

Computer Cluster Policy

This document contains:

- Intent of policy
- Computer cluster criteria
- Purchasing a cluster
- Tagging a cluster
- Making repairs to existing clusters
- Expanding and/or upgrading an existing cluster
- Cluster FAQs
- Contact Information

Intent of policy:

The purpose of this policy is to clarify the process for acquiring components used to build a computer cluster. A computer cluster is a group of linked computers, working together as single unit. Compared to a single super computer, clusters afford performance and availability more cost-effectively. Property Services recognizes recent advances in high-speed networks and improved microprocessor performance are making clusters appealing option for data and bandwidth intensive computer needs.

Capitalization Criteria for Computer Clusters

For a computer cluster to be classified as equipment it must:

- meet unique specifications (typically as outlined in a research proposal or award),
- have a total cost of \$5,000 or more,
- be a stand-alone system (not affixed permanently to a building or structure,
- have a useful life or two years or more, and
- have all integral parts physically located together (they are not spread in multiple sites, buildings, or rooms).

Purchasing a cluster:

Property Services recognizes it is more cost effective to buy individual components, often from different vendors, to build a cluster than to purchase as “ready-made” system from a

single vendor. This approach usually results in different purchase orders and/or invoices placed with different vendors. Additionally, it is also possible some of the individual orders will be for components with costs below the capitalization threshold (\$5000, or more).

To prevent potential delays in processing purchase requisitions, Property Services recommends:

- For all purchases relating to a cluster, use the expenditure type of “Equipment-Caltech.”
- If the orders are from different vendors or are on different invoices, make sure the first invoice or requisition describes the cluster. It should also allude to the existence of other related invoices and or requisitions.
- All other subsequent purchases should reference the original invoices or requisition numbers. Use the “Equipment-Caltech” expenditure type for each order.

This approach:

- Ensures overhead will not be applied to cluster components,
- Allows Property Services to track the cluster as one item of equipment, and
- Prevents the need for setting up a fabrication account for the cluster (See Fabrication Policy for more information).

Tagging a cluster:

Alert Property Services as soon as the cluster is built and it is ready to be put to service. Property Services will affix a single barcode tag to the main component of the cluster (i.e., equipment rack, head-node, or interconnect switch).

Making repairs to an existing cluster:

If any component of the cluster needs replacement due to damage or failure, regardless of cost, code the expenditure type for the purchase as “Equipment-Maintenance.” Repairs and/or replacements do not add to the life of the asset. Thus, Caltech expenses these costs. Coding these properly helps ensure the appropriate total value of the cluster is being used for accountability and depreciation expense purposes.

Expanding and/or upgrading an existing cluster

When purchasing of additional computer units (nodes) and/or related components with intention of adding them to an existing cluster, code the expenditure type as “Equipment Caltech” only if:

- The additional nodes or components purchased are not replacing any pre-existing component within the cluster.

- The total cost of the expansion or upgrade is \$5,000 or more.
- The expansion or upgrade extends the original cluster's useful life by more than two years.
- The award funding the purchase grants title to equipment to Caltech. If this is not the case, contact Property Services before placing the order.

Make a note of the asset tag number of the cluster expanded or upgraded by this purchase on either the requisition or the invoice.

Cluster FAQs:

Q: Can peripherals be included in the cost of a cluster?

A: Peripherals such as a mouse, keyboard, printer, cabling, interconnect switches, and a rack can be included as capitalized components of a cluster. You need to order them before the cluster is put to use for the first time (placed in service). If peripheral items are ordered individually (i.e. without an accompanying computer node), and after the cluster is placed in service, they cannot be included in the cost of the cluster. Classify these kinds of purchases as "Supplies Allocable."

Q: Can a desktop computer be included in a cluster?

A: Yes, as long as all of the cluster criteria are met.

Q: Can a laptop computer be included in a cluster?

A: Yes, as long as the laptop will be a permanent and integral component of the cluster (the cluster cannot function at any time without it).

Q: If purchased on a sponsored award, will clusters be subject to indirect cost (F&A – Facilities and Administrative Costs)?

A: No, capitalized equipment is not subject to indirect cost (Facilities and Administrative Costs).

Q: I accidentally purchased computers for a cluster and did not code the expenditure type as "Equipment-Caltech." How can I fix it?

A: Work with Property Services to fix the error. Property Services will initial the correction process only if the purchases meet the criteria for computer clusters stated in this policy.

Q: What happens if the cluster is "de-clustered" (i.e. broken apart or cannibalized)?

A: A cluster ceases to exist as capitalized equipment once it is taken apart. The cluster will need to be retired from Caltech's books. Consult with Property Services before taking apart a cluster.

Q: Do the components of a computer cluster each have to have a cost of \$5,000 or more?

A: No, the components can be of any cost as long as the conditions of the cluster policy are met.

Contact Information:

Property Services Department

Mail Code 211-15

(626) 395-4181