Microsoft

A Brief Journey from Device to Action …

hackster.io

IoT Virtual Bootcamp

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http://aka.ms/IoTVirtualBootcamp

Hardware Partners :

adafruit

Microsoft

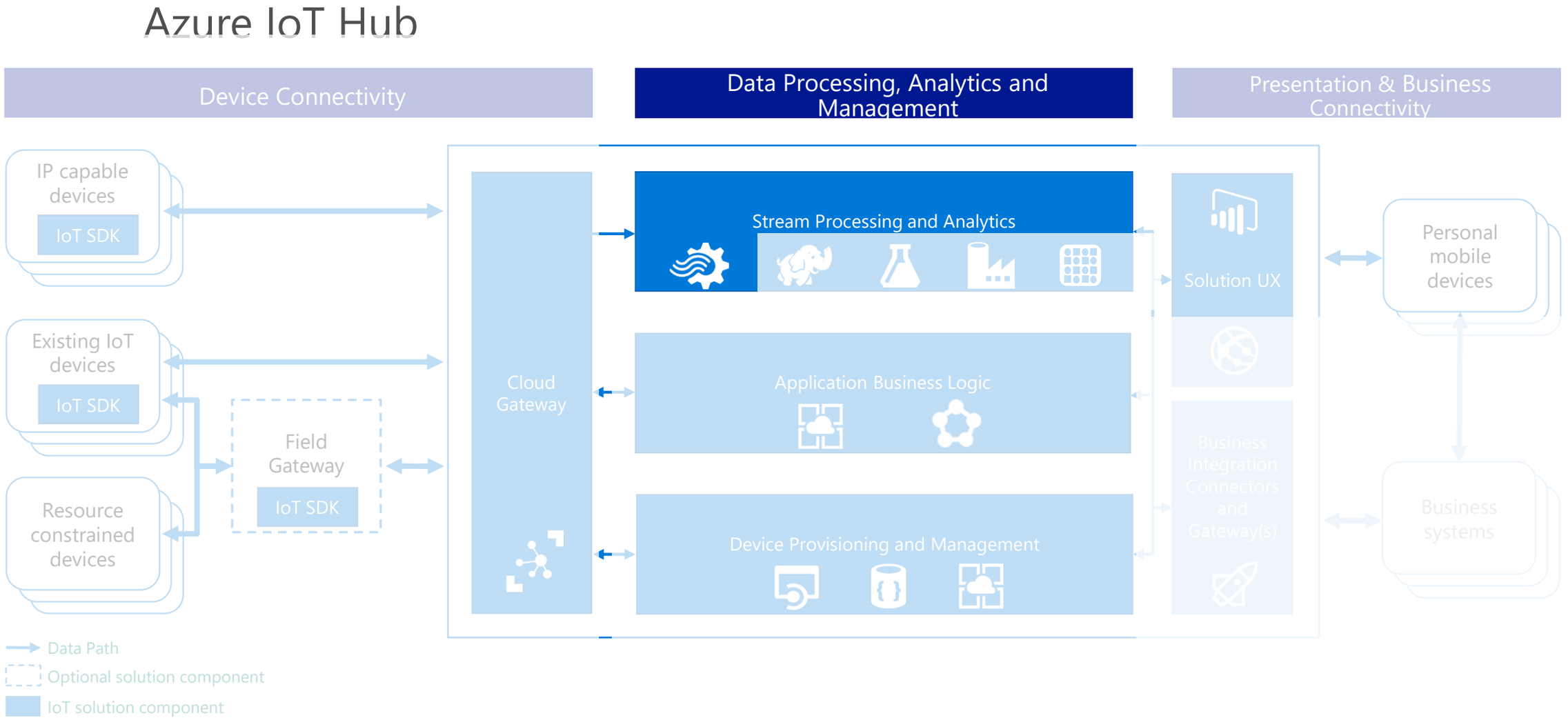
Microsoft Azure Stream Analytics

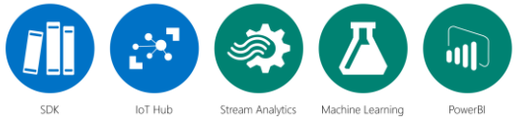
Kevin Saye

Event Processing

Azure Stream Analytics

Azure IoT Hub





Real time event processing

Uncover real time insights

Perform real time analytics across multiple streams

Rapid Deployment

Use simple SQL syntax, auto distributed for scale

Mission critical reliability

Fully managed, low latency, high throughput

Create real time alerts

Flag alerts and alarms for attention

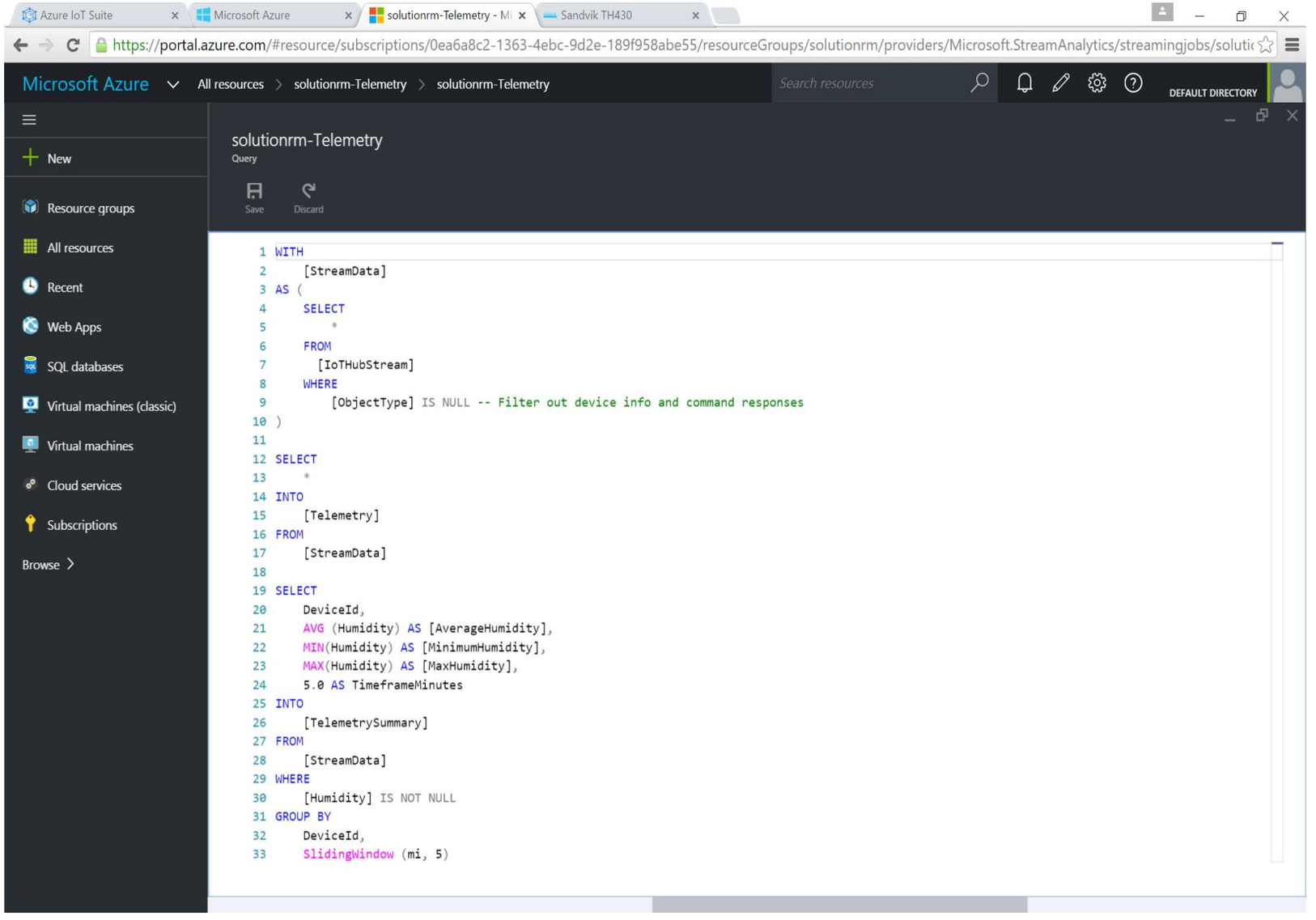
High volume

Analyze millions of data points per second

Highly scalable

Enterprise grade, predictable solution

Add or edit jobs using simple ASA interface

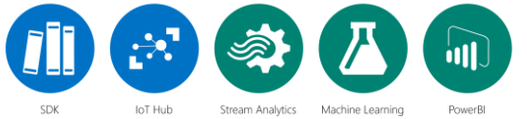


Rule based interface

Simple implementation and rule development using ASA UI

Multi-channel

Analyze multiple channels of information simultaneously, in real time



Demonstration and Discussion

Cold, Hot and Warm Path

Using logic to determine path an escalate when needed.

Components

- Inputs (show)
- Outputs (show)
- Query
- Functions, both ML and JavaScript

Built in Functions

Math, Array, Date/Time, Conversion, Geospatial, String, Record, Lag

External Functions

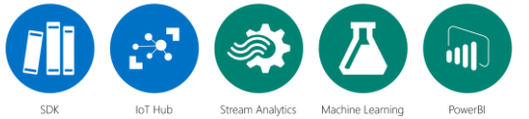
- JavaScript (UDF)
- Azure Machine Learning

Windowing

- Tumbling Window (non overlapping)
- Hopping Window (overlapping)
- Sliding Window (changes only)

Consumer Groups

Partitions for application / service consumption.



Determine where to send data

Relational (SQL and etc)

- When speed of application access is needed
- Compatibility
- Most expensive

Non Relational (Blob, DataLake, Cosmos, Tables, and NoSQL)

- Big Data
- No schema forced
- Future data access
- Least expensive

Calculated

- Action only
- Get data based on data (part lookup, etc)
- Calculated data has real value

Presentation / Reporting

Additional References:

- www.InternetofYourThings.com
- https://blogs.msdn.microsoft.com/streamanalytics/
- https://azure.microsoft.com/en-us/services/stream-analytics/
- https://docs.microsoft.com/en-us/azure/stream-analytics/

Summary:

Azure Stream Analytics is an in memory streaming solution for real time processing of data

Stream can read from event or reference data and write to relational, non relational and API targets

Stream is SQL based in language with rich support for windowing, calculations and functions

www.InternetofYourThings.com