

# Bill Nieman, GE Digital Solution Architect Manager, APM – North America

- Leader of GE Digital Solution Architect team for Asset Performance Management & Predix in North America (2011-2016)
- Leader of global SmartSignal Solution Architect team (2006-2011)
- SmartSignal Product Development & Application Engineering (1999-2006)
- AlliedSignal corporate R&D, Principle Scientist, Manufacturing Measurements group (1991-1999)
- Northwestern University, Materials Science & Engineering, Ph.D. (1991)





# Platform & Solution Architecture for Building a Digital Power Plant

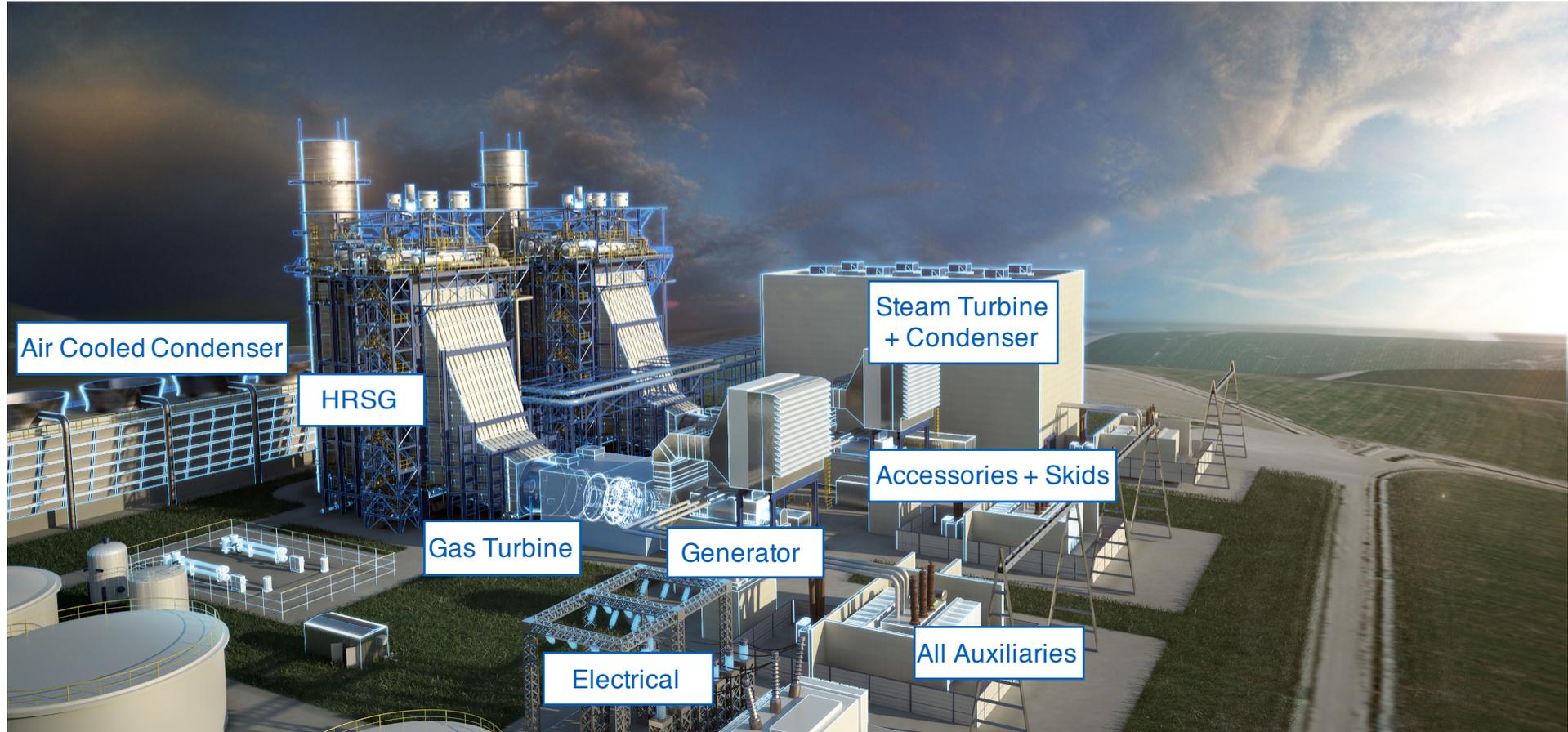
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“... though more than 90 percent of the data ever created in the world has been generated in just the past two years, only 1 percent of that data has been analyzed. Often, those analyses are conducted as discrete one-offs; nifty experiments, but not much more.”

**“Straight talk about big data,” Nicolaus Henke, Ari Libarikian, and Bill Wiseman, McKinsey & Co, 2016**

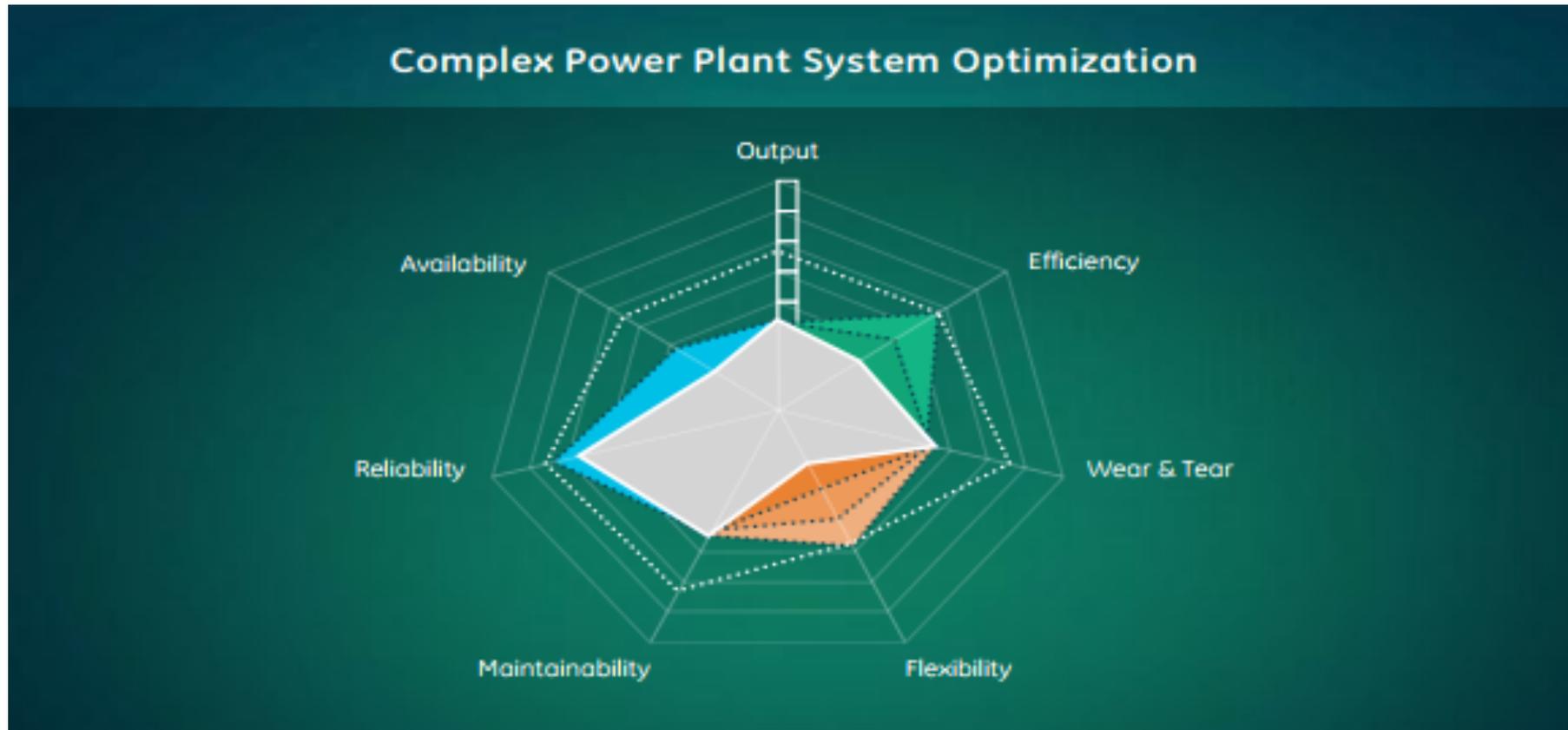


# Need analytics targeting NERC-defined power plant failure modes –



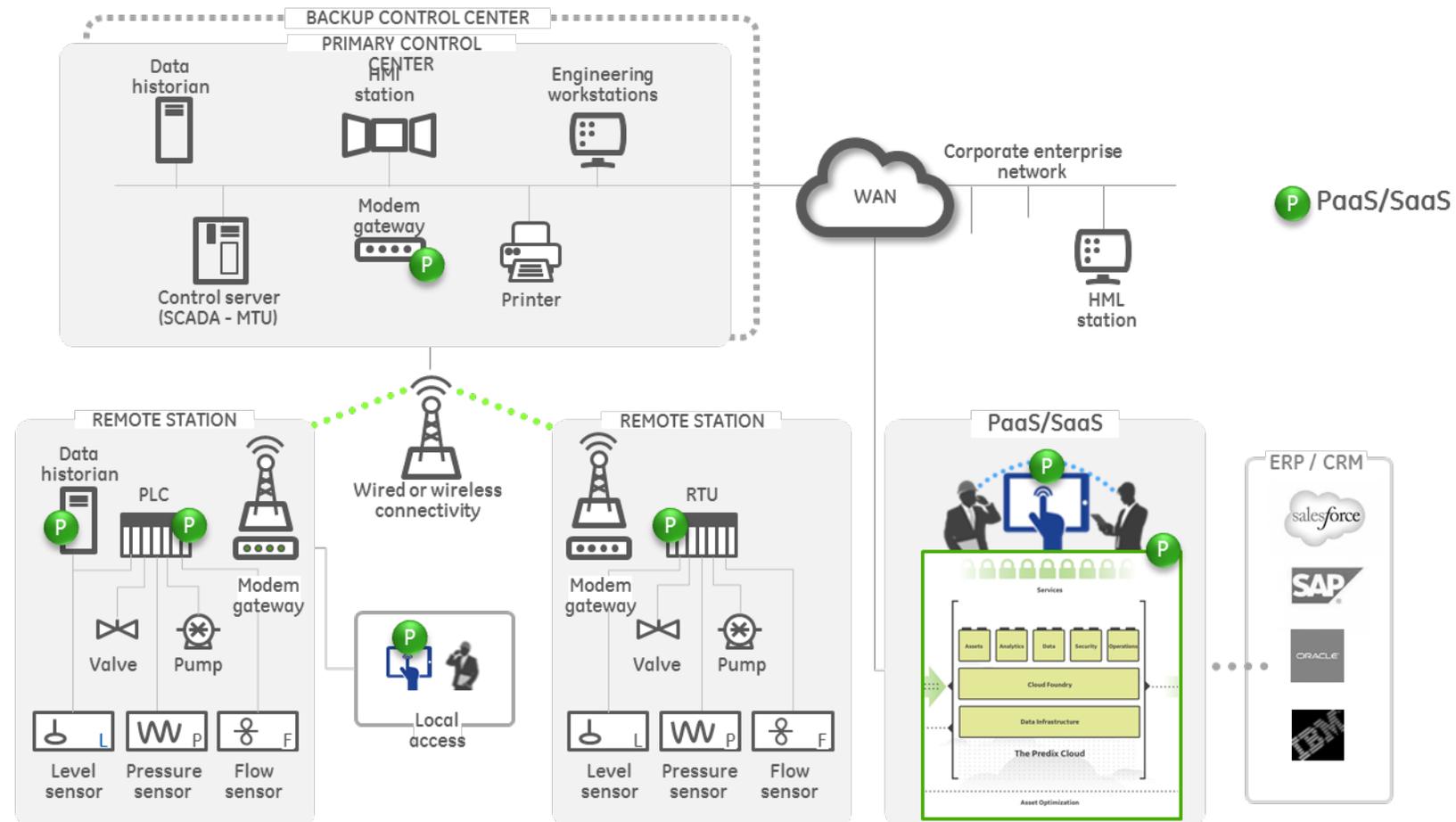
# Complex set of issues

Solution = software-defined operations



# PaaS/SaaS Cloud services connect everything

DISTRIBUTED COMPUTING, EXTENSIBILITY, ORCHESTRATION



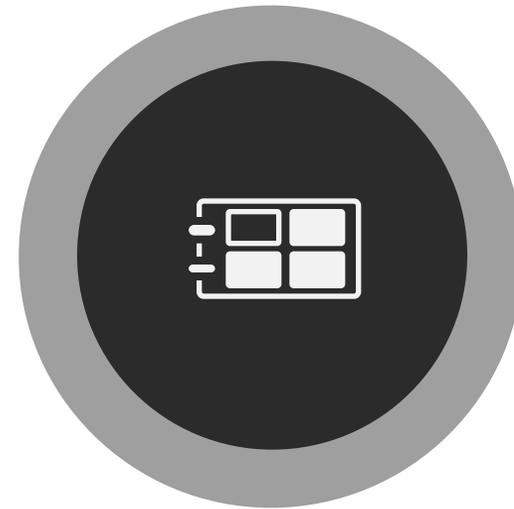
# Analytics as a Service requirements



Asset-aware Analytics

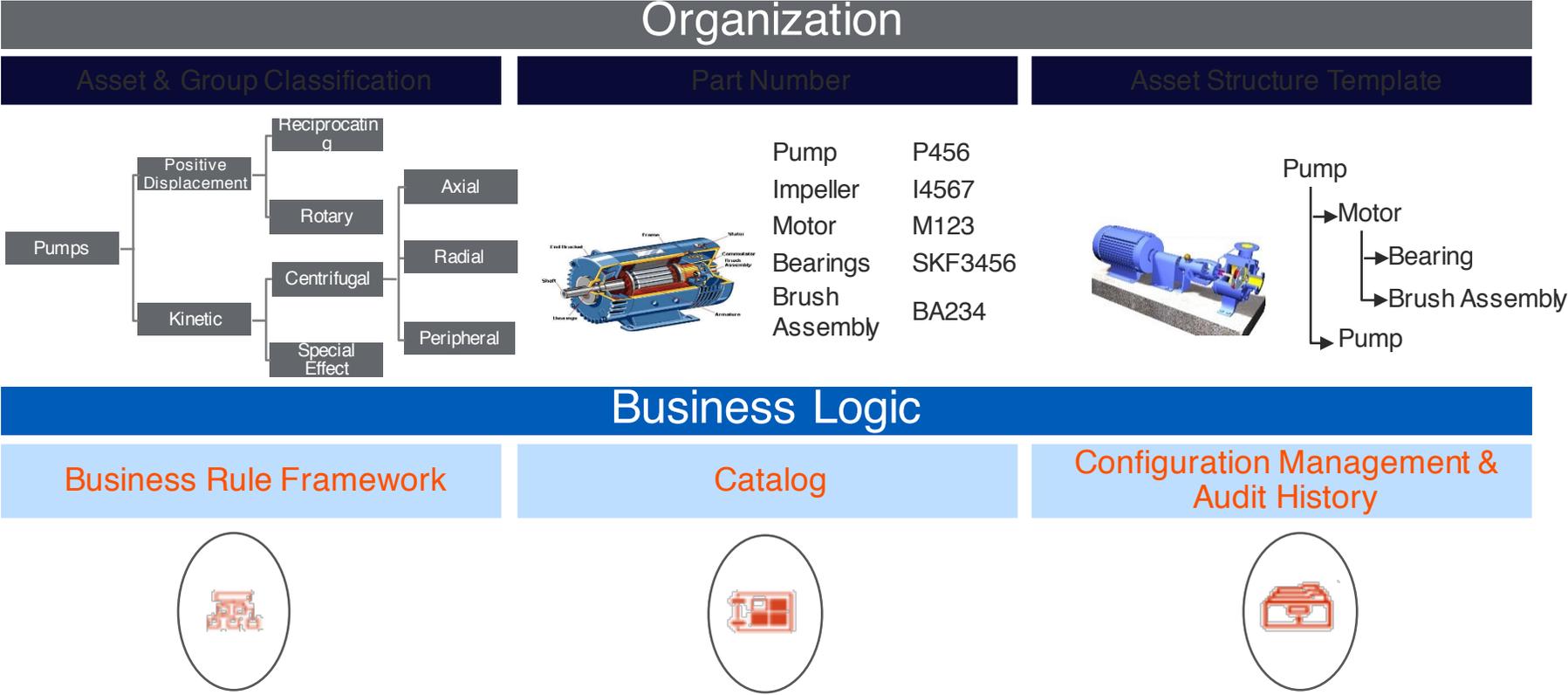


Orchestration  
Engine for  
Analytics  
Workflows



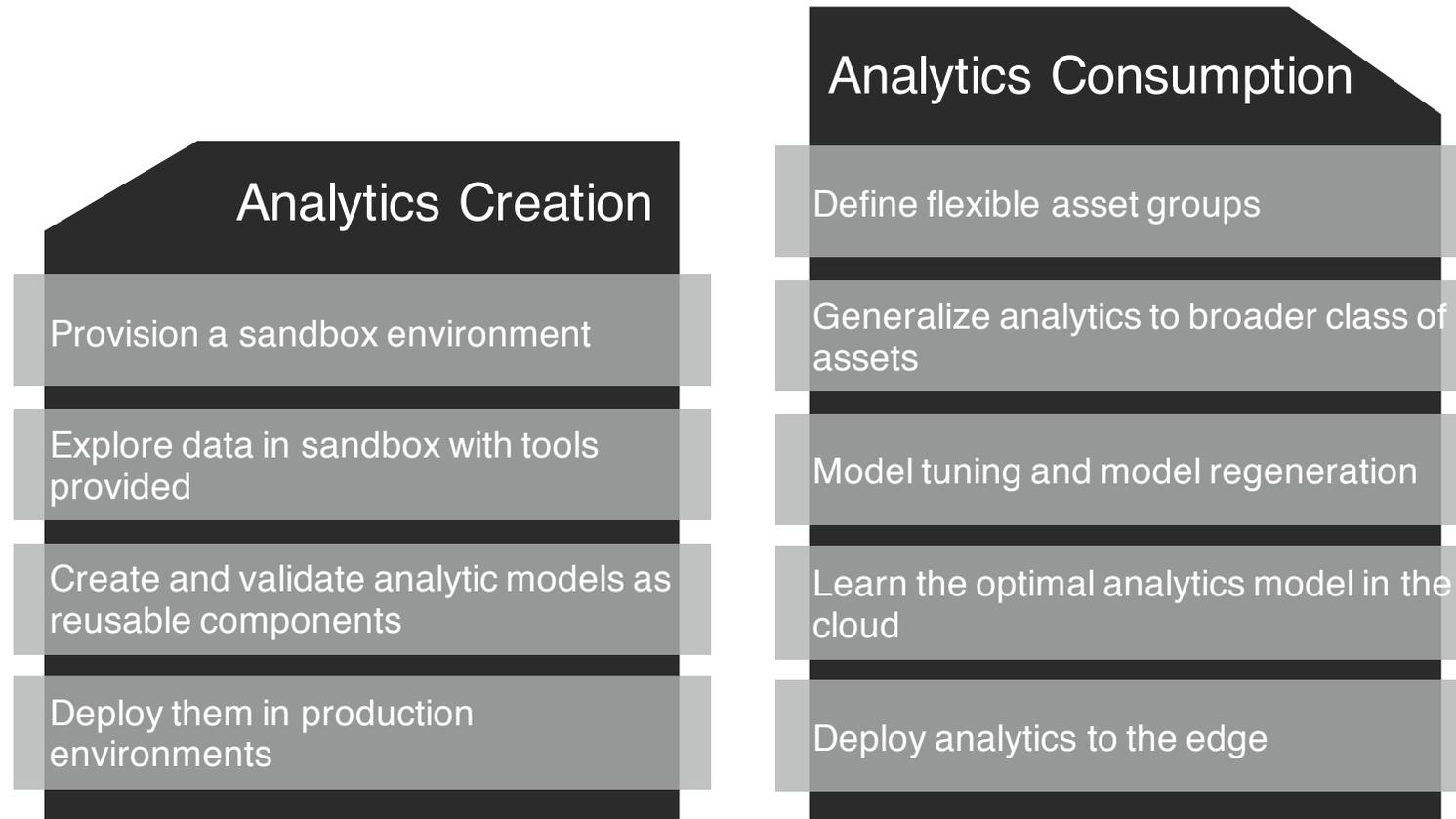
Catalog of  
Reusable  
Analytics

# Broad application requires uniform Asset Services

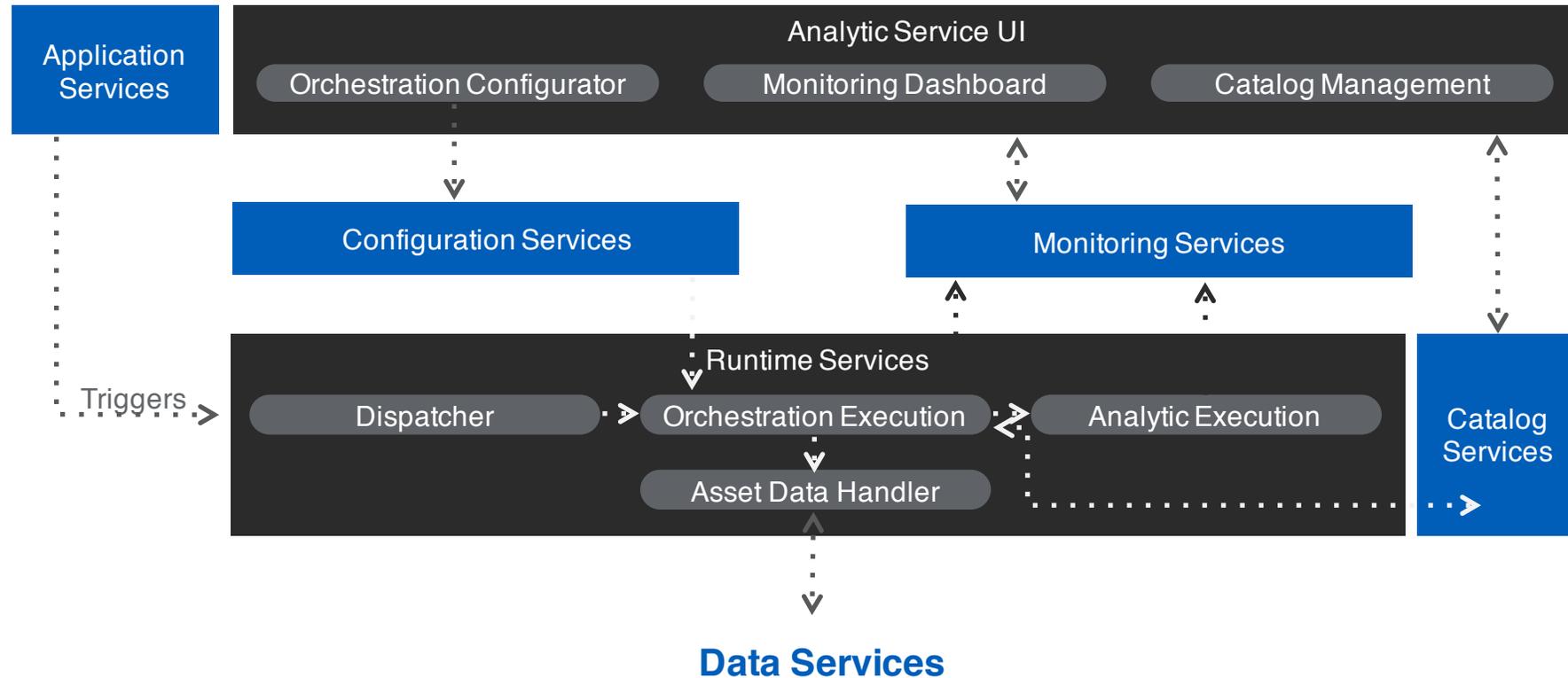


To be useful, open model framework needs to be constrained (achieved with business rules in the catalog)

# Deliver Analytics Services to multiple stakeholders



# Analytics architecture



“The real power of analytics-enabled insights comes when they become so fully embedded in the culture that their predictions and prescriptions drive a company’s strategy and operations.”

**“Straight talk about big data,” Nicolaus Henke, Ari Libarikian, and Bill Wiseman, McKinsey & Co, 2016**



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