

Compute Hardware Lifetime Extension Policy for the Illinois Campus Cluster

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Overview and Justification:

When an Investor purchases new computing or storage hardware, there are two separate fees assessed: 1) the cost of the actual hardware including a manufacturer's warranty (typically set to five years but can be negotiated to a longer period), and 2) an infrastructure fee that is designed to pay for shared costs in terms of physical space, device enclosures, and shared computing hardware that provide services (e.g. networking) to the compute nodes. The infrastructure fee is designed to support shared costs for a five-year period, after which the hardware is retired and returned to the Investor. Under this policy, the life of the hardware may be extended beyond the five-year period when requested by the Investor, and the Investor agrees to pay additional warranty and infrastructure fees for the additional time the hardware is housed within the Campus Cluster.

Technical Details:

Definitions:

Investor Group ("Investors"): Faculty and/or units who, individually or as a group, invest in shared computing resources as part of the Illinois Campus Cluster Program (ICCP). As referred to in this document, "Investor" is assumed to include both the Investor and any designated representatives. The Investor, or their designee, represents their interests as part of the Investor Forum.

Compute Hardware Lifetime Extension Policy

During the initial purchase of new computing or storage hardware, the Investor pays the cost of the hardware, including a manufacturer's warranty, as well as an infrastructure fee to support shared costs for a five-year period. At the end of the initial five-year period, the Investor may request that the lifetime of the compute hardware be extended beyond the initial period. The Investor may request extensions in year-long increments (e.g. a one year extension or a two year extension). In doing so, the Investor agrees to pay an additional infrastructure fee to cover the additional time the compute equipment will be housed. The Investor also agrees to pay to extend the warranty on the compute hardware for the same period of time. This extended warranty covers repair or replacement of any failed node components for the duration of the period of the extended warranty purchased.

Initial Costs

Monthly infrastructure fees will be based on then-current rates which are posted on the Illinois Campus Cluster Program website (<https://campuscluster.illinois.edu/access/buy-compute/>) or can be requested from the program office. Alternative to a monthly charge, these fees can be paid in a lump sum upfront for one or two years if being paid on a non-grant fund. Costs for warranty extensions will be hardware-specific and, when requested by an Investor, ICCP staff will interact with the manufacturer to determine the yearly cost of extension.

Changes to Infrastructure

It is possible that due to changes in technology or space allocations, a particular set of the shared infrastructure hardware on the Campus Cluster may need to be discontinued, or subsets of nodes may become ineligible for continued operations. This change may require that older hardware be retired. In this case, the Executive Steering Committee (ESC) must agree to the decision regarding retirement of part of the Campus Cluster infrastructure and/or the ineligibility of nodes for continued service. Situations that could prevent a node's lifetime from being extended include, but are not limited to, lack of vendor support and incompatibility with the cluster's InfiniBand fabric. In such cases, the ESC will give notice of at least one year to Investors and in this case may refuse to extend the lifetime of any hardware beyond its initial, five-year lifetime. Should an Investor elect a two-year node lifetime extension, it is possible for the ESC to cut short that lifetime extension should the nodes be deemed ineligible for continued operations. When retirement occurs, the hardware will be retired following procedures defined in the relevant Service Level Descriptions.

Proposed Timeline:

The new policy will be in force for any hardware that reaches its lifetime limit after approval by the ESC.

Impacts of the Policy:

There is a small risk of additional staff time required to manage older hardware.

Estimated Costs to Implement the Policy:

There are no anticipated additional costs related to the policy that are not covered by warranty renewal and infrastructure fees.