1. Cloud run restart (startup latency != 0)
   A Cloud Run restart with non-zero startup latency can be caused by various factors. Startup latency refers to the time it takes for a service to start up or initialize. Here are some potential conditions and solutions:

   Scaling Events: If your Cloud Run service is configured to auto-scale based on incoming requests, sudden increases in traffic can trigger new instances to start, resulting in a non-zero startup latency. You can consider adjusting the scaling settings or implementing warm-up requests to keep instances ready.

   Resource Constraints: If the underlying infrastructure or resources allocated to your Cloud Run service are insufficient, it may lead to longer startup times. Check if your service has enough allocated resources (CPU and memory) to handle the workload. Consider adjusting the resource allocation if necessary.

   Cold Starts: Cloud Run uses containerization, and instances might experience cold starts when they are starting up or restarting. Cold starts can occur when there is no existing instance to handle a request, leading to increased latency. You can mitigate cold starts by implementing warm-up requests or using strategies such as keeping a minimum number of instances running.

   Dependency Initialization: If your service depends on external dependencies or resources, delays in initializing these dependencies can contribute to non-zero startup latency. Ensure that your dependencies are properly configured and optimized. You may also consider asynchronous initialization if certain tasks can be performed after the service has started.

   Large Application Codebase: A large codebase or dependencies that take time to load can contribute to longer startup times. Optimize your application code and dependencies for faster initialization. You might also consider breaking down your application into smaller services if appropriate.

   Network Latency: If your Cloud Run service relies on external services or APIs, network latency can contribute to startup delays. Optimize the network calls, and consider using asynchronous or parallel processing for tasks that involve external services.

   To resolve Cloud Run restarts with non-zero startup latency:

Review your service's scaling settings and adjust them based on your traffic patterns.

Ensure that your service has sufficient allocated resources.

Implement warm-up requests to keep instances ready.

Optimize dependencies and external services to minimize initialization times.

Consider asynchronous initialization for tasks that can be deferred.

Monitor and optimize your application code for faster startup.

By addressing these factors, you can reduce the likelihood of Cloud Run restarts with non-zero startup latency.