

Operational Intelligence

Optimizing Computing Operations

Preparation of the WLCG/HSF workshop session

Ale Di Girolamo



GGUS tickets in 2018

tickets submitted		
Date	Concerned VO	Tickets submitted
2018	alice	70
2018	atlas	1103
2018	cms	2399
2018	lhcb	355

tickets submitted		
Date	Type of Issue	Tickets submitted
2018	CMS_Data Transfers	998
2018	CMS_Facilities	478
2018	CMS_HammerCloud	8
2018	CMS_Register New CMS Site	9
2018	CMS_Software	138
2018	Infrastructure	125
2018	Physics	11
2018	Software	6
2018	Generic	15
2018	Other	22
2018	Documentation	136
2018	Hardware	475
2018	Network	12
2018	Operations	9
2018	Security	1
2018	Local Batch System	50
2018	Middleware	88
2018	Monitoring	66
2018	Network problem	39
2018	Operations	9
2018	Other	709

- Not the/a perfect metric
 - better than nothing,
 - ...already telling us something...

Operational intelligence

From Wikipedia, the free encyclopedia



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Operational intelligence (OI) is a category of *real-time* dynamic, *business analytics* that delivers visibility and insight into data, streaming events and *business operations*. OI solutions run queries against streaming *data feeds* and event data to deliver analytic results as operational instructions. OI provides organizations the ability to *make decisions* and immediately act on these analytic insights, through manual or automated actions.

Contents ^[hide]

- Purpose
- Features
- Technology components
- Comparison with other technologies or solutions
 - Business intelligence
 - Systems management
 - Complex event processing
 - Business activity monitoring
 - Business process management
- References

Purpose ^[edit]

The purpose of OI is to monitor business activities and identify and detect situations relating to inefficiencies, opportunities, and threats and provide operational solutions. Some definitions define operational intelligence an event-centric approach to delivering information that empowers people to make better decisions, based on complete and actual information.

In addition, these metrics act as the starting point for further analysis (drilling down into details, performing *root cause analysis* — tying anomalies to specific transactions and of the business activity).

Sophisticated OI systems also provide the ability to associate metadata with metrics, process steps, channels, etc. With this, it becomes easy to get related information, e.g., "retrieve the contact information of the person that manages the application that executed the step in the business transaction that took 60% more time than the norm," or "view the acceptance/rejection trend for the customer who was denied approval in this transaction," or "Launch the application that this process step interacted with."

https://en.wikipedia.org/wiki/Operational_intelligence

Brainstorming, share ideas, formalize, share algorithms...

- We are discussing about automation since ever (ever I remember, 10+y)
 - But "today" we are in a different situation wrt 10y ago:
 - Solid experience
 - Much better aware of the complexity of our systems
- Not thinking about re-inventing the wheel
 - We just know as a fact that experiments are successfully working
 - Have their own well-proven operational models
- We think that setting up some to-be-defined forum to share experience, ideas, etc could be useful

Tentative plan

- I don't have a well defined plan
 - Here indeed to discuss about it
- What I would like today:
 - Identify experts (from experiments, sites, etc) and collect ideas and status quo on **automation, optimization, resource usage, monitoring/analytics**
- Work on a strategy next month: define a long term view and well defined reasonable(reachable) short term goals
 - present draft ideas and proposal in JLAB
 - Some 20-30 mins presentation
 - And 30 minutes brainstorming, to be well organized to get something useful out.
- One possible outcome from JLAB:
 - "Creation" of a (relatively) small group cross-experiments that think and define what can we do better (better what? How? Where?... we know the complexity)
 - similar HSF collaborative approach?: shared ggle doc, draft strawman, suggest, iterate....
- Drop me an email if you can help!