Friends and Partners of Aviation Weather Summer 2016 Meeting

PERTI

Date:
August 3, 2016

Presented to:
FPAW

Presented by:
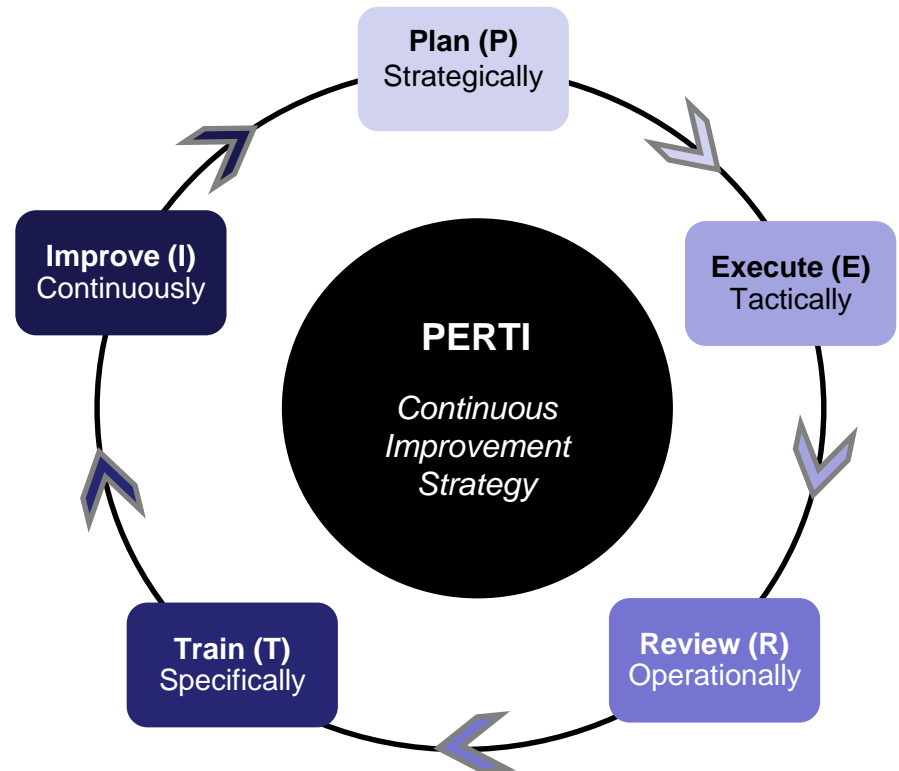Jim Enders and Kevin Johnston

FAA Air Traffic Organization

Program Overview

What is PERTI?

– NAS–wide ATO initiative

– Next phase of the SysOps Continuous Improvement Strategy

– Involves resources, processes, and analytics

– Enables SysOps to become more strategic and proactive to reduce current trends

Plan (P) Strategically

Execute (E) Tactically

Review (R) Operationally

Train (T) Specifically

Improve (I) Continuously

PERTI

Continuous Improvement Strategy

Program Overview

What does PERTI involve?

PLAN
- Expand and align the planning horizon to better prepare for predictable events mitigating impacts

EXECUTE
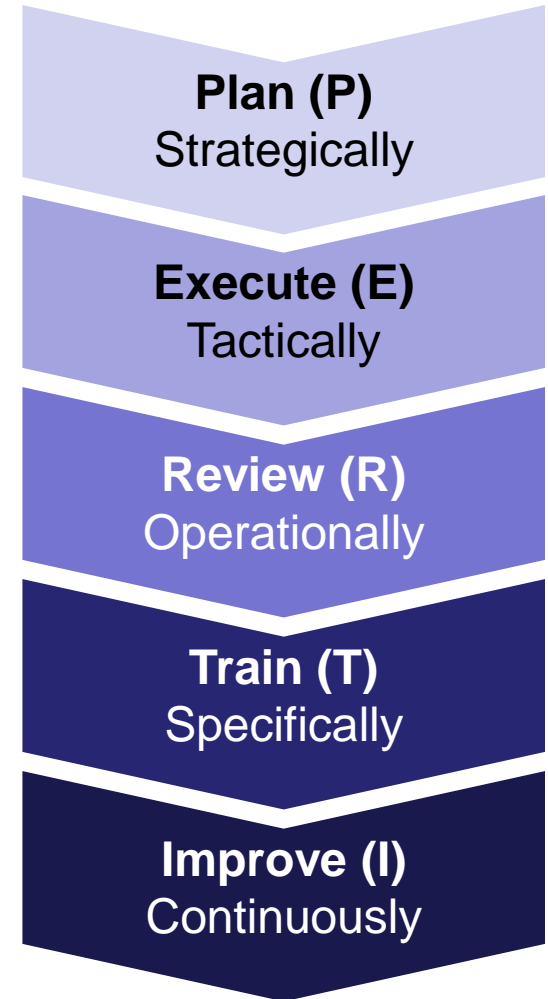- Execute the pre-tactical plan to serve as the basis of daily operations

REVIEW
- Develop operational insights using data, metrics, and tools to expand the institutional knowledge

TRAIN
- Use the information gained through the Review process to specifically customize appropriate training on process and systems

IMPROVE
- Measure new capabilities and system performance with key metrics and integrate lessons learned into the operation to continuously refine and improve processes

Plan (P)
Strategically

Execute (E)
Tactically

Review (R)
Operationally

Train (T)
Specifically

Improve (I)
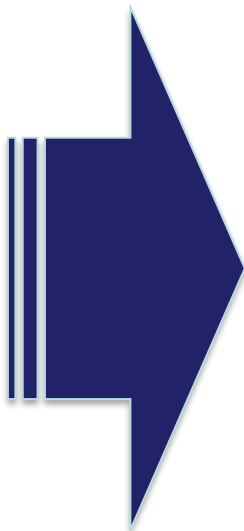Continuously

Program Overview

How will PERTI help?

- Provide required resources to enhance strategic planning
- Expand the planning horizon and align strategic processes
- Provide timely collaboration to solve operational challenges
- Provide a mechanism to evaluate new operational capabilities and procedures
- Deliver a review, feedback process to integrate operational insights into training for continuous improvement
- Mitigate impacts of disruptive events (such as severe weather, planned outages, NOTAMs, capacity changes/impacts)
- Better optimize daily available capacity

NASOperations
ATOSysOps

PERTI

Today

► **Plan**
- Day of Operation (Occasionally done the day before)

► **Execute**
- Execute Plan

► **Review**
- Review only, no training or strategic planning follow up

► **Train**
- Discrete activity, does not incorporate lessons learned

► **Improve**
- Lessons learned not used to improve training or strategic planning

Tomorrow

► **Plan**
- Continuous planning activity beginning 5-7 days prior to the Day of Operation (rolling schedule)

► **Execute**
- Execute Plan

► **Review**
- Daily Operational review provides data analytics for future strategic planning and input for training improvements

► **Train**
- Training are based on analytical review of operational data, with the intent to learn from positive as well as negative courses of action

► **Improve**
- Lessons learned applied operationally via improved training and fine tuning of strategic plans

Operational Benefits to ATO Stakeholders (examples)

AJT — Air Traffic Services

- Allows proactive staffing to manage disruptive events
- Provides continuous recurrent training to staff
- Establishes best practices for management of disruptive events

AJW — Technical Operations

- Allow proactive realignment of staff for anticipated events
- Faster Return Time Service (RTS)
- Minimize impacts from planned equipment outages

AJI — Safety and Technical Training

- Support implementation
- Tool/Tech to measure operational performance of PERTI
- Measure other NAS initiatives

Weather Community Involvement

How can Weather Community support PERTI and use PERTI process to improve upon itself?

- Is there a logical fit for weather with every step of the PERTI process?

- What weather forecasts can be used to support strategic planning out to five days?

  - Are certain types of forecasts more predictable?(C&V/Snow/Convection/Wind)
  - Who could provide and assess?
  - How do we begin linking with NAS operational strategies/decisions?

- How will the weather community transition from planning to execute phases with respect to product and services?

- How will weather assess it's performance and integrate operational insights into training for continuous improvement

SUMMARY / DISCUSSION (CONTINUED)

Building upon Similar Weather search:

➢ *Develop a capability to identify similar forecasts from historical weather data*

➢ *Identify subset of days where the forecast supported effective NAS management planning*

➢ *Consider actions from these days to inform planning*

➢ *Also identify days where the weather did not follow the forecast; analyze tactical adjustments made and compare against NAS performance metrics*

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Additional Discussion From First Presentation

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NAS Operations
ATOSysOps

SUMMARY / DISCUSSION (CONCLUDED)

Our ability to expand the NAS Planning window depends upon the inclusion of data driven analysis:

- ➢ *Similar weather and similar forecast search*
- ➢ *Probabilistic forecast information*
- ➢ *Statistics of objective forecast verification*
- ➢ *Historical NAS performance outcomes*

SUMMARY / DISCUSSION (CONCLUDED)

Future analytic capabilities needed:

- ➢ *Similar forecast search methodology*

- ➢ *Better definitions of "good" vs. "poor" NAS performance*

- ➢ *Methodology for application of probabilistic forecast information into plans and contingencies*

- ➢ *Ability to execute against "80% forecast", contingency planning for remaining "20%"*

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SUMMARY / DISCUSSION (CONCLUDED)

Closing the NAS Management Feedback Loop:

➢ *Collaboration with stakeholders*

➢ *Data that drives decision making and collaboration on resulting plans*

➢ *Capture of information for post-operations analysis*

➢ *Incorporation into training, leading to improved NAS performance*

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