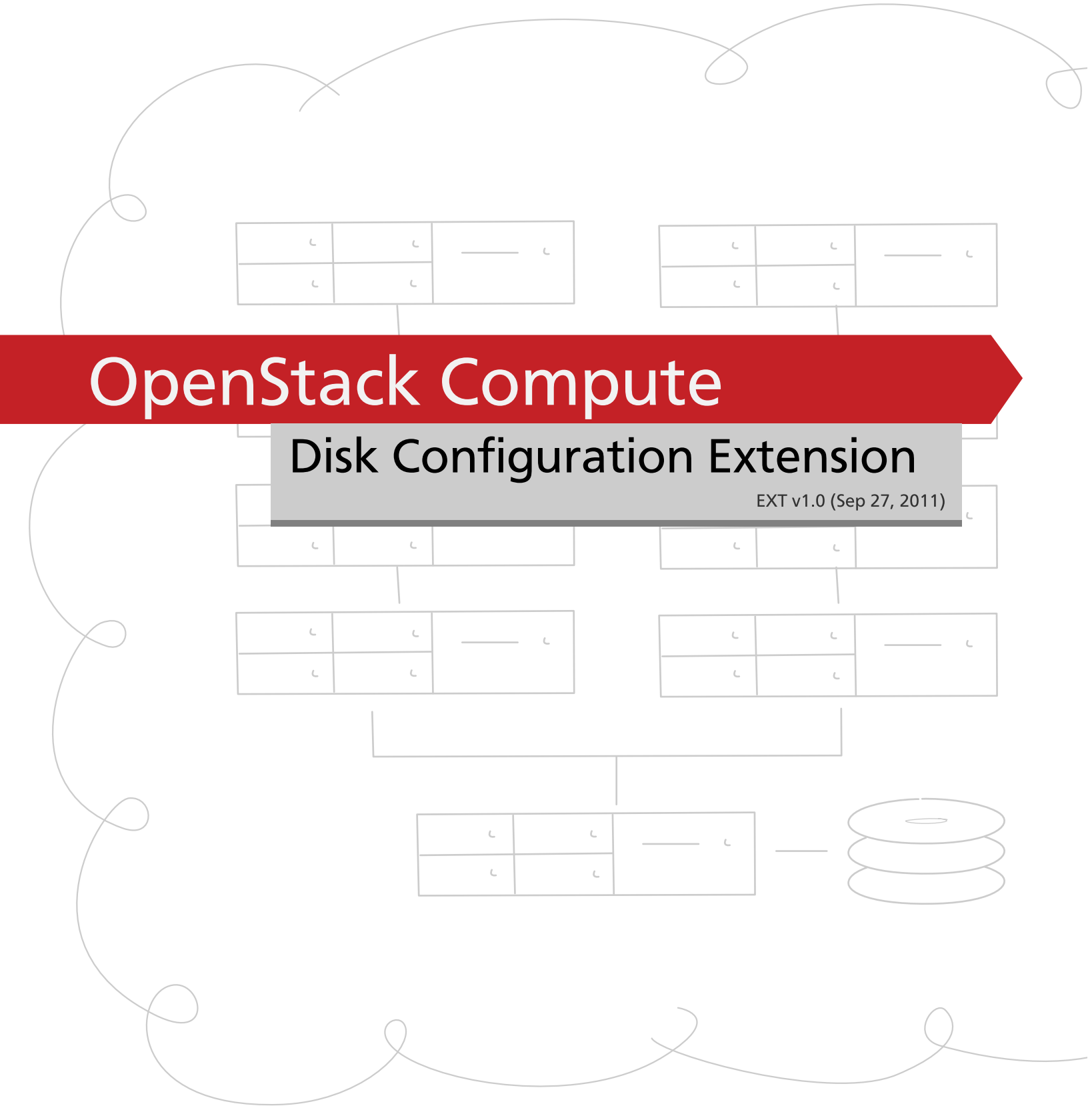

OpenStack Compute

Disk Configuration Extension

EXT v1.0 (Sep 27, 2011)

rackspace® HOSTING

docs.rackspace.com/api

OpenStack Compute Disk Configuration Extension

EXT v1.0 (2011-09-27)

This document is intended for software developers interested in using the Disk Configuration Extension to the OpenStack Compute Application Programming Interface (API). The document is for informational purposes only and is provided "AS IS."

Table of Contents

List of Examples

1. About This Extension

Name	Disk Management Extension
Namespace	http://docs.rackspacecloud.com/servers/api/ext/diskConfig/v1.0
Alias	RAX-DCF
Contact	Gabe Westmaas <gabe.westmaas@rackspace.com>
Status	ALPHA
Version	v1.0 (2011-09-27)
Dependencies	OpenStack Compute API v1.1 (2011-09-08)
Doc Link (PDF)	http://docs.rackspacecloud.com/servers/api/ext/rax-dcf.pdf
Doc Link (WADL)	None, the extension makes no modification to the API WADL.
Doc Link (XSD)	http://docs.rackspacecloud.com/servers/api/ext/rax-dcf/api.xsd
Short Description	Adds support for disk management flag on servers and images.

Example 1.1. Extension Query Response: XML

```
<?xml version="1.0" encoding="UTF-8"?>

<extensions xmlns="http://docs.openstack.org/common/api/v1.0"
            xmlns:atom="http://www.w3.org/2005/Atom">
    <extension name="Disk Configuration Extension"
               namespace="http://docs.rackspacecloud.com/servers/api/
ext/diskConfig/v1.0"
               alias="RAX-DCF" updated="2011-09-27T00:00:00">
        <description>
            Adds support for disk management flag on servers and
 images.
        </description>
        <atom:link rel="describedby" type="application/pdf"
                   href="http://docs.rackspacecloud.com/servers/api/
ext/rax-dcf.pdf"/>
        <atom:link rel="describedby" type="application/xml"
                   href="http://docs.rackspacecloud.com/servers/api/
ext/rax-dcf/api.xsd"/>
    </extension>
</extensions>
```

Example 1.2. Extension Query Response: JSON

```
{
    "extensions": [
        {
            "name": "Disk Configuration Extension",
            "namespace": "http://docs.rackspacecloud.com/servers/api/
ext/diskConfig/v1.0",
            "alias": "RAX-DCF",
            "updated": "2011-09-27T00:00:00",
            "description": "Adds support for disk management flag on
 servers and images.",
            "links": [
                {
                    "rel": "describedby",
                    "type": "application/pdf",
                    "href": "http://docs.rackspacecloud.com/servers/
api/ext/rax-dcf.pdf"
                },
                {
                    "rel": "describedby",
                    "type": "application/xml",
                    "href": "http://docs.rackspacecloud.com/servers/
api/ext/rax-dcf/api.xsd"
                }
            ]
        }
    ]
}
```

1.1. Document Change History

The most recent changes to this document are desrcibed below.

Revision Date	Summary of Changes
Sep 27, 2011	• The diskConfig attribute can now be set on rebuild and resize actions.
Sep 24, 2011	• Expanded description somewhat. • Refactored to use MANUAL and AUTO instead of boolean value.
Aug 24, 2011	• Initial release.

2. Summary of Changes

The Disk Configuration Extension to the OpenStack Compute API adds support for a diskConfig attribute on servers and images. These attribute controls how a disk is partitioned when a server is created, rebuilt, or resized.

2.1. New Headers

None.

2.2. New Faults

None.

2.3. New Resources

None.

2.4. New Actions

None.

2.5. Changes to the OpenStack Compute API

Images and servers contain a new diskConfig attribute that controls how a disk is partitioned when a server is created, rebuilt, or resized.

2.5.1. Changes to 4.1.3 and 4.5.2 Get Server/Image Details

Examples 4.11 and 4.12 in the OpenStack Compute Develorer Guide should be replaced with Example 2.1 and Example 2.2 below. Similarly the attribute can be specified on an image such that Examples 4.47 and 4.48 are changed as illustrated in Example 2.3 and Example 2.4. The diskConfig attribute can contain one of two possible values: AUT0 and MANUAL.

Example 2.1. Server Detail Response: XML

```
<?xml version="1.0" encoding="UTF-8"?>
<server xmlns="http://docs.openstack.org/compute/api/v1.1"
        xmlns:atom="http://www.w3.org/2005/Atom"
        xmlns:dcf="http://docs.rackspacecloud.com/servers/api/ext/
diskConfig/v1.0"
        id="52415800-8b69-11e0-9b19-734f000004d2"
        tenantId="1234" userId="5678"
        name="sample-server" status="BUILD"
        updated="2010-10-10T12:00:00Z" created="2010-08-10T12:00:00Z"
        progress="60" hostId="e4d909c290d0fb1ca068ffaddf22cbd0"
        accessIPv4="67.23.10.132"
        accessIPv6="::babe:67.23.10.132"
        dcf:diskConfig="MANUAL">
    <image id="52415800-8b69-11e0-9b19-734f6f006e54">
        <atom:link
            rel="self"
            href="http://servers.api.openstack.org/v1.1/1234/images/
52415800-8b69-11e0-9b19-734f6f006e54"/>
        <atom:link
            rel="bookmark"
            href="http://servers.api.openstack.org/1234/images/
52415800-8b69-11e0-9b19-734f6f006e54"/>
    </image>
    <flavor id="52415800-8b69-11e0-9b19-734f216543fd">
        <atom:link
            rel="self"
            href="http://servers.api.openstack.org/v1.1/1234/flavors/
52415800-8b69-11e0-9b19-734f216543fd"/>
        <atom:link
            rel="bookmark"
            href="http://servers.api.openstack.org/1234/flavors/
52415800-8b69-11e0-9b19-734f216543fd"/>
    </flavor>
    <metadata>
        <meta key="Server Label">Web Head 1</meta>
        <meta key="Image Version">2.1</meta>
    </metadata>
    <addresses>
        <network id="public">
            <ip version="4" addr="67.23.10.132"/>
            <ip version="6" addr="::babe:67.23.10.132"/>
            <ip version="4" addr="67.23.10.131"/>
            <ip version="6" addr="::babe:4317:0A83"/>
        </network>
        <network id="private">
            <ip version="4" addr="10.176.42.16"/>
            <ip version="6" addr="::babe:10.176.42.16"/>
        </network>
    </addresses>
    <atom:link
        rel="self"
```

```
        href="http://servers.api.openstack.org/v1.1/1234/servers/
52415800-8b69-11e0-9b19-734f000004d2"/>
    <atom:link
        rel="bookmark"
        href="http://servers.api.openstack.org/1234/servers/
52415800-8b69-11e0-9b19-734f000004d2"/>
</server>
```

Example 2.2. Server Detail Response: JSON

```
{
    "server": {
        "id": "52415800-8b69-11e0-9b19-734f000004d2",
        "tenantId": "1234",
        "userId": "5678",
        "name": "sample-server",
        "updated": "2010-10-10T12:00:00Z",
        "created": "2010-08-10T12:00:00Z",
        "hostId": "e4d909c290d0fb1ca068ffaddf22cbd0",
        "accessIPv4" : "67.23.10.132",
        "accessIPv6" : "::babe:67.23.10.132",
        "status": "BUILD",
        "progress": 60,
        "RAX-DCF:diskConfig" : "MANUAL",
        "image" : {
            "id": "52415800-8b69-11e0-9b19-734f6f006e54",
            "links": [
                {
                    "rel": "self",
                    "href": "http://servers.api.openstack.org/v1.1/1234/
images/52415800-8b69-11e0-9b19-734f6f006e54"
                },
                {
                    "rel": "bookmark",
                    "href": "http://servers.api.openstack.org/1234/images/
52415800-8b69-11e0-9b19-734f6f006e54"
                }
            ]
        },
        "flavor" : {
            "id": "52415800-8b69-11e0-9b19-734f216543fd",
            "links": [
                {
                    "rel": "self",
                    "href": "http://servers.api.openstack.org/v1.1/1234/
flavors/52415800-8b69-11e0-9b19-734f216543fd"
                },
                {
                    "rel": "bookmark",
                    "href": "http://servers.api.openstack.org/1234/
flavors/52415800-8b69-11e0-9b19-734f216543fd"
                }
            ]
        },
        "addresses":  {
            "public" : [
                {
                    "version": 4,
                    "addr": "67.23.10.132"
                },
                {
                    "version": 6,
                    "addr": "::babe:67.23.10.132"
                },
                {
```

```
                    "version": 4,
                    "addr": "67.23.10.131"
                },
                {
                    "version": 6,
                    "addr": "::babe:4317:0A83"
                }
            ],
            "private" : [
                {
                    "version": 4,
                    "addr": "10.176.42.16"
                },
                {
                    "version": 6,
                    "addr": "::babe:10.176.42.16"
                }
            ]
        },
        "metadata": {
            "Server Label": "Web Head 1",
            "Image Version": "2.1"
        },
        "links": [
            {
                "rel": "self",
                "href": "http://servers.api.openstack.org/v1.1/1234/
servers/52415800-8b69-11e0-9b19-734f000004d2"
            },
            {
                "rel": "bookmark",
                "href": "http://servers.api.openstack.org/1234/servers/
52415800-8b69-11e0-9b19-734f000004d2"
            }
        ]
    }
}
```

Example 2.3. Image Detail Response: XML

```
<?xml version="1.0" encoding="UTF-8"?>
<image
    xmlns="http://docs.openstack.org/compute/api/v1.1"
    xmlns:dcf="http://docs.rackspacecloud.com/servers/api/ext/
diskConfig/v1.0"
    xmlns:atom="http://www.w3.org/2005/Atom"
    id="52415800-8b69-11e0-9b19-734f5736d2a2"
    name="My Server Backup"
    updated="2010-10-10T12:00:00Z"
    created="2010-08-10T12:00:00Z"
    tenantId="12345"
    userId="joe"
    status="SAVING" progress="80"
    minDisk="5" minRam="256"
    dcf:diskConfig="AUTO">
    <server id="52415800-8b69-11e0-9b19-734f335aa7b3">
        <atom:link
            rel="self"
            href="http://servers.api.openstack.org/v1.1/1234/servers/
52415800-8b69-11e0-9b19-734f335aa7b3"/>
        <atom:link
            rel="bookmark"
            href="http://servers.api.openstack.org/1234/servers/
52415800-8b69-11e0-9b19-734f335aa7b3"/>
    </server>
    <atom:link
        rel="self"
        href="http://servers.api.openstack.org/v1.1/1234/images/
52415800-8b69-11e0-9b19-734f5736d2a2"/>
    <atom:link
        rel="bookmark"
        href="http://servers.api.openstack.org/1234/images/
52415800-8b69-11e0-9b19-734f5736d2a2"/>
</image>
```

Example 2.4. Image Detail Response: JSON

```
{
    "image" : {
        "id" : "52415800-8b69-11e0-9b19-734f5736d2a2",
        "name" : "My Server Backup",
        "updated" : "2010-10-10T12:00:00Z",
        "created" : "2010-08-10T12:00:00Z",
        "tenantId" : "12345",
        "userId" : "joe",
        "status" : "SAVING",
        "progress" : 80,
        "RAX-DCF:diskConfig" : "AUTO",
        "minDisk" : 5,
        "minRam" : 256,
        "server" : {
            "id": "52415800-8b69-11e0-9b19-734f335aa7b3",
            "links": [
                {
                    "rel": "self",
                    "href": "http://servers.api.openstack.org/v1.1/1234/
servers/52415800-8b69-11e0-9b19-734f335aa7b3"
                },
                {
                    "rel": "bookmark",
                    "href": "http://servers.api.openstack.org/1234/
servers/52415800-8b69-11e0-9b19-734f335aa7b3"
                }
            ]
        },
        "links": [
            {
                "rel" : "self",
                "href" : "http://servers.api.openstack.org/v1.1/1234/
images/52415800-8b69-11e0-9b19-734f5736d2a2"
            },
            {
                "rel" : "bookmark",
                "href" : "http://servers.api.openstack.org/1234/images/
52415800-8b69-11e0-9b19-734f5736d2a2"
            }
        ]
    }
}
```

2.5.2. Changes to 4.1.2 Create Server

When a server is created from an image with the diskConfig value set to AUT0 the server will be built with a single partition which is expanded to the size of the flavor selected. When the attribute is set to MANUAL the server will be created with a 10 gigabyte partition and the remianing disk space allocated to the flavor will remain unpartitioned. A server inherits the diskConfig attribute from the image from which it is created. The value, however, may be overwritten when creating a server as illustrated in Example 2.5 and Example 2.6.

Example 2.5. Server Create Request With DiskConfig: XML

```
<?xml version="1.0" encoding="UTF-8"?>
<server xmlns="http://docs.openstack.org/compute/api/v1.1"
        xmlns:dcf="http://docs.rackspacecloud.com/servers/api/ext/diskConfig/
v1.0"
        imageRef="http://servers.api.openstack.org/1234/images/
52415800-8b69-11e0-9b19-734f6f006e54"
        flavorRef="52415800-8b69-11e0-9b19-734f1195ff37"
        name="new-server"
        dcf:diskConfig="MANUAL"/>
```

Example 2.6. Server Create Request With DiskConfig: JSON

```
{
    "server" : {
        "name" : "new-server",
        "imageRef" : "http://servers.api.openstack.org/1234/images/
52415800-8b69-11e0-9b19-734f6f006e54",
        "flavorRef" : "52415800-8b69-11e0-9b19-734f1195ff37",
        "RAX-DCF:diskConfig" : "MANUAL"
    }
}
```

In this example, the server is created with a MANUAL diskConfig regardless of what the image diskConfig attribute is set to. Note, that images also inherate the diskConfig from a server. So, if an image is created from the server Example 2.1, “Server Detail Response: XML” it will also have a diskConfig value of MANUAL.

2.5.3. Changes to 4.3.3 Rebuild Server

The diskConfig attribute may be set when rebuilding the server. A sample rebuild request is illustrated in Example 2.7 and Example 2.8. In these examples, the diskConfig attribute is set to MANUAL, this allows unused diskspace to be used for other partitions once the server is rebuilt.

Example 2.7. Action Rebuild With DiskConfig: XML

```
<?xml version="1.0" encoding="UTF-8"?>
<rebuild
    xmlns="http://docs.openstack.org/compute/api/v1.1"
    xmlns:dcf="http://docs.rackspacecloud.com/servers/api/ext/diskConfig/v1.0"
    name="newName"
    imageRef="https://servers.api.rackspacecloud.com/v1.1/32278/images/
52415800-8b69-11e0-9b19-734f6f006e54"
    adminPass="GFf1j9aP" dcf:diskConfig="MANUAL">
  <metadata>
    <meta key="My Server Name">Apache1</meta>
  </metadata>
  <personality>
    <file path="/etc/banner.txt">
        ICAgICAgDQoiQSBjbG91ZCBkb2VzIG5vdCBrbm93IHdoeSBp
        dCBtb3ZlcyBpbiBqdXN0IHN1Y2ggYSBkaXJlY3Rpb24gYW5k
        IGF0IHN1Y2ggYSBzcGVlZC4uLkl0IGZlZWxzIGFuIGltcHVs
        c2lvbi4uLnRoaXMgaXMgdGhlIHBsYWNlIHRvIGdvIG5vdy4g
        QnV0IHRoZSBza3kga25vd3MgdGhlIHJlYXNvbnMgYW5kIHRo
        ZSBwYXR0ZXJucyBiZWhpbmQgYWxsIGNsb3VkcywgYW5kIHlv
        dSB3aWxsIGtub3csIHRvbywgd2hlbiB5b3UgbGlmdCB5b3Vy
        c2VsZiBoaWdoIGVub3VnaCB0byBzZWUgYmV5b25kIGhvcml6
        b25zLiINCg0KLVJpY2hhcmQgQmFjaA==
    </file>
  </personality>
</rebuild>
```

Example 2.8. Action Rebuild With DiskConfig: JSON

```
{
    "rebuild" : {
        "imageRef" : "https://servers.api.rackspacecloud.com/v1.1/32278/
images/52415800-8b69-11e0-9b19-734f6f006e54",
        "name" : "newName",
        "adminPass" : "GFf1j9aP",
        "RAX-DCF:diskConfig" : "MANUAL",
        "metadata" : {
            "My Server Name" : "Apache1"
        },
        "personality" : [
            {
                "path" : "/etc/banner.txt",
                "contents" : "ICAgICAgDQoiQSBjbG91ZCBkb2VzIG5vdCBrbm93IHdoeSBp
 dCBtb3ZlcyBpbiBqdXN0IHN1Y2ggYSBkaXJlY3Rpb24gYW5k
 IGF0IHN1Y2ggYSBzcGVlZC4uLkl0IGZlZWxzIGFuIGltcHVs
 c2lvbi4uLnRoaXMgaXMgdGhlIHBsYWNlIHRvIGdvIG5vdy4g
 QnV0IHRoZSBza3kga25vd3MgdGhlIHJlYXNvbnMgYW5kIHRo
 ZSBwYXR0ZXJucyBiZWhpbmQgYWxsIGNsb3VkcywgYW5kIHlv
 dSB3aWxsIGtub3csIHRvbywgd2hlbiB5b3UgbGlmdCB5b3Vy
 c2VsZiBoaWdoIGVub3VnaCB0byBzZWUgYmV5b25kIGhvcml6
 b25zLiINCg0KLVJpY2hhcmQgQmFjaA==" }]}}
```

2.5.4. Changes to 4.3.4 Resize Server

The diskConfig attribute may be set when resizing a server. This gives the ability to change the value of the attribute when scaling a server up or down.

Example 2.9. Action Resize With DiskConfig: XML

```
<?xml version="1.0" encoding="UTF-8"?>
<resize
    xmlns="http://docs.openstack.org/compute/api/v1.1"
    xmlns:dcf="http://docs.rackspacecloud.com/servers/api/ext/diskConfig/v1.0"
    flavorRef="http://servers.api.openstack.org/1234/flavors/
52415800-8b69-11e0-9b19-734f1195ff37"
    dcf:diskConfig="AUTO"/>
```

Example 2.10. Action Resize With DiskConfig: JSON

```
{
    "resize" : {
        "flavorRef" : "http://servers.api.openstack.org/1234/flavors/
52415800-8b69-11e0-9b19-734f1195ff37",
        "RAX-DCF:diskConfig" : "AUTO"
    }
}
```