Monitoring: Turning Noise Into Signal

{ ACCU Conference 2019

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People

{ Whose job is it anyway?

Dev   Ops

The Great Divide

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Dev+Ops

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Multiple Narratives

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- Architect
- Code
- Test
- Build
- Deploy
- Monitor
- Support

"Full Pipeline Developer"

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Self-Healing Systems

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System

{ What to monitor

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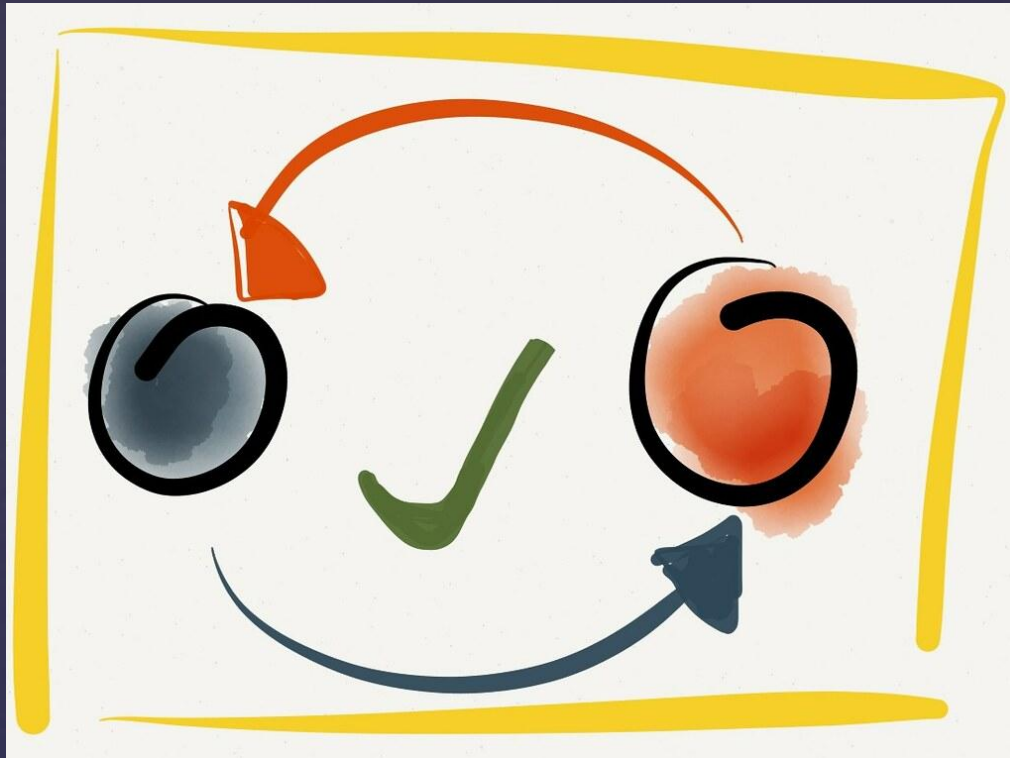
- File I/O
- Network I/O
- Memory consumption
- Computation time
- Queuing time
- Cache efficiency
- Pool usage
- Query execution times
- Feature use
- . . .

Instrument Everything

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Transient Blips
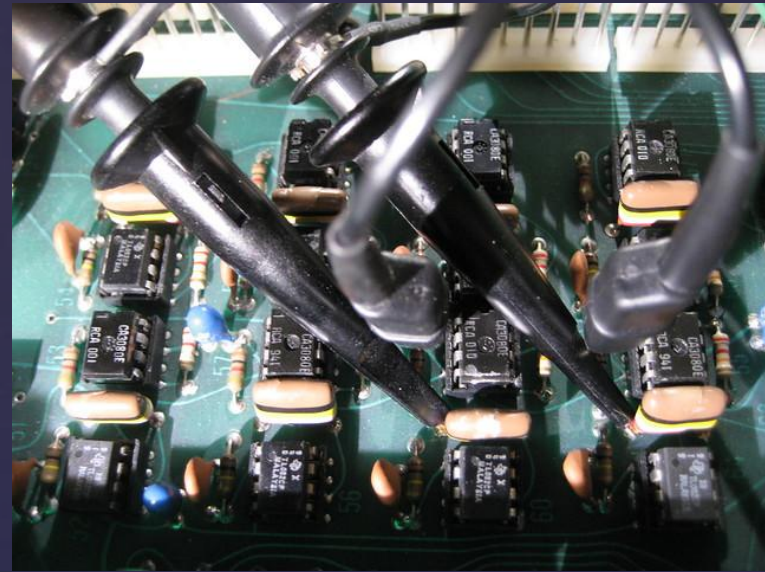
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Long-Term Trends

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Structure

{ How to record events

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```
21:09:47.245 05 INF Fetching orders for customer #42
21:09:47.290 05 DBG Reusing a pooled connection
21:09:47.740 05 DBG Returning connection to pool
21:09:47.745 05 INF Orders fetched in 505 ms
21:09:47.750 05 PRF [Orders=3;Time=505]
```

Free-Text

```
21:09:47.245 05 INF Fetching orders for customer #42
21:09:47.290 05 DBG Reusing a pooled connection
21:09:47.740 05 DBG Returning connection to pool
21:09:47.745 05 INF Orders fetched in 505 ms
21:09:47.750 05 PRF [Orders=3;Time=505]
```

Example events:
- Persistence performance
- Connection pool utilisation

Aggregatable Logging

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```
Timestamp: 21:09:47.740
Name:      connection-pool.reuse.count
Value:     1

Timestamp: 21:09:47.750
Name:      database.orders.read.duration-ms
Value:     505
```

Minimal Event Structure

`<component...>.<operation>.<type>`

- `database.orders.read.duration-ms`
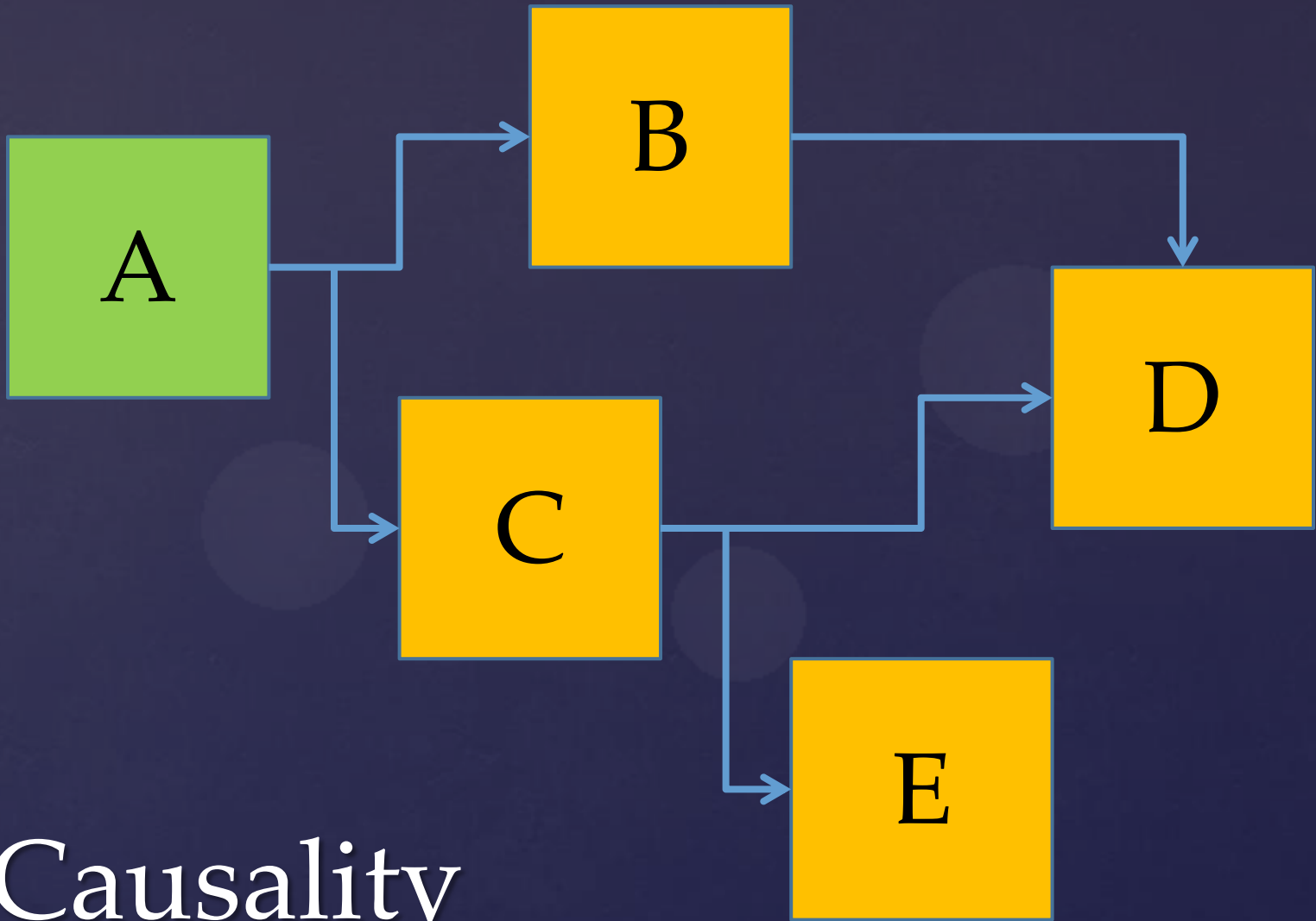- `connection-pool.reuse.count`

Naming

```
Timestamp: 21:09:47.750
Name:      database.orders.read.duration-ms
Value:     505

Context:
    CustomerId:    42
    CorreationId:  38563-83902
    OrdersFetched: 3
```

Diagnostic Context

Causality

```
Timestamp: 21:09:56.934
Name:       http-request.duration-ms
Value:      390

Summary:
    Authentication: 100
    Database:       280
    Calculation:    10
```
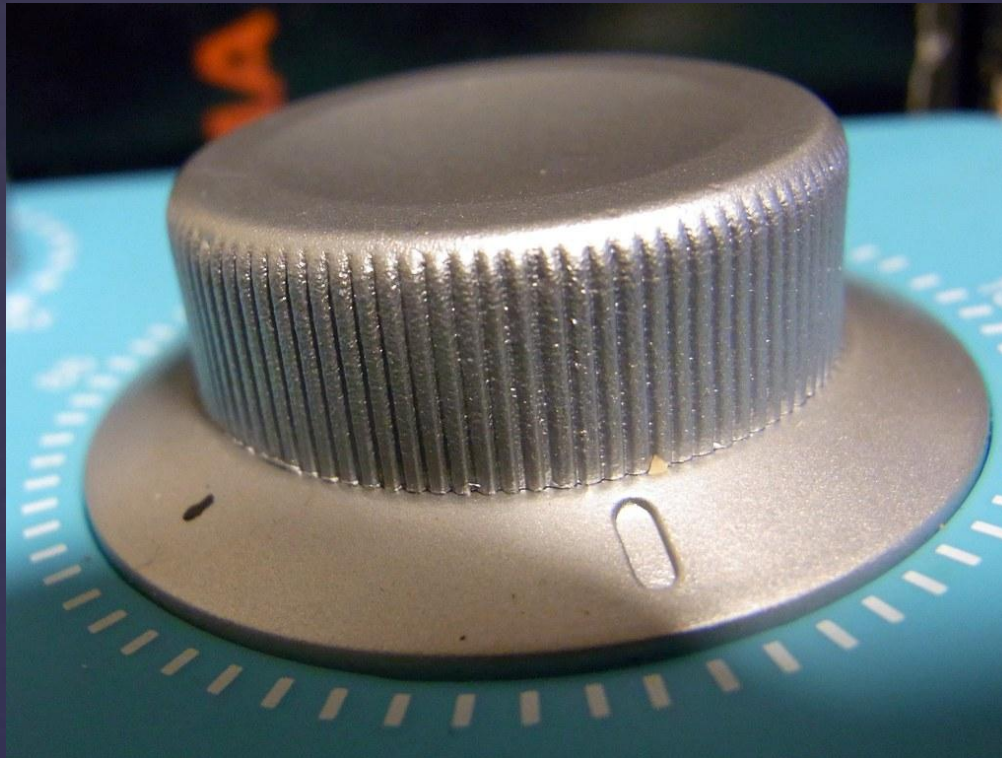
Local Aggregations

Noise Reduction

{ Improving visibility

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Incremental Improvements

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http://chrisoldwood.com/articles.htm

{ Event: "Talk.Ended" }

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