Scanner:1.0 Device Template Version 1.01

For UPnP™ Version *1.0*
Status: *Standardized DCP*
Date: *September 11, 2002*

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1.   Overview and Scope

This device template is compliant with the UPnP Architecture, Version *1.0*.

Scanner:0.92 represents a Scanner device with an optional feeder and minimal front panel. The associated services may be used to configure and initiate a scan operation, control the use of a feeder, and identify the intended recipients of front-panel interactions. The following services are defined:

- *Scan – Used to acquire image files that represent the document(s)*

- *Feeder – Used to configure and independently control an optional document feeder*

- ExternalActivity – *Used to configure and interact with a simple front panel on the device*

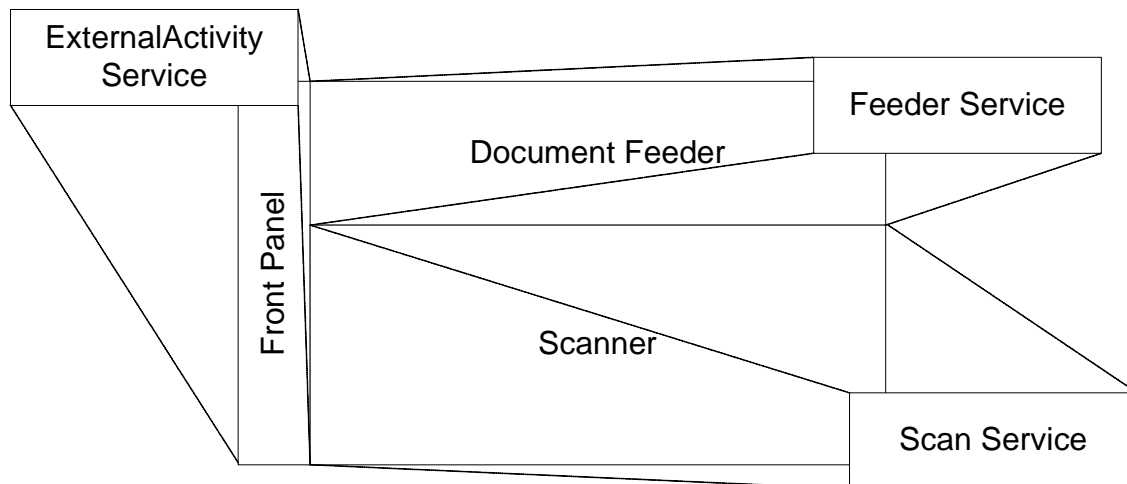This device template does not address:

- *Fax or Copy functions*

Figure 1 - Scanner Device Functional Diagram

1.1.   Change Log for *Scanner:1.0* Device Template

Updated Service Versions

0.21 – Updated Service Versions – Larry Copp 1-Dec-00

0.24 – Updated Service Versions and formatted to 1.0 Device Template – Larry Copp 19Jan2001

0.40 – Updated Service versions and added XML comments regarding optional services – Larry Copp, 7Feb2001

0.41 – Updated Service versions – Larry Copp, 1Mar2001

0.52 – Updated Service versions and added ExternalActivity as an optional service - Larry Copp, 12Jun2001

0.53 – Updated Service versions - Larry Copp, 26Jun2001

0.70 – Updated Service versions - Larry Copp, 6Aug2001

0.71 – Updated Service versions - Larry Copp, 21Aug2001. In addition, the following changes were made:
- Added information regarding the ExternalActivity and its use in the Scanner device.

- Modified the XML to use schemas-upnp-org instead of hp-com

0.72 – Updated Service versions – Larry Copp 29Aug2001

0.90 – Updated Service versions, removed the diagram in Figure 1.

0.91 – Changes to bring the document into compliance with the *Checklist for UPnP Standard Device Template* including:
- Added a functional device description and diagram.
- Changed the name of the Scanner service to Scan service – *the name of the device and service cannot be the same*
- Changed the version of the services to 0.91

0.92 – Changes from the teleconference on 9May2002
- Changed the DeviceType value in Table 1 from Scan to Scanner.
- Changed the versions of the Scan and Feeder services to 0.92
- Changed the Scanner service type to Scan in the XML description

1.0   – *Document approved by Steering Committee*
- Changed version to 1.0
- Changed status to Standardized DCP
- Changed date to September 11, 2002
- Changed legal disclaimer on the first page to Appendix G of the SC Org and Process Doc.
- Changed all copyrights to "© 1999-2001 Microsoft Corporation. All rights Reserved."
- In section 2. "Device Definitions", changed the version to 1
- In section 2.1 "Device Model", change the versions to 1 for DeviceType and ServiceType. Dropped the version number from the serviceIDs. Changed the number 2 footnote from "Prefixed by urn:**upnp-org**:**Scanner**:" to "Prefixed by urn:**upnp-org**:**serviceID**:".
- In section 3.0 "XML Device Template for Scanner:1.0", changed the deviceType and serviceType versions to 1. Dropped the version number from the serviceIDs.

2. Device Definitions

The following device type identifies a device that is compliant with this template:

urn:**schemas-upnp-org:device**:*Scanner:1*

2.1. Device Model

Products that expose devices of the type **urn:schemas-upnp-org:device:**_Scanner:1.0_ must implement minimum version numbers of all required embedded devices and services specified in the table below.

Table 1: Device Requirements

DeviceType	Root	Req. or Opt.[1]	ServiceType	Req. or Opt.[1]	Service ID[2]
Scanner:1	*Root*	*R*	*Scan:1*	*R*	*Scan*
			Feeder:1	*O*	*Feeder*
			ExternalActivity:1	*O*	*ExternalActivity*

[1] R = Required, O = Optional, X = Non-standard.
[2] Prefixed by urn:**upnp-org**:**serviceID**: .

2.2.   Theory of Operation

The Scanner device combines:

- *a Scan service for Scanner control and configuration*

- *a Feeder service for Document Feeder operation*

- *an ExternalActivity service for user initiated activity notification (push buttons, etc.)*

2.2.1. Scan Service

The *Scan Service* is used to operate the scanner. The scan can take place automatically (all available pages are scanned without additional interactions) or manually (the client must start each page of the scan).

2.2.2. Feeder Service

The *Feeder Service* is used to manage a document feeder (if needed). Pages may be loaded or ejected using the *Feeder Service*. The feeder service is optional. If the device does not have a feeder that can be controlled by a control point, then the feeder service should be omitted.

2.2.3. ExternalActivity Service

The *ExternalActivity Service* is used to manage subscriptions and registrations for user initiated events. Control points may register their use of a button and receive a RegistrationID in return. When a user pushes the registered button, the UCP is notified of the activity and may start a scan operation using the RegistrationID as a key to identify the intended user.

3.   XML Device Template for *Scanner:1.0*

```xml
<?xml version="1.0"?>
<root xmlns="urn:schemas-upnp-org:device-1-0">
   <specVersion>
      <major>1</major>
      <minor>0</minor>
   </specVersion>
   <URLBase>base URL for all relative URLs</URLBase>
   <device>
      <deviceType>urn:schemas-upnp-org:device:Scanner:1</deviceType>
      <friendlyName>short user-friendly title</friendlyName>
      <manufacturer>manufacturer name</manufacturer>
      <manufacturerURL>URL to manufacturer site</manufacturerURL>
      <modelDescription>long user-friendly title</modelDescription>
      <modelName>model name</modelName>
      <modelNumber>model number</modelNumber>
      <modelURL>URL to model site</modelURL>
      <serialNumber>manufacturer's serial number</serialNumber>
      <UDN>uuid:UUID</UDN>
      <UPC>Universal Product Code</UPC>
      <iconList>
         <icon>
            <mimetype>image/format</mimetype>
            <width>horizontal pixels</width>
            <height>vertical pixels</height>
            <depth>color depth</depth>
            <url>URL to icon</url>
         </icon>
         XML to declare other icons, if any, go here
      </iconList>
      <serviceList>
         <service>
            <serviceType>
               urn:schemas-upnp-org:service:Scan:1
            </serviceType>
            <serviceId>urn:upnp-org:serviceId:Scan</serviceId>
            <SCPDURL>URL to service description</SCPDURL>
            <controlURL>URL for control</controlURL>
            <eventSubURL>URL for eventing</eventSubURL>
         </service>
         <!-- Optional service
            The Feeder service should be omitted if it is not supported -->
         <service>
            <serviceType>
               urn:schemas-upnp-org:service:Feeder:1
            </serviceType>
            <serviceId>urn:upnp-org:serviceId:Feeder</serviceId>
            <SCPDURL>URL to service description</SCPDURL>
            <controlURL>URL for control</controlURL>
            <eventSubURL>URL for eventing</eventSubURL>
         </service>
         <!-- Optional service
            The ExternalActivity service should be omitted if it is not
            supported -->
         <service>
```

```
                <serviceType>
                    urn:schemas-upnp-org:service:ExternalActivity:1
                </serviceType>
                <serviceId>urn:upnp-org:serviceId:ExternalActivity</serviceId>
                <SCPDURL>URL to service description</SCPDURL>
                <controlURL>URL for control</controlURL>
                <eventSubURL>URL for eventing</eventSubURL>
            </service>
            Declarations for other services added by UPnP vendor (if any) go here
        </serviceList>
        <deviceList>
            Description of embedded devices added by UPnP vendor (if any) go here
        </deviceList>
        <presentationURL>URL for presentation</presentationURL>
    </device>
</root>
```

4. Test

Required content of this section to be specified in revision 1.0 of this template.