



**South West
Water**

Swan 7th Annual Conference

Demonstrating Water Loss Resilience

Bob Taylor – Operations Director DWS, South West Water

May 2017

Agenda



1. Telling the customer what's wrong before they tell you - live network modelling.
2. Data analytics to optimise operation and maintenance of pressure management valves.

Telling the customer what's wrong before they tell you - live network modelling.

FROM



TO



South West Water (SWW) is the **first company globally** to adopt InfoWorks WS Pro & IWLIVE Pro. New software provides the latest in new technology for modelling water networks:

- **Improved performance and calculation speed**, using multi-core and multi work group processing power.
- **64-bit technology**, with limitless database size.
- **New thematic tools**, making use of a wider range of colours and symbols to aid in visualisation of results.
- **Internet connectivity**, making use of Google, Bing and OpenStreetMap mapping.
- **Complete area** of supply coverage.

IWLIVE embraces the same 64-bit, multi-core processing technology used in InfoWorks WS Pro. IWLIVE uses the base models calibrated in InfoWorks but links to live data, to create real time model simulations.

- **Live data recorded by data loggers** and SCADA systems in the network are automatically used in real time model simulations.
- **Operational modelling**, forecasting future events mitigating impact of supply interruption.
- **Identify changes in the network**, both scheduled and unscheduled.
- **Central tool** for multiple data sources
- **Geographical, hydraulic representation** of the water network.
- **Multiple different models** run simultaneously.



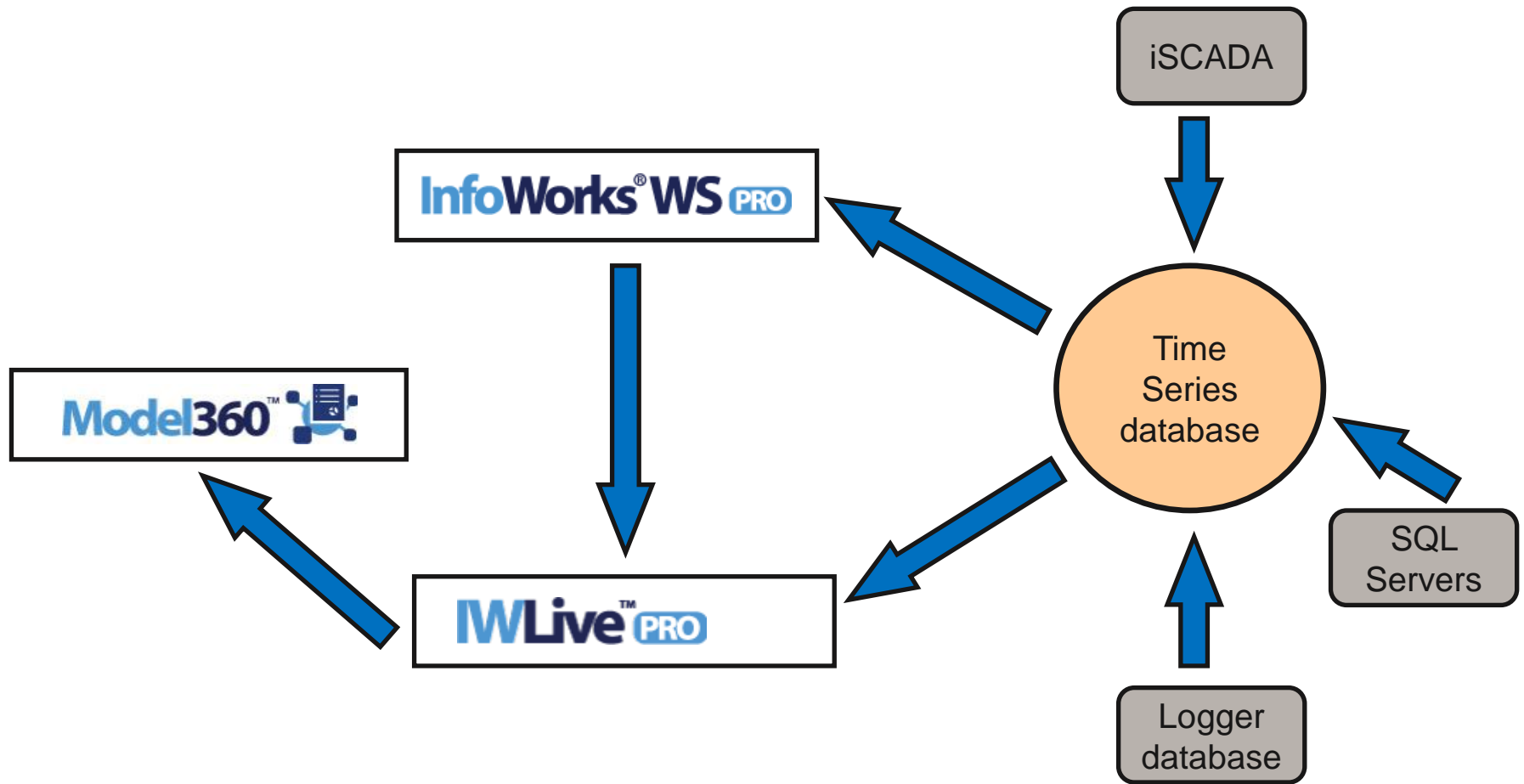
Model 360 further enhances modelling by delivering real time live modelling to field teams, control room and customer facing staff.

- Using **browser technology**, Model 360 links directly into the InfoWorks / IWLIVE database illustrating model simulations as they happen.
- With an **internet connection** models can be viewed in any browser on multiple devices, including tablets and smart phones.
- Future developments will provide **operational staff an ability to carry their own basic model simulations** when planning operational changes on the network.



Real time modelling provides benefits to managing the water network:

- Key system for **managing the network**, as opposed to the network managing us.
- **Provide forecasts** where serviceability may be impacted by failing assets.
- A **dynamic tool to help network management** on a day to day basis.
- **Plan network activity** and identify operational changes that reduce supply interruption and improve water quality.
- Provide a **clearer understanding of the network operation**, improving design and efficiency.
- Design and implement **pressure management**, identifying savings and calming the network.
- **One central location** for network data.



Data analytics to optimise operation and maintenance of pressure management valves.

SWW in partnership with i20 are carrying out pressure management valve condition based maintenance assessments.

- Currently more than **250 SWW PRV's are monitored**.
- **SWW checks data for irregularities** identifying where false positives and false negatives occur – none to date.
- More than **96% of PRV's monitored** are operating effectively.
- Technology **enables timely maintenance** of PRV's before issues may begin to arise.
- **Additional benefits** include the identification of breaches, and network design issues which can be rectified quickly without customer interruption.

PRV condition assessments benefits:

- **Reduce PRV maintenance cost**, only maintain when necessary rather than on a traditional time based interval.
- Identify assets that may **fail before the failure occurs**, reducing the risk of supply interruption.
- **Maintain optimal performance**, keeping leakage night lines low, reducing reported leakage.
- **Maintain a calm network** reducing operational costs in mains repairs and prolong asset life.
- Identify where **networks can be better managed** to improve ODI performance and service delivery.
- Provide **real time data** that can be used in IWLive.



**South West
Water**