SoftLayer MetaData Service
RESTful API Specification
(Phase One)

Version 0.5

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1. Objective

SoftLayer MetaData Service is a service to provide various meta data of SoftLayer to facilitate cloud instance provision and manipulation via SoftLayer APIs

2. Current Limitations

1) meta data is automatically updated periodically
2) user credentials of SoftLayer API are saved into the system for metadata refresh
3) ONLY support "**virtual_server**" and "**bare_metal_instance**" for now
4) The first request of SoftLayer account might take a bit longer time(2~3 minutes) since it pulls all meta data associated with the provided account of SoftLayer

3. Definitions

System Specification

A minimum specification to order a cloud instance

Prouduct Item

a pre-defined component of cloud instance by SoftLayer API

Credentials

a pair of SoftLayer API username and key from account, which is used as an identification in the service.

4. Using the SoftLayer MetaData service

4.1 What is the service endpoint?

You can access the RESTful service at: ***https://metadata.imdemocloud.com/softlayer***

4.2 Getting access

In order to use the SoftLayer MetaData service you will need a *client key* and a *client secret.*
Please send an email with the subject of "SoftLayer MetaData Service Client Request" to:
imcloud@ca.ibm.com.

5. RESTful API Specification

5.1. HTTP Status Codes

With the interface to Cluster Manager working through HTTP, error codes and statuses
are reported using a combination of the HTTP status code number, and corresponding
JSON data in the body of the response data.

200 - OK
Request completed successfully.

400 - Bad Request
Bad request structure.

401 - Unauthorized
The item requested was not available using the supplied authorization, or authorization was
not supplied.

403 - Forbidden
The server understood the request, but is refusing to fulfill it.

404 - Not found
The server has not found anything matching the Request-URI.

5.2. Authentication Headers

You must include HTTP headers described below in each request sent to SoftLayer Metadata
Service :

```
"Content-Type":    // "application/json" by default
"client_key":      // Key to identify a client
                   // Required, String, 16 characters long


"client_secret":  // Secret to authenticate a client
                  // Required, String, 64 characters long
```

5.3. Methods

5.3.1 Query quote of system specification

Function

To acquire all price/product item IDs according to provided system specification

Specification

```
POST /quote/system.json

{
   "credentials":            // API credentials of SoftLayer
   {                         // Required, String
     "api_username":         // Required, String
     "api_key":              // Required, String
    },

   "type":                   // type of hardware
                             // Required, String
                             // One of "virtual_server" or
                             // "bare_metal_instance"
   "billing_period":         // Billing period
                             // Optional, String, "hourly"(default)
                             // One of "hourly" or "monthly"
   "datacenter":             // Pre-defined names of data centers
                             // Required, String, "wdc01"(default)
                             // "wdc01" or "Washington DC, 1"
                             // "ams01", Amsterdam 1
                             // "dal01", Dallas 1
                             // "dal02", Dallas 2
                             // "dal04", Dallas 4
                             // "dal05", Dallas 5
                             // "dal06", Dallas 6
                             // "hkg02", Hong Kong 2
                             // "lon02", London 2
```

```
                              // "sjc01", San Jose 1
                              // "sea01", Seattle
                              // "sng01", Singapore 1
                              // "tor01", Toronto 1



    "cpu":  {
      "cores":              // Number of cores
                            // Required, Integer
      "private":            // A flag for private cores
                            // Optional, Boolean, False (default)
    }
    "ram":                  // Amount of RAM in GB
                            // Required, Integer
    "os":  {
      "name":               // OS name
                            // Required, String,
                            // one of 'rhel' or 'centos' for now
      "version":            // major version number
                            // Optional, Integer, latest
                            // Only one of 5, 6, 7 for now
      "bitness":            // OS bit
                            // Optional, String, "64 bit" (default)
      "flavor":             // a template name of OS
                            // Optional, String, "Minimal"
                            // One of "Minimal", "LAMP" for now
    },

    "network": {            // Network configuration
                            // Required, Object
      "speed":              // Speed of network connection
                            // Optional, String, "1 Gbps"(default)
                            // One of "100 Mbps", "1 Gbps", "10 Gbps".
      "private_only":       // Use private network only
                            // Optional, Boolean, False(default)
    },

    "storage": {            // Storage/disks configuration
                            // Optional, Object
      "max_disks":          // Maximum number of disks
                            // Optional, Integer, 1 (default)
                            // One of 1,2,3,4,5
```

```
    "disks": [              // The disks definition
                            // Optional, Array
      {
        "tag":              // a tag name for disk
                            // Optional, String
        "type":             // The type of the disk
                            // Optional, String, "SAN" (default)
                            // One of "SAN", "Local"
                            // "SATA II" (ONLY) if "bare_metal_instance"

        "size":             // The size of the disk
                            // Required, String, "100 GB"
                            // "500 GB" (ONLY) if "bare_metal_instance"
      },
      ...
    ],
  },
  "primary_ip":             // primary IP address
                            // Optional, String, "1 IP Address" (ONLY)
  "remote":                 // Remote management
                            // Optional, String,
                            // "Reboot / Remote Console" (ONLY)
  "monitoring":             // monitoring category of SoftLayer API
                            // Optional, String, "Host Ping" (default)
  "response":               // response category of SoftLayer API
                            // Optional, String
                            // "Automated Notification"(default)
  "notification":           // notification category of SoftLayer API
                            // Optional, String,
                            // "Email and Ticket" (default)
  "vpn":                    // VPN management categor of SoftLayer API
                            // Optional, String
                            // "Unlimited SSL VPN Users & 1 PPTP VPN User
                            // per account"(default)
  "vulnerability":          // Vulnerability Assessments & Management
                            // category of SoftLayer API
                            // Optional, String
                            // "Nessus Vulnerability Assessment &
                            // Reporting"(default)
}
```

Response:

```
{
  "errors":                    // Error message for the current operation

  "datacenters":  {
      "price_id":              // price ID used to place order if needed
      "price_rate":            // hourly or monthly cost
      "description":           // product item description from SoftLayer
  },


  "cpu":  {
      "price_id":              // price ID used to place order if needed
      "price_rate":            // hourly or monthly cost
      "description":           // product item description from SoftLayer
    },

  "ram": {
      "price_id":              // price ID used to place order if needed
      "price_rate":            // hourly or monthly cost
      "description":           // product item description from SoftLayer
    },

  "os": {
      "price_id":              // price ID used to place order if needed
      "price_rate":            // hourly or monthly cost
      "description":           // product item description from SoftLayer
    },

  "network":  {
      "price_id":              // price ID used to place order if needed
      "price_rate":            // hourly or monthly cost
      "description":           // product item description from SoftLayer
    },

  "disks":    [
    {
      "price_id":              // price ID used to place order if needed
      "price_rate":            // hourly or monthly cost
      "description":           // product item description from SoftLayer
    }
    ],
```

```
    "remote":  {
        "price_id":              // price ID used to place order if needed
        "price_rate":            // hourly or monthly cost
        "description":           // product item description from SoftLayer
    },

    "primary_ips": {
        "price_id":              // price ID used to place order if needed
        "price_rate":            // hourly or monthly cost
        "description":           // product item description from SoftLayer
      },

    "monitorings": {
        "price_id":              // price ID used to place order if needed
        "price_rate":            // hourly or monthly cost
        "description":           // product item description from SoftLayer
      },

    "responses": {
        "price_id":              // price ID used to place order if needed
        "price_rate":            // hourly or monthly cost
        "description":           // product item description from SoftLayer
      },

    "notifications": {
        "price_id":              // price ID used to place order if needed
        "price_rate":            // hourly or monthly cost
        "description":           // product item description from SoftLayer
      },

    "vpns": {
        "price_id":              // price ID used to place order if needed
        "price_rate":            // hourly or monthly cost
        "description":           // product item description from SoftLayer
      },

    "vulnerabilitys": {
        "price_id":              // price ID used to place order if needed
        "price_rate":            // hourly or monthly cost
        "description":           // product item description from SoftLayer
      }
}
```

Example:

Virtual_Server:

POST https://metadata.imdemocloud.com/softlayer/quote/system

```
{
  "credentials": {
      "api_username":  "xx",
      "api_key":          "yyy"
  },
  "type":  "virtual_server",
  "datacenter": "tor01",
  "cpu": {
    "cores": 2
  },
 "ram": 4,
 "os": { "name": "centos" },
 "network": { "speed": "1 Gbps" },
 "storage": {
  "disks": [
    { "type": "SAN",
      "size":  "100 GB"
    }
    ]
 }
}
```

Response :
```
{
   "datacenter": {
      "price_id": 448994,
      "price_rate": 0,
      "description": "Toronto 1"
   },
   "cpu": {
      "price_id": 32985,
      "price_rate": "0.063",
      "description": "4 x 2.0 GHz Cores"
```

```json
    },
    "ram": {
        "price_id": 32438,
        "price_rate": "0.108",
        "description": "8 GB"
    },
    "os": {
        "price_id": 31985,
        "price_rate": "0.0",
        "description": "CentOS 6.x - Minimal Install (64 bit)"
    },
    "network": {
        "price_id": 24713,
        "price_rate": "0.028",
        "description": "1 Gbps Public & Private Network Uplinks"
    },
    "disks": [
        {
            "price_id": 29237,
            "price_rate": "0.011",
            "description": "100 GB (SAN)"
        }
    ],
    "primary_ip": {
        "price_id": 34807,
        "price_rate": "0.0",
        "description": "1 IP Address"
    },
    "remote": {
        "price_id": 23070,
        "price_rate": "0.0",
        "description": "Reboot / Remote Console"
    },
    "monitoring": {
        "price_id": 27023,
        "price_rate": "0.0",
        "description": "Host Ping"
    },
    "response": {
```

```
        "price_id": 32627,
        "price_rate": "0.0",
        "description": "Automated Notification"
    },
    "notification": {
        "price_id": 32500,
        "price_rate": "0.0",
        "description": "Email and Ticket"
    },
    "vpn": {
        "price_id": 33483,
        "price_rate": "0.0",
        "description": "Unlimited SSL VPN Users & 1 PPTP VPN User per account"
    },
    "vulnerability": {
        "price_id": 35310,
        "price_rate": "0.0",
        "description": "Nessus Vulnerability Assessment & Reporting"
    }
}
```

Bare_Metal_Instance

POST https://metadata.imdemocloud.com/softlayer/quote/system

```
{
  "credentials": {
      "api_username":  "xx",
      "api_key":          "yyy"
  },
  "type":  "bare_metal_instance",
  "datacenter": "tor01",
  "cpu": {
    "cores": 2
  },
"ram": 2,
"os": { "name": "centos" },
"network": { "speed": "1 Gbps" },
"storage": {
```

```
   "disks": [
    { "type": "SATA II",
      "size":  "500 GB"
     }
     ]
 }
 }


Response:

{
   "datacenter": {
      "price_id": 448994,
      "price_rate": 0,
      "description": "Toronto 1"
   },
   "cpu_ram": {
      "price_id": 1921,
      "price_rate": 159,
      "description": "2 x 2.0 GHz Core Bare Metal Instance - 2 GB Ram"
   },
   "os": {
      "price_id": 13963,
      "price_rate": 0,
      "description": "CentOS 6.x - Minimal Install (64 bit)"
   },
   "network": {
      "price_id": 274,
      "price_rate": 20,
      "description": "1 Gbps Public & Private Network Uplinks"
   },
   "disks": [
      {
         "price_id": 1267,
         "price_rate": 0,
         "description": "500 GB SATA II"
      }
   ],
```

```json
    "primary_ip": {
        "price_id": 21,
        "price_rate": 0,
        "description": "1 IP Address"
    },
    "remote": {
        "price_id": 905,
        "price_rate": 0,
        "description": "Reboot / Remote Console"
    },
    "monitoring": {
        "price_id": 55,
        "price_rate": 0,
        "description": "Host Ping"
    },
    "response": {
        "price_id": 58,
        "price_rate": 0,
        "description": "Automated Notification"
    },
    "notification": {
        "price_id": 57,
        "price_rate": 0,
        "description": "Email and Ticket"
    },
    "vpn": {
        "price_id": 420,
        "price_rate": 0,
        "description": "Unlimited SSL VPN Users & 1 PPTP VPN User per account"
    },
    "vulnerability": {
        "price_id": 418,
        "price_rate": 0,
        "description": "Nessus Vulnerability Assessment & Reporting"
    }
}
```