IPP - Agenda for WG Meeting in Memphis - April 8, 1997, 9:00 - 11:30

✓ 1) **Introduction of WG Charter and Internet-Drafts (20 min)**

✓ 2) **Solicit feedback on Protocol for IPP (50 min)**

✓ 3) **Solicit feedback on Security for IPP (50 min)**

✓ 4) **Solicit feedback on Requirements for IP (10 min)**

✓ 5) **Solicit feedback on Model and Semantics for IPP (10 min)**

IPP - Charter

- **IPP Chartered by the IESG on March 6, 1997**
- **Area Advisor:**
  - Keith Moore
- **Chairs:**
  - Carl-Uno Manros
  - Steve Zilles
- **Editors:**
  - Scott Isaacson (main)
  - Don Wright
  - Bob Herriot
  - Roger deBry

IPP - Contact Information

- **General Discussion DL: ipp@pwg.org**
  - To Subscribe: ipp-request@pwg.org

- **Archive: ftp://ftp.pwg.org/pub/pwg/ipp/**

- **Web server: http://www.pwg.org/ipp/**

IPP - Charter

- **Current Internet-Drafts:**
  - Internet Printing Requirements (informational)
    - » **ftp://ftp.ietf.org/internet-drafts-draft-ietf-ipp-req-00.txt**
  - IPP - Model & Semantics (intended for standards track)
    - » **ftp://ftp.ietf.org/internet-drafts-draft-ietf-ipp-model-00.txt**
  - IPP - Directory Schema (intended for standards track)
    - » **ftp://ftp.ietf.org/internet-drafts-draft-ietf-ipp-dir-schema-00.txt**
  - IPP - Security (intended for standards track)
    - » **ftp://ftp.ietf.org/internet-drafts-draft-debry-ipp-security-00.txt**
  - IPP - Protocol (personal contribution)
    - » **ftp://ftp.ietf.org/internet-drafts-draft-turner-ipp-trans-develop-00.txt**

IPP - Charter

- **The goal of this working group is to develop requirements for Internet Printing and to describe a model and semantics for Internet Printing**

- **The further goal is to define a new application level Internet Printing Protocol for the following core functions:**
  - for a user to find out about a printer's capabilities
  - for a user to submit print jobs to a printer
  - for a user to find out the status of a printer or a print job
  - for a user to cancel a previously submitted job

IPP - Charter

- **IPP is a client-server type protocol which should allow the server side to be either a separate print server or a printer with embedded networking capabilities**

- **The working group will define a set of directory attributes that can be used to ease finding printers on the network**

- **IPP will include mechanisms to ensure adequate security protection for materials to be printed, including at a minimum mechanisms for mutual authentication of client and server and mechanisms to protect the confidentiality of communications between client and server**

IPP - Charter

- **Finally, the IPP working group will produce recommendations for interoperation of LPR clients with IPP servers, and IPP clients with LPR servers**
  - These recommendations will include instructions for both the translation of the LPR protocol onto IPP and the translation of the IPP protocol onto LPR
  - However, there is no expectation to provide new IPP features to LPR clients, nor is there an explicit requirement to translate LPR extensions to IPP, beyond those features available in the 4.2BSD UNIX implementation of LPR, and which are still useful today

IPP - Charter - Milestones

- **March 97**
    - Submit Internet Printing Protocol: Requirements and Scenarios as an Internet-Draft
    - Submit Internet Printing Protoco/1.0: Model and Semantics as an Internet-Draft
    - Submit Internet Printing Protoco/1.0: Protocol as an Internet-Draft
    - Submit Internet Printing Protoco/1.0: Directory Schema as an Internet-Draft

- **April 97**
    - Review of specification in IETF meeting in Memphis

IPP - Charter - Milestones

- **May 97**
  - Produce At least 2 implemented prototypes

- **August 97**
  - Submit Internet Printing Protocol: Requirements and Scenarios I-D to IESG for publication as an Informational RFC
  - Submit mappings between IPP and LPR I-D to IESG for publication as an Informational RFC
  - Submit other Internet-Drafts to IESG for consideration as Proposed Standards

IPP - Security

- **Looked at threats and methods of attack**

- **Identified a number of generic security services**

- **Mapped methods of attack against generic security services**

- **Started searching for suitable Internet security standards and implementations**

- **Encourage input from IETF security experts**

Attacks on Print Services vs. Security Services

Attacks \ Security Services	Client Auth.	Serv Auth.	Data Conf.	Data Integr.	Non Repud.	Timestamp and Nonce
Masquerading						
1. User/Client (Incorrect source - misuse of resources)	Yes					
2. Printer/Server (Incorrect destination)		Yes	Yes		Yes (S)	
Eavesdropping			Yes			
Document Tampering						
1. incorrect rendering of data and job attributes				Yes		
2. guarantee security marks (watermarking, fingerprinting, security banners)			Yes			Yes
Replaying						Yes
Denial of Service (Spamming)	Yes				Yes (C)	Yes
Document Malicious Content Code						
1. corruption of hardware resources		Yes	Yes	Yes		
2. corruption of printer software		Yes		Yes		

Attacks on Print Services vs. Security Services

Attacks \ Security Services	Client Auth.	Serv Auth.	Data Conf.	Data Integr.	Non Repud.	Timestamp and Nonce
Liability 1. for printed content 2. for services performed/not performed	Yes	 Yes				
Provability of service					Yes (C)	
Defeating payment or accounting system					Yes (C, S)	

Comparison of Security Services wrt Protocols

No	Services		HTTP/1.1	SSL (V2)	SSL (V3)	LDAP
1.	**Authentication**					
	•	Client	Yes	Yes	Yes	
	•	Server	--	--	Yes	
	•	Mutual	--	--	Yes	
2.	**Authorization**					
	•	ACL	--	--	--	
	•	Certificates	--	--	--	
3.	**Non-repudiation**		--	--	--	
4.	**Integrity**		--	Yes	Yes	
5.	**Confidentiality**		--	Yes	Yes	
6.	**Administration**					
	• Certificate Mgmt.		--	--	--	Yes
7.	**Secure Comm.**					