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LDMS USER GROUP MEETING

AUGUST 28, 2023

BEST PRACTICES

1. Best practices and common configuration tools and approaches for generalized LDMS deployments
 1. Discuss a path forward for collaboratively developing a common configuration approach for resilient large-scale deployment in HPC environments. Example:
 1. Identify successful large-scale deployments and document approaches to configuration, deployment, and management
 2. Identify characteristics of configuration and management associated with difficult deployments
 3. Define and develop solution(s) that remove problematic associations and utilize/improve upon successes
 2. Put sub-working group together to:
 1. focus on identification, development, and testing of promising solutions
 2. report back to larger group as progress warrants

BEST PRACTICES

- How to test/query/monitor current configuration
- How to push out configuration changes
- How to manage aggregators (Maestro) vs. Samplers (currently “manual”)
 - What about resiliency and load balancing for configuration management tools
- Need some tools updates for testing and sharing currently running software version
- Need HPE on board to ensure that HSM/LDMS works and manageable
- What is the boundary between the running configuration and “static” configuration that is store on disk
 - Maestro manages a configuration in etcd (distributed database)
 - Maestro does poll entities under its control/management
 - Sampler configuration will be configured with a “file” using the -c option for systems at scale

BEST PRACTICES DISCUSSION

- Tom Tucker
 - We seem to be missing some elements of the configuration, specifically what is the set of all running daemons, roles, deployment, etc..
- Jim Brandt
 - What are the currently used tools and use cases?
 - Let's get that all documented and shared for the community at large
- Chris Morrone
 - Should not become the "Maestro" working group
 - Some entities will not be using Maestro at all
- Evan Donato
- Cory Lueninghoener
 - How do we appropriately managing/integrating Maestro based configuration vs. Ansible, Chef, etc...?
 - It would be nice to have initial working configuration and tools for the various use cases

MULTI-TENANCY (COMPUTE NODES MAY RUN MULTIPLE JOBS/USERS)

1. Define realistic use-case scenarios to drive data collection/attribution at sub-node and possibly subsystem levels (e.g., CPU, GPU, and memory resources)
2. Identify gaps in current LDMS ecosystem with respect to accommodation of multi-tenant use case scenarios
3. Put sub-working group together to:
 1. focus on identification of resources to engineer and develop solutions to fill gaps
 2. provide timeline estimates
 3. report back to larger group as progress warrants

MT DISCUSSION



- Mike Showerman
 - Current data definitions in use are insufficient to properly handle MT
 - What data is even available for each job on a system, e.g. meminfo, vmstat are systemwide
 - Others are, e.g. GPUS, CPUS
 - Employ cgroups as part of our sampler infrastructure
- Jim Brandt
 - What capabilities do we currently have vs. what we need to create
- Chris Morrone
 - Need to explore data labelling at the outset

GOING FORWARD



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- Jim will send out Doodle polls for each WG and interested parties will respond.