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# INTERNATIONAL STANDARD

## Information technology – UPnP Device Architecture – Part 9-11: Imaging Device Control Protocol – Feeder Service



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## Information technology – UPnP Device Architecture – Part 9-11: Imaging Device Control Protocol – Feeder Service

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## Part 9-11: Imaging Device Control Protocol – Feeder Service

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This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

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| **UPnP Document Title** | **ISO/IEC 29341 Part** |
|---|---|
| UPnP Device Architecture 1.0 | ISO/IEC 29341-1 |
| UPnP Basic:1 Device | ISO/IEC 29341-2 |
| UPnP AV Architecture:1 | ISO/IEC 29341-3-1 |
| UPnP MediaRenderer:1 Device | ISO/IEC 29341-3-2 |
| UPnP MediaServer:1 Device | ISO/IEC 29341-3-3 |
| UPnP AVTransport:1 Service | ISO/IEC 29341-3-10 |
| UPnP ConnectionManager:1 Service | ISO/IEC 29341-3-11 |
| UPnP ContentDirectory:1 Service | ISO/IEC 29341-3-12 |
| UPnP RenderingControl:1 Service | ISO/IEC 29341-3-13 |
| UPnP MediaRenderer:2 Device | ISO/IEC 29341-4-2 |
| UPnP MediaServer:2 Device | ISO/IEC 29341-4-3 |
| UPnP AV Datastructure Template:1 | ISO/IEC 29341-4-4 |
| UPnP AVTransport:2 Service | ISO/IEC 29341-4-10 |
| UPnP ConnectionManager:2 Service | ISO/IEC 29341-4-11 |
| UPnP ContentDirectory:2 Service | ISO/IEC 29341-4-12 |
| UPnP RenderingControl:2 Service | ISO/IEC 29341-4-13 |
| UPnP ScheduledRecording:1 | ISO/IEC 29341-4-14 |
| UPnP DigitalSecurityCamera:1 Device | ISO/IEC 29341-5-1 |
| UPnP DigitalSecurityCameraMotionImage:1 Service | ISO/IEC 29341-5-10 |
| UPnP DigitalSecurityCameraSettings:1 Service | ISO/IEC 29341-5-11 |
| UPnP DigitalSecurityCameraStillImage:1 Service | ISO/IEC 29341-5-12 |
| UPnP HVAC_System:1 Device | ISO/IEC 29341-6-1 |
| UPnP HVAC_ZoneThermostat:1 Device | ISO/IEC 29341-6-2 |
| UPnP ControlValve:1 Service | ISO/IEC 29341-6-10 |
| UPnP HVAC_FanOperatingMode:1 Service | ISO/IEC 29341-6-11 |
| UPnP FanSpeed:1 Service | ISO/IEC 29341-6-12 |
| UPnP HouseStatus:1 Service | ISO/IEC 29341-6-13 |
| UPnP HVAC_SetpointSchedule:1 Service | ISO/IEC 29341-6-14 |
| UPnP TemperatureSensor:1 Service | ISO/IEC 29341-6-15 |
| UPnP TemperatureSetpoint:1 Service | ISO/IEC 29341-6-16 |
| UPnP HVAC_UserOperatingMode:1 Service | ISO/IEC 29341-6-17 |
| UPnP BinaryLight:1 Device | ISO/IEC 29341-7-1 |
| UPnP DimmableLight:1 Device | ISO/IEC 29341-7-2 |
| UPnP Dimming:1 Service | ISO/IEC 29341-7-10 |
| UPnP SwitchPower:1 Service | ISO/IEC 29341-7-11 |
| UPnP InternetGatewayDevice:1 Device | ISO/IEC 29341-8-1 |
| UPnP LANDevice:1 Device | ISO/IEC 29341-8-2 |
| UPnP WANDevice:1 Device | ISO/IEC 29341-8-3 |
| UPnP WANConnectionDevice:1 Device | ISO/IEC 29341-8-4 |
| UPnP WLANAccessPointDevice:1 Device | ISO/IEC 29341-8-5 |
| UPnP LANHostConfigManagement:1 Service | ISO/IEC 29341-8-10 |
| UPnP Layer3Forwarding:1 Service | ISO/IEC 29341-8-11 |
| UPnP LinkAuthentication:1 Service | ISO/IEC 29341-8-12 |
| UPnP RadiusClient:1 Service | ISO/IEC 29341-8-13 |
| UPnP WANCableLinkConfig:1 Service | ISO/IEC 29341-8-14 |
| UPnP WANCommonInterfaceConfig:1 Service | ISO/IEC 29341-8-15 |
| UPnP WANDSLLinkConfig:1 Service | ISO/IEC 29341-8-16 |
| UPnP WANEthernetLinkConfig:1 Service | ISO/IEC 29341-8-17 |
| UPnP WANIPConnection:1 Service | ISO/IEC 29341-8-18 |
| UPnP WANPOTSLinkConfig:1 Service | ISO/IEC 29341-8-19 |
| UPnP WANPPPConnection:1 Service | ISO/IEC 29341-8-20 |
| UPnP WLANConfiguration:1 Service | ISO/IEC 29341-8-21 |
| UPnP Printer:1 Device | ISO/IEC 29341-9-1 |
| UPnP Scanner:1.0 Device | ISO/IEC 29341-9-2 |
| UPnP ExternalActivity:1 Service | ISO/IEC 29341-9-10 |
| UPnP Feeder:1.0 Service | ISO/IEC 29341-9-11 |
| UPnP PrintBasic:1 Service | ISO/IEC 29341-9-12 |
| UPnP Scan:1 Service | ISO/IEC 29341-9-13 |
| UPnP QoS Architecture:1.0 | ISO/IEC 29341-10-1 |
| UPnP QosDevice:1 Service | ISO/IEC 29341-10-10 |
| UPnP QosManager:1 Service | ISO/IEC 29341-10-11 |
| UPnP QosPolicyHolder:1 Service | ISO/IEC 29341-10-12 |
| UPnP QoS Architecture:2 | ISO/IEC 29341-11-1 |
| UPnP QOS v2 Schema Files | ISO/IEC 29341-11-2 |

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| UPnP Document Title | ISO/IEC 29341 Part |
|---|---|
| UPnP QosDevice:2 Service | ISO/IEC 29341-11-10 |
| UPnP QosManager:2 Service | ISO/IEC 29341-11-11 |
| UPnP QosPolicyHolder:2 Service | ISO/IEC 29341-11-12 |
| UPnP RemoteUIClientDevice:1 Device | ISO/IEC 29341-12-1 |
| UPnP RemoteUIServerDevice:1 Device | ISO/IEC 29341-12-2 |
| UPnP RemoteUIClient:1 Service | ISO/IEC 29341-12-10 |
| UPnP RemoteUIServer:1 Service | ISO/IEC 29341-12-11 |
| UPnP DeviceSecurity:1 Service | ISO/IEC 29341-13-10 |
| UPnP SecurityConsole:1 Service | ISO/IEC 29341-13-11 |

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# 1. Overview and Scope

This service definition is compliant with the UPnP Device Architecture version 1.0.

This service-type enables the following functions:

- *Document Feeders for Scanners, Faxes, etc.*

This service template does not address:

- *TBD*

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# 2. Service Modeling Definitions

## 2.1. ServiceType

A service that is compliant with this template is identified with the following service type:

**urn:schemas-upnp-org:service:***Feeder:1*

## 2.2. Service State Table

**Table 1: State Variables**

| Variable Name | Req. or Opt. [1] | Data Type | Allowed Value [2] | Default Value [2] | Eng. Units |
|---|---|---|---|---|---|
| *Model* | *O* | *string* | *Vendor Specific* | | |
| *State* | *R* | *string* | *[Unloaded \| Loaded \| Busy \| Erred]* | *Unloaded* | *n/a* |
| *FailureCode* | *R* | *string* | *[none \| Jammed \| Timeout]* | *none* | *n/a* |
| *MorePages* | *O* | *boolean* | | *False (0)* | *n/a* |
| *FeederMode* | *R* | *string* | *[Simplex]* | *[Simplex]* | *n/a* |
| *SheetWidth* | *R* | *ui4* | | | *milli-inches* |
| *SheetHeight* | *R* | *ui4* | | | *milli-inches* |
| *InputJustification* | *R* | *string* | | *vendor specific* | *n/a* |
| *JobID* | *R* | *ui4* | *0-4294967295* | *0* | *n/a* |
| *EntireDocument* | *R* | *string* | *[device-setting\|1\|0]* | *True (1)* | *n/a* |
| *Timeout* | *R* | *ui4* | | *vendor-defined* | *seconds* |

### 2.2.1. Model

Gives the model number of the feeder. This variable is not required on devices that have a fixed feeder.

### 2.2.2. State

Describes the state of the feeder. The possible values include the following:

- *Unloaded* – The feeder does not currently have any sheets loaded.
- *Loaded* – (Simplex Mode) – A sheet is loaded and ready to operate on.

[1] R = Required, O = Optional, X = Non-standard.

[2] Values listed in this column are required. To specify standard optional values or to delegate assignment of values to the vendor, you must reference a specific instance of an appropriate table below.

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- *First-Side-Loaded* – (Duplex Mode) – A sheet is loaded with the top side ready to operate on.
- *Second-Side-Loaded* – (Duplex Mode) – A sheet is loaded with the bottom side ready to operate on.
- *Erred* – The feeder is jammed or erred. No further actions will be accepted until the state is cleared.
- *Busy* – The feeder is currently busy or being used and its state cannot be changed.

**Table 1.1 *allowedValueList for State***

| *Value* | *Req. or Opt.* |
|---|---|
| *Unloaded* | *R* |
| *Loaded* | *R* |
| *Erred* | *R* |
| *Busy* | *R* |
| *First-Side-Loaded* | *O*[3] |
| *Second-Side-Loaded* | *O*[3] |

## 2.2.3. FailureCode

A Failure Code indicates a failure, or error, that does not occur as an immediate result of an action and cannot be reported as part of the action response. Error Codes that occur during the execution of an action are not listed as allowed values of the FailureCode unless they can occur outside of the boundary of the action.

**Table 1.2 *allowedValueList for FailureCode***

| *Value* | *Req. or Opt.* |
|---|---|
| *None* | *R* |
| *Jammed* | *R* |
| *Timeout* | *R* |
| *... (vendor defined)* | *O* |

## 2.2.4. MorePages

Indicates whether there are additional pages in the feeder or not.

## 2.2.5. FeederMode

Indicates the type of feed to use in operation with the current scan. The allowed values may be a vendor specific subset or superset of the given values. *Note: Simplex indicates one sided sheets, Duplex indicates two sided sheets.*

**Table 1.3 *allowedValueList for FeederMode***

| *Value* | *Req. or Opt.* |
|---|---|
| *Simplex* | *R* |
| *Duplex* | *O*[4] |
| *... (vendor defined)* | *O* |

## 2.2.6. SheetWidth

This value is a constant that represents the minimum and maximum values of the sheet width supported by the Feeder. These values are available in the SCPD, but there are no actions defined to provide access to the actual value. The intent of this variable is only to provide the limits of the sheet width supported by the feeder.

**Table 1.4 *allowedValueRange for SheetWidth***

| *Value* | | *Req. or Opt.* |
|---|---|---|
| *Minimum* | *VendorUnique* | *R* |
| *Maximum* | *VendorUnique* | *R* |

*SheetWidth is a constant value. It provides limiting values of the paper size that is supported by the feeder.*

[3] For use with Duplex Feeders

[4] For use with a Duplex Feeder

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### 2.2.7. SheetHeight

This value is a constant that represents the minimum and maximum values of the sheet height supported by the Feeder. These values are available in the SCPD, but there are no actions defined to provide access to the actual value. The intent of this variable is only to provide the limits of the sheet height supported by the feeder.

**Table 1.5 *allowedValueRange for SheetHeight***

| *Value* | | *Req. or Opt.* |
|---|---|---|
| *Minimum* | *VendorUnique* | *R* |
| *Maximum* | *VendorUnique* | |

*SheetHeight is a constant value. It provides limiting values of the paper size that is supported by the feeder.*

### 2.2.8. InputJustification

This value is a constant that is used to indicate the justification supported by the Feeder. This value is in the SCPD, but the actual value of the state variable is not important.

### 2.2.9. JobID

An argument placeholder for the JobID type arguments.

### 2.2.10.EntireDocument

Indicates whether the Eject action should eject one sheet or the entire document..

### 2.2.11.Timeout

Indicates the timeout value in seconds used to prevent deadlocks in the feeder. This value is for information only and cannot be changed.

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## 2.3. Eventing and Moderation

**Table 2: Event Moderation**

| Variable Name | Evented | Moderated Event? | Max Event Rate | Logical Combination | Min Delta per Event |
|---|---|---|---|---|---|
| | | | Determined by N Where Rate = (Event)/(N secs) | | (N) * (allowed ValueRange Step) |
| *Model* | *No* | | | | |
| *State* | *No* | | | | |
| *FailureCode* | *No* | | | | |
| *MorePages*<br>*FeederMode*<br>*SheetWidth*<br>*SheetHeight*<br>*InputJustification*<br>*JobID*<br>*EntireDocument*<br>*Timeout* | *Yes*<br>*No*<br>*No*<br>*No*<br>*No*<br>*No*<br>*No*<br>*No* | *No* | | | |

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## 2.4. Actions

Immediately following this table is detailed information about these actions, including short descriptions of the actions, the effects of the actions on state variables, and error codes defined by the actions.

**Table 3: Action List**

| Name | Req. or Opt. |
|---|---|
| Load | R |
| Eject | R |
| Reset | R |
| GetState | R |
| SetFeederMode | R |
| GetFeederMode | R |

### 2.4.1. *(void)* Load(JobIDIn, StateOut)

#### *2.4.1.1. Arguments*

**Table 4: Arguments for Load**

| Argument | Direction | RelatedStateVariable |
|---|---|---|
| *JobIDIn* | *IN* | *JobID* |
| *StateOut* | *OUT* | *State* |

#### *2.4.1.2. Effect on State*

Attempt to load a sheet. If successful, set the State to **Loaded, First-Side-Loaded, or Second-Side-Loaded.** The resulting state value is returned. See the state diagrams in *Figure 1* and *Figure 2* on page 16. The Load action is not valid in the Busy state. If it is used in the Busy state, then Action Failed (501) is returned and the action is not performed.

#### *2.4.1.3. Errors*

**Table 5: Errors for Load**

| errorCode | errorDescription | Description |
|---|---|---|
| *501* | *Action Failed* | This action cannot be performed in the Busy state |
| *711* | *Jammed* | The device has jammed. Clear the paper path and execute the reset action |
| *713* | *Feeder Empty* | A load was attempted when there were no more pages available. |

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## 2.4.2. *(void)* Eject(JobIDIn, bEntireDocumentIn, StateOut)

### *2.4.2.1. Arguments*

**Table 6: Arguments for Eject**

| Argument | Direction | relatedStateVariable |
|---|---|---|
| *JobIDIn* | *IN* | *JobID* |
| *EntireDocumentIn* | *IN* | *EntireDocument* |
| *StateOut* | *OUT* | *State* |

### *2.4.2.2. Effect on State*

Attempt to eject a sheet. If successful, set the State to **Unloaded**. The resulting state value is returned. The Eject action is not allowed in the Busy state. If Eject is performed while in the Busy state, Action Failed (501) will be returned and the action will not be performed. If *EntireDocumentIn* is true, then all of the documents in the current *Job* are ejected. The normal definition of *Job* is assumed to be all sheets in the feeder. However, vendors may redefine the term to fit the capabilities of the feeder (ex. If a feeder can detect separator sheets, then a job would end at the next separator sheet). If *EntireDocumentIn* is false, then one sheet will be ejected.

### *2.4.2.3. Errors*

**Table 7: Errors for Eject**

| errorCode | errorDescription | Description |
|---|---|---|
| *501* | *Action Failed* | The Eject action cannot be performed in the Busy state |
| *711* | *Jammed* | The device has jammed. Clear the paper path and execute the reset action |

## 2.4.3. *(void)* Reset(JobIDIn, StateOut)

### *2.4.3.1. Arguments*

**Table 8: Arguments for Reset**

| Argument | Direction | relatedStateVariable |
|---|---|---|
| *JobIDIn* | *IN* | *JobID* |
| *StateOut* | *OUT* | *State* |

### *2.4.3.2. Effect on State*

Attempt to clear a Erred state. If the action is successful, the state will change to **Unloaded**. The resulting state value is returned. The Reset action is not allowed in the Busy state. If Reset is performed while in the Busy state, Action Failed (501) will be returned and the action will not be performed.

**Table 9: Errors for Reset**

| errorCode | errorDescription | Description |
|---|---|---|
| *501* | *Action Failed* | The Reset action cannot be performed in the Busy state |

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## 2.4.4. *(void)* GetState(StateOut, MorePagesOut, FailureCodeOut)

### *2.4.4.1. Arguments*

**Table 10: Arguments for GetState**

| Argument | Direction | relatedStateVariable |
|---|---|---|
| *StateOut* | OUT | *State* |
| *MorePagesOut* | OUT | *MorePages* |
| *FailureCodeOut* | OUT | *FailureCode* |

### *2.4.4.2. Effect on State*

Get the current operating state of the feeder. No effect on state.

## 2.4.5. *(void)* SetFeederMode(JobIDIn, FeederModeIn)

### *2.4.5.1. Arguments*

**Table 11: Arguments for SetFeederMode**

| Argument | Direction | relatedStateVariable |
|---|---|---|
| *JobIDIn* | *IN* | *JobID* |
| *FeederModeIn* | IN | *FeederMode* |

### *2.4.5.2. Effect on State*

This action changes the FeederModeIn value to enable or disable duplex scanning. This value must only be changed when the State value is Unloaded, otherwise the FeederModeIn value will not be changed and an *InvalidState error will be returned.*

### *2.4.5.3. Errors*

**Table 12: Errors for SetFeederMode**

| errorCode | errorDescription | Description |
|---|---|---|
| 501 | Action Failed | This action can only be executed when the current State value is Unloaded. |

## 2.4.6. *(void)* GetFeederMode(FeederModeOut)

### *2.4.6.1. Arguments*

**Table 13: Arguments for GetFeederMode**

| Argument | Direction | RelatedStateVariable |
|---|---|---|
| *FeederModeOut* | OUT | *FeederMode* |

### *2.4.6.2. Effect on State*

This action returns the current value of the FeederMode setting. No effect on state.

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### 2.4.7. Common Error Codes

**Table 14: Common Error Codes**

| errorCode | errorDescription | Description |
|---|---|---|
| 401 | Invalid Action | See UPnP Device Architecture section on Control. |
| 402 | Invalid Args | See UPnP Device Architecture section on Control. |
| 501 | Action Failed | See UPnP Device Architecture section on Control. |
| 600 | Argument Value Invalid | The argument value is invalid. |
| 601 | Argument Value Out of Range | An argument value is less than the **minimum** or more than the **maximum** value of the **allowedValueRange**, or is not in the **allowedValueList**. |
| 602 | Optional Action Not Implemented | The requested action is optional and is not implemented by the device. |
| 603 | Out of Memory | The device does not have sufficient memory available to complete the action. This may be a temporary condition; the control point may choose to retry the unmodified request again later and it may succeed if memory is available. |
| 604 ***Proposed*** | Human Intervention Required | The device has encountered an error condition which it cannot resolve itself and requires human intervention such as a reset or power cycle. See the device display or documentation for further guidance. |

## 2.5. Theory of Operation

*This service is intended to be used with a Scanner, FAX or other similar service and device. It has a simple state machine shown below:*

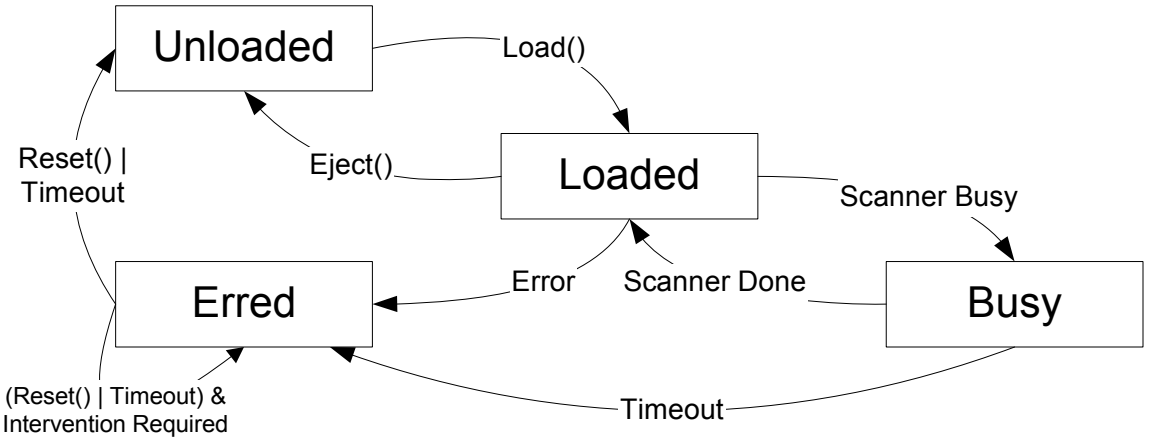


**Figure 1 – Simplex Feeder State Diagram**

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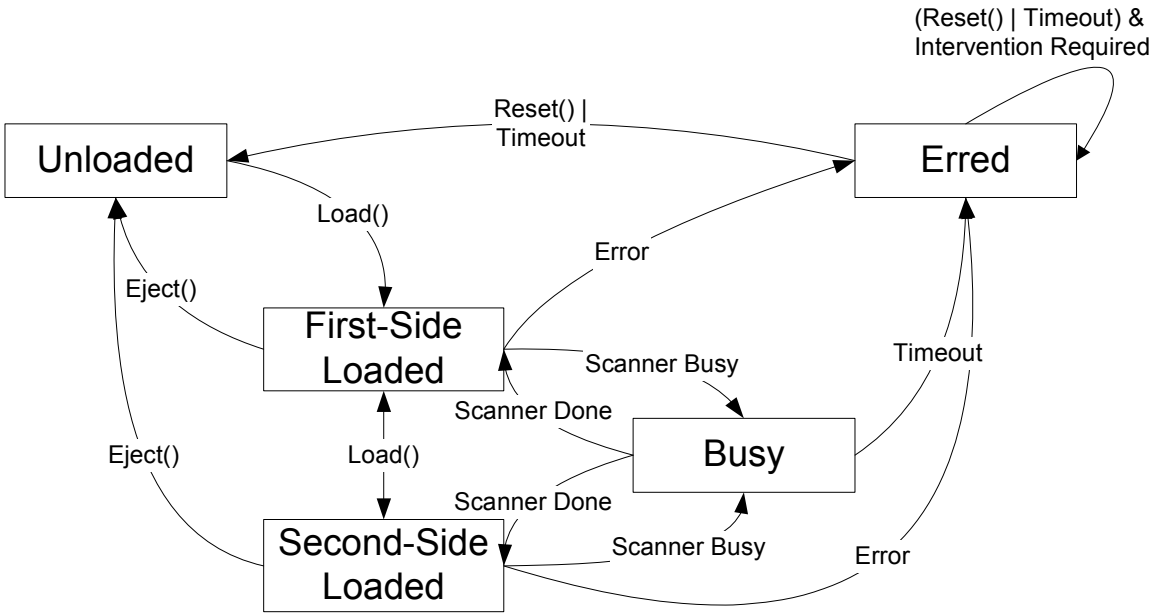


**Figure 2 – Duplex Feeder State Diagram**

With a Simplex FeederMode value, a load action should always load a new page and end up in the *Loaded* state. An Eject action should always unload any loaded page and end up in the *Unloaded* state. Exceptions would be when there are no pages available (State changes to *Unloaded*) or when a jam occurs (State changes to *Erred)*. With a Duplex *FeederMode* value, a load action should always move from Unloaded to First-Side-Loaded, from First-Side-Loaded to Second-Side-Loaded, or from Second-Side-Loaded to First-Side-Loaded. Exceptions would be when there are no pages available (State changes to *Unloaded*) or when a jam or other error occurs (State changes to *Erred*). The Busy state is a state where no feeder actions should be performed. Entry into and exit from the Busy state are controlled by vendor-specific interactions between the Scanner service and the Feeder service and are not specified in this document.

### 2.5.1. Enhanced Feeder Operation

The feeder described in this document is a simple feeder. It does not encompass all of the different feeder varieties that the Scanning committee envisioned. Instead, it represents a simple feeder with a simple interface to the scanner. If a vendor has a more complex feeder then they must modify this service to properly represent it. However, care must be taken to keep the same interface for the scanner service.

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# 3. XML Service Template for *Feeder:1.0*

The XML document below is a sample *Service Control Protocol Document* (SCPD) for a scanner feeder device. It should be modified as needed by a scanner vendor to fully describe the feeder service offered by the scanner device. The scanner device should make the modified document available at the SCPD URL given in the device descriptor. A client will perform an HTTP/GET operation on that URL to get the document. NOTE: The XML comments are for information only and should be removed from the SCPD.

```
<?xml version="1.0"?>
<scpd xmlns="urn:schemas-upnp-org:service-1-0">
  <specVersion>
    <major>1</major>
    <minor>0</minor>
  </specVersion>
  <actionList>
    <action>
      <name>Load</name>
      <argumentList>
        <argument>
          <name>JobIDIn</name>
          <relatedStateVariable>JobID</relatedStateVariable>
          <direction>in</direction>
        </argument>
        <argument>
          <name>StateOut</name>
          <relatedStateVariable>State</relatedStateVariable>
          <direction>out</direction>
        </argument>
      </argumentList>
    </action>
    <action>
      <name>Eject</name>
      <argumentList>
        <argument>
          <name>JobIDIn</name>
          <relatedStateVariable>JobID</relatedStateVariable>
          <direction>in</direction>
        </argument>
        <argument>
          <name>EntireDocumentIn</name>
          <relatedStateVariable>EntireDocument</relatedStateVariable>
          <direction>in</direction>
        </argument>
        <argument>
          <name>StateOut</name>
          <relatedStateVariable>State</relatedStateVariable>
          <direction>out</direction>
        </argument>
      </argumentList>
    </action>
    <action>
      <name>Reset</name>
      <argumentList>
        <argument>
          <name>JobIDIn</name>
          <relatedStateVariable>JobID</relatedStateVariable>
          <direction>in</direction>
        </argument>
        <argument>
          <name>StateOut</name>
          <relatedStateVariable>State</relatedStateVariable>
          <direction>out</direction>
        </argument>
```

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```
      </argumentList>
    </action>
    <action>
      <name>GetState</name>
      <argumentList>
        <argument>
          <name>StateOut</name>
          <relatedStateVariable>State</relatedStateVariable>
          <direction>out</direction>
        </argument>
        <argument>
          <name>MorePagesOut</name>
          <relatedStateVariable>MorePages</relatedStateVariable>
          <direction>out</direction>
        </argument>
        <argument>
          <name>FailureCodeOut</name>
          <relatedStateVariable>FailureCode</relatedStateVariable>
          <direction>out</direction>
        </argument>
      </argumentList>
    </action>
    <!-- The SetFeederMode action is optional.It may be removed from
    this document if it is not supported by the scanner device -->
    <action>
      <name>SetFeederMode</name>
      <argumentList>
        <argument>
          <name>JobIDIn</name>
          <relatedStateVariable>JobID</relatedStateVariable>
          <direction>in</direction>
        </argument>
        <argument>
          <name>FeederModeIn</name>
          <relatedStateVariable>FeederMode</relatedStateVariable>
          <direction>in</direction>
        </argument>
      </argumentList>
    </action>
    <action>
      <name>GetFeederMode</name>
      <argumentList>
        <argument>
          <name>FeederModeOut</name>
          <relatedStateVariable>FeederMode</relatedStateVariable>
          <direction>out</direction>
        </argument>
      </argumentList>
    </action>
    Declarations for other actions added by UPnP vendor (if any) go here
  </actionList>
  <serviceStateTable>
    <!-- The Model variable is optional.It may be removed if not supported
      by the device -->
    <stateVariable sendEvents="no">
      <name>Model</name>
      <dataType>string</dataType>
    </stateVariable>
    <stateVariable sendEvents="no">
      <name>State</name>
      <dataType>string</dataType>
      <defaultValue>Unloaded</defaultValue>
      <allowedValueList>
        <allowedValue>Unloaded</allowedValue>
```

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```
      <allowedValue>Loaded</allowedValue>
      <allowedValue>Busy</allowedValue>
      <allowedValue>Erred</allowedValue>
      <!-- Optional Values for scanners with duplexers
      <allowedValue>First-Side-Loaded</allowedValue>
      <allowedValue>Second-Side-Loaded</allowedValue>
      -->
    </allowedValueList>
  </stateVariable>
  <stateVariable sendEvents="no">
    <name>FailureCode</name>
    <dataType>string</dataType>
    <defaultValue>None</defaultValue>
    <allowedValueList>
      <allowedValue>None</allowedValue>
      <allowedValue>Jammed</allowedValue>
      <allowedValue>Timeout</allowedValue>
    </allowedValueList>
  </stateVariable>
  <!-- The MorePages variable is optional.It may be removed if not
    supported by the device -->
  <stateVariable sendEvents="yes">
    <name>MorePages</name>
    <dataType>boolean</dataType>
    <defaultValue>0</defaultValue>
  </stateVariable>
  <stateVariable sendEvents="no">
    <name>FeederMode</name>
    <dataType>string</dataType>
    <defaultValue>Simplex</defaultValue>
    <allowedValueList>
      <allowedValue>Simplex</allowedValue>
      <!-- Optional Value
      <allowedValue>Duplex</allowedValue>
      -->
      <!-- Additional Vendor Unique values may be added here -->
    </allowedValueList>
  </stateVariable>
  <stateVariable sendEvents="no">
    <name>JobID</name>
    <dataType>ui4</dataType>
    <defaultValue>0</defaultValue>
    <allowedValueRange>
      <minimum>0</minimum>
      <maximum>vendor-defined</maximum>
      <step>1</step>
    </allowedValueRange>
  </stateVariable>
  <!--SheetWidth is a constant value that is used to define the limits of
    the sheet width in milli-inches -->
  <stateVariable sendEvents="no">
    <name>SheetWidth</name>
    <dataType>ui4</dataType>
    <allowedValueRange>
      <minimum>0</minimum><!--Vendor defined range value -->
      <maximum>vendor-defined</maximum><!-- Vendor defined range value -
        ->
      <step>1</step>
    </allowedValueRange>
  </stateVariable>
  <!--SheetHeight is a constant value that is used to define the limits
    of the sheet width in milli-inches -->
  <stateVariable sendEvents="no">
    <name>SheetHeight</name>
```

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```
        <dataType>ui4</dataType>
        <allowedValueRange>
          <minimum>0</minimum><!--Vendor defined range value -->
          <maximum>vendor-defined</maximum><!-- Vendor defined range value -
            ->
          <step>1</step>
        </allowedValueRange>
      </stateVariable>
      <stateVariable sendEvents="no">
        <name>InputJustification</name>
        <dataType>string</dataType>
        <defaultValue>vendor-defined</defaultValue>  <!--Vendor defined
          constant value -->
      </stateVariable>
      <stateVariable sendEvents="no">
        <name>EntireDocument</name>
        <dataType>string</dataType>
        <defaultValue>1</defaultValue>
        <allowedValueList>
          <allowedValue>1</allowedValue><!-- True -->
          <allowedValue>0</allowedValue><!-- False -->
          <allowedValue>device-setting</allowedValue></allowedValueList>
      </stateVariable>
      <stateVariable sendEvents="no">
        <name>Timeout</name>
        <dataType>ui4</dataType>
        <defaultValue>vendor-defined</defaultValue><!--Vendor Specific value
          -->
      </stateVariable>
      Declarations for other state variables added by UPnP vendor (if any) go
        here
    </serviceStateTable>
</scpd>
```

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# 4. Testing

## 4.1. Syntax Tests

All actions are tested using the UIC Certification Test tool.

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