RESPONSESYSTEMS

Web Services from CA Gen

Relevance in a Microservices world

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Who we are and what we do

Application Modernization
- Migration into CA Gen
- Platform switch with CA Gen
- Web and Mobile delivery

CA Gen Upgrades
- Upgrades to CA Gen
- All platforms, all versions
- Extensive experience

CA Gen Development
- Development teams
- Onsite CA Gen resources
- Offsite CA Gen development

CA Gen Consulting
- Performance tuning
- Technical configuration
- Architecture and Processes

Two companies, separate brands
Common ownership and control

FACET

- ❑ **CA Gen services**
- ❑ Application modernisation
- ❑ Australian private company
- ❑ Established 2002

RESPONSESYSTEMS

- ❑ **CA Gen productivity tools**
- ❑ APM and Web Service tools
- ❑ UK private company
- ❑ Established '96, acquired '07

- ❑ Global CA Gen services partner
- ❑ Global CA Product reseller
- ❑ Technology partner

ca technologies

Web Services GENius
- CICS web services for CA Gen mainframe applications

APMConnect
- CA Gen application monitoring

Upgrade Console
- Automation for accelerating CA Gen upgrades

QA Console
- Automated QA for CA Gen – Accelerates DevOps

Access Gen
- CA Gen developer productivity acceleration

What is driving change in Enterprise IT

Digital disruption

Cloud platforms

Multi-channel

DevOps

Cloud platforms

Commoditisation

- Competition goes up
- Price goes down
- Complexity goes down

Pricing

- Usage-based
- Instantly elastic

Challenges for

- Application scaling
- Organisational security
- Vendor-based hardware.

DevOps

Rapid and repeatable

- Quality baked in
- Automation based
- Scalable and scoped
- Service “ownership”

The Build-Run anti-pattern

- Connects Dev and Ops
- Requires collaboration

Conway’s Law

- Structural change
- Mindset change.

A multi-channel world

DOMINANCE OF MULTI-PLATFORM MAJORITIES

Between the polar extremes of 'desktop only' and 'mobile only' usage, the overwhelming majority of users now use several platforms within a month

It's all about mobile

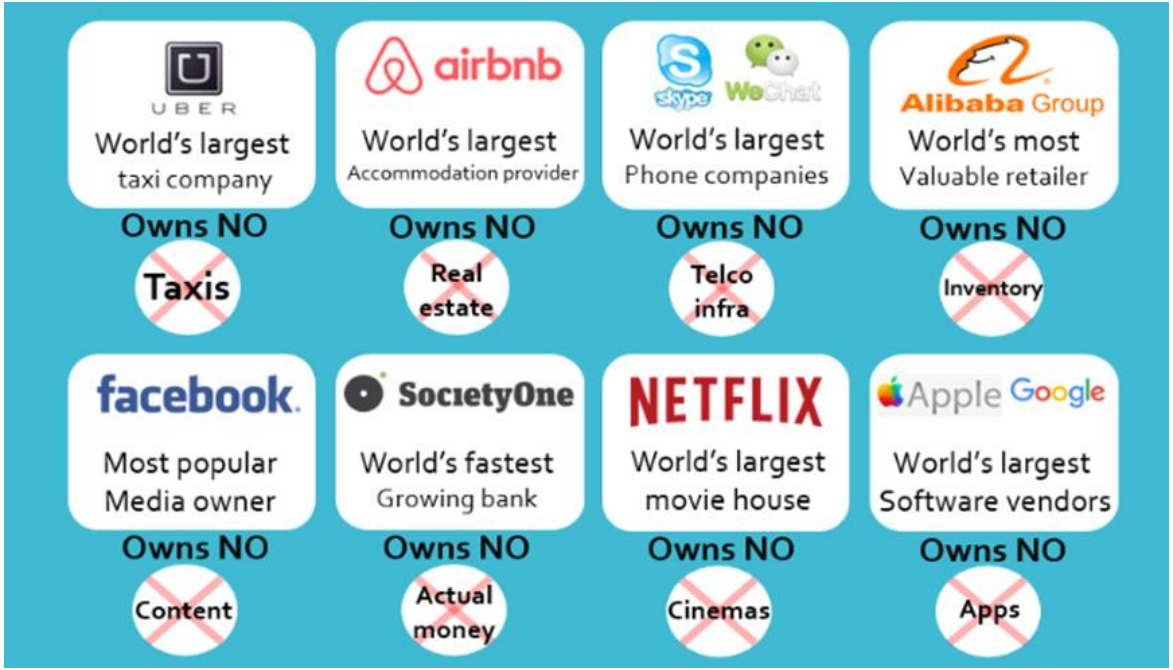
- Majority of internet
- Growing since 2013
- Emerging economies ++

Oh wait, no it's not!

- Desktops haven't gone
- They're here to stay
- Along with tablets
- … and mobiles

A multi-channel world.

Digital disruption



All the disrupters

- Little infrastructure
- Reactive and rapid
- **Not** capital-intensive

All the disrupted

- Significant infrastructure
- Organic, cyclical change
- Significantly invested

Sound familiar?

CA Gen applications: from Legacy to Asset

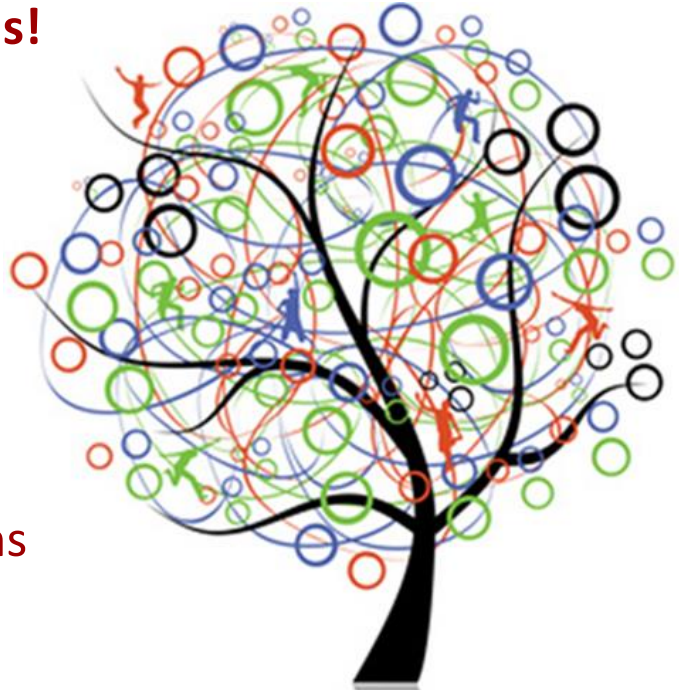
They're legacy systems!

Slow to change

Locked in workflow

Testing is impossible

Monolithic applications



They're huge assets!

Encapsulate our business

Safeguard our data

Stable and reliable

Proven implementation.

Exposing existing functions as Web Services, pivots this argument.

Microservice architecture

Microservice architecture has evolved from SOA

- Finer grained services
- Messaging enabled
- Lightweight communications mechanisms (typically http resource APIs)
- Autonomously developed and independently deployable
- Help drive application coupling DOWN, and drive application cohesion UP

Driven…. by the need to deliver more features, more quickly

- New application technologies and platforms lend themselves to this

So applying Microservice architecture patterns to monolithic applications

- Enables leveraging their proven functionality
- Requires exposing those granular function points easily, quickly and seamlessly.

Web Services GENius

Designed for use with large existing CA Gen applications

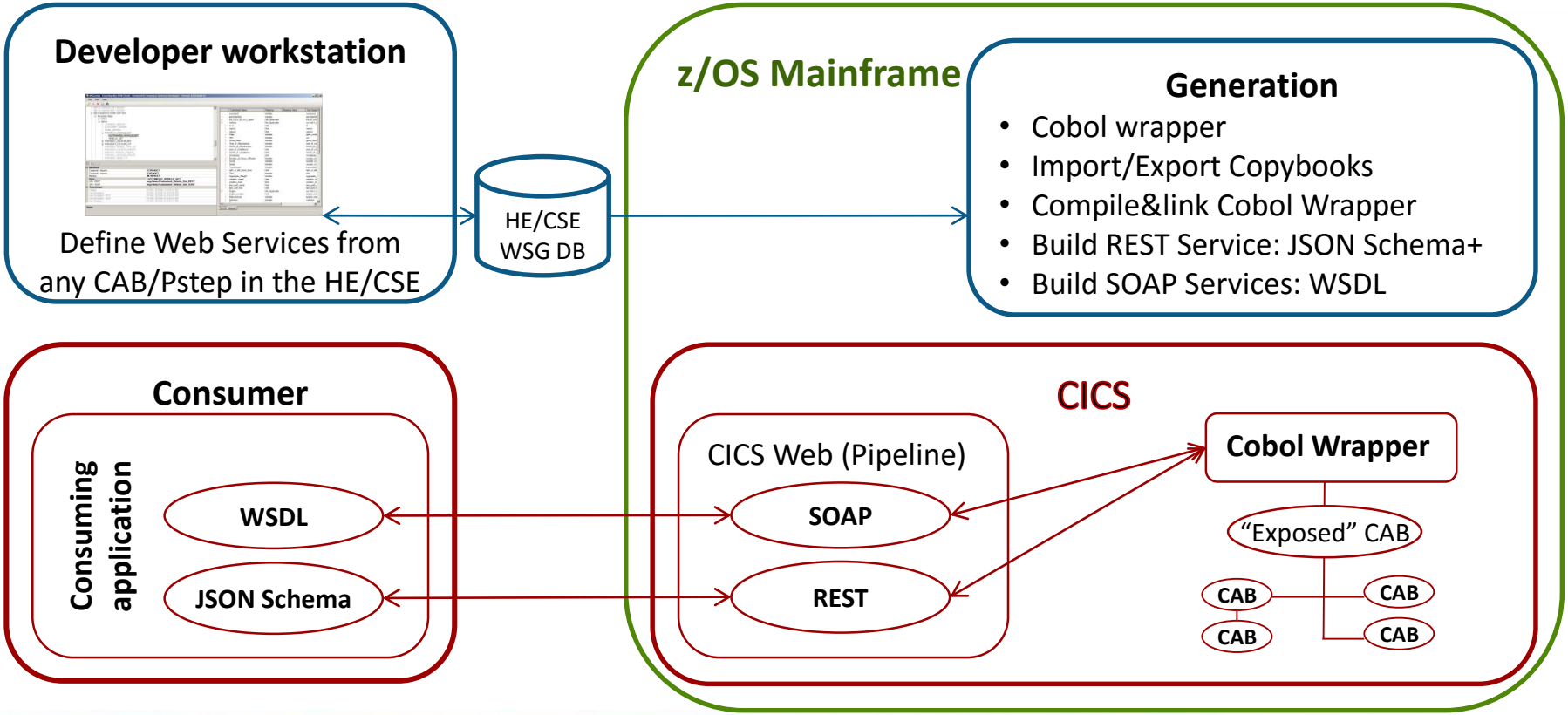
- Pick any action block or Pstep or Process
- Define and customize it's external service interface
- Expose it as a Web Service – either RESTful or SOAP… or both

But, remembering the typical constraints

- Change and the testing implications is increasingly what "kills us"
- We need to work with (lots) of other application technologies
- The Consumer(s) of these Microservices are likely *not* to be in CA Gen

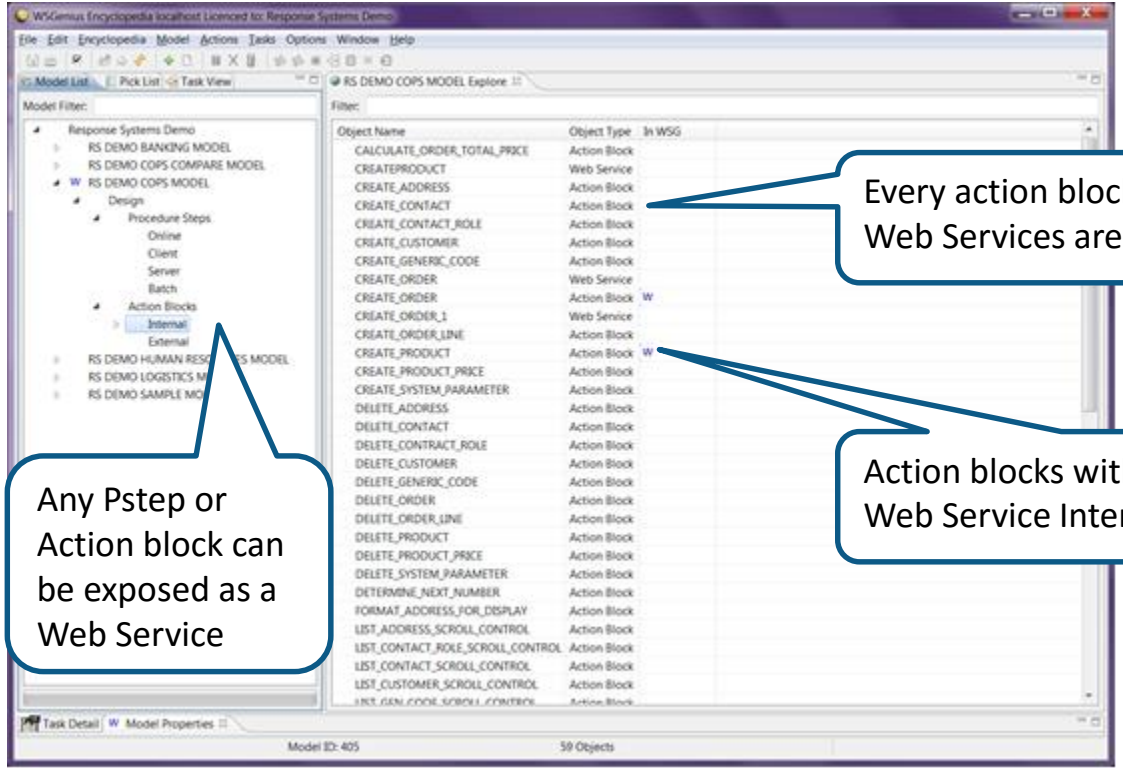
This is what Web Service GENius does.

Web Services GENius – Solution architecture



Let’s have a look

Creating Web Services – the candidates



Every action block and existing Web Services are shown

Action blocks with any existing Web Service Interfaces have W

Any Pstep or Action block can be exposed as a Web Service

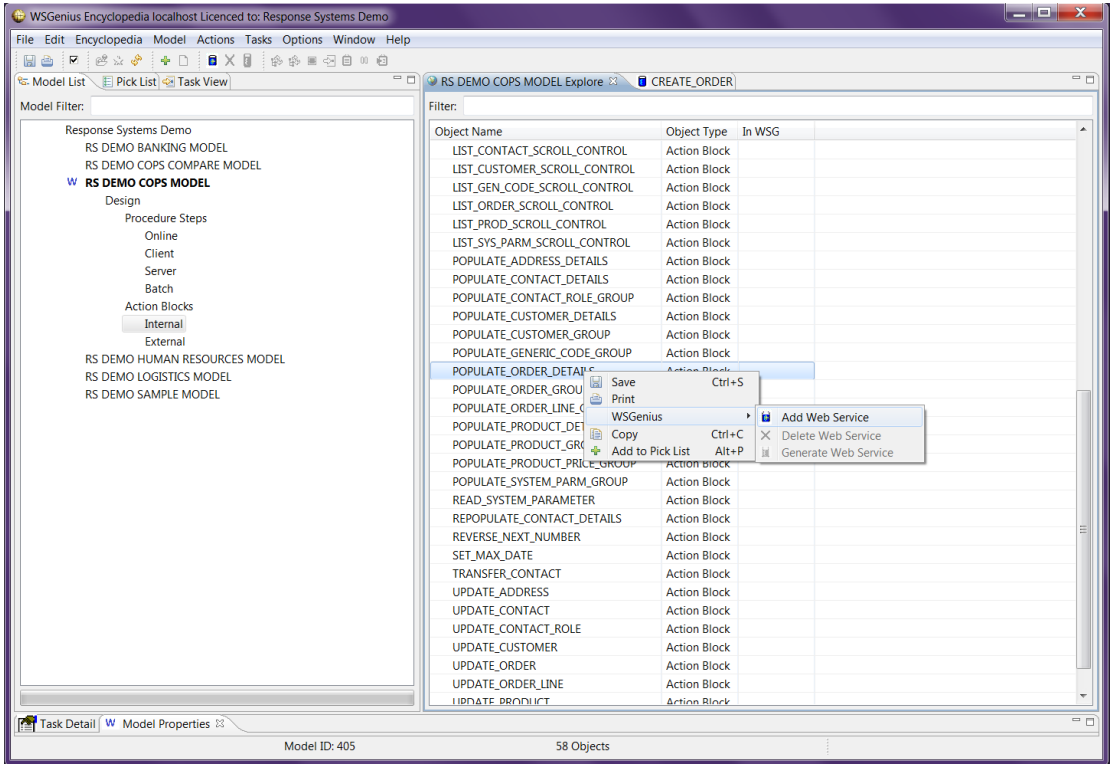
Web Service definitions

- On CABs or Psteps
- Multiple Web Services

Existing Web Services

- Shown within the list
- Underlying action blocks identified

Creating Web Services – a new interface

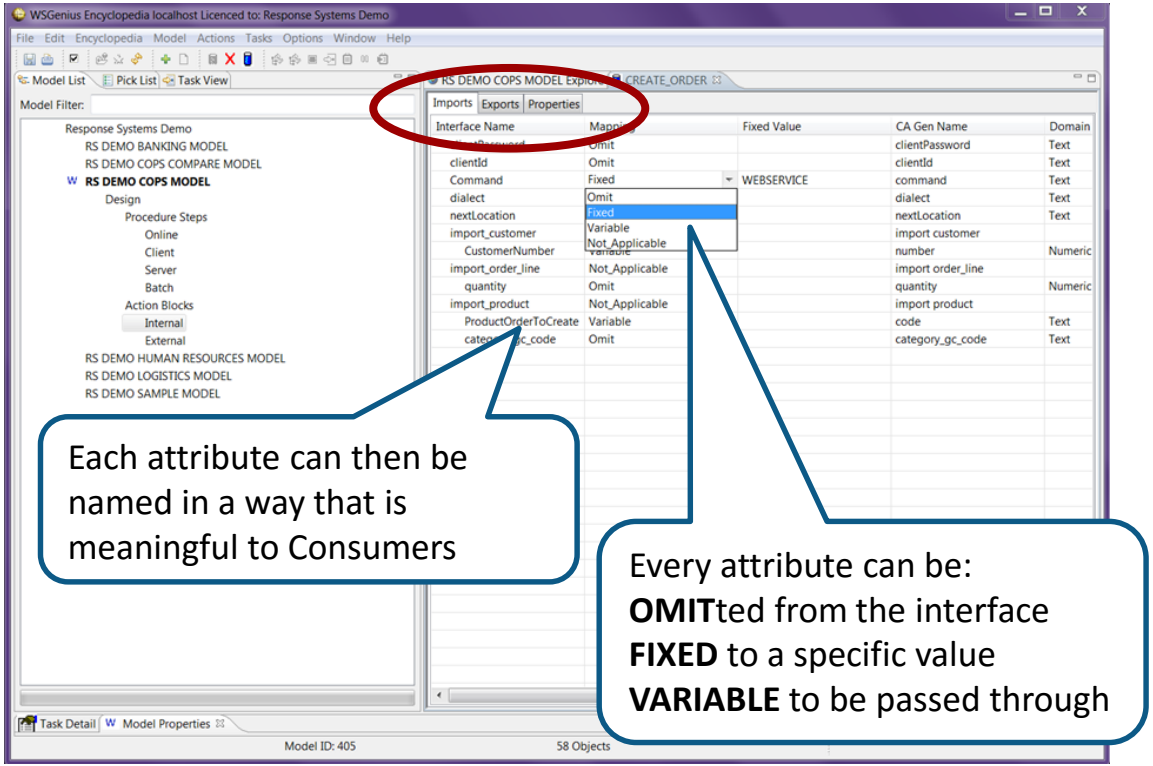


Create from any candidate

- Any action block
- Any Procedure step
- Supports multiple services

Creation is a simple click.

Creating Web Services – Imports – the Request



Each attribute can then be named in a way that is meaningful to Consumers

Every attribute can be:
OMITted from the interface
FIXED to a specific value
VARIABLE to be passed through

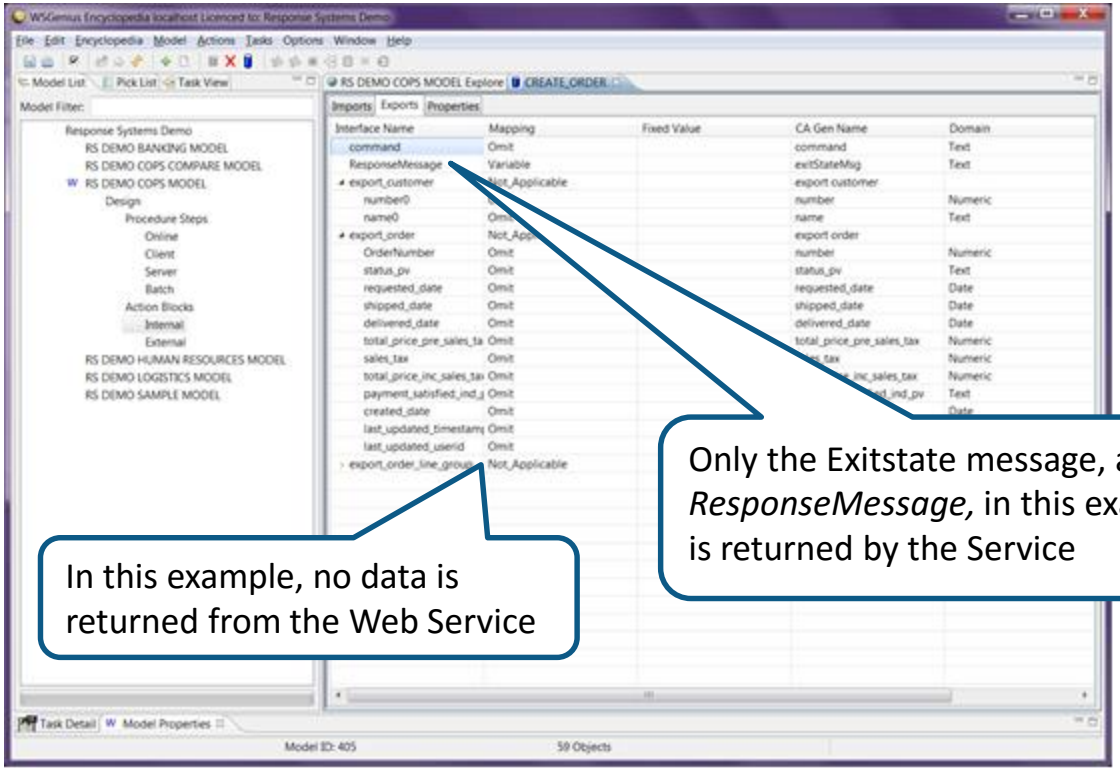
Every interface has 3 parts

- The imports (Request)
- The exports (Response)
- The Web Service properties

Interface definitions

- Fully configurable
- Exclude, over-ride, or pass through each attribute
- Name in a meaningful way.

Creating Web Services – Exports – the Response



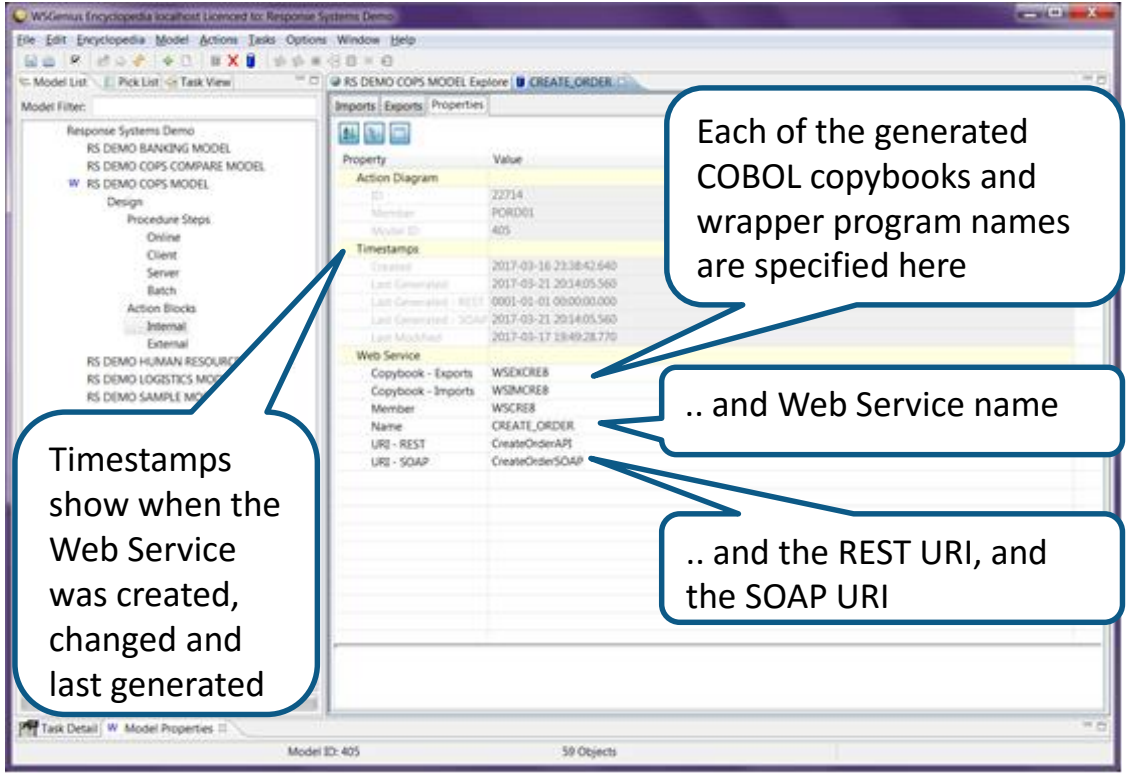
In this example, no data is returned from the Web Service

Only the Exitstate message, as the *ResponseMessage,* in this example, is returned by the Service

Interface definitions

- Fully configurable
- Exclude, over-ride, or pass through each attribute
- Name in a meaningful way.

Creating Web Services – Properties – URI



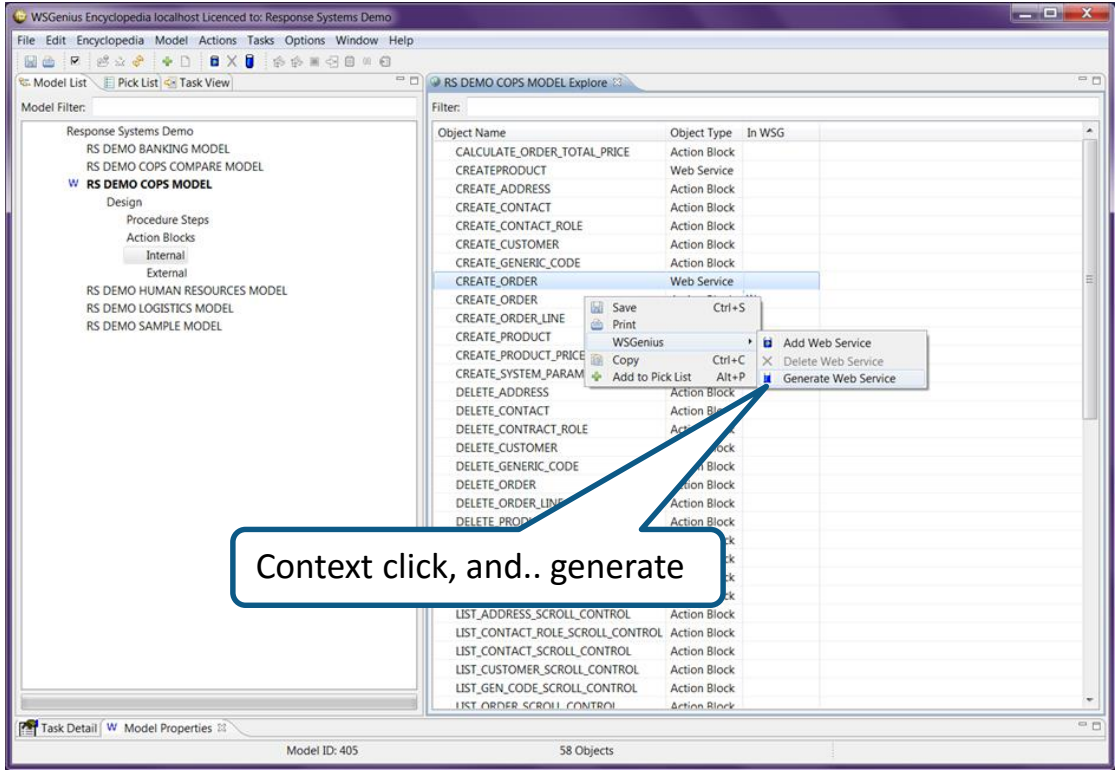
Properties show information

- About creation time
- About modification time
- When last generated

They also allow configuration

- The interface name
- The REST URI, and
- The SOAP URI.

Generating Web Services



Simple click-to-generate

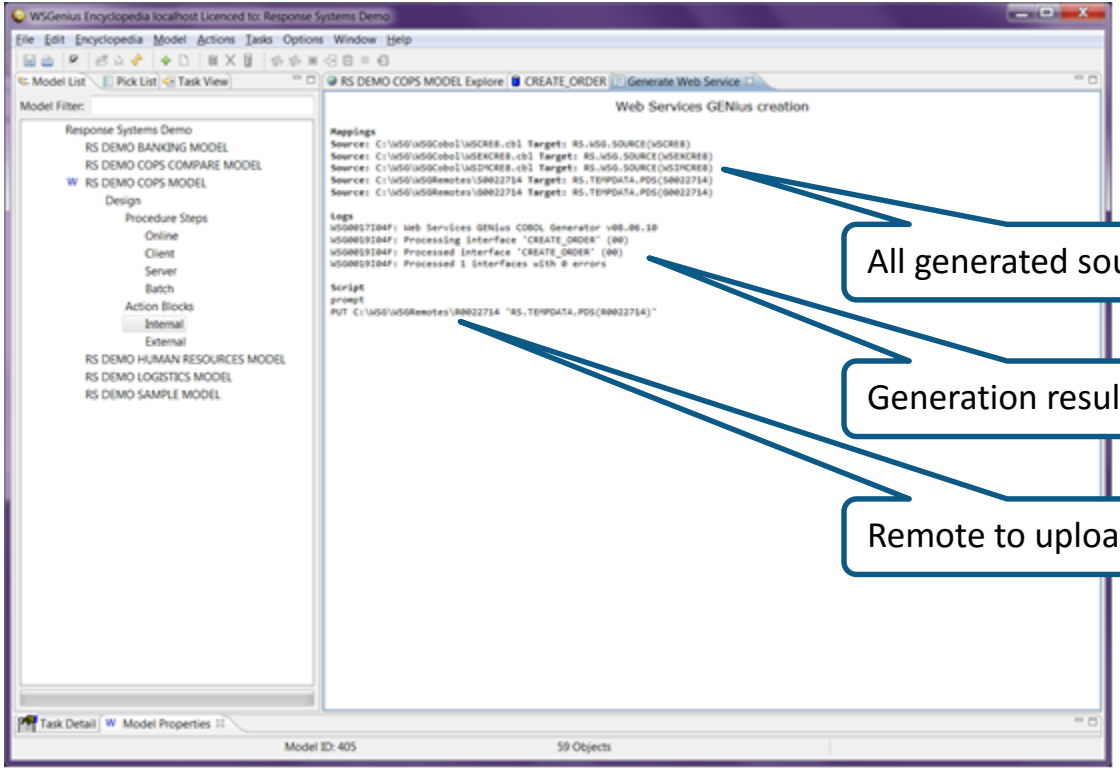
- Generate a single Web Service
- Generate multiple Services
- Creates your WS interface

Creates all artefacts

Remote file ready to upload

- Contains all Web Services
- Contains all control info
- Ready to build and deploy.

Generating Web Services



All generated source

Generation results

Remote to upload

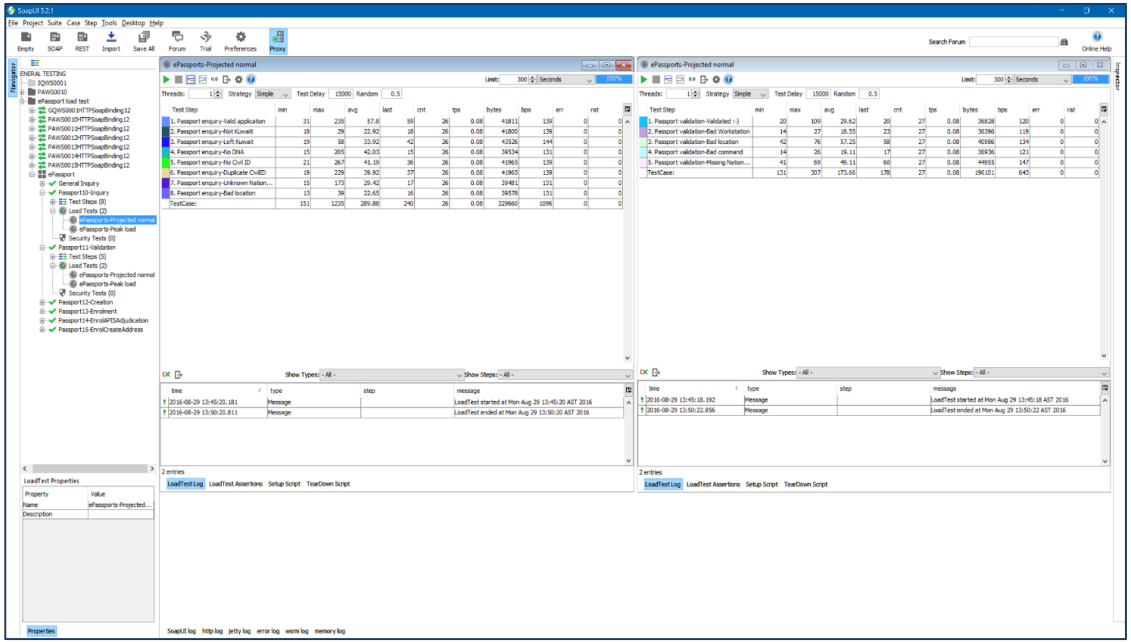
Generated Web Services

- Summarises generation
- Every Web Service created
- All of the artefacts

Remote file ready to upload

- Contains all Web Services
- Contains all control info
- Ready to build and deploy.

Testing Web Services



Many tools available

- Free and flexible
- Focused on Web Services
- Both REST and SOAP
- Rapidly evolving
- Easy to use

SoapUI from Smartbear

- Functional
- Load and Performance
- Brilliant starting point!

Web Services GENius at Border Force

Australian Border Force is building 21st century capability for their workforce

- Access to the necessary information at the required time requires mobile delivery
- Lots of existing application capability and function exists – but locked in monolithic apps
- Needing to simplify infrastructure, not add to it, and categorically requiring RESTful APIs

By using *Web Services GENius,* Border Force are able to

1. Avoid deploying new layers of hardware or middleware infrastructure
2. Avoid requiring changes to existing, proven and stable, CA Gen applications
3. Avoid training staff in new technologies and platforms to deliver Web Services
4. Quickly deploy RESTful Web Services from any existing application function

Key benefits to Border Force

✓ Accelerate the rollout of new mobile capability for frontline Customs officers.

Web Services GENius at MOI

Ministry of Interior needed to expose services for integration and consumption

- Web Services were being manually created via four different teams and products
- Dozens of new Web Services required for inter-agency integration and emerging mobile

By using *Web Services GENius,* Ministry of Interior (MOI) have been able to

1. Quickly and easily create new Web Services in hours rather than months
2. Deploy SOAP Web Services now, and RESTful Web Services in the future
3. Define, test and deliver Web Services solely from their CA Gen development team

Key benefits to MOI

- ✓ Reduced delivery time from months to hours
- ✓ Definition, testing and delivery all from the team that understands the applications
- ✓ Accelerated delivery of new business integration and eServices for the Government.

Key benefits of Web Services GENius

Publish CICS Web Services directly from CA Gen mainframe applications

- New and unique capability to deploy SOAP or RESTful Web Services on Gen applications
- Create Web Services from any Pstep or CAB **without change** to the Gen applications

Web Services GENius simplifies your application delivery

- Exploits TCP/IP and IBM's CICS Web Services infrastructure
- No new layers of middleware or hardware – leverage what you've got
- Insulates developers from underlying technologies to accelerate Web Service delivery

No need for re-training development teams or new skill sets

- Seamless integration with CA Gen and IBM technologies
- Existing development teams can quickly deploy new Web Services.

More information

For further information

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To discuss a demonstration or software trial

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