CIPA standardization activities

CIPA Standard Development Working Group : Leader
  DPS Sub-Working Group : Chief
  PTPIP Sub-Working Group : Chief

Canon Inc.
  DCP Dev. Center 1 : General Manager

Hideaki Kawamura
Agenda

■ CIPA introduction
  - Organization Chart of CIPA
  - main CIPA standards
  - DSC estimate statistics

■ PictBridge outline
  - PictBridge Protocol architecture
  - Statistics of PictBridge support devices

■ PTP-IP outline
  - PTP-IP Protocol architecture
<table>
<thead>
<tr>
<th>Standard Number</th>
<th>Common Name</th>
<th>Contents</th>
<th>Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIPA DC-001-2003</td>
<td>PictBridge</td>
<td>Digital Photo Solutions for Imaging Devices (画像機器ヘデジタルフォトソリューションの提供)</td>
<td>Feb 3(^{th}), 2003</td>
</tr>
<tr>
<td>CIPA DC-004-2004</td>
<td></td>
<td>Sensitivity of digital cameras (デジタルカメラの感度規定)</td>
<td>Jul 27(^{th}), 2004</td>
</tr>
<tr>
<td>CIPA DC-005-2005</td>
<td>PTP-IP</td>
<td>“Picture Transfer Protocol” over TCP/IP networks (TCP/IPネットワーク上でPTP（画像転送プロトコル）の実現)</td>
<td>Nov 8(^{th}), 2005</td>
</tr>
</tbody>
</table>
Progress of world demand for digital camera

DSC  世界需要推移
Progress of world demand for DSC

デジタル一眼カメラ世界需要推移
Progress of world demand for digital SLR

CIPA 予測: CIPA document Predictive value after 2006
PictBridge outline

- **Concept**
  - “Direct Print” among any Digital Still Cameras and any Printers

- **Background**
  - “DPS” standard was announced on December 2, 2002
    - DPS 6 promoters (Canon, Epson, Fujifilm, HP, Olympus, and Sony)
  - “DPS” standard was released on February 3, 2003
    - It was announced as a CIPA standard “CIPA DC-001-2003”

- **How to get the documents**
  - Every document can be downloaded from CIPA homepage with IP RAND statement
    - Specification (with DPS_XML_schema)
    - Implementer’s guideline
    - Logo certification guideline

- **Interoperability (Logo program)**
  - PictBridge logo can be used after passing the PictBridge Logo certification test
PictBridge documents

- PictBridge Protocol Architecture
  - DPS1.0 Specification: 規格書本体
    - Define DPS Capability: プリンタ印刷能力の確認
      - PaperSize, PaperType, FileTypes, DatePrint, Cropping…
    - Define DPS Parameter: 各種パラメータの定義
      - Capability, JobConfig, PrintInfo, StatusInfo…
    - Define Print Feature: 各種印刷方法の定義
      - Basic Print (Single, Selected, All, All Index, DPOF)
      - Advanced Print (Cropping, Date, N-up, paperSize…)
    - Printer Status information: 機器の状態表示
      - Job, Error, DPS establish…
  - Implementer’s Guideline 実装ガイドライン
    - PTP implementation
    - USB implementation
  - Logo Certification Guideline : ロゴ認証ガイドライン
    - PictBridge Logo certification Process
    - Interoperability Test Tool
PictBridge Protocol Architecture

Digital Still Camera

PictBridge (Client)
DPS1.0
PTP (Responder)
SICD (Responder)
USB (Device)

CIPA Standard

Printer

PictBridge (Server)
DPS1.0
PTP (Initiator)
SICD (Initiator)
USB (Host)

PTP: Picture Transfer Protocol
PTP-IP: “Picture Transfer Protocol” over TCP/IP networks
SICD: Still Image Class Driver
Number of PictBridge certified models (each half year)

Sep 27th, 2006
Progress of number of PictBridge certification models

Number of PictBridge certified models (at the end of September in 2006)

Digital Still Camera : 1,098
Digital Video Camera : 740
Printer : 495
Cellular phone : 266
Others : 50
Total : 2,649
PTP-IP outline

- **Concept**
  - PTP-IP is specified as a new layer to map PTP on TCP/IP layer
  - PTP application and PictBridge devices can become networked or wireless

- **Background**
  - FotoNation propose this standard as a CIPA standard
  - “PTP-IP” standard was released on November 9, 2005
    - It was announced as a CIPA standard “CIPA DC-005-2005”

- **How to get the documents**
  - Specification document can be downloaded from CIPA homepage with IP RAND statement

- **Interoperability (Logo program)**
  - This protocol can be used to PictBridge devices, but there is no logo program
  - We can not use the term of “Wireless PictBridge” or “PictBridge Wireless”
PictBridge Protocol Architecture using Wireless Dongle

Digital Still Camera
With WLAN

- PictBridge (Client)
- DPS1.0
- PTP (Responder)
- SICD (Responder)
- USB (device)

Printer
With WLAN

- PictBridge (Server)
- DPS1.0
- PTP (Initiator)
- SICD (Responder)
- USB (device)

PTP-IP (Responder) - CIPA Standard - PTP-IP (Initiator)

Wireless Association

No Standard

Wireless Association

OSTA presentation material at Oct 5th 2006