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INTERNATIONAL
STANDARD

Information technology – UPnP Device Architecture –
Part 9-1: Imaging Device Control Protocol – Printer Device

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Part 9-1: Imaging Device Control Protocol –
Printer Device

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The list of all currently available parts of the ISO/IEC 29341 series, under the general title *Universal plug and play (UPnP) architecture*, can be found on the IEC web site.

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.

ORIGINAL UPNP DOCUMENTS
(informative)

Reference may be made in this document to original UPnP documents. These references are retained in order to maintain consistency between the specifications as published by ISO/IEC and by UPnP Implementers Corporation. The following table indicates the original UPnP document titles and the corresponding part of ISO/IEC 29341:

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
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UPnP BinaryLight:1 Device	ISO/IEC 29341-7-1
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UPnP WANCommonInterfaceConfig:1 Service	ISO/IEC 29341-8-15
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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

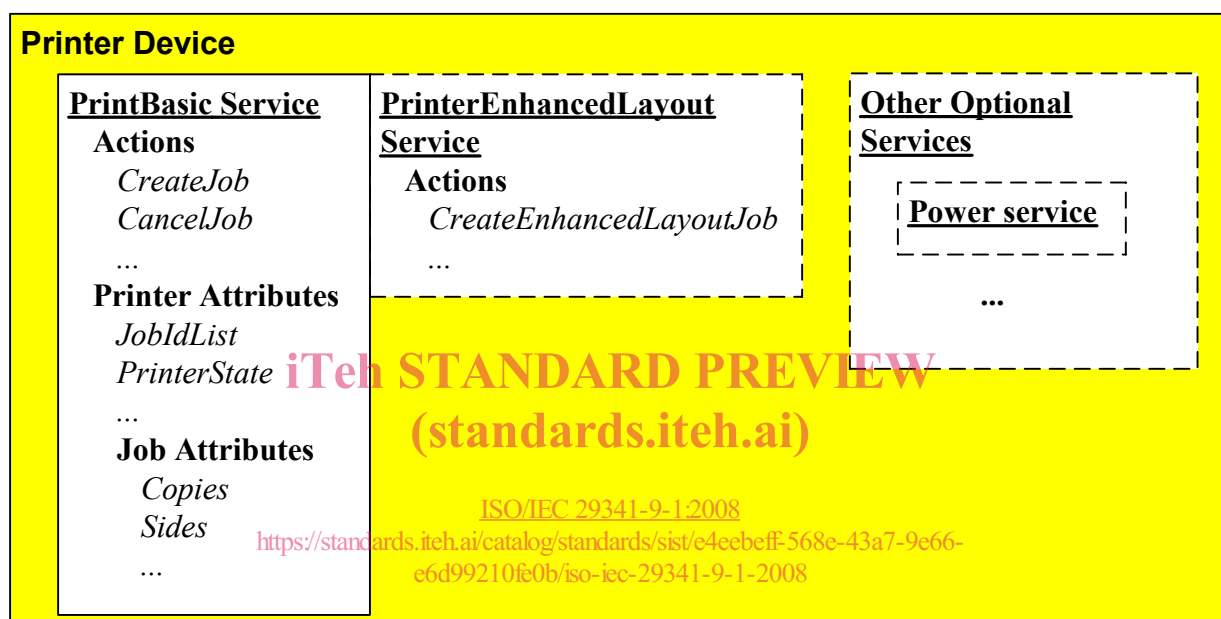| **UPnP Document Title**	**ISO/IEC 29341 Part**
UPnP QosDevice:2 Service	ISO/IEC 29341-11-10
UPnP QosManager:2 Service	ISO/IEC 29341-11-11
UPnP QosPolicyHolder:2 Service	ISO/IEC 29341-11-12
UPnP RemoteUIClientDevice:1 Device	ISO/IEC 29341-12-1
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UPnP 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

1.   Overview and Scope

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

Printer:1 provides the following functionality:

- *Printing*

This device template does not address:

- *Faxing*

Printer Device

PrintBasic Service
  Actions
    CreateJob
    CancelJob
    ...
  Printer Attributes
    JobIdList
    PrinterState
    ...
  Job Attributes
    Copies
    Sides
    ...

PrinterEnhancedLayout Service
  Actions
    CreateEnhancedLayoutJob
    ...

Other Optional Services
  Power service
  ...

Figure 1 Printer:1 Functional Diagram

The above model illustrates a Printer device with the required service of PrintBasic Service. The PrintBasic Service includes print-related attributes along with all job-related attributes (e.g., JobName, DocumentFormat, Copies, etc). The number of Jobs accepted by the service is vendor dependent.   Other jobs that may be queued to print are not accessible to the client.   However, it is possible to get a list of all jobs using a JobIDList attribute (a comma-separated list of JobIDs) and cancel a specific job using the JobID. The JobIDList attribute enables a control point to obtain the JobID of the active job. In this model, printer-related events, as well as all job-related events, are sent to the subscribed clients. The client must filter for their specific job events.

The PrintBasic Service is mandatory in a Printer Device. Additional services may be present. One of these optional services is the PrintEnhancedLayout Service. The PrintEnhancedLayout Service extends the PrintBasic service with additional operations and semantics. The PrintEnhancedLayout Service makes use of the Printer and Job attributes from the PrintBasic Service.