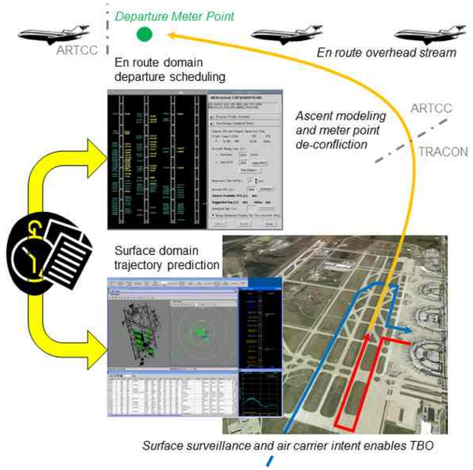
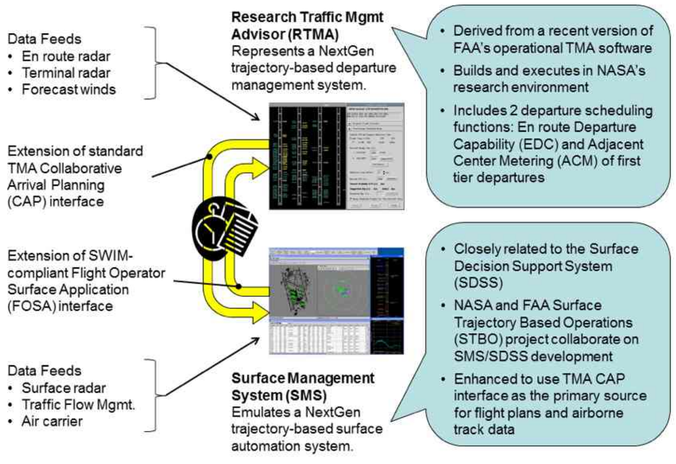
Precision Departure Release Capability (PDRC) Integration, Evaluation, and Transition

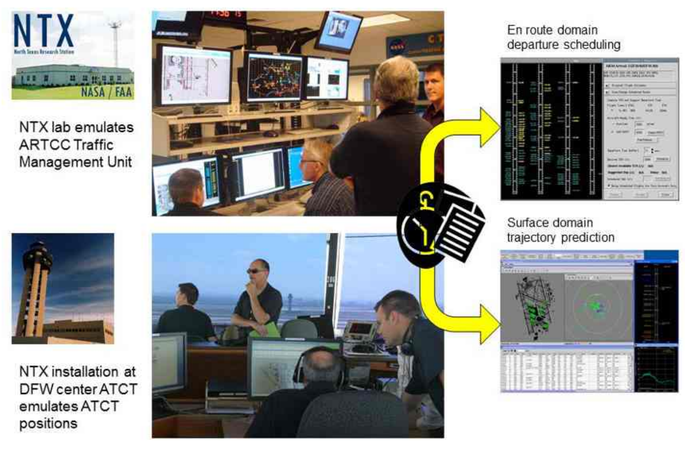
En route domain automation system uses surface trajectory-based OFF time *predictions* for departure scheduling and *coordinates* release times with surface automation system.

PDRC focuses on the automated communication and use of surface trajectory-based OFF time predictions for departure scheduling in Call For Release situations.

Surface automation system *predicts* OFF times for use by en route domain departure scheduler and *coordinates* release times with en route system.







Need
Currently, aircraft departure release times computed by an air traffic management tool to meet Call For Release constraints are based on uncertain estimates of aircraft takeoff times. These uncertain estimates may result in missed opportunities to merge into an overhead stream and lost throughput.

Solution
The Precision Departure Release Capability (PDRC) research activity will assess the use of surface trajectory-based takeoff time predictions to reduce uncertainty and improve en route domain departure scheduling performance in Call For Release situations.

Integration
PDRC integrates trajectory-based takeoff time predictions from a surface automation system with the departure scheduling functions of an operational FAA en route traffic management system.

Evaluation
PDRC shadow evaluations use NASA's North Texas Research Station laboratory and DFW center control tower research installation. Operational evaluations are scheduled to begin in the summer of 2011.

Transition
PDRC technology transfer is being facilitated by the NASA/FAA Integrated Arrival/Departure/Surface Research Transition Team (IADS RTT). The following research products are scheduled for delivery in the summer of 2012:

- Concept of Operations (ConOps)
- Benefits assessment and evaluation results
- System requirements
- Documentation
- Prototype software developed for field evaluations