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# Technical Steering Meeting

February 3, 2014

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# Agenda

- Up/down vote on whether to make WebEx recordings of TSC meetings
- Minute taker for TSC – need a volunteer
- Update from tools & infrastructure sub-committee
  - Build system recommendations
  - Build platform proposal
  - February release (14.02) status update
  - OpenWRT feed proposal
  - Repo manifest proposal
- Core WG bug fixes & features for 14.02 release

# Infrastructure and Tools Update

Mathew Martineau

# Build System Recommendation

- Jenkins
  - MIT licensed
  - Configurable with XML (not code)
  - Widely available documentation
  - Linux Foundation has experience managing

# Build Platforms

- Recommending Linux/Windows/Mac
  - Use cloud services such as Amazon AWS
- Linux Platform
  - Recommending Ubuntu
  - Available on Amazon AWS
  - Widely used by developers
- TSC oversight
  - Can the infrastructure team set up these servers with general TSC approval?

# 14.02 Status

- UDP Transport not included
- Mainly bug fixes
- Release candidate tags and branches later this week

# Project Proposals

- OpenWrt Feed
  - [https://wiki.allseenalliance.org/core/openwrt\\_feed\\_proposal](https://wiki.allseenalliance.org/core/openwrt_feed_proposal)
  - Packaging for AllJoyn core and services on the OpenWrt platform
- Repo Manifest
  - [https://wiki.allseenalliance.org/devtools/repo\\_manifest\\_proposal](https://wiki.allseenalliance.org/devtools/repo_manifest_proposal)
  - Used by developers to check out code. No AllSeen functionality, just XML descriptions of git repositories and tags.
  - Need for 14.02 release.
  - Does the project lifecycle apply?



# Core WG Release

# Bug Fixes/Feature Adds

Key	Summary	Description
AJCORE-4 (Open)	AllJoyn thin client source code should replace AJ_Printf with appropriate logging APIs.	Replace all instances of AJ_Printf in the source code with one of the above debugging APIs.  AJ_ErrPrintf() - For reporting unexpected error conditions AJ_WarnPrintf() - For reporting unusual but expected conditions AJ_InfoPrintf() - For reporting useful or detailed information
AJCORE-5	Consolidate all configuration-related #defines into a single configuration header file	There are a few private implementation #defines that are scattered throughout the AJ code. These should migrate into a single public header file.
AJCORE-9	Android conf SConscript is missing prefix for ranlib tool	The correct name of the Android tool is used for ar, cc, cxx, etc. but not ranlib. This will cause problems where the host ranlib is incompatible with e.g. arm-linux-android-eabi-ranlib.
AJCORE-13	alljoyn.config in alljoyn_feed should be updated to include new SLAP parameters.	The following new parameters are added to alljoyn-router supporting the SLAP transport: * databits * parity * stopbits  The config file needs to support this change.
AJCORE-28	Useless "initial" variable in aj_helper.c	"initial" is used in only one place: "!initial    !connected". But "initial" can only be false if "connected" is also false.
AJCORE-167	Add object based security APIs to Java Bindings	The new public APIs need to be added to the language bindings
AJCORE-168	Add object based security APIs to C bindings	The new public APIs need to be added to the language bindings
AJCORE-169	Add object based security APIs to the Unity Extension	The new public APIs need to be added to the language bindings
AJCORE-170	Add object based security APIs to Objective C bindings	The new public APIs need to be added to the language bindings
AJCORE-171	Add object based security to the JavaScript bindings	The new public APIs need to be added to the language bindings
AJCORE-172	Add object based security APIs to the AllJoyn thin client layer	The new public APIs need to be added to the language bindings

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AJCORE-182	Request: add a flag parameter to aj_busetsignalrule and other functions and pass it in directly to marshalmethod call	This is needed if an app wants to set flags such as AJ_FLAG_NO_REPLY_EXPECTED except for aj_busetsignalrule it would be nice to have in the functions: AJ_BusAdvertiseName & AJ_BusBindSessionPort
AJCORE-221	SLAP protocol needs some kind of orderly shutdown sequence	Currently if the router shuts down the SLAP thin client will not know until the link times out at the AllJoyn level. There should be a shutdown sequence added to the protocol. It could be as simple as a new SHUTDOWN message that tells the client to reset itself.
AJCORE-227	AJCORE-226 Add API to remove a member from a session to Java bindings	Add API to remove a member from a session to Java bindings. Binder can call this to remove a member from the session.
AJCORE-229	AJCORE-226 Add API to remove a member from a session to Unity bindings.	Add API to remove a member from a session to Unity bindings. Binder can call this to remove a member from the session.
AJCORE-231	AJCORE-226 Add API to remove a member from a session to Objective C bindings.	Add API to remove a member from a session to Objective C bindings. Binder can call this to remove a member from the session.
AJCORE-233	AJCORE-226 Add API to remove a member from a session to Thin client bindings.	Add API to remove a member from a session to Thin client bindings. Binder can call this to remove a member from the session.
AJCORE-234	SessionLost should tell you whether the session was explicitly lost (via LeaveSession on remote side) or lost via an error (timeout, etc.)	This request came from both dT and Orb while working on audio streaming. This requires changes to all the bindings to add this parameter. Jira subtasks have been created for the same. Changes need to be in the Java, Objective C and Thin Client bindings as well
AJCORE-269	core CPP scones should support BD for service apps and not for service libs	CPP services "inherit" the core scones environment, which means that when BD=on, the service apps and the service libraries link with the BD, according to the settings and flags defined in the core scones environment. However, it is desirable for only the service apps to have BD, and not the service libraries.
AJCORE-283	Enable loopback on Android	Currently if multiple applications reside on the same device and wish to chain some processing or services WiFi must be on and connected. This is because the bundle router is not registered on localhost/multicast loopback so no discovery can occur.
AJCORE-286	Change instances of printf to cout	Change instances of printf to cout which is more common for C++ code

Key	Summary	Description
AJCORE-300 (Open)	Need IP address to refresh more frequently	In onboarding the router needs to know when to shutdown since the device is switching wifi networks
AJCORE-302	Remove legacy Bluetooth transport	The Bluetooth transport is not really used. It is very code heavy and has a fundamental flaw that inhibits reliability: it depends on scatternets. Furthermore, BlueZ is the only Bluetooth stack on all our supported platforms to provide full access to all the Bluetooth capabilities required by this transport.
AJCORE-303	SLAP UART baudrate for thin client should not be configured at two places.	SLAP UART baudrate is being set at two places, it should be configured at one place, preferably where all the other serial parameters are also set.
AJCORE-307	Building services from the top level AllJoyn SConstruct file fails	Changes were made to how services (e.g., config, notification, etc.) build such that alljoyn_core/SConstruct.top can no longer build the services. SConstruct errors out when setting SERVICE=config (or any other service except about).
AJCORE-308	#pragma's in common/inc/qcc/ManagedObj.h should be conditionally compiled in for the relevant platform	Pragma directives are by definition compiler specific. They must always be conditionally compiled in for only those platforms/compilers that the #pragma is intended for.
AJCORE-309	AllJoyn About Sample applications do not compile for OpenWrt	AllJoyn About Sample applications do not compile for OpenWrt
AJCORE-310	Race condition in windows Event::Wait implementation	There is a race condition in the windows implementation of Event::Wait(const vector<Event*>& checkEvents, vector<Event*>& signaledEvents, uint32_t maxWaitMs) which causes it to return ER_TIMEOUT even though it hasn't timed out.
AJCORE-321	testbot: About client cpp sample release variant binary prints wrong port	Wrong port is printed in release variant, debug variant is working fine.
AJCORE-330	Resolve Klocwork issues	
AJCORE-339	Bundled router crashes during sessionless signal test in stressful mode.	The crash is seen on Linux machine running several instances of sessionless signal test app.
AJCORE-344	Resolve NULL pointer dereference Klocwork issues found in the unit tests	Most of these issues are due to not checking an interface for NULL after creating a new interface.

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AJCORE-346	Change Common_IsLanguageSupported() to return a boolean and be provided with an out parameter for the resulting language index	This change increases readability of code.
AJCORE-347	Resolve KW issues	
AJCORE-350	Doxygen unable to find enums in status.h	When generating the documentation doxygen will generate many warnings similar to the following. SimpleBusListener.h:133: warning: explicit link request to 'ER_ALERTED_THREAD' could not be resolved Doxygen is improperly documenting the Status.h header file.
AJCORE-351	Thin client must send the supported protocol version to the router	The standard client sends extension commands after the initial SASL exchange that informs the router of its protocol version. The router sends out its protocol version to the client in response. The standard client rejects any older routers since older routers cannot support newer features. The thin client does not currently send out the protocol version to the router. Hence the router assumes the client's version to be 0 i.e. pre 3.1 client. Thus, the router is not aware that the thin client supports newer API features that were added. for e.g. sessionLostWithReason.
AJCORE-701	ProxyBusObject MethodCall() timeout is not honored in C++ for iOS	When Device is unplugged, and session still exists the expected behavior is iOS and Android returns after 1 second with (status != ER_OK) from MethodCall What actually happens: iOS returns from MethodCall after 40-60 seconds with (ER_BUS_REPLY_IS_ERROR_MESSAGE). While Android returns after 1 second with (ER_BUS_REPLY_IS_ERROR_MESSAGE).
AJCORE-702	AJ Router needs to remove support for RDVZ server access	Remove the support for RDVZ server access from the router code.
AJCORE-710	Doxygen Creates folder with name %SystemDrive% when building on windows	On Windows Doxygen uses the environment variable SystemDrive to know where to place temporary cache files. This environment variable should be imported into the scons environment whenever doxygen is used.
AJCORE-712	XML parser should allow single quotes around attributes	XML allows attributes to be wrapped in single or double quotes. The XML parser in common(XmlElement.cc) only checks for double quotes. Fixing this will allow single quotes to be used in embedded XML for interface definitions so the double quotes around attributes don't have to be escaped with a backslash.
AJCORE-716	Create function to get the current alljoyn version	Function should return the current version and tag found in aj_version.h
AJCORE-719	Resolve KW issues	

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AJCORE-720	XmlElement constructor does not properly add children to parent element	The only way to properly map a parent to child is to create the parent then call CreateChild()
AJCORE-721	klocwork 50: If bind fails, the socket is not closed	If bind fails mcastSock is not closed.
AJCORE-722	klocwork 52: pointer is dereferenced before checking for null	In AJ_NVRAM_Write() and AJ_NVRAM_Read(), 'handle' is dereferenced before it is checked for null
AJCORE-723	klocwork 60: possible null pointer dereference after AJ_Malloc	timer is used without checking if AJ_Malloc() returned successfully.
AJCORE-724	High memory usage (resident set size) reported	Resolved by eliminating the name exchange for Sessionless signals.
AJCORE-727	klocwork: memory leak	In ajctl/test/nvramtest.c 'handle' is created but never closed if the goto is hit.
AJCORE-728	klocwork	In several places sessions does not check that the return of strtok() is valid.
AJCORE-733	Avoid propagating names over sessions created for SLS	One of the steps of JoinSession is ExchangeNames, where the daemons exchange all the names that it knows to the other end. SessionLessSignals operate by creating of multiple names and advertising those names to other routers. This creates a lot of _Name_ traffic. Thus ExchangeNames step of JoinSession can cause spikes in CPU and memory, when there are lot of names.
AJCORE-740	RemoteEndpoint deadlock if it is stopped before it can be completely started	Names are lingering in the system rather than being cleaned up properly. This agravates the amount of _Name_ traffic in the system.
AJCORE-741	UmarshalRaw overwrites the message header preventing a reply message from being constructed	A reply message is constructed from the original message by copying across certain information from the method call message header. The current implementation of AJ_UnmarshalRaw tries to maximize the space available in the input buffer for custom (raw) unmarshaling by overwriting space allocated for the message header. This works for signals but for method calls destroys information needed to construct the reply message. The implementation needs to preserve the header in the buffer.
AJCORE-742	Need to be able to reset the msg args on a message	Because the thin-client unmarshals msg args on the fly it isn't possible for one potential message consumer to peek at a message and decide whether to consume it or pass it on to another consumer. Specifically, if in the case of an AcceptSession call service code cannot look at the port number to decide if the session is being established with that service or another one. Adding a new API that resets the msg arg list so the msg args can be unmarshaled again will allow for this use case.

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AJCORE-743	Pool based allocator needs improvement	The pool-based memory allocator needs improvement and instrumentation to be useful.
AJCORE-746	alljoyn-daemon binary built on newer kernel version may not run on a older version of kernel.	Linux defined <code>{{SO_REUSEPORT}}</code> only from kernel version 3.9 onwards. That is, till kernel version 3.2, <code>{{alljoyn-daemon}}</code> on Linux would use <code>{{SO_REUSEADDR}}</code> and from 3.9 onwards it would use <code>{{SO_REUSEPORT}}</code> .
AJCORE-748	klocwork	remove print format specification warnings
AJCORE-749	Status.cc should have the AllSeen Alliance copyright header at the top	Generated source file Status.cc does not have the AllSeen Alliance copyright header at the top
AJCORE-752	Buildbot's Arduino build step fails on master branch.	Buildbot's Arduino build step fails on master branch. The same build step seems to run OK on legacy-03.04.00 branch.
AJCORE-753	Debug logging documentation for Thin Client is hard to understand.	Users have complained that the documentation for the Thin Client debug logging module is hard to understand and one must read and understand too much to be able to do simple things. We need to make the Doxygen description more process-oriented and provide code snippets that can be simply cut and pasted to accomplish logging.
AJCORE-755	ajctl scon build for Windows has compile errors on master branch	ajctl scon build for Windows has compile errors on master branch
AJCORE-756	Compile error for TC arduino	Buildbot get the compile error when building arduino thin client binary
AJCORE-757	fix SConstruct to build services	After the move to Allseen scon broke and does no longer build services due to change of directory structure
AJCORE-758	Thin client application needs more strict message validation against fuzzed alljoyn messages.	When a standard client alljoyn application sends out fuzzed alljoyn messages to the thin client, the thin client should handle these messages gracefully. The thin client application should not crash on receiving fuzzed messages; however, at least three different crashes are seen on thin client program when it receives fuzzed messages. One is an assert and two are seg faults.
AJCORE-760	Replace CHECK macro with explicit status check in tc mutter.c	Replace CHECK macro for explicit status check.
AJCORE-762	IODispatch assertion failure for ctxt->type	Approx 8 in 20 instances of service and client display the following assertion failure under stress: <code>assert(ctxt-&gt;type &gt;= IO_READ &amp;&amp; ctxt-&gt;type &lt;= IO_EXIT);</code>
AJCORE-768	About won't build if there is any whitespace around "about" in the SERVICE= specification.	The OpenWrt Makefile always inserts a space after the = when it builds up the scon command line such that the specification for services becomes <code>{code}"SERVICE= about,{code}</code> . A recent change to the top level SConstruct file broke its ability to ignore whitespace around "about". Whitespace is properly ignored for other services.

Key	Summary	Description
AJCORE-769	testbot: bbclient can not complete method call	bbclient tries to make a method call after discovery and joinSession, but the method call does not complete.
AJCORE-771 (Open)	AllJoyn discovery doesn't work with Comcast Xfinity modem+router	Comcast router appears to block multicast traffic so AJ discovery doesn't work.
AJCORE-772	Network API difficult to use in real-world applications	There are several instances of problems when services try to connect to various networks. We need to provide network API primitives in AJ TC to allow applications to easily walk through the states involved in network association, authentication, address acquisition, connection, daemon authentication and message exchange, providing appropriate errors and allow applications to retry when appropriate or walk up and down the network states as it thinks appropriate.
AJCORE-777 (Open)	testbot: Arduino compile error on master	/home/seabuild/Arduino/libraries/AllJoyn/aj_init.cpp: In function 'void AJ_Initialize()': /home/seabuild/Arduino/libraries/AllJoyn/aj_init.cpp:52: error: 'AJ_RandBytes' was not declared in this scope
AJCORE-780	Java does not have a way to change the maximum number of concurrent method and signal handlers	In C++ the maximum number of current method and signal handlers can be changed by calling BusAttachment with a third parameter. The concurrency parameter. We need to expose the concurrency parameter to the Java APIs
AJCORE-786	Windows discovery broken returns ER_OS_ERROR when trying to bind socket	Discovery on Windows always fails due to bind socket failure.
AJCORE-790	AuthError while running client test apps	Client test apps like clientlite and siglite exit with status 13(AJ_ERR_SECURITY) when using secured interface and doing peer auth.
AJCORE-796	buildbot: thin client compile error on windows master	TC build on Windows not working
AJCORE-802	AJNPasswordManager is missing from AllJoynFramework_iOS.xcodeproj	The AJNPasswordManager class is missing from AllJoynFramework_iOS.xcodeproj



**Thank You.**