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

<!--
**  RELEASE STATEMENT(s):
**
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**  display, or disclose this application programmable interface in whole or in
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**  authorize others to do so.
**
**  Distribution Statement A - Approved for public release; distribution is
**  unlimited (27 August 2015).
-->

<!--
**  JTNC Standard:
**  Software Communications Architecture
**  Appendix D-1: Platform Specific Model (PSM) Document Type Definition (DTD)
**  Version: 4.1, 20 August 2015
-->

<!-- softwareassembly.4.1.dtd -->

<!ELEMENT softwareassembly
  ( description?
    , componentfiles
    , partitioning
    , deploymentdependencies?
    , assemblycontroller
    , connections?
    , externalports?
    , deploymentprefs?
  )>
<!ATTLIST softwareassembly
  name      ID      #REQUIRED
  sca_version CDATA "V4.1"
  version   CDATA   #IMPLIED>
<!ELEMENT description (#PCDATA)>
<!ELEMENT componentfiles
  ( componentfile+ )>
<!ELEMENT componentfile
  ( localfile )>
<!ATTLIST componentfile
  id      ID      #REQUIRED
  type    CDATA   #IMPLIED>
<!ELEMENT localfile EMPTY>
<!ATTLIST localfile
  name    CDATA   #REQUIRED>
<!ELEMENT partitioning
  ( componentplacement | hostcollocation |
    assemblyplacement )+>
<!ELEMENT componentplacement
  ( componentfileref
    , componentinstantiation+
  )>
<!ELEMENT componentfileref EMPTY>
<!ATTLIST componentfileref
  refid   CDATA   #REQUIRED>
<!ELEMENT componentinstantiation
  ( componentproperties?
    , coreaffinity*
    , deploymentdependencies?
    , componentfactoryref?
  )>
<!ATTLIST componentinstantiation
  id      ID      #REQUIRED
```

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    processcollocation CDATA #IMPLIED
    stringifiedobjectref CDATA #IMPLIED>
<!--ELEMENT coreaffinity (#PCDATA)>
<!--ELEMENT componentfactoryref
    ( componentfactoryproperties? )>
<!--ATTLIST componentfactoryref
    refid CDATA #REQUIRED>
<!--ELEMENT componentfactoryproperties
    ( simpleref | simplesequenceref | structref | structsequenceref )+ >
<!--ELEMENT simpleref EMPTY>
<!--ATTLIST simpleref
    refid CDATA #REQUIRED
    value CDATA #REQUIRED>
<!--ELEMENT simplesequenceref
    ( values )>
<!--ATTLIST simplesequenceref
    refid CDATA #REQUIRED>
<!--ELEMENT structref
    ( simpleref+ )>
<!--ATTLIST structref
    refid CDATA #REQUIRED>
<!--ELEMENT structsequenceref
    ( structvalue+ )>
<!--ATTLIST structsequenceref
    refid CDATA #REQUIRED>
<!--ELEMENT structvalue
    ( simpleref+ )>
<!--ELEMENT values
    ( value+ )>
<!--ELEMENT value (#PCDATA)>
<!--ELEMENT hostcollocation
    ( componentplacement )+>
<!--ATTLIST hostcollocation
    id ID #IMPLIED
    name CDATA #IMPLIED>
<!--ELEMENT assemblyplacement
    ( componentfileref
    , assemblyinstantiation+
    )>
<!--ELEMENT assemblyinstantiation
    ( componentproperties?
    , deviceassignments?
    , deploymentdependencies?
    , executionaffinityassignments?
    )>
<!--ATTLIST assemblyinstantiation
    id ID #REQUIRED>
<!--ELEMENT componentproperties
    ( simpleref | simplesequenceref | structref | structsequenceref )+ >
<!--ELEMENT deviceassignments
    ( deviceassignment )+>
<!--ELEMENT deviceassignment EMPTY>
<!--ATTLIST deviceassignment
    componentid CDATA #REQUIRED
    assignedDeviceid CDATA #REQUIRED>
<!--ELEMENT deploymentdependencies
    (propertyref
    )+>
<!--ELEMENT executionaffinityassignments
    ( executionaffinityassignment+ )>
<!--ELEMENT executionaffinityassignment
    ( coreaffinity* )>
<!--ATTLIST executionaffinityassignment
    componentid CDATA #REQUIRED
    processcollocation CDATA #IMPLIED>
<!--ELEMENT propertyref EMPTY>
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<!ATTLIST propertyref
  refid CDATA #REQUIRED
  value CDATA #REQUIRED>
<!ELEMENT assemblycontroller
  (( componentinstantiationref | assemblyinstantiationref ),
  assemblyinstantiationref* )>
<!ELEMENT connections
  ( connectinterface* )>
<!ELEMENT connectinterface
  ( usesport
  , ( providesport | componentsupportedinterface )
  )>
<!ATTLIST connectinterface
  id ID #IMPLIED>
<!ELEMENT usesport
(identifier
, ( componentinstantiationref |
assemblyinstantiationref |
devicethatloadedthiscomponentref | deviceusedbythiscomponentref |
domainfinder )
)>
<!ELEMENT identifier (#PCDATA)>
<!ELEMENT componentinstantiationref EMPTY>
<!ATTLIST componentinstantiationref
  refid CDATA #REQUIRED>
<!ELEMENT assemblyinstantiationref EMPTY>
<!ATTLIST assemblyinstantiationref
  refid CDATA #REQUIRED>
<!ELEMENT devicethatloadedthiscomponentref EMPTY>
<!ATTLIST devicethatloadedthiscomponentref
  refid CDATA #REQUIRED>
<!ELEMENT deviceusedbythiscomponentref EMPTY>
<!ATTLIST deviceusedbythiscomponentref
  refid CDATA #REQUIRED
  usesrefid CDATA #REQUIRED>
<!ELEMENT domainfinder EMPTY>
<!ATTLIST domainfinder
  type ( filesystem | eventchannel | application | servicename | servicetype ) #REQUIRED
  name CDATA #IMPLIED>
<!ELEMENT providesport
(identifier
, ( componentinstantiationref |
assemblyinstantiationref |
devicethatloadedthiscomponentref | deviceusedbythiscomponentref | domainfinder )
)>
<!ATTLIST providesport
  stringifiedobjectref CDATA #IMPLIED>
<!ELEMENT componentsupportedinterface
(identifier
, ( componentinstantiationref | devicethatloadedthiscomponentref |
deviceusedbythiscomponentref | domainfinder )
)>
<!ELEMENT externalports
( port+
)>
<!ELEMENT port
( description?
, ( usesidentifier | providesidentifier | supportedidentifier )
, ( componentinstantiationref | assemblyinstantiationref )
)>
<!ELEMENT usesidentifier (#PCDATA)>
<!ELEMENT providesidentifier (#PCDATA)>
<!ELEMENT supportedidentifier (#PCDATA)>
<!ELEMENT deploymentprefs
( localfile

```

)>