

## ANALYSIS OF A TECHNICAL TRAINING COURSE FOR SPECIFIC PART-TASK TRAINING IMPLEMENTATION AND ENHANCEMENT (PROJECT: SPTT003/004)

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**Industry Partner: Computer System Designer**

### OBJECTIVES

1. Examine an identified course for major job tasks and related sub-tasks.
2. Develop curriculum for part-task training per each major job task to include specific media and instructional strategy.
3. Assess the progress of each part-task learning element for progression to the next step.
4. Assess the success of the delivery/instructional strategy.
5. Evaluate the success of part-task steps toward the final full simulation task.

### WHAT WAS EXAMINED ?

**Course 43062001**  
**FDIO-G Hardware Maintenance**

Flight Data Processing is essential to the safe movement of Air Traffic. The portion of the Flight Data Processing that we are interested in, prints "Flight strips" or "Flight Progress strips."

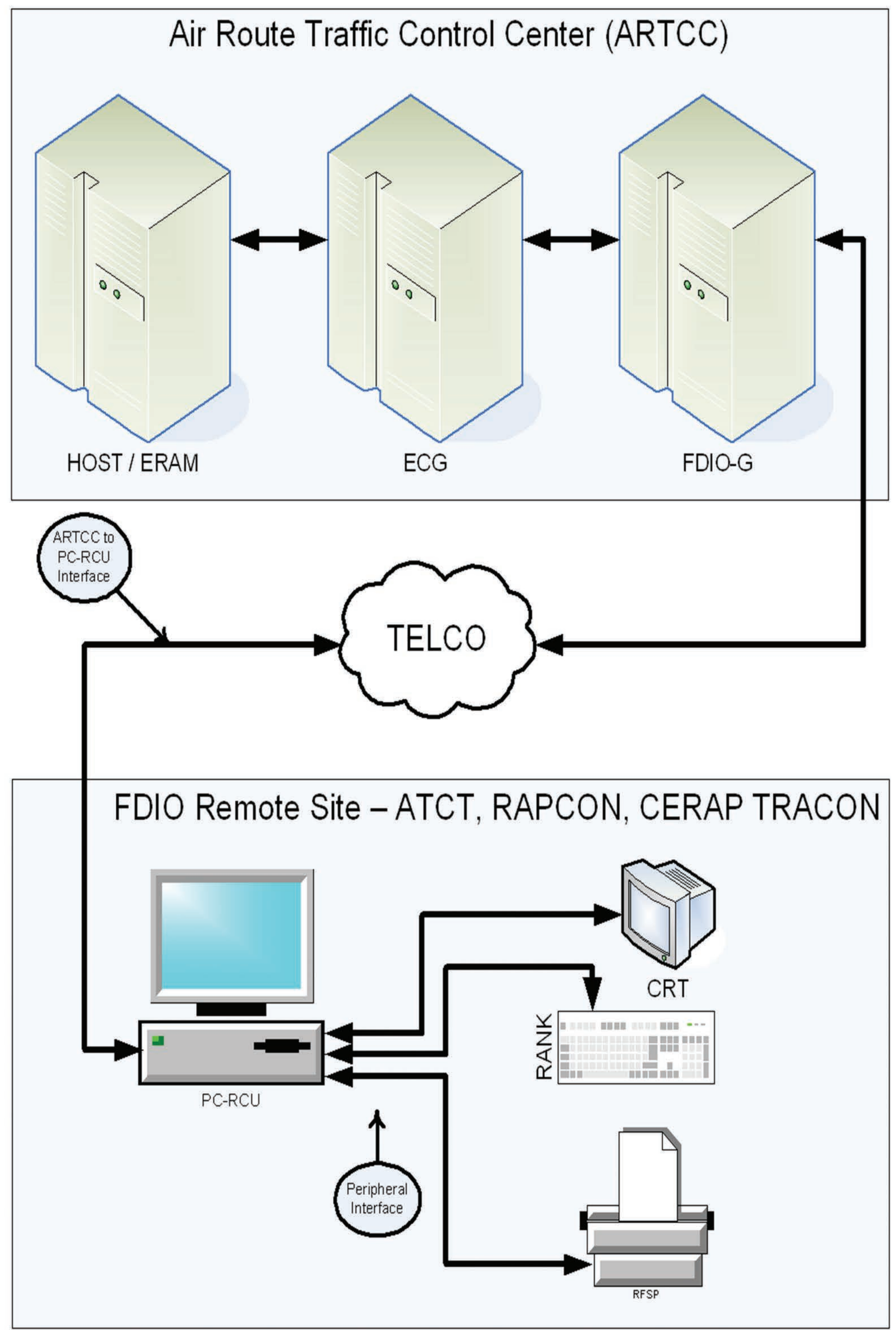
Flight plans from commercial airlines are "fed" to our HOST/ERAM computers on a daily basis. Flight plans filed by general aviation are usually transferred to the HOST/ERAM via a Flight Service Station.

So the HOST or ERAM systems located at each Air Route Traffic Control Center (ARTCC) are the heart of the National Airspace System (NAS).

**Maintenance operations include:**

- Support Processor & In-Rack MX Switching
- Procedures to isolate an FDIO-G fault or failure

All other parts of the course are knowledge and comprehension tasks.



### NEXTGEN PROBLEM SOLVING

Rather than memorize complicated problem-solving routines, these routines can be super-imposed on the actual equipment through Augmented Reality.

In depth knowledge of systems, like the FDIO-G Hardware, is no longer necessary.

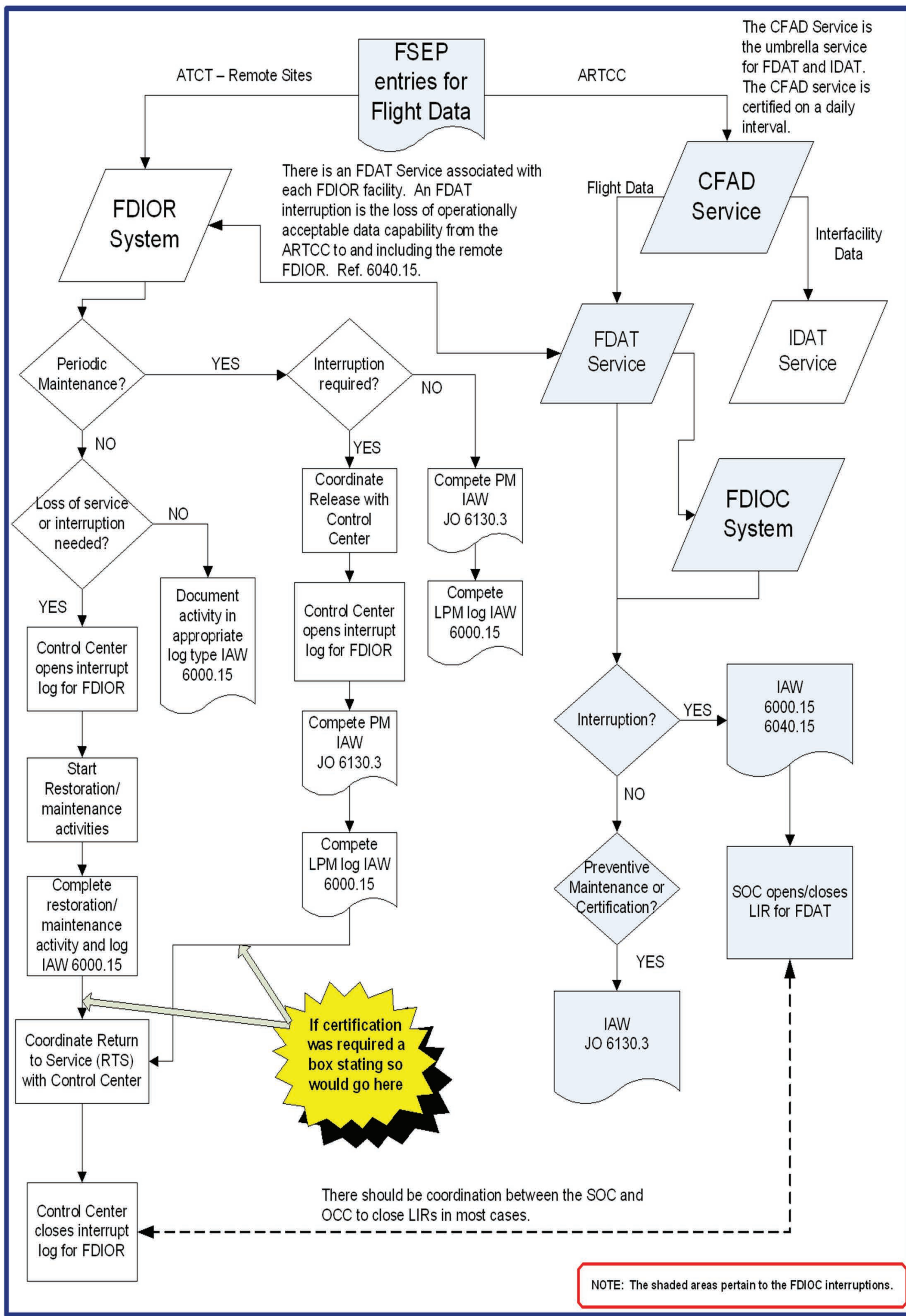
Technicians would review recurrent training on the FDIO-G hardware, before going to repair or replace components.

The key is immediate support from experts anywhere within the FAA.



### HOW DOES THIS CHANGE TRAINING ?

- Short Courses vs. Long Courses for most technicians
- Training is designed to create the best interface between expert and technician
- Assessment of competency development and maintenance is tracked through the learning management system
- Experts are the only technicians who have a thorough knowledge of systems
- Experts need not be collocated with equipment



### HOW WOULD TECHNICIANS COMMUNICATE WITH EXPERTS IN NEXTGEN ?

#### TASK ORDER

Technicians are given a task order for a repair or replacement ticket. With the ticket, there is also a direct telephone line to an assigned expert.



#### TECHNICIAN PREPARATION

Technician checks the task order for the references to hardware and software relevant to the task.

Technician reviews training videos and stream-lined training with use of Virtual and Augmented Reality Smart Glass. Recurrent training is automatically logged, to ensure competencies are maintained.

This helps those who have worked with equipment before, but infrequently.

TASK ORDER	
WHAT?	
WHERE?	
WHEN?	
HOW?	
DIRECT LINE TO EXPERT 1-555-550-1234 JANET SMITH	

#### TECHNICIAN ON SCENE

**Constant Contact:** The technician stays in contact with the expert listed on the task order, while conducting the repair or replacement of hardware.

**Verification:** This allows the expert to verify that the task was accomplished within the specifications of that equipment.

**Safety:** Technicians working alone would maintain an audio and video link with the expert, who in case of emergency would be able to get first responders on scene to assist.



### NEXT STEPS

Launch a pilot program to validate the approach (IDIQ)