

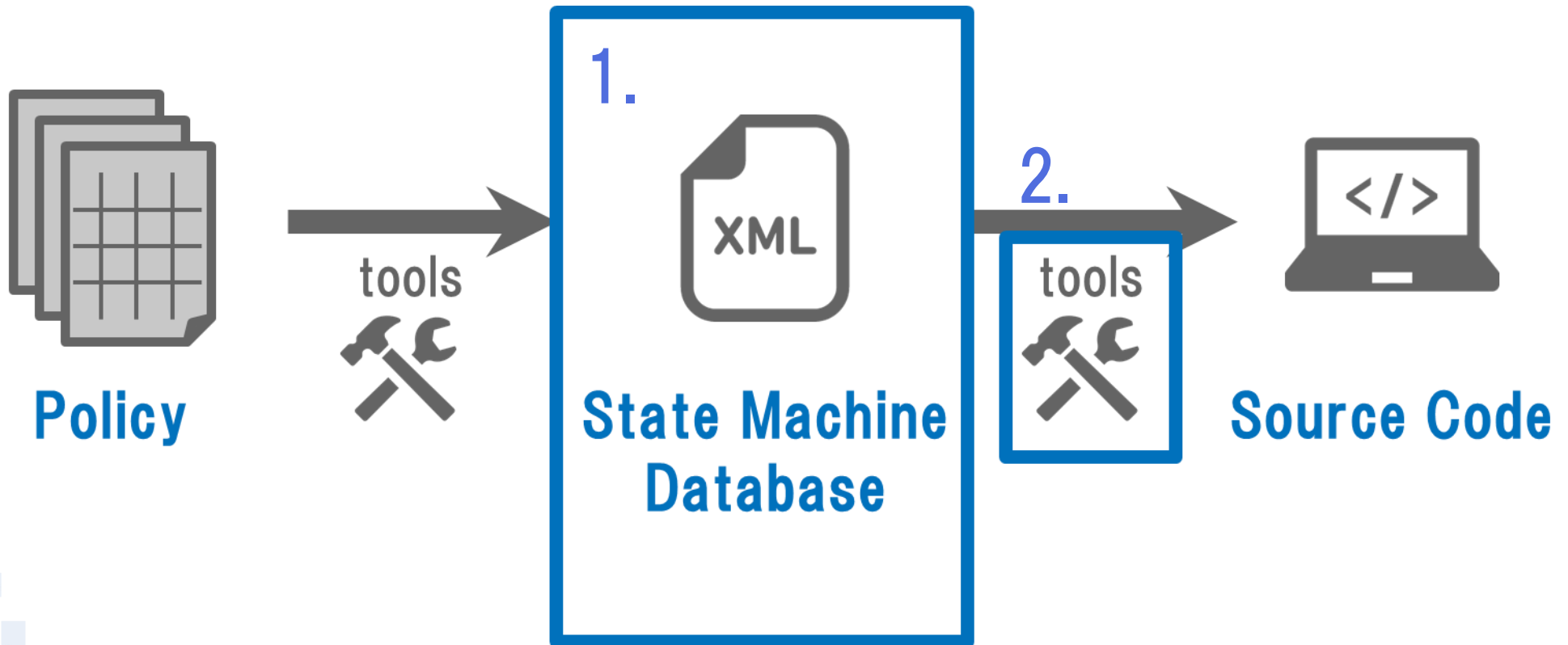


Proposal for AGL State Machine XML

2017/8/30 CATS Co., Ltd.

Contents

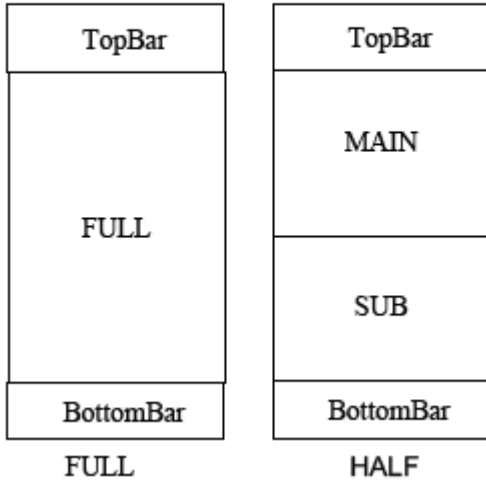
1. XML format for State Machine
2. generation tool



1. XML format for State Machine

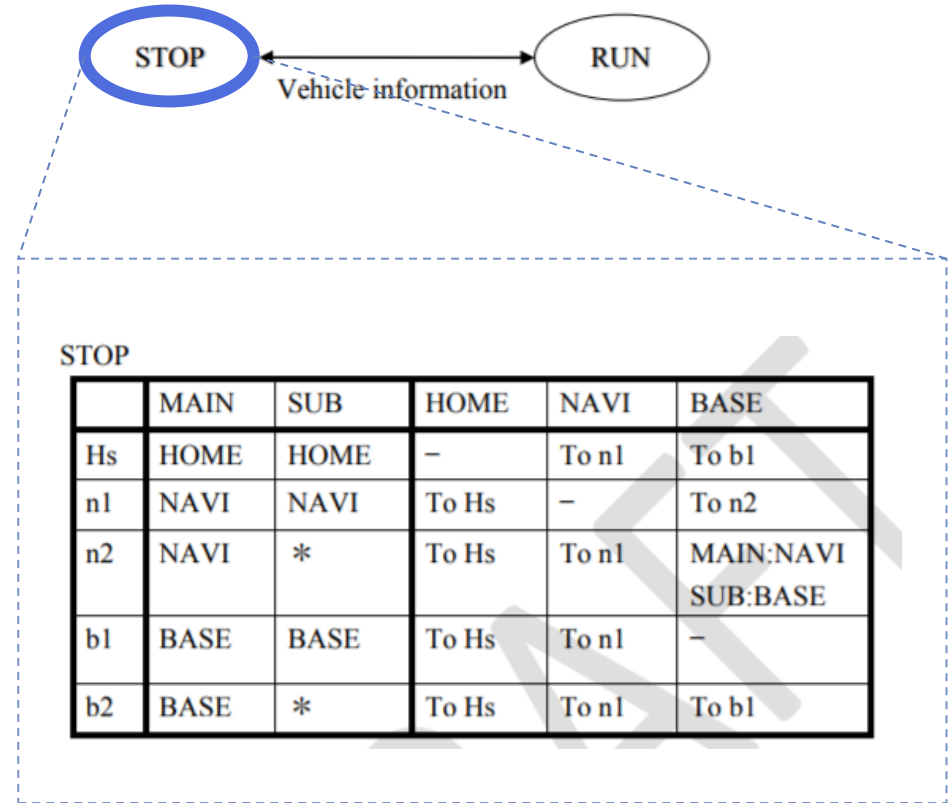
Sample

Apps Layout Pattern (have 2 types)



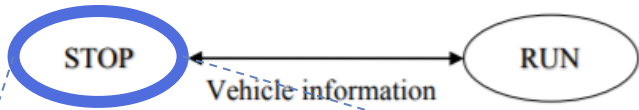
Apps display capability

	FULL	HALF	
		MAIN	SUB
HOMESCREEN	○	—	—
NAVI	○	○	—
BASE (Others Apps)	○	○	○



Using the sample of "170802_agl_hmi-fw_arch_0_2_4.pdf" (page.38) .

Semantics of each elements



STOP

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1

Event (request)

Action (including state transition and processing in each event)

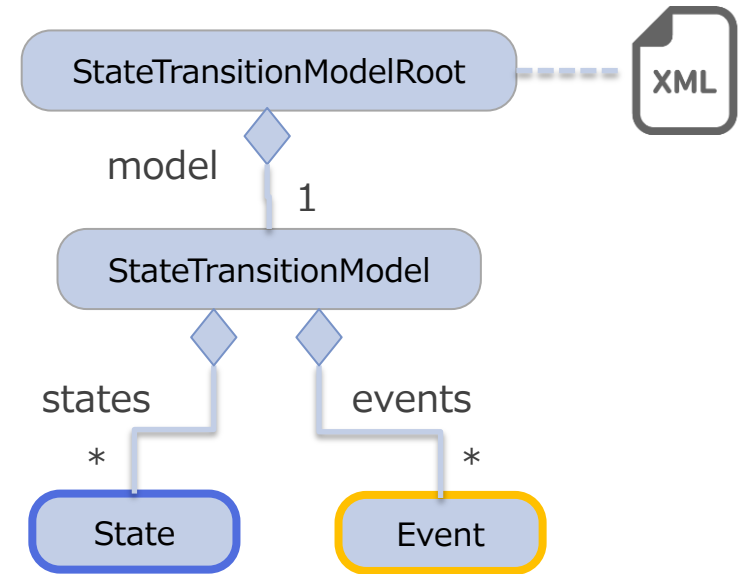
State (including common processing in each state)

XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1

Event

State

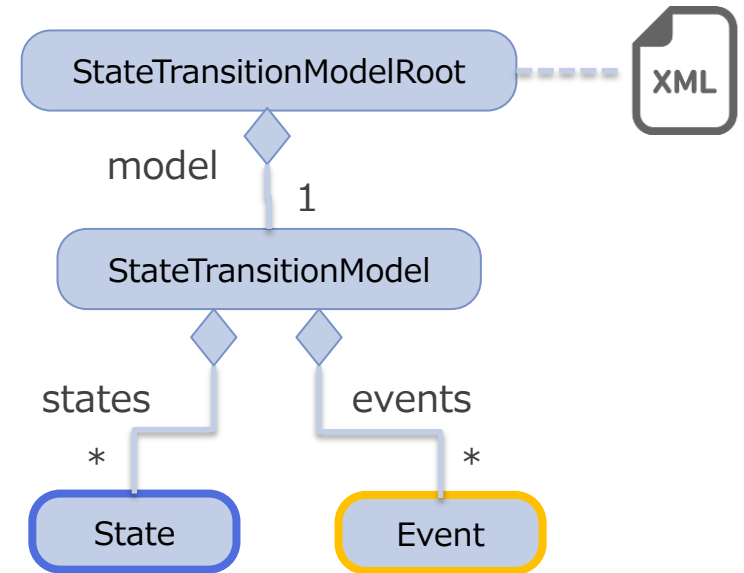


```

<?xml version="1.0" encoding="UTF-8"?>
<StateTransitionModelRoot >
  <model xmi:id="ST_MODEL" name="Stop" id="ST_MODEL">
    <states xmi:id="STATE1" name="Hs" id="STATE1"/>
    <states xmi:id="STATE2" name="n1" id="STATE2"/>
    <states xmi:id="STATE3" name="n2" id="STATE3"/>
    <states xmi:id="STATE4" name="b1" id="STATE4"/>
    <states xmi:id="STATE5" name="b2" id="STATE5"/>
    <events xmi:id="EVENT1" name="HOME" id="EVENT1"/>
    <events xmi:id="EVENT2" name="NAVI" id="EVENT2"/>
    <events xmi:id="EVENT3" name="BASE" id="EVENT3"/>
  </model>
</StateTransitionModelRoot>
  
```

XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1



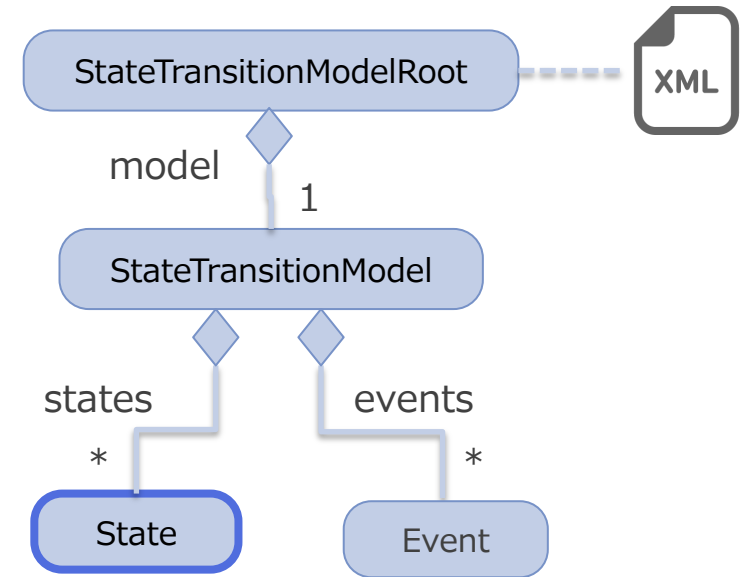
```

<?xml version="1.0" encoding="UTF-8"?>
<StateTransitionModelRoot >
  <model xmi:id="ST_MODEL" name="Stop" id="ST_MODEL">
    <states xmi:id="STATE1" name="Hs" id="STATE1"/>
    <states xmi:id="STATE2" name="n1" id="STATE2"/>
    <states xmi:id="STATE3" name="n2" id="STATE3"/>
    <states xmi:id="STATE4" name="b1" id="STATE4"/>
    <states xmi:id="STATE5" name="b2" id="STATE5"/>
    <events xmi:id="EVENT1" name="HOME" id="EVENT1"/>
    <events xmi:id="EVENT2" name="NAVI" id="EVENT2"/>
    <events xmi:id="EVENT3" name="BASE" id="EVENT3"/>
  </model>
</StateTransitionModelRoot>
  
```

XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1

common processing in each state

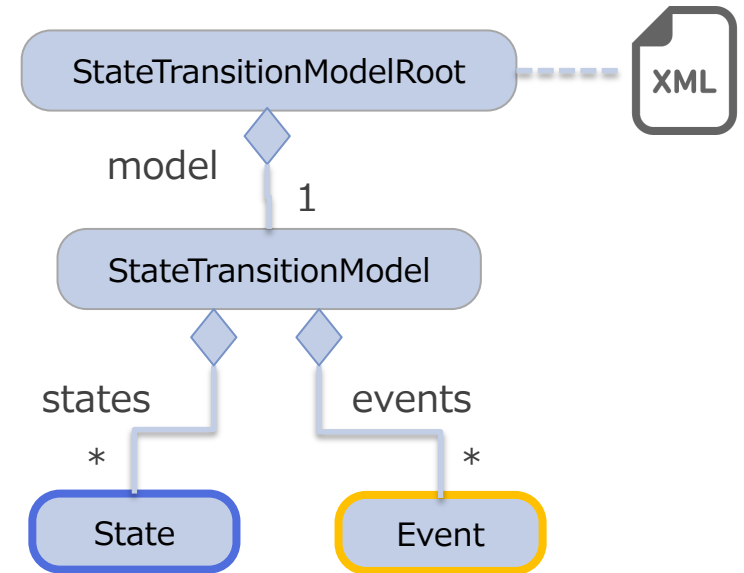


```

<?xml version="1.0" encoding="UTF-8"?>
<StateTransitionModelRoot >
  <model xmi:id="ST_MODEL" name="Stop" id="ST_MODEL">
    <states xmi:id="STATE1" name="Hs" id="STATE1" entryActivity="MAIN=HOME; SUB=HOME;"/>
    <states xmi:id="STATE2" name="n1" id="STATE2" entryActivity="MAIN=NAVI; SUB=NAVI;"/>
    <states xmi:id="STATE3" name="n2" id="STATE3" entryActivity="MAIN=NAVI; SUB= *"/>
    <states xmi:id="STATE4" name="b1" id="STATE4" entryActivity="MAIN=BASE; SUB=BASE;"/>
    <states xmi:id="STATE5" name="b2" id="STATE5" entryActivity="MAIN=BASE; SUB= *"/>
    <events xmi:id="EVENT1" name="HOME" id="EVENT1"/>
    <events xmi:id="EVENT2" name="NAVI" id="EVENT2"/>
    <events xmi:id="EVENT3" name="BASE" id="EVENT3"/>
  </model>
</StateTransitionModelRoot>
  
```


XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1



```

<?xml version="1.0" encoding="UTF-8"?>
<StateTransitionModelRoot >
  <model xmi:id="ST_MODEL" name="Stop" id="ST_MODEL">
    <states xmi:id="STATE1" name="Hs" id="STATE1"/>
    <states xmi:id="STATE2" name="n1" id="STATE2"/>
    <states xmi:id="STATE3" name="n2" id="STATE3"/>
    <states xmi:id="STATE4" name="b1" id="STATE4"/>
    <states xmi:id="STATE5" name="b2" id="STATE5"/>
    <events xmi:id="EVENT1" name="HOME" id="EVENT1"/>
    <events xmi:id="EVENT2" name="NAVI" id="EVENT2"/>
    <events xmi:id="EVENT3" name="BASE" id="EVENT3"/>
  </model>
</StateTransitionModelRoot>
  
```

Normal id - must be unique in the same hierarchy

xmi:id - must be unique in the same file

XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1

```

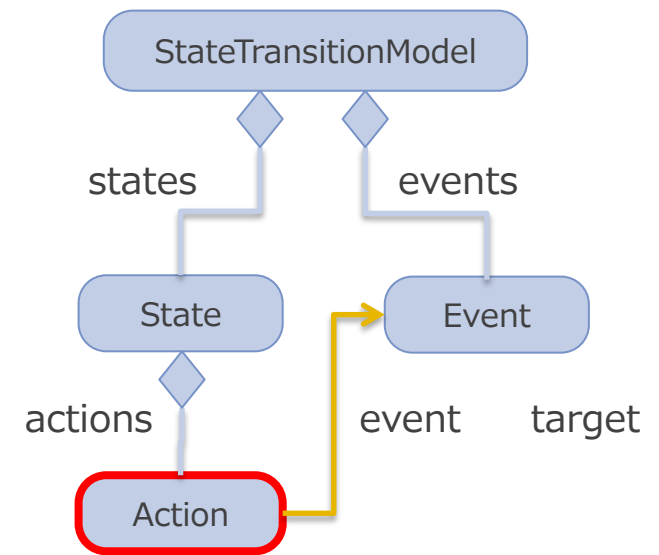
<?xml version="1.0" encoding="UTF-8"?>
<ZIPCSTM:StateTransitionModelRoot
  xmi:version="2.0"
  xmlns:xmi="http://www.omg.org/XMI"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:ZIPCSTM="http://zipc.com/emf/ZIPCSTM"
  xmi:id="_a91tcXzDEeeqa-jAi2Tvww"
  name="ST" id="STMODEL_ROOT" modelType="Designer" version="3.0.0">
  <model xmi:id="_a91tfHzDEeeqa-jAi2Tvww" name="Stop" id="ST_MODEL">
    <states xmi:id="_a91tfXzDEeeqa-jAi2Tvww" name="Hs" id="STATE1"/>
    <states xmi:id="_mUVEkHHzDEeeqa-jAi2Tvww" name="n1" id="STATE2"/>
    ...
    <events xmi:id="_a91tfnzDEeeqa-jAi2Tvww" name="HOME" id="EVENT1"/>
    <events xmi:id="_0rwdIHHzDEeeqa-jAi2Tvww" name="NAVI" id="EVENT2"/>
    ...
  </model>
</ZIPCSTM:StateTransitionModelRoot>

```

XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1

Action



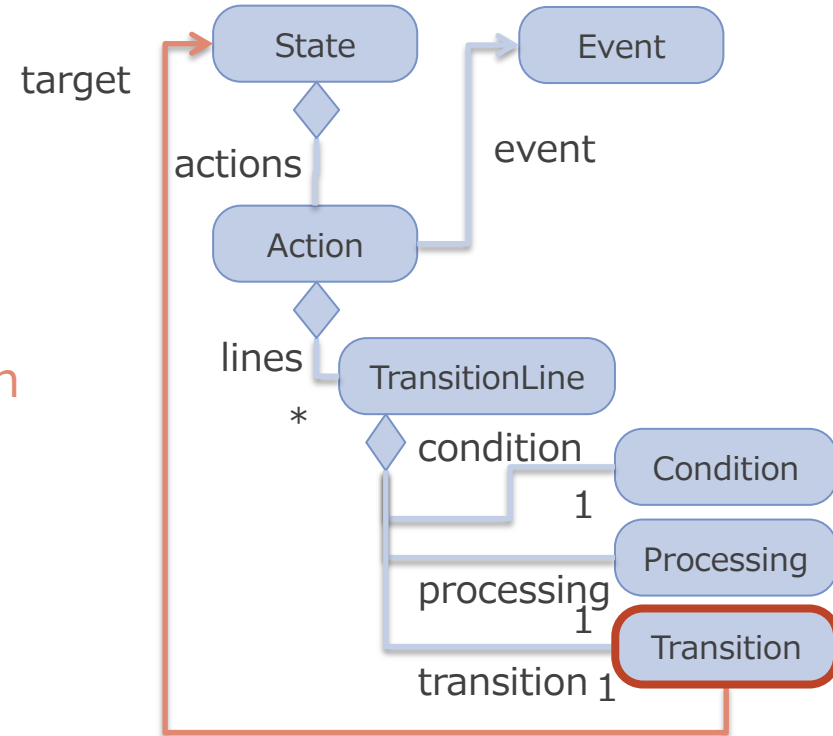
```

<?xml version="1.0" encoding="UTF-8"?>
<StateTransitionModelRoot>
  <model xmi:id="ST_MODEL" name="Stop" id="ST_MODEL">
    <states xmi:id="STATE1" name="Hs" id="STATE1">
      <actions xmi:id="STATE1-A1" id="A1" event="EVENT1"/>
      <actions xmi:id="STATE1-A2" id="A2" event="EVENT2"/>
      <actions xmi:id="STATE1-A3" id="A3" event="EVENT3"/>
    </states>
    ...
    <events xmi:id="EVENT1" name="HOME" id="EVENT1"/>
    <events xmi:id="EVENT2" name="NAVI" id="EVENT2"/>
    <events xmi:id="EVENT3" name="BASE" id="EVENT3"/>
  </model>
</StateTransitionModelRoot>
  
```

XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	To n1	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1

state transition



```

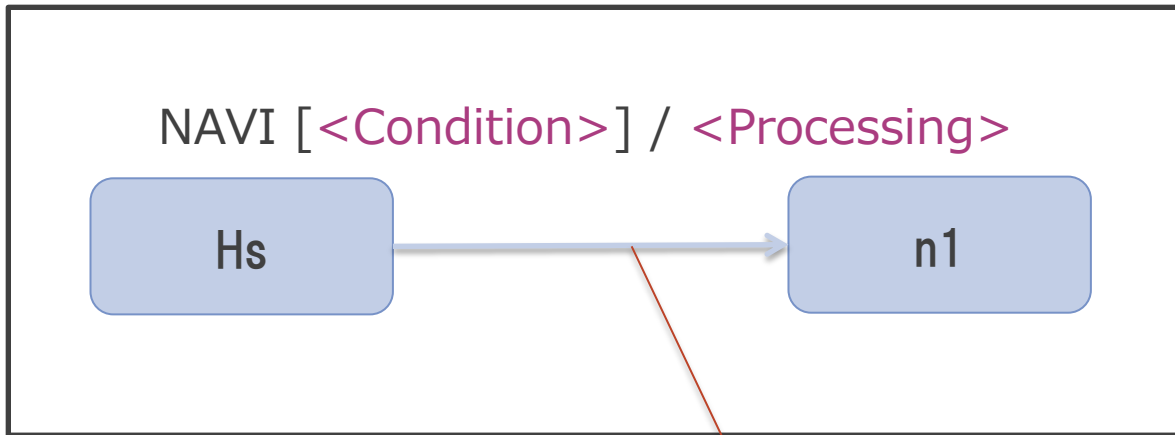
<?xml version="1.0" encoding="UTF-8"?>
<StateTransitionModelRoot>
  <model xmi:id="ST_MODEL" name="Stop" id="ST_MODEL">
    <states xmi:id="STATE1" name="Hs" id="STATE1">
      ...
      <actions xmi:id="STATE1-A2" id="A2" event="EVENT2"/>
      <lines xmi:id="STATE1-A2-TL1" id="TL1">
        <processing xsi:type="ZIPCSTM:TextProcessing" xmi:id="STATE1-A2-TL1-TP" id="TP"/>
        <condition xmi:id="STATE1-A2-TL1-C" id="C"/>
        <transition xmi:id="STATE1-A2-TL1-T" id="T" target="STATE2"/>
      </lines>
    </actions>
    ...
  </states>
  <states xmi:id="STATE2" name="n1" id="STATE2">
    ...
  </model>
</StateTransitionModelRoot>
  
```

XML description

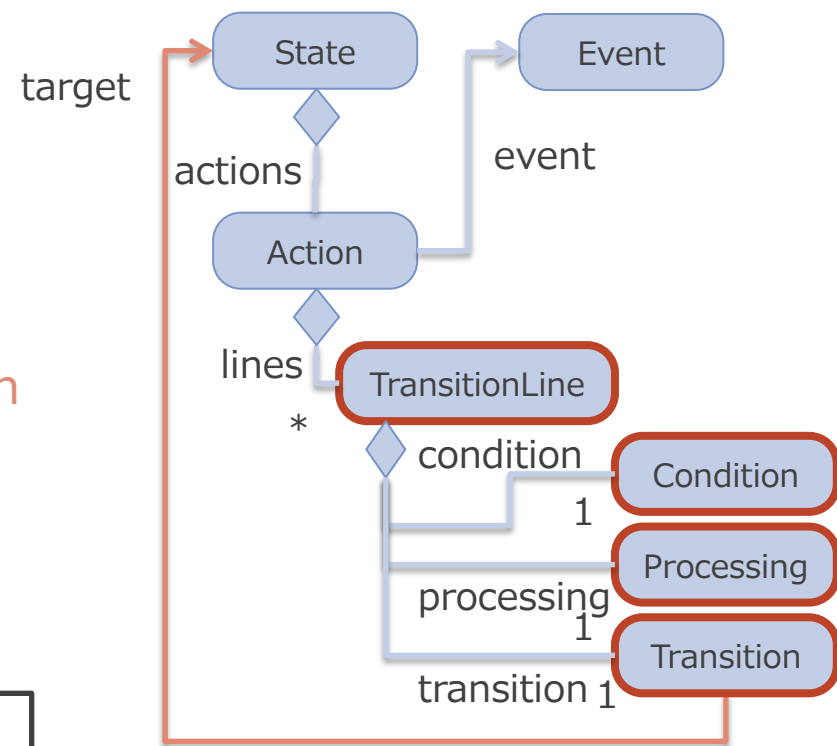
	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	-
b2	BASE	*	To Hs	To n1	To b1

state transition

State Transition Diagram



TransitionLine

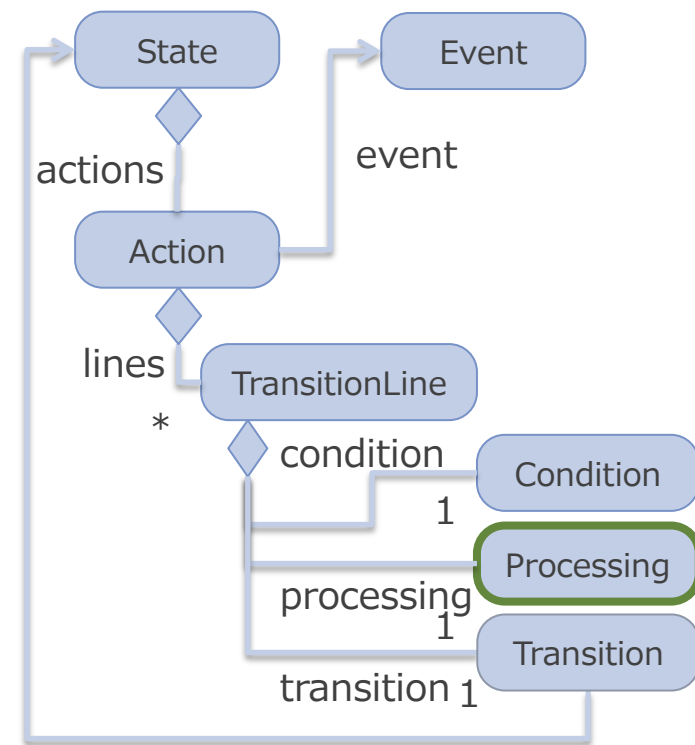


XML description

	MAIN	SUB	HOME	NAVI	BASE
Hs	HOME	HOME	-	To n1	To b1
n1	NAVI	NAVI	To Hs	-	To n2
n2	NAVI	*	To Hs	To n1	MAIN:NAVI SUB:BASE
b1	BASE	BASE	To Hs	To n1	
b2	BASE	*	To Hs	To n1	To b1

processing in each event

target



```

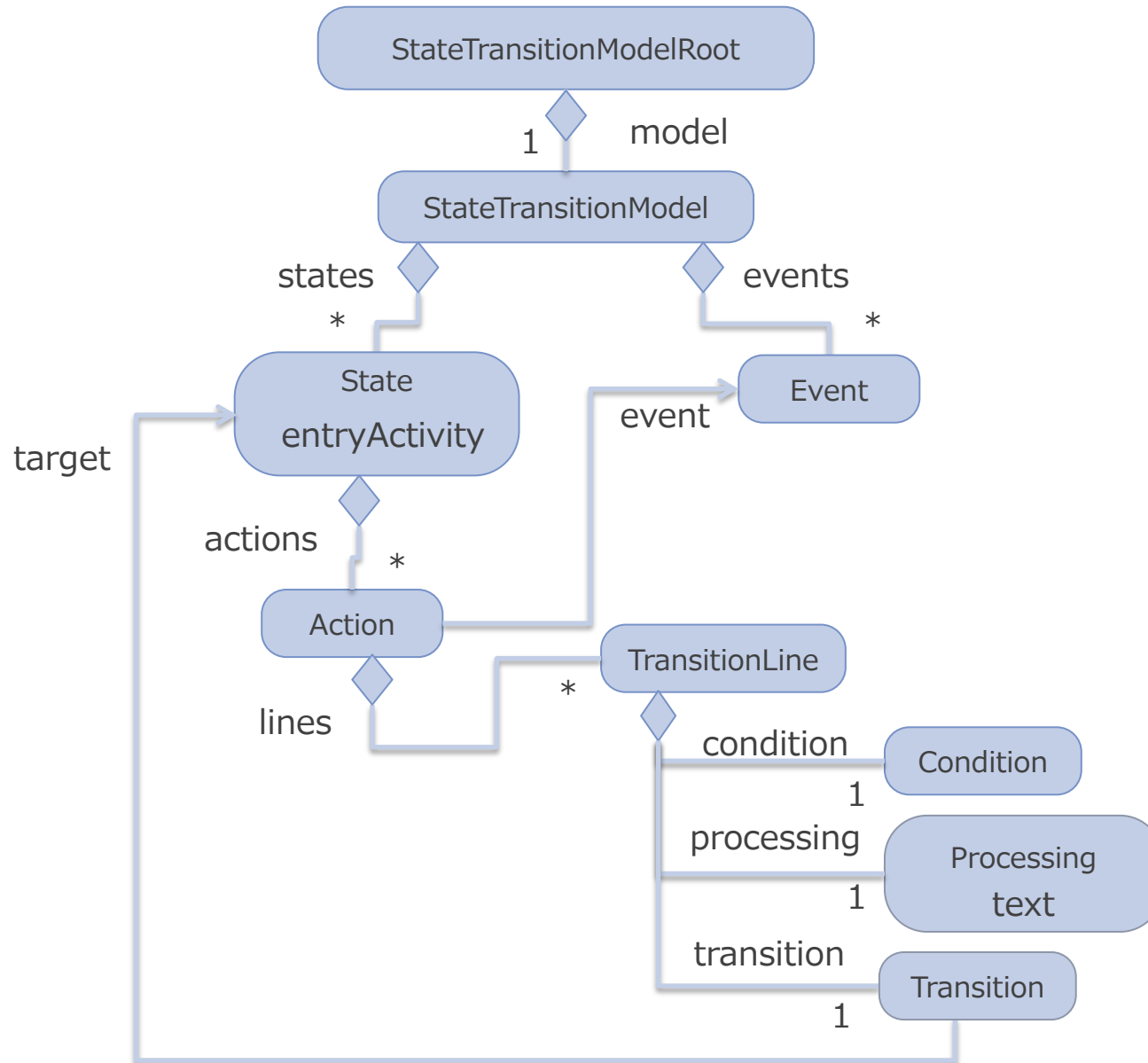
<?xml version="1.0" encoding="UTF-8"?>
<StateTransitionModelRoot>
  <model xmi:id="ST_MODEL" name="Stop" id="ST_MODEL">
    <states xmi:id="STATE1" name="Hs" id="STATE1">
      ...
      <actions xmi:id=" STATE3-A3" id="A3" event="EVENT3">
        <lines xmi:id="STATE3-A3 -TL1" id="TL1">
          <processing xsi:type="ZIPCSTM:TextProcessing" xmi:id=" STATE3-A3 -TP" id="TP"
  
```

text="MAIN=NAVI; SUB=BASE;" />

```

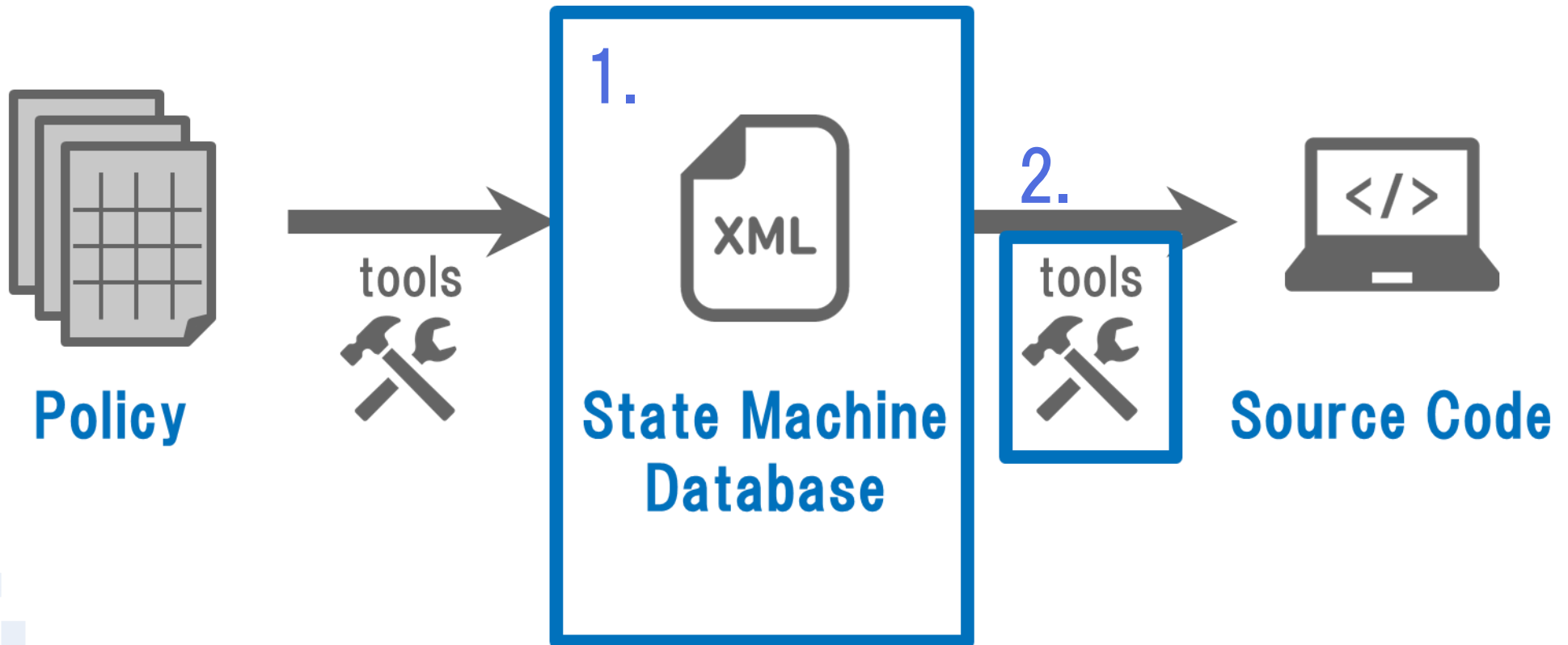
    <condition xmi:id=" STATE3-A3 -C" id="C"/>
    <transition xmi:id=" STATE3-A3 -T" id="T"/>
  </lines>
</actions>
  ...
</model>
</StateTransitionModelRoot>
  
```

Structure of State Machine



Contents

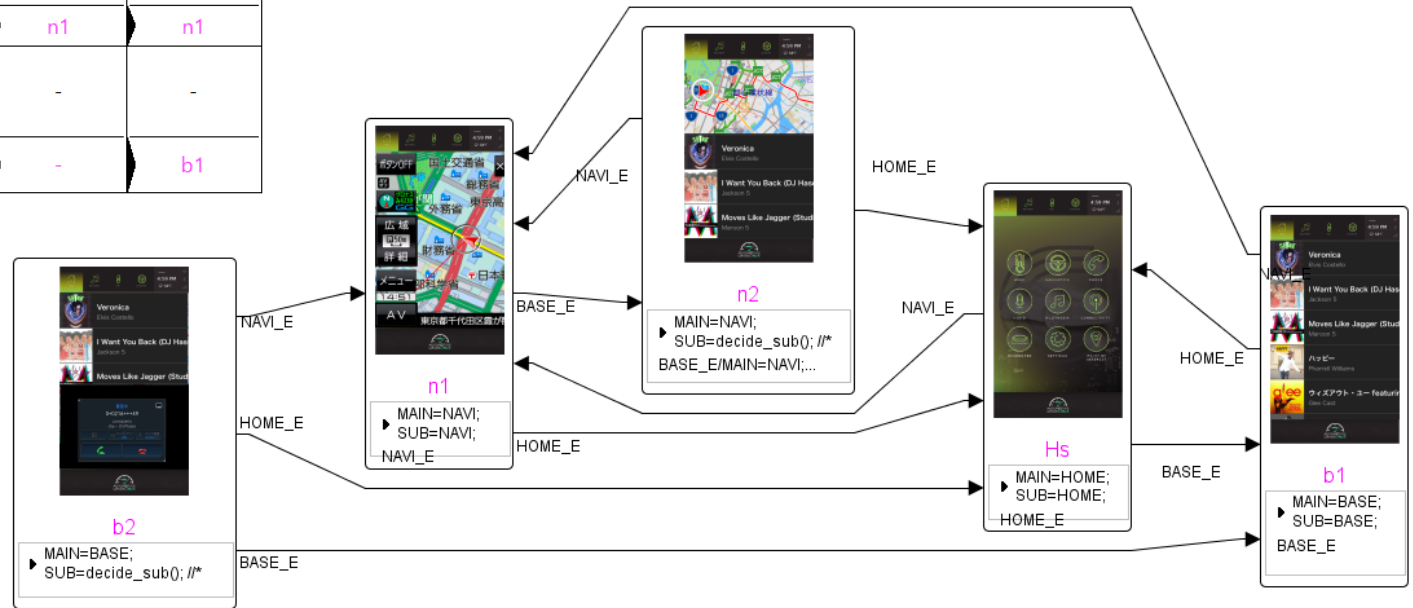
1. XML format for State Machine
- 2. generation tool**



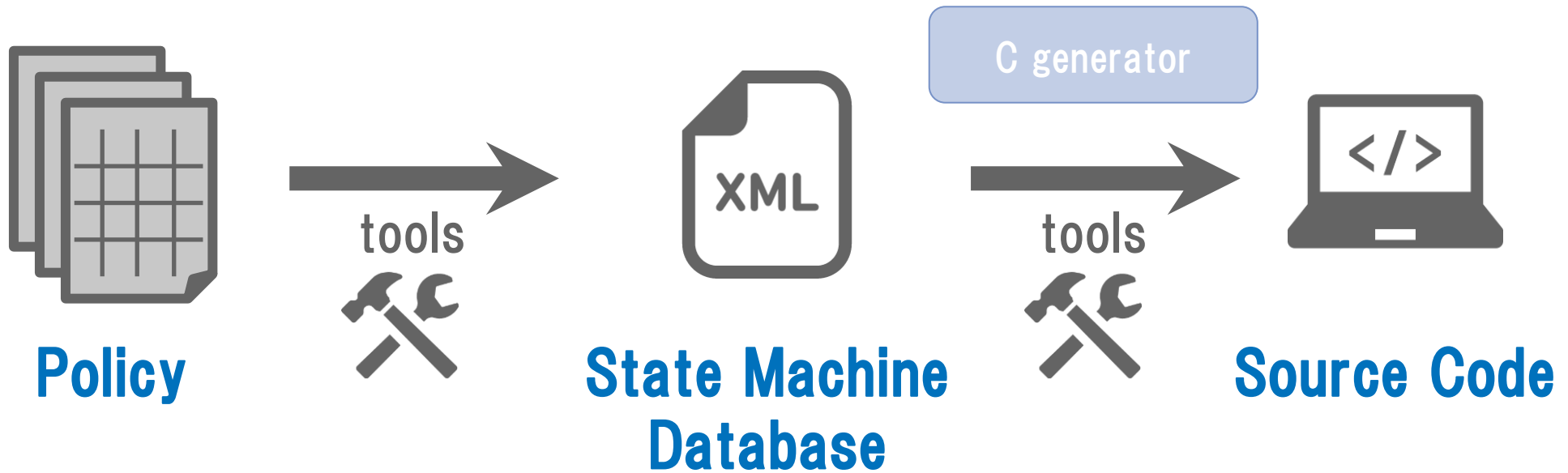
2. Generation tool

State Machine Demo

E	Stop	S	0	1	2	3	4
							
			Hs	n1	n2	b1	b2
			MAIN=HOME; SUB=HOME;	MAIN=NAVI; SUB=NAVI;	MAIN=NAVI; SUB=*	MAIN=BASE; SUB=BASE;	MAIN=BASE; SUB=*
E			0	1	2	3	4
HOME	0		-	-	-	-	-
			-	Hs	Hs	Hs	Hs
NAVI	1		-	-	-	-	-
			n1	-	n1	n1	n1
BASE	2		-	-	MAIN=NAVI; SUB=BASE;	-	-
			b1	n2	-	-	b1



C Source code generation tool (not including XML editor)





NTT DATA

Global IT Innovator