


Appliance Mode Template File

Following is a sample template file to create a WRTC instance in cluster mode. Save this content in a text file for example, `wrtc_appliance_template.txt`. If required customize this content or use your own template file to create an instance.

Since WRTC Version 01.03.00R002 release, Sonus provides a new WRTC-Appliance template for WRTC-Appliance mode of installation in AWS.

 Update section "AWSRegionArch2AMI" based on the AMI region and AMI-ID in which you are deploying.

```
{
  "AWSTemplateFormatVersion" : "2010-09-09",

  "Description" : "Automate creating two WRTC HA nodes in a new VPC that will share a virtual IP
address for appliance mode.After successfully launching this CloudFormation stack, you will need to
manually create an EIP and attach it to HA Node #1's VIP for external connectivity using the VIP.",

  "Parameters" : {

    "VpcCidr" : {
      "Description" : "CIDR address for the VPC to be created.",
      "Type" : "String",
      "Default" : "10.10.0.0/16"
    },
    "PublicSubnetRange" : {
      "Description" : "Address range for a public subnet to be created in the VPC.",
      "Type" : "String",
      "Default" : "10.10.0.0/24"
    },
    "HANodeInstanceType" : {
      "Description" : "Instance type for HA nodes.",
      "Type" : "String",
      "Default" : "t2.large"
    },
    "HANode1IP" : {
      "Description" : "IP address for the first HA node.",
      "Type" : "String",
      "Default" : "10.10.0.11"
    },
    "HANode2IP" : {
      "Description" : "IP address for the second HA node.",
      "Type" : "String",
      "Default" : "10.10.0.12"
    },
    "VIP" : {
      "Description" : "Private virtual IP address to be swapped between the HA nodes.",
      "Type" : "String",
      "Default" : "10.10.0.10"
    }
  },

  "Mappings" : {
    "AWSInstanceType2Arch" : {
      "t1.small" : { "Arch" : "64" },
      "t2.large" : { "Arch" : "64" },
      "m1.medium" : { "Arch" : "64" },
      "m4.large" : { "Arch" : "64" },
      "m4.2xlarge" : { "Arch" : "64" },
      "m2.xlarge" : { "Arch" : "64" },
      "m2.2xlarge" : { "Arch" : "64" },
      "m2.4xlarge" : { "Arch" : "64" },
      "c1.medium" : { "Arch" : "64" },
      "c1.xlarge" : { "Arch" : "64" },
      "cc1.4xlarge" : { "Arch" : "64Cluster" },
      "cc2.8xlarge" : { "Arch" : "64Cluster" },
      "cg1.4xlarge" : { "Arch" : "64GPU" }
    }
  },
}
```

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    "AWSRegionArch2AMI" : {
      "us-east-1"      : { "32" : "ami-7f831005", "64" : "ami-7f831005", "64Cluster" : "ami-7f831005",
"64GPU" : "ami-7f831005" },
      "sa-east-1"      : { "32" : "ami-acc185bb", "64" : "ami-90434787", "64Cluster" :
"NOT_YET_SUPPORTED", "64GPU" : "NOT_YET_SUPPORTED" }
    }
  },

  "Resources" : {

    "VIPRole": {
      "Type": "AWS::IAM::Role",
      "Properties": {
        "AssumeRolePolicyDocument": {
          "Statement": [ {
            "Effect": "Allow",
            "Principal": {
              "Service": [ "ec2.amazonaws.com" ]
            },
            "Action": [ "sts:AssumeRole" ]
          } ]
        },
        "Path": "/",
        "Policies": [ [ {
          "PolicyName": "VIP_Takeover",
          "PolicyDocument": {
            "Statement": [ {
              "Effect": "Allow",
              "Action": [
                "ec2:AssignPrivateIpAddresses",
                "ec2:DescribeInstances"
              ],
              "Resource": "*"
            } ]
          } ]
        } ]
      }
    },

    "VIPRoleProfile": {
      "Type": "AWS::IAM::InstanceProfile",
      "Properties": {
        "Path": "/",
        "Roles": [ [ {
          "Ref": "VIPRole"
        } ]
      }
    },

    "VPC" : {
      "Type" : "AWS::EC2::VPC",
      "Properties" : {
        "CidrBlock" : { "Ref" : "VpcCidr" },
        "Tags" : [
          { "Key" : "Application", "Value" : { "Ref" : "AWS::StackName" } },
          { "Key" : "Network", "Value" : "Public" }
        ]
      }
    },

    "PublicSubnet" : {
      "Type" : "AWS::EC2::Subnet",
      "Properties" : {
        "VpcId" : { "Ref" : "VPC" },
        "CidrBlock" : { "Ref" : "PublicSubnetRange" },
        "Tags" : [
          { "Key" : "Application", "Value" : { "Ref" : "AWS::StackName" } },
          { "Key" : "Network", "Value" : "Public" }
        ]
      }
    }
  },

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"InternetGateway" : {
  "Type" : "AWS::EC2::InternetGateway",
  "Properties" : {
    "Tags" : [
      { "Key" : "Application", "Value" : { "Ref" : "AWS::StackName" } },
      { "Key" : "Network", "Value" : "Public" }
    ]
  }
},

"GatewayToInternet" : {
  "Type" : "AWS::EC2::VPCGatewayAttachment",
  "Properties" : {
    "VpcId" : { "Ref" : "VPC" },
    "InternetGatewayId" : { "Ref" : "InternetGateway" }
  }
},

"PublicRouteTable" : {
  "Type" : "AWS::EC2::RouteTable",
  "Properties" : {
    "VpcId" : { "Ref" : "VPC" },
    "Tags" : [
      { "Key" : "Application", "Value" : { "Ref" : "AWS::StackName" } },
      { "Key" : "Network", "Value" : "Public" }
    ]
  }
},

"PublicRoute" : {
  "Type" : "AWS::EC2::Route",
  "Properties" : {
    "RouteTableId" : { "Ref" : "PublicRouteTable" },
    "DestinationCidrBlock" : "0.0.0.0/0",
    "GatewayId" : { "Ref" : "InternetGateway" }
  }
},

"PublicSubnetRouteTableAssociation" : {
  "Type" : "AWS::EC2::SubnetRouteTableAssociation",
  "Properties" : {
    "SubnetId" : { "Ref" : "PublicSubnet" },
    "RouteTableId" : { "Ref" : "PublicRouteTable" }
  }
},

"HANode1EIP" : {
  "Type" : "AWS::EC2::EIP",
  "Properties" : {
    "Domain" : "vpc",
    "InstanceId" : { "Ref" : "HANode1" }
  }
},

"HANode2EIP" : {
  "Type" : "AWS::EC2::EIP",
  "Properties" : {
    "Domain" : "vpc",
    "InstanceId" : { "Ref" : "HANode2" }
  }
},

"HANode1" : {
  "Type" : "AWS::EC2::Instance",
  "Metadata" : {
    "Comment1" : "Create HA Node #1"
  },
  "Properties" : {
    "InstanceType" : { "Ref" : "HANodeInstanceType" },
    "IamInstanceProfile" : { "Ref" : "VIPRoleProfile" },
    "SubnetId" : { "Ref" : "PublicSubnet" },

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"SourceDestCheck" : "true",
"PrivateIpAddress" : { "Ref" : "HANode1IP" },
"ImageId" : { "Fn::FindInMap" : [ "AWSRegionArch2AMI", { "Ref" : "AWS::Region" } ], {
"Fn::FindInMap" : [ "AWSInstanceType2Arch", { "Ref" : "HANodeInstanceType" }, "Arch" ] ] },
"SecurityGroupIds" : [{ "Ref" : "HANodeSecurityGroup" }],
"Tags" : [
  { "Key" : "Name", "Value" : "HA Node #1" }
],

"UserData" : { "Fn::Base64" : { "Fn::Join" : [ "", [
"#cloud-config\n",
"write_files:\n",
"- content: |\n",
"  {\n",
"    \"\", \"Role\", \"\" : \"\", \"Active\", \"\",\n",
"    \"\", \"Region\", \"\" : \"\", { \"Ref\" : \"AWS::Region\" }, \"\",\n",
"    \"\", \"EmsUsername\", \"\" : \"\", \"restuser\", \"\",\n",
"    \"\", \"EmsIP\", \"\" : \"\", \"0.0.0.0\", \"\",\n",
"    \"\", \"EmsPassword\", \"\" : \"\", \"sonus123\", \"\",\n",
"    \"\", \"EmsPrivateNodeParameters\", \"\" : {\n",
"      \"\", \"vnfc_id\", \"\" : \"\", \"appliance\", \"\",\n",
"      \"\", \"cluster_id\", \"\" : \"\", \"appliance\", \"\",\n",
"      \"\", \"data_ip_address\", \"\" : \"\", \"0.0.0.0\", \"\",\n",
"    },\n",
"    \"\", \"Interfacel\", \"\" : \"\", \"eth0\", \"\",\n",
"    \"\", \"InterfacelUsage1\", \"\" : \"\", \"SIP\", \"\",\n",
"    \"\", \"InterfacelUsage2\", \"\" : \"\", \"HTTP\", \"\",\n",
"    \"\", \"InterfacelUsage3\", \"\" : \"\", \"WebSocket\", \"\",\n",
"    \"\", \"VIP0\", \"\" : {\n",
"      \"\", \"IFNAME\", \"\" : \"\", \"IF0\", \"\",\n",
"      \"\", \"IP\", \"\" : \"\", { \"Ref\" : \"VIP\" }, \"\",\n",
"    },\n",
"    \"\", \"VirtualInterfaceIP\", \"\" : \"\", { \"Ref\" : \"VIP\" }, \"\",\n",
"    \"\", \"PeerWRTCAddress\", \"\" : \"\", { \"Ref\" : \"HANode2IP\" }, \"\",\n",
"    \"\", \"EmsRegistrationId\", \"\" : \"\", \"WRTC\", \"\",\n",
"    \"\", \"RestUserName\", \"\" : \"\", \"restuser\", \"\",\n",
"    \"\", \"RestPassword\", \"\" : \"\", \"sonus\", \"\",\n",
"  }\n",
"  path: /opt/sonus/userData.json\n",
]] }}
}
},

"HANode2" : {
  "Type" : "AWS::EC2::Instance",
  "Metadata" : {
    "Comment1" : "Create HA Node #2"
  },
  "Properties" : {
    "InstanceType" : { "Ref" : "HANodeInstanceType" },
    "IamInstanceProfile" : { "Ref" : "VIPRoleProfile" },
    "SubnetId" : { "Ref" : "PublicSubnet" },
    "PrivateIpAddress" : { "Ref" : "HANode2IP" },
    "SourceDestCheck" : "true",
    "ImageId" : { "Fn::FindInMap" : [ "AWSRegionArch2AMI", { "Ref" : "AWS::Region" } ], {
"Fn::FindInMap" : [ "AWSInstanceType2Arch", { "Ref" : "HANodeInstanceType" }, "Arch" ] ] },
    "SecurityGroupIds" : [{ "Ref" : "HANodeSecurityGroup" }],
    "Tags" : [
      { "Key" : "Name", "Value" : "HA Node #2" }
    ],

    "UserData" : { "Fn::Base64" : { "Fn::Join" : [ "", [
"#cloud-config\n",
"write_files:\n",
"- content: |\n",
"  {\n",
"    \"\", \"Role\", \"\" : \"\", \"Standby\", \"\",\n",
"    \"\", \"Region\", \"\" : \"\", { \"Ref\" : \"AWS::Region\" }, \"\",\n",
"    \"\", \"EmsUsername\", \"\" : \"\", \"restuser\", \"\",

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    "    \"", "EmsIP",                "\" : \"", "0.0.0.0",          "\"\", \"n\",
    "    \"", "EmsPassword",          "\" : \"", "sonus123",        "\"\", \"n\",
    "    \"", "EmsPrivateNodeParameters", "\" : {\n",
    "        \"", "vnfc_id",          "\" : \"", "appliance",      "\"\", \"n\",
    "        \"", "cluster_id",       "\" : \"", "appliance",      "\"\", \"n\",
    "        \"", "data_ip_address",  "\" : \"", "0.0.0.0",        "\"\", \"n\",
    "    },\n",
    "    \"", "Interfacel",            "\" : \"", "eth0",           "\"\", \"n\",
    "    \"", "InterfacelUsagel",      "\" : \"", "SIP",            "\"\", \"n\",
    "    \"", "InterfacelUsage2",      "\" : \"", "HTTP",           "\"\", \"n\",
    "    \"", "InterfacelUsage3",      "\" : \"", "WebSocket",      "\"\", \"n\",
    "    \"", "VIP0", "\" : {\n",
    "        \"", "IFNAME",           "\" : \"", "IF0",            "\"\", \"n\",
    "        \"", "IP",               "\" : \"", { "Ref" : "VIP" }, "\"\", \"n\",
    "    },\n",
    "    \"", "VirtualInterfaceIP",     "\" : \"", { "Ref" : "VIP" }, "\"\", \"n\",
    "    \"", "PeerWRTCAddress",        "\" : \"", { "Ref" : "HANode1IP" },
    "                                           "\"\", \"n\",
    "    \"", "EmsRegistrationId",      "\" : \"", "WRTC",            "\"\", \"n\",
    "    \"", "RestUserName",           "\" : \"", "restuser",       "\"\", \"n\",
    "    \"", "RestPassword",           "\" : \"", "sonus",           "\"\", \"n\",
    "    }\n",
    "    path: /opt/sonus/userData.json\n"
}
}}
}
},

"HANodeSecurityGroup" : {
    "Type" : "AWS::EC2::SecurityGroup",
    "Properties" : {
        "GroupDescription" : "Rules for allowing access to HA Nodes",
        "VpcId" : { "Ref" : "VPC" },
        "SecurityGroupIngress" : [
            { "IpProtocol" : "tcp", "FromPort" : "80", "ToPort" : "9090", "CidrIp" : "0.0.0.0/0" } ,
            { "IpProtocol" : "tcp", "FromPort" : "22", "ToPort" : "2024", "CidrIp" : "0.0.0.0/0" } ],
        "SecurityGroupEgress" : [
            { "IpProtocol" : "-1", "FromPort" : "443", "ToPort" : "9080", "CidrIp" : "0.0.0.0/0" } ]
    }
},

"HANodesAllowICMP" : {
    "Type" : "AWS::EC2::SecurityGroupIngress",
    "Properties" : {
        "GroupId" : { "Ref" : "HANodeSecurityGroup" },
        "IpProtocol" : "icmp",
        "FromPort" : "-1",
        "ToPort" : "-1",
        "SourceSecurityGroupId" : { "Ref" : "HANodeSecurityGroup" }
    }
}
},

"Outputs" : {
    "HANode1URL" : {
        "Description" : "URL for accessing the WRTC web application.",
        "Value" : { "Fn::Join" : [ " ", [ "https://", { "Ref" : "HANode1EIP" }, ":8081" ] ] }
    },
    "HANode2URL" : {
        "Description" : "URL for accessing the WRTC web application.",
        "Value" : { "Fn::Join" : [ " ", [ "https://", { "Ref" : "HANode2EIP" }, ":8081" ] ] }
    }
}
}

```

}