Anupama Natarajan

PASS SQLSATURDAY

Modern Data Warehouse using Lambda Architecture and Azure

#713 | Brisbane 2018

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You received these in your welcome pack first thing this morning from registration.
Please put them in the evaluations box on your wait out after this session.

There are evaluation prizes at the end of the day for completed evaluation forms.

About me

- Microsoft MVP, Data Platform
- Senior Solutions Architect, Unisys New Zealand
- Microsoft Certified Trainer, Speaker and Blogger
- 15+ years experience
- Passionate in Data, Integration and Business Intelligence
- Expertise in Microsoft Technologies

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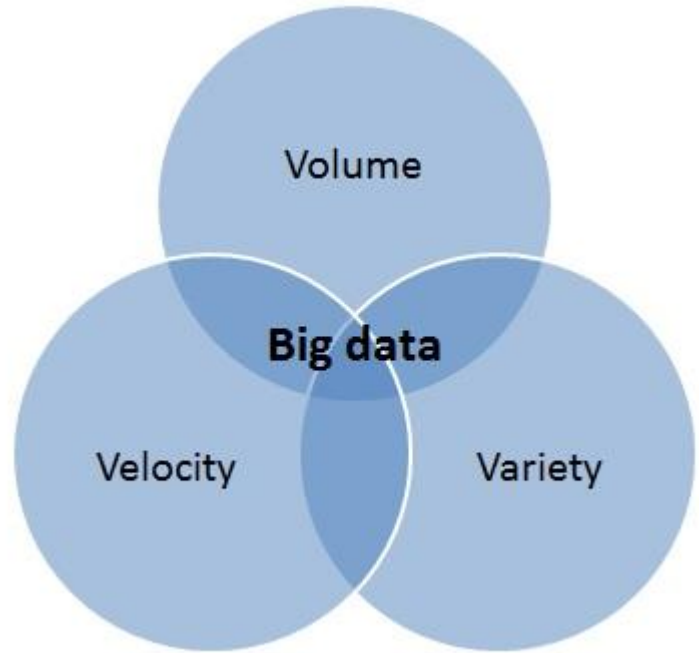
Agenda

- Big Data World
- Introduction to Lambda Architecture
- Layers in Lambda Architecture
- Business Benefits
- Business Scenarios
- Lambda Architecture & Azure
- Advantages of using Lambda Architecture & Azure

Big Data World

- Big Data (Volume)
- Real-time Data Processing (Velocity)
- Stay Competitive
- Cloud based Data Processing
- Batch Data Processing
- Optimal Cost

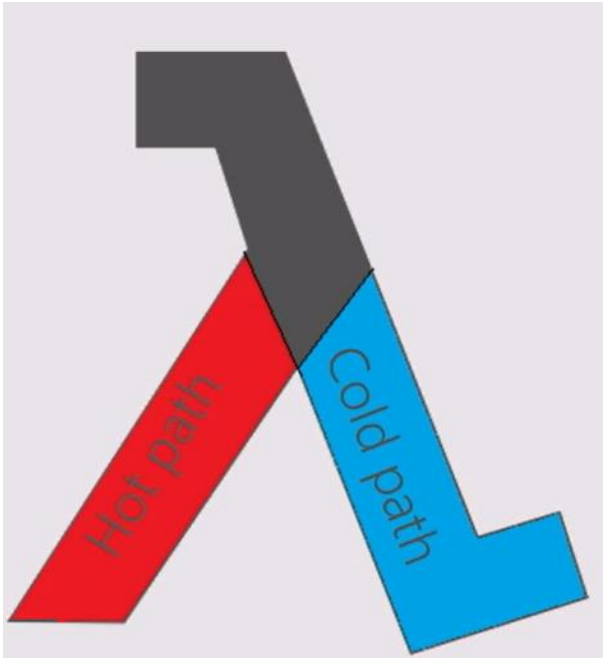


Introduction to Lambda Architecture

- Combines power of Batch and Real-time Processing
- Agnostic of Technology
- Pattern to cater for Big Data

What is Lambda Architecture?

Two paths for data to flow in pipelines

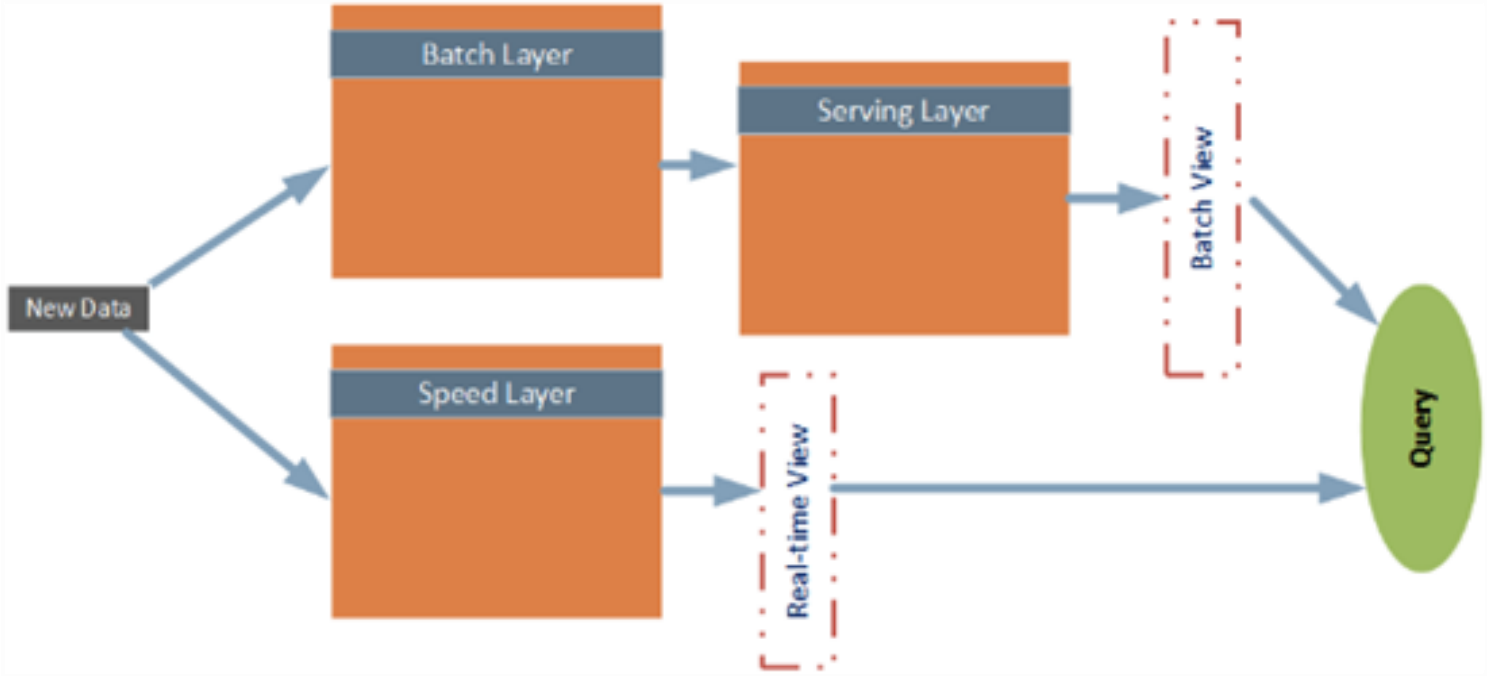


- "**Hot**" path where latency sensitive data flows for rapid consumption

- "**Cold**" path where all data goes and processed in batches

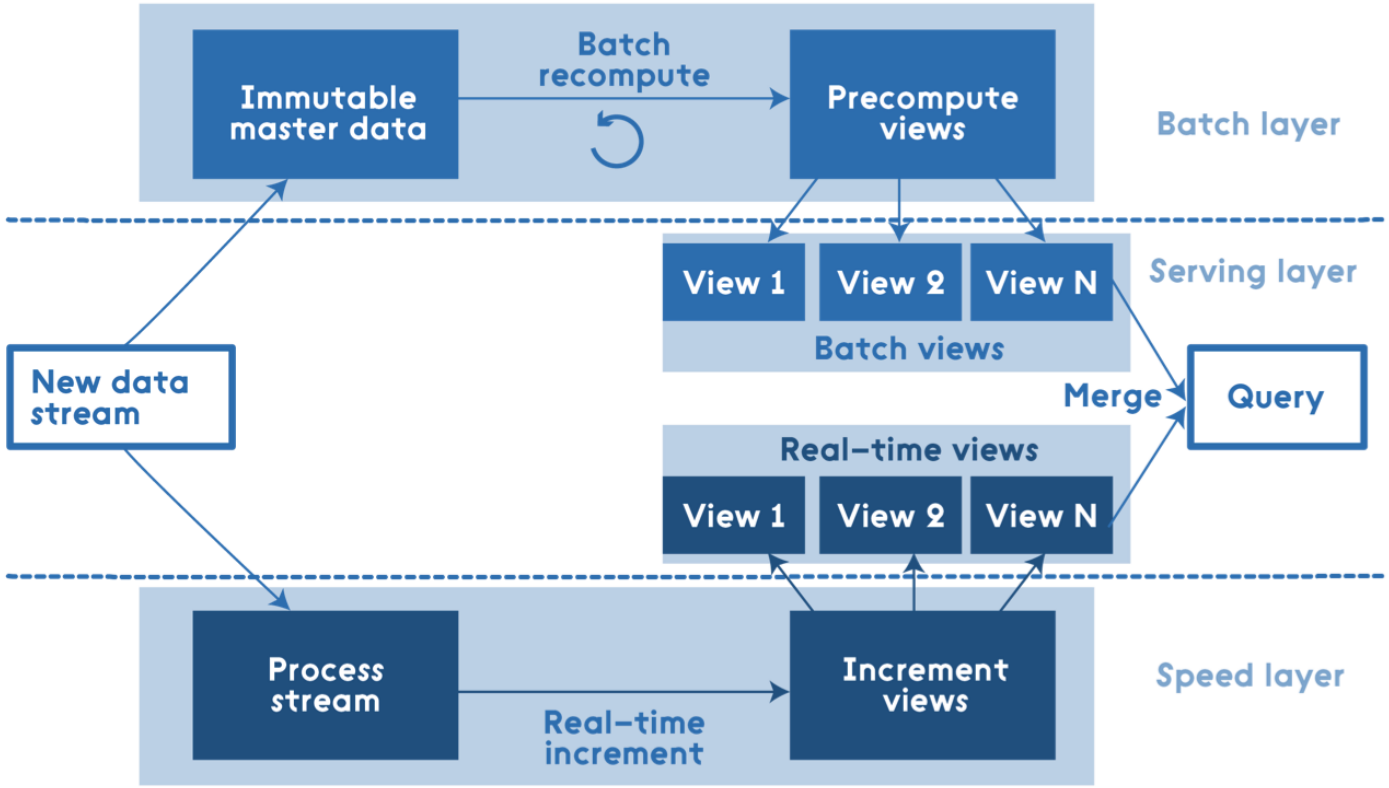
Lambda Architecture – Logical Layers

- Batch Layer
- Speed Layer
- Serving Layer



Patterns of Lambda Architecture

- Fault-Tolerant
  - Hardware
  - Software
  - Human
- Immutable Data
- Re-computation

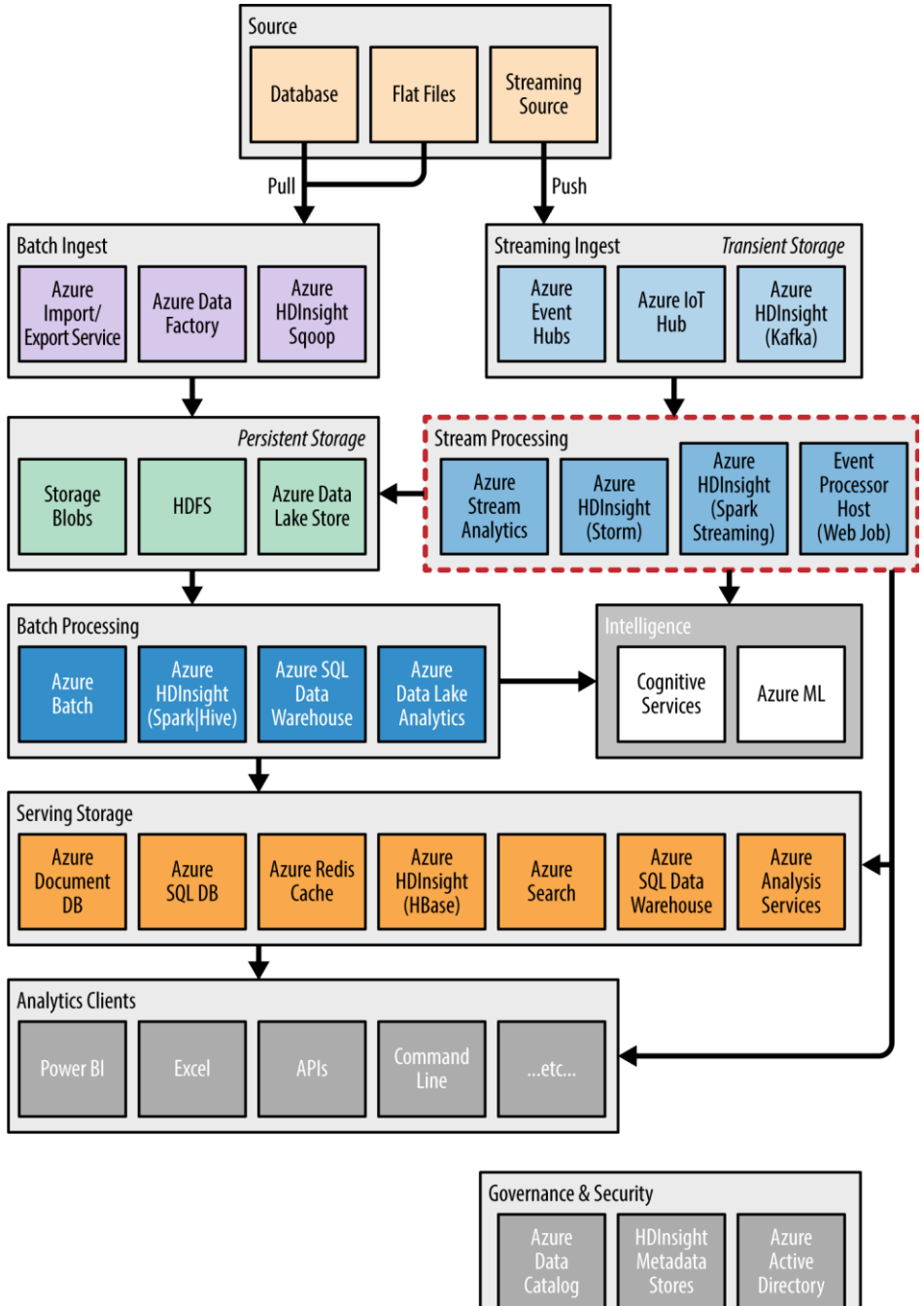


Lambda Architecture – Business Benefits

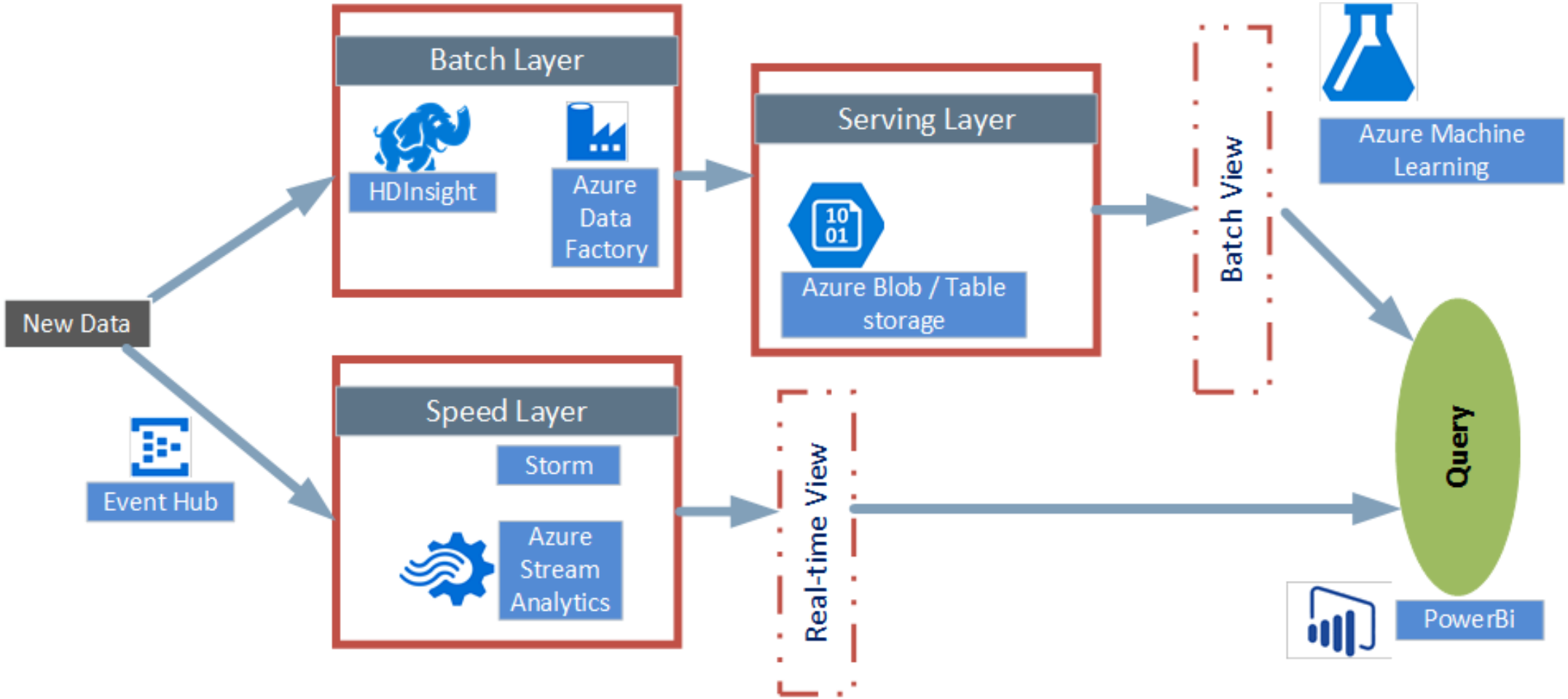
- Business Agility – React in real-time to the changing business / market scenarios
- Predictability – predict from human behaviors to machines / devices lifetime patterns and make proactive informed decisions , ensure high level of services uptime and hence the good will.

Azure Analytics

- Source
- Ingest
- Storage
  - Transient
  - Persistent
  - Serving
- Processing
- Delivery



Lambda Architecture & Azure



Lambda Architecture – Business Scenarios

	Phone Tracking Across Cell Sites		Personnel Tracking & Crowd Control
	Connected Car		Ride Sharing
	Asset Tracking		Geofencing
	Fleet Management		Racecar Telemetry
	Facilities Management		Connected Manufacturing

Lambda Architecture & Azure - Advantages

- Security
- Flexibility
- Supportability
- Adaptability
- Optimized cost
- Reliability
- Supports all IoT Communication Patterns

References

- http://lambda-architecture.net/
- https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/cosmos-db/lambda-architecture.md
- https://www.blue-granite.com/blog/exploring-the-lambda-architecture-in-azure

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Questions:

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