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WS-Management on Rails

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Novell®

Overview

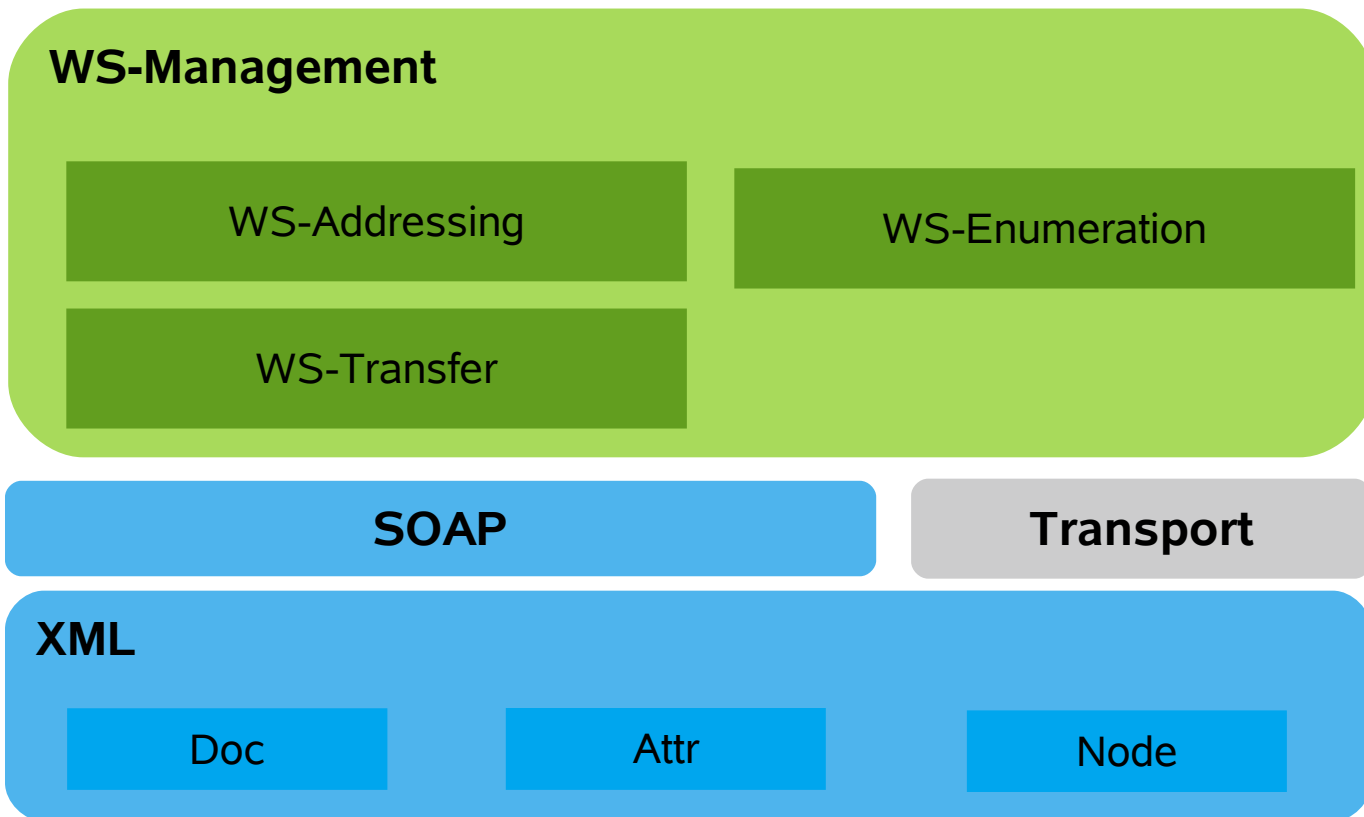
- Openwsman
- Ruby
- Openwsman client API
- CIM scripting
- WBEM stack
- Rails application

Openwsman

- WS-Management
- Server and Client
- Open source, portable
- Native API in C
- C++ and Python bindings
- See <http://www.openwsman.org>

Openwsman Client Side

Client API



Introducing Ruby

Ruby is a

- **dynamic**
 - **object-oriented**
- scripting language with

- a strong focus on simplicity and productivity
- an elegant, natural syntax
- roots in Lisp, Perl and Smalltalk
- easy to extend

rwsman - WS-Management with Ruby

- Ruby bindings for Openwsman Client
- XML Operations
- Transport Operations
- Create, Get, Put, Delete
- Enumerate
- Invoke
- Identify

rwsman - Example

```
1  require "wsman"
2
3  cimuri = "http://schemas.microsoft.com/wbem/wsman/1/wmi/root/cimv2"
4
5  client = WsMan::Client.new( "http://vista.microsoft.com:80/wsman" )
6
7  options = WsMan::ClientOption.new
8
9  options.selector_add( "Name", "Themes" )
10
11 client.invoke( cimuri+"/Win32_Service", "StopService", options )
```

CIM Scripting

CIM_Service Instances Java

```
1  CIMClient cimClient = new CIMClient(
2      new CIMNameSpace("http://localhost", "root/cimv2"),
3      new UserPrincipal(""), new PasswordCredential(""));
4
5  CIMObjectPath op = new CIMObjectPath("CIM_Service");
6  Enumeration instances = cimClient.enumerateInstances(op);
7
8  while (instances.hasMoreElements()) {
9      CIMInstance service = (CIMInstance)instances.nextElement();
10
11     System.out.print(service.getProperty("Name").getValue().toString()
12         + " " +
13         service.getProperty("Started").getValue().toString()
14     );
15
16 }
```

CIM_Service Instances Perl

```
1 use Net::OpenWBEM::Client;
2
3 my $WBEM = Net::OpenWBEM::Client->session(host => "localhost");
4 my $ns = 'root/cimv2';
5 my $instanceEnum = $WBEM->enumInstancesE($ns, 'CIM_Service');
6
7 while ($instanceEnum->hasMoreElements)
8 {
9     my $ci = $instanceEnum->nextElement;
10    print $ci->getStringProperty('Name'), " ";
11    print $ci->getStringProperty('Started'), "\n";
12 }
13 $WBEM->close;
```



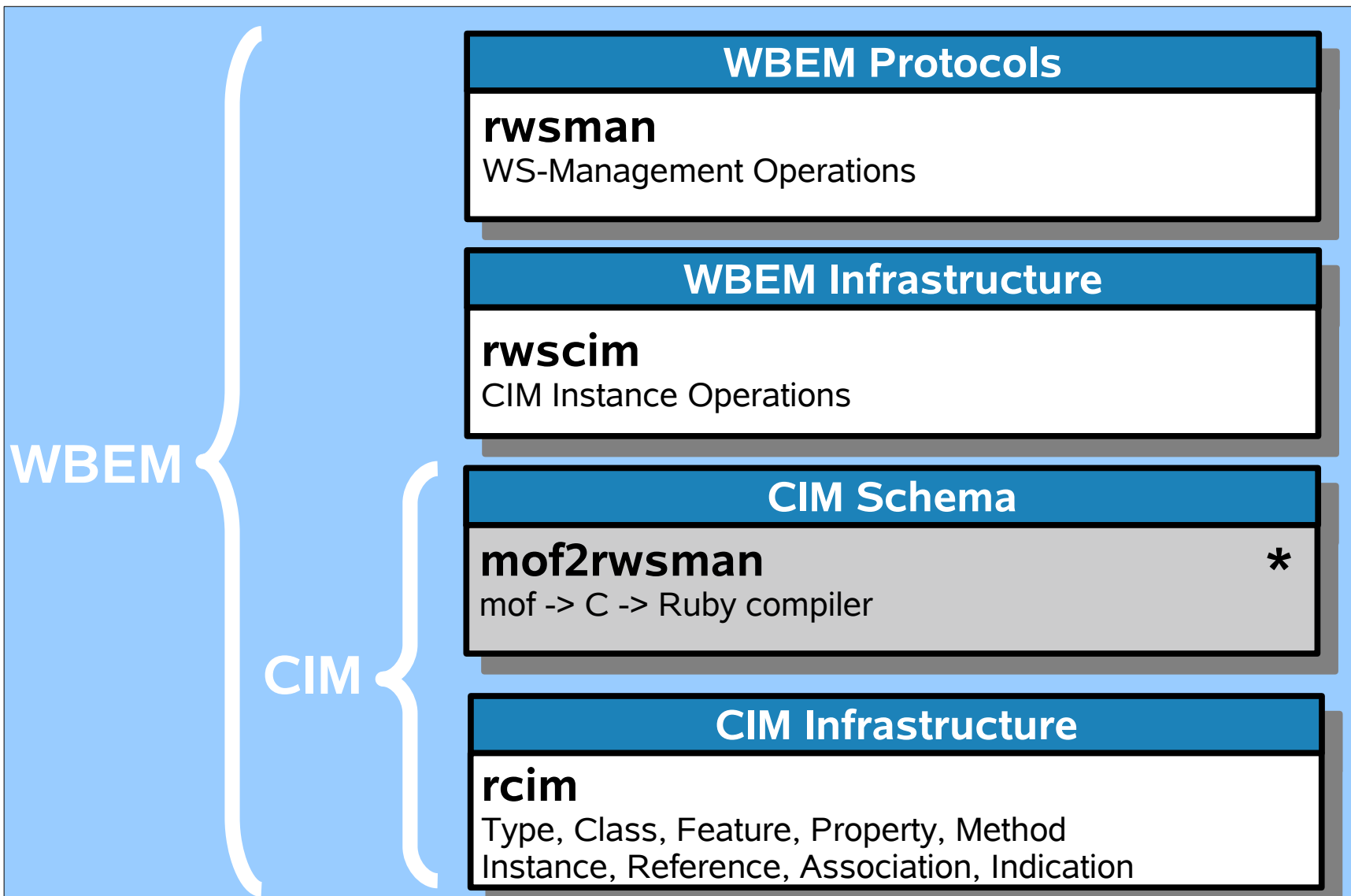
CIM_Service Instances Windows PowerShell

```
1  $colItems = get-wmiobject -class "CIM_Service" `
2  -namespace "root\cimv2" -computername "localhost"
3
4  foreach ($objItem in $colItems) {
5      write-host $objItem.Name, $objItem.Started
6  }
```

CIM_Service Instances Ruby

```
1  require "rwscim"  
2  
3  client = WsMan::Client.new( "http://localhost:8889/wsman")  
4  
5  WsCIM::Service.each( client ) { |service|  
6    puts "#{service.Name}, #{service.Started}"  
7  }
```

WBEM with Ruby



- Covers the CIM metamodel
 - Feature, Property, Method
 - Instance, Reference, Association
- Intrinsic operations

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 - Feature, Property, Method
 - Instance, Reference, Association
- Intrinsic operations

```
1   require "rwscim"  
2   client = WsMan::Client.new( "http://localhost:8889/wsman")  
3   instance = WsCIM::Service.first  
5   properties = instance.properties  
6   keys = instance.keys  
7   methods = instance.methods  
8   references = instance.references
```

mof2rwsman

- MOF -> C -> Ruby compiler
- Based on CIMPLE mof compiler
- Generates C extensions for Ruby
- CIM Instances as first-class Ruby Objects
- Obsolete with WS-Catalog

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```
> cd cimple/schema/cim214
> ../../bin/mof2rwsman -I . CIM_Schema.mof -c CIM_Service
> ls cim_*
> cim_service.c  cim_service.h
```

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- Glues generated Ruby extensions

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```

Why Rails ?



About Ruby On Rails

Web development that doesn't hurt

- Programmer happiness
- Productivity
- Convention over configuration
- MVC pattern
- No compilation
- Easy deployment and scaling
- Ajax

WS-Management on Rails

Screenshot

WS-Management on Rails

- Screenshot
- Full demo in Interop Lab
- Mail: kkaempf@suse.de
- <http://www.openwsman.org>
- <http://rwsman.rubyforge.org>
- <http://www.rubyonrails.com>

Whats next ?

- WS-Catalog
 - Dynamic creation of Ruby classes
- Python bindings
 - <http://en.opensuse.org/PowerCIM>

That's all folks !

Thank you !

shell - SBLIM wbemcli

```
1 wbemcli ein http://localhost:5988/root/cimv2:CIM_Service |
2 while read instanceName; do
3     instance=`wbemcli gi http://$instanceName `
4     Name=`echo $instance
5         | sed -n 's/^.*,Name="\([^"]*\)",.*$/\1/p' `
6     Started=`echo $instance
7         | sed -n 's/^.*,Started=\([^,]*\),.*$/\1/p' `
8     echo "$Name $Started"
```

- Spare Slide