



IoT with Azure

Mark Rud Christensen, Inspari



Azure Saturday 2017



Mark Rud Christensen

Me

- BI Consultant worked with MS BI for 5 years
- Last couple of years a lot of Azure
- Specifically lot data in Azure in Iot Hub, Stream Analytics and Power BI
- MSCE Business Intelligence



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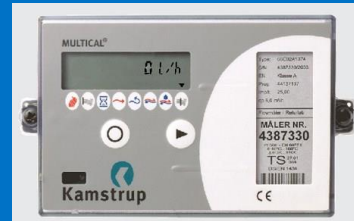
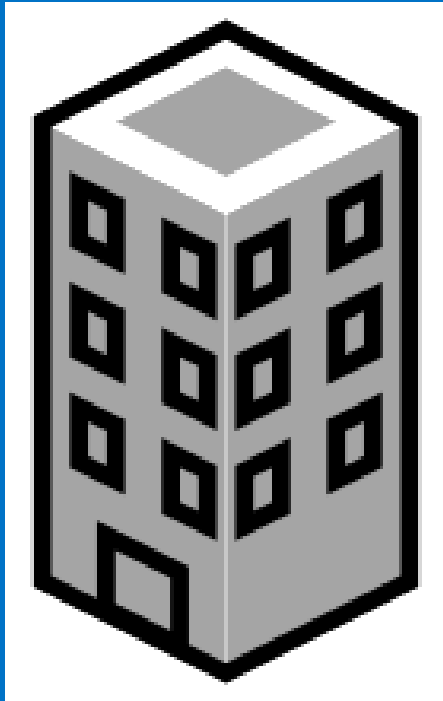
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Inspari - 360° business intelligence

- 4** offices - in Aarhus, Copenhagen, Oslo and Bucharest
- 115** fast running and thinking specialists
- 7** gazelle awards
- 8.9** out of a 10 when rating consultants
- 400+** ambitious customers
- 1300+** completed projects

100 % dedicated to moving people and businesses with business intelligence





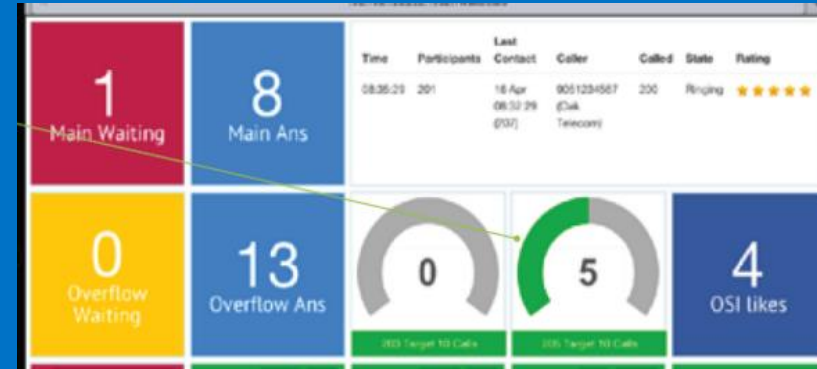
A lot of interesting data



Three user-types

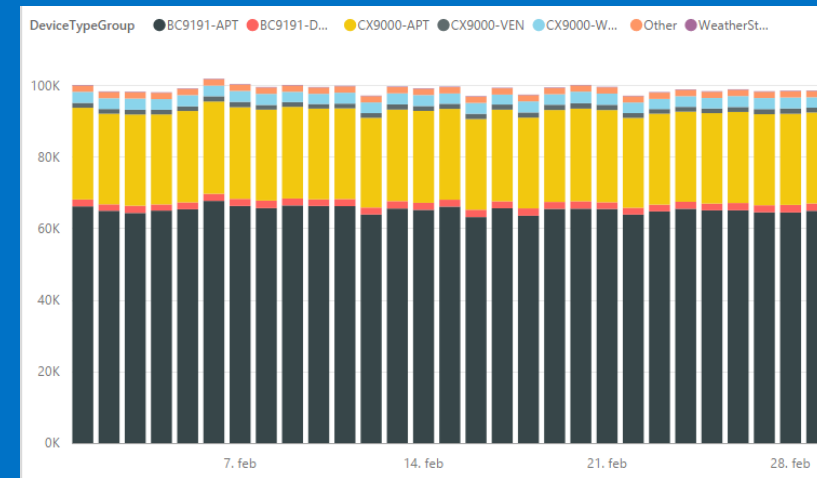
Operations

Needs real-time data



Users

Needs aggregated data



Analysts

Needs raw-data

DateKey	Hour	DateCreated	Value	DeviceTypeGroup	Weekday	Description2
30. april 2016	12	30-04-2016 12:01:02	0,00	BC9191-APT	Saturday	AccumulatedColdWater
30. april 2016	12	30-04-2016 12:01:02	0,00	BC9191-APT	Saturday	AccumulatedHeatEnergyConsumption
30. april 2016	12	30-04-2016 12:01:02	0,00	BC9191-APT	Saturday	AccumulatedHotWater
30. april 2016	12	30-04-2016 12:01:02	0,00	BC9191-APT	Saturday	InstantHeatEnergyConsumption
30. april 2016	12	30-04-2016 12:01:02	0,00	BC9191-APT	Saturday	RealColdFlowGFsensor
30. april 2016	12	30-04-2016 12:01:02	0,00	BC9191-APT	Saturday	RealHotFlowGF
30. april 2016	12	30-04-2016 12:01:02	21,09	BC9191-APT	Saturday	RealColdWaterTemperatureGFsensor
30. april 2016	12	30-04-2016 12:01:02	24,80	BC9191-APT	Saturday	AmbientTemperature
30. april 2016	12	30-04-2016 12:01:02	28,84	BC9191-APT	Saturday	RealHotWaterTemperatureGF
30. april 2016	12	30-04-2016 12:01:02	31,21	BC9191-APT	Saturday	RelativeHumidity
30. april 2016	12	30-04-2016 12:01:02	1.977,31	BC9191-APT	Saturday	CO2Level

Sensors



Azure IoT Hub

Fast track – brand new!



Azure Stream Analytics

REAL TIME DATA



Power BI

Azure Time Series Insights



UNSTRUCTURED DATA



Azure Cosmos DB / Data Lake

Power BI



A LOT OF DATA



Azure SQL Datawarehouse

Power BI



CLASSIC BI



Azure SQL Database

Azure Analysis Services

Excel On-Prem



Machine Learning

Data Factory





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