

Test Point Flow

A structured approach to test conduct

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23 Jan 2017

Caveat

- This presentation is not meant to imply invention of a novel concept.
- Rather, it is to take concepts that experienced testers understand **implicitly** and refer to with **various terms** and
 - make the concepts EXPLICIT and
 - develop COMMON TERMINOLOGY for the concepts.

Change Log

- 1.5
 - Changed “Maneuver” to “Procedure”, since some test points don’t involve maneuvering the aircraft.
 - Some happy to glad
 - Some arrows
- 1.6
 - Identified “missing objective text” as TPS curriculum material that served to motivate the concept, but not vital to the remaining presentation
- 1.7
 - Cleaned up to remove any TPS-related items, but keeping fundamental definitions

Common Test Conduct Errors

- Omitted or improperly timed communication:
- Poor transitions between test points

Hypothesis

A causal factor

in both successful and error-prone test conduct

is

the understanding (or misunderstanding)

of where and when

critical phases of a test point

begin and end

Which begs the question...

¿

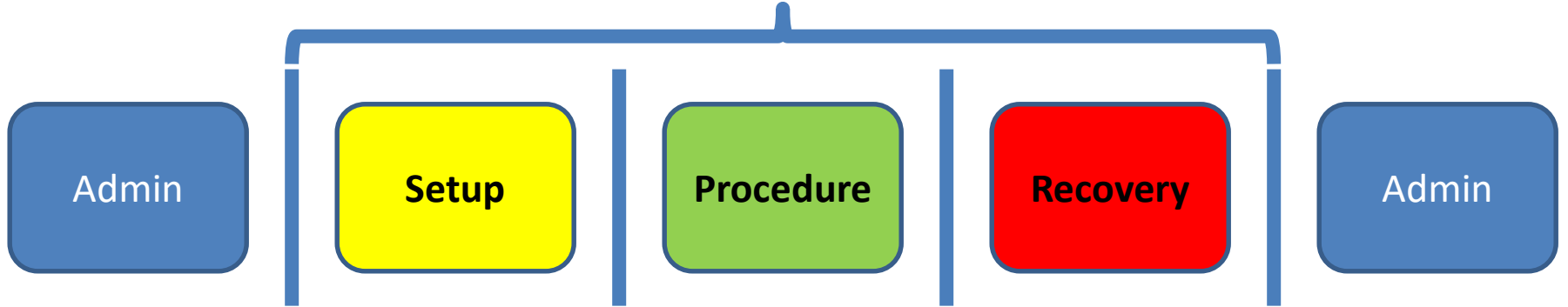
What ARE the

“critical phases of a test point”

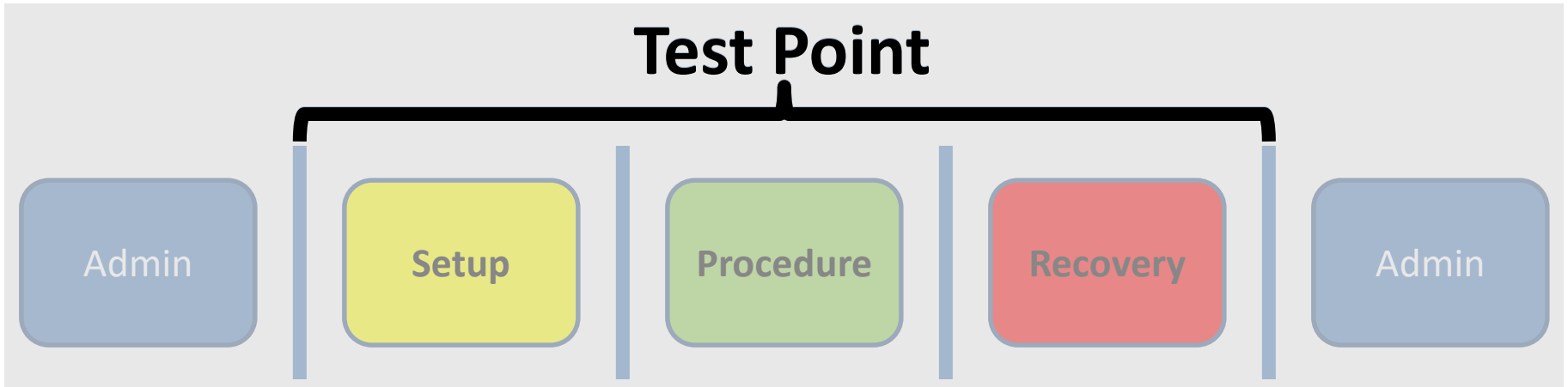
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Proposal

Test Point



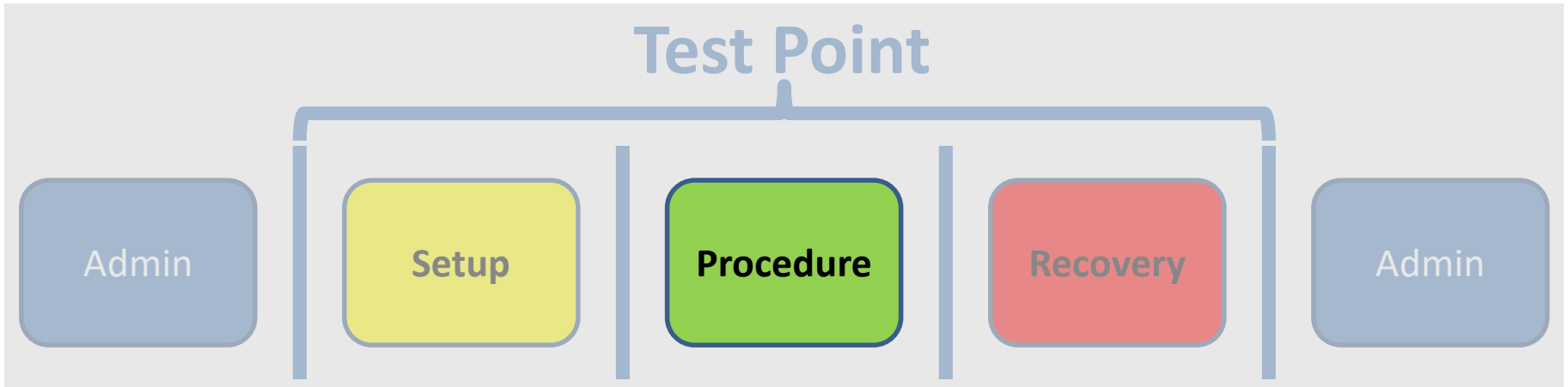
Test Point



A Quantum of Test

The smallest unit of flight test
comprised of
a beginning, a middle, and an end

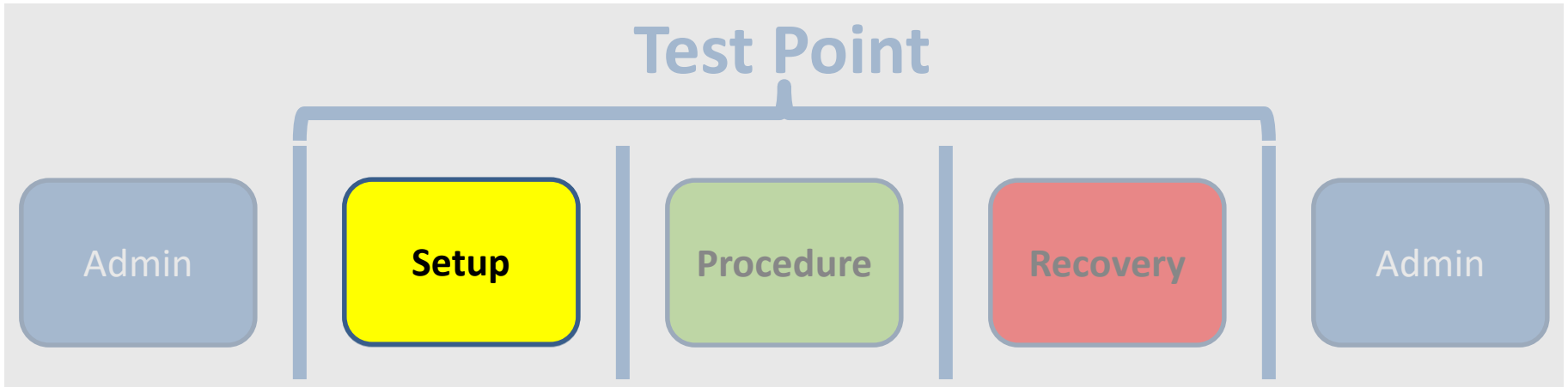
Procedure



Where The Data Live

The actions of
the operator and the system
that generate data
to support a test objective

Setup

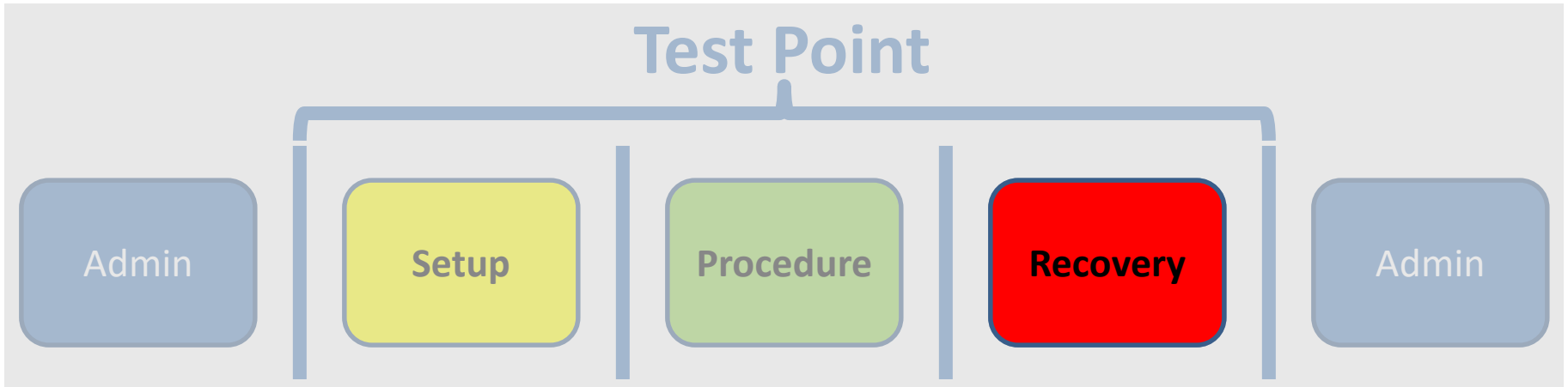


Preparation for Test

The actions of
the operator and the system
that establish the conditions*
for a successful Procedure

*(geometry, geography, system state)

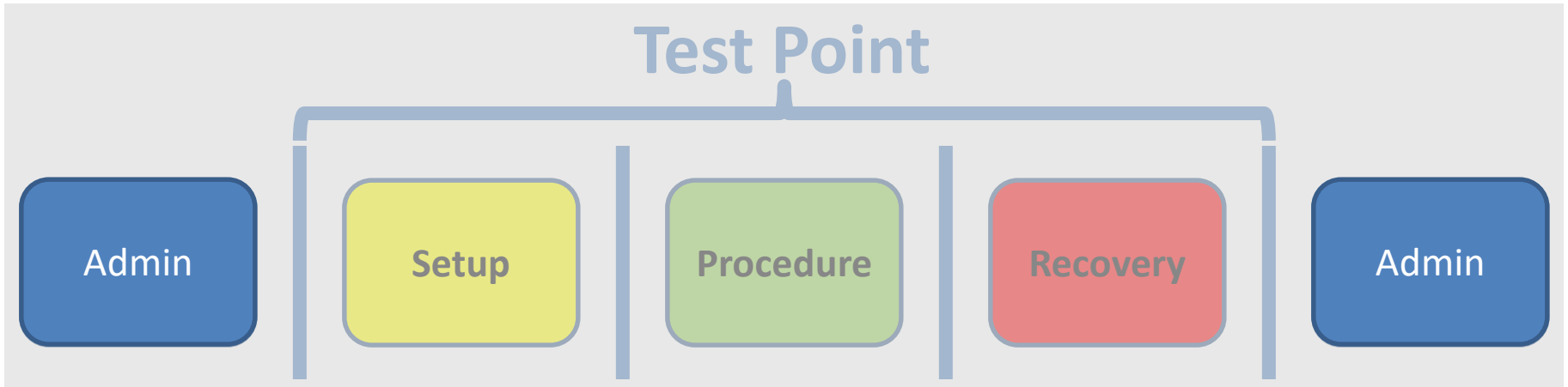
Recovery



Return to Normal Operations

The actions of
the operator and the system
that safely allow resumption
of “normal” operations

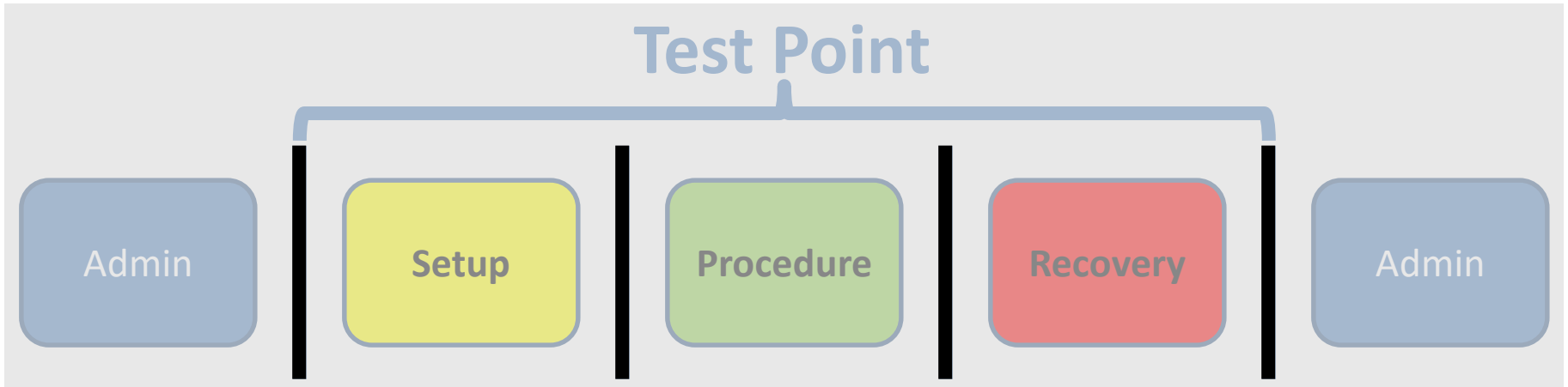
Admin



A Change of State

The actions of
the operator and the system
before the test, between test points,
or after the test

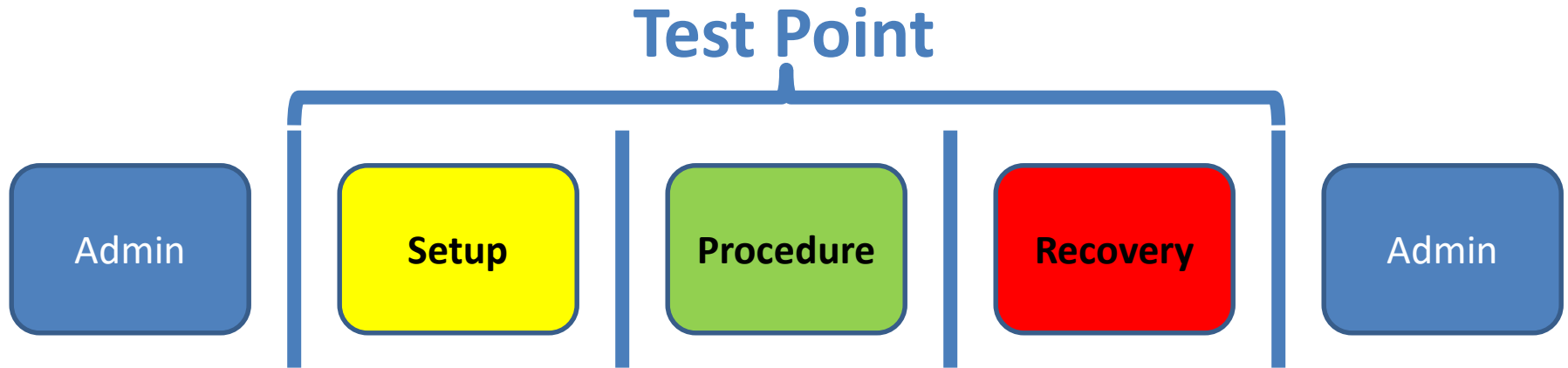
Transitions



“Pause” Points

The gates from one
critical phase
to the next that
establish the cadence of the test

The Structured Approach



For each test point, the test team

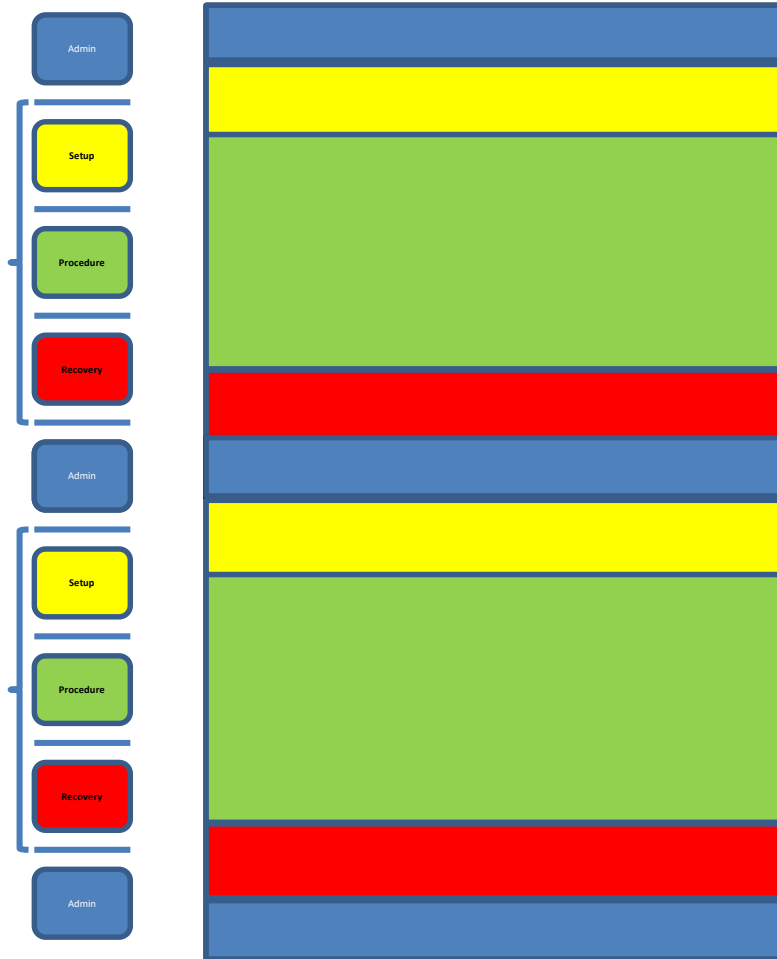
- **defines** the contents of each critical phase,
- **determines** entry and exit criteria through the transitions,
- **creates** a communications plan to support the transitions, and
- **creates** mission materials to assist in test conduct

Application to Test Card Creation



Each test card reflects the critical phases of the test point under consideration.

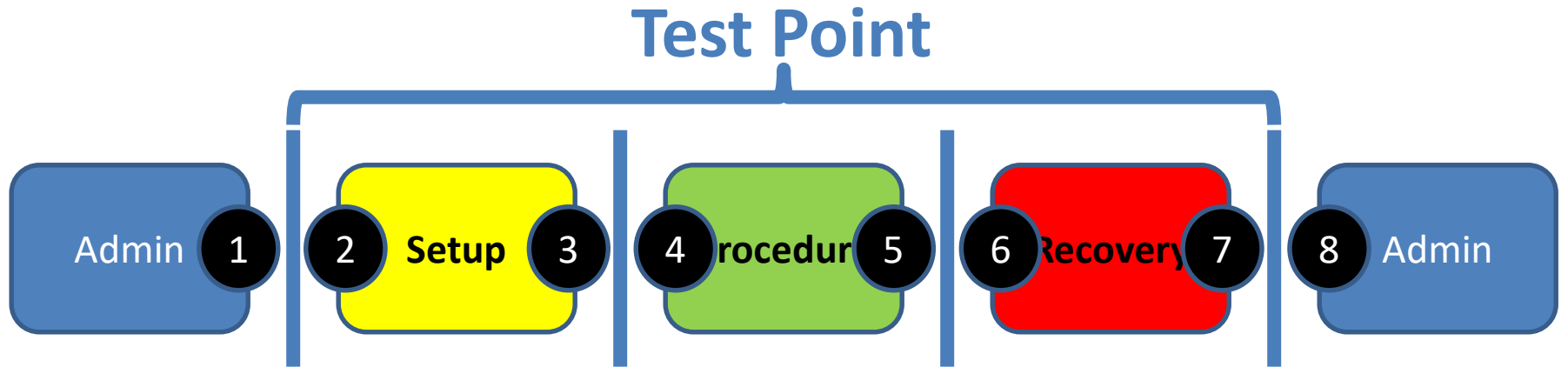
Application to Test Card Creation



Multiple test points can be put on a single page!

The recovery/admin/setup phases between each point **are explicitly included**, instead of just a string of Procedure phases.

Application to Comm Plan



1. Test: "Ready for next point"
2. Control: "Cleared to <condition/configuration>"
3. Test: "On conditions"
4. Control: "Cleared to maneuver"
5. Test or Control: "Maneuver complete/Recover(ing)"
6. Control: "Cleared to <condition/configuration>"
7. Test: "On conditions/Configuration complete/Recovered"
8. Control: "Point complete. Next point is X at Y"

Odd = Exit
Even = Entry

The Key to Success:

The test team defines **the content and duration** of each critical phase and identifies **exit and entry criteria** for the transitions between phases