

Cloud Services Gateway: A tool for exposing Private Services to the Public Cloud with fine-grained Control

by

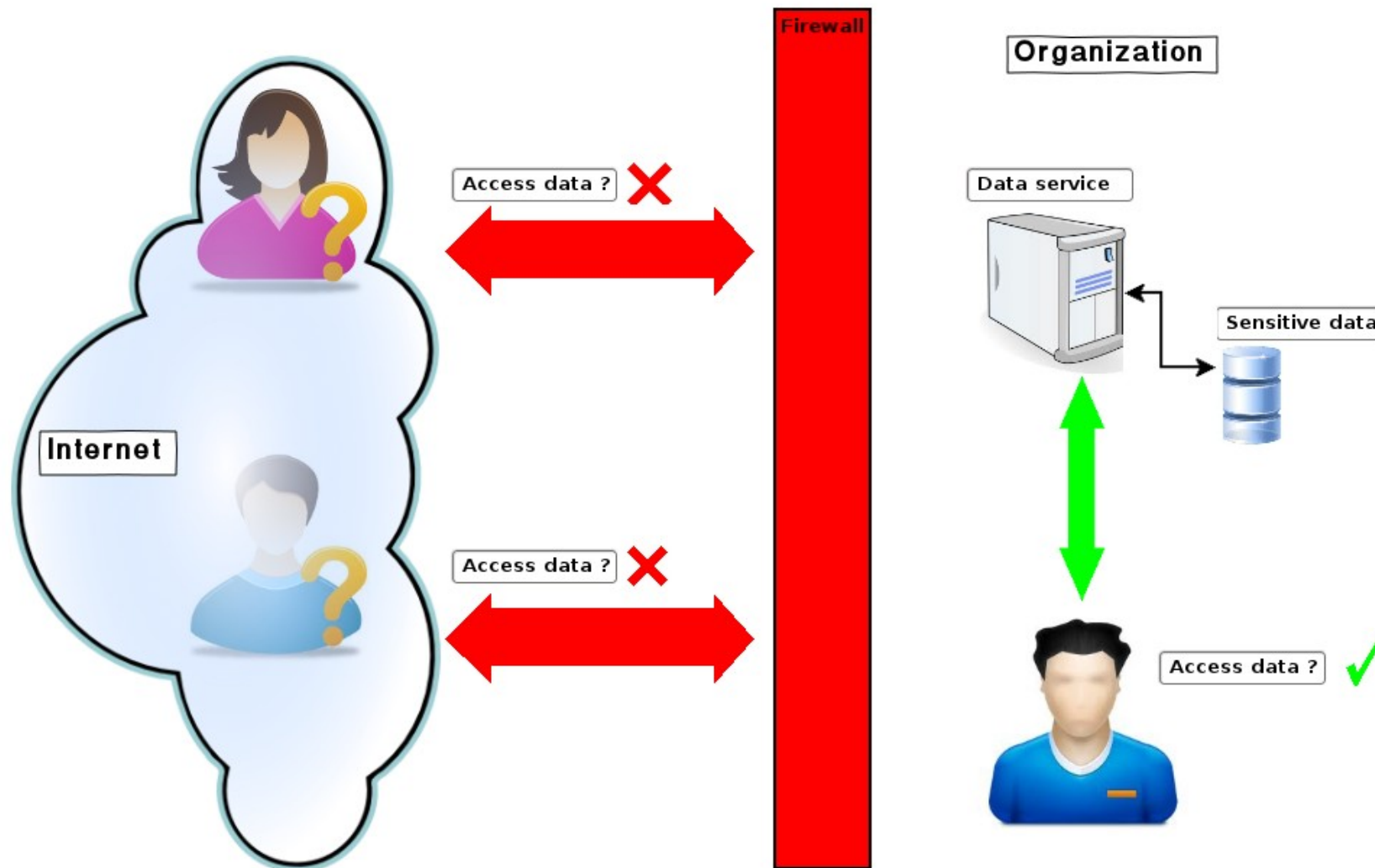
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Agenda

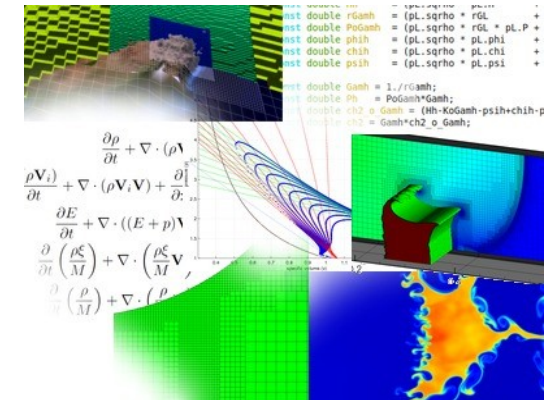
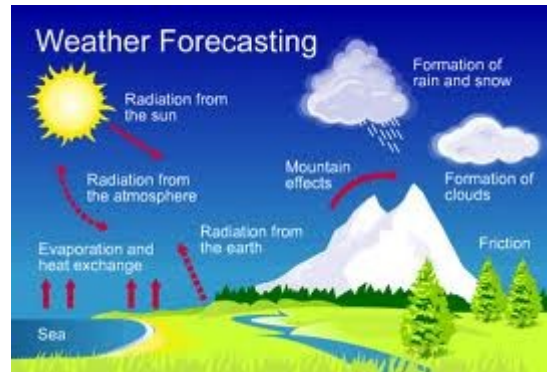
- The problem
- Use cases
- Proposed solution
- Gateway implementation
- Evaluation
- Related work
- Discussion
- Summary
- References

The problem



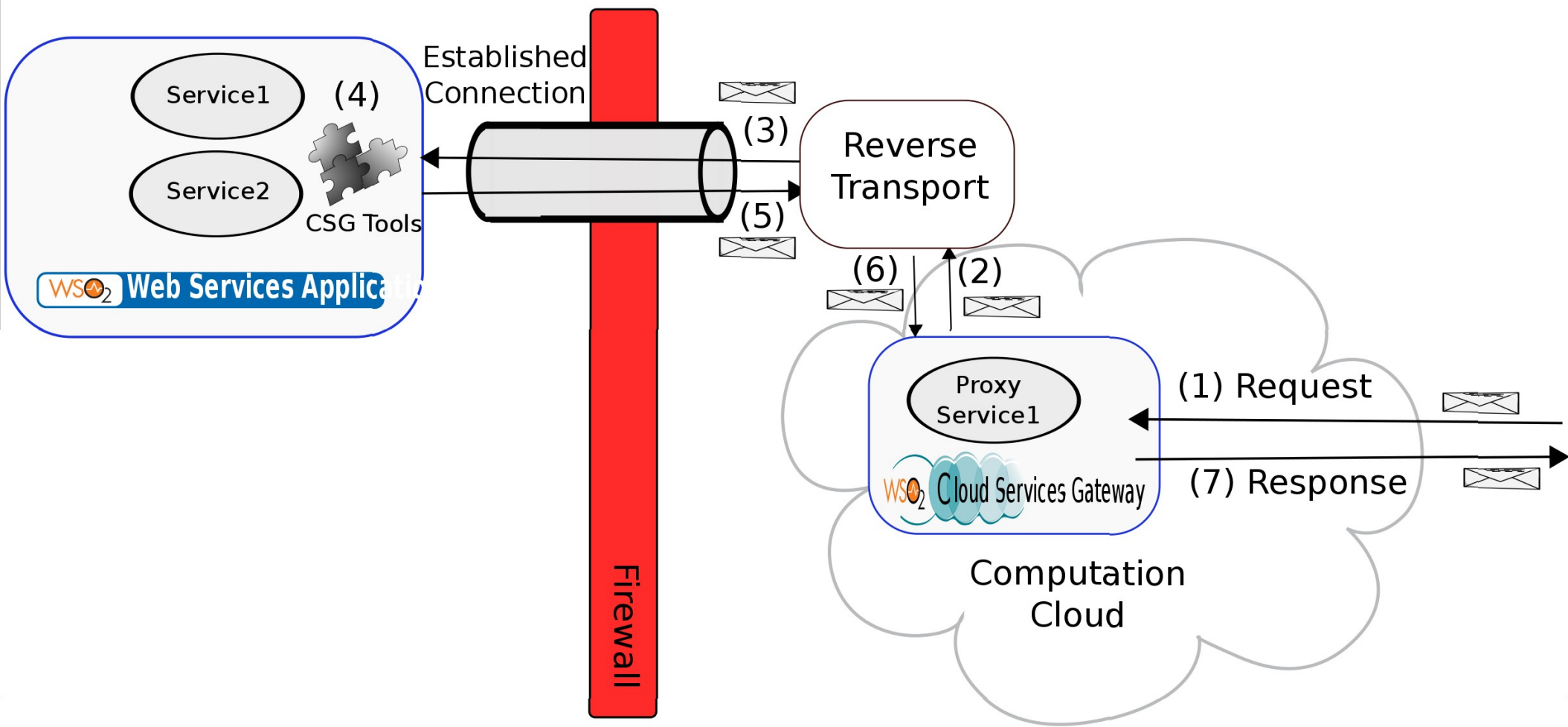
How to expose private data to public in a secure and controllable manner ?

Use cases



The core components which make up an SOA implementation

Proposed solution

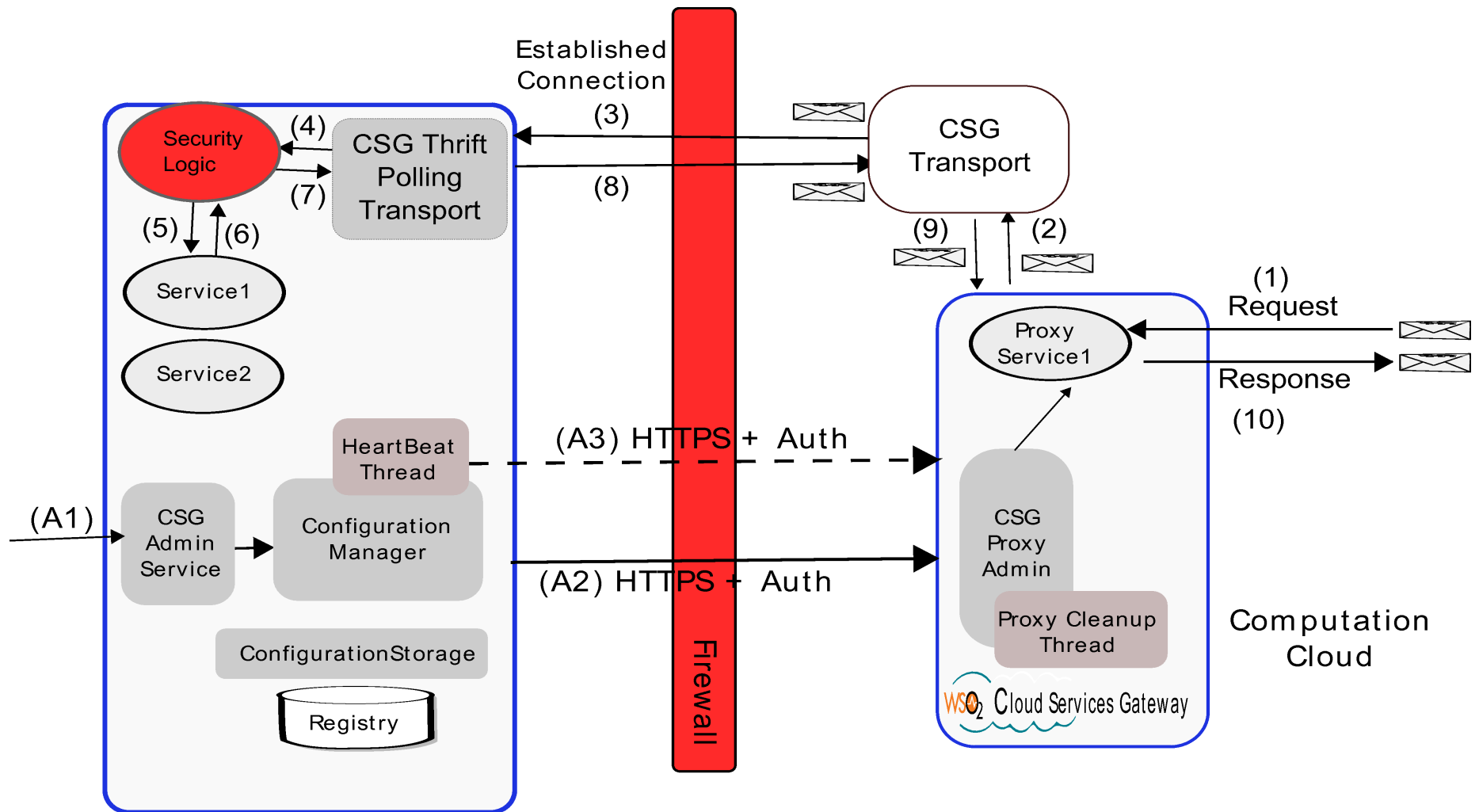


Gateway implementation

- Timeline
 - Jul 2010 – XMPP based implementation
 - Jan 2011 – JMS based implementations
 - Sep 2011 – Apache Thrift based implementation
 - May 2012 – This presentation
- JMS based one was implemented using various brokers such as [Apache Qpid](#), [JBoss HornetQ](#)
- Both XMPP and JMS based one had to throw away because of poor performance(all of them)
- Apache Thrift based implementation gave impressive performance
- Performance # are on the way

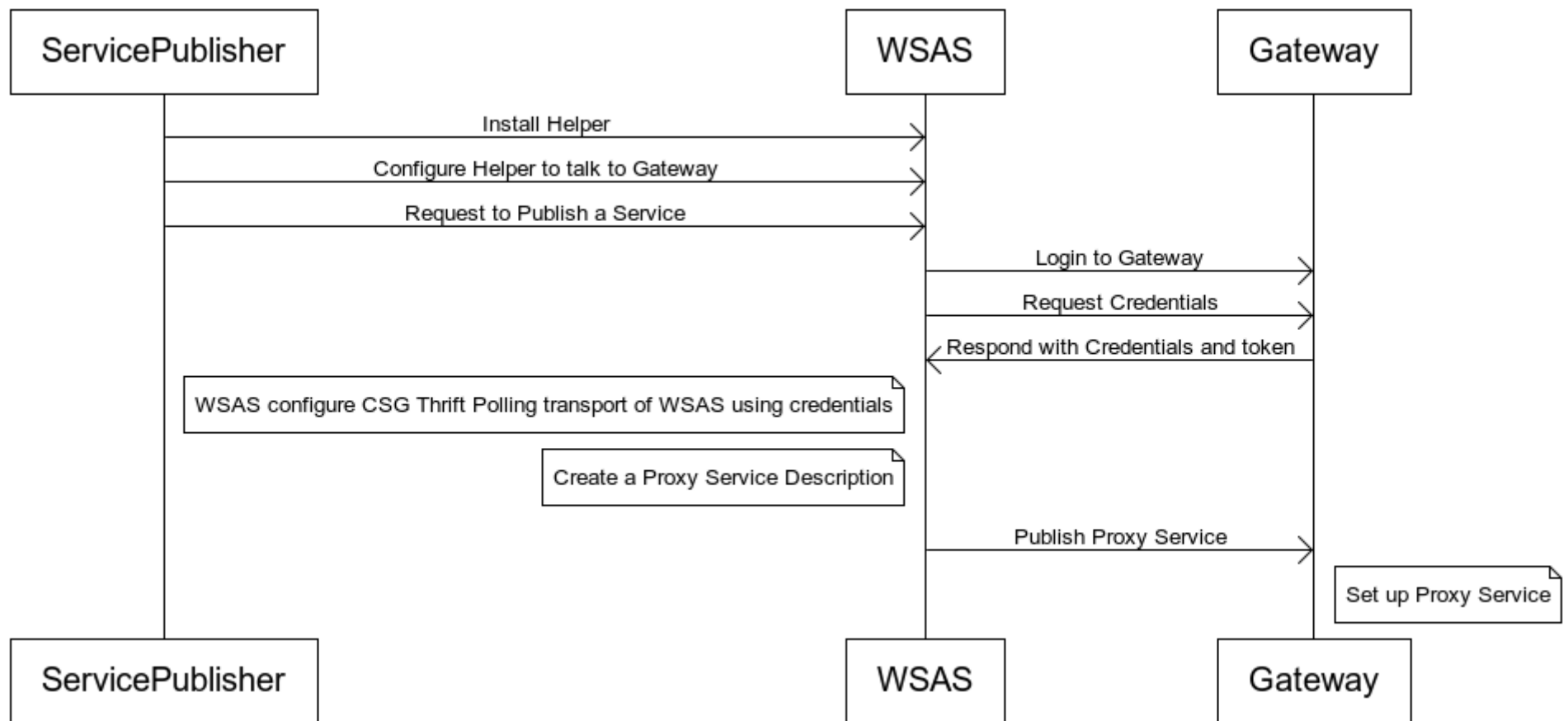
Gateway implementation..

- Overall architecture



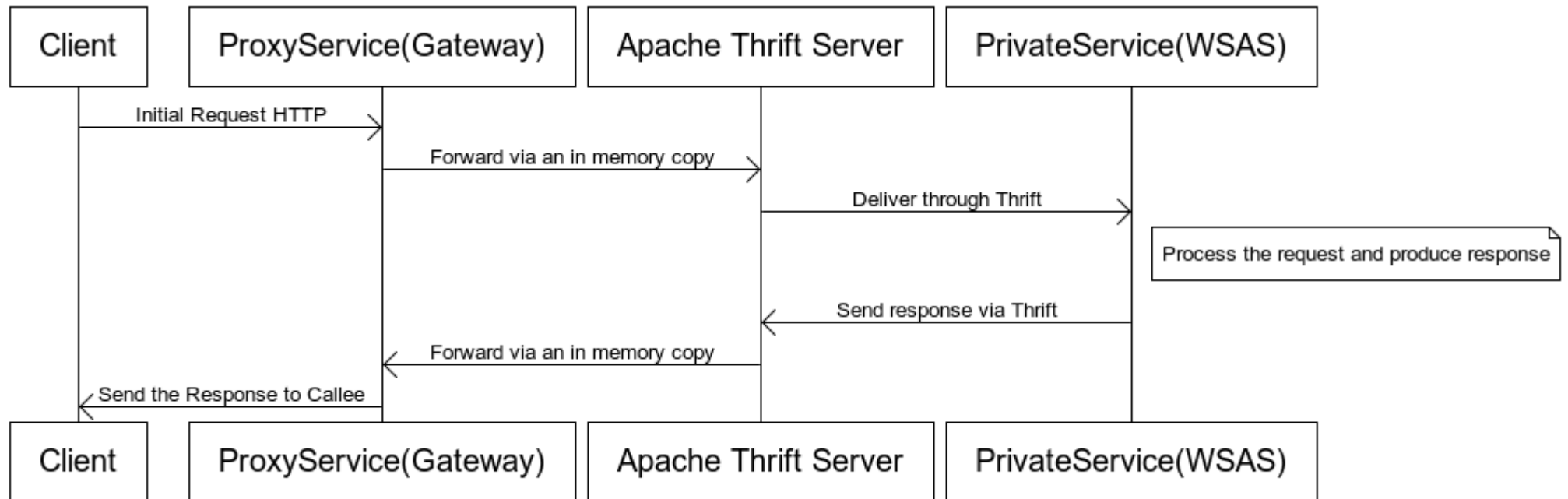
Gateway implementation..

- Publishing a Proxy Service



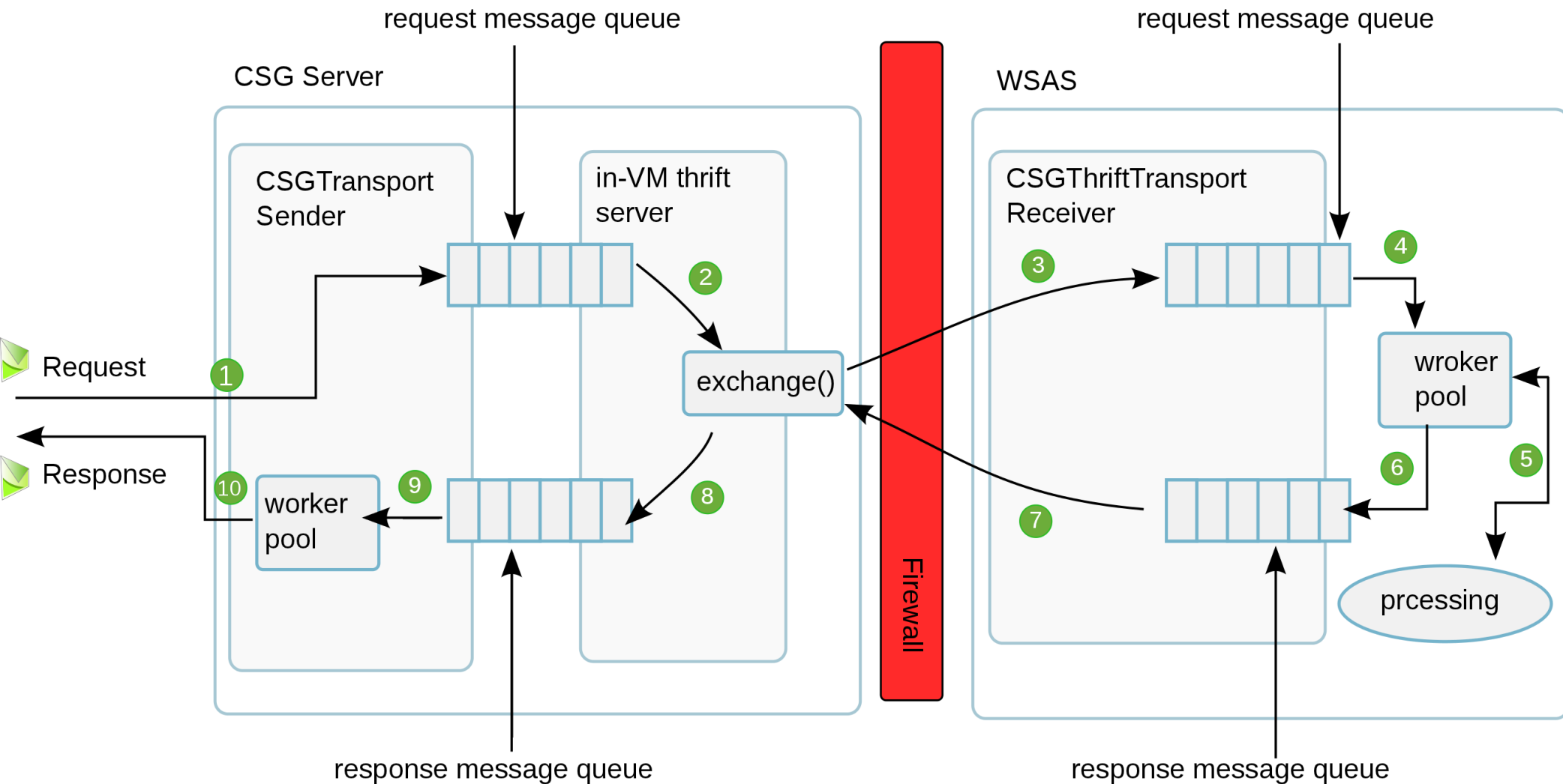
Gateway implementation..

- Invoking the Proxy Service



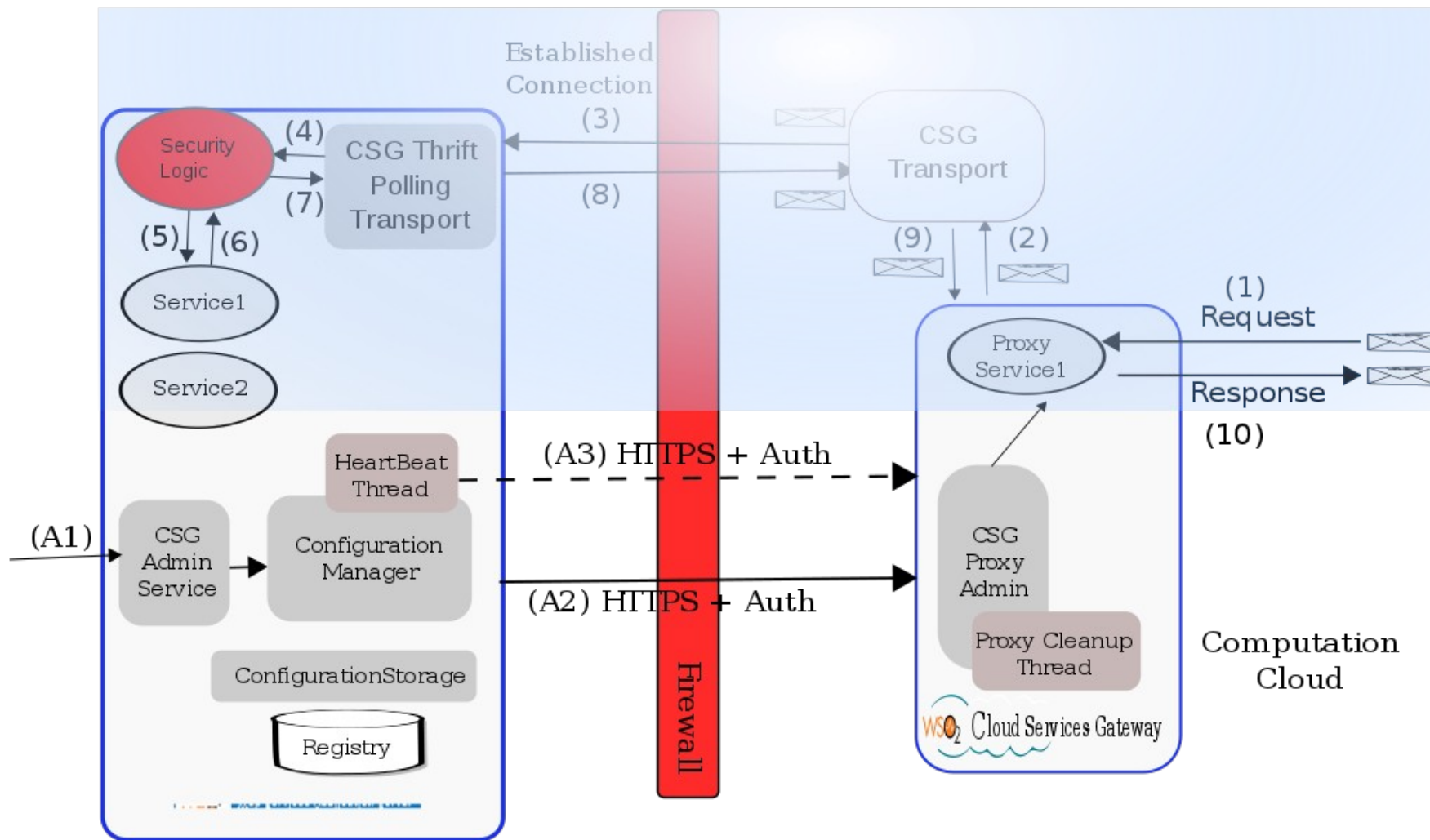
Gateway implementation..

- Apache Thrift based implementation



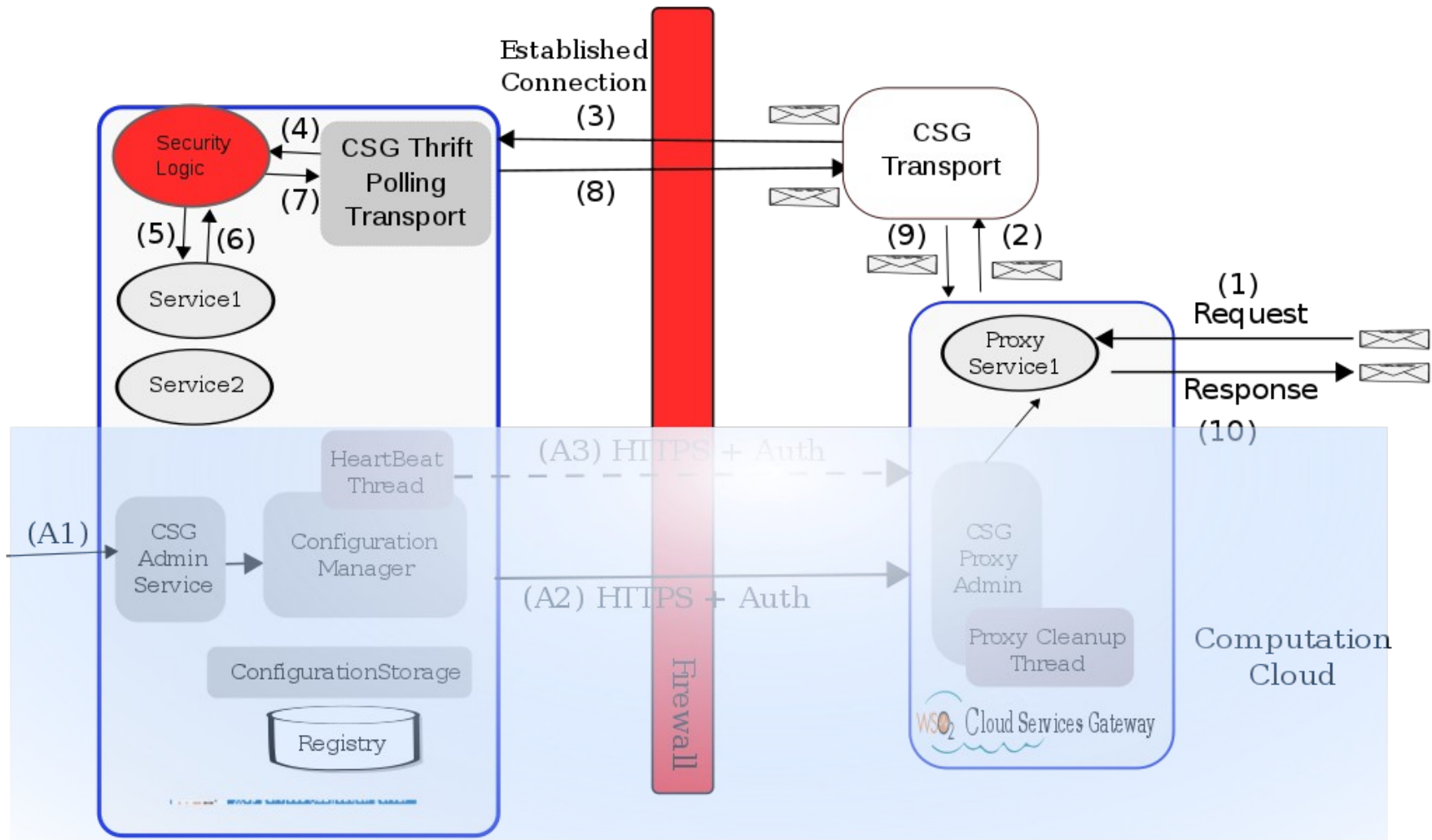
Evaluation

- Security discussion - service publication



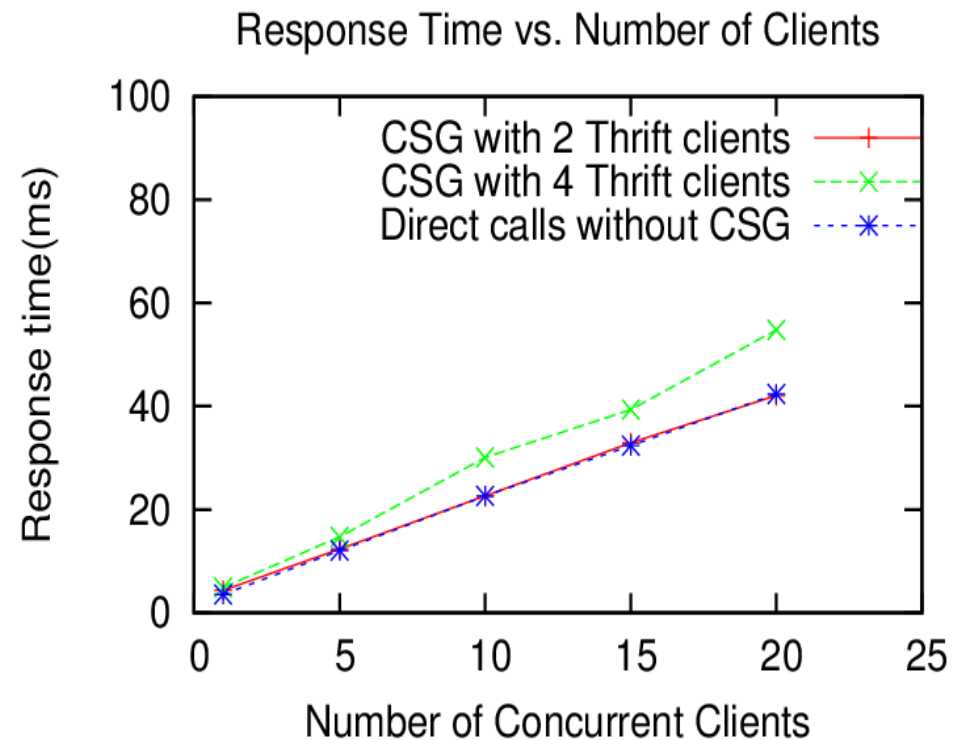
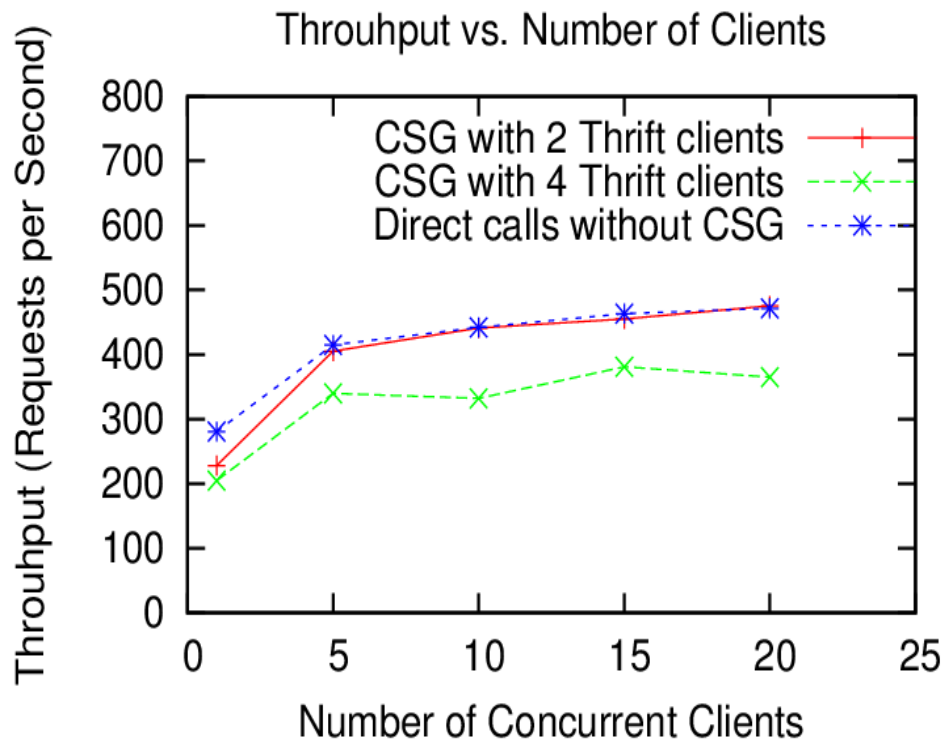
Evaluation..

- Security discussion - service invocation



Evaluation..

- Performance(Apache Thrift based one)



Related work

- Caromel et al

A. Slominski, A. di Costanzo, D. Gannon, and D. Caromel. Asynchronous Peer-to-Peer Web Services and Firewalls. In Proceedings of the 7th International Workshop on Java for Parallel and Distributed Programming, 2005.

- Virtual Private Network(VPN) between the public cloud and the private machine

Discussion

- Paper describes a new framework which can use to open up a private service to public, securely and controllable manner
- Lot of use cases
- To work around the firewall problem a polling based mechanism is used by the party inside the firewall
- Several implementations were done around the same technique only the Apache Thrift based one was selected because of the impressive performance
- Why not ?
 - setting up a VPN between the public cloud and the private machine ?
 - just open ports?
- Has a separate down loadable product now

References

- Introducing CSG

<http://wso2.org/library/tutorials/introducing-wso2-cloud-services-gateway>

- CSG product rc2

<http://wso2.org/mailarchive/architecture/2012-February/007533.html>

- CSG components source

<https://svn.wso2.org/repos/wso2/carbon/platform/trunk/components/csg>

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