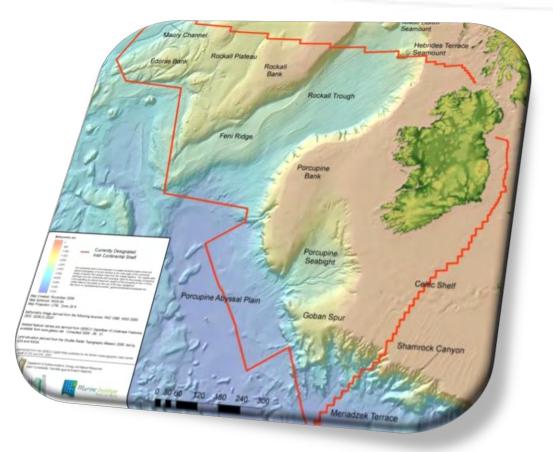
Adding Big Data's Velocity to Oceanographic Data Systems

Adam Leadbetter, Damian Smyth, Rob Fuller, Eoin O'Grady Marine Institute, Ireland

IMDIS Conference, Gdansk, Poland 12th Oct 2016





The Galway Bay Test Site





Galway Bay Subsea Observatory



Funded by the SFI research infrastructure award









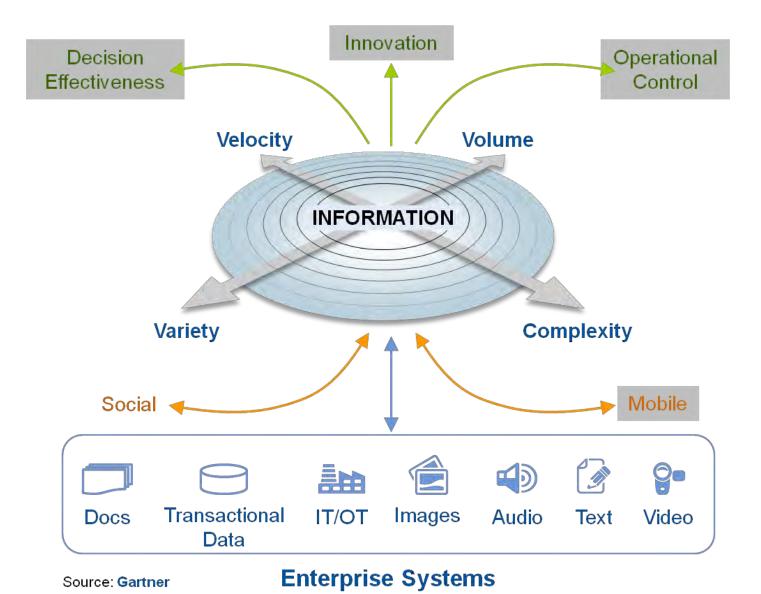






HEAnet

The Big Data Paradigm



Source : Innovation Value Institute

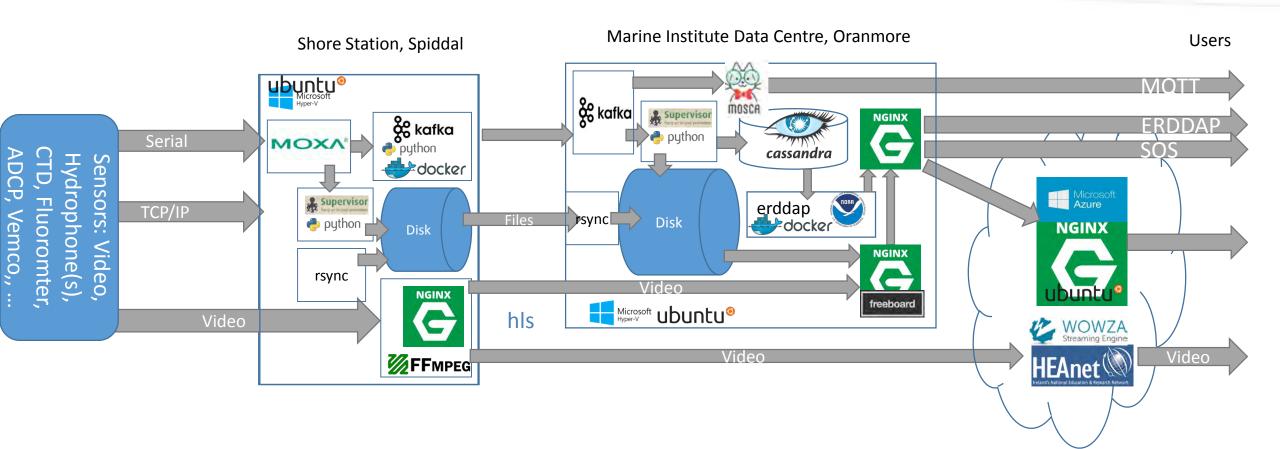
"Velocity": The speed at which data are acquired, processed and made available is key to Big Data

The 5V's of Big Data

- 1. Volume: the quantity of data
- 2. Variety: the type and nature of the data
- **3.** Velocity: the speed at which the data is generated and processed
- **4. Variability/Complexity**: inconsistency of data
- 5. Veracity: the quality of data



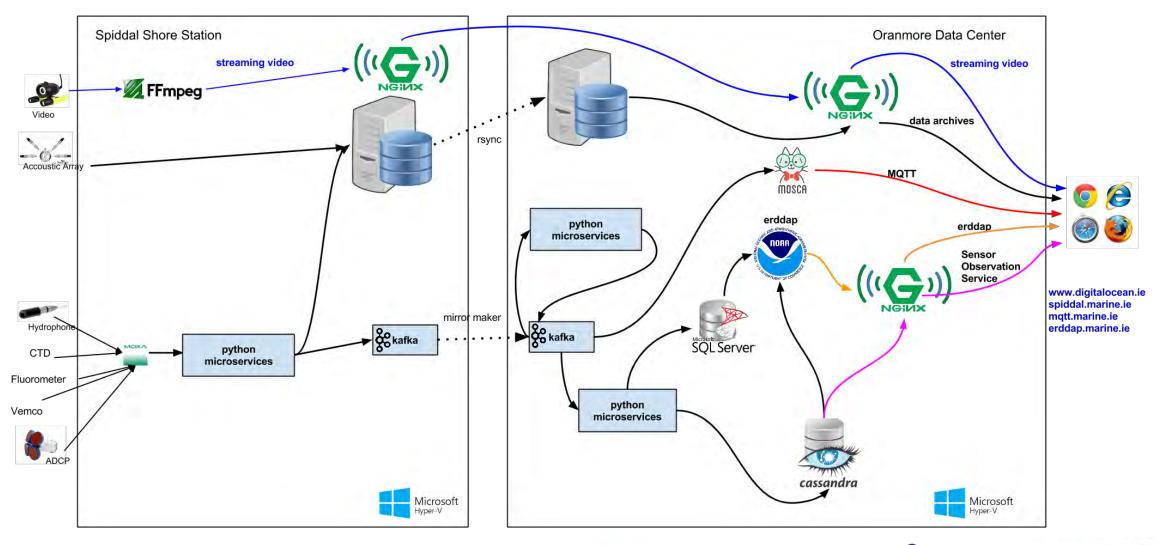
Data System Architecture Overview







Data System Architecture Overview







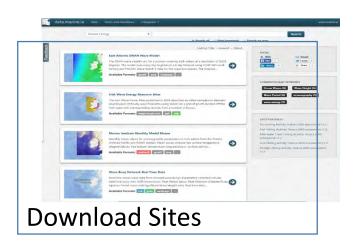


Data Access & Standards



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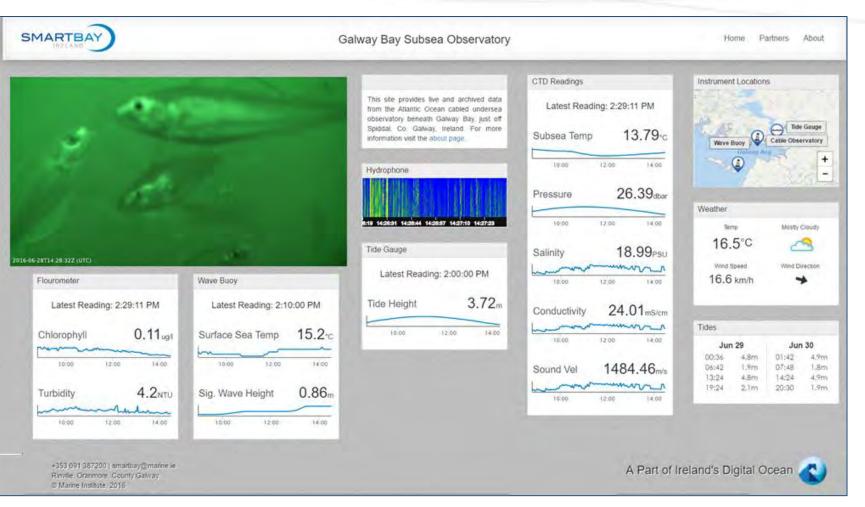
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Subsea Observatory Online



http://smartbay.marine.ie

Collecto na hOliscoile Corceigh, E













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S Science Foundation



Summary

- Oceanographic systems are evolving
- While there is **further work** to do in the **standardisation** of data messages..
- Open-source "big data" technologies and standards-based approaches can be applied to process and publish streaming oceanographic data.
- The capability to make data available in a timely and standardised way will enable a range of new real-time analyses supporting sustainable marine development.







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- Leadbetter, A., Cheatham, M., Shepherd, A., Thomas, R. (2016) Linked Ocean Data 2.0, in Diviacco, P., Leadbetter, A., Glaves, H., Oceanographic and Marine Cross-Domain Data Management for Sustainable Development, Hershey, PA: IGI Global.







Thank you

Galway Bay Subsea Observatory Partners

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Operational Partners:



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