Change Topic: Document Baseline for User Community & Zero AOD User Interfaces

This change package accommodates the text changes to support the proposed solution (see table below) ICD-GPS-870, Navstar Next Generation GPS Operational Control Segment (OCX) to User Support Community Interfaces. All comments must be submitted **in** Comments Resolution Matrix (CRM) form.

The columns in the WAS/IS table following this page are defined below:

Section Number: This number indicates the location of the text change within the document.

Proposed Heading: Contains existing and/or proposed changes to section titles and/or the titles to new sections

(WAS) <Document Title>: Contains the baseline text of the impacted document.

Proposed Object Text: Contains proposed changes to baseline text.

PROBLEM STATEMENT:
Raytheon's baseline CDR design for distribution of data across the User Community and Zero AOD User interfaces has not yet been defined. The current OCX ICD was written to capture the data types provided by this interface, but left the data distribution section based largely on the AEP-equivalent for the User Community interface, ICD-GPS-240. ICD-GPS-240 was written to reflect the in situ implementation for distribution of User Community products and is not appropriate to the broader set of OCX requirements.
SOLUTION: *(Proposed)*
Document the Raytheon baseline CDR design for the Public Release User Community interface.

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Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
1.1	This Interface Control Document (ICD) defines the functional data transfer interface between the Global Positioning System (GPS) Control Segment (CS) and the GPS User and User-support communities for the GPS Next Generation Operational Control System (OCX). This ICD describes the data files that are transferred in this interface and the means by which these data files are distributed.	This Interface Control Document (ICD) defines the Public Release products generated by the Global Positioning System (GPS) Control Segment (CS) and the GPS public User community during the GPS Next Generation Operational Control System (OCX) era . This ICD describes the GPS products provided by the CS and the means by which these GPS products are distributed.	Modify to reflect OCX implementation
1.1	The files that are generated by the GPS CS are: Almanacs (System Effectiveness Model (SEM), YUMA, and Extended Signals Health Status (ESHS)), Operational Advisories (OAs), Anti-Spoofing (A-S) Status, and Notice Advisory to Navstar Users (NANUs). The formats of these files are defined in the Appendices of this document. All data files transferred as described in this ICD are unclassified and are publicly releasable per the current GPS CS mode of operations and the 50th SW Memorandum for Record - 2 SOPS GPS Public Release Policy.	All GPS products and tools described in this ICD are unclassified and are publicly releasable per the current GPS CS mode of operations and the 50th SW Memorandum for Record - 2 SOPS GPS Public Release Policy.	Modify to reflect OCX implementation.
1.1	In order to continue to support legacy Users who may not be able to update their code, the .alm (YUMA), .al3 (SEM), and as.txt (A-S Status) file formats are not changing and legacy Users are assured that they will continue to use these file types in the OCX era without changes to their systems. At the same time, the GPS CS does announce that it does not intend to make future updates to these file formats: .alm, .al3 and as.txt. The GPS CS encourages new Users and existing Users migrate to the newer file formats (.blm, .bl3, as2.txt), and in the future may propose to remove these legacy file formats in future updates to GPS CS. The GPS CS shall still be required to coordinate a specific timeframe or process in a public ICWG for the removal of a currently supported file formats.	In order to support Users who may not be able to update their code, the ASCII text file formats, as defined in Appendices 1-5, are not changing and ASCII text file Users are assured that they can continue to use these file types in the OCX era without changes to their systems. At the same time, the GPS CS announces that it has deprecated the ASCII text file formats and does not intend to make any future updates to these formats. Instead, any future additions or changes will only be captured in the modernized XML format messages. The GPS CS will still be required to coordinate a specific timeframe or process in a public ICWG for the removal of a currently supported file format.	Modified to reflect OCX implementation.
1.1	The GPS CS is operated by the 2d Space Operations Squadron (2 SOPS), administratively organized under 50th Space Wing (50 SW). The GPS User and User-support communities are comprised of the Department of Homeland Security (DHS) United States Coast Guard (USCG); Department of Transportation (DOT), Federal Aviation Administration (FAA); other Civil Users; and various Military GPS Users. The interfaces between the GPS CS and the USCG, FAA, other Civil Users, and the Military GPS User community are implemented using electronic mail (e-mail), Internet and SIPRNet. This ICD does not include detailed technical descriptions of the e-mail system, Internet or SIPRNet.	The GPS CS is operated by the 2d Space Operations Squadron (2 SOPS), administratively organized under 50th Space Wing (50 SW). The GPS User and User-support communities are comprised of the Department of Homeland Security (DHS) United States Coast Guard (USCG); Department of Transportation (DOT), Federal Aviation Administration (FAA); other Civil Users; and various GPS Users.	Modified to reflect OCX implementation.
1.2	**Key Events**	**Key Events and Transition Plans**	Modified for OCX implementation.
1.2	The major milestone for implementation of this interface is the initial operating capability of the GPS OCX system beginning with Effectivity 10 as defined in SS-CS-800.	The major milestone for implementation of this document is the initial operating capability of the GPS Next Generation Operational Control System (OCX). The Air Force will prepare for and assess operational readiness of OCX prior to deactivating the legacy control segment (AEP) and declaring OCX Ready to Transition to Operations (RTO).	Modified for OCX implementation.
1.2		The following transition strategy will ensure a low risk migration of users from the AEP era products (ICD-GPS-240) to the OCX era products (ICD-GPS-870), and then onward as future updates to OCX products are introduced;	Added for OCX implementation.
1.2		a) The CS may introduce new products and standards, yet will provide a means for supporting	Added for OCX implementation.

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Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
		backward compatibility	
1.2		b) New users and early adopters will be encouraged to adopt new products and features.	Added for OCX implementation.
1.2		c) Existing products within the ICD which are planned for retirement will be deprecated prior to being retired thus providing advance warning for users to initiate and complete migration away from the deprecated products.	Added for OCX implementation.
1.2		d) Users are encouraged to plan a migration to use the new GPS Products "as is" and thus eliminate the need for transition utilities.	Added for OCX implementation.
1.2		e) The GPS CS will still be required to coordinate a specific timeframe or process in a public ICWG for the removal of a deprecated product or service with a minimum of 12 months notice.	Added for OCX implementation.
1.2		The legacy AEP era Internet Web Site to the user community (ie ICD-GPS-240), currently https://gps.afspc.af.mil/gps, will be manually maintained for a period of time not less than 6 months following OCX being declared RTO, providing a transition window for public users to migrate from using the legacy 2 SOPS web site to use the USCG Navigation Information Service (NIS).	Added for OCX implementation.
1.2		In accordance with the CS requirement to be in compliance with the DoD Information Technology Standards Registry (DISR), the CS selected standards from the DISR for the GPS products with the intent to reduce impact to the user community during this transition. As a result, there is a wide variety of development COTS tools available to the users to independently develop tools to process the new GPS Products in their native (ie XML) formats. Government agencies are encouraged to work through the GPS Community of Interest (COI) POC for assistance during the transition.	Added for OCX implementation.
2.1	*Federal* September 2008 Global Positioning System Standard Positioning Service Performance Standard July 2010 DoD IPv6 Standard Profiles For IPv6 Capable Products Version 5.0 *Military* None	***Federal*** September 2008 Global Positioning System Standard Positioning Service Performance Standard ***Military*** 23 April 2007 DODD 8320.02 Data Sharing in a Net Centric Department of Defense July 2008 DoD Discovery Metadata Specification (DDMS) Version 2.0 September 2010 Department of Defense Public Key Infrastructure Functional Interface Specification 3.0. 24 May 2011 Public Key Infrastructure (PKI) and Public Key (PK) Enabling (DoDI 8520.02)	Modified for OCX implementation.

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Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
2.1	IS-GPS-200 Current Version — Navstar GPS Space Segment / Navigation User Interface IS-GPS-705 Current Version — Navstar GPS Space Segment / User Segment L5 Interfaces IS-GPS-800 Current Version — Navstar GPS Space Segment / User Segment L1C Interfaces GP-03-001A 20 April 2006 — GPS Interface Control Working Group (ICWG) Charter MOA February 1992 — Memorandum of Agreement Between the United States Coast Guard and the United States Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information" (Signatories: USCG/G-NRN and USSPACECOM/DO) MOA February 1996 — Support Agreement Between the United States Coast Guard and the United States Air Force Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information" (Signatories: Commanding Officer NAVCEN and AFSPC/DO) MOA February 2010 — Memorandum of Agreement between the Joint Functional Component Command for Space the U.S. Coast Guard Navigation Center and the FAA National Operations Control Center with respect to the Support of Users of the Navstar Global Positioning System Fiscal Year 2008 — Federal Radionavigation Plan MFR June 30, 2011 — Department of the Air Force, 50th Space Wing (AFSPC) Memorandum for Record - 2 SOPS GPS Public Release Policy	IS-GPS-200 Current Version — Navstar GPS Space Segment / Navigation User Interface IS-GPS-705 Current Version — Navstar GPS Space Segment / User Segment L5 Interfaces IS-GPS-800 Current Version — Navstar GPS Space Segment / User Segment L1C Interfaces GP-03-001A 20 April 2006 — GPS Interface Control Working Group (ICWG) Charter MOA February 1992 — Memorandum of Agreement Between the United States Coast Guard and the United States Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information" (Signatories: USCG/G-NRN and USSPACECOM/DO) MOA February 1996 — Support Agreement Between the United States Coast Guard and the United States Air Force Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information" (Signatories: Commanding Officer NAVCEN and AFSPC/DO) MOA February 2010 — Memorandum of Agreement between the Joint Functional Component Command for Space the U.S. Coast Guard Navigation Center and the FAA National Operations Control Center with respect to the Support of Users of the Navstar Global Positioning System Fiscal Year 2012 — Federal Radionavigation Plan MFR 30 June 2011 — Department of the Air Force, 50th Space Wing (AFSPC) Memorandum for Record - 2 SOPS GPS Public Release Policy 6 February 2003 — DODI 8500.2, Information Assurance (IA) Implementation 4 May 2011 — United States Department of Defense X.509 Certificate Policy	Modified for OCX implementation.

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Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
2.2	Standards None	Standards November 1999 W3C, XSL Transformations (XSLT) Version 1.0 November 2008 W3C, Extensible Markup Language (XML) Version 1.0 (Fifth Edition) June 2008 W3C, XML Signature Syntax and Processing (Second Edition) April 2006 IETF, RFC4346, The Transport Layer Security (TLS) Protocol Version 1.1 June 1999 IEFT, RFC 2616, Hypertext Transfer Protocol - HTTP/1.1	Modify for OCX implementation.
3.1		The GPS Products defined herein will be accessible via the USCG Navigation Information Service (NIS), see section 3.2.5.	Added for OCX implementation.
3.1		Figure 3-1 depicts a generalized GPS Product Distribution Process which begins with a ***End-User*** interacting with a GPS Product redistribution node (e.g., USCG NIS) to retrieve the desired GPS Products. The diagram reflects that a ***potential data Corruption Source*** actor may introduce data corruption at any time during this re-distribution process. The GPS Product End-User may then validate and/or transform the Information Product before use in a Processing System. The roles of ***Potential Data Corruption Source*** and ***GPS Product End-User*** may be performed by the same or by different individuals.	Added for OCX implementation.
3.1		Figure 3-1 Generic GPS Product Distribution Process	Added for OCX implementation.

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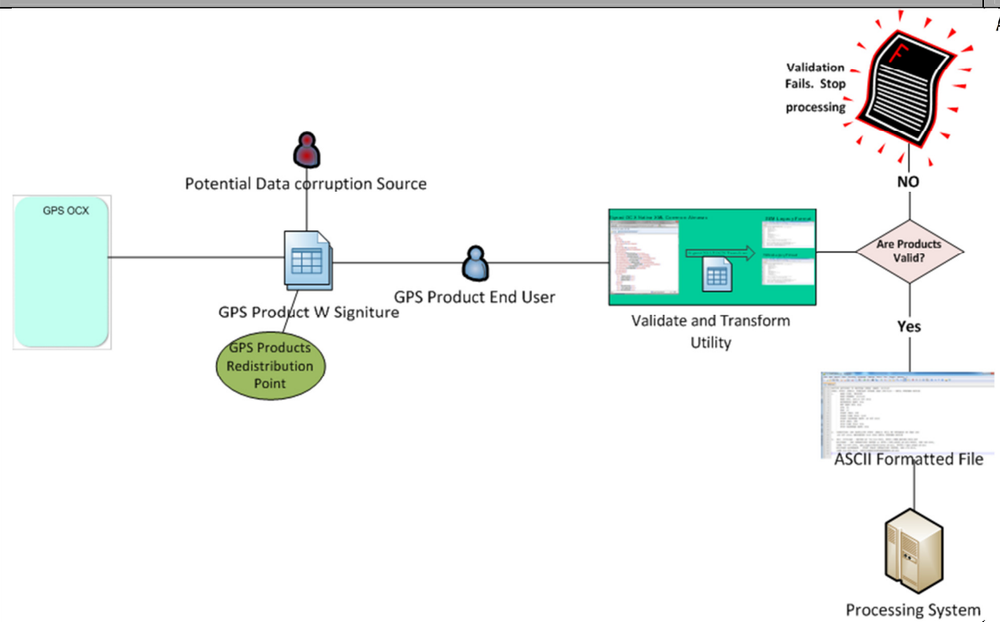
Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
3.1			Added for OCX implementation.
3.1		A GPS Product End User sequence diagram (see figure 3-2) is provided to further explain the intended use of the Validate and Transform Utility provided by the CS. An overview of the activities performed by the GPS Product End User follows; a) Validate - an optional step performed by the end user to ensure that the GPS Products have not been corrupted through the process of redistribution b) Transform - an optional step performed by end users who may need information in the ASCII text file formats before processing c) Process – use the GPS Information typically ingesting files using an end user Automated Information System (AIS)	Added for OCX implementation.
3.1		Figure 3-2 GPS Product End User Sequence Diagram	Added for OCX implementation.

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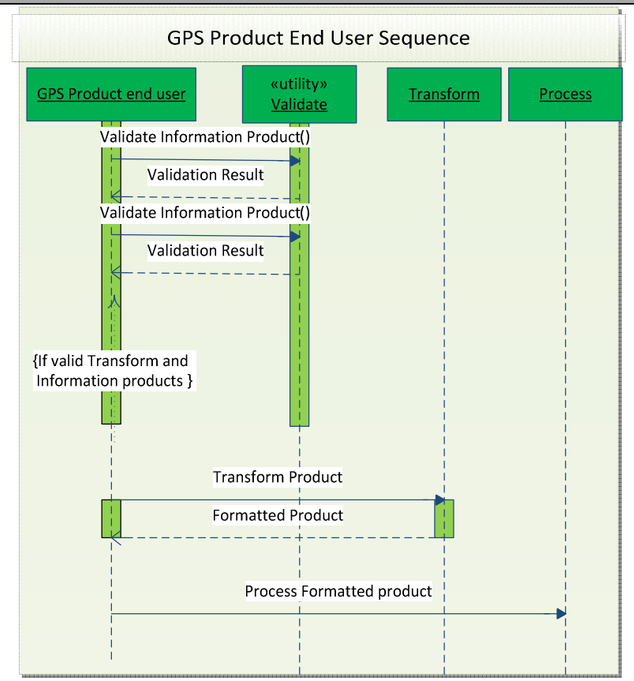
Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
3.1			Added for OCX implementation.
3.1		In accordance with DODD 8320, *Data Sharing in a Net Centric Department of Defense*, this ICD defines and then uses a GPS domain specific information exchange vocabulary which users should adopt when discussing the public GPS products offered by the CS. Figure 3-3 depicts a high level entity relationship diagram summarizing the GPS Product Ontology.	Added for OCX implementation.
3.1		Figure 3-3 High Level GPS Product Ontology	Added for OCX implementation.

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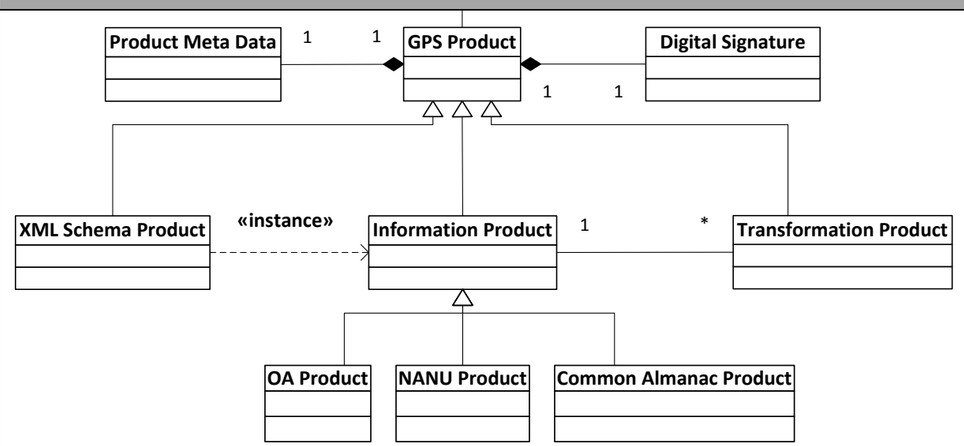
Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
3.1			Added for OCX implementation.
3.1		Appendices 1-5 of this ICD documents the minimum information content and formats which are required to achieve backward compatibility compliance. To also ensure compliance with DoD Information Technology Standards and Profile Registry (DISR) and enable rapid discovery, all published GPS Products will be defined using DoD Discovery Metadata Specification (DDMS) compliant meta data and XML compliant data schema. The GPS Ontology and schemas will be published in the USCG NIS web site, currently http://www.navcen.uscg.gov.	Added for OCX implementation.
3.1		The GPS CS XML based products will contain data sufficient to derive all ASCII text file content identified in Appendices 1-5.	Per non-public TIM comments.
3.1		The CS will publish multiple categories of GPS Products including; Information Products, XML Schema Products and Transformation Products. Each GPS Product contains its respective Digital Signature and Product Meta data as shown in Figure 3-3 and Figure 3-5. a) Information Products provide users information about the state/status of the GPS System. b) XML Schema Products define the structure of an XML document associated with this interface. c) Transformation Products can be used to transform an Information Product into one of several formats supporting full backward compatibility with the ASCII text file formats.	Added for OCX implementation.
3.1	This ICD defines the interfaces between the Global Positioning System (GPS) Control Segment and the GPS User and User-support communities during the GPS Next Generation Operational Control System (OCX) era. The files provided by the GPS CS to these GPS Users are the Almanacs, Operational Advisories (OAs), Anti-Spoofing (A-S) Status, and the Notice Advisory to Navstar Users (NANUs)	The CS will publish different kinds of Information Products including; Common Almanac (which now consolidates all previous constellation state/status information), Operational Advisories (OAs), and the Notice Advisory to Navstar Users (NANUs) corresponding to all legacy signals and the new Civil	Modified for OCX implementation.

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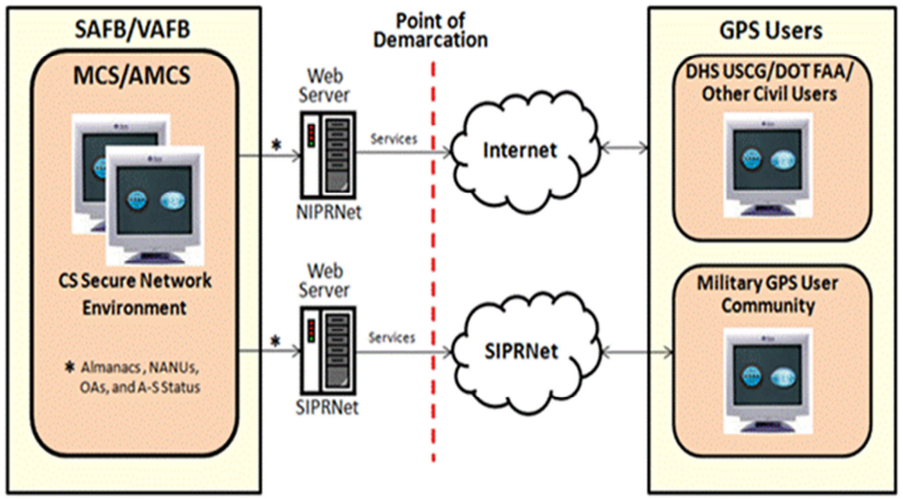
Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
	corresponding to all legacy signals and the new Civil signals L1C, L2C and L5. The GPS CS provides these data files to a TBD Web Server, residing outside of OCX, for further distribution. The primary means for distribution of the data that is generated by the GPS CS is via electronic mail (e-mail), Internet and SIPRNet.	signals L1C, L2C and L5.	
3.1	Figure 1 captures the interfaces defined in this ICD. The point of demarcation separates the end Users from OCX and Department of Defense (DoD) systems that provide the files.	The CS shall provide a downloadable utility for users to validate data integrity and if required to transform an Information Product into backward compatible ASCII file formats (see Appendix 1-5).	Modified for OCX implementation.
3.1		This utility is provided to avoid the need for users to perform near term development prior to transition to the OCX RTO. Figure 3-4 depicts a high level entity relationship diagram summarizing the Validation and Transform Utility Ontology. Users are encouraged to plan a migration to use the new GPS Products in their native (i.e., XML) format and thus eliminate the need for this utility.	Added for OCX implementation.
3.1	 In OCX Block I, there will be an air gap between the GPS CS and the NIPRNet Web Server interface In OCX Block II, the GPS CS to the Web Server interface will be automated, IAW the SS-CS-800** The SIPRNet/NIPRNet servers are to be provided by the Government vice OCX **NIPRNet Services:** Automatic NANU notification sent via e-mail and Almanacs, NANUs, OAs, and A-S Status files via Internet Website **SIPRNet Services:** Almanacs, NANUs, OAs, and A-S Status files via SIPRNet Website ** **Cross Domain Solution:** It allows operations across security domains (CS to Web Servers)	Figure 3-4 Validate and Transform Utility Ontology	Modified for OCX implementation.

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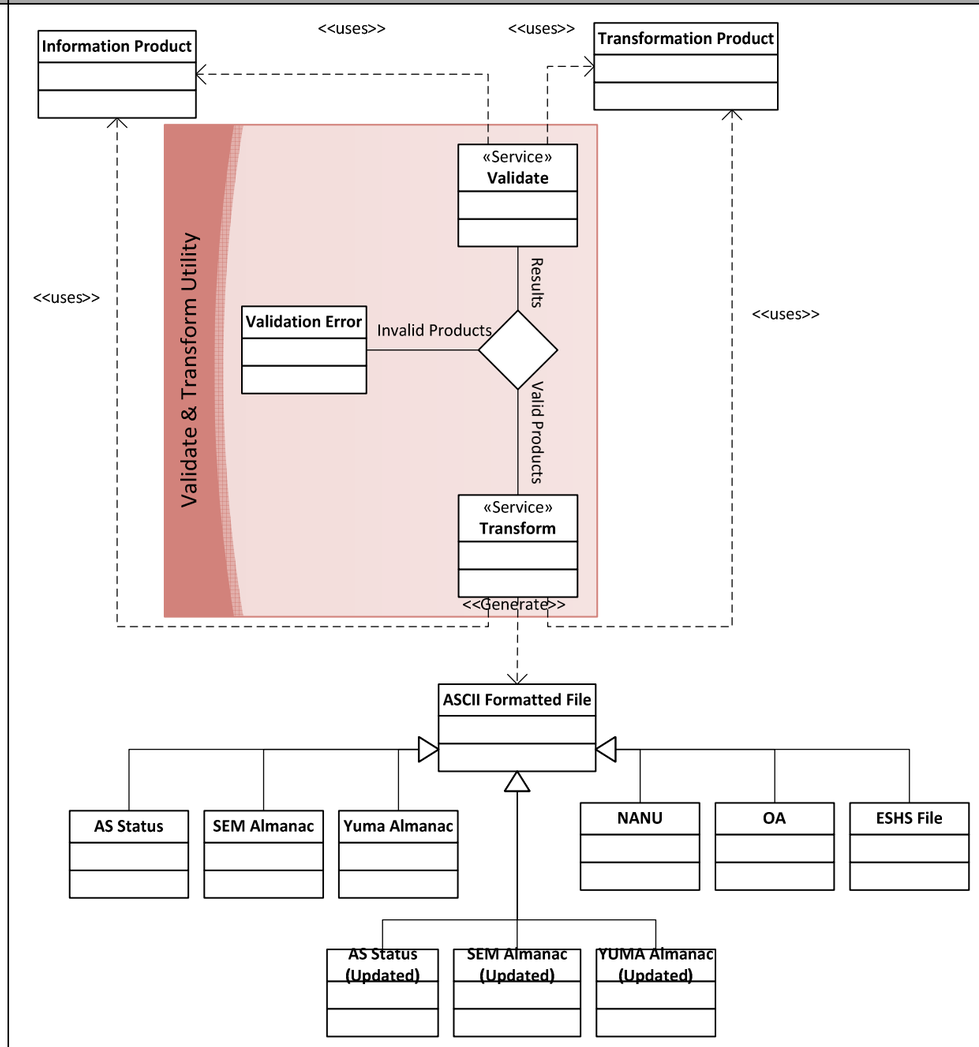
Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
3.1			Added for OCX implementation.
3.1	Figure 1 GPS CS to the GPS User Community	<DELETED OBJECT>	OBE with removal of web portal.
3.1	The interfaces defined in this ICD are listed in Table I, in the form of an information exchange matrix.	The products defined in this ICD are listed in Table 3-I and Table 3-II, in the form of information exchange matrices.	Modified for OCX implementation.
3.1		The CS provides Information Products as shown in Table 3-I.	Added for OCX implementation.

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<table>
<tr><th>Section</th><th>ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces</th><th>Proposed Changes</th><th>Rationale</th></tr>
<tr><td>3.1</td><td></td><td>These Information Products shall conform to the associated published XML schema Product as shown in Table 3-III.</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>The CS provides Transition Utility and Support Products as shown in Table 3-II.</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>Using the Information Products and provided Transformation Products as shown in Table 3-III, the Validate and Transform Utility shall allow the user to validate the digital signature of GPS Products.</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>Given validated inputs, the Validate and Transform Utility shall produce the desired ASCII output as shown in Table 3-III.</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>As shown in Table 3-III, the names of XML Schema Products and associated Transformation Products shall be appended with a revision number (ie _vx.y) where “x” indicates the major revision and “y” indicates a minor revision.</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>Minor revisions shall be backward compatible within the same major revision.</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td>Table I Information Exchange Matrix</td><td>Table 3-I Information Product Information Exchange Matrix</td><td>Modified for consistency.</td></tr>
<tr><td>3.1</td><td>
<table>
<tr><th>Producer</th><th>Consumer</th><th>Data Exchange Identification</th><th>Information Description</th><th>Nature of Transaction</th><th>Security</th></tr>
<tr><td>GPS CS</td><td>DHS USCG / DOT FAA/ Other Civil Users*</td><td>GPS Status Information</td><td>NANU</td><td>Transmit via E-Mail and Post to Internet Website</td><td>Unclassified</td></tr>
<tr><td>GPS CS</td><td>DHS USCG / DOT FAA/ Other Civil Users</td><td>GPS Constellation Status Summary</td><td>OA</td><td>Post to Internet Website</td><td>Unclassified</td></tr>
<tr><td>GPS CS</td><td>DHS USCG / DOT FAA/ Other Civil Users</td><td>GPS Constellation Anti-Spoofing Status</td><td>A-S Status</td><td>Post to Internet Website</td><td>Unclassified</td></tr>
<tr><td>GPS CS</td><td>DHS USCG / DOT FAA/ Other Civil Users</td><td>GPS Constellation Orbital and Performance Parameters, and SV Signal Health Status</td><td>Almanac</td><td>Post to Internet Website</td><td>Unclassified</td></tr>
<tr><td>GPS CS</td><td>Military User Community</td><td>GPS Status Information</td><td>NANU</td><td>Post to Internet and SIPRNet Websites</td><td>Unclassified</td></tr>
<tr><td>GPS CS</td><td>Military User Community</td><td>GPS Constellation Status Summary</td><td>OA</td><td>Post to Internet and SIPRNet Websites</td><td>Unclassified</td></tr>
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</td><td>
<table>
<tr><th>Producer</th><th>Data Exchange Identification</th><th>Information Description</th><th>Security</th></tr>
<tr><td>GPS CS</td><td>GPS Status Information</td><td>Information Product: NANU (see Table 3-III)</td><td>Unclassified Public Releasable Open Access</td></tr>
<tr><td>GPS CS</td><td>GPS Constellation Status Summary</td><td>Information Product: OA (See Table 3-III)</td><td>Unclassified Public Releasable Open Access</td></tr>
<tr><td>GPS CS</td><td>GPS Constellation Orbital and Performance Parameters, and SV Signal Health Status

GPS Constellation Anti-Spoofing Status</td><td>Information Product: Common Almanac (See Table 3-III)</td><td>Unclassified Public Releasable Open Access</td></tr>
</table>
</td><td>Modified for OCX implementation.</td></tr>
</table>

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<table>
<tr><th>Section</th><th>ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces</th><th>Proposed Changes</th><th>Rationale</th></tr>
<tr><td></td><td>
<table>
<tr><td>GPS CS</td><td>Military User Community</td><td>GPS Constellation Anti-Spoofing Status</td><td>A-S Status</td><td>Post to Internet and SIPRNet Websites</td><td>Unclassified</td></tr>
<tr><td>GPS CS</td><td>Military User Community</td><td>GPS Constellation Orbital and Performance Parameters, and SV Signal Health Status</td><td>Almanac</td><td>Post to Internet and SIPRNet Websites</td><td>Unclassified</td></tr>
<tr><td colspan="6">Note:
* Automatic NANUs are also sent to other 2 SOPS approved GPS Users via e-mail</td></tr>
</table>
</td><td></td><td></td></tr>
<tr><td>3.1</td><td></td><td>Table 3-II Transition & Support Product Exchange Matrix</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>
<table>
<tr><th>Producer</th><th>Data Exchange Identification</th><th>Information Description</th><th>Security</th></tr>
<tr><td>GPS CS</td><td>XML Schema Definitions specifies content of each GPS Product</td><td>XML Schema Products (See Table 3-III)</td><td>Unclassified Public Releasable Open Access</td></tr>
<tr><td>GPS CS</td><td>XML Documents containing XSLT Transformations</td><td>Transformation Products (See Table 3-III)</td><td>Unclassified Public Releasable Open Access</td></tr>
<tr><td>GPS CS</td><td>Installable Application</td><td>Validate and Transform Utility (see Table 3-III)</td><td>Unclassified Public Releasable Open Access</td></tr>
</table>
</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>Table 3-III Mapping Information Products & Transformation Products into Desired Output Format</td><td>Added for OCX implementation.</td></tr>
<tr><td>3.1</td><td></td><td>
<table>
<tr><th>Information Product Name</th><th>XML Schema Product Name</th><th>Transformation Product Name</th><th>Validation and Transform Utility Output</th></tr>
</table>
</td><td>Added for OCX implementation.</td></tr>
</table>

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Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes				Rationale
		NANU *{time-stamp}* Note: time-stamp when NANU was created formatted as Zulu time as YYYYMMDDHHMMSS	NANU XML Schema_vx.y	NANU Transform_vx.y	ASCII Formatted File:NANU File (*default extension* *.NNU) See Appendix 1, Notice to Navstar Users Data Formats.	
		OA *{time-stamp}* Note: time-stamp when Ops Advisory was created formatted as YYYYMMDDHH	OA XML Schema_vx.y *	OA Transform_vx.y	ASCII Formatted File:OA File (*default extension* *.OA1). See Appendix 2, Operational Advisory Data File.	
		Common Almanac *{GPS week : time of applicability}* Note: Non-modulo GPS week number : number of seconds since the beginning of the Almanac reference week.	Common Almanac XML Schema_vx.y	SEM AL3 Transform_vx.y	ASCII Formatted File:SEM Almanac File (*default extension**.al3). See Appendix 3: Almanac Data Files	
				txt SEM BL3 Transform_vx.y	ASCII Formatted File:SEM Almanac File (*default extension* *.bl3). See Appendix 3, Almanac Data Files	
				YUMA ALM Transform_vx.y	ASCII Formatted File:Yuma Almanac File (*default extension* *.alm). See Appendix 3, Almanac Data Files	
				YUMA BLM Transform_vx.y	ASCII Formatted File:Yuma Almanac File (*default extension* *.blm). See Appendix 3, Almanac Data Files	
				ESHS ALE Transform_vx.y	ASCII Formatted File:ESHS File (*default extension* *.ale). See Appendix 4, Extended Signals Health Status Files	
				AS Status AS Transform_vx.y	ASCII Formatted File:AS Status File (default extension *.txt). See Appendix 5, ANTI-SPOOFING STATUS FILE	

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Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
		<table><tr><td></td><td></td><td>AS Status AS2 Transform_vx.y</td><td>ASCII Formatted File:AS Status File (default extension *.txt). See Appendix 5, ANTI-SPOOFING STATUS FILE</td></tr></table>	
3.1		Multiple revisions of schema and transformations to support backward compatibility and to extend the migration time for the user community may be available.	Added for OCX implementation.
3.1		Note: Information on release of a new major schema revision will be accomplished through the public ICWG process.	Added for OCX implementation.
3.1.33	The MCS, located at Schriever Air Force Base (SAFB), is the central control point for the GPS CS. For this interface, the MCS is responsible for generating the Almanacs, OAs, A-S Status and NANUs and providing these files to the GPS Users and User support community. The AMCS, located at Vandenberg AFB (VAFB), is functionally identical to the MCS; either MCS facility is capable of indefinite control of the GPS constellation. In case the MCS experiences downtime, the AMCS takes over this interface function. The term “MCS”, as now used throughout this document, refers to either the MCS or the AMCS, whichever MCS facility actively controls the GPS constellation.	The MCS, located at Schriever Air Force Base (SAFB), is the central control point for the GPS CS. For this interface, the MCS is responsible for generating the Information Products in Table 3-I and providing these to the FAA and USCG NAVCEN for redistribution to the public. The AMCS, located at Vandenberg AFB (VAFB), is functionally identical to the MCS; either MCS facility is capable of controlling the GPS constellation for an indefinite period. In case the MCS experiences downtime, the AMCS takes over this interface function. The term “MCS”, as now used throughout this document, refers to either the MCS or the AMCS, whichever MCS facility actively controls the GPS constellation.	Modified for OCX implementation.
3.1.33		As depicted in Figure 3-5, all GPS Products available in the Portal shall comply with the following DISR standards: • W3C, Extensible Markup Language (XML) • DoD Discovery Metadata Specification (DDMS) • W3C XML Signature Syntax and Processing Standard	Added for OCX implementation.
3.1.33		The transformation products which can be used to convert Information Products into the various ASCII formats have a body which shall complies with the following additional DISR standard: • W3C, XSL Transformations (XSLT)	Added for OCX implementation.
3.1.33		These XSLT Transformation products are another kind of GPS Product in which the “XML Payload” is an XSLT-compliant document.	Added for OCX implementation.
3.1.33		Figure 3-5 GPS Product Structure (XML native)	Added for OCX implementation.

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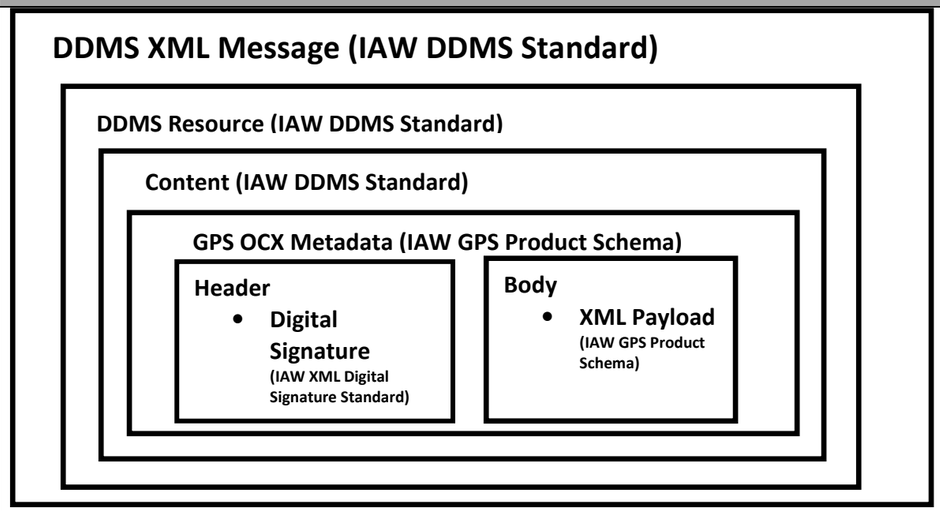
3.1.33			Added for OCX implementation.
3.1.34	The GPS User and User-support communities involve the Civil and Military GPS Users which are comprised of the Department of Homeland Security (DHS), United States Coast Guard (USCG); Department of Transportation (DOT), Federal Aviation Administration (FAA); other Civil Users; and various Military GPS Users. These GPS Users are the recipients of the Almanac data, OAs, A-S Status and NANUs.	The GPS User and User-support communities include the Civil Users which are comprised of the Department of Homeland Security (DHS), United States Coast Guard (USCG); Department of Transportation (DOT), Federal Aviation Administration (FAA); other Civil Users.	Modified for OCX implementation.
3.2	The following subsections define the functional requirements and physical interface between the GPS CS and the DHS USCG, DOT FAA, other Civil Users, and the Military GPS User Community. For this interface, the GPS CS will communicate using Transmission Control Protocol/Internet Protocol (TCP/IP) communications protocol. This interface will also be IPv6 capable as defined by DoD IPv6 standard profile 5.0.	<DELETED OBJECT>	OBE with removal of web portal.
3.2	This ICD describes information exchanges between CS and the user support community at the functional (application) layer only, and does not describe the hardware and software configuration of the Internet or SIPRNet.	<DELETED OBJECT>	OBE with removal of web portal
3.2.4	The GPS CS generates the Almanac data for the GPS constellation, two current System Effectiveness Model (SEM) format Almanacs (current.al3 and current.bl3), two current YUMA format Almanacs (current.alm and current.blm), and one current Extended Signals Health Status (ESHS) format Almanac (current.ale). The satellite SEM and YUMA Almanac data contains orbital and performance parameters for operational GPS satellites. Detailed data formats of the SEM and YUMA Almanac data are described in Appendix 3 of this ICD. The satellite ESHS Almanac data contains the health status of each of the modernized civil signals available for each SV - L1C, L2C and L5. Detailed data formats of	The GPS CS generates the Common Almanac Information Product for the GPS constellation. The satellite Common Almanac contains orbital and performance parameters for operational GPS satellites, the health status of each of the modernized civil signals available for each SV - L1C, L2C and L5, as well as A-S status Information. As shown in Table 3-III , two ASCII System Effectiveness Model (SEM) format Almanacs plus two ASCII YUMA format Almanacs and one ASCII Extended Signals Health Status (ESHS) format Almanac can be produced using the Common Almanac Information Product and provided transformation products. Detailed ASCII data formats of the SEM (current.al3 and current.bl3) and YUMA Almanac (current.alm and current.blm) data are described in Appendix 3 of	Modified for OCX implementation.

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	the ESHS Almanac data are described in Appendix 4 of this ICD.	this ICD. Detailed ASCII data formats of the ESHS Almanac data (current.ale) are described in Appendix 4 of this ICD.	
3.2.5	The GPS CS generates the Operational Advisory data (current.oa1) for the GPS constellation. The OA data are descriptive summaries of GPS constellation status. Detailed data formats of the OA data are described in Appendix 2 of this ICD.	The GPS CS shall publish the Operational Advisory Information Product for the GPS constellation.	Modified for OCX implementation and to separate requirement.
3.2.5		The OA data are descriptive summaries of GPS constellation status. As shown in Table 3-III, ASCII O-A formats can be produced using the O-A Information Product and the provided transformation product. Detailed ASCII data formats of the OA data file (current.oa1) are described in Appendix 2 of this ICD.	Modified for OCX implementation and to separate requirement.
3.2.6	The GPS CS generates the NANU data file (current.nnu) for the GPS constellation. The NANU data are messages that inform Users of satellite outages and other GPS issues. Detailed data formats of the NANU data are described in Appendix 1 of this ICD.	The GPS CS shall publish the NANU Information Product for the GPS constellation.	Modified for OCX implementation and to separate requirement.
3.2.6		The NANU Information Product are messages that inform Users of satellite outages and other GPS issues. As shown in Table 3-III, the ASCII formats can be produced using the NANU Information Product and the provided Transformation Product. Detailed ASCII data formats of the NANU (current.nnu) data are described in Appendix 1 of this ICD.	Modified for OCX implementation and to separate requirement.
3.2.7	**Generation of Anti-Spoofing Status**	**Generation of Anti-Spoofing (A-S) Status**	Modified for consistency.
3.2.7	The GPS CS generates the Anti-Spoofing Status files (as.txt and as2.txt) for the GPS constellation. The A-S Status informs Users whether the Anti-Spoofing mode of each GPS SV is ON or OFF. Detailed data format of the A-S Status are described in Appendix 5 of this ICD.	The GPS CS shall publish the Anti-Spoofing Status information for the GPS constellation as part of the Common Almanac Information Product.	Modified for OCX implenentation and to separate requirement.
3.2.7		The A-S Status informs Users whether the Anti-Spoofing mode of each GPS SV is ON or OFF. As shown in Table 3-III, the ASCII format of the A-S status can be produced using the Common Almanac Information Product and the provided Transformation Product. Detailed ASCII data format of the A-S Status files (as.txt and as2.txt) are described in Appendix 5 of this ICD.	Modified for OCX implementation and to separate requirement.
3.2.8	The GPS CS provides the NANU, Operational Advisory, Anti-Spoofing Status, and Satellite Almanac files to a TBD Web Server for further distribution to the Military and Civil User Support Communities via electronic mail (e-mail), and Internet and SIPRNet websites. Sections 3.2.6 and 3.2.7 describe these interfaces.	Distribution of the GPS Products to the public is accomplished via the USCG NIS.	Modified for OCX implementation and to separate requirement.
3.2.8		US Government and Military Support users who require direct Machine-to-Machine access should refer to ICD-GPS-875 (FOUO) for details on how direct machine-to-machine information exchange is supported.	Added for OCX implementation.

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3.2.9	**GPS MCS to Civil GPS Users Interface (USCG/FAA)**	<DELETED OBJECT>	OBE with removal of web portal.
3.2.9	The GPS CS provides the NANU data file to a TBD Web Server for further distribution via automatic electronic mail (e-mail) distribution to an e-mail address provided by the USCG and FAA. Other 2 SOPS approved/authorized GPS Users also receive automatic NANUs.	<DELETED OBJECT>	OBE with removal of web portal.
3.2.9	The GPS CS uploads the NANU, Operational Advisory, Anti-Spoofing Status, and Satellite Almanac files to the Constellation Status page of the 2d Space Operations Squadron (2 SOPS) Internet secured website, https://gps.afspc.af.mil/gps, that is hosted on a TBD Web Server. NANU messages are transmitted whenever they are generated including weekends and holidays. The OA, A-S Status, and Almanac files are normally uploaded to the 2 SOPS Internet website once per day, 24/7, 365 days a year, prior to 1700 Zulu time (10 am MST, 11 am MDT). The USCG, FAA and other GPS Users, including Military Users and the general public, with Internet connectivity can access the 2 SOPS website and download these data files using Hypertext Transfer Protocol Secure (HTTPS).	NANU Information Products are provided whenever they are generated including weekends and holidays. The OA and Common Almanac Information Products are normally provided once per day, 24/7, 365 days a year, prior to 1700 Zulu time (10 am MST, 11 am MDT).	Modified for OCX implementation.
3.2.10	**GPS MCS to Military GPS Users Interface**	<DELETED OBJECT>	No longer applicable.
3.2.10	The Military GPS Users with Internet connectivity can access the 2 SOPS secured Internet website and download NANU, Operational Advisory, Anti-Spoofing Status, and Satellite Almanac files as described in Section 3.2.6.	<DELETED OBJECT>	No longer applicable.
3.2.10	The GPS CS uploads the NANU, Operational Advisory, Anti-Spoofing Status, and Satellite Almanac files to the 2 SOPS SIPRNet website, that is hosted on a TBD Web Server, with the same frequency and timeline as for the Internet website as described in Section 3.2.6. Only authorized Military GPS Users with SIPRNet connectivity can download a NANU, OA, A-S Status, or Almanac data file using HTTPS.	<DELETED OBJECT>	No longer applicable.
3.2.11	**GPS MCS to the United States Notice to Airman Office Interface**	<DELETED OBJECT>	OBE with removal of web portal.
3.2.11	There is a data transfer interface between the CS and the United States NOTAM (Notice to Airmen) Office (USNOF) which is similar in content to the CS interface with the USCG and FAA. However, at this time, the CS to USNOF interface is defined and controlled by operational procedures and is not automated. Therefore, it is not included in this ICD. It is expected that a new automated interface between the CS and the USNOF will be added to this ICD in a future revision.	<DELETED OBJECT>	OBE with removal of web portal.
3.3		As the Authoritative Source for GPS Products described in this ICD, the CS publishes only digitally signed GPS Products to improve information assurance for GPS data at rest (ie resident on a storage device) within the GPS user community. Without digital signatures to ensure the integrity and proof of origin of the GPS Products at rest, Information Products originally from the CS could be corrupted (intentionally or unintentionally) after being downloaded from the GPS Portal without the knowledge of the CS or the end user. The potential consequence of corrupted GPS Information products varies	Added for OCX implementation.

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		between end users. Some end users have Information Assurance critical applications (e.g. public utilities, safety of life systems) in which the potential consequence are significant and therefore unacceptable to the end user. Therefore; a) The CS will only distribute GPS Products (see section 3.1.1) which are digitally signed XML documents per the published XML schema for compliance with modern Net Centric and Information Assurance standards for non-repudiation. b) The CS publishes Transformation Products and also provides a downloadable Validate and Transform Utility to assist users with first validating then transforming Information Products into backward compatible ASCII formats. c) In order to maximize the benefit of information assurance, the CS recommends that End Users perform the transformation step as late as possible (just prior to ingesting). d) Validating the data integrity of GPS products is optional and is the responsibility of the user. End users must apply their knowledge of the criticality of their application in making the determination of whether they can accept the risks of ignoring CS provided digital signatures. e) Any US government user interested in redistributing GPS Products or products derived from GPS Products are advised to consult with the GPS CS before doing so to understand the tradeoffs and verify duplicative efforts are not being planned by the GPS CS.	
3.3	Those consumers not interested in verifying the data integrity of messages (NANUs, OAs, A-S status files, Almanacs, and ESHSs) can simply just use the messages. The requirement is upon the GPS CS to provide data integrity and it is OPTIONAL for the consumer to take the steps needed to verify the integrity of the data. The following paragraphs describe what the GPS CS is required to do and optionally what the consumer would need to do to verify that a message is genuine and originates from the GPS CS.	Those consumers not interested in verifying the data integrity of Information Products can simply use the messages. The requirement is upon the GPS CS to provide data integrity and it is OPTIONAL for the consumer to take the steps needed to verify the integrity of the data. The following paragraphs describe what the GPS CS is required to do and optionally what the consumer would need to do to verify that a message is genuine and originates from the GPS CS.	Modified for OCX implementation.
3.3	The GPS CS shall use DoD Public Key Infrastructure (PKI) to digitally sign all messages (NANUs, OAs, A-S status files, Almanacs, and ESHSs) as per Department of Defense Public Key Infrastructure Functional Interface Specification 3.0. Digital signatures shall use the Rivest-Shamir-Adleman (RSA) public key algorithm with 2048 bit keys and Secure Hash Algorithm-256 (SHA-256) for signatures.	The GPS CS shall use DoD Public Key Infrastructure (PKI) to digitally sign all GPS Products as described in section 3.3.1 and as per Department of Defense Public Key Infrastructure Functional Interface Specification 3.0.	Modified for OCX implementation and to separate requirement.
3.3		Digital signatures shall use the Rivest-Shamir-Adleman (RSA) public key algorithm with 2048 bit keys and Secure Hash Algorithm-256 (SHA-256) for signatures.	Added for OCX implementation.
3.3		As depicted in Figure 3-5, the header elements of the GPS Product Meta Data will contain the XML digital signature for the **entire** GPS Product (excluding the signature itself). This method of digital signing is referred to as an enveloped signature as defined in the W3C Signature Syntax Processing.	Added for OCX implementation.

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3.3		As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has an application which directly processes ASCII text file formats: 1. Download the desired Information Product and Transform Product (see Table 3-III). Note: Because the XML schema for an Information Product will change very infrequently, a Transformation Product can be downloaded once for a new schema revision and then reused repeatedly without downloading again. 2. Just prior to use, Validate the Digital Signature of Information Product and the Transform Product using a W3C XML Digital Signature Compliant standard COTS/Library (e.g., JDK 1.6/1.7) and the currently published CS public certificate. 3. If the signatures do not validate in Step 2, then either the Information Product or the Transformation Product is not authentic (not produced by the CS) or has been corrupted. Do not use. The user should return to step 1. 4. If the signatures validate in both Step 2 and Step 3, then extract XSLT from the Product Meta Data Body Element (see Figure 3-3) and apply the XSLT using standard COTS/Library to produce the desired ASCII file format. Note: A user with a non-critical application who intends to bypass verifying data integrity only needs to perform Step 1 and then Step 4. Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform steps 2, 3 and 4. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.	Added for OCX implementation.
3.3		As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has a modern application which directly processing CS native XML formats; 1. Use the GPS Portal to download the desired Information Product (see Table 3-III) 2. Just prior to use, Validate the Digital Signature of Information Product using a W3C XML Digital Signature Compliant standard COTS/Library (e.g. JDK 1.6/1.7) and the	Added for OCX implementation.

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		currently published CS public certificate. 3. If the signature does not validate in Step 2, then the Information product is either not authentic (not produced by the CS) or the information content has been corrupted. Do not use. The user should return to step 1. 4. If the signature validates in Step 2, then the GPS Product is authentic and the content has not been corrupted. Note: A user with a modern non-critical application who intends to bypass verifying data integrity only needs to perform Step 1 Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform step 2. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.	
3.3	The GPS CS shall support modular addition or replacement of DoD PKI algorithms, key lengths, certificate authorities, certificates, and certificate structure with little or no code changes. Coordination in a public ICWG shall occur prior to any changes on the unclassified interface.	The GPS CS shall support modular addition or replacement of DoD PKI algorithms, key lengths, certificate authorities, certificates, and certificate structure with little or no code changes. Coordination in a public ICWG shall occur prior to any changes.	Updated for removal of web portal.
3.3	The GPS CS unclassified certificate (and corresponding public key) shall be made available to all consumers for data integrity verification and source authentication. DoD PKI root certificates are available on the DoD Class 3 Public Key Infrastructure (PKI) website, http://dodpki.c3pki.chamb.disa.mil/, to verify the certificate chain.	The GPS CS unclassified certificate (and corresponding CS public key) will be made available to all consumers for data integrity verification via the USCG NIS web site.	Modified for OCX implementation and to separate requirement.
3.3		In this document, X.509 certificates are referred to as certificates.	Per non-public TIM comment.
3.3		DoD PKI root certificates are available on the DoD Class 3 Public Key Infrastructure (PKI) website, currently http://dodpki.c3pki.chamb.disa.mil/, to verify the certificate chain.	Added for OCX implementation.
3.3		To encourage GPS users to validate data integrity and at the same time ensure backward compatibility to ASCII text files, the CS shall provide a downloadable transition support utility application referred to herein as "*Validate and Transform Utility*".	Added for OCX implementation.
3.3		This utility will present the user with a simple User Interface to validate the integrity of any downloaded GPS Product and to optionally apply the transform contained within a downloaded Transformation Product.	Added for OCX implementation.

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3.3		The provided Utility will be an executable application installable on supported versions of Windows and Linux platforms, at a minimum Windows 7 and Redhat 5.8.	Update per non-public TIM comment.
3.3		User platform requirements for running the utility will be described on the NIS. The Utility will be digitally signed and users should validate the Authenticity of the certificate during installation.	Added from non-public TIM comment.
3.3.12	**GPS CS to GPS User Support Community data distribution via web site**	**Digital Signatures**	Modified for OCX implementation.
3.3.12	As all the messages in this interface are unclassified, the GPS CS shall make all the messages and associated digital signatures available to the public without requiring authentication of the consumer. A signature shall be persistent and on the message itself (i.e., not tied to a transport protocol or session). A message shall always have its corresponding signature available to the consumer to verify the message independent of the delivery protocol.	All of the GPS Products shall be digitally signed.	Modified for OCX implementation and to separate requirement.
3.3.12		The CS digital signature shall be persistent and embedded within GPS Product itself (i.e., not tied to a transport protocol or session) to provide integrity for data at rest.	Added for OCX implementation.
3.3.12		A message shall always have its corresponding signature available to the consumer to verify the message independent of the delivery protocol.	Added for OCX implementation.
3.3.13	**GPS CS to GPS User Support Community data distribution via automated interface**	<DELETED OBJECT>	OBE with removal of web portal
3.3.13	When first applying to receive data via automated interface, individuals may be required to provide some information prior to being added to receive automated distribution. For example, those who do not have an email address ending in .mil, might be referred to NAVCEN to get on their automated data distribution. After approval from the registration process, no further authentication activities are performed.	<DELETED OBJECT>	OBE with removal of web portal.
3.3.13	As all the messages in this interface are unclassified, after registration, the GPS CS shall automatically attempt to deliver messages and associated digital signatures the consumer has registered for without authenticating the consumer when delivery is attempted. If delivery is via email, the signature shall be on the message and not dependent on the email such that the extracted signature can be used to validate the extracted message without the whole email.	<DELETED OBJECT>	OBE with removal of web portal.

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10.1.1	NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYJJJ SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE SUMMARY JDAY JJJ/HHHH - UFN 1. NANU TYPE: FCSTUUFN NANU NUMBER: YYYYSSS NANU DTG: HHHHDDZ MMM YYYY SVN: XXX PRN: XX START JDAY: JJJ START TIME ZULU: HHHH START CALENDAR DATE: DD MMM YYYY 2. CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY 211 (30 JUL 2009) BEGINNING 0915 ZULU UNTIL FURTHER NOTICE. 3. POC: CIVILIAN - NAVCEN AT 703-313-5900, HTTP://WWW.NAVCEN.USCG.GOV CIVIL AVIATION - FAA National Operations Control Center MILITARY - GPS Support Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994. COMM 805-606-9994. JSPOCCOMBATOPS@VANDENBERG.AF.MIL	NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM – UNTIL FURTHER NOTICE 1. NANU TYPE: FCSTUUFN NANU NUMBER: YYYYSSS NANU DTG: DDHHMMZ MMM YYYY REFERENCE NANU: N/A REF NANU DTG: N/A SVN: XXX PRN: XX START JDAY: JJJ START TIME ZULU: HHMM START CALENDAR DATE: DD MMM YYYY STOP JDAY: UFN STOP TIME ZULU: N/A STOP CALENDAR DATE: N/A 2. CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE NO EARLIER THAN JDAY JJJ (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL FURTHER NOTICE. 3. POC: CIVILIAN - NAVCEN AT 703-313-5900, HTTP://WWW.NAVCEN.USCG.GOV CIVIL AVIATION - FAA National Operations Control Center MILITARY - GPS Support Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994. COMM 805-606-9994, JSPOCCOMBATOPS@VANDENBERG.AF.MIL	Modified to correct inconsistency with current product.
10.1.4	NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS SUBJ: SVNXXX (PRNXX) LAUNCH JDAY JJJ 1. NANU TYPE: LAUNCH NANU NUMBER: YYYYSSS NANU DTG: HHHHDDZ MMM 2007 SVN: XXX PRN: XX LAUNCH JDAY: JJJ LAUNCH TIME ZULU: HHHH 2. GPS SATELLITE SVN XXX (PRN XX) WAS LAUNCHED ON JDAY JJJ A USABINIT NANU WILL BE SENT WHEN THE SATELITTE IS SET ACTIVE TO SERVICE. 3. POC: CIVILIAN - NAVCEN AT 703-313-5900, HTTP://WWW.NAVCEN.USCG.GOV CIVIL AVIATION - FAA National Operations Control Center MILITARY - GPS Support Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994. COMM 805-606-9994, JSPOCCOMBATOPS@VANDENBERG.AF.MIL	NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS SUBJ: SVNXXX (PRNXX) LAUNCH JDAY JJJ 1. NANU TYPE: LAUNCH NANU NUMBER: YYYYSSS NANU DTG: DDHHMMZ MMM YYYY SVN: XXX PRN: XX LAUNCH JDAY: JJJ LAUNCH TIME ZULU: HHMM 2. GPS SATELLITE SVN XXX (PRN XX) WAS LAUNCHED ON JDAY JJJ A USABINIT NANU WILL BE SENT WHEN THE SATELITTE IS SET ACTIVE TO SERVICE. 3. POC: CIVILIAN - NAVCEN AT 703-313-5900, HTTP://WWW.NAVCEN.USCG.GOV CIVIL AVIATION - FAA National Operations Control Center MILITARY - GPS Support Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994. COMM 805-606-9994, JSPOCCOMBATOPS@VANDENBERG.AF.MIL	Modified to correct inconsistency with current product.

Change Topic: Document Baseline for User Community & Zero AOD User Interfaces

Section	ICD-GPS-870 RevA IRN003 (22 Jan 2013) Navstar GPS Control Segment to User Support Community Interfaces	Proposed Changes	Rationale
10.1.4	NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYJJJ SUBJ: SVNXXX (PRNXX) DECOMMISSIONING JDAY JJJ/HHHH 1. NANU TYPE: DECOMM NANU NUMBER: YYYYSSS NANU DTG: HHHHDDZ MMM YYYY REFERENCE NANU: YYYYSSS REF NANU DTG: HHHHDDZ MMM YYYY SVN: XXX PRN: XX UNUSABLE START JDAY: JJJ UNUSABLE START TIME ZULU: HHHH UNUSABLE START CALENDAR DATE: DD MMM YYYY DECOMMISSIONING START JDAY: JJJ DECOMMISSIONING START TIME ZULU: HHHH DECOMMISSIONING START CALENDAR DATE: DD MMM YYYY 2. CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE AS OF JDAY JJJ (DD MMM YYYY) AND REMOVED FROM THE GPS CONSTELLATION ON JDAY JJJ (DD MMM YYYY) AT HHHH ZULU. 3. POC: CIVILIAN - NAVCEN AT 703-313-5900, HTTP://WWW.NAVCEN.USCG.GOV CIVIL AVIATION - FAA National Operations Control Center MILITARY - GPS Support Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994. COMM 805-606-9994, JSPOCCOMBATOPS@VANDENBERG.AF.MIL	NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS SUBJ: SVNXXX (PRNXX) DECOMMISSIONING JDAY JJJ/HHMM 1. NANU TYPE: DECOM NANU NUMBER: YYYYSSS NANU DTG: DDHHMMZ MMM YYYY REFERENCE NANU: YYYYSSS REF NANU DTG: DDHHMMZ MMM YYYY SVN: XXX PRN: XX UNUSABLE START JDAY: JJJ UNUSABLE START TIME ZULU: HHMM UNUSABLE START CALENDAR DATE: DD MMM YYYY DECOMMISSIONING START JDAY: JJJ DECOMMISSIONING START TIME ZULU: HHMM DECOMMISSIONING START CALENDAR DATE: DD MMM YYYY 2. CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE AS OF JDAY JJJ (DD MMM YYYY) AND REMOVED FROM THE GPS CONSTELLATION ON JDAY JJJ (DD MMM YYYY) AT HHMM ZULU. 3. POC: CIVILIAN - NAVCEN AT 703-313-5900, HTTP://WWW.NAVCEN.USCG.GOV CIVIL AVIATION - FAA National Operations Control Center MILITARY - GPS Support Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994. COMM 805-606-9994, JSPOCCOMBATOPS@VANDENBERG.AF.MIL	Modified to correct inconsistency with current product.
30.4	The SEM format file example in Figure 30-1 is arranged with a header that identifies the number of records (number of satellites) and file name (current.al3). The SEM Almanac sample illustrated below is a data sample of one record out of 28 in this sample file and its parameter definition, as stated in the note of Figure 30-1, is in Table 30-II. There is an additional SEM file with a file name extension of .bl3 that is identical to .al3, except for the number of records range, PRN number range and SVN number field. All parameters are listed in Table 30-III.	The SEM format file example in Figure 30-1 is arranged with a header that identifies the number of records (number of satellites) and file name (current.al3). The SEM Almanac sample illustrated below is a data sample of one record out of 28 in this sample file and its parameter definition, as stated in the note of Figure 30-1, is in Table 30-II. There is an additional SEM file with a file name extension of .bl3 that is identical to .al3, except for the number of records range, PRN number range and SVN number field. All parameters are listed in Table 30-III.	Modified to correct minor error in original text.