



TOCICO 2012 Conference

The Boeing Company CCPM Maturity Model

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Introduction

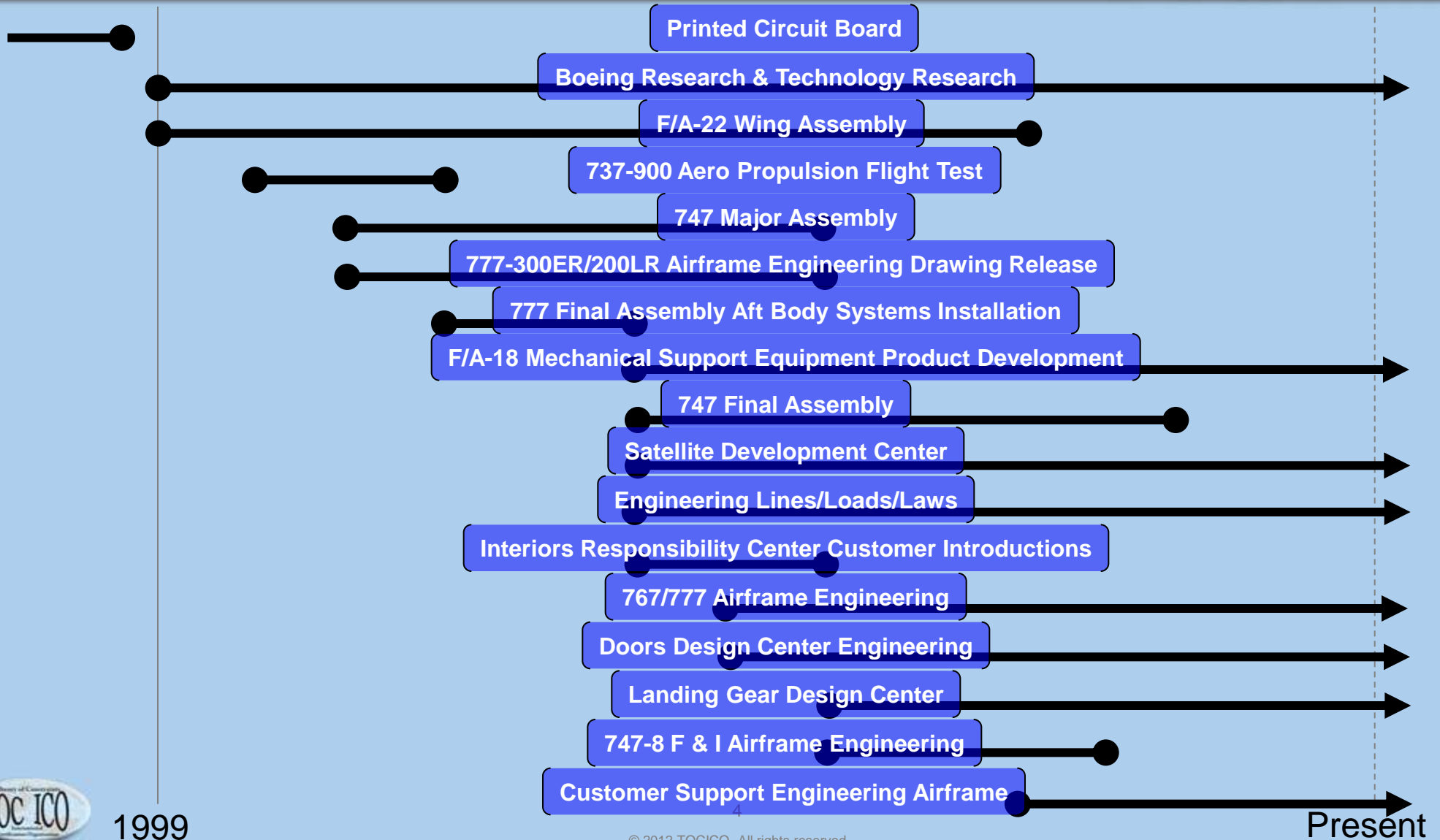
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- **CCPM is widespread throughout The Boeing Company!**
- **Sustained improvement is difficult!**
- **Organizations need to stabilize and continuously improve their CCPM capabilities!**

Boeing – “CCPM is widespread”

Years of practice, 16+ implementations, and 8+ still running

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1999

Present

Sustaining Improvement is Difficult!

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- **Issues for large organizations – “Critical Chain at Boeing” by Scott Button, BTEC 12 Presentation:**
 - Legacy measures are preventing the necessary behavior changes
 - Project management reference state fairly mature
 - Projects are complex
- **Project lifecycle, when the project ends so does the team and use of CCPM**
- **Implementations focus too much on tools not enough on behaviors**

In spite of current reality, need to continuously improve!

Stability and Continuous Improvement

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- **Developed process documentation based on CCPM best practice to address our project management lifecycle**
 1. **Intake & Prioritization** – Accepts, documents and establishes clear planning priorities for ALL approved work into the CCPM system
 2. **Planning & Commitment** - Creates detailed task networks to schedule commitments
 3. **Full Kit Prep & Execution** - Full Kit Prep defines and provides visibility of the necessary actions required to prepare a project prior to actual release for execution. During execution buffer management defines priorities for resourcing and management decision making.
 4. **Buffer Recovery** – Actions are taken to recognize and resolve issues quickly which support Buffer Recovery when buffer management can no longer control the project or system.
 5. **Closure** - Documents deliverables and after action review data
- **Experience revealed process documentation wasn't sufficient**
- **Needed a method to continuously evaluate process compliance**

General Approach

CCPM Capability Maturity Model

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- **First evaluation method based on 5s checklist approach**
 - Not satisfied with results, scores too high and project performance didn't match
- **Carnegie Mellon's CMMI[®] established well thought out architecture for developing process capability and maturity assessments**
- **Utilizing the Carnegie Mellon architecture, a CCPM Capability Maturity Model was established**
 - **Management groups perform self assessments quarterly**
 - **Groups required to present evidence to improvement steering team**
 - **Steering team made up of management and engineering peers.**
 - **Steering team tasked with identifying process improvement opportunities and lead process standardization.**
- **Using this as an opportunity to learn and extend our organizations ability to continuously improve utilizing the Theory of Constraints as a backbone**

General Approach

CCPM Capability Maturity Model

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CCPM VERIFICATION PROCESS STEP 3. FULL KIT PREP & EXECUTION

PROCESS DEFINITION

Full Kit Prep defines and provides visibility of the necessary actions required to prepare a project prior to actual release for execution. During execution, buffer management provides visibility of project status and defines priorities for resourcing and management decision making.

PROCESS DESCRIPTION

FULL KIT PREP

Ensuring the client is aware of the necessary tasks and resources to be provided to the project prior to release for execution. This process is a critical step in the project preparation process. The necessary tasks and resources to be provided to the project are identified and documented.

The Full Kit Preparation and Execution process is a critical step in the project preparation process. The necessary tasks and resources to be provided to the project are identified and documented.

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RELATED PROCESSES

Planning & Commitment

Identifying and committing resources to the project is a critical step in the project preparation process. The necessary tasks and resources to be provided to the project are identified and documented.

Buffer Management

Identifying and committing resources to the project is a critical step in the project preparation process. The necessary tasks and resources to be provided to the project are identified and documented.



CCPM VERIFICATION PROCESS STEP 3. FULL KIT PREP & EXECUTION

CAPABILITY VERIFICATION

Process Capability	Documented Actions/Behaviors
Level 3.0 Attempted	CCPM is not being used or basic elements are seriously compromised.
Level 3.1 Performed	<p>Project does not begin until necessary inputs are available (Full Kit Prep) and it is scheduled to start.</p> <p>During execution tasks are delayed to secure the necessary inputs.</p> <p>CCPM execution Run Rules are followed:</p> <ul style="list-style-type: none"> Task remaining duration is reported Work diligently on the highest priority task until complete Hand off the deliverable as soon as it meets requirements (not when it's due) Buffer management is used to prioritize assignment of resources Buffer management reports are used to monitor progress
Level 3.2 Managed	<p>Leadership is actively supporting and involved in the CCPM process</p> <p>Full Kit Prep resources work only on the preparation activities not execution tasks</p> <p>Release of projects is limited to maximize throughput</p> <p>Projects are released for execution based on constraint capacity</p> <p>CCPM reporting is timely and accurate</p> <ul style="list-style-type: none"> Frequently update task remaining duration (Drive Daily Execution) Buffer management reports are distributed to stakeholders Problems are identified early and resolved to avoid/minimize buffer penetration Buffer management meetings are held regularly <p>Self Assessment Score = 1.9</p>
Level 3.3 Standardized	
Level 3.4 Monitored	
Level 3.5 Improved	

Achievements

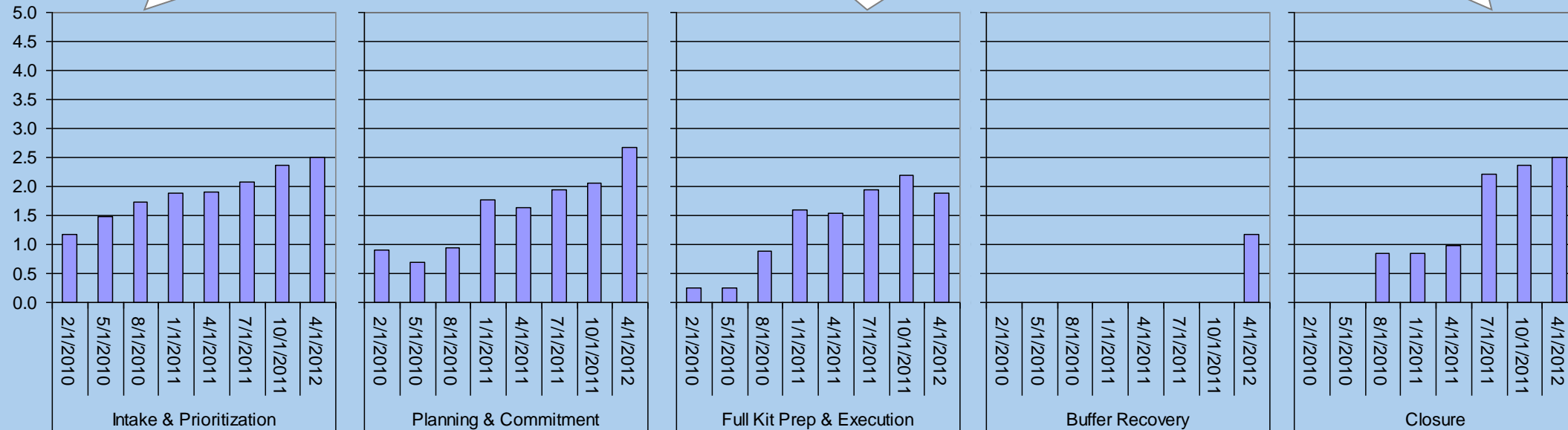
CCPM CMM Results - "Engaging the Teams"

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1. All teams utilizing standardized priority db
2. Teams add stakeholder pipeline review

1. Prioritized previously hidden work
2. Added formal project prep process

1. All teams add after action reviews following project closure



1. Added ghost projects
2. Engaging change board group to formalize CCPM commitment process

1. Latest score suggest previous capabilities didn't adequately address buffer management and recovery



Conclusion

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- **Last 24 plus months Customer Support Engineering has utilized the CCPM Capability Maturity Model to achieve significant results**
 - **Greatest results due to Lead Engineer's agreement to more aggressive schedules and corresponding reductions in WIP**
 - **This compromise has greatly increased reliability and the team continues to increase throughput**
 - **There are more smiles and maybe even a 'culture of engineering' developing**
- **Exercise has stretched our organizations boundaries with respect to process improvements and Critical Chain Project Management**
- **Although not fully mature, a lot will be learned as the organization experiences results that mimic higher levels of capability**