BSRO Service Gap Analysis

Bridgestone Retail Operations, LLC

BSRO Websites - AEM Migration & Refresh

SOW# P13791-001

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# Revision History

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| **Version Number** | **Date Updated** | **Revision Author** | **Brief Description of Changes** |
| 0.1 | 09/02/2015 | Sergei Anisimov and Todd Driscoll | First Draft |
| 0.5 | 09/14/2015 | Sean Dunlop / Sergei Anisimov | Incorporated the initial feedback |
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# Summary of services missing or suggested modification

1. modify: store locator for clean data/json responses
2. create: consistent service for collecting vehicle properties and returning a common ID (acesID) for use in subsequent steps
3. modify or create: consistent format for service url, request conventions, and response format of matching products and services including:
   1. tires (create)
   2. oil (mod for consistency)
   3. alignment (create)
   4. batteries (mod for consistency)
   5. maintenance (possible mod)
   6. mpg lookup (possible mod)
   7. battery life lookup (create)
   8. tire pressure lookup (create)
4. create: consistent services for request/submission of final quote (including additional fees) for services listed above
5. modify: generic/global services for promotions (modify from FCAC specific to support all 4 websites)
6. create: email subscription services including maint reminders

# **Service Layer Components Assessment**

The list of existing restful web services below comprise the existing Service Layer identified for anticipated reuse by Websites Component Bundles as the ported functionality onto the new AEM platform.

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| **ID Number** | **Description** |
| SGA 1.1 | Battery Quote Funnel (By Vehicle) Steps:  1) Vehicle Info Collection  web services exist:  ws2/vehicle/battery/options/year-make-model-engine/years  ws2/vehicle/battery/options/year-make-model-engine/makes  ws2/vehicle/battery/options/year-make-model-engine/models  ws2/vehicle/battery/options/year-make-model-engine/engine-sizes  feedback:  ideally this step should use a consistent system/services as other services to determine acesVehicleID which can then be used in subsequent requests  2) Matching Product Response  web services exist:  ws2/vehicle/battery/get/search-results  feedback:  Further assessment is needed on the format and data structure of the service response. Also, the format/signature of the service url and response is inconsistent with that of get oil quote even their functional intent is the same.  3) Quote Finalization (selected item plus quote add-ons)  No service for this step exists  Summary:  Usable services exist for steps 1 and 2, but no service exists for finalization and submission of the quote which needs to be added. Ideally the services used in step 1 should be refined and brought in line with a single set of services that can be used when collecting initial vehicle information for any functionality that requires it. |
| SGA 1.2 | Contact web services exist:  ws2/contact/us  feedback:  per BSRO provided spreadsheet, this service is used only by mobile application but no working example of request/response so unclear how usable the service is across sites. Further review is needed to assess the service on a more granular level. |
| SGA 1.3 | Lookup Maintenance Schedule Steps:  1) Vehicle Info Collection  No service for this step exists  feedback:  ideally this step should use a consistent system/services as other services to determine acesVehicleID which can then be used in subsequent requests  2) Matching Services Response  web services exist:  ws2/maintenance/history/vehicleId  ws2/maintenance/scheduled/categories/{acesVehicleId}  ws2/maintenance/scheduled/checks/{acesVehicleId}  ws2/maintenance/scheduled/mileages/{acesVehicleId}  ws2/maintenance/scheduled/milestones/{serviceType}  ws2/maintenance/scheduled/periodic/{acesVehicleId}  ws2/maintenance/scheduled/required/{acesVehicleId}  ws2/maintenance/scheduled/types/{acesVehicleId}  feedback:  it is assumed that the services used in step 2 are sufficient for the needs of the websites, but closer examination of response formats in the future may result in other suggested enhancements |
| SGA 1.4 | Lookup MPG 1) Vehicle Info Collection  No service for this step exists  feedback:  ideally this step should use a consistent system/services as other services to determine acesVehicleID which can then be used in subsequent requests  2) MPG Service Response  web services exist:  ws2/gas/mpg  feedback:  it is assumed that this service is sufficient for the needs of the websites, but closer examination of response formats in the future may result in other suggested enhancements |
| SGA 1.5 | Oil Quote Funnel (By Vehicle) Steps:  1) Vehicle Info Collection  web services exist:  ws2/oil/years  ws2/oil/manufacturers  ws2/oil/models  feedback:  services exist but ideally this step should use a consistent system/services as other services to determine acesVehicleID which can then be used in subsequent requests  2) Matching Product Response  web services exist:  ws2/oil/products (high mileage boolean as part of request)  ws2/oil/get-quote  feedback:  it is assumed that this service is sufficient for the needs of the websites, but similar to comments in the get battery functional review, it is recommended that the service url, signature, and response format is reviewed and brought in line with the other “get” services for matching products/services. closer examination of response formats in the future may result in other suggested enhancements.  3) Quote Finalization  web services exist:  ws2/oil/create-quote  feedback:  it is assumed that this service is sufficient for the needs of the websites, but closer examination of response formats in the future may result in other suggested enhancements |
| SGA 1.6 | Promotions/Offers web services exist:  ws2/promotions/offers/FCAC/special-brakes  ws2/promotions/offers/FCAC/allstate  ws2/promotions/offers/FCAC/special-brakes  ws2/promotions/offers/FCAC/reward  ws2/promotions/specialoffers/FCAC  ws2/promotions/specialoffers/  feedback:  services exist, but only under FCAC namespace, need to confirm signatures work for all sites |
| SGA 1.7 | Schedule An Appointment Funnel Steps:  1) find store  web services exist:  ws/store/locator  feedback:  not on ws2 context root, suggests it is an older service but signature and response may still be sufficient. Needs further in depth review for confirmation.  2) contact, vehicle, services  web services exist:  ws/appointment/services  OR  ws2/appointment/store-services  feedback:  Need to identify which services are used on which sites and ideally standardize on a single service.  Does the vehicle information collection result in the individual values being sent to the selected location or is it used to generate the acesVehicleID?  This step should use the same proposed consistent system/services as other services to determine acesVehicleID which can then be used in subsequent requests  3) appt date/time  web services exist:  ws/appointment/schedule  OR  ws2/appointment/availability/days  ws2/appointment/availability/times  feedback:  Need to confirm which services are used on which sites and standardize to a single service. Request and response to be validated.  4) confirmation  web services exist:  ws2/appointment/book  ws2/appointment/metadata  feedback:  it is unclear exactly how or where these are used or at what point whether it be at or immediately following step 3 prior to step 4  Summary:  it is assumed that the services used in step 2-4 are sufficient for the needs of the websites, but closer examination of response formats in the future may result in other suggested enhancements |
| SGA 1.8 | Store Locator web services exist:  ws/store/locator  feedback:  The current response includes inline hard breaks and html markup, should be cleaned up to be clean json data. We assume another version on the ws2 context root is probably already planned but if not we should consider it’s addition with an optimized response format. |
| SGA 1.9 | Tire Quote Funnel (By Vehicle or Size) Steps:  1) Vehicle Info Collection  web services exist:  ws/tire-search/fitment-mobile  feedback:  no ws2 alternative exists  ideally this step should use a consistent system/services as other services to determine acesVehicleID which can then be used in subsequent requests  the current implementation uses a very different convention from battery services, single URL with unique signature vs unique URLs  2) Matching Product Response  No service for this step exists  3) Quote Finalization  No service for this step exists  Additional observations:  An additional service exists for determining inventory: ws2/vehicle/tire/store-inventory:  Service is used primarily by Accent CS-reps as a ‘back-door view’ of tire inventory available at stores. |
| SGA 1.10 | Alignment Quote Funnel (By Vehicle) NO SERVICES EXIST  Steps:  1) Vehicle Info Collection  feedback:  This step should use the same proposed consistent system/service to determine acesVehicleID which can then be used in subsequent requests  2) Matching Service Response  feedback:  Service must be created to match conventions of other “get matching product/service” requests  3) Quote Finalization  feedback:  Service must be created to register and return a final quote consistent with other create quote requests |
| SGA 1.11 | Lookup Battery Life NO SERVICES EXIST  Steps:  1) Vehicle Info Collection  feedback:  This step should use the same proposed consistent system/service to determine acesVehicleID which can then be used in subsequent requests  2) Service Response  feedback:  Service must be created to match conventions of other “get vehicle specific information” requests, ie. get mpg, tire pressure, etc… |
| SGA 1.12 | Lookup Tire Pressure NO SERVICES EXIST  Steps:  1) Vehicle Info Collection  feedback:  This step should use the same proposed consistent system/service to determine acesVehicleID which can then be used in subsequent requests  2) Service Response  feedback:  Service must be created to match conventions of other “get vehicle specific information” requests, ie. get mpg, battery life, etc… |
| SGA 1.13 | Signup For Emails NO SERVICES EXIST  feedback:  Service must be created to collect email/contact information, and store email communication preferences |
| SGA 1.14 | Signup For Maintenance Reminders NO SERVICES EXIST  feedback:  Service must be created to collect email/contact information, and relative vehicle information for requested maintenance reminders. Ideally the same service will be leveraged to convery year, make, model, into a single unique vehicle ID |

# **Overarching thoughts**

Based on service layer/API analysis, the following recommendations should be considered partially or in their full entirety to improve overall consistency of the new platform and applicable to all services described above.

* Use consistent method for determining vehicle identifier using year, make, model, etc. – the vehicle identifier (acesVehicleId if feasible) should be further used for any subsequent transactions / inputs of other services. For example a service such as:
  + /ws3/identify/vehicle/{year}/{model}/ … etc
* Avoid textual parameter submission for store service offerings, vehicle properties, etc to facilitate caching – for example, service offerings are passed as delimited full-text strings instead of consistent (numeric-like) code nomenclature, which produces inconsistencies with caching due to range of variations in string encoding treatment and in the long run will negatively impact ability to transition to multi-lingual support
* All restful services **must** use strict ‘application/json’ content type – some older services (in the /ws family) generate malformed JSON types those break compatibility with parsing & processing frameworks.
* Our recommendation is to adhere to formal RAML-based (Restful API modeling language) specification to document and prototype existing service – with a bit of wrapping over the existing services platform. RAML-based mediation run-time will allow rapid near-real case service emulation reducing project team/service delivery interdependencies, delay in project execution and improvement in overall project quality due to early QA involvement.
* The ideal case of grouping and designing would be along funnel boundaries – such as an example:
  + For battery funnel:
    - /ws3/battery/vehicle/{year}/{model}/ … etc OR
    - /ws3/battery/vehicle/{acesID}/ … etc
    - /ws3/battery/quote/{..}
  + For tires funnel:
    - /ws3/tires/vehicle/{year}/{model}/ … etc OR
    - /ws3/tires/vehicle/{acesID}/ … etc
    - /ws3/tires/quote/{…}/ …

This approach of vertical funnel isolation (however, rightfully requiring slight degree of overlap) provides consistency with vertical isolation of funnels at runtime, allowing multitude of benefits such as greater caching control, concurrent versioning and runtime/release isolation as just a few important examples.