

OpenTelemetry

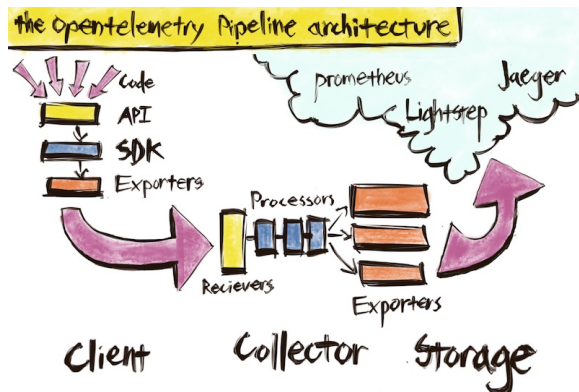
Distributed Tracing GoogleTracingNetflixOpenTracingGoogleOpenCensusOpenTelemetryotel

1. [OpenTracing](#)
2. [OpenTelemetry](#)

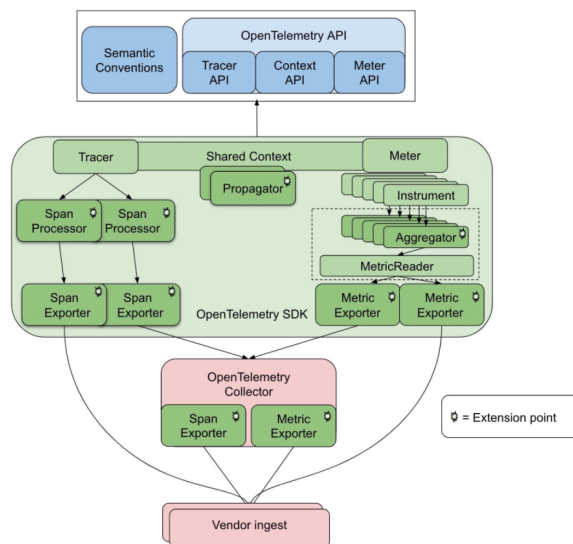
TracingOpenTelemetryGolang

1. <https://github.com/open-telemetry/opentelemetry-go>
2. <https://github.com/open-telemetry/opentelemetry-go-contrib>

Jaeger/Prometheus/GrafanaOpenTelemetry



OpenTelemetryOpenTelemetry [OpenTelemetry https://github.com/open-telemetry/opentelemetry-specification/blob/main/specification/trace/api.md](https://github.com/open-telemetry/opentelemetry-specification/blob/main/specification/trace/api.md)



TracerProvider

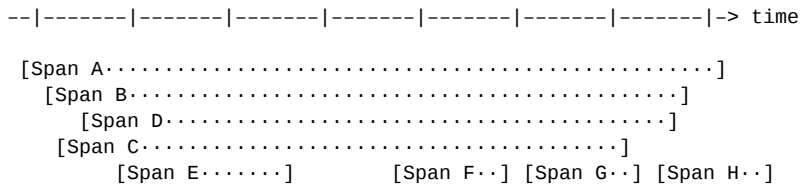
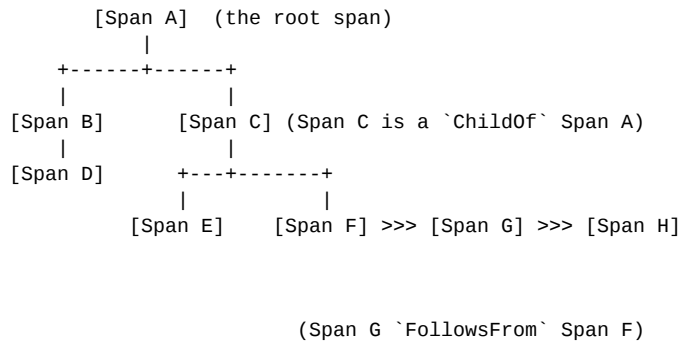
TracerTracerProvider (NoopTracerProvider)Tracer

Tracer

Tracertracerspan8spantracer:

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Tracer

```
gtrace.NewTracer(tracerName)
```

Span

Spanspanhttpspan:

- operation name
-
- K/VTags
- K/VLogs
- SpanContext

SpanSpan

```
gtrace.NewSpan(ctx, spanName, opts...)
```

Attributes

AttributesK/V http.method="GET",http.status_code=200keyvalue spanAttributes Sp
anContextspan Attributes

```
span.SetAttributes(
    label.String("http.remote", conn.RemoteAddr().String()),
    label.String("http.local", conn.LocalAddr().String()),
)
```

Events

EventsAttributesK/VAttributesEventsEventsEventsEventskeyvalue

```
span.AddEvent("http.request", trace.WithAttributes(
    label.Any("http.request.header", headers),
    label.Any("http.request.baggage", gtrace.GetBaggageMap(ctx)),
    label.String("http.request.body", bodyContent),
))
```

SpanContext

SpanContext

- span_id, trace_id
- Baggage - K/V Baggage Attributes K/V Attributes
 - keyvalue
 - Baggage span SpanContext spanBaggage - spanK, VCPU

Propagator

Propagator/ClientServerTraceIdSpanIdBaggagePropagator/OpenTelemetryTextMapPropagatorTextMapPropagator <https://github.com/open-telemetry/opentelemetry-specification/blob/main/specification/context/api-propagators.md>

GoFrame traceOpenTelemetry

```
// defaultTextMapPropagator is the default propagator for context
// propagation between peers.
defaultTextMapPropagator = propagation.NewCompositeTextMapPropagator(
    propagation.TraceContext{},
    propagation.Baggage{},
)
```



GoFrameOpenTelemetryTracerProviderTracerProviderTracerProviderTraceIDSpanID

HTTP Client	gclient	HTTP
Http Server	ghttp	HTTP
gRPC Client	contrib/rpc/grpcx	gRPC
gRPC Server	contrib/rpc/grpcx	gRPC
Logging	glog	TraceIdglogCtxcontext.Contextcontext.ContextTraceId
ORM	gdb	Orm
NoSQL Redis	gredis	RedisRedis
Utils	gtrace	Tracinggtrace https://pkg.go.dev/github.com/gogf/gf/v2/net/gtrace

- <https://opentracing.io>
- <https://opencensus.io>
- <https://opentelemetry.io>
- <https://github.com/open-telemetry/opentelemetry-specification/tree/main/specification>