## Approvals

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<th>Approver</th>
<th>Section</th>
<th>Function</th>
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<th>Date</th>
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<td>P1K, P2K Product Line Leader</td>
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<td>Satcom Product Line Leader</td>
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<td>Enter Name</td>
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<td>Datalink Product Line Leader</td>
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## Revision Change History

<table>
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<th>Rev</th>
<th>Author</th>
<th>Date</th>
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<tr>
<td>1</td>
<td>Nitya Nagarajan</td>
<td>7/2/2015</td>
<td>Initial release of document</td>
</tr>
</tbody>
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Rev 1
1. Introduction

1.1 Purpose and Scope

Honeywell licenses various field software tools to operators. These software tools are mostly used for diagnostics, data uploading and downloading functions. These tools are predominantly based on Windows operating system (OS) which means that for every new operating system version that is released by Microsoft, these tools need to be tested/rewritten to make them compatible with the new version. Hence operating system version obsolescence and lack of readily available COTS devices with legacy operating systems are some of the major issues faced.

This document meets a need expressed by multiple Honeywell customers for addressing such issues and for also having tool specific roadmaps. The document describes the process for testing the tools when operating systems migrate to newer versions. This will ensure that the tools keep pace with the Honeywell selected operating system versions. Honeywell is also working on plans to identify strategies to make the software tools, operating system agnostic, which are also listed in the document.

Apart from the above, the document captures the roadmap plans for the software tools. It outlines planned features in the tool and their timing of introduction. It will allow customers to plan upgrades aligned with budgets, as well as provide information for their decision-making processes.

1.2 Tool Information

The following are the list of tools that are covered in this document in this revision–

- Winviews for enhanced ground proximity warning system (EGPWS)
- Remote Terminal
- SATCOM - ORT Tool
- SATCOM CMTI (Commissioning & Maintenance Terminal Interface)
- CFE738 Maintenance Tools 2.4
- IM 600 Configuration Tool
- TPE Recomp
- Ground Based Software Tool (EPIC CMF GBST)
- Aircraft Reconfiguration Tool
- AirSIM
- Electronic Engine Interface / Engine Conditions Trend Monitoring

More tools will be updated once their roadmap details are available. The list of tools that will be addressed as part of this roadmap are listed in the following link

2. **Problem Statement and Summary of Offering**

### 2.1 Problem Statement

The software tools were funded and developed during new product development within multiple departments and have not had a roadmap to keep them up to date on the latest operating systems. Hence operating system version obsolescence and lack of readily available COTS devices with legacy operating systems are some of the major issues faced today. In order to provide more focus towards resolving this issue, this document will give a consolidated view of the plan for testing the tools and also on the different upgrades planned for the tools.

Honeywell customers requested this plan for testing the tools as operating systems migrated to newer versions. Also requested was a holistic view to the tool-level road map and the timing for their introduction so that they can better plan for upgrades to be installed in their fleet or single aircraft. In order to address such need this tool-level Roadmap document is created.

### 2.2 Summary of Offering

**What needs are we addressing in the Market?**

VOC obtained through Honeywell’s GCC (Global Customer Committee) states the need for advance release of information by Honeywell on roadmap plans for software tools, to allow for early decision-making and planning of upgrades.

**Ideal customer (segment)**

All BGA and ATR segments are targeted to benefit from these tool-specific Roadmaps.

**Fit with business and product strategy**

Tool-level Roadmaps are needed to integrate the specific requirements represented by the corresponding products to meet the customer needs.
3. Software Tool Maintenance Plan

The following figure captures the overall plan for the maintenance of the software tools.

1. For the sustenance of the tools the plan is the following. Before the currently supported Operating System reaches its end of life, the tools will be validated on the “then-latest” OS. The tools that fail will be verified to work on the Virtual Machine solution. When there is no possibility of support, the tools will be evaluated for rewrite.

   For the other intermediate versions (as long as the currently supported OS Win 7 has not reached end of life), the tools will be tested on such versions and their status dispositioned at the myAerospace portal.

   Refer Figure-1 below at the end of the Section

2. In addition to this, HON will work on developing a white paper for proposing concepts towards making the tools OS version agnostic. Selected tools will be prototyped on the chosen approach. Some of the approaches that are being evaluated are –

   a. Migrating the tools to Linux OS

   b. Retain the tools in current version of windows OS and test only on next major Windows Version (Windows 10 is supposedly be the ‘final’ Windows version, refer links for articles citing the analysis)

      http://www.extremetech.com/computing/205320-microsoft-windows-10-will-be-the-last-version-of-windows

      http://www.forbes.com/sites/gordonkelly/2015/05/08/microsoft-windows-10-last-windows/

      http://www.theguardian.com/technology/2015/may/11/windows-10-last-version-microsoft

      http://mashable.com/2015/05/08/windows-10-last/

   c. Tools Portfolio migration using OS Independent Layer Interface (OSILI)

3. HON will also work to develop a tool development standard and style guide to which individual tool teams will adhere to. This will apply for new tools being developed.
**Tool Consolidation & Abstraction from OS**

- **Data Loader Tools**
- **Fault Log Decoder tools**
- **Database Generator Tools**

**Virtual Machine Platform**

Rewrites to ensure OS compatibility for critical tools

**Tool Maintenance & Support**

- **Legacy Tools**
  - Strategy: Ensure compatibility on currently supported OS

**Virtual Machines/Tool Rewrites**

- Strategy:
  - Leverage VM to extend life
  - Rewrite critical tools not suitable for VM OS or FAA-qualified tools

**Consolidation Tools**

- Strategy:
  - Consolidate tools onto common platform based on ease of porting and software characteristics
  - Develop standards for new tools to minimize OS dependency

**Timeline**

- **1980**
- **2013**
- **2015**
- **2016**
- **2017**
- **2020**
4. Tool Roadmap by Product Line

The following sections contain the tool roadmaps and strategies for the software tools.

Each section has its content defined by the M&PM Product Line owner. The intent is to provide a picture of the upgrades that are planned for the software tools.

4.1 Platform Systems Product Family Tools

4.1.1 EGPWS Product Line Tools

4.1.1.1 Winviews for EGPWS

Description: Automates some of the self test functions, and gives the capability of viewing software variables (called CVT Items) in real-time.

M&PM Product Line: EGPWS

4.1.2 EPIC Product Line Tools

4.1.2.1 Remote Terminal

Description: Remote Terminal (RT) Software is a combination of central maintenance computer (CMC) RT software and data loading system (DLS) software. The CMC RT is an application on a laptop PC and is used to provide access to the CMC through local area network (LAN) ports. The DLS enables loading of Primus Epic® Operational Software and separately loadable databases (SLDB). This software tool is required for bi-weekly required software loads to maintain the aircraft flight ready and for any troubleshooting. Primus Epic, Apex., Agusta, Cessna, Dassault, Embraer, Gulfstream, Hawker-Beechcraft, Pilatus Apex, Common Apex.

M&PM Product Line: EPIC
4.1.3  **P1K, P2K Product Line Tools**

4.1.3.1  **IM-600 Configuration Tool**

Description: Generates a configuration file that is loaded. Used in P1K system for IC-600

M&PM Product Line: P1K, P2K

4.2  **Safety and Connectivity Product Family Tools**

4.2.1  **SATCOM Product Line Tools**

4.2.1.1  **SATCOM CMTI Tool**

Description: The SATCOM CMTI Tool is designed to provide its users with the ability to perform a number of key maintenance and troubleshooting functions, interactively with an active Honeywell multi-channel SATCOM system.
4.2.1.2 SATCOM ORT Tool

Description: The SATCOM ORT Tool is used to create ORT (Owner Requirements Table) preferences for upload to Satcom.

4.2.2 Datalink Product Line Tools

4.2.2.1 EPIC CMF GBST

Description: EPIC CMF GBST is a tool that creates databases called Airline Modifiable Information files (AMI's) for aircraft. GBST versions rev when different database attributes are added or changed. Revs correspond to changes in aircraft software.
4.2.2.2 ART

Description: ART is a related tool that creates AMI's for Airbus aircraft. For example, for each block point of AC a specific version of GBST is specified. Revs are not 1 for 1 to the aircraft software version, however.

M&PM Product Line: Datalink

4.2.2.3 Airsim

Description: CMU / ATSU “Standard” Ground Based Simulator - Software tool that allows airlines to perform a simulation of the CMU and other datalink components. Supports Mark II CMU, Mark III CMU and ATSU AOC. CMU / ATSU Airsim “GOLD” Ground Based Simulator includes MKIII and EPIC support. (excludes ATN).

M&PM Product Line: Datalink
4.3 Propulsion Product Family Tools

4.3.1 Commercial Turbo Fan Product Line Tools

4.3.1.1 CFE 738 Maintenance tool

Description: Tool used for maintenance of CFE 738 engines

M&PM Product Line: Commercial Turbo Fan

<table>
<thead>
<tr>
<th>Year</th>
<th>CFE 738 Win NT version</th>
<th>CFE 738 Win 7 update</th>
<th>Win 7 End of life, Support on “then-latest” OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3.2 Commercial Turbo Prop Product Line Tools

4.3.2.1 TPE Re-Comp

Description: DOS program, Authorized Service centers (FAA) use this to compare performance through an algorithm, not FAA qualified.

M&PM Product Line: Commercial Turbo Prop

<table>
<thead>
<tr>
<th>Year</th>
<th>TPE Re-comp DOS version</th>
<th>TPE Re-comp Win 7 update</th>
<th>Win 7 End of life, Support on “then-latest” OS</th>
</tr>
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<tbody>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016-2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
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</table>
4.3.2.2 TPE Trendplus

Description: DOS program, Trending software required for single engine applications.

M&PM Product Line: Commercial Turbo Prop

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
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<tr>
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<td>TPE Trend Plus DOS version</td>
</tr>
<tr>
<td></td>
<td>TPE Trend Plus Win 7 update</td>
</tr>
<tr>
<td>2017</td>
<td>Evaluate TPE Trend Plus App (the Win 7 update would still be required for internal use)</td>
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<tr>
<td>2020</td>
<td>Win 7 End of life, Support on “then-latest” OS</td>
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4.3.2.3 EEI

Description: Electronic Engine Interface

M&PM Product Line: Commercial Turbo Prop

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
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<td>2013</td>
<td>EEI Win XP version</td>
</tr>
<tr>
<td>2014</td>
<td>EEI WIN 7 version</td>
</tr>
<tr>
<td>2020</td>
<td>Win 7 End of life, Support on “then-latest” OS</td>
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## 5. Tool Roadmap – Snapshot view

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<td>Evaluate for Winviews App</td>
<td>Support on “then-latest” OS, if still PC based</td>
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<tr>
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<td>Remote Terminal PC based tool</td>
<td>My Maintainer 1.0</td>
<td>My Maintainer 2.0</td>
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<tr>
<td>IM-600 Configuration Tool</td>
<td>IM-600 Win 7 version</td>
<td>SATCOM CMTI Win 7 version</td>
<td>MySDU v1.0</td>
<td>MySDU v2.0</td>
<td>Support on “then-latest” OS, if still PC based</td>
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<td>SATCOM CMTI Tool</td>
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<td>MySDU v1.0</td>
<td>MySDU v2.0</td>
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<td>MySDU v2.0</td>
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<tr>
<td>EPIC CMF GBST</td>
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<td>ART LMX Manager update</td>
<td>Support on “then-latest” OS</td>
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<td>Airsim</td>
<td>Airsim Win 7 version</td>
<td>Update for LMX License manager</td>
<td>Update to support B777 and B787</td>
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<tr>
<td>CFE 738 Maintenance tool</td>
<td>CFE 738 Win NT version</td>
<td>CFE 738 Windows 7 update</td>
<td>Support on “then-latest” OS</td>
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<td>TPE Re-Comp</td>
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<td>TPE ReComp Windows 7 version</td>
<td>Support on “then-latest” OS</td>
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<td>TPE Trendplus</td>
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<td>TPE Trendplus Win 7 version</td>
<td>Evaluate TPE Trendplus App</td>
<td>Support on “then-latest” OS, if still PC based</td>
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<td></td>
</tr>
<tr>
<td>EEI</td>
<td>EEI Win 7 version</td>
<td>Support on “then-latest” OS</td>
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6. Tool Roadmap Update Management Operating System (MOS)

This section describes the process to generate, update and communicate the Software Tool Roadmap.

This process is linked to AG-5269 - Marketing Requirement Definition Process, although it uses fewer sections than the regular MRD, since its main purpose is to be one-repository for all of the roadmap of the tools.

The Revision cycle is Annual. It is initiated every year in March by M&PM Aero Services with revisions to the MRDs and Road Maps to be published by end of April of every year.

Overall, the document is owned by Honeywell’s Marketing and Product Management. For coordination purposes, the Tools roadmap efforts are led by M&PM for Aero Services.

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<th>Process Steps Step</th>
<th>Lead Role</th>
<th>Action Details/Responsibility</th>
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<td>1. Generate Tool Roadmaps</td>
<td>M&amp;PM Aero Services</td>
<td>Coordinate the generation of tool roadmaps. This is a one-time effort to generate the roadmaps. Document is divided into sections by Product Line. Each M&amp;PM Product Line Owner is reviews and provides inputs for their section.</td>
</tr>
<tr>
<td>2. Store in M&amp;PM Share point</td>
<td>M&amp;PM Aero Services</td>
<td>M&amp;PM Aero Services consolidates the document and publishes them in M&amp;PM Share Point:</td>
</tr>
<tr>
<td>3. Update Aircraft-specific MRD</td>
<td>M&amp;PM Aero Services</td>
<td>At the beginning of March of every year, M&amp;PM Aero Services initiates the coordination of a revision of all roadmaps with all Section owners. All Section owners revise their strategies for each product line by end of March.</td>
</tr>
<tr>
<td>4. Review for External Publication</td>
<td>Publication Team</td>
<td>Proof reads the finalized approved version of the document for external publication to customers prior to the approval review meeting. Sends the approved external version of the document to C&amp;PS (portal team) for publication on the MyAerspace.com (the Aerospace customer portal). Verifies that the file has been loaded correctly on MyAerospace.com</td>
</tr>
<tr>
<td>5. Publish on B&amp;GA Aero Portal</td>
<td>Tech Pubs</td>
<td>Creates notification that is sent to BGA customers that subscribe to Honeywell’s Web Portal informing that a new version of the tool roadmap is available in the Portal.</td>
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