



XML 設定ファイル

この付録には、参考資料として次の XML ファイルの内容を紹介します。

- 「空の設定ファイル」(P.A-1)
- 「インポート/エクスポート スキーマ」(P.A-1)

空の設定ファイル

次に、空の設定ファイル (`acsxp_factory_defaults.xml`) の内容を示します。

```
'acsxp_factory_defaults.xml' ?  
It's only able 20 lines:
```

```
<?xml version="1.0" encoding="UTF-8"?>  
<acs:ACSExpress xmlns:acs="http://www.cisco.com/ACSExpress/5.0.1"  
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
  xsi:schemaLocation="http://www.cisco.com/ACSExpress/5.0.1/ImportExport.xsd ">  
  <Configuration>  
    <DeviceGroups></DeviceGroups>  
    <Devices></Devices>  
    <UserGroups></UserGroups>  
    <Users></Users>  
    <ExternalDBActiveDirectory></ExternalDBActiveDirectory>  
    <ExternalDBLDAP></ExternalDBLDAP>  
    <ExternalDBOTP></ExternalDBOTP>  
    <Policies>  
      <RadiusAttributeSets></RadiusAttributeSets>  
      <TimeOfDays></TimeOfDays>  
      <RadiusAccess></RadiusAccess>  
      <TacacsPlusAccess></TacacsPlusAccess>  
    </Policies>  
  </Configuration>  
</acs:ACSExpress>
```

インポート/エクスポート スキーマ

次に示すのは、さまざまな ACS Express オブジェクトが含まれるインポート/エクスポート XML ファイルの XML スキーマです。

```

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

<!--
Document   : ImportExport.xsd
Created on  : November 2, 2006, 3:29 PM
Author      : ajeyak
Description: This XML Schema describes the schema for the import/export xml file
containing AR Objects
  TODO      : namespacing    http://acsexpress.cisco.com/ACSExpressSchema/5.0.1
-->
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:acs="http://www.cisco.com/ACSExpress/5.0.1"
  targetNamespace="http://www.cisco.com/ACSExpress/5.0.1"
  xmlns="http://www.cisco.com/ACSExpress/5.0.1"
  elementFormDefault="unqualified" attributeFormDefault="unqualified">

  <!-- Restrictions Block. Commonly used restrictions will be defined here -->
  <xsd:simpleType name="StringType">
    <xsd:restriction base="xsd:string">
      <xsd:minLength value="1"></xsd:minLength>
      <xsd:maxLength value="253"></xsd:maxLength>
    </xsd:restriction>
  </xsd:simpleType>

  <!-- The simpleTypes below are in sync with the field masks used in the UI -->
  <xsd:simpleType name="ExpressRawStringType">
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="^[&lt;&gt;/]*">
      </xsd:pattern>
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="ExpressPasswordType">
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="^[&lt;&gt;]*">
      </xsd:pattern>
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="ExpressDescriptionType">
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[\w&#x20;.\_\-,'#]*"></xsd:pattern>
      <xsd:minLength value="0"></xsd:minLength>
      <xsd:maxLength value="64"></xsd:maxLength>
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="ExpressSecretType">
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="^[&lt;&gt;/]*"></xsd:pattern>
      <xsd:minLength value="1"></xsd:minLength>
      <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="ExpressStringType">
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[\w&#x20;.\_\-]*">
      </xsd:pattern>
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="ExpressNameType">
    <xsd:restriction base="xsd:string">

```

```

        <xsd:pattern value="[\w&#x20;. _-]*"></xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="ExpressWebCertKeyType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="^[&quot;\\]*">
            </xsd:pattern>
        </xsd:restriction>
    </xsd:simpleType>

<xsd:simpleType name="ExpressExternalDBType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="^[&lt;&gt;/&amp;]*">
            </xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="255"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ExpressExternalDBContainerType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="^[&lt;&gt;/&amp;]*">
            </xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="1024"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ExpressExternalDBADDomain">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[0-9A-Za-z\._-]*">
            </xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="255"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ExpressExternalDBADUsername">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="^[&lt;&gt;/&amp;]*">
            </xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="125"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ExpressLDAPFilterType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[0-9A-Za-z]*"></xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ExpressLDAPHostNameOrIP">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[0-9A-Za-z\._-]*">
            </xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="1024"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ExpressLDAPGroupObjectClassFilterType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[0-9A-Za-z]*"></xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
    </xsd:restriction>
</xsd:simpleType>

```

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        <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="ExpressServerCertKeyType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="^[&quot;\\]*">
            </xsd:pattern>
        </xsd:restriction>
    </xsd:simpleType>

<xsd:simpleType name="ExpressGroupFilterType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="^[&lt;&gt;]*"></xsd:pattern>
        <xsd:minLength value="0"></xsd:minLength>
        <xsd:maxLength value="1024"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="ExpressAuthorityIdentifierType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[\w&#x20;._\-*]*">
            </xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="ExpressNapNameType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[\w_\-]*"></xsd:pattern>
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="IPAddressType">
    <xsd:restriction base="xsd:string">
        <xsd:pattern
value="((25[0-5]|2[0-4][0-9]|1[0-9][0-9]|[1-9]?[0-9])\.){3}(25[0-5]|2[0-4][0-9]|1[0-9][0-9]
|[1-9]?[0-9])">
            </xsd:pattern>
        </xsd:restriction>
    </xsd:simpleType>

    <!-- Should be a string of length 24 made of ones and zeroes. Each bit represents one
hours to make a total of
    24 hours. A one (1) signifies that the hour is enabled, whereas a zero indicates
disabled. -->
    <xsd:simpleType name="HoursType">
        <xsd:restriction base="xsd:string">
            <xsd:length value="24"></xsd:length>
            <xsd:pattern value="[0,1]{24}"></xsd:pattern>
        </xsd:restriction>
    </xsd:simpleType>

    <!-- Restrictions Block over -->

    <!-- Objects Block. Objects will be described here -->

    <xsd:complexType name="DeviceType">
        <xsd:sequence>
            <xsd:element name="Name" type="ExpressNameType"></xsd:element>

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<xsd:element name="IPAddress" type="IPAddressType"></xsd:element>
<xsd:element name="DeviceGroupName" type="ExpressNameType">
</xsd:element>
<xsd:element name="Secret">
  <xsd:complexType>
    <xsd:sequence>
      <!-- At least one of the following 2 elements must be defined -->
        <xsd:element name="Radius" type="ExpressSecretType"
minOccurs="0"></xsd:element>
        <xsd:element name="Tacacs" type="ExpressSecretType"
minOccurs="0"></xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>

<xsd:complexType name="DeviceGroupType">
  <xsd:sequence>
    <xsd:element name="Name" type="ExpressNameType"></xsd:element>
    <xsd:element name="Description" type="ExpressDescriptionType"
      minOccurs="0" maxOccurs="1">
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

<!-- status is optional. default is enabled @@ -->
<xsd:complexType name="UserType">
  <xsd:sequence>
    <xsd:element name="Username">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:pattern
value="[\w_\-&#x20;~!@#%$^&amp;* () +={\}\[\]|:;&lt;&gt;.&?]*"></xsd:pattern>
          <xsd:minLength value="1"></xsd:minLength>
          <xsd:maxLength value="32"></xsd:maxLength>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="Description" type="ExpressDescriptionType"
      minOccurs="0">
    </xsd:element>
    <xsd:element name="UserGroupName" type="ExpressNameType">
    </xsd:element>
    <xsd:element name="Enabled" type="xsd:boolean"></xsd:element>
    <xsd:element name="FullName" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="ExpressStringType">
          <xsd:minLength value="1" />
          <xsd:maxLength value="32" />
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="Manager" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="ExpressStringType">
          <xsd:minLength value="1" />
          <xsd:maxLength value="32" />
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="PhoneNumber" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="ExpressRawStringType">

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        <xsd:maxLength value="15" />
    </xsd:restriction>
</xsd:simpleType>
</xsd:element>
<xsd:element name="Email" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:minLength value="1"></xsd:minLength>
            <xsd:maxLength value="75"></xsd:maxLength>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="Password">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="Value" type="ExpressPasswordType"></xsd:element>
        </xsd:sequence>
        <xsd:attribute name="encrypted" type="xsd:boolean"
"use="required"></xsd:attribute>
    </xsd:complexType>
</xsd:element>
    <xsd:element name="PasswordNeverExpires" type="xsd:boolean"></xsd:element>
<!-- If value for this element is "false", then password expiry will be set to the value
provided to the element below -->
    <xsd:element name="ExpiryDays" minOccurs="0" maxOccurs="1">
        <xsd:simpleType>
            <xsd:restriction base="xsd:integer">
                <xsd:minInclusive value="1"></xsd:minInclusive>
                <xsd:maxInclusive value="3650"></xsd:maxInclusive>
            </xsd:restriction>
        </xsd:simpleType>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>

<!-- status is optional. default is enabled @@ -->
<xsd:complexType name="UserGroupType">
    <xsd:sequence>
        <xsd:element name="Name" type="ExpressNameType"></xsd:element>
        <xsd:element name="Description" type="ExpressDescriptionType" minOccurs="0"
maxOccurs="1"></xsd:element>
        <xsd:element name="Enabled" type="xsd:boolean" default="true">
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="ADType">
    <xsd:sequence>
        <xsd:element name="Domain" type="ExpressExternalDBADDomain" ></xsd:element>
        <xsd:element name="Username" type="ExpressExternalDBADUsername"></xsd:element>
        <xsd:element name="Password">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="Value" type="ExpressPasswordType"></xsd:element>
                </xsd:sequence>
                <xsd:attribute name="encrypted" type="xsd:boolean"
                    use="required">
                </xsd:attribute>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="ContainerToJoin" type="ExpressExternalDBContainerType"
            minOccurs="0">
        </xsd:element>
    </xsd:sequence>

```

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</xsd:complexType>

<!-- notes : im not sure whats required and whats not -->
<xsd:complexType name="LDAPType">
  <xsd:sequence>
    <xsd:element name="PrimaryHostName"
type="ExpressLDAPHostNameOrIP"></xsd:element>
    <!-- different reg exp required here -->
    <xsd:element name="SecondaryHostName" type="ExpressLDAPHostNameOrIP"
      minOccurs="0">
    </xsd:element>
    <xsd:element name="UseSSL" type="xsd:boolean" default="false"></xsd:element>
    <xsd:element name="ServerPort" default="389">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minInclusive value="1"></xsd:minInclusive>
          <xsd:maxInclusive value="65535"></xsd:maxInclusive>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="Username" type="ExpressExternalDBType"></xsd:element>
    <xsd:element name="Password">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="Value" type="ExpressPasswordType"></xsd:element>
        </xsd:sequence>
        <xsd:attribute name="encrypted" type="xsd:boolean"
          use="required">
        </xsd:attribute>
      </xsd:complexType>
    </xsd:element>
    <xsd:element name="ServerTimeout" default="5"><!-- ServerTimeout is specified
in seconds -->
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minInclusive value="1"></xsd:minInclusive>
          <xsd:maxInclusive value="99999"></xsd:maxInclusive>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="FailbackRetryInterval" default="300">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minInclusive value="1"></xsd:minInclusive>
          <xsd:maxInclusive value="99999"></xsd:maxInclusive>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element><!-- FailbackRetryInterval is specified in seconds -->

    <xsd:element name="UserDirSubtree">
      <xsd:simpleType>
        <xsd:restriction base="ExpressRawStringType">
          <xsd:minLength value="1"></xsd:minLength>
          <xsd:maxLength value="150"></xsd:maxLength>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="UserObjectType" type="ExpressLDAPFilterType" default="uid">
    </xsd:element>
    <xsd:element name="UserObjectClass" type="ExpressLDAPFilterType"
default="Person">
    </xsd:element>
    <xsd:element name="UserPasswordAttribute" type="ExpressLDAPFilterType"
default="userpassword">

```

```

</xsd:element>
<xsd:element name="GroupMembershipAttr" default="UniqueMember">
  <xsd:simpleType>
    <xsd:restriction base="ExpressRawStringType">
      <xsd:minLength value="1"></xsd:minLength>
      <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="UserDN" default="entrydn">
  <xsd:simpleType>
    <xsd:restriction base="ExpressRawStringType">
      <xsd:minLength value="1"></xsd:minLength>
      <xsd:maxLength value="32"></xsd:maxLength>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>

<xsd:element name="StripDomainName" type="xsd:boolean"></xsd:element>
<xsd:element name="DomainDelimiter" default="@">
  <xsd:simpleType>
    <xsd:restriction base="ExpressRawStringType">
      <xsd:minLength value="1"></xsd:minLength>
      <xsd:maxLength value="5"></xsd:maxLength>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="DomainLocation" default="Suffix">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="Prefix|Suffix"></xsd:pattern>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>

<xsd:element name="GroupDirSubtree">
  <xsd:simpleType>
    <xsd:restriction base="ExpressRawStringType">
      <xsd:minLength value="1"></xsd:minLength>
      <xsd:maxLength value="150"></xsd:maxLength>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="GroupObjectType" type="ExpressLDAPFilterType" default="cn">
</xsd:element>
<xsd:element name="GroupObjectClass"
type="ExpressLDAPGroupObjectClassFilterType" default="GroupOfUniqueNames">
  </xsd:element>
</xsd:sequence>
</xsd:complexType>

<xsd:complexType name="OTPType">
  <xsd:sequence>
    <xsd:element name="PrimaryHostIP" type="IPAddressType"></xsd:element>
    <xsd:element name="SecondaryHostIP" type="IPAddressType"
minOccurs="0"></xsd:element>
    <xsd:element name="ServerPort" default="1812">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minInclusive value="0"></xsd:minInclusive>
          <xsd:maxInclusive value="65535"></xsd:maxInclusive>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

```



```

<xsd:element name="SharedSecret" type="ExpressSecretType"></xsd:element>
<xsd:element name="MaxRetries" default="3">
  <xsd:simpleType>
    <xsd:restriction base="xsd:integer">
      <xsd:minInclusive value="1"></xsd:minInclusive>
      <xsd:maxInclusive value="99999"></xsd:maxInclusive>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="ServerTimeout" default="5">
  <xsd:simpleType>
    <xsd:restriction base="xsd:integer">
      <xsd:minInclusive value="1"></xsd:minInclusive>
      <xsd:maxInclusive value="99999"></xsd:maxInclusive>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="FailbackRetryInterval" default="120">
  <xsd:simpleType>
    <xsd:restriction base="xsd:integer">
      <xsd:minInclusive value="1"></xsd:minInclusive>
      <xsd:maxInclusive value="99999"></xsd:maxInclusive>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>

<xsd:complexType name="RadiusAttributeSetType">
  <xsd:sequence>
    <xsd:element name="Name" type="ExpressNameType"></xsd:element>
    <xsd:element name="Description" type="ExpressDescriptionType"
      minOccurs="0">
    </xsd:element>
    <xsd:element name="Attribute" minOccurs="0"
      maxOccurs="10">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="Name" type="ExpressNameType"></xsd:element>
          <xsd:element name="Value"
            type="ExpressRawStringType"></xsd:element>
        </xsd:sequence>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="TimeOfDayType">
  <xsd:sequence>
    <xsd:element name="Name" type="ExpressNameType"></xsd:element>
    <xsd:element name="Description" type="ExpressDescriptionType"
      minOccurs="0">
    </xsd:element>
    <xsd:element name="DayAndHours">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="monday" type="acs:HoursType" />
          <xsd:element name="tuesday"
            type="acs:HoursType" />
          <xsd:element name="wednesday"
            type="acs:HoursType" />
          <xsd:element name="thursday"
            type="acs:HoursType" />
        </xsd:sequence>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

```

```

        <xsd:element name="friday" type="acs:HoursType" />
        <xsd:element name="saturday"
            type="acs:HoursType" />
        <xsd:element name="sunday" type="acs:HoursType" />
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>

<xsd:complexType name="NetworkAccessType">
    <xsd:sequence>
        <xsd:element name="Name" type="ExpressNapNameType"></xsd:element>
        <!-- <xsd:element name="Description" type="ExpressDescriptionType"
            minOccurs="0">
        </xsd:element> -->
        <xsd:element name="Enabled" type="xsd:boolean"></xsd:element>
        <xsd:element name="DefaultResponse"
            type="ExpressNameType">
        </xsd:element>

        <xsd:element name="SelectionRules">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="DeviceGroups" minOccurs="1" maxOccurs="1">
                        <xsd:complexType>
                            <xsd:sequence>
                                <xsd:element name="DeviceGroupName" minOccurs="1"
maxOccurs="unbounded"
                                    type="ExpressNameType">
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:complexType>
                    </xsd:element>
                    <xsd:element name="AttributeSet" minOccurs="0" maxOccurs="1" >
                        <xsd:complexType>
                            <xsd:sequence>
                                <xsd:element name="Attribute" minOccurs="1"
maxOccurs="unbounded">
                                    <xsd:complexType>
                                        <xsd:sequence>
                                            <xsd:element name="Name"
type="ExpressNameType">
                                        </xsd:element>
                                            <xsd:element name="Value"
type="ExpressRawStringType">
                                        </xsd:element>
                                        </xsd:sequence>
                                    </xsd:complexType>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:complexType>
                    </xsd:element>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <!-- leap, eap-tls, eap-fast, peap(eap-gtc, eap-mschapv2, eap-tls) -->
        <xsd:element name="ProtocolSettings" minOccurs="0" maxOccurs="1">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="LEAP" type="xsd:boolean" minOccurs="0"></xsd:element>
                    <xsd:element name="EAP-TLS" type="xsd:boolean"
minOccurs="0"></xsd:element>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

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        <xsd:element name="EAP-FAST" type="xsd:boolean"
minOccurs="0">/xsd:element>
        <xsd:element name="PEAP" minOccurs="0">
        <xsd:complexType>
        <xsd:sequence>
        <xsd:element name="EAP-GTC" type="xsd:boolean">/xsd:element>
        <xsd:element name="EAP-MSCHAPv2" type="xsd:boolean">/xsd:element>
        <xsd:element name="EAP-TLS" type="xsd:boolean">/xsd:element>
        </xsd:sequence>
        </xsd:complexType>
        </xsd:element>
        </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <!-- Add machine authentication related elements here -->
    <xsd:element name="AuthDatabase">
        <xsd:simpleType>
        <xsd:restriction base="xsd:string">
        <xsd:enumeration value="ActiveDirectory">/xsd:enumeration>
        <xsd:enumeration value="InternalUserDatabase">/xsd:enumeration>
        <xsd:enumeration
            value="OneTimePasswordServer">
        </xsd:enumeration>
        <xsd:enumeration value="LDAPDatabase">/xsd:enumeration>
        </xsd:restriction>
        </xsd:simpleType>
    </xsd:element>
    <xsd:element name="AccessRule" minOccurs="0"
maxOccurs="unbounded">
    <!-- Default rule will be applied if none of the specified rules match -->
    <xsd:complexType>
        <xsd:sequence>
        <xsd:element name="Enabled"
            type="xsd:boolean">
        </xsd:element>
        <xsd:element name="ExternalGroups" minOccurs="0"
maxOccurs="1">
        <xsd:complexType>
        <xsd:sequence minOccurs="1"
maxOccurs="unbounded">
        <xsd:element name="Group"
            type="ExpressGroupFilterType">
        </xsd:element>
        </xsd:sequence>
        </xsd:complexType>
        </xsd:element>

        <xsd:element name="TimeOfDay" minOccurs="0"
            type="ExpressNameType">
        </xsd:element>
        <xsd:element name="MachineAccessRestriction">
        <xsd:simpleType>
        <xsd:restriction base="xsd:string">
        <xsd:pattern
            value="Enforced|Exempt">
        </xsd:pattern>
        </xsd:restriction>
        </xsd:simpleType>
        </xsd:element>
        <xsd:element name="RadiusAttributeSet"
            type="ExpressNameType">
        </xsd:element>
        </xsd:sequence>
    </xsd:complexType>

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    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="DeviceAdminType">
  <xsd:sequence>
    <xsd:element name="AuthDatabase">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="Internal User Database"></xsd:enumeration>
          <xsd:enumeration value="Active Directory"></xsd:enumeration>
          <xsd:enumeration value="LDAP Database"></xsd:enumeration>
          <xsd:enumeration value="One Time Password
Server"></xsd:enumeration>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="DefaultResponse">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:pattern
            value="deny|1|2|3|4|5|6|7|8|9|10|11|12|13|14|15">
          </xsd:pattern>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <!-- IdleTimeout -->
    <xsd:element name="IdleTimeout" minOccurs="0" maxOccurs="1">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minInclusive value="0"></xsd:minInclusive>
          <xsd:maxInclusive value="9999"></xsd:maxInclusive>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="SessionTimeout" minOccurs="0" maxOccurs="1">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minInclusive value="0"></xsd:minInclusive>
          <xsd:maxInclusive value="9999"></xsd:maxInclusive>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="AccessRule" minOccurs="0" maxOccurs="unbounded">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="Enabled"
            type="xsd:boolean">
          </xsd:element>
          <xsd:element name="ExternalGroups" minOccurs="0" maxOccurs="1">
            <xsd:complexType>
              <xsd:sequence minOccurs="1"
                maxOccurs="unbounded">
                <xsd:element name="Group"
type="ExpressGroupFilterType"></xsd:element>
              </xsd:sequence>
            </xsd:complexType>
          </xsd:element>
          <xsd:element name="DeviceGroupName" type="ExpressNameType"
minOccurs="1" maxOccurs="1"></xsd:element>
          <xsd:element name="TimeOfDay" type="ExpressNameType"
minOccurs="0"></xsd:element>
          <xsd:element name="EnablePrivilege">
            <xsd:simpleType>

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        <xsd:restriction base="xsd:string">
            <xsd:pattern
                value="deny|1|2|3|4|5|6|7|8|9|10|11|12|13|14|15">
            </xsd:pattern>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>

<xsd:complexType name="PEAPType">
    <xsd:sequence>
        <!-- General session timeout value is specified in minutes -->
        <xsd:element name="SessionCacheTimeout" default="120">
            <xsd:simpleType>
                <xsd:restriction base="xsd:integer">
                    <xsd:minInclusive value="5"></xsd:minInclusive>
                    <xsd:maxInclusive value="99999"></xsd:maxInclusive>
                </xsd:restriction>
            </xsd:simpleType>
        </xsd:element>
        <xsd:element name="EnableSessionCache" type="xsd:boolean"
            default="true">
        </xsd:element>
        <xsd:element name="EnableFastReconnect" type="xsd:boolean"
            default="true">
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="EAPFASTType">
    <xsd:sequence>
        <xsd:element name="AuthorityIdentifier"
            type="ExpressAuthorityIdentifierType"></xsd:element>
        <xsd:element name="TunnelPACTTLValue" default="1">
            <xsd:simpleType>
                <xsd:restriction base="xsd:integer">
                    <xsd:minInclusive value="1"></xsd:minInclusive>
                    <xsd:maxInclusive value="99999"></xsd:maxInclusive>
                </xsd:restriction>
            </xsd:simpleType>
        </xsd:element>
        <xsd:element name="TunnelPACTTLUnits" default="Weeks">
            <xsd:simpleType>
                <xsd:restriction base="xsd:string">
                    <xsd:pattern value="Minutes|Hours|Days|Weeks"></xsd:pattern>
                </xsd:restriction>
            </xsd:simpleType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="EAPTLSType">
    <xsd:sequence>
        <!-- General session timeout value is specified in minutes -->
        <xsd:element name="SessionCacheTimeout" default="120">
            <xsd:simpleType>
                <xsd:restriction base="xsd:integer">
                    <xsd:minInclusive value="5"></xsd:minInclusive>
                    <xsd:maxInclusive value="99999"></xsd:maxInclusive>
                </xsd:restriction>
            </xsd:simpleType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

```

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        </xsd:simpleType>
    </xsd:element>
    <xsd:element name="EnableSessionCache" type="xsd:boolean"
        default="true">
    </xsd:element>
    <xsd:element name="SAN" type="xsd:boolean" default="true"></xsd:element>
    <xsd:element name="CN" type="xsd:boolean" default="true"></xsd:element>
    <xsd:element name="Binary" type="xsd:boolean"
        default="true">
    </xsd:element>
</xsd:sequence>
</xsd:complexType>

<xsd:complexType name="UserPasswordPolicyType">
    <xsd:sequence>
        <xsd:element name="Lowercase" type="xsd:boolean"></xsd:element>
        <xsd:element name="Uppercase" type="xsd:boolean"></xsd:element>
        <xsd:element name="Numbers" type="xsd:boolean"></xsd:element>
        <xsd:element name="SpecialCharacters" type="xsd:boolean"></xsd:element>
        <xsd:element name="DisallowCharacterRepetition"
type="xsd:boolean"></xsd:element>
        <xsd:element name="MinLength">
            <xsd:simpleType>
                <xsd:restriction base="xsd:integer">
                    <xsd:minInclusive value="1"></xsd:minInclusive>
                    <xsd:maxInclusive value="15"></xsd:maxInclusive>
                </xsd:restriction>
            </xsd:simpleType>
        </xsd:element>
        <xsd:element name="DisallowUsername" type="xsd:boolean"></xsd:element>
        <xsd:element name="DisallowPasswordResuse"
            type="xsd:boolean">
        </xsd:element>
        <xsd:element name="NeverLockout" type="xsd:boolean"></xsd:element>
        <xsd:element name="NoOfInvalidLogins">
            <xsd:simpleType>
                <xsd:restriction base="xsd:integer">
                    <xsd:minInclusive value="1"></xsd:minInclusive>
                    <xsd:maxInclusive value="999"></xsd:maxInclusive>
                </xsd:restriction>
            </xsd:simpleType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

<!-- Objects block over -->

<xsd:complexType name="ConfigType">
    <xsd:sequence>
        <xsd:element name="DeviceGroups" minOccurs="0">
            <xsd:complexType>
                <xsd:sequence minOccurs="0" maxOccurs="unbounded">
                    <xsd:element name="DeviceGroup"
                        type="DeviceGroupType">
                    </xsd:element>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="Devices" minOccurs="0">
            <xsd:complexType>
                <xsd:sequence minOccurs="0" maxOccurs="unbounded">
                    <xsd:element name="Device" type="DeviceType"></xsd:element>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

```

```

</xsd:element>
<xsd:element name="UserGroups" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="UserGroup"
        type="UserGroupType">
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="UserPasswordPolicy"
  minOccurs="0" maxOccurs="1" type="UserPasswordPolicyType">
</xsd:element>
<xsd:element name="Users" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="User" type="UserType"></xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="ExternalDBActiveDirectory" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence minOccurs="0" maxOccurs="1">
      <xsd:element name="AD" type="ADType"></xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="ExternalDBLDAP" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence minOccurs="0" maxOccurs="1">
      <xsd:element name="LDAP" type="LDAPType"></xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="ExternalDBOTP" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence minOccurs="0" maxOccurs="1">
      <xsd:element name="OTP" type="OTPType"></xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

<xsd:element name="Policies" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="RadiusAttributeSets"
        minOccurs="0">
        <xsd:complexType>
          <xsd:sequence minOccurs="0"
            maxOccurs="unbounded">
            <xsd:element
              name="RadiusAttributeSet"
              type="RadiusAttributeSetType">
            </xsd:element>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>

      <xsd:element name="TimeOfDay" minOccurs="0">
        <xsd:complexType>
          <xsd:sequence minOccurs="0"
            maxOccurs="unbounded">
            <xsd:element name="TimeOfDay"
              type="TimeOfDayType">
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

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        <xsd:maxLength value="50"></xsd:maxLength>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
  <xsd:element name="EmailHelp" minOccurs="0">
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:minLength value="1"></xsd:minLength>
        <xsd:maxLength value="64"></xsd:maxLength>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<!-- versioning...look at targetnamespace -->
<xsd:element name="ACSExpress">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Configuration" type="ConfigType"
        minOccurs="0">
      </xsd:element>
      <xsd:element name="Administration"
        type="AdministrationType" minOccurs="0">
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>

  <!-- key constraint to check for unique Device Group -->
  <xsd:key name="UniqueDeviceGroup">
    <xsd:selector
      xpath="./Configuration/DeviceGroups/DeviceGroup">
    </xsd:selector>
    <xsd:field xpath="Name"></xsd:field>
  </xsd:key>
  <!-- key constraint to check for unique Device -->
  <xsd:key name="UniqueDevice">
    <xsd:selector xpath="./Configuration/Devices/Device"></xsd:selector>
    <xsd:field xpath="Name"></xsd:field>
  </xsd:key>
  <!-- key constraint to check for unique Device IP Address -->
  <xsd:key name="UniqueIPAddress">
    <xsd:selector xpath="./Configuration/Devices/Device"></xsd:selector>
    <xsd:field xpath="IPAddress"></xsd:field>
  </xsd:key>
  <!-- key constraint to check for unique username for User -->
  <xsd:key name="UniqueUser">
    <xsd:selector xpath="./Configuration/Users/User"></xsd:selector>
    <xsd:field xpath="Username"></xsd:field>
  </xsd:key>
  <!-- key constraint to check for unique name for User Group -->
  <xsd:key name="UniqueUserGroup">
    <xsd:selector
      xpath="./Configuration/UserGroups/UserGroup">
    </xsd:selector>
    <xsd:field xpath="Name"></xsd:field>
  </xsd:key>
  <!-- key constraint to check for unique Radius Attribute Set -->
  <xsd:key name="UniqueRadiusAttrSet">
    <xsd:selector
      xpath="./Configuration/Policies/RadiusAttributeSet">
    </xsd:selector>

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        <xsd:field xpath="Name"></xsd:field>
    </xsd:key>
    <!-- key constraint to check for unique Time Of Day -->
    <xsd:key name="UniqueTimeOfDay">
        <xsd:selector xpath="./Configuration/Policies/TimeOfDay"></xsd:selector>
        <xsd:field xpath="Name"></xsd:field>
    </xsd:key>
    <!-- key constraint to check for unique Time Of Day -->
    <xsd:key name="UniqueNetworkAccessService">
        <xsd:selector
            xpath="./Configuration/Policies/NetworkAccess/NetworkAccessItem">
        </xsd:selector>
        <xsd:field xpath="Name"></xsd:field>
    </xsd:key>
    -->
</xsd:element>

</xsd:schema>
```