An IT Operations Approach to Observability

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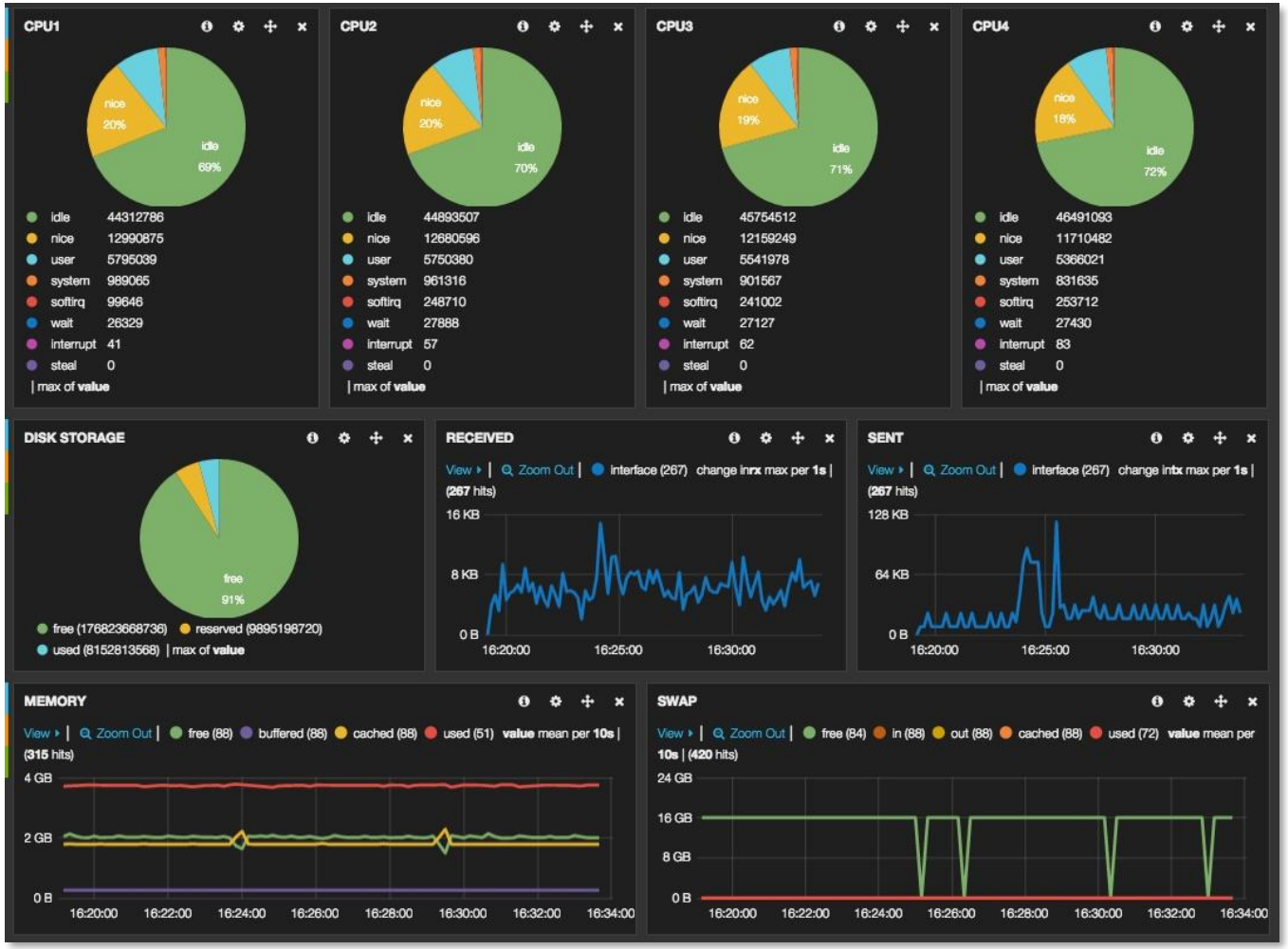
An IT Operations Approach to Observability

- What is observability?
- How can I apply it?
- How do I measure?
- How can I act on it?

What is observability?

Single pane of glass



What is observability?

Single pane of glass

- Is the environment healthy or not?
- What is normal or anomalous?
- Is the environment efficient?
- What does any of this mean?

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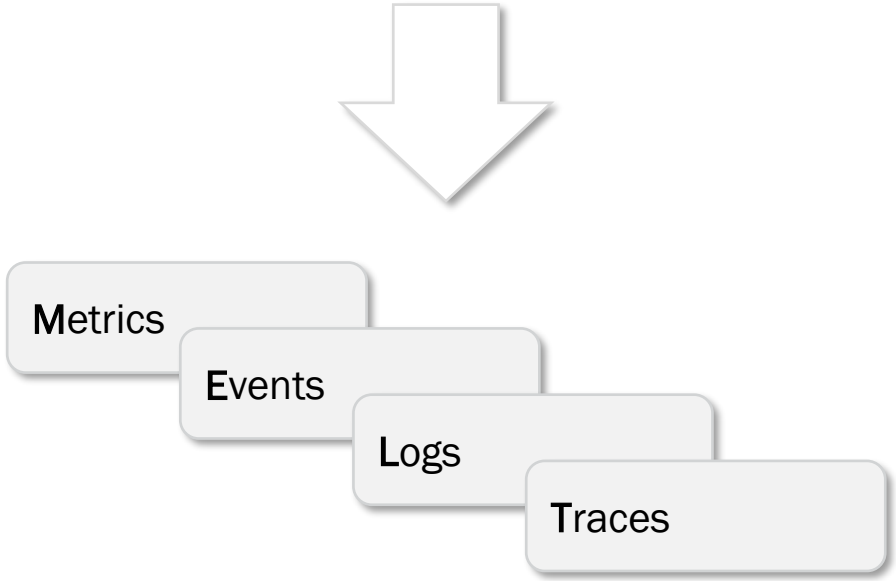

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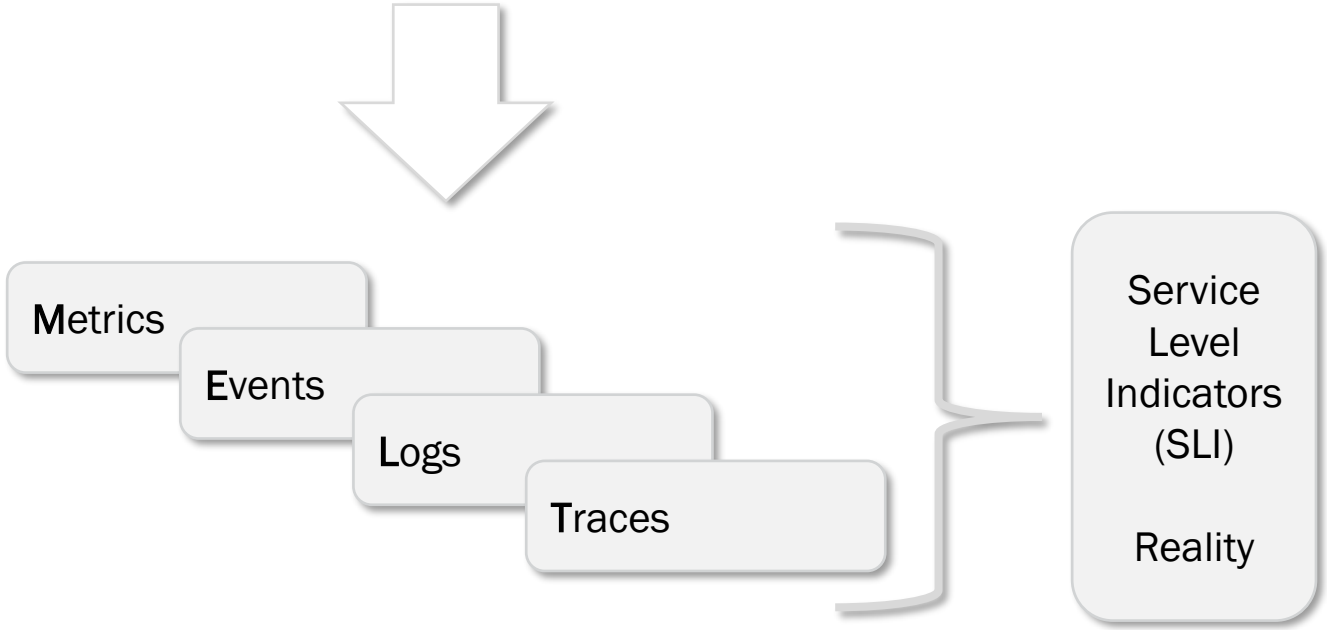

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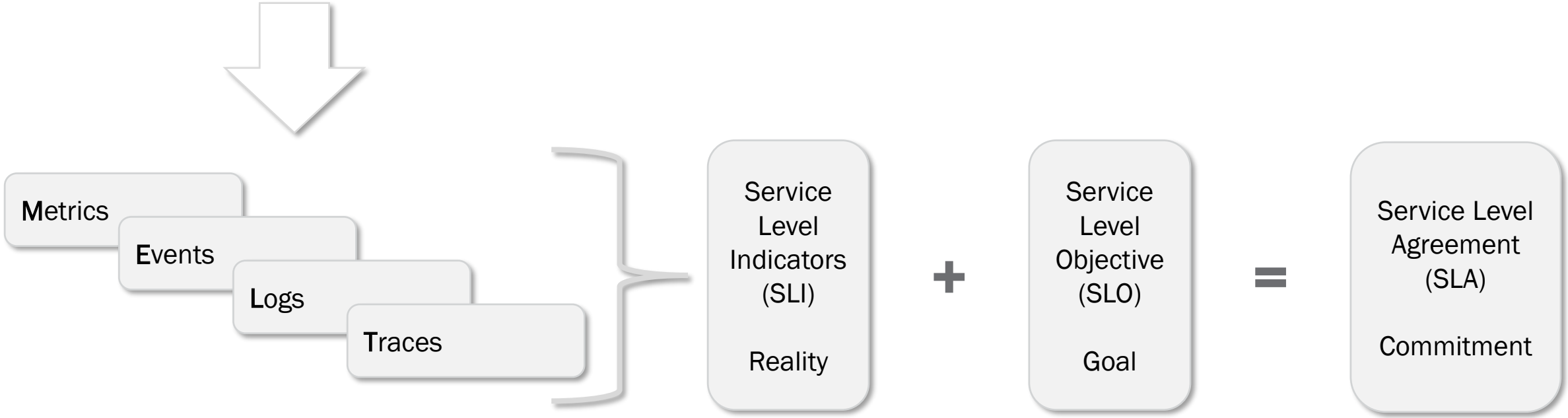

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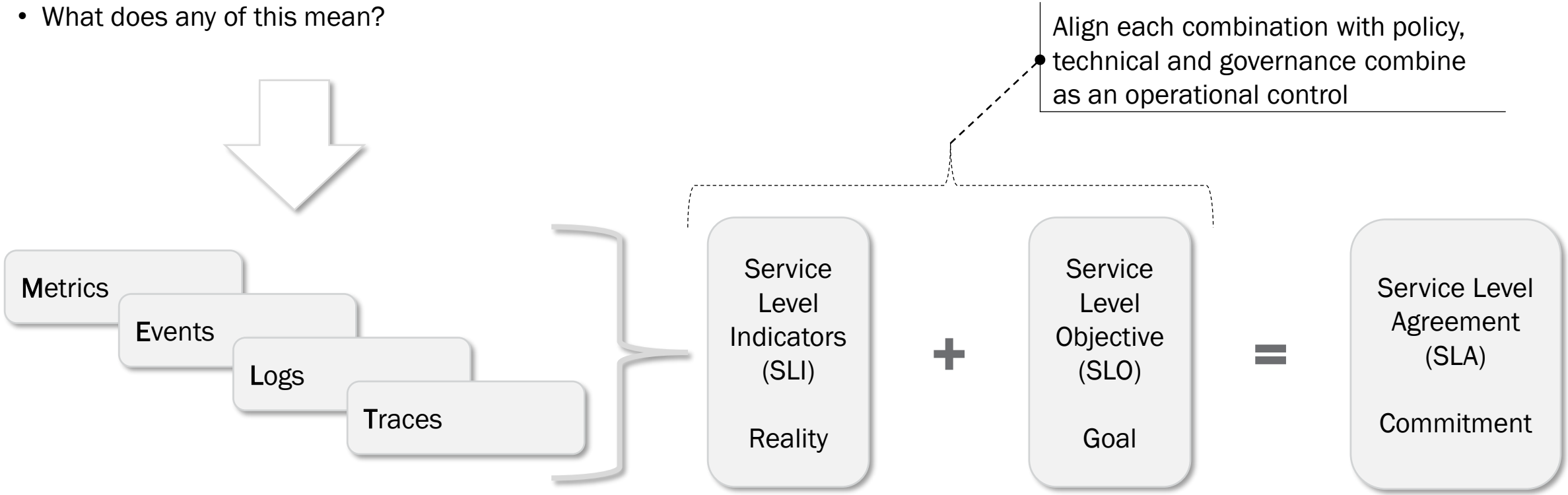

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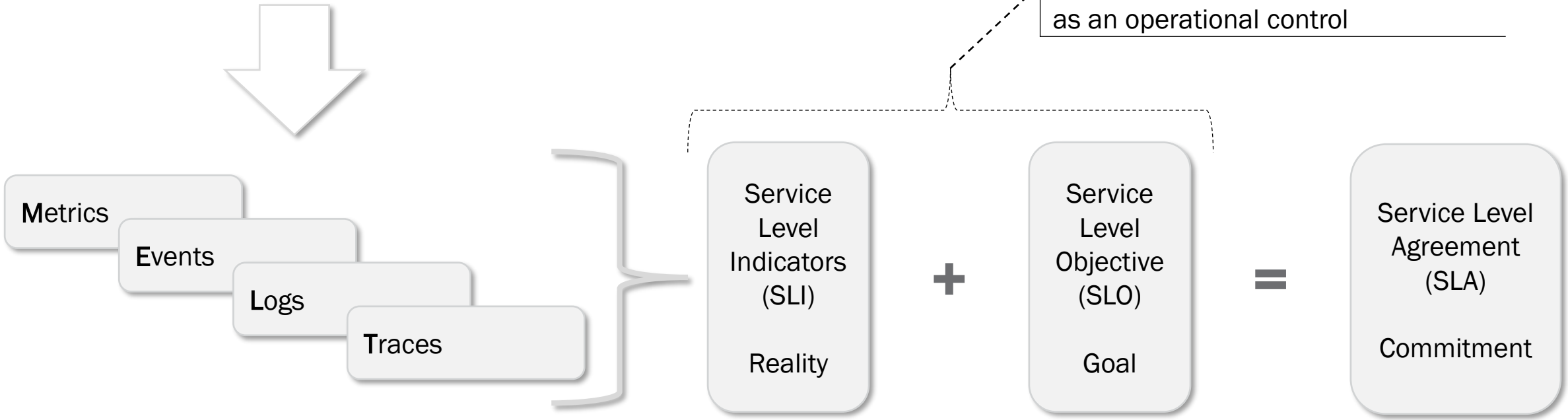
Align each combination with policy, technical and governance combine as an operational control



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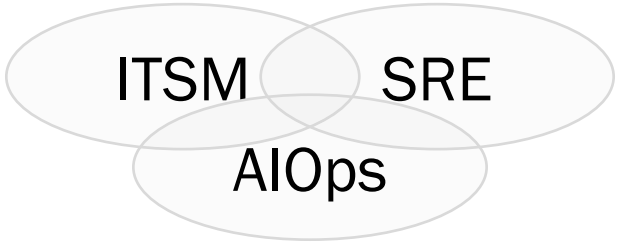

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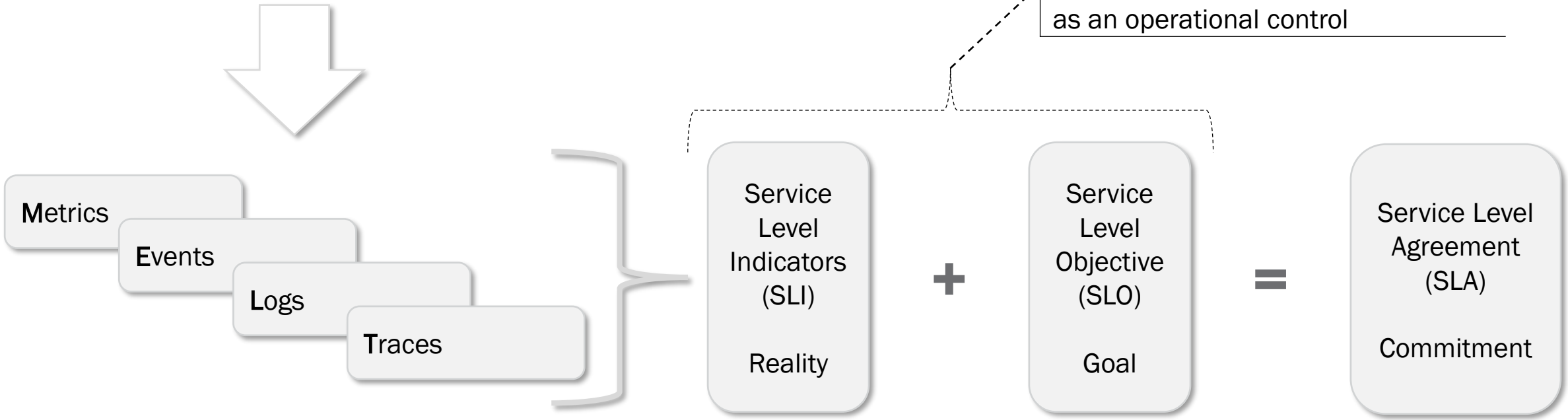
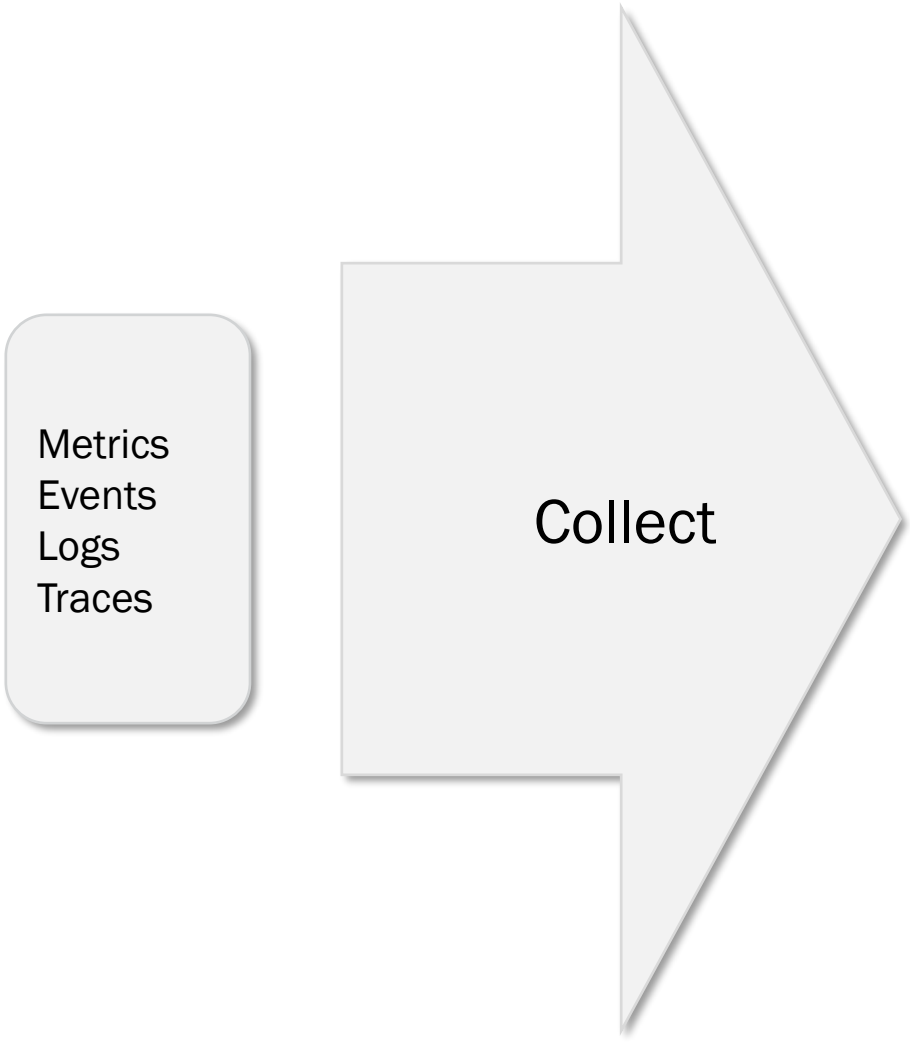


- What is observability?
- How can I apply it?
- How do I measure?
- How can I act on it?

How can we apply it?

SLI
+
SLO
=
Control

How can we apply it?



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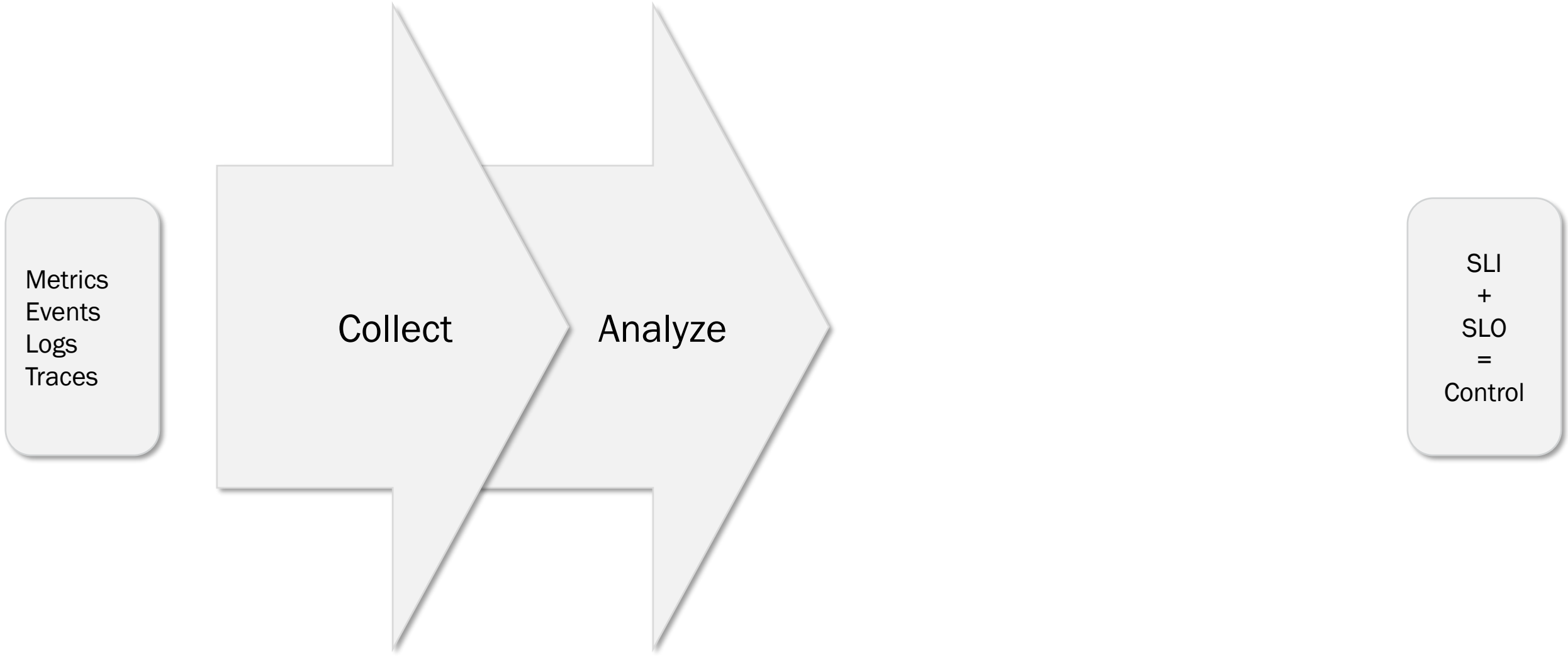

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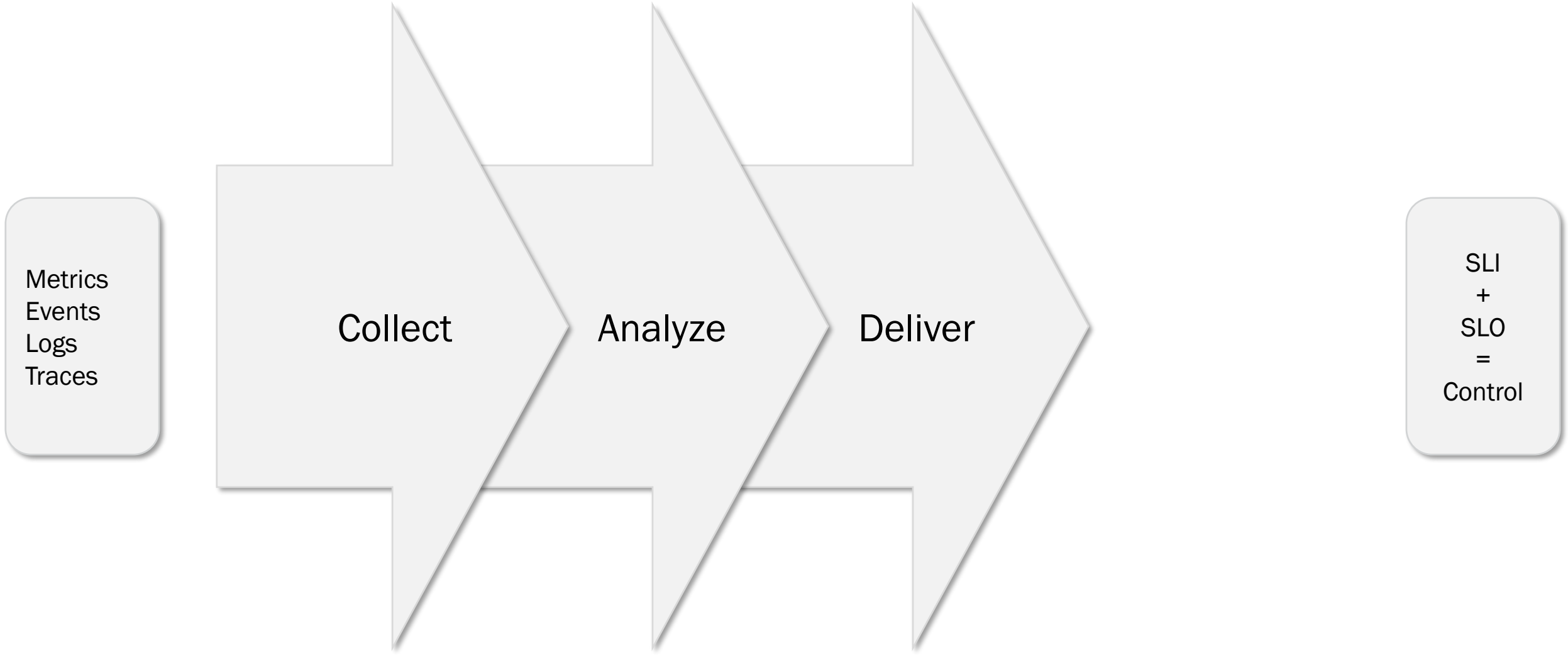

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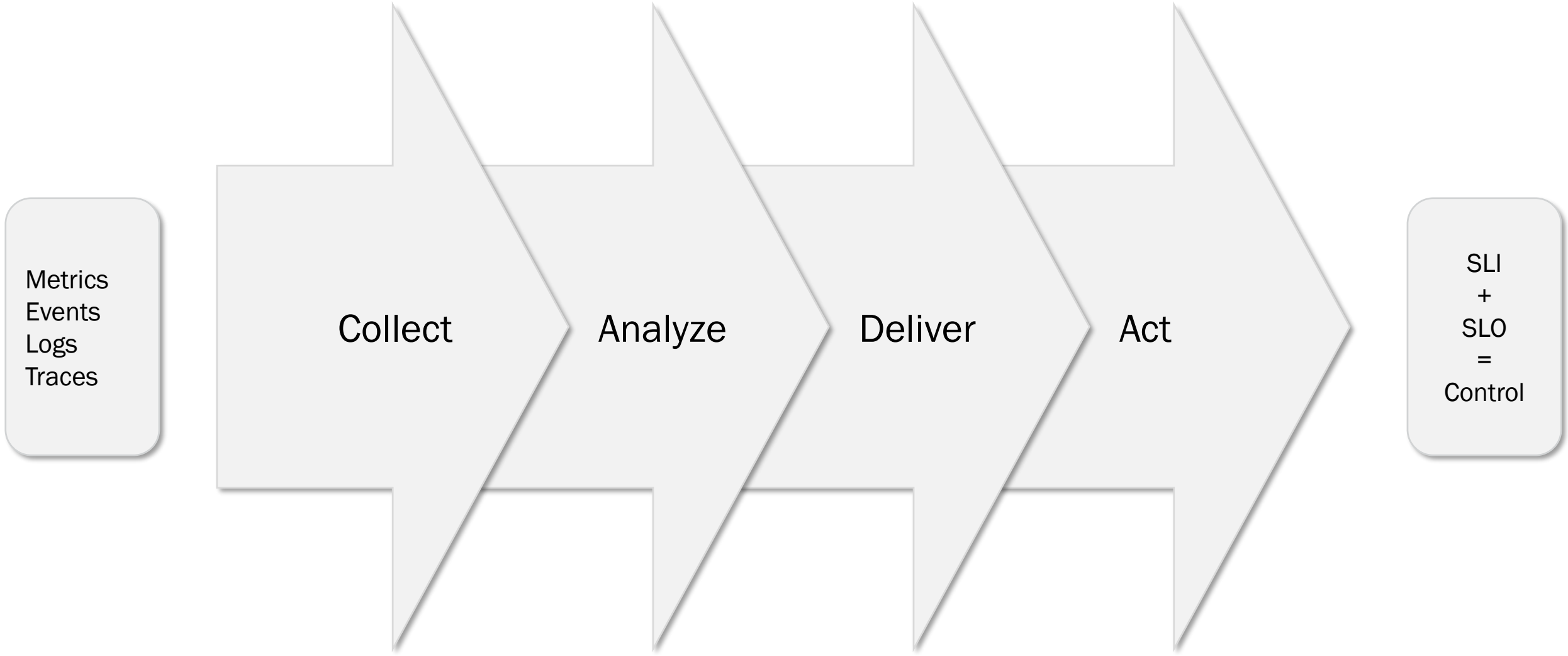

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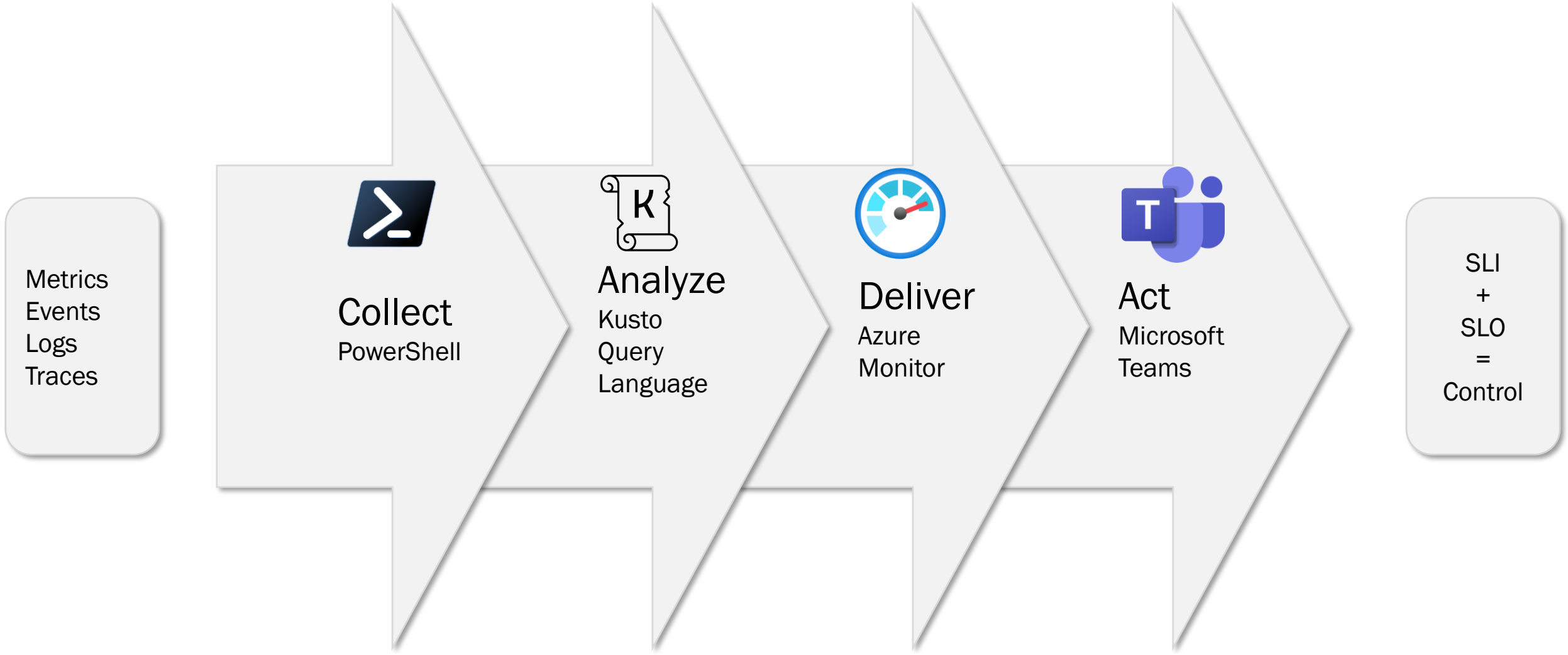

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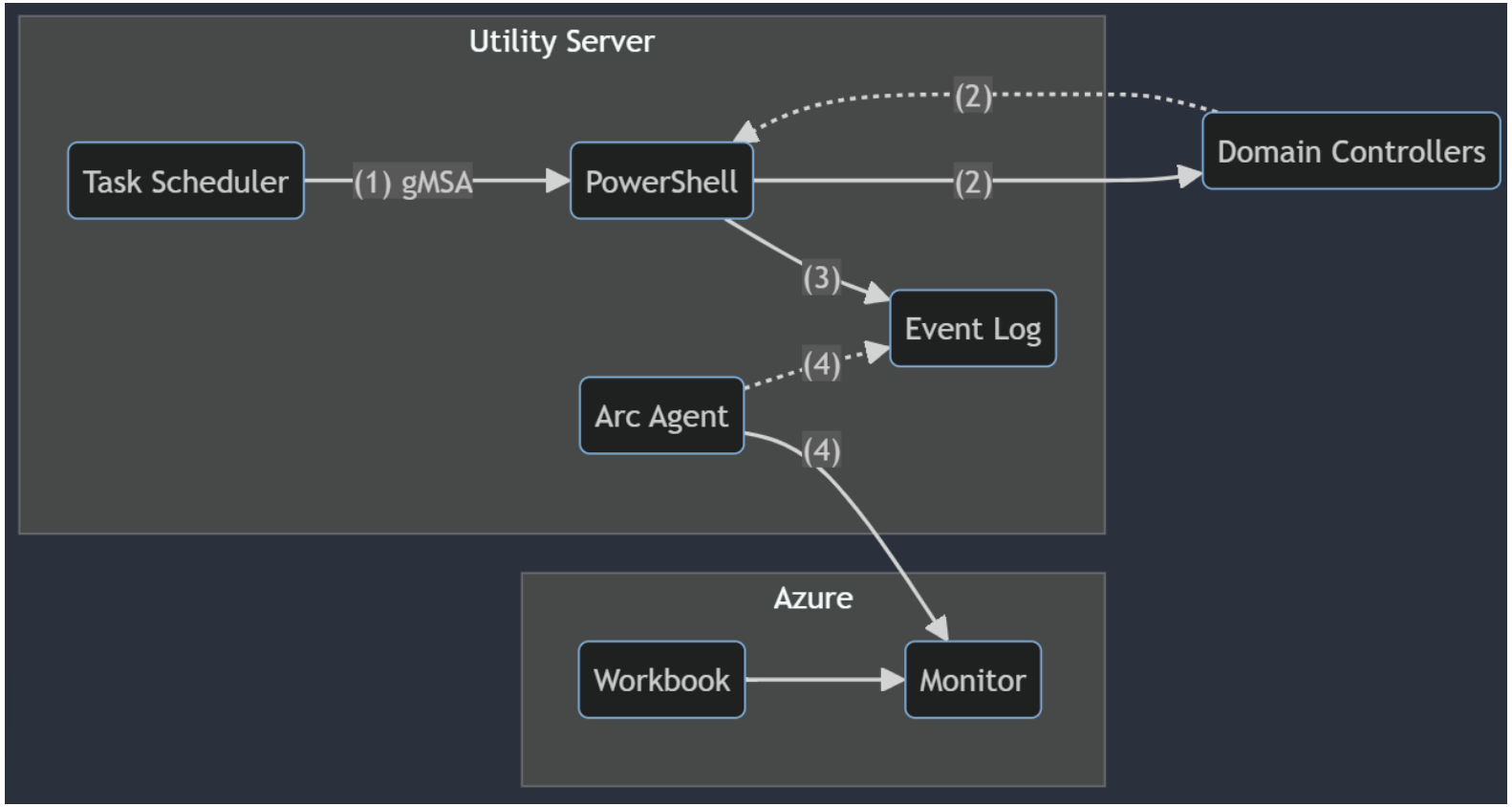
- How can I apply it?
- How do I measure?
- How can I act on it?

How do I measure?

MELT

Collect



Controls (SLI + SLO)

How do I measure?

MELT

Collect

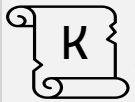
```
[…]`$(Get-ObsAdds400)}`""

$principal = New-ScheduledTaskPrincipal -UserId
"DEMO\Observability$" -RunLevel Highest -LogonType
Password

Register-ScheduledTask "Get-ObsAdds400" -TaskPath
"\Observability" -InputObject $task
```

Controls (SLI + SLO)

How do I measure?

MELT


Collect


Analyze

- Filter Event ID in Event Log for Domain
- Filter Group Policy Objects (GPO) with disabled status

```
Event
| where EventLog == "ObservabilityWithPowerShell"
| where EventID == 400
| project RenderedDescription
| extend detail=todynamic(RenderedDescription)
| where detail.Domain == '{Domain}'
| where detail.GpoStatus == 0
```

Controls (SLI + SLO)

How do I measure?

MELT

Collect

Analyze

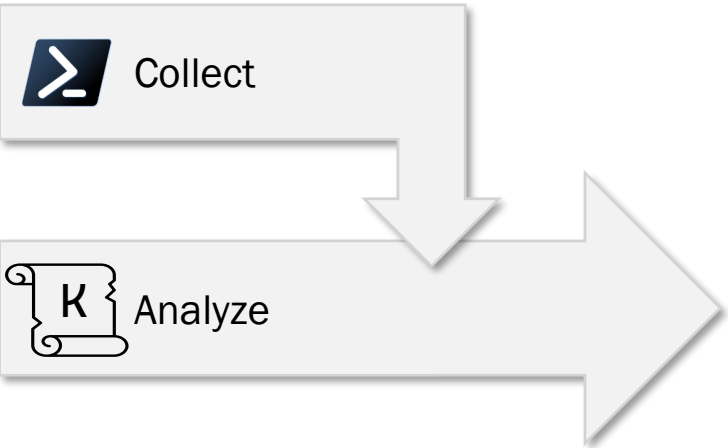
Controls (SLI + SLO)

- Filter Most Recent Event ID in Event Log for Domain
- Filter Group Policy Objects (GPO) with disabled status
- Filter disabled GPOs that haven't been recently modified

```
[…]
| extend modifed=unixtime_seconds_todatetime(tolong(repl
ace(@"\D", "", tostring(detail.ModificationTime)))/1000)
| extend days=datetime_diff('day',now(),modifed)
| extend detail.DisplayName, detail.Owner
| distinct tostring(detail_Owner),
tostring(detail_DisplayName), days
| where days >= 3
```

How do I measure?

MELT



Controls (SLI + SLO)

- Filter Most Recent Event ID in Event Log for Domain
- Filter Group Policy Objects (GPO) with disabled status
- Filter disabled GPOs that haven't been recently modified
- Count number of GPOs by owner

```
[…]
| summarize count(detail_DisplayName) by
tostring(detail_Owner)
| extend title="Number of stale & disabled policies"
```

How do I measure?

MELT

Collect

Analyze

Deliver

Controls (SLI + SLO)

User & Computer Configuration

Number of stale & disabled policies

1

DEMO\Domain Admins

get-gpo.json.01

Description: The number of Group Policy Objects by Owner that are disabled without modification in the past 3 days.

Governance: Disabled resources *must* be deleted within 3 days if unused.

Technical: Configure scheduled task to delete objects.

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How can I act on it?

MELT

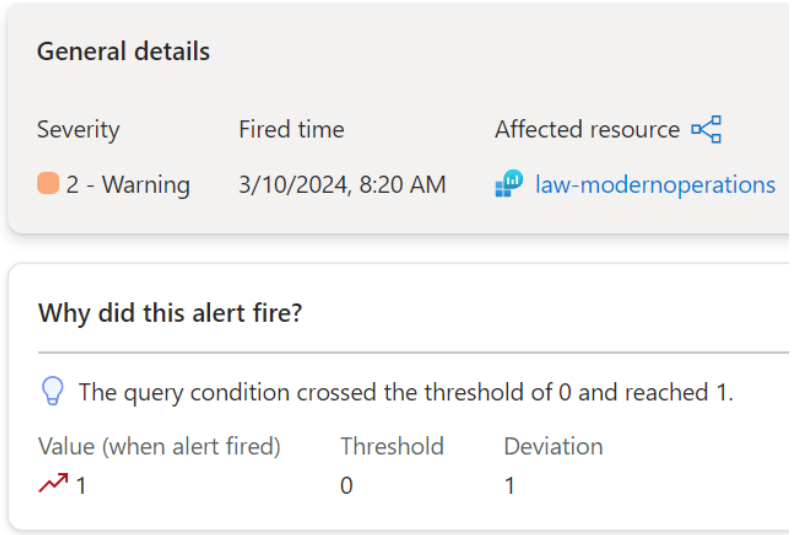
Collect

Analyze

Deliver

Act

Controls (SLI + SLO)



How can I act on it?

MELT

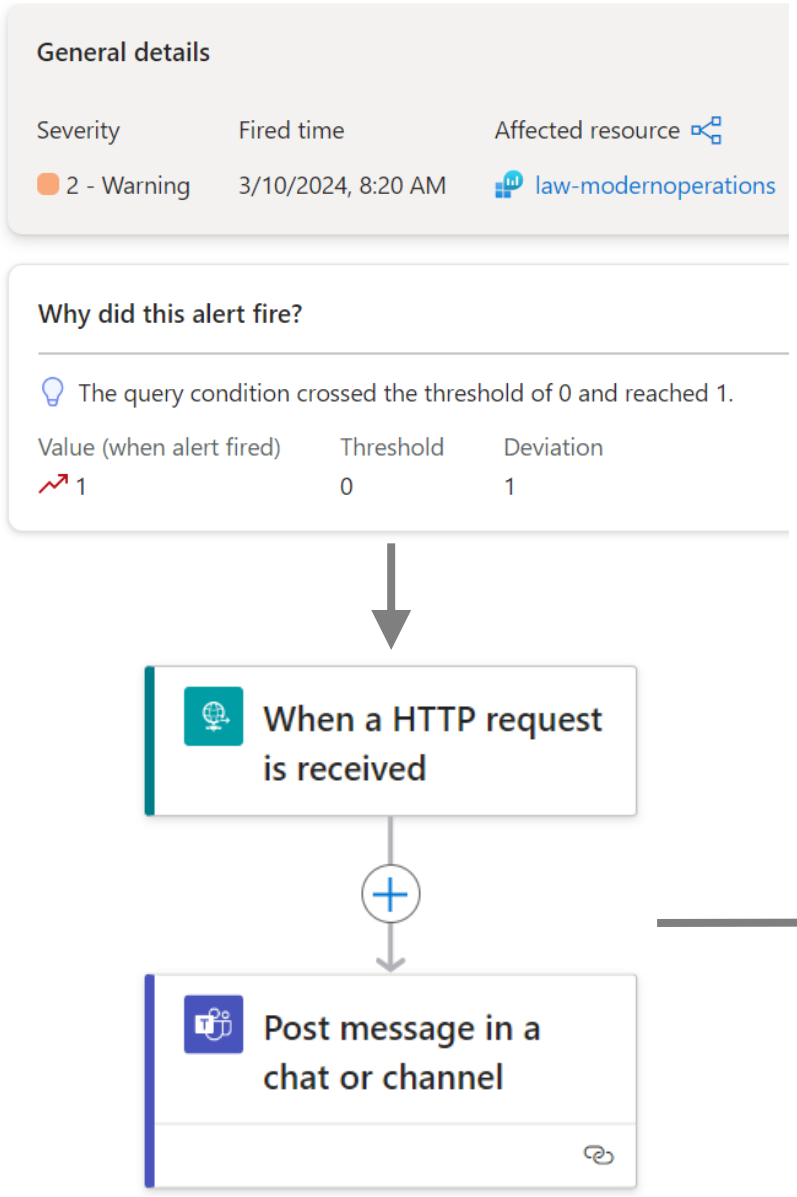
Collect

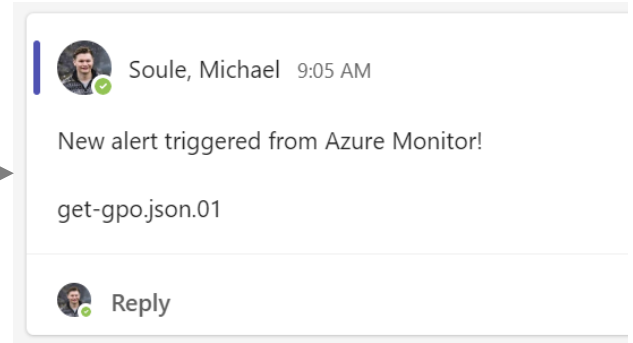
Analyze

Deliver

Act

Controls (SLI + SLO)





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How can I act on it?

MELT

Collect

Analyze

Deliver

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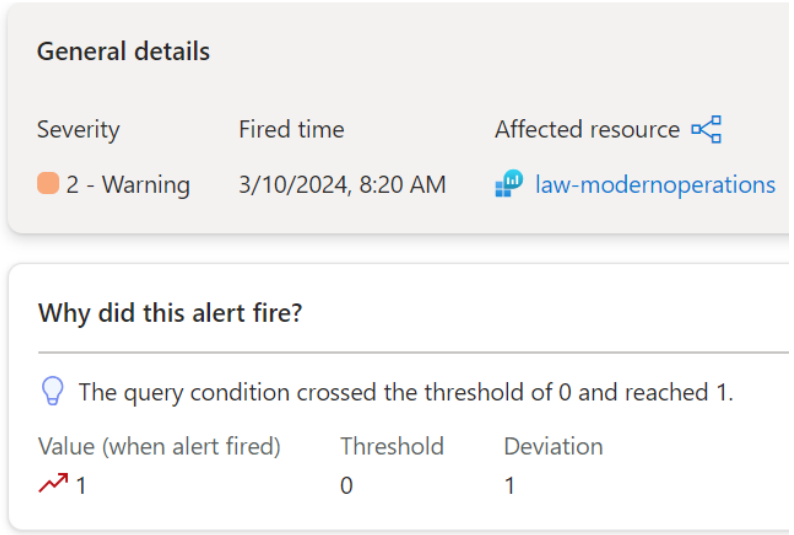
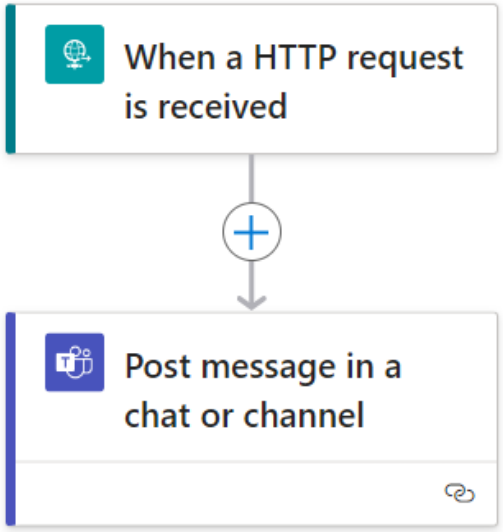
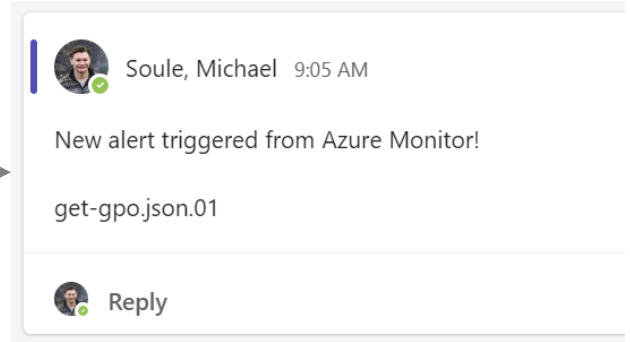
Controls (SLI + SLO)







- Create a case automatically in your ITSM
- Integrate Azure Open AI to suggest KBs or similar past cases
- Trigger self-healing

- What service are you managing?
- What is optimal management?

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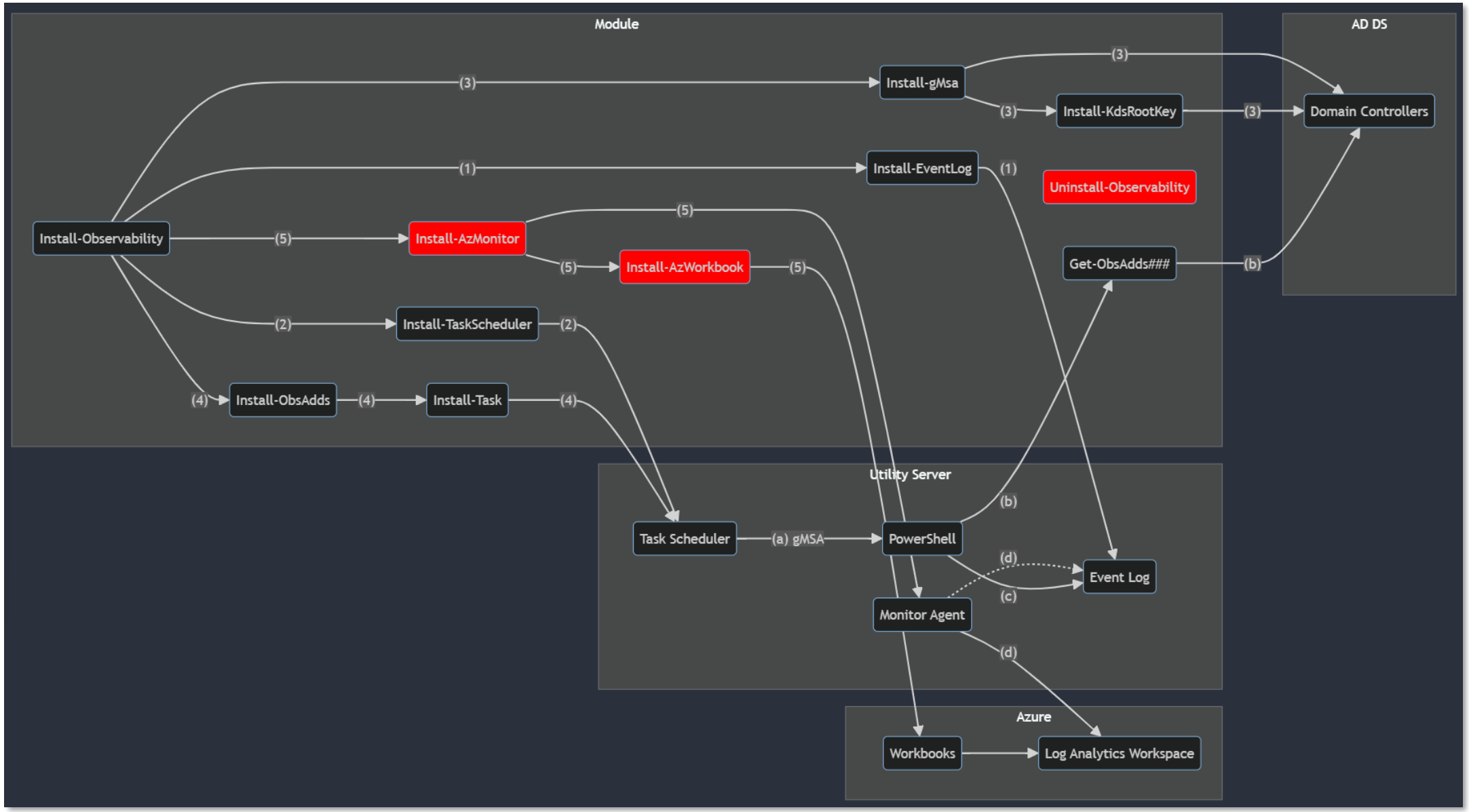
Module
AD DS
Install-gMsa
Install-KdsRootKey
Domain Controllers
Install-EventLog
Uninstall-Observability
Install-Observability
Install-AzMonitor
Install-AzWorkbook
Get-ObsAdds###
Install-TaskScheduler
Install-ObsAdds
Install-Task
Utility Server
Task Scheduler
(a) gMSA
PowerShell
Event Log
Monitor Agent
Azure
Workbooks
Log Analytics Workspace

Who is Michael Soule?

Michael Soule
National Director
Sentinel Technologies
misoule@sentinel.com

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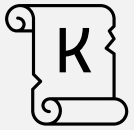
DMTF

How can we apply it?

Metrics
Events
Logs
Traces

Collect
PowerShell



Analyze
Kusto
Query
Language

Deliver
Azure
Monitor

Act
Microsoft
Teams

SLI
+
SLO
=
Control