 Grossular-1	8.00	100.00	112.5	2nd generation AMD EPYC processors, NVIDIA A10 GPU
 Cobalt	9.00	10.00	63.33	Intel Xeon E5-2690 v3 (Haswell), Tesla M60
 Raspbite High Memory	24.40	80.00	20.00	AMD EPYC 74F3V(Milan) CPUs, NVIDIA A10
 Aquamarine v2	18.67	10.00	122.83	Intel Xeon E5-2690 v4 (Broadwell), Tesla P100
 Olive v2	14.17	10.00	62.50	Intel Cascade Lake CPU @ 2.2 GHz, NVIDIA-Tesla-A100
 Jade	3.75	20.00	15.00	NVIDIA Kepler GK104, Intel Xeon E5-2670 (Sandy Bridge), GK104
 Citrine	15.25	25.00	7.50	NVIDIA Tesla M60, Intel Xeon E5-2686 v4 (Broadwell), Tesla M60
 Borate-4	8.00	25.00	37.50	Intel Xeon Platinum 8259CL CPU, Tesla T4
 Borate-1 Lite	8.00	25.00	62.50	Intel Xeon Platinum 8259CL CPU, Tesla T4

Coretype	Memory (GB/Core)	Network IO (GB/s)	Storage (GB/Core)	Primary Architecture
<b>GPU Continued</b>				
 Borate-1	8.00	25.00	56.25	Intel Xeon Platinum 8259CL CPU, Tesla T4
 Borate	8.00	25.00	37.50	Intel Xeon Platinum 8259CL CPU, Tesla T4
 Adamite	8.00	50.00	37.50	Intel Xeon Platinum 8259CL CPU, Tesla T4
 Galena	8.00	25.00	37.50	Intel Xeon Platinum 8259CL CPU, Tesla T4
 Aquamarine	9.33	10.00	56.67	Intel Xeon E5-2690 v3 (Haswell), Tesla K80
<b>GPU Rendering:</b>				
 Grossular-8	8.00	100.00	79.17	2nd generation AMD EPYC processors, NVIDIA A10 GPU
 Grossular-4	8.00	100.00	158.33	2nd generation AMD EPYC processors, NVIDIA A10 GPU
 Grossular-1 8 Core	8.00	25.00	75.00	2nd generation AMD EPYC processors, NVIDIA A10 GPU
 Grossular-1	8.00	100.00	112.50	2nd generation AMD EPYC processors, NVIDIA A10 GPU
<b>Other</b>				
 Maple	8.00	20.00	36.00	AMD EPYC 7000 series
 Larch	8.00	40.00	32.00	3rd generation AMD EPYC processors
 Emerald Reduced Storage	4.00	25.00	3.00	Intel Xeon Platinum P-8124 (Skylake)
 Clerite	8.00	25.00	36.00	2nd Generation Intel Xeon Scalable (Cascade Lake)
 Titanium Reduced Storage	8.00	25.00	25.00	Intel Xeon E5-2676 v3 (Haswell)
 Sylvanite	16.00	75.00	468.75	3rd generation Intel Xeon Scalable Processors (Ice Lake 8375C)
 Marble	7.50	-	40.00	Intel Xeon E5-2670 v2 (Ivy Bridge)
 Hybrid Adapter	0.01	100.00	1.00	Hybrid Scheduler Adapter
 Basalt 	12.00	100.00	5.00	Intel Xeon Platinum 8358 (Ice Lake)

Learn more about which Rescale coretypes  
are best suited for your workloads:

[Speak to an Expert](#)

Continue reading about Rescale enhanced infrastructure on the next page...

## Maximize Value of Compute Investments with Cloud with Enhanced Service Levels

Rescale enables organizations to get the most from compute investments, from ensuring successful job completions to fast start up

Batch Jobs
<b>On-Demand Priority</b>
Fastest time-to-solve infrastructure that is Rescale-enhanced with job-based SLAs. Jobs guaranteed to launch promptly in 15 minutes or less (SLA 95%) and complete successfully (SLA 99%).
<b>On-Demand Economy</b>
Combines flexibility and lower cost enabled by CSP excess capacity and Rescale automation. Jobs launch promptly in 15 minutes or less (SLA 95%) and complete successfully (SLA 95%).
<b>On-Demand Reserved</b>
Reduced cost options for 1-3 year commitments. Jobs launch promptly in 15 minutes or less (SLA 95%) and complete successfully (SLA 99%).
Elastic Cloud Workstation
Pre-configured virtual machines to run visualization workflows and manage results. Guaranteed to launch in 15 minutes or less (SLA 95%) and run successfully (SLA 99%).
High-Performance Storage
High-speed persistent file storage for sharing data across users, clusters, and desktops. Guaranteed to launch in 15 minutes or less (SLA 95%) and run successfully (SLA 99%).

Learn more about which Rescale service levels best fit your organizations' cost and performance goals:

[Speak to an Expert](#)



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### About Rescale

Rescale is high performance computing built for the cloud to empower engineers while giving IT security and control. From supersonic jets to personalized medicine, industry leaders are bringing new product innovations to market with unprecedented speed and efficiency with Rescale, a cloud platform delivering intelligent full-stack automation and performance optimization. IT leaders use Rescale to deliver HPC-as-a-Service with a secure control plane to deliver any application, on any architecture, at any scale on their cloud of choice.