

## [Machine actionable links: a hypermedia format for data](#) [1]

Submitted by erinmr on Thu, 2013-06-06 14:12 Friday, July 12, 2013 - 08:30 to 10:00

**Event:** [Summer Meeting 2013](#) [2]


**Session Type:** [Breakout](#) [3]

**Collaboration Area:** [Discovery](#) [4]

### **Abstract/Agenda:**

Web architecture encourages client software that is designed as an agent in a dynamic information space (Charlton, 2012 <https://github.com/restfest/2012-greenville/wiki/Keynote> [5]). This is enabled by one of the fundamentals of REST architecture (Fielding, 2000 <http://www.ics.uci.edu/~fielding/pubs/dissertation/top.htm> [6]; Fielding 2008 <http://roy.gbiv.com/untangled/2008/rest-apis-must-be-hypertext-driven> [7]), 'hypermedia as the engine of application state' (HATEOAS). The idea is that a web application is a software agent that retrieves documents from the web, and follows instructions contained in those documents to move towards a goal. The details of application execution are dynamic; the application doesn't have a fixed copy of the instructions with locked-in dependencies on particular URIs or processing models and can thus evolve as technology changes or new capabilities are introduced.

This breakout session will review and discuss the information necessary to specify the behavior of a link (hypermedia control, 'affordance') in a hypermedia document such that machine agents can interpret the link and use it with minimal intervention by a human user. The approach will be to compare the approaches being proposed by a variety of activities addressing this issues, including the ESIP discovery cluster DCP-8 (Standardized Linking from one cast to another or to additional metadata), the Open Geospatial Consortium OWS context Standards Working Group, ISO19115 metadata profiles (USGIN, Energistics), the protocol for Web Description Resources (POWDER), USGS Community for Data Integration Web Application Integration Framework group, the Constrained Restful Environments Link Format (CoRE), linked data profiles being developed for JSON encoding (JSON-LD, <http://json-ld.org/> [8]), JSON hypermedia profiles (HAL, SIREN, Hydra, Home Document), and the Open Archives Initiative Object Reuse and Exchange specification. The goal is developing an information model for machine-actionable links as a foundation for hypermedia formats that can be re-used to simplify development of data-oriented hypermedia applications.

**Attachments/Presentations:**  [ESIP20130712\\_ApproachesMachineActionableLinks.pptx](#) [9]

### **Session Leads:**

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[4] <http://commons.esipfed.org/collaboration-area/discovery>

[5] <https://github.com/restfest/2012-greenville/wiki/Keynote>

[6] <http://www.ics.uci.edu/~fielding/pubs/dissertation/top.htm>

[7] <http://roy.gbiv.com/untangled/2008/rest-apis-must-be-hypertext-driven>

[8] <http://json-ld.org/>

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## **Machine actionable links: a hypermedia format for data**

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