# Design Document: Statistics Monitoring

## Motivation

Each HTCondor daemon keeps important statistics of its internal state and activities. These statistics have been present for several years (greatly maturing in 2012) but they do not appear to be widely used by sites.

We believe one reason is that the task of integrating the HTCondor statistics into the site monitoring system is left to the sysadmins. This task is not trivial and requires some amount of expertise.

This design document proposes a generic framework for pushing statistics from HTCondor into monitoring systems and an implementation of this framework for Ganglia.

## Architecture and Implementation

A new “hook” mechanism will be added to HTCondor. This hook will launch a script periodically and receive a ClassAd via stdin. The ClassAd passed will contain all of the published statistics for the local daemon.

The hook’s stdout and stderr will be logged, as well as its exit code. The hook will be sent SIGKILL after a configurable timeout. No more than one hook will be launched at a time. DaemonCore will be responsible for handling the sub-process to prevent blocking the daemon.

One hook will be provided by default: Ganglia integration. This will be a simple libgmond-based hook. The libgmond library gives us a simple API to access the worker node’s Ganglia configuration and sending Ganglia UDP packets.

## Effort Estimate

These effort estimates are prepared based on “Brian Bockelman CPU time” after approximately 4 hours of prototyping libgmond integration.

* Implementing new hook – 1 day
* Implementing Ganglia callout – 4 hours
* Unit tests and CMake integration – 1 day