



Welcome to the Virtual CICS user group newsletter. The Virtual CICS user group at www.fundi.com/virtualcics is an independently-operated vendor-neutral site run by and for the CICS user community.

Virtual CICS user group presentation

The latest webinar from the Virtual CICS user group was entitled, "CICS Web services as a provider and requestor",

and was presented by Ezriel Gross, CEO of Circle Software Inc.

Ezriel is the Chief Executive Officer of Circle Software Incorporated, formally Circle

Computer Group LLC, an IBM Business Partner that specializes in hands-on classes in CICS, DB2, and MQSeries. Ezriel has been a "Gold Consultant" for many years, and attends the annual Gold briefing to keep current. Besides consulting, he teaches and develops CICS courses for both IBM and Circle. His specialties include: CICS Web Services, CICS Web Support, CICS Performance / Tuning, CICS Internals, and CICSplex SM.

Ezriel started the session by explaining what was

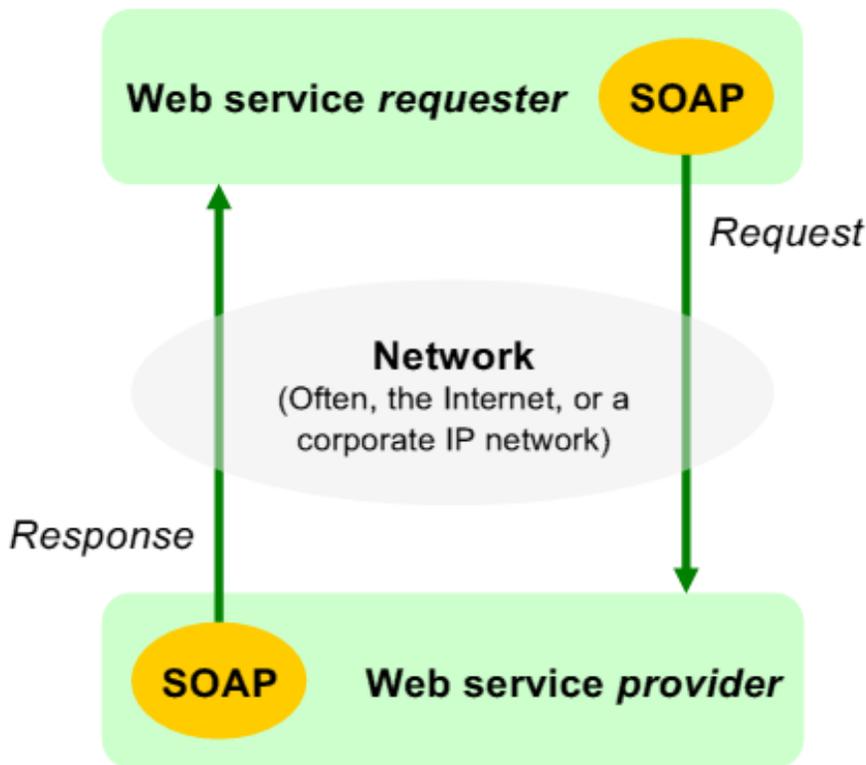
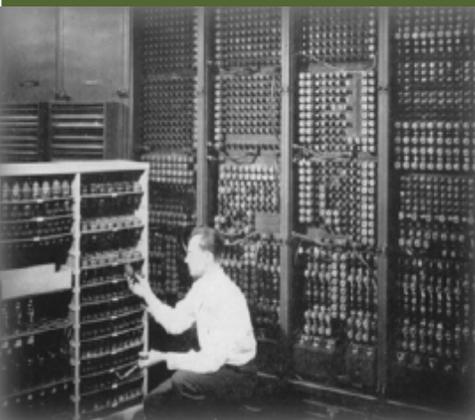


Figure 1: Basic concepts

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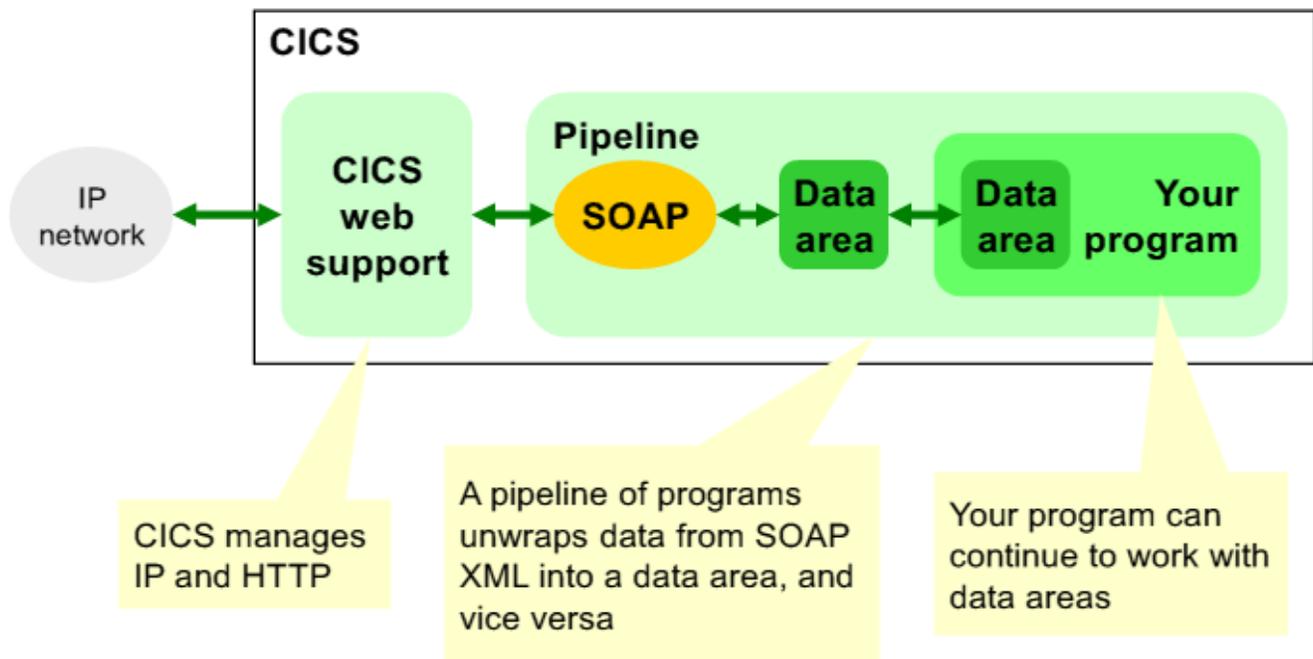


Figure 2: Web services solution

meant by a Web service. He said that a Web service is a software system designed to support interoperable machine-to-machine interaction over a network.

It has an interface described in a machine-processable format (specifically WSDL. Other systems interact with it using SOAP messages, typically conveyed using HTTP (but could be MQ or JCA).

WSDL (Web Service Description Language) is an XML vocabulary that describes the messages that are exchanged between the requester and provider. SOAP is a framework for packaging and exchanging XML messages. This is

illustrated in Figure 1.

The issue that sites face is that, traditionally, CICS programs communicate via data areas (COMMAREAs or containers), whereas Web services send SOAP messages (XML) over a network. The solution is illustrated in Figure 2.

CICS as a Web service provider is illustrated in Figure 3, and CICS as a Web service requestor is shown in Figure 4.

There are some CICS resources that are needed. You must manually create (provider only) TCPIP SERVICE and PIPELINE. TCPIP SERVICE specifies which port to listen to for requests. (This

assumes HTTP message transport. For WebSphere MQ, you would create an MQCONN.)

PIPELINE points to a pipeline configuration file, which specifies the sequence of handler programs in the pipeline.

CICS dynamically creates a URIMAP (provider only) and WEBSERVICE when PIPELINE is installed or when you run the PIPELINE SCAN command.

URIMAP specifies which pipeline and Web service to use for this request. (For a requestor, the INVOKE (WEB)SERVICE can optionally refer to a URIMAP for the provider address.)

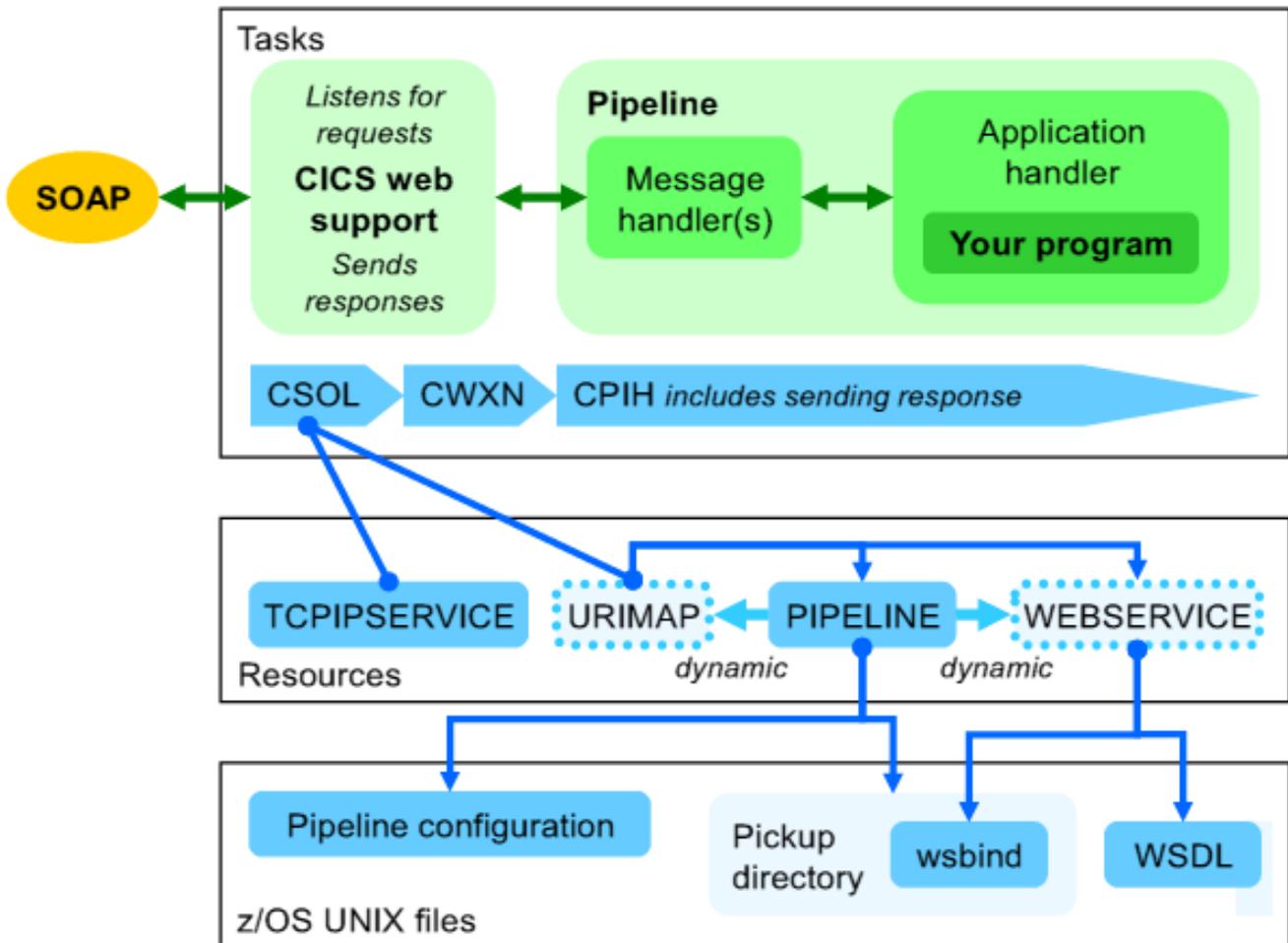


Figure 3: CICS as a Web service provider

The WEBSERVICE points to a WSDL file and a wsbind file.

The pipeline configuration file defines the handlers that constitute the pipeline (for example, a single handler could wrap/unwrap the contents of the SOAP message body in the SOAP envelope). If you do not require special processing, you can use the IBM-supplied sample files unchanged.

The Web service binding (wsbind) file is generated by

CICS Web services assistant or RDz. It is proprietary to CICS Web services, and contains Web service-specific information, such as how to map between the fields in a COMMAREA or container and the XML in a SOAP message body. It also enables you to use the CICS-supplied application handler (DFHPITP) for different Web services.

Ezriel explained that there are four methods for creating a Web service provider in CICS:

- 1 CICS Web services assistant (batch utilities supplied with CICS) from a copybook, using the DFHLS2WS batch utility (generates a WSDL file and a wsbind file).
- 2 Rational Developer for System z (RDz) from a copybook (using a wizard), with interpretive runtime XML conversion (as in Figure 5).
- 3 RDz as above, but with compiled runtime XML conversion (in addition to WSDL and wsbind files,

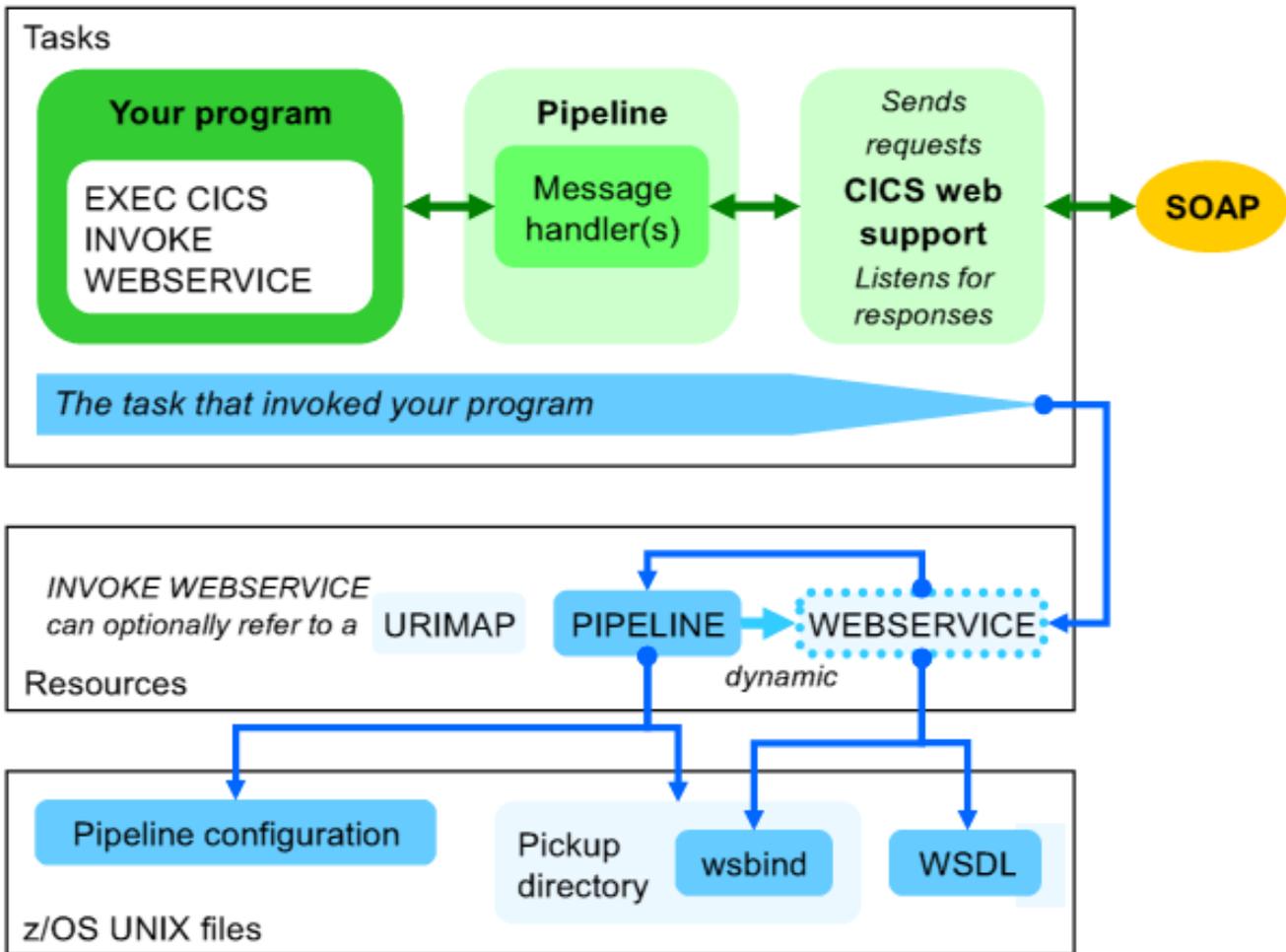


Figure 4: CICS as a Web service requestor

also generates a bespoke COBOL program to convert XML).

- 4 RDz Service Flow Modeler from a recording of an interactive CICS terminal user interface (and using a wizard).

There are, he said, two methods for creating a Web service requester in CICS:

- 1 CICS Web services assistant from a WSDL, using the DFHWS2LS batch utility.

- 2 RDz from a WSDL file (using a wizard), with interpretive runtime XML conversion, as per DFHWS2LS, above (no compiled option for a requester).

Both methods generate copybooks and a wsbind file. However, the RDz also generates COBOL source for a requester program, demonstrating how to use the EXEC CICS INVOKE WEBSERVICE command.

Ezriel suggested that being

able to diagnose Web services in CICS was a good idea. The IBM Redbook, *Implementing CICS Web Services*, SG24-7206, presents a simple “sniffer” program that displays (in tdqueue CESE) the contents of the containers available in the pipeline.

To use the sniffer, you add it to the pipeline (configuration file) as a message handler.

For example, in a provider pipeline:

```
<provider_pipeline>
```

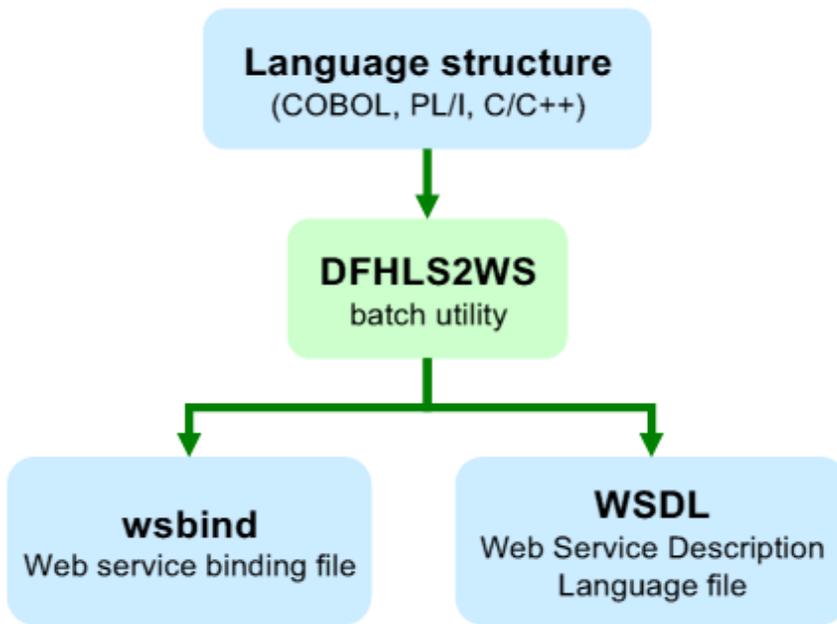


Figure 5: Creating a provider

```

<service>
  <service_handler_list>
    <handler>
      <program>SNIFFER</program>
      <handler_parameter_list/>
    </handler>
  </service_handler_list>
  <terminal_handler>
    <cics_soap_1.1_handler/>
  </terminal_handler>
</service>
<apphandler>DFHPITP</apphandler>
</provider_pipeline>
  
```

presentations/2014-07-08meeting.wmv.

Meeting dates

The following meeting dates

A copy of Ezriel Gross’s presentation – with far more detail than here – can be found at <http://fundi.com/virtualcics/presentations/WebServicesJul14.pdf>.

You can see and hear the whole user group meeting by downloading the WMV file from www.fundi.com/virtualims/

have been arranged for the Virtual CICS user group:

- On 11 November we have IBM’s Wilhelm Mild speaking.

We will be using Citrix GoToMeeting for the user group meetings.

Recent CICS articles

Reducing the Potential for CICS Storage Violations by Russ Evans in the June/July 2014 edition of *Enterprise Tech Journal*. You can find the article at http://ourdigitalmags.com/display_article.php?id=1737759&id_issue=213904.

The Simple Path to Web-Enabling a Legacy CICS Application by Ronald Weinger in the May 2014 edition of *Enterprise*

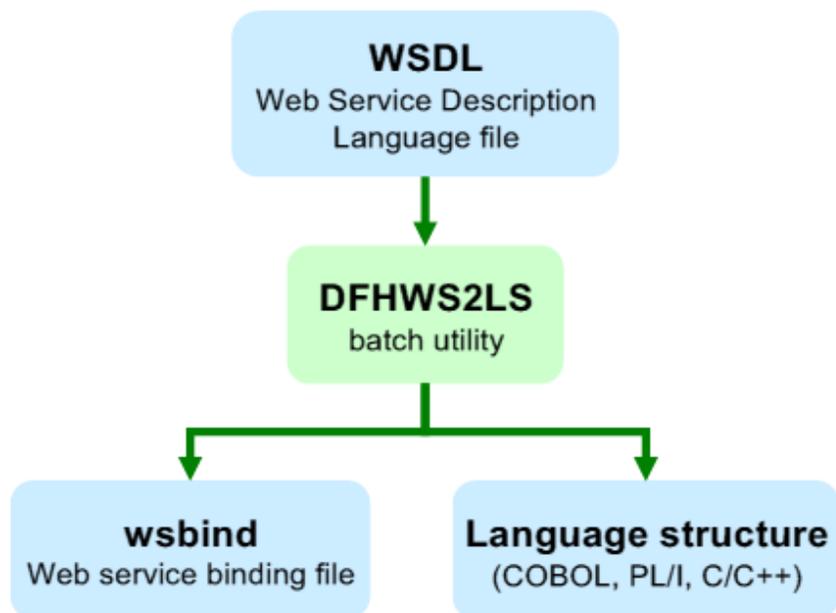


Figure 6: Creating a requestor

Tech Journal. You can find the article at <http://enterprisesystemsmedia.com/article/the-simple-path-to-web-enabling-a-legacy-cics-application>.

CICS news

IBM announced CICS Transaction Server for z/OS V5.2 was available on Friday 13 June. This release includes support for stronger cryptographic ciphers per Special Publication 800-131A from the National Institute of Standards and Technology (NIST). A Service Stream Enhancement (SSE) to IBM

Security zSecure 2.1 was planned for the same date. Besides providing support for this new CICS release the SSE also further enhances the zSecure Compliance Testing Framework. Full details can be found at https://www.ibm.com/developerworks/community/blogs/5e65990a-9690-42e2-93b1-c2267be7620c/entry/ibm_security_zsecure_2_1_service_stream_enhancement_support_for_cics_v5_2_and_enhanced_compliance_framework_for_security_intelligence_governance_risk_and_compliance?lang=en.



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<https://www.facebook.com/VirtualCICS>

About the Virtual CICS user group

The Virtual CICS user group was established as a way for individuals using IBM's CICS TS systems to exchange information, learn new techniques, and advance their skills with the product.

The Web site at www.fundi.com/virtualcics provides a central point for coordinating periodic meetings (which contain technically-oriented topics presented in a webinar format), and provides articles, discussions, links, and other resources of interest to IBM CICS practitioners. Anyone with an interest in CICS is welcome to join the Virtual CICS user group and share in the knowledge exchange.

To share ideas, and for further information, contact trevor@itech-ed.com.

The Virtual CICS user group is free to its members.