

FIG. 1

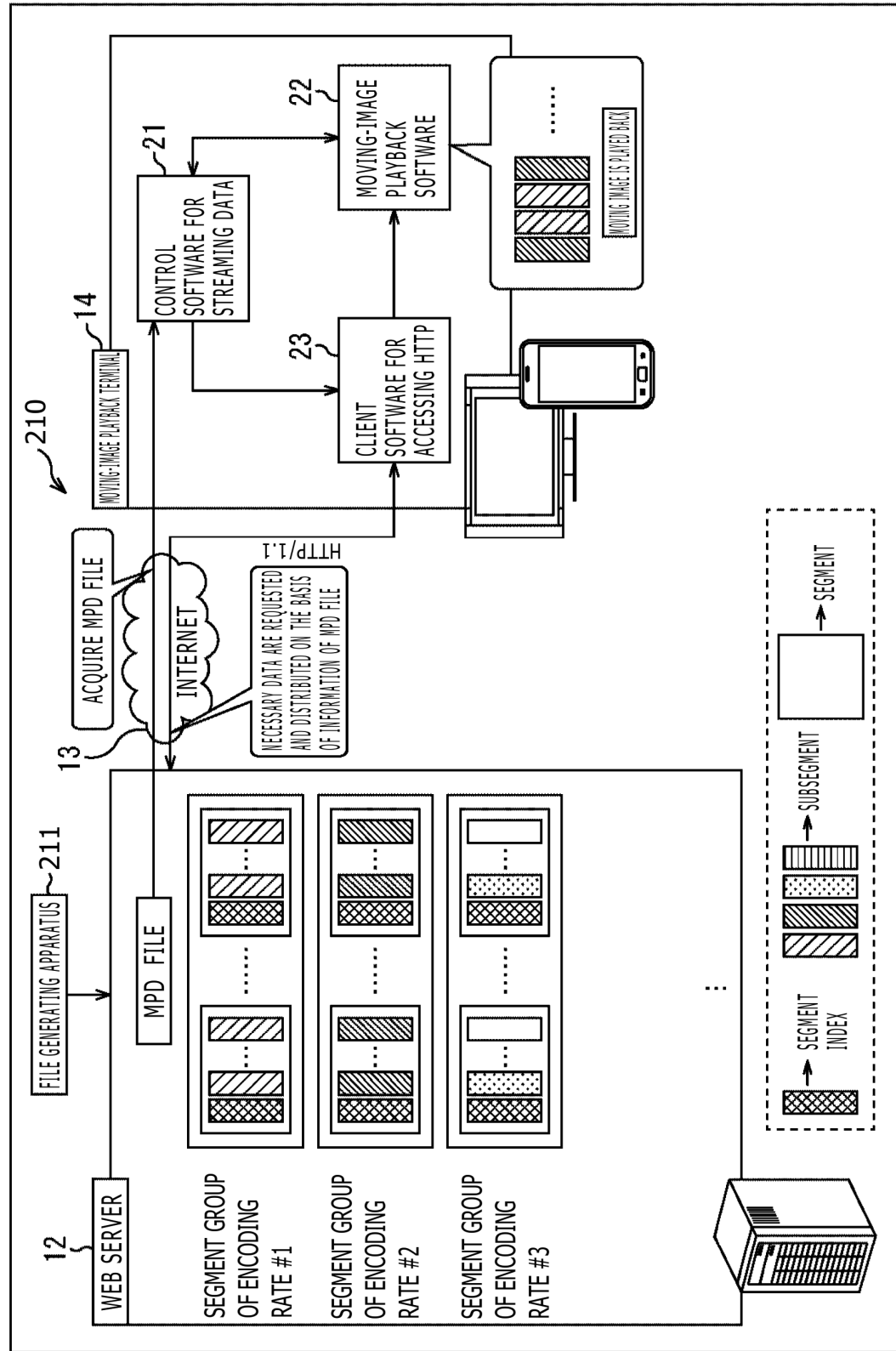


FIG. 2

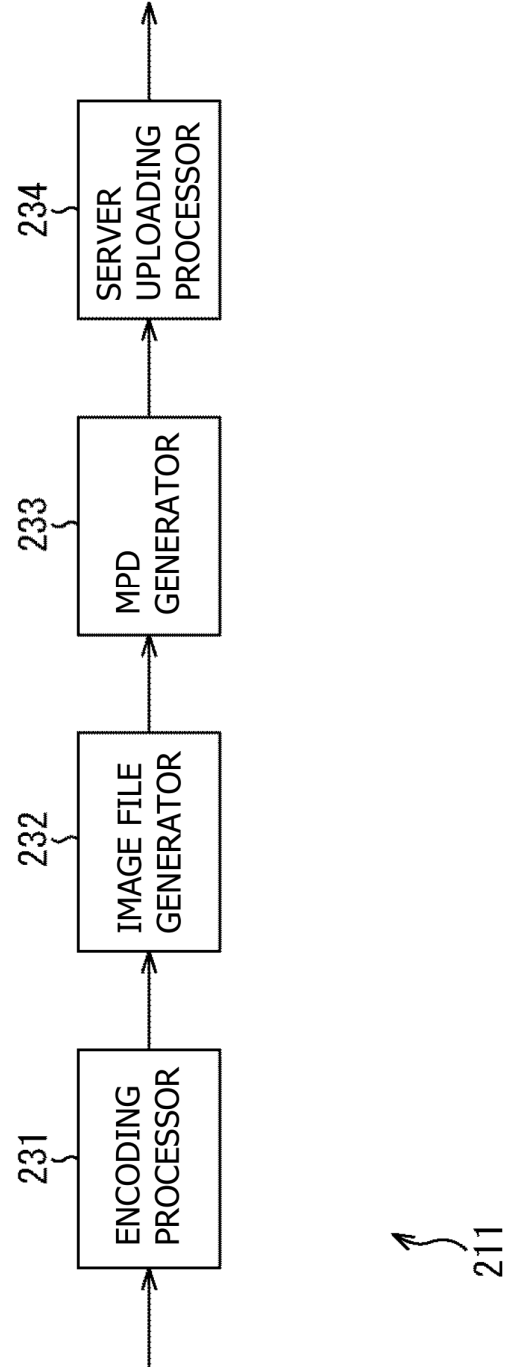


FIG. 3

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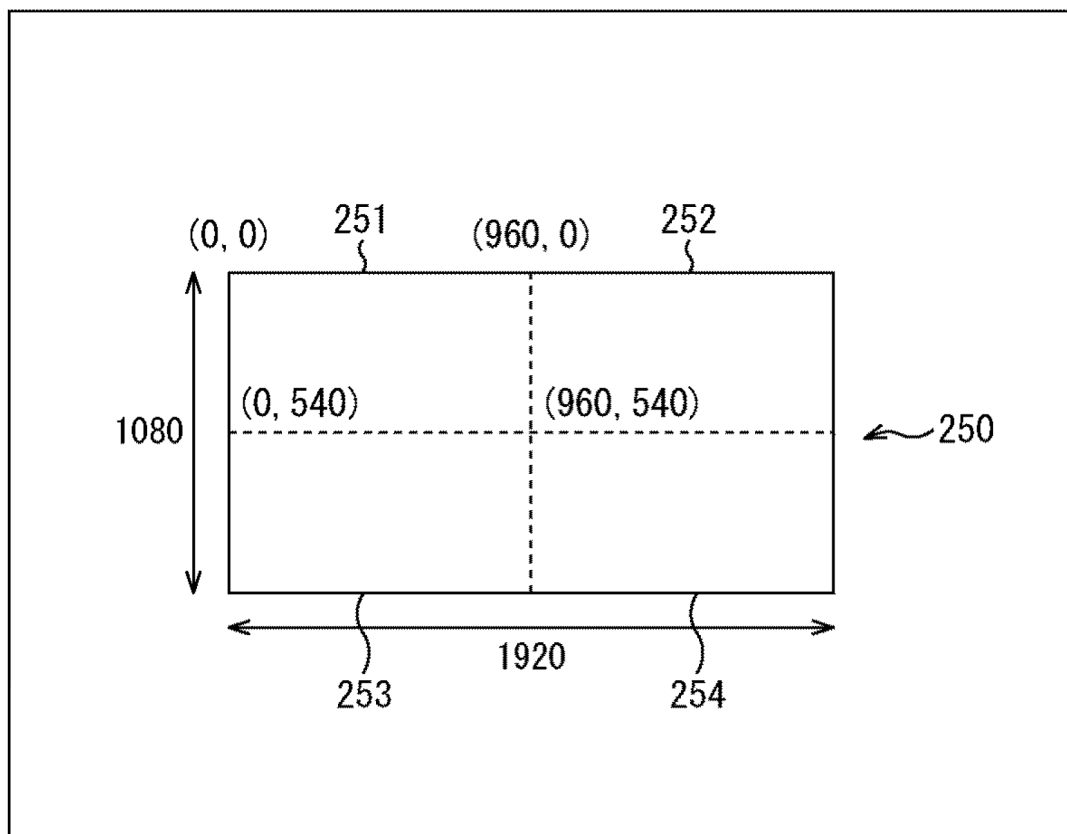


FIG. 4

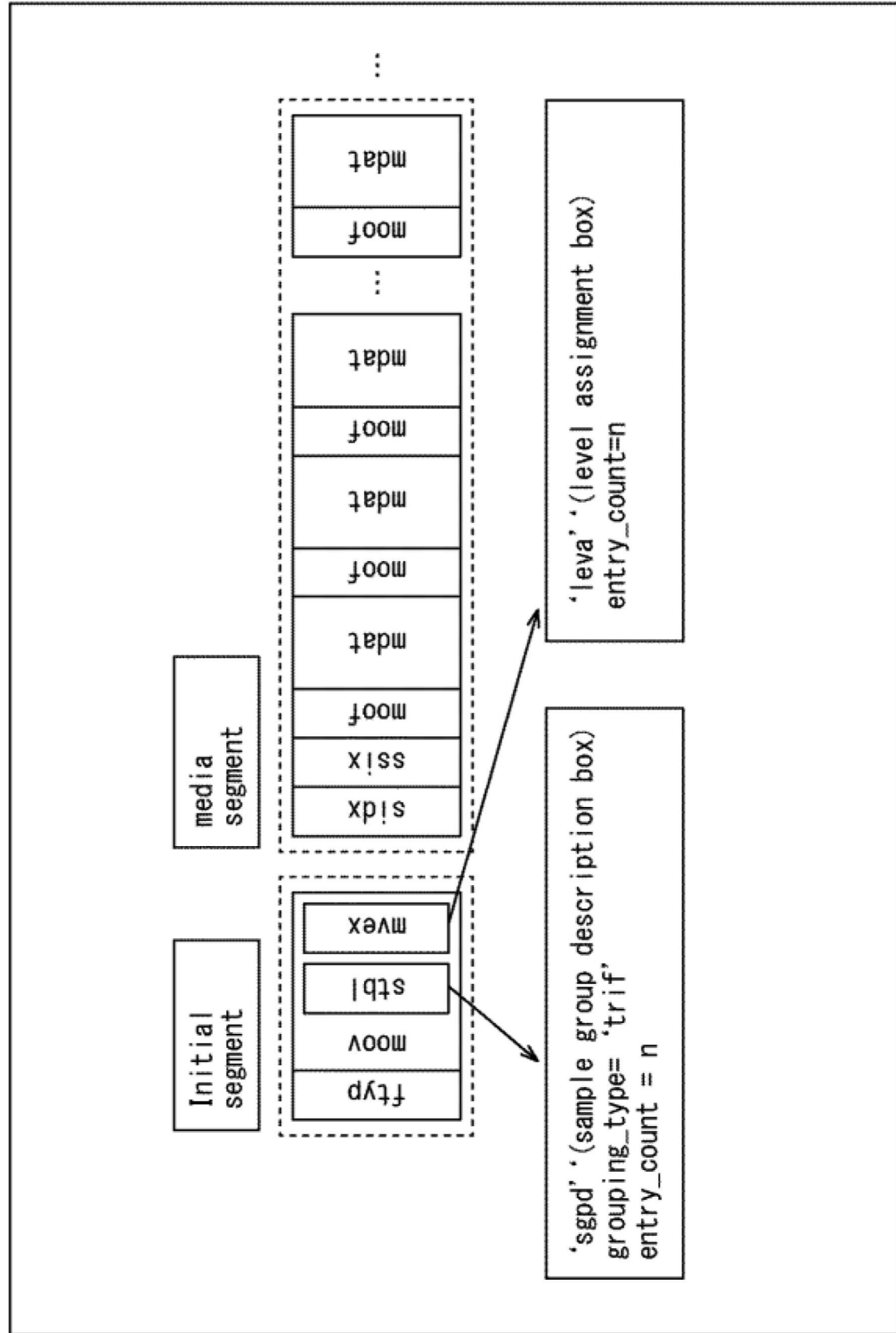
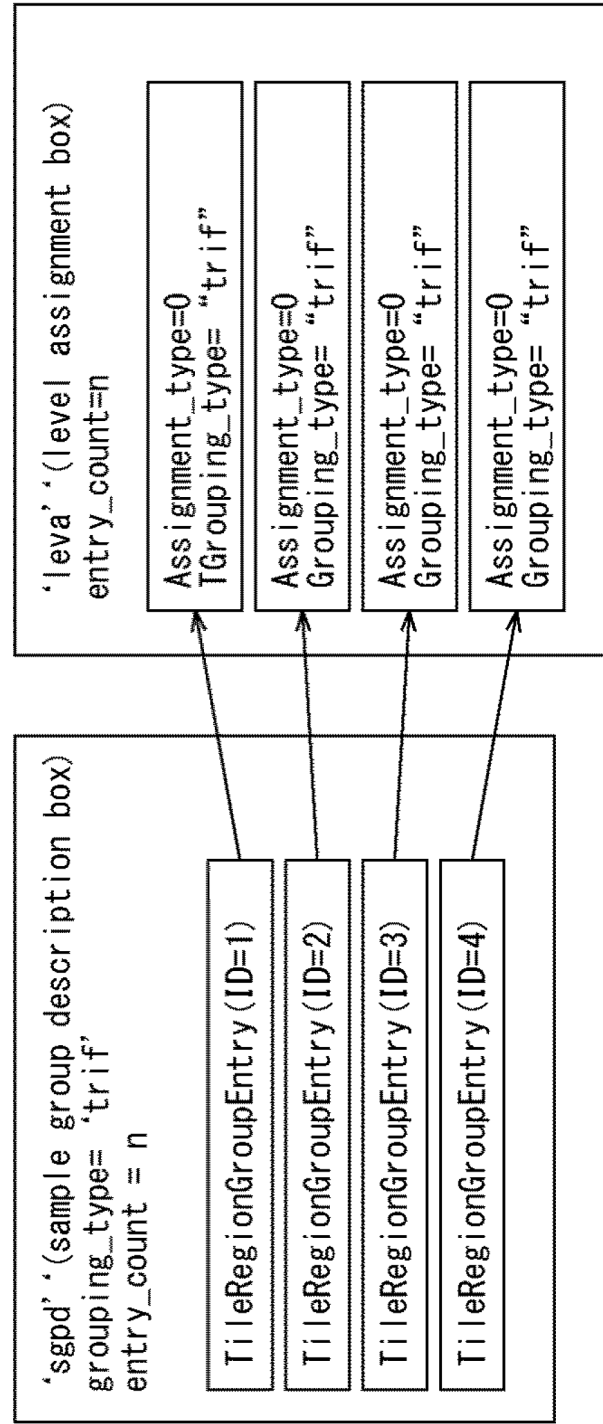


FIG. 5



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<?xml version="1.0" encoding="UTF-8"?>
<MPD
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  [...]>

  <Period>
    <!-- 4 mosaic video streams are in a single stream -->
    <AdaptationSet [...] >
      <Representation id="1" bandwidth="2000000" [...]>
        <BaseURL>stream.mp4</BaseURL>
        <SubRepresentation
          level="1" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 0, 0, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/a_service/my.mpd"/>
        </SubRepresentation>
        <SubRepresentation
          level="2" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 960, 0, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/b_service/my.mpd"/>
        </SubRepresentation>
        <SubRepresentation
          level="3" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 0, 540, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/c_service/my.mpd"/>
        </SubRepresentation>
        <SubRepresentation
          level="4" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 960, 540, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/d_service/my.mpd"/>
        </SubRepresentation>
      </Representation>
    </AdaptationSet>

  </Period>
</MPD>

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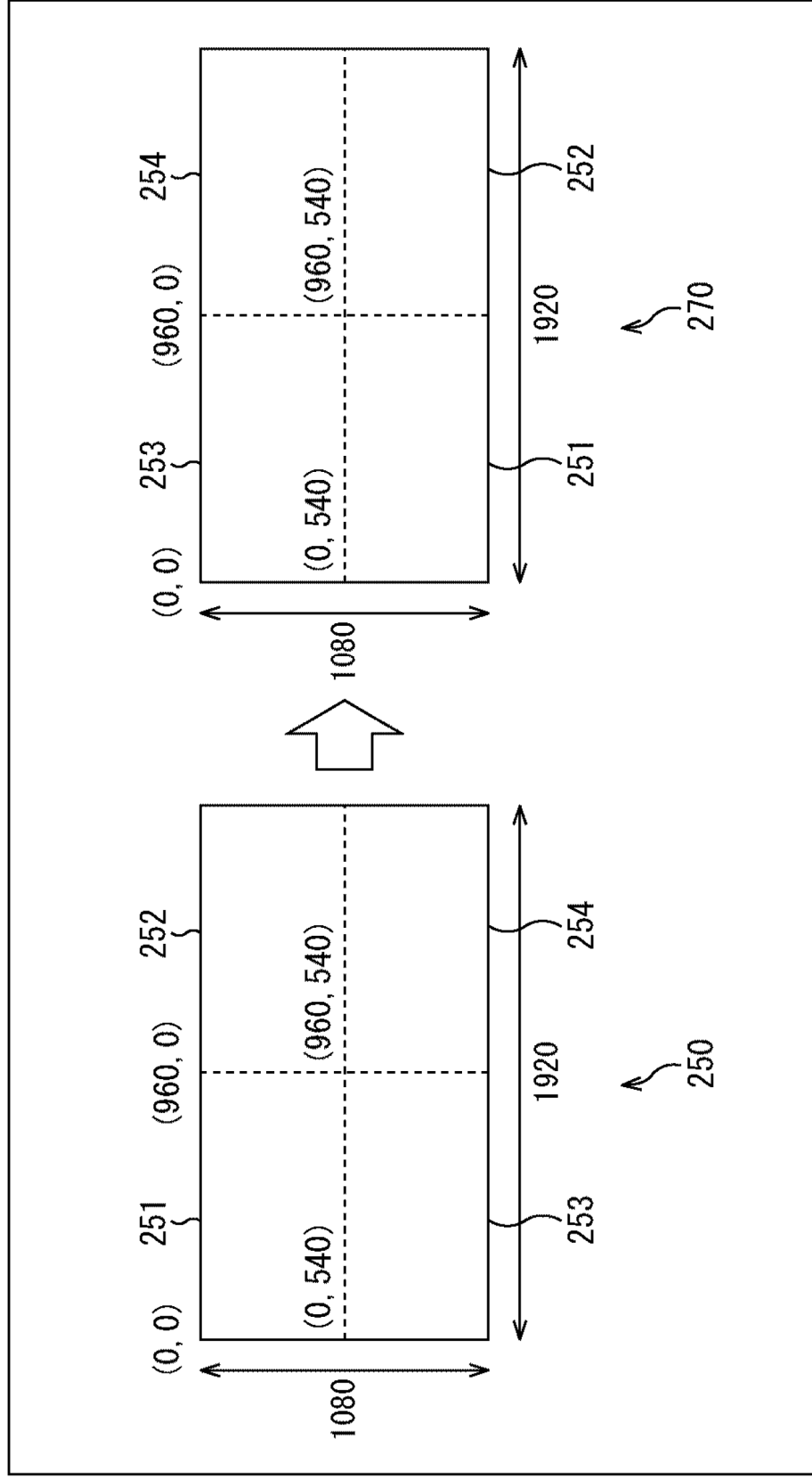
<?xml version="1.0" encoding="UTF-8"?>
<MPD
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  [...]>

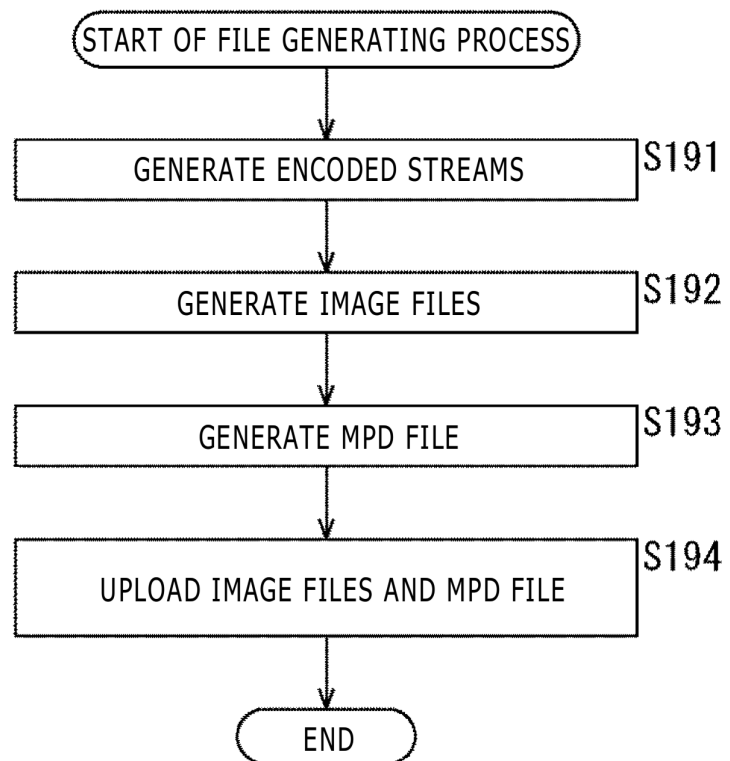
  <Period>
    <!-- 4 mosaic video streams are in a single stream -->
    <AdaptationSet [...] >
      <Representation id="1" bandwidth="2000000" [...]>
        <BaseURL>stream.mp4</BaseURL>
        <SubRepresentation
          level="3" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 0, 0, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/c_service/my.mpd"/>
        </SubRepresentation>
        <SubRepresentation
          level="4" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 960, 0, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/d_service/my.mpd"/>
        </SubRepresentation>
        <SubRepresentation
          level="1" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 0, 540, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/a_service/my.mpd"/>
        </SubRepresentation>
        <SubRepresentation
          level="2" bandwidth="512000"
          width="960" height="540" [...]>
          <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
            value="1, 960, 540, 960, 540, 1920, 1080"/>
          <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
            value="http://example.com/b_service/my.mpd"/>
        </SubRepresentation>
      </Representation>
    </AdaptationSet>

  </Period>
</MPD>

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FIG. 8





```

<?xml version="1.0" encoding="UTF-8"?>
<MPD
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  [...]>

  <Period>
    <!-- 4 mosaic video streams are in a single stream -->
    <AdaptationSet id="1" [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="main"/>
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple"/>
      <Representation id="1" bandwidth="1000000" [...]>
        <BaseURL>stream1.mp4</BaseURL>
      </Representation>
      <Representation id="2" bandwidth="2000000" [...]>
        <BaseURL>stream2.mp4</BaseURL>
      </Representation>

      <Representation id="3" bandwidth="4000000" [...]>
        <BaseURL>stream3.mp4</BaseURL>
      </Representation>
      <Representation id="4" bandwidth="8000000" [...]>
        <BaseURL>stream4.mp4</BaseURL>
      </Representation>
    </AdaptationSet>

    <AdaptationSet [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
      <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptaionset-index:2015"
  value="1"/>
      <EssentialProperty
schemeIdUri="urn:mpeg:dash:subrepresentation-index:2015"
  value="1"/>

      <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
  value="1, 0, 0, 960, 540, 1920, 1080"/>
      <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/a_service/my.mpd"/>
    </AdaptationSet>

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    <AdaptationSet [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
      <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptationset-index:2015"
  value="1"/>
      <EssentialProperty
schemeIdUri="urn:mpeg:dash:subrepresentation-index:2015"
  value="2"/>

      <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
  value="1, 960, 0, 960, 540, 1920, 1080"/>
      <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/b_service/my.mpd"/>
    </AdaptationSet>

    <AdaptationSet [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
      <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptationset-index:2015"
  value="1"/>
      <EssentialProperty
schemeIdUri="urn:mpeg:dash:subrepresentation-index:2015"
  value="3"/>

      <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
  value="1, 0, 540, 960, 540, 1920, 1080"/>
      <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/c_service/my.mpd"/>
    </AdaptationSet>

    <AdaptationSet [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
      <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptationset-index:2015"
  value="1"/>

      <EssentialProperty
schemeIdUri="urn:mpeg:dash:subrepresentation-index:2015"
  value="4"/>

      <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
  value="1, 960, 540, 960, 540, 1920, 1080"/>
      <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/d_service/my.mpd"/>
    </AdaptationSet>
  </Period>
</MPD>

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<?xml version="1.0" encoding="UTF-8"?>
<MPD
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  [...]>

  <Period>
    <!-- 4 mosaic video streams are in a single stream -->
    <AdaptationSet id="1" [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="main"/>
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple"/>
      <ContentComponent id="srd1" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 0, 0, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="1"/>
      <ContentComponent/>
      <ContentComponent id="srd2" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 960, 0, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="2"/>
      <ContentComponent/>
      <ContentComponent id="srd3" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 0, 540, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="3"/>
      <ContentComponent/>
      <ContentComponent id="srd4" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 960, 540, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="4"/>
      <ContentComponent/>

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    <Representation id="1" bandwidth="1000000"[...]>
      <BaseURL>stream1.mp4</BaseURL>
    </Representation>
    <Representation id="2" bandwidth="2000000"[...]>
      <BaseURL>stream2.mp4</BaseURL>
    </Representation>

    <Representation id="3" bandwidth="4000000"[...]>
      <BaseURL>stream3.mp4</BaseURL>
    </Representation>
    <Representation id="4" bandwidth="8000000"[...]>
      <BaseURL>stream4.mp4</BaseURL>
    </Representation>
  </AdaptationSet>

  <AdaptationSet [...] >
    <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
    <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptationset-index:2015"
  value="1,srd1"/>
    <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/a_service/my.mpd"/>
  </AdaptationSet>

  <AdaptationSet [...] >
    <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
    <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptationset-index:2015"
  value="1,srd2"/>
    <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/b_service/my.mpd"/>
  </AdaptationSet>

  <AdaptationSet [...] >
    <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
    <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptationset-index:2015"
  value="1,srd3"/>
    <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/c_service/my.mpd"/>
  </AdaptationSet>

  <AdaptationSet [...] >
    <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
    <EssentialProperty
schemeIdUri="urn:mpeg:dash:adaptationset-index:2015"
  value="1,srd4"/>
    <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
  value="http://example.com/d_service/my.mpd"/>
  </AdaptationSet>
</Period>
</MPD>

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<?xml version="1.0" encoding="UTF-8"?>
<MPD
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  [...]>

  <Period>
    <!-- 4 mosaic video streams are in a single stream -->
    <AdaptationSet id="1" [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="main"/>
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple"/>
      <ContentComponent id="srd1" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 0, 0, 960, 540, 1920, 1080"/>
        <EssentialProperty
schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="1"/>
        <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
          value="http://example.com/a_service/my.mpd"/>
      <ContentComponent/>
      <ContentComponent id="srd2" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 960, 0, 960, 540, 1920, 1080"/>
        <EssentialProperty
schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="2"/>
        <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
          value="http://example.com/b_service/my.mpd"/>
      <ContentComponent/>
      <ContentComponent id="srd3" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 0, 540, 960, 540, 1920, 1080"/>
        <EssentialProperty

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schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
  value="3"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/c_service/my.mpd"/>
</ContentComponent/>
<ContentComponent id="srd4" >
  <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
    value="1, 960, 540, 960, 540, 1920, 1080"/>
  <EssentialProperty
schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
  value="4"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/d_service/my.mpd"/>
</ContentComponent/>

<Representation id="1" bandwidth="1000000"[...]>
  <BaseURL>stream1.mp4</BaseURL>
</Representation>
<Representation id="2" bandwidth="2000000"[...]>
  <BaseURL>stream2.mp4</BaseURL>
</Representation>

<Representation id="3" bandwidth="4000000"[...]>
  <BaseURL>stream3.mp4</BaseURL>
</Representation>
<Representation id="4" bandwidth="8000000"[...]>
  <BaseURL>stream4.mp4</BaseURL>
</Representation>
</AdaptationSet>
</Period>
</MPD>

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<?xml version="1.0" encoding="UTF-8"?>
<MPD
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  [...]>

  <Period>
    <!-- 4 mosaic video streams are in a single stream -->
    <AdaptationSet id="1" [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="main"/>
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple"/>
      <Representation id="1" bandwidth="1000000" [...]>
        <BaseURL>stream1.mp4</BaseURL>
      </Representation>
      <Representation id="2" bandwidth="2000000" [...]>
        <BaseURL>stream2.mp4</BaseURL>
      </Representation>

      <Representation id="3" bandwidth="4000000" [...]>
        <BaseURL>stream3.mp4</BaseURL>
      </Representation>
      <Representation id="4" bandwidth="8000000" [...]>
        <BaseURL>stream4.mp4</BaseURL>
      </Representation>
    </AdaptationSet>

    <AdaptationSet associationId="1" associationLevel="1" [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
      <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
        value="1, 0, 0, 960, 540, 1920, 1080"/>
      <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
        value="http://example.com/a_service/my.mpd"/>
    </AdaptationSet>

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<AdaptationSet associationId="1" associationLevel="2" [...] >
  <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
  <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
    value="1, 960, 0, 960, 540, 1920, 1080"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/b_service/my.mpd"/>
</AdaptationSet>

<AdaptationSet associationId="1" associationLevel="3" [...] >
  <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
  <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
    value="1, 0, 540, 960, 540, 1920, 1080"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/c_service/my.mpd"/>
</AdaptationSet>

<AdaptationSet associationId="1" associationLevel="4" [...] >
  <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>

  <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
    value="1, 960, 540, 960, 540, 1920, 1080"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/d_service/my.mpd"/>
</AdaptationSet>
</Period>
</MPD>

```

```

<?xml version="1.0" encoding="UTF-8"?>
<MPD
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  [...]>

  <Period>
    <!-- 4 mosaic video streams are in a single stream -->
    <AdaptationSet id="1" [...] >
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="main"/>
      <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple"/>
      <ContentComponent id="srd1" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 0, 0, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="1"/>
      <ContentComponent/>
      <ContentComponent id="srd2" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 960, 0, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="2"/>
      <ContentComponent/>
      <ContentComponent id="srd3" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 0, 540, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="3"/>
      <ContentComponent/>
      <ContentComponent id="srd4" >
        <EssentialProperty schemeIdUri="urn:mpeg:dash:srd:2014"
          value="1, 960, 540, 960, 540, 1920, 1080"/>
        <EssentialProperty
          schemeIdUri="urn:mpeg:dash:subrepresentation-id:2014"
          value="4"/>
      <ContentComponent/>

```

```

<Representation id="1" bandwidth="1000000"[...]>
  <BaseURL>stream1.mp4</BaseURL>
</Representation>
<Representation id="2" bandwidth="2000000"[...]>
  <BaseURL>stream2.mp4</BaseURL>
</Representation>

<Representation id="3" bandwidth="4000000"[...]>
  <BaseURL>stream3.mp4</BaseURL>
</Representation>
<Representation id="4" bandwidth="8000000"[...]>
  <BaseURL>stream4.mp4</BaseURL>
</Representation>
</AdaptationSet>

<AdaptationSet associationId="1" associationLevel="srd1" [...] >
  <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/a_service/my.mpd"/>
</AdaptationSet>

<AdaptationSet associationId="1" associationLevel="srd2" [...] >
  <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/b_service/my.mpd"/>
</AdaptationSet>

<AdaptationSet associationId="1" associationLevel="srd3" [...] >
  <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/c_service/my.mpd"/>
</AdaptationSet>

<AdaptationSet associationId="1" associationLevel="srd4" [...] >
  <Role schemeIdUri="urn:mpeg:dash:role:2014" value="multiple_element"/>
  <SupplementalProperty schemeIdUri="urn:mpeg:dash:alternative:2015"
    value="http://example.com/d_service/my.mpd"/>
</AdaptationSet>
</Period>
</MPD>

```

FIG. 20

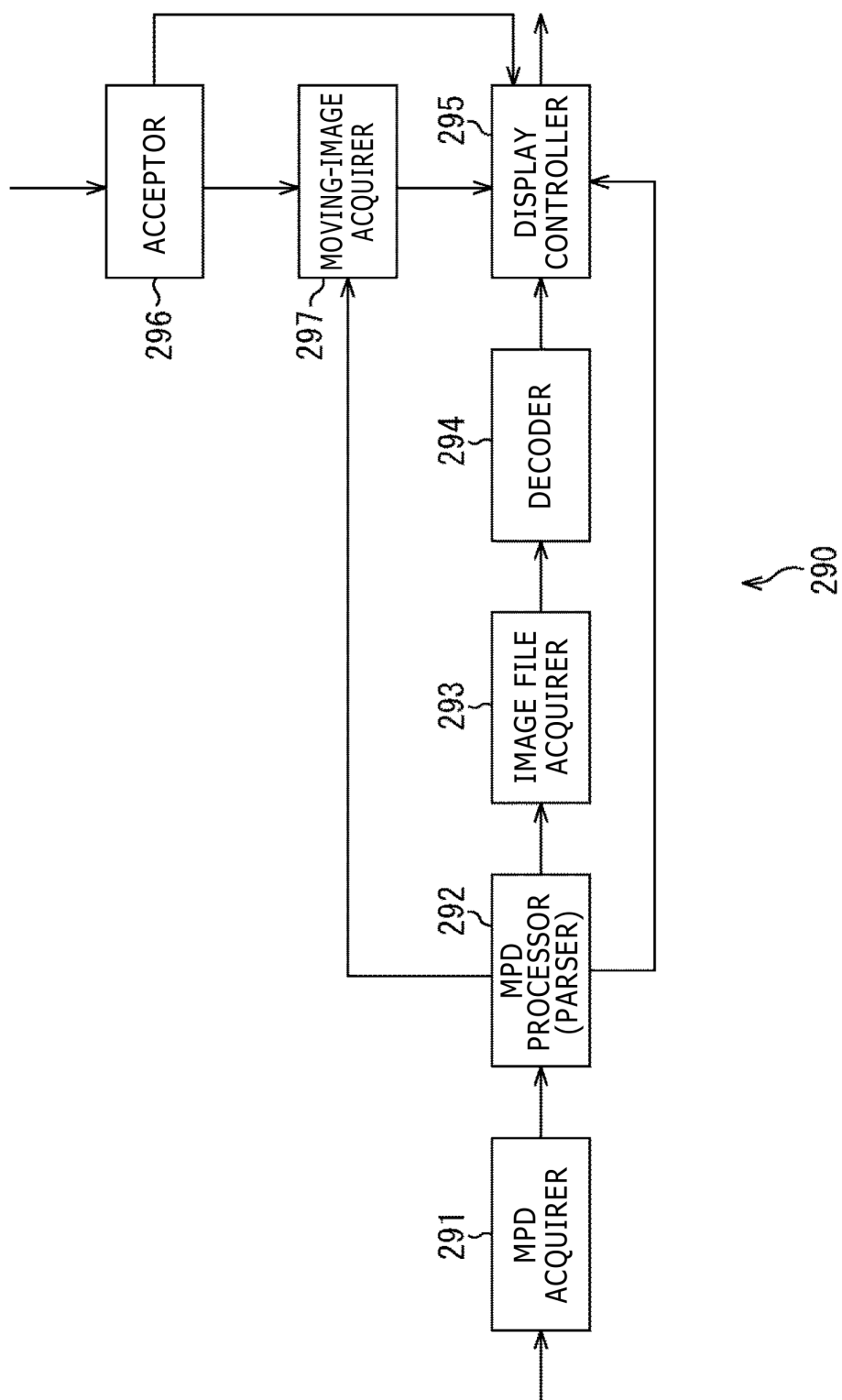
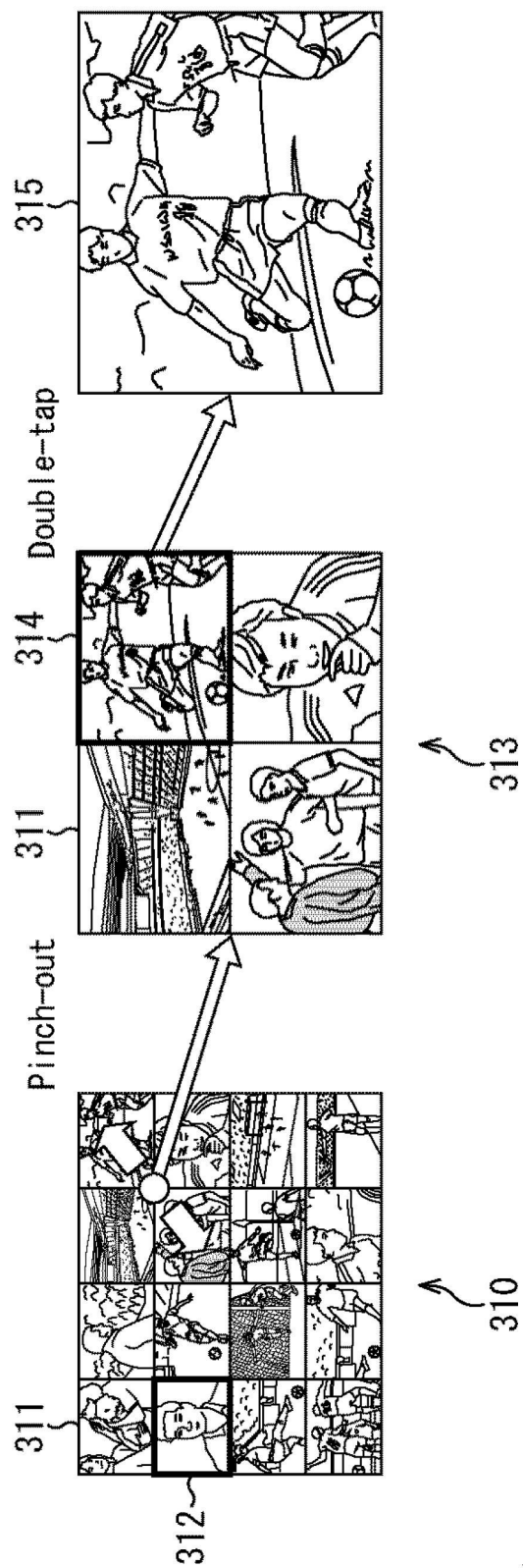


FIG. 21



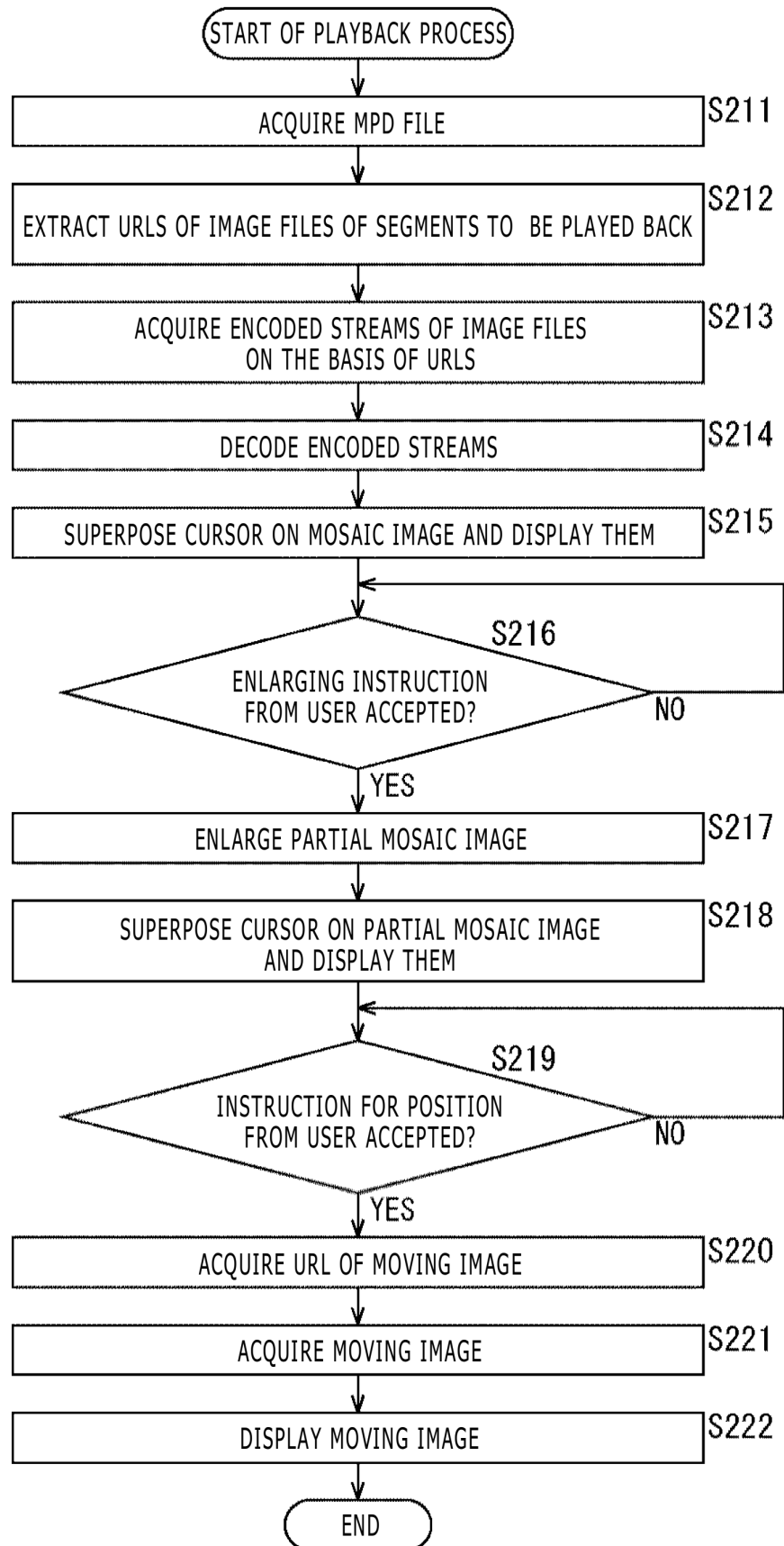


FIG. 23

