



Reactions

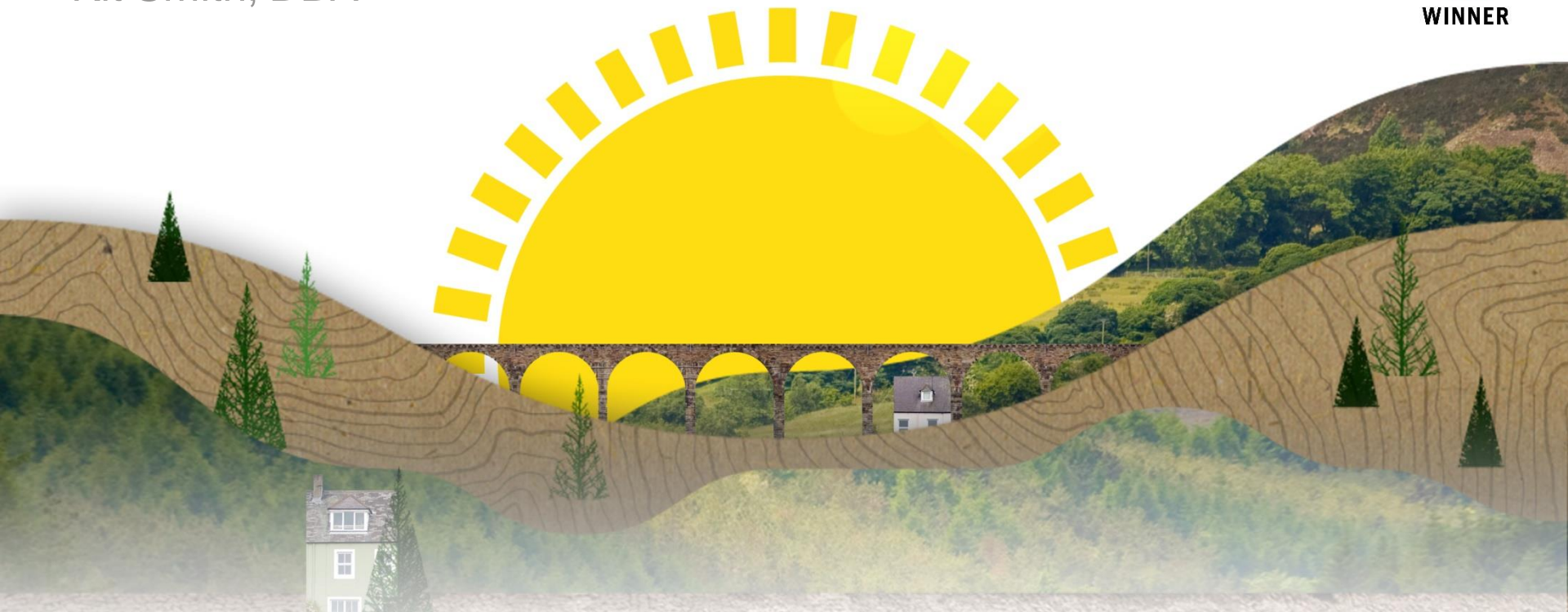
**LONDON
MARKET
AWARDS**

2014
WINNER

THE FLOOD OF FLOOD DATA

Managing the Flow

Kit Smith, DBA



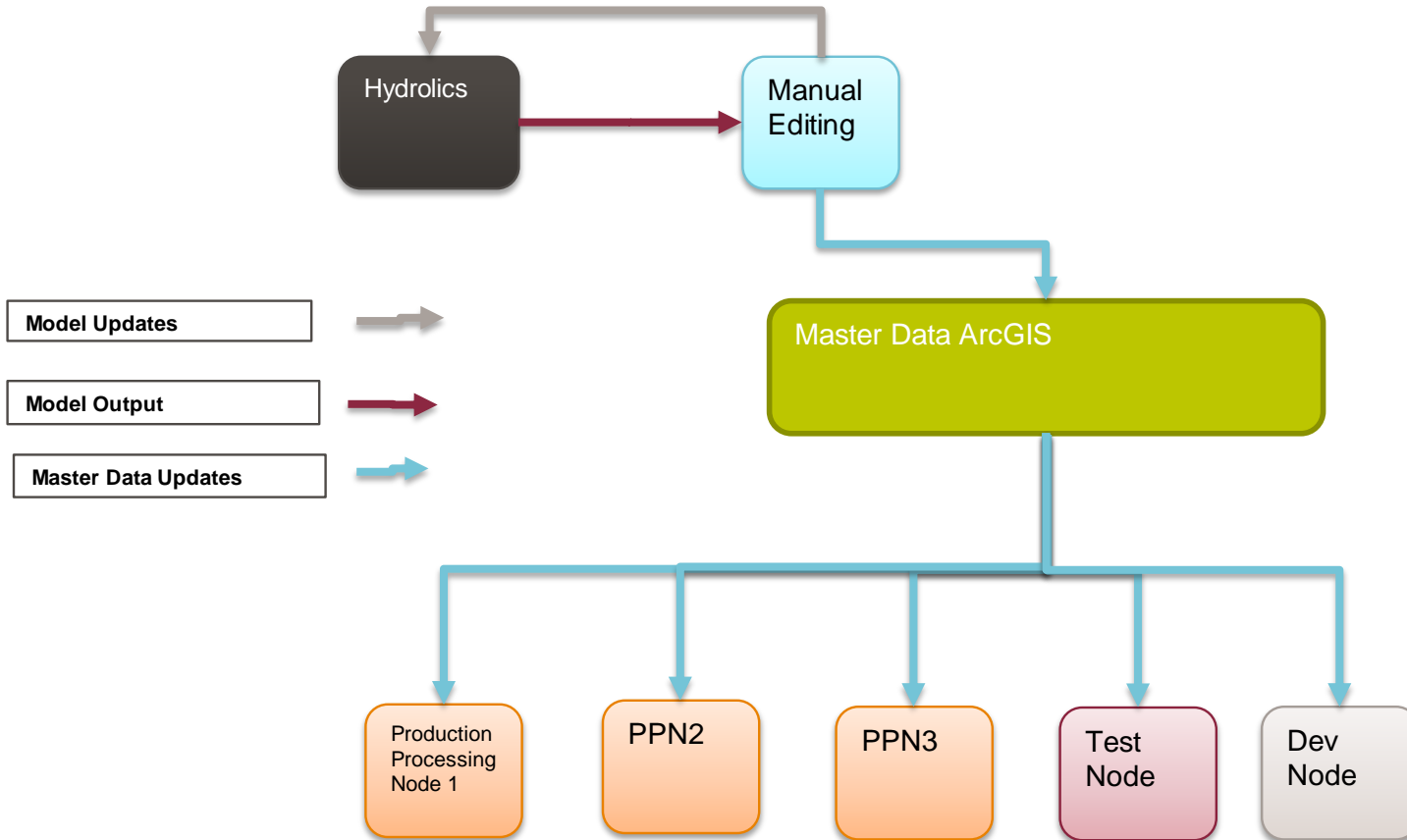
Risk Analysis with Geo Data

Flood Data

Model water flow over terrain to determine depths

- Core data currently in ArcGIS – around 1.5 Tb
- Several models
- Around 300Gb working data set
- Working data in PostgreSQL/PostGIS on Windows
- Models run against millions of points

Current



Current

- Windows
- Commodity Hardware
- Users tend to think in terms of Desktop environment
- Hydrolics runs on GPU generates depth rasters
- Manually merged into master dataset
- Exported to PostgreSQL for running models

Issues

Everything as user postgres

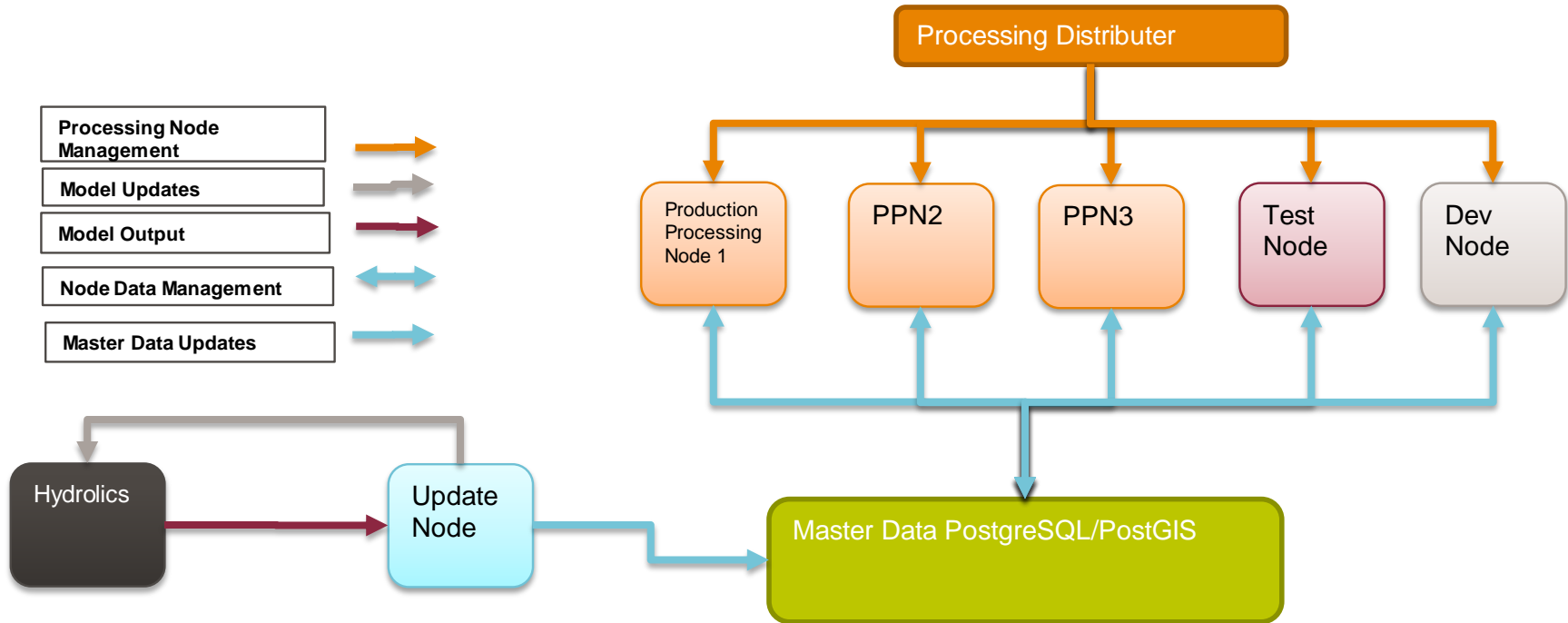
Lot of manual work

- pgAdmin is used as a generic client
- pg_dump to move db to where it's wanted

Correctness

- Tricky to verify
- Version updates externally managed

Proposed



Outcomes

Ease of use

- Familiarity of working pattern

Change identification

- Metrics for change in raster area
- Highlight confidence and areas to look at

Decoupling

- May look pgAdmin 4 framework

Outcomes

Consistent Model Management

- Replication of datasets to processing nodes (possibly BDR)
- Considering sharding client data

Continuous updates

- Structuring updates and releases of models

Other Bits

Hydrolics modelling

- Netezza
- Postgres

Boring but important bits

This presentation was prepared for **PGCon 2015 Lightning Talks** on 2015-06-18 by **Kit Smith, DBA**.
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