Here's the weather forecast: faster

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PROTOTYPE software that can check the accuracy of data processing as it happens could enable scientists to make use of more high-powered modelling systems such as weather forecasting.

The software, developed by researchers at Swinburne University of Technology, can eliminate the need for time-consuming verification checks.

The SwinDeW-V program, developed by a team led by Yun Yang and Jinjun Chen at the Centre for Complex Software Systems and Services, allows checkpoints to be identified at locations in the workflow where the problems have occurred. This would minimise or eliminate the need to run checks across the whole system.

Professor Yang said the system could be applied to many processes, including computation-intensive scientific tasks and climate and weather forecasting, or in business and commerce where the volume of transactions to be processed accurately was a constant challenge.

'With the current capacity, you have to play in a safe way," Professor Yang said.

"There are advanced models sitting there that can't be used because they can't guarantee to be finished by today for say tomorrow's weather forecast.

"If we had this kind of thing built into the system, we can monitor it and try to guarantee everything is done according to the milestones to deliver the outcome in time."

The Swinburne team, led by Professor Yang and Dr Chen, has already formed links with a number of private organisations including a company producing insurance-related software.

The project, which is partly funded by a grant from the Australian Research Council, could lessen the amount of computer processing power required to remain in reserve in case of a problem in the workflow, which would help to lower IT costs.

"We can immediately detect where the delay is and how much it is delayed," Professor Yang said.

"So we can compensate for that by recruiting further resources or do whatever is needed at an early stage."

The software could allow more complex models to be applied to make more accurate predictions, Professor Yang said.

"With our work, potentially a more advanced model could be applied rather than the current model for weather forecasting."

A software system developed at Swinburne University of Technology could help to predict storms such as this one over Rozelle in innerwest Sydney last month