

~~What is claimed is:~~

- ~~1. A method comprising:
measuring a quantity of a plurality of physical computing resources being used over a period of time;
normalizing each measured quantity of each physical computing resource being used; and
summing the normalized measured quantities of the physical computing resources being used to generate a single usage value representative of the physical computing resources being used over the period of time.~~
- ~~2. The method of claim 1, wherein the plurality of physical computing resources includes a plurality of disparate physical computing resources.~~
- ~~3. The method of claim 1, wherein the plurality of physical computing resources includes one or more of a graphics processing system, a field programmable gate array, an application-specific integrated circuit, a system on chip, a digital signal processor, a microcontroller, or an adaptive compute acceleration platform.~~
- ~~4. The method of claim 3, wherein the plurality of physical computing resources include the graphics processing system, the graphics processing system including a graphics processor and graphics memory.~~
- ~~5. The method of claim 1, further comprising:
measuring a maximum quantity of a plurality of physical computing resources available over the period of time;
normalizing each measured maximum quantity of each available physical computing resource; and
summing the normalized measured maximum quantities of the available physical computing resources to generate a single available resource value representative of the maximum quantity of available physical computing resources over the period of time.~~
- ~~6. A computing network comprising:~~

~~one or more computing systems having a plurality of physical computing resources configured to execute one or more workloads;~~

~~one or more metric collectors, each metric collector having at least one metric receiver that is configured to receive a plurality of metrics from the one or more computing systems, the plurality of metrics corresponding to a usage of the physical computing resources; and~~

~~one or more analysis platforms configured to normalize each of the received metrics.~~

~~7. The computing network of claim 6, wherein the one or more analysis platforms are further configured to sum the normalized metrics to generate a single usage value.~~

~~8. The computing network of claim 6, wherein at least a portion of the physical computing resource usage is associated with one or more accounts.~~

~~9. The computing network of claim 8, wherein the one or more accounts includes a plurality of accounts and, wherein, at least one account is associated with a portion of the physical computing resource usage and at least one other account is associated with a different portion of the physical computing resource usage.~~

~~10. The computing network of claim 6, wherein at least one of the metric collectors further comprises a plugin database having one or more plugins, wherein the one or more plugins are configured to enable at least one of the metric collectors to communicate with one or more computing systems.~~

~~11. The computing network of claim 6, wherein the analysis platform is configured to generate a notification based, at least in part, on a comparison of the physical computing resource usage to a threshold.~~

~~12. The computing network of claim 6, wherein the one or more analysis platforms includes a plurality of analysis platforms, at least one of the analysis platforms being a backup analysis platform.~~

~~13. The computing network of claim 6, wherein the one or more analysis platforms are configured to activate or deactivate at least one of the metric collectors at a predetermined time.~~

~~14. The computing network of claim 6, wherein at least one of the metric collectors includes at least one of the one or more analysis platforms.~~

~~15. The computing network of claim 6, wherein the one or more metric collectors includes a plurality of metric collectors, at least one of the plurality of metric collectors being a backup metric collector.~~

~~16. The computing network of claim 6, wherein the analysis platform is further configured to determine one or more of a peak usage, a trough usage, or an average usage corresponding to each physical computing resource over the period of time based, at least in part, on the received metrics.~~

~~17. At least one computer readable storage medium having one or more instructions stored thereon, which, when executed by one or more processors, cause one or more operations to be carried out, the operations comprising:~~

~~measuring a quantity of a plurality of physical computing resources being used over a period of time;~~

~~normalizing each measured quantity of each physical computing resource being used; and~~

~~summing the normalized measured quantities of the physical computing resources being used to generate a single usage value representative of the physical computing resources being used over the period of time.~~

~~18. The computer readable storage medium of claim 17, wherein the plurality of physical computing resources includes a plurality of disparate physical computing resources.~~

~~19. The computer readable storage medium of claim 17, wherein the plurality of physical computing resources includes one or more of a graphics processing system, a field~~

~~programmable gate array, an application specific integrated circuit, a system on chip, a digital signal processor, a microcontroller, or an adaptive compute acceleration platform.~~

~~20. The computer readable storage medium of claim 19, wherein the plurality of physical computing resources include the graphics processing system, the graphics processing system including a graphics processor and graphics memory.~~

~~21. The computer readable storage medium of claim 17, wherein the operations further comprise:~~

~~measuring a maximum quantity of a plurality of physical computing resources available over the period of time;~~

~~normalizing each measured maximum quantity of each available physical computing resource; and~~

~~summing the normalized measured maximum quantities of the available physical computing resources to generate a single available resource value representative of the maximum quantity of available physical computing resources over the period of time.~~

~~22. The computer readable storage medium of claim 17, wherein the operations further comprise accessing a plugin database, the plugin database including one or more plugins configured to enable the measuring of the plurality of physical computing resources of one or more computing systems.~~

~~23. The computer readable storage medium of claim 17, wherein the operations further comprise determining one or more of a peak usage, a trough usage, or an average usage corresponding to each physical computing resource over the period of time.~~

What is claimed is:

1. A method comprising:

receiving one or more resource attributes for each of a plurality of physical computing resources, the plurality of physical computing resources including at least one graphics processing system, the graphics processing system having as resource attributes (i) a graphics processor variable clock speed and (ii) a variable graphics memory clock speed;

receiving a resource compute portion and a resource allocation for each of the plurality of physical computing resources over a period of time;

determining a single usage value for the plurality of physical computing resources over the period of time by:

calculating, using one or more processors, a utilization for each of the plurality of physical computing resources based at least on the one or more resource attributes of each respective physical computing resource of the plurality of physical computing resources;

generating, for each respective physical computing resource of the plurality of physical computing resources and based at least on the resource allocation and the resource compute portion of each respective physical computing resource, a conversion unit;

normalizing, for each respective physical computing resource of the plurality of physical computing resources and using at least a conversion unit associated with the respective physical computing resource, the utilization associated with the respective physical computing resource; and

summing the normalized utilizations for each of the plurality of physical computing resources to generate the single usage value representative of the plurality of physical computing resources over the period of time.

2. The method of claim 1, wherein the plurality of physical computing resources includes a plurality of disparate physical computing resources.

3. The method of claim 1, wherein the plurality of physical computing resources further comprises one or more of a field programmable gate array, an application-specific integrated circuit, a system on chip, a digital signal processor, a microcontroller, or an adaptive compute acceleration platform.

4. The method of claim 1, wherein normalizing the utilization for each respective physical computing resource further comprises dividing the utilization for a respective physical computing resource by a conversion unit associated with that respective physical computing resource, the conversion unit being resource allocation divided by resource compute portion for that respective physical computing resource.

5. The method of claim 1, further comprising:

determining, for each available physical computing resource of the plurality of physical computing resources, one or more available resource attributes;

determining a single available resource value representative of a maximum of available resources in the plurality of physical computing resources over the period of time;

calculating, using the one or more processors, an availability utilization for each available physical computing resource of the plurality of physical computing resources based at least on the one or more available resource attributes;

normalizing, for each respective available physical computing resource and using at least the conversion unit associated with the respective available physical computing resource, the availability utilization associated with the respective available physical computing resource; and

summing the normalized availability utilization for each of the available physical computing resources to generate the single available resource value.

6. At least one computer readable storage medium having one or more instructions stored thereon, which, when executed by one or more processors, cause one or more operations to be carried out, the operations comprising:

receiving one or more resource attributes for each of a plurality of physical computing resources, the plurality of physical computing resources including at least one graphics processing system, the graphics processing system having as resource attributes (i) a graphics processor variable clock speed and (ii) a variable graphics memory clock speed;

receiving a resource compute portion and a resource allocation for each of the plurality of physical computing resources over a period of time;

determining a single usage value for the plurality of physical computing resources over the period of time by:

calculating, using the one or more processors, a utilization for each of the plurality of physical computing resources based at least on the one or more resource attributes of each respective physical computing resource of the plurality of physical computing resources;

generating, for each respective physical computing resource of the plurality of physical computing resources and based at least on the resource allocation and the resource compute portion of each respective physical computing resource, a conversion unit;

normalizing, for each respective physical computing resource of the plurality of physical computing resources and using at least a conversion unit associated with the respective physical computing resource, the utilization associated with the respective physical computing resource; and

summing the normalized utilization for each of the plurality of physical computing resources to generate the single usage value representative of the plurality of physical computing resources over the period of time.

7. The computer readable storage medium of claim 6, wherein the plurality of physical computing resources includes a plurality of disparate physical computing resources.

8. The computer readable storage medium of claim 6, wherein the plurality of physical computing resources further comprises: one or more of a field programmable gate array, an application-specific integrated circuit, a system on chip, a digital signal processor, a microcontroller, or an adaptive compute acceleration platform.

9. The computer readable storage medium of claim 6, wherein normalizing the utilization for each respective physical computing resource further comprises dividing the utilization for a respective physical computing resource by a conversion unit associated with that respective physical computing resource, the conversion unit being resource allocation divided by resource compute portion for that respective physical computing resource.

10. The computer readable storage medium of claim 6, wherein the operations further comprise:

determining, for each available physical computing resource of the plurality of physical computing resources, one or more available resource attributes;

determining a single available resource value representative of a maximum of available resources in the plurality of physical computing resources over the period of time;

calculating, using the one or more processors, an availability utilization for each available physical computing resource of the plurality of physical computing resources based at least on the one or more available resource attributes;

normalizing, for each respective available physical computing resource and using at least the conversion unit associated with the respective available physical computing resource, the availability utilization associated with the respective available physical computing resource; and

summing the normalized of availability utilization for each the available physical computing resources to generate the single available resource value.

11. The computer readable storage medium of claim 6, wherein the resource compute portion and the resource allocation for at least one of the plurality of physical computing resources is received via one or more plugins.

12. The computer readable storage medium of claim 6, wherein the operations further comprise determining one or more of a peak usage, a trough usage, or an average usage corresponding to each physical computing resource over the period of time.