

1. **context** ControlSchema
 - inv:** self.communicationID <> null
 - and** self.allInstances->forAll (cs1,cs2| cs1.communicationID<>cs2.communicationID)
 - and** self.attachedParty->size() >1
 - and** self.dataType->forAll(d | d.oclsTypeOf(MediumType) implies
 - self.conn->exists(c| c.dataTypeRef.exists(df | df.oclsType(MediumTypeRef) and
 - df.mediumTypeName==d.mediumTypeName) and
 - and c.device->forAll(d| d.deviceCaps->exists(cap|cap.capability == d.derivedFromBuiltInType))
 - and** self.dataType->forAll(d| d.oclsTypeOf(FormType) implies
 - self.conn->exists(c| c.dataTypeRef.exists(df | df.oclsType(FormTypeRef) and
 - df.formTypeName==d.formTypeName) and
 - and d.subMediumType->forAll(m| c.device->forAll(d| d.deviceCaps->exists(cap| cap.capability ==
 - d.derivedFromBuiltInType)))
 - and d.subFormType.flatten->asSet()->forAll(t| t.r.oclsType(MediumTypeRef) implies
 - c.device->forAll(d|d.deviceCaps->exists(cap|cap.capability==d.derivedFromBuiltInType)))
2. **context** Connection
 - inv:** self.connectionID <> null
 - and** self.device->size() >1
 - and** self.allInstances->forAll (c1,c2| c1.connectionID<>c2.connectionID)
 - and** self.dataTypeRef ->forAll{dr| dr.oclsType(MediumTypeRef) implies self.controlSchema.dataType ->exists (dt|
 - dt.oclsTypeOf(MediumType) and dt.mediumTypeName == dr.mediumTypeName)}
 - and** self.dataTypeRef ->forAll{dr| dr.oclsType(FormTypeRef) implies self.controlSchema.dataType ->exists (dt|
 - dt.oclsTypeOf(formType) and dt.formTypeName == dr.formTypeName)}
3. **context** AttachedParty
 - inv:** self.person.personID == self.isAttached.personID
4. **context** IsAttached
 - inv:** self.allInstances->forAll (ia1,ia2| ia1.deviceID<>ia2.deviceID or ia1.personID<>ia2.personID)
 - and** self.controlSchema.conn.device->exists(d|d.deviceID==self.deviceID))
5. **context** MediumType
 - inv:** self.derivedFromBuiltInType <> null and mediumTypeName <> null
6. **context** FormType
 - inv:** self.subFormType->size() + self.subMediumType->size()>0
7. **context** Device
 - inv:** self.deviceID <> null
 - and** self.allInstances->forAll (d1,d2| d1.deviceID<>d2.deviceID)
 - and** self.conn.controlSchema ->exists(ap| ap.isAttached.deviceID== self.deviceID)
 - and** self.allInstances->select(d| d.isLocal==true)->size() ==1
8. **context** Person
 - inv:** self.personID <> null
 - and** self.allInstances->forAll (p1,p2| p1.personID<>p2.personID)
9. **context** DataSchema
 - inv:** self.dataContent->size()+ self.request->size() >0
10. **context** Form
 - inv:** self.allInstances->forAll (f1,f2| f1.formID<>f2.formID)
 - and** self.subForm->size() +self.subMedium->size()>0
11. **context** Medium
 - inv:** self.allInstances->forAll (m1,m2| m1.mediumName<>m2.mediumName)