From: **Kiranmayee Katyayani Kolluru** katyayani.kolluru@ltu.se
Subject: FW: Arrowhead G3.2 M3 first rounds of testing
Date: 2 March 2018 at 14:39
To: Jan van Deventer Jan.van.Deventer@ltu.se

Hi Jan,

I remember you were asking about working code of core systems. I see that there is some working code form csaba and team. You can have a look.

Regards,
Kiranmayee

From: Csaba Hegedűs [mailto:heguduscs@aitia.ai]
Sent: den 28 februari 2018 21:46
To: Jerker Delsing <Jerker.Delsing@ltu.se>; Fredrik Blomstedt <fredrik.blomstedt@bnearit.se>; Singler, Gábor <Gabor.Singler@evopro-group.com>; Karahasanovic Adi <adi.karahasanovic@combitech.se>; Kiran Shekhar <kiran.shekhar@nxp.com>; Fernando Ramirez <fernando.ramirez@ltu.se>; Hasan Derhamy <hasan.derhamy@ltu.se>; Jens Eliasson <Jens.Eliasson@ltu.se>; Kiranmayee Katyayani Kolluru <katyayani.kolluru@ltu.se>; Laurentiu Barna <laurentiu.barna@wapice.com>; Felix Larrinaga Barrenechea <flarrinaga@mondragon.edu>; Erik Karlsson <erik.karlsson@bnearit.se>
Cc: Pal Varga <pvarga@tmit.bme.hu>; Umlauf Zoltán <zumlauf@aitia.ai>; Irmin Okic <irmin.okic@student.tuwien.ac.at>; Ivkić Igor <Igor.Ivkic@fh-burgenland.at>; tothfalusi@aitia.ai; Cristina Paniagua <cristina.paniagua@ltu.se>
Subject: Re: Arrowhead G3.2 M3 first rounds of testing

Dear all,

We made a custom Raspberry Pi 3 image with an optimized, single jar implementation version of M3. This implementation is quite fast, a secure inter-cloud orchestration (from request until the application service response arrives) between two Raspberries only take 8 seconds.

The raspi image features:

- Plug&Play: Auto started M3 core systems with the single executable form (SR, ORCH, AUTH, GK, GW), switchable between secure and insecure mode
- optimized MySQL database settings for Raspberry
- phpmyadmin to ease the management of MySQL tables
- the Raspberry hosts a Wi-Fi network (SSID: Arrowhead-RasPi-IoT, pwd: 'arrowhead') with DHCP so that sensor/actuator motes can connect to it (e.g. NodeMCU)
- The Ethernet port can be used to connect the Raspberry to the internet (the internet is bridged to the WiFi network also)
- Up-to-Date Raspbian lite, Linux user: 'pi', pwd: 'raspberry'

Note: Please run a 'git pull' and 'mvn install' in the /home/arrowhead/ folder and do a restart (we found a minor bug after making the image)

Together with the **client skeletons available for Java and now also C++**, it is very easy to deploy and start using the framework. If anyone needs the C++ version, please send me a mail (it is not uploaded to the client skeleton git repo yet).

me a mail (it is not uploaded to the client skeleton git repo yet).

You can find the img file here (it can be burned to a 4GB, possibly Class10 microSD/microSDHC card with Etcher or Win32DiskImager):

https://drive.google.com/file/d/1pM6JVjh1_gtIOPnTlaZTuYwAl-fLvSE6/view

We are still expecting bug reports and usability experience from You. Should you have any questions, please drop us a mail.

Yours,

Csaba et al

On 2018. 02. 20. 15:18, Csaba Hegedűs wrote:

Dear All,

We proudly present and submit to your attention the new release of our work. We have tested it extensively, and now we are requesting "friendly customer" evaluations and security assessments from a closed, Arrowhead-aware set of people.

Changelog since M2:

- Removed systemGroup, serviceGroup fields from descriptor objects
- Implemented Gateway module in full, insecure and secure mode with tokens, AMQP payload encryption (AES), TCP/SSL timeout and FIN handling, management interface, etc.
- Improved Gatekeeper: security level and broker negotiation, GW PK exchange, etc.
- Improved SQL-based ServiceRegistry, bugfixes for database
- database is now possible to be separate per core system, or jointly for all core systems
- All core systems are now relying on the ServiceRegistry to find each other (removed core_systems table as well). This is updated in run time, so e.g. if one of the core systems restart (with different address), then late binding will still help us recover. Note: There is therefore a strict order on how you can start the modules as a result.
- IMPORTAN: The DNS-SD based ServiceRegistry is not released yet: new features are being implemented by us and evopro (Gábor Singler). Expected release in two weeks (TTL, TSIG, autoclean, better metadata filtering). Until then, the developers' SQL-based SR is at your service.

Ongoing development:

- Improvements on the DNS-SD based SR
- A single JAR file version of the implemented five core systems, with optimized database. Target deployment: Raspberry Pi 3. An SD card image will be disseminated also.

I am looking forward to your assessments and remarks. This release might

has the potential to be Arrowhead 4.0 (mandatory + gatekeeper, gateway), if we all agree.

You can find it here (or in the arrowhead-f git):

https://drive.google.com/file/d/1x3fpYKQ-taVTSzGF_LgWqqg_FRSpJqsN/view?usp=sharing

Yours,

Csaba et al.