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This is the second ACS development to be used in Cycle 9. Below is the list of addressed tickets.

- Obsolescence management including changes originally planned for 2 releases
 - CORBA Vendor Implementation
 - omniORB was upgraded to latest version (4.2.4)
 - Java (15 dependencies) – Most notably
 - castor – Used for XML Schem binding with Java classes
 - prevayler – Used for Manager persistence and recoverability
 - antlr – JAR file now installed through Maven
 - Python (18 dependencies) – Most notably
 - Jedi – Added specific version for dependency used by ipython after unexpected issues
 - External Dependencies (5 dependencies)
 - astyle: Aligned to RHEL 8 version (as RHEL 7 doesn't provide the tool). Moved to Extprod
 - doxygen/graphviz: Aligned to RHEL 7 version. Not installed if already provided by O.S. packages. Fallback mechanism moved to ExtProd
 - vtd-xml: Upgraded to latest version and now installed through Maven. Moved to ExtProd
 - oAW: No longer installing as a module, now we use the version provided by ACS Eclipse installation
 - acsStartJava -addEclipseClasspath flag was added to automatically put the required dependencies in the classpath
 - Likewise, for compiling the special directive <jarname>_ECLIPSE=on was added for compilation to make use Eclipse's JAR files
- Acssim setMethod/setMethodIF now receives fully-compliant Python code blocks
 - This may break some implementations that used to write the return value on the last line without actually putting "return ..."
- Alternative XML Schema bindings for Java are being prepared using JAXB XJC technology
 - Both castor and jaxb bindings are created with the XSDBIND directive and are packaged in the same JAR file
 - If castor's code generated package is 'test.xx.yy', then xjc one is 'test.xx.yy.jaxb'
- Fix for CDB RDB plugin that enables simulation on devices transitioned through tmcdb-hardware-explorer
- Fix to TMCDB Explorer for NullPointerException when cancelling search dialogue

key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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```
git status
On branch integration/COMMON-2021APR
Your branch is up to date with 'origin/integration/COMMON-2021APR'.

git log --no-merges --oneline origin/master..origin/integration/COMMON-2021APR -- ACS
83e20f2b84 (origin/feature/ICT-18112) ICT-18112: Updating pip2 requirements for consistency
8eb0796f80 (origin/feature/ICT-17575) ICT-17575: Simulated method code blocks should be Python-compliant
fb165cba2e (origin/bugfix/ICT-18353) ICT-18353: Handling parallelism in 2 modules with XSDBIND dependencies
3531b1d813 (origin/feature/ICT-18039) ICT-18039: Removing junit-dep from eventGUI dependencies
3fb777d940 ICT-18039: jacsutl look for junit jars on JavaDependencies
e81676eb4d (origin/feature/ICT-18296) ICT-18296: Upgrading Pmw to 2.1 which no longer requires manual patch
2a25a4ec08 (origin/feature/ICT-17797) ICT-17797: baciPropTests phase A adding grep line
be8c27aee4 ICT-18039: Updating jcont test (order) for JacORB logger
693b743ff4 ICT-17797: Fixing ACSLaser/alarm-clients tests
726a734e5b ICT-17797: Some more acsjlog test fixes
15df9672f1 ICT-17797: Changes to fix tests after dependencies upgrade
3a399cf96a ICT-17797: Small fix in cdb_rdb for int/long type in new castor version
3389605e50 ICT-17797: Updated ref file for tests fix
86b02b243b ICT-17797: Fixing acsjlog tests
23a54b11b8 ICT-17797: TransformerFactory is configured by acsStartJava
dfaa5a09cb ICT-17797: Making sure xsi:type is included for marshalled root elements
38f7e627bc ICT-17797: Castor bugfix for unmarshalling on type (instead of element) scheme
3f5c8f8fe7 (origin/bugfix/ICT-12398) ICT-12398: Adding bug-fix to interceptor code in case of FAILURE/RESTART
d40fba142f ICT-17797: Updated castor version in pom to reflect where it comes from
```

24e86bd367 ICT-12398: Corrected some details and reduced time to 60us
45cbc368ac ICT-12398: Undoing change to maciContainer for retry on aborted read
f67c4b09bb ICT-12398: Improved network recovery for oneway calls
c9ec9eabab ICT-12398: New TAO patch + ORB flags for maciContainer
6a32467e9e ICT-17797: Fixed castor's properties files CRLF patch problems
7aac367b5c ICT-17797: Castor properties + fixes for ICD/HLA/APDM
5aeb91a6f3 (origin/bugfix/ICT-18202) ICT-18202: Some more fixes to acsMakeJavaClasspath NDDS jarfiles order
c992523474 ICT-18202: Correcting classpath order in acsMakeJavaClasspath script
02a40f605b ICT-17797: Adding pom file for castor upgrade
951cf3d0a1 ICT-17797: Castor's new dependency commons-lang3
fdca26a466 ICT-17797: Castor 1.4.1 upgrade and all needed changes up-to ICD
62f01f8d0f (origin/bugfix/ICT-17993) ICT-17993: Removed jide-oss from JavaDependencies
5b114d726e ICT-17797: Updated Makfile to instal .episode files
d17b43d8a0 ICT-17797: xjc attributes may not be primitives and 'value' attributes
c464189d61 ICT-17797: xjc execution permission by default
b81fde87ec ICT-17797: JAXB binding to allow 'value' attributes in xsd primitives
8eb0796f80 (origin/feature/ICT-17575) ICT-17575: Simulated method code blocks should be Python-compliant
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c464189d61 ICT-17797: xjc execution permission by default
b81fde87ec ICT-17797: JAXB binding to allow 'value' attributes in xsd primitives
6802284902 ICT-18039: jbacki test fix missing
a8ae82fe4c ICT-18039: Fixed jbacki tests to be compatible with latest jars
a50d55b91e ICT-18039: maciManagerJ + Correcting some test cases for log4j warnings
9abdb00075 ICT-18039: Updated xsddoc tests to be compatible w/new versions
cebe12148e ICT-18039: Updated xercesj test for xalan version xml declaration change
6c50d407cf ICT-18135: Updated default Doxyfile for ACS
13440f662c (origin/feature/ICT-18122) ICT-18122: Removing oAW from Tools group
8a749cdacf ICT-18135: Cleaned group.mk in Tools group
a6c754da84 ICT-18136: Removed astyle from Tools/Makefile and Tools/group.mk
b7dd010fea ICT-18135: Small fixes to acs-ext Makefiles
774069527f ICT-18039: Removing vtd-xml module as jar now comes from Maven
d355d6cb5c ICT-18136: Moved astyle to ExtProds and upgraded to 3.1
8cc5c92d58 ICT-18136: Moving astyle to ExtProds
d57232f4b1 ICT-18135: Cleaning up of doxygen module
b107c2ab40 ICT-18135: Upgrade of doxygen/graphviz + move to ExtProd
53b3398b0e ICT-18135: Removed doxygen from ACS/Makefile
2a7165bdc8 ICT-18135: Moved doxygen to ExtProds
8dc27258a1 ICT-18039: antlr script to use appropriate antlr jar version
03bc59e607 ICT-18039: Updating xjc to use correct activation jar version
9f1a10f095 ICT-18122: Reversed the classpath order to avoid problems with antlr
714b9c1606 ICT-18039: Updated more xalan and serializer references for versioned ones

f4ff37b8c2 ICT-18039: Updated more xalan and serializer references for versioned ones
1b861c19e9 ICT-18039: Updated xalan and serializer references for versioned ones
2ab01e5274 ICT-18039: Removing no longer required jars as are provided by Maven
6eaf9b1f43 ICT-18039: Disabled vtd-xml module. Now installed with Maven
02f114aac0 ICT-18039: Disable java in antlr module. Jar is installed by maven
0d1e9ce174 ICT-18122: Update ACS to make use of Eclipse's EMF for codegen
636065face ICT-18039: Reverted commons-jexl upgrade due to dependency to scxml
4e10201b17 ICT-18112: Removed pyephem py dependency as it's only a placeholder
c3f6d8db38 ICT-18039: Fixed commons-jexl groupid
ab96aef15f ICT-18039: Upgraded java dependencies according to obsolescence plan
14f11f396e ICT-18112: Upgrading Python dependencies according to obsolescence plan
233c5f05ba ICT-18035: Update ACS version for 2021APR
1c754ad95e ICT-17794: corbaRefPersistenceTest tests to consider new prevayler jars
5cbd28d831 ICT-17793: Updated searchFile script to look into JavaDependencies
337e84e465 ICT-17793: scxml now looks into JavaDependencies for JAR files
3a882db142 ICT-17793: Recovered jdom and commons-jexl as they're still needed
1f4db930f1 ICT-17793: Removing libraries according to SCCB-1091
b832f0a65a ICT-17797: First implementation of xmljbind usin JAXB XJC
5259d5d6d8 ICT-17794: maciManagerJ now uses correct prevayler jar files
372d05103b ICT-17794: Fixed jmanager tests after prevayler upgrade
c842c5adb2 ICT-17794: Disabled deep-copy on prevalence to maintain previous behavior
ala6b43587 ICT-17794: Fixed to return serialized data from Transaction objects
3d8a166b1f ICT-17796: Made laser-core compatible with jakarta.mail 2.0.0
074e798505 ICT-17795: Made jlogEngine compatible with jdom2 (2.0.6)
8388fd5bcd ICT-17794: Make jmanager compatible with prevayler 2.6
55d9f0ce3b ICT-17793: Upgrading deps pom and removing libraries from Makefiles
74fe2f7c2d ICT-17793: Removing old jar dependencies
ed44dfc3a6 (origin/feature/ICT-17741) ICT-17741: Upgraded python dependencies for 2021FEB as planned
f4b8cad8fe (origin/feature/ICT-17740) ICT-17740: Upgrade of omniORBpy to 4.2.4

```
git log --no-merges --oneline origin/master..origin/integration/COMMON-2021APR -- ARCHIVE
336eaf898 (origin/bugfix/ICT-18181-master-acs-cdb-rdb-alma-hw-section-plugin-failed) Modified the Restriction
in the Hibernate session that creates a criteria of HWConfiguration table, in order to take the
configurationName (instead of Configuration) record.
ae316b596e (origin/bugfix/ICT-18257-archive-hibernate-5-sequence_name) ICT-18257: Archive: Changed
GenericGenerator parameter from name to sequence_name
a41d026c01 (origin/ICT-18228-common-stop-installing-castor.jar-into-artifactory) re-added castor pom, updating
version to 1.4.1-acs
69f610f1d4 re-added castor in parent pom
781ce4470a ICT-18228 stop deploying castor into artifactory
73824ebdb4 (origin/technical/ICT-18212-mvn-update-archive-and-icd-poms-for-2021apr) ICT-18212: updated poms ->
2021.04-SNAPSHOT
7519b3d53f ICT-18039: Updated dependencies in ARCHIVE
```

```
git log --no-merges --oneline origin/master..origin/integration/COMMON-2021APR -- ICD
6a2908ca30 (origin/feature/ICT-17819) ICT-18323: Calling subscriber.receive doesn't transition msg to Consumed
8a42242e9a ICT-18325: Correctly handling QoS for bursts of messages
baaa7bfc1e ICT-18306: Message Bus speed improvement + more stress tests
14ae6384c5 ICT-17819: Python Message bus test suite along with bug-fixes
77b1367e5e ICT-18306: First implementation of tests along with several fixes
10fc87928b ICT-17819: Upgrading security for Message Bus Python implementation
54e1b3ff4f ICT-17819 Removed unused methods groupMembers() and joinGroup() from the APIs
1303d5236d ICT-17819 Removed unused methods groupMembers() and joinGroup() from the APIs
ceb4559218 ICT-17819 Removed unused parameter queue from computeState()
c2c1bcfca0 ICT-17819 RabbitMqMessageBroker: refactored, corrected Javadoc
bf96f5ea86 ICT-17819 Reviewed and updated tests
709ab31805 ICT-17819 removed principal.substring from SimpleEnvelope
ac5d057ca0 ICT-17819 Fixed regression on MockMessageBroker
191cbd49b2 ICT-17819 Reading principal from login credentials
3e10e4cf24 ICT-17819 Removed CouchDB implementation
90bfc8ed31 ICT-17819 Updated documentation
d58bb502ed ICT-17819 Updated IDE admin files
44aelbd1ab ICT-17819 Removed token-related code
9f19af5f4c ICT-17819 Removed token-specific classes
0d68c7c0cb ICT-17819 Updated Eclipse/IntelliJ admin files
5d695d1a50 ICT-17819 Removed dependency from TokenFactory
761882f0f6 ICT-17819 Updated Eclipse admin files
81cc9c3832 ICT-17819 Upgraded build to Java 11
f1e3de932f ICT-17819 Changed POM version numbers
0a49ddc54c ICT-17819 Added IntelliJ admin files
d18f496c3e (origin/feature/ICT-17303) ICT-17303 Cleaned up more Java-related files
```

```

343ebf491c ICT-17303: Cleaned up test/Makefile for ICD/ADAPT
bc9e50423e ICT-17303 Creation (IntelliJ admin files)
e6eff38d00 ICT-17303 Removed obsolete code
72bee69243 (origin/feature/ICT-17303-icd-adapt-cleanup) ICT-17303 Cleaned up more Java-related files
4a4balf90e ICT-17819: Upgrading security for Message Bus Python implementation
9fd79affbc ICT-17303: Cleaned up test/Makefile for ICD/ADAPT
7ca6851782 (origin/bugfix/ICT-17861-tmcd-b-explorers-find-configuration-wizard-nullpointerexception) removed
print out message, minor change
b9d4d378d0 Included code to avoid null pointer exception when no configuration is selected
6e41fe6292 ICT-17819 Removed unused methods groupMembers() and joinGroup() from the APIs
d6d791d223 ICT-17819 Removed unused methods groupMembers() and joinGroup() from the APIs
0c94f8d332 ICT-17819 Removed unused parameter queue from computeState()
b7987ff27e ICT-17819 RabbitMqMessageBroker: refactored, corrected Javadoc
c3d893da3d ICT-17797: APDM initAsNew should be available even on abstract classes
76707f2abe ICT-17676 changed versions of archive/acs/icd to 2021.02
56b874de66 ICT-17819 Removed unused methods groupMembers() and joinGroup() from the APIs
c11cb40947 ICT-17819 Removed unused methods groupMembers() and joinGroup() from the APIs
161277dbf2 ICT-17819 Removed unused parameter queue from computeState()
db7eaeabb27 ICT-17819 RabbitMqMessageBroker: refactored, corrected Javadoc
74d8f51ca6 ICT-17819 Reviewed and updated tests
cfd4ee72ce ICT-17819 removed principal.substring from SimpleEnvelope
eff34990c0 ICT-17819 Fixed regression on MockMessageBroker
e59ecc9394 ICT-17676 archivedam and aqua refactoring to fix SB packagescan autowiring issues
651e8286a7 ICT-17819 Reading principal from login credentials
73824ebdb4 (origin/technical/ICT-18212-mvn-update-archive-and-icd-poms-for-2021apr) ICT-18212: updated poms ->
2021.04-SNAPSHOT
7aac367b5c ICT-17797: Castor properties + fixes for ICD/HLA/APDM
28ca70311b ICT-17819 Removed CouchDB implementation
12110f87d0 ICT-17819 Updated documentation
da423429fa ICT-17819 Updated IDE admin files
d3880eda51 ICT-17819 Removed token-related code
64dcf74911 ICT-17819 Removed token-specific classes
4da269d42f ICT-17819 Updated Eclipse/IntelliJ admin files
27f0a7ccd0 ICT-17819 Removed dependency from TokenFactory
fb24f26480 ICT-17676 moved alma.obops.dam package from ICD/OBOPS/dam to OBOPS/archivedam
1b539ceea3 ICT-17819 Updated Eclipse admin files
e4a6093d07 ICT-17819 Upgraded build to Java 11
fdca26a466 ICT-17797: Castor 1.4.1 upgrade and all needed changes up-to ICD
44acac4100 ICT-17819 Changed POM version numbers
e728741e6c ICT-17819 Added IntelliJ admin files
7bde5092fb ICT-17797: ICD/HLA/APDM to compile JAXB-generated bindings
3a2b855e46 (origin/feature/ICT-17563-rename-stateflag-to-substate) ICT-17563 in hibernate mapping classes
reverted getSubStateStr to getFlags
c3c70a9ea7 ICT-18039: Updated HLA/ASDM to make use of searchFile for dependencies
0c2f3392f4 ICT-18039: Added some Java dependency changes for ICD
a21e5fe76f ICT-18039: Updated Java dependencies in ICD
ba3b943b99 ICT-17563 second batch of refactoring for SubState enums
6fd6ad6758 ICT-17563 first batch of refactoring for SubState enums (aqua and webaqua need lots of attention)
47e1535b52 ICT-17745 if an MOUS only has EBs without targets it OTOs to NotObserved
31c6a9effd Added PK on state_changes_id in hsqldb test ddl
6ce62aeae6 Updated OBOPS version strings to 2021.04-SNAPSHOT
8463aef8c3 ICT-17676 Initial commit
269a270648 ICT-17303 Creation (IntelliJ admin files)
1312ea4565 ICT-17303 Removed obsolete code

```

OS Support:

- The officially supported OS is the 64 bit version of "Red Hat Enterprise Linux Server release 7.6 (Maipo)"
 - The binary distribution of ACS (tarball) is made for this OS
 - We also successfully use its clone "CentOS 7.6"
 - For all machines the expected kernel is 3.10
- Unofficially, CentOS 8.2 has also been used successfully

The expected and actual versions of compilers, ORBs and various RPMs can be found by running the command `=acsConfigReport=`, both for required RPMs and for software shipped together with ACS. To get a rough overview before installing ACS, here are the most basic ones:

- Gcc: 4.8.5 RHEL 7.6
- Java: openjdk-11.0.4
- Python: 2.7.16 and 3.6.9
- ACE: 6.5.11

- The operating system dependencies are:


- There is a new requirement needed to replace cppunit (Since 2020DEC):

- There is a new requirement needed to replace doxygen and graphviz (Since 2021APR):

- ## Problems Found And Fix Version in This Release

Problems Found And Fix Version in Future Releases

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