



Mobicents Diameter

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Agenda

- Introduction
- Where do we stand?
 - 2008/2009 Roadmap
 - What else was achieved?
 - 2009/2010 Roadmap
- What's left?
- Releases Overview
- Community and Partners
- Challenges

Introduction











- Next Generation Authentication, Authorization and Accounting (AAA) protocol.
- Improvement over RADIUS
- Important role in IMS
 - Sh Application (AS ↔ HSS)
 - Ro/Rf Applications (Online/Offline Charging)
 - Cx/Dx Applications (HSS ↔ x-CSCF)
 - ... And many others (Dh, Re, Sp, Rx, Rx+, Gx, Gy, Gz, Gq, Gi, SGi, Zh, etc...)
 - And still some more not directly in IMS scope!
- Easily extended by defining new commands and AVPs
 - Such as 3rd party applications (Ericsson, Huawei, etc)

Where do we stand? (1)

- Mobicents Diameter currently uses it's own fork of jDiameter Stack
 - Original jDiameter stack project in java.net is following and applying our fixes and improvements!
 - We also follow original project, applying changes to our fork (move from java.util.logging to slf4j and other improvements)
 - Version # is synchronized for easier maintenance
- We support basic applications ...
 - Base
 - Credit-Control (CCA)
- ... all the main IMS Applications where Application Server is involved ...
 - Sh (Client and Server)
 - Ro (Online Charging)
 - Rf (Offline Charging)
- .. and some other important IMS interfaces
 - Cx and Dx

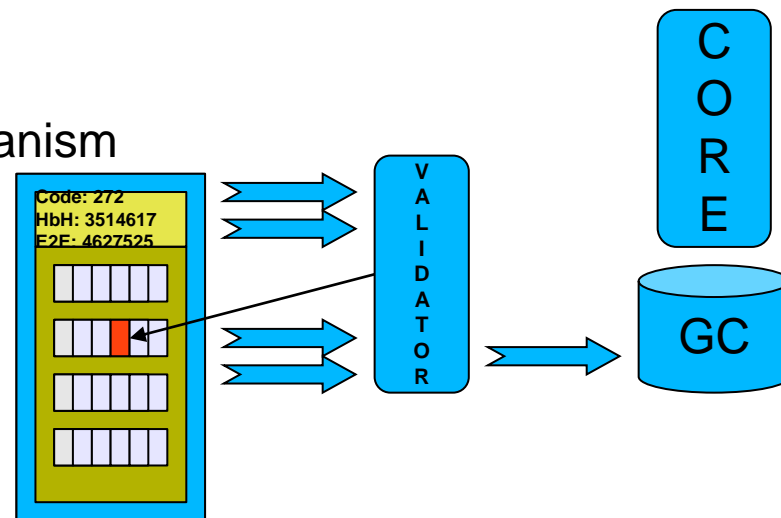
Where do we stand? (2)

2008/2009 Roadmap

Task	Priority	Difficulty	Status	Release Date
 SAR Implementation	High	High	Started	30/09/2008
 Diameter for Mobicents SIP Servlets	High	High	Started	30/09/2008
 Sh Client Resource Adaptor Implementation	High	Medium	Started	30/09/2008
 Sh Session API & Implementation • Validate API & Implementation • Merge with java.net repository	High	Medium	Started	30/09/2008
 Base RA Session State/Activity Management	Medium	Medium	Started	30/09/2008
 Diameter Testing Framework Integration with 3 rd party software (eg, Seagull)	Medium	Low	Not Started	30/09/2008
 JDiameter new features integration (Annotations, App Sessions State, Selector)	Low	Low	Not Started	15/10/2008
 Sh Server Resource Adaptor Implementation	Medium	Medium	Not Started	31/10/2008
 CCA Resource Adaptor Implementation	Low	Medium	RA Type completed.	30/11/2008
 Ro/Rf Resource Adaptors Implementation	Medium	Medium	Not Started	31/12/2008

Where do we stand? (3)

- What else was achieved?
 - ~10 Applications Supported
 - Created Message and AVP Validation mechanism
 - Fast-fail message validation on send
 - Uses unified API with dictionary
 - 500+ AVPs present
 - Deep validation of structure
 - Rule Based Message Routing
 - Support for annotations (Messages and AVPs)
 - Integrated with OpenIMS
 - Successful example for both JAIN SLEE and SIP Servlets
 - Released first beta of Cx/Dx Application
 - Expanding outside from AS domain into IMS core!
 - Achieved GA Status!**
 - 180+ JUnit Tests
 - ~1.2 Million reqs processed @ 150 req/s ! (C2D @ 3.06GHz/4GB RAM -- with no special setup)



Where do we stand? (4)

- Is everything done for Mobicents Diameter? No!
 - Current applications need improvements and unification on Stack and RAs
 - More applications to be supported:
 - NASREQ, Ericsson SCAP, IMS Multimedia, etc..
 - Performance improvement
 - 3rd Party Integration Examples and Interop
 - Etc...

Let's look at the roadmap!

Where do we stand? (5)

2009/2010 Roadmap

Task	Priority	Difficulty	Version	Release Date
Cx/Dx Application Support	High	Medium	1.0.2.GA	15/08/2009
Management Console	High	Medium	1.0.3.GA	30/09/2009
Improve Thread Management Add multi-thread delivery per peer	High	Medium	1.0.3.GA	30/09/2009
JMX Stack Configuration	Medium	Medium	1.0.3.GA	30/09/2009
Improve AVP Handling (new container)	Medium	Low	1.0.3.GA	30/09/2009
Migrate to JBoss AS 5.x + JSLEE 1.1	Medium	Medium	1.0.3.GA	30/09/2009
WebServices Support	High	Medium	1.1.0.GA	15/11/2009
Cx/Dx Examples (HSS / x-CSCF prototype)	Medium	Medium	1.1.0.GA	15/11/2009
Update compatibility for 3GPP Rel. 9	Low	Low	1.1.0.GA	15/11/2009
Load Balancing	High	High	1.1.1.GA	31/12/2009
Security (IPSec/TLS)	Medium	Medium	1.1.1.GA	31/12/2009
Ro/Rf Examples	Low	High	1.1.1.GA	31/12/2009
High-Availability	High	High	1.1.2.GA	15/02/2010
NAT (STUN/TURN/ICE) Support	Medium	High	1.1.2.GA	15/02/2010

What's left?

- Improve examples for JAIN SLEE and MSS with real use cases and integrate with Media Server
- Automate the existing examples for testing in Hudson
- Extend Continuous Integration in Hudson with more functional tests
- Diameter Tools for ease of development
 - For instance, create a new application by specifying specific data (Commands/AVPs) and draw the FSM(s) that would generate all the code.
 - ... **Anything else? Ideas?**

Releases Overview

- 1.5 Month Release Schedule
 - Enough to keep the community alive and interested
 - Enough to add new, interesting and non-trivial features
 - In every release at least one major feature should be present (eg: new application or example + smaller fixes)

- 6 Month Major Releases
 - 1.0.0.GA in June 2009
 - 1.1.0.GA in November 2009
 - Release Criteria and Testing period should be greater than in regular releases
 - There should also be a significant performance improvement over last major release (~10%)

- Integrated in Mobicents ALL Release!

Community & Partners

COMMUNITY

- Exponential growth of interest in Mobicents community
 - OpenIMS example is a hot topic in forums
 - New users trying Mobicents Diameter every week
- Some users already provided patches to it, showing great interest
 - Some are using the full suite (MUX + RAs), other just using the MUX and building their apps around it
- Improve on Social Networking
 - Currently there's no blogging or tweets related to Mobicents Diameter

PARTNERS

- Move away from non cooperative partners
- Make new partnerships and interop with their Diameter solutions

Challenges

- Improve Quality as a Server
 - Diameter Documentation is not high quality, rather a FAQ style documentation, it should be improved as a manual and converted to the DocBook format
 - Diameter lacks an administration console, not allowing runtime configuration which is a basic feature for a quality product
 - Quality features: Load Balancing, Clustering, High-Availability, STUN/NAT...
 - More, more, more JUnits

- Turn Mobicents a reference in Diameter
 - Participate in conferences
 - Integrate with as much vendors as possible and announce it out and loud, in both parties
 - Participate in interop events (NGN Plugfest, ETSI Plugtests, ...)

- Extend Diameter supported applications
 - Extend for remaining IMS applications interfaces, but not only!

Questions?

