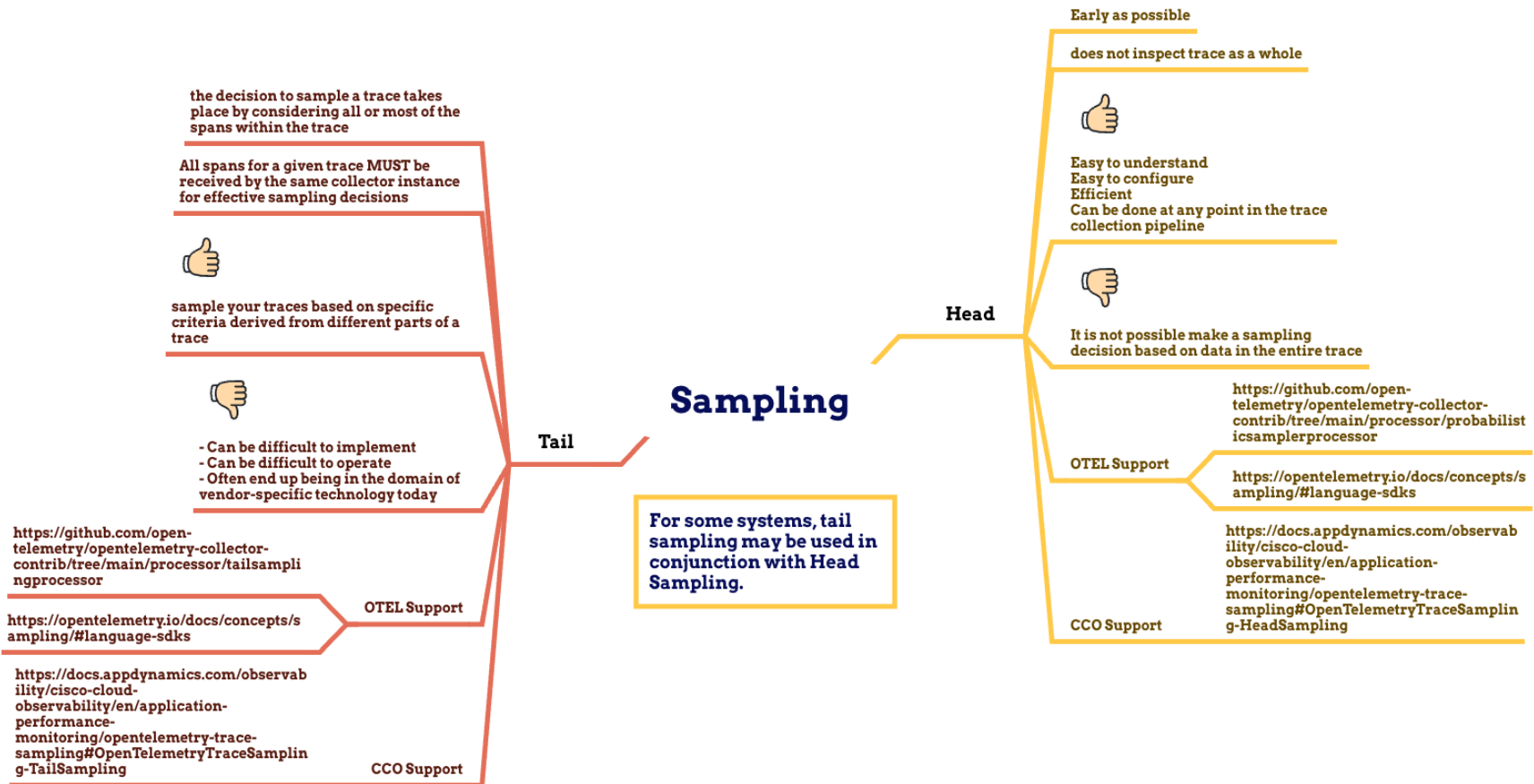- Manage costs
- Focus on interesting traces
- Filter out noise

Sampling

Tail

the decision to sample a trace takes place by considering all or most of the spans within the trace

All spans for a given trace MUST be received by the same collector instance for effective sampling decisions

👍

sample your traces based on specific criteria derived from different parts of a trace

👎

- Can be difficult to implement
- Can be difficult to operate
- Often end up being in the domain of vendor-specific technology today

OTEL Support

https://github.com/open-telemetry/opentelemetry-collector-contrib/tree/main/processor/tailsamplingprocessor

https://opentelemetry.io/docs/concepts/sampling/#language-sdks

CCO Support

https://docs.appdynamics.com/observability/cisco-cloud-observability/en/application-performance-monitoring/opentelemetry-trace-sampling#OpenTelemetryTraceSampling-TailSampling

For some systems, tail sampling may be used in conjunction with Head Sampling.

Head

Early as possible

does not inspect trace as a whole

👍

Easy to understand
Easy to configure
Efficient
Can be done at any point in the trace collection pipeline

👎

It is not possible make a sampling decision based on data in the entire trace

OTEL Support

https://github.com/open-telemetry/opentelemetry-collector-contrib/tree/main/processor/probabilisticsamplerprocessor

https://opentelemetry.io/docs/concepts/sampling/#language-sdks

CCO Support

https://docs.appdynamics.com/observability/cisco-cloud-observability/en/application-performance-monitoring/opentelemetry-trace-sampling#OpenTelemetryTraceSampling-HeadSampling

https://opentelemetry.io/docs/concepts/sampling/