CDM

Collaborative
Decision Making

Future Concepts Team

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Task 93

CDM in the Cockpit

Consider the overarching potential for having the Cockpit involved with collaborative traffic management processes.

Overview:

- Improved communications will allow for increased efficiency in the use of airspace
- Reducing additional flight time, distance flown, and fuel consumption relative to playbook routing
- Increased situational awareness
- Reducing complexity of airborne re-route application

- The FCT concluded that there are benefits to be gained from increased situational awareness in the cockpit via emerging technologies.

- Any potential tasking would at a minimum need to consider the following:

- Pilot awareness – CDM/WET work with RTCA SC206 to define a minimum set of information content that may be required for cockpit participation in CDM.

- Safety – CDM/FET may need to standardize the rules of engagement and determine safety impacts of cockpit airborne reroute requests

- Communication Flow – CDM/FCT will examine how advance communication can decrease workload and in turn improve efficiency and predictably in the NAS

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NEXTGEN research:

- The FCT recommends regular coordination/collaboration with the NextGen office on relevant projects.

- The FCT recognizes value in having diverse participation from within the NextGen office, cockpit operations, aircraft dispatchers, and controllers.

- The FCT should continue to explore other work taking place and tools that may be relevant to this effort.

Task 97:
Trajectory Based Options & Future Flow Management

What is TBO?

- TBO is an air traffic management method for strategically planning, managing, and optimizing flights.
- It relies on time-based management, performance-based navigation, and enterprise enablers such as data communication and System Wide Information Management (SWIM)

The FCT will provide feedback to illustrations of TBO capability by:

- Focusing on flight operator impact
- Identifying TFM shortfalls, and benefits
- Outlining a vision towards resolving identified shortfalls while exploiting expected benefits.

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The FCT considers the initial feedback on TBO as follows.

- We recommend further development of interdependency mapping among the many TBO components with geographic and timeline specifics.
- Provide a clear outline of technologies and highlight how the current operation will be changed.   The impression is that TBO will perform better in specific regions, but we do not have a clear understanding of the conditions that would improve results.

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- Expand on the differences of TBO from other NextGen initiatives.

- Provide specifics regarding required operator investment for successful participation. Outline expected impacts to non-participant aircraft/operators.

- Provide a realistic timeline for deployment, training, and implementation of NAS users and FAA workforce.

Future Flow Management

- The FAA cannot realize the benefits of TBO alone.
- Successful implementation may require Changes to process and procedures.
- Flight operator investment in avionics, ground infrastructure, and training.

The FCT has been tasked to provide feedback on the following:

- How these capabilities may impact both pilot and dispatcher operations.
- Achieving a greater understanding of current operational shortfalls pertaining to flow management operations.

Work continues on Task 97.

The FCT will be briefed on
Future Flow Management
for further consideration .

Questions?

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