



The Printer Working Group

Printer Working Group Plenary Session

April 28, 2015

PWG F2F Meeting

Sunnyvale, CA (Hosted by Apple)

Michael Sweet (Apple)



Plenary Agenda

- Administrivia
- PWG Workgroup Status [WG Chairs]
 - Semantic Model (SM)
 - Internet Printing Protocol (IPP)
 - Imaging Device Security (IDS)
 - Cloud Imaging Model (Cloud)
- Liaison Status
 - Trusted Computing Group (TCG)
- Next Meeting Details

Administrivia



- Welcome and Introductions
- Confirm Minutes Taker
- Review PWG Patent Policy
- Agenda for the Week
- Future PWG Meeting Schedule
- 2015 Membership
- PWG Officers



PWG Patent Statement

- PWG standards may include the known use of essential patents and patent applications provided the PWG Chair receives assurance from the patent holder or applicant with respect to patents whose infringement is, or in the case of patent applications, potential future infringement the applicant asserts will be, unavoidable in a compliant implementation of either mandatory or optional portions of the standard. This assurance shall be provided without coercion.

PWG Patent Statement



- This assurance shall be either:
 - A general disclaimer to the effect that the patentee will not enforce any of its present or future patent(s) whose use would be required to implement either mandatory or optional portions of the proposed PWG standard against any person or entity complying with the standard; or
 - A statement that a license for such implementation will be made available without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination.



PWG Patent Statement

- The PWG is not in a position to give authoritative or comprehensive information about evidence, validity or scope of patents or similar rights, but it is desirable that any available information should be disclosed. Therefore, all PWG members shall, from the outset, draw PWG's attention to any relevant patents either their own or of other organizations including their Affiliates that are known to the PWG members or any of their Affiliates, although PWG is unable to verify the validity of any such information.

Inappropriate Topics for PWG Meetings



- Don't discuss the validity/essentiality of patents/patent claims
- Don't discuss the cost of specific patent use
- Don't discuss licensing terms or conditions
- Don't discuss product pricing, territorial restrictions, or market share
- Don't discuss ongoing litigation or threatened litigation
 - Don't be silent if inappropriate topics are discussed
 - ...do formally object.



Agenda for the Week

- Tuesday, April 28

- 9:00 - 10:15 PWG Plenary
- 10:15 - 10:30 Break
- 10:30 - 12:00 3D Printing BOF
- 12:00 - 1:00 Lunch
- 1:00 - 2:00 OpenPrinting Plenary
- 2:00 - 2:45 CUPS Plenary
- 2:45 - 3:00 Break
- 3:00 - 4:00 OpenPrinting - Status of Ghostscript/MuPDF
- 4:00 - 4:30 OpenPrinting - Printing Experience in Enterprise World
- 4:30 - 5:00 OpenPrinting - The Security, Scalability, and User Experience of Cloud Printing

Agenda for the Week

- **Wednesday, April 29**
 - 9:00 - 10:45 Semantic Model - Status and JDFMAP
 - 10:45 - 11:00 Break
 - 11:00 - 12:00 Cloud Imaging Model (LCRC)
 - 12:00 - 1:00 Lunch
 - 1:00 - 2:00 Semantic Model - Cloud, IDS, and Notifications
 - 2:00 - 2:30 Semantic Model - Imaging Job Ticket
 - 2:30 - 2:45 Break
 - 2:45 - 5:00 IPP - Status, INFRA (LCRC), and IG



Agenda for the Week

- **Thursday, April 30**

- 9:00 - 12:00 IPP - SYSTEM, SELFCERT+tools
- 12:00 - 1:00 Lunch
- 1:00 - 3:00 IPP - IETF IPP/1.1, IEEE IPP/2.0
- 3:00 - 3:15 Break
- 3:15 - 4:30 IPP - Proposals and Next Steps

- **Friday, May 1**

- 9:00 - 12:00 IDS - HCD TC PP, CC, MOD, IAA, TNC, XYZ, RES PE CT

2015 PWG Meetings



- August 11-13 (Camas, WA, hosted by Sharp)
- November 3-5 (Location TBD, hoping for Eastern US)

2015 Membership



33 Members (30 Voting, 3 Non-Voting)

Apple	Fenestrae B.V.	Microsoft	Sharp Labs
Brother Industries	Fuji Xerox	MPI Tech	Technical Interface Consulting (N-V)
Canon	Hewlett Packard	MWA Intelligence	Thinxstream Technologies
Conexant Systems	High North	Nancy Chen	Toshiba America Business Solutions
CSR	Intel	Northlake	Tykodi Consulting Services LLC
Danny Brennan	Konica Minolta	Oki Data	Xerox
Daniel Dressler (N-V)	Kyocera Document Solutions Inc.	PageTech (N-V)	
Digital Imaging Technologies	Lexmark	Ricoh	
Epson	Meteor Network	Samsung	

2015 Invoices Past Due



PWG Officers (2013-2015 Term)

- PWG Chair: Michael Sweet, Apple
 - *New chair needed for 2015-2017 term*
- PWG Vice-Chair: Nancy Chen
 - *New vice-chair needed for 2015-2017 term*
- PWG Secretary: Ira McDonald, High North
 - *Willing to serve 2015-2017 term*
- Please volunteer to serve as a PWG officer
 - *Any voting PWG member may serve*
- Voting for officers will be conducted after the August 2015 F2F meeting.

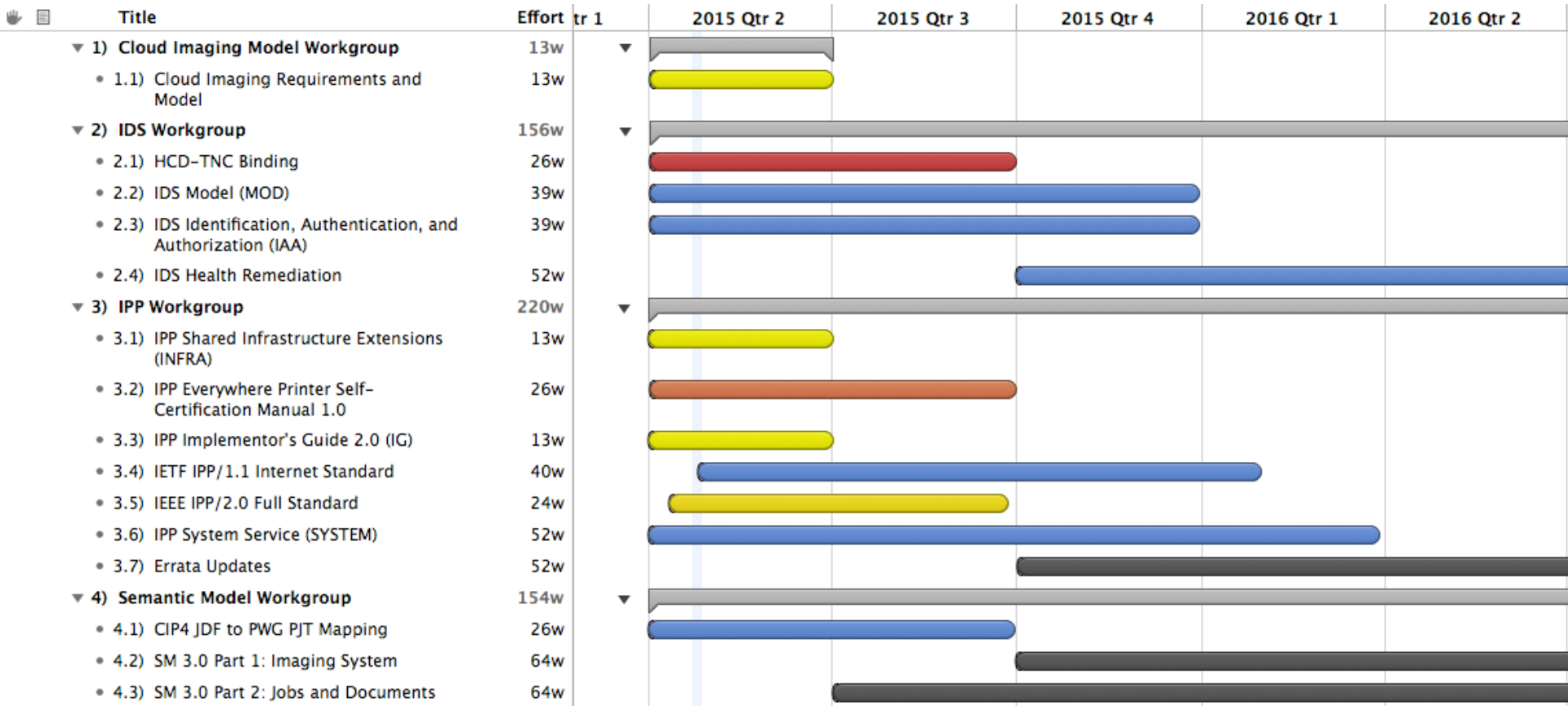


The Printer Working Group

PWG Workgroup Status



Work In Progress



Planned

Interim

Prototype

Prototyped

Stable



The Printer Working Group

Semantic Model Workgroup Status

Daniel Manchala (Xerox)



Purpose of the effort

- The Semantic Model working group is concerned with the modeling of imaging services and subunits that comprise a network connected Imaging System. The Objectives are:
 - The definition of a framework for the complete Imaging Semantic Model.
 - Drive to a standard semantic definition for an Imaging System's Subunits, Services, Jobs and Documents.
 - Agreement on the semantics of their attributes, operations and parameters.



Semantic Model WG Officers

- SM WG Chair:
 - Daniel Manchala (Xerox)
- SM WG Vice-Chair
 - Paul Tykodi (TCS)
- SM WG Secretary:
 - TBD (volunteers needed)
- SM WG Document Editors:
 - Jeremy Leber (Lexmark) - SM3
 - Daniel Manchala (Xerox) - SM3, SM3 Schema
 - Ira McDonald (High North) - JDFMAP
 - Paul Tykodi (TCS) - SM3
 - Bill Wagner (TIC) - SM3
 - Rick Yardumian (Canon) - JDFMAP



Approved Documents:

- Multifunction Device Service Model Requirements (September 1, 2010)
- PWG 5105.1-2004: PWG Semantic Model Specification Version 1.00
- PWG 5108.1-2011: MFD Model and Common Semantics Version 1.00
- PWG 5108.02-2009: Network Scan Service Semantic Model and Service Interface Version 1.0
- PWG 5108.03-2009: Network Resource Service Semantic Model and Service Interface Version 1.0
- PWG 5108.04-2011: Copy Service Semantic Model and Service Interface Version 1.00
- PWG 5108.05-2011: FaxOut Semantic Model and Service Interface
- PWG 5108.06-2011: System Object and System Control Service Semantics Version 1.0
- PWG 5108.07-2012: PWG Print Job Ticket and Associated Capabilities Version 1.0



Active Documents:

- Mapping Related Standards
 - CIP4 JDF to PWG PJT mapping (JDFMAP)
 - Completed most of the elements in the table (except for JDF binding objects to PJT Binding collection)
 - Adobe PPD to PWG PJT mapping (PPDMAP)
 - This effort has been abandoned
- Semantic Model 3.0
 - Part 1: Imaging System (with Services and Subunits)
 - Add Transform Spec and Use-cases
 - Subscriptions and Notifications (to Schema and Spec)
 - Part 2: Jobs and Documents
 - Includes capabilities and job/document tickets, receipts, and status

Schema Status



- Named version (v1.180) published for PWG Print Job Ticket and Associated Capabilities
- Latest (v2.904) Up to date with In Progress specifications
 - Cloud Imaging Model extensions (WIP – WSDL operations needs update)



More Info/How to participate

- We welcome participation from all interested parties
- SM Web Page:
 - <http://www.pwg.org/sm>
- Subscribe to the SM3 mailing list:
 - <https://www.pwg.org/mailman/listinfo/sm3>
 - sm3@pwg.org
- SM WG holds bi-weekly phone conferences announced on the SM3 mailing list
 - Next conference call is May 18, 2015 at 2pm ET
 - Conference calls on same weeks as Cloud conference calls
 - Conference calls on opposite weeks of IDS conference calls



The Printer Working Group

IPP Workgroup Status

Paul Tykodi (TCS), Ira McDonald (High North)



IPP WG Officers

- IPP WG Co-Chairs:
 - Paul Tykodi (TCS)
 - Ira McDonald (High North)
- IPP WG Secretary:
 - Michael Sweet (Apple)
- IPP WG Document Editors:
 - Ira McDonald (High North) – IPP Shared Infrastructure Extensions (INFRA), IPP System Service (SYSTEM), IETF IPP/1.1, IEEE IPP/2.0, LDAP Schema for Printer Services
 - Michael Sweet (Apple) – IPP Shared Infrastructure Extensions (INFRA), IPP System Service (SYSTEM), IETF IPP/1.1, IEEE IPP/2.0, LDAP Schema for Printer Services
 - Smith Kennedy (HP) - IPP Implementor's Guide 2.0 (IG)



IPP WG Status (1/3)

- IETF RFCs in development:

- IETF IPP/1.1: Encoding and Transport (obsoletes RFC 2910/3382)
- IETF IPP/1.1: Model and Semantics (obsoletes RFC 2911/3382)
- IETF LDAP Schema for Printer Services (updates RFC 3712)

- IETF + IANA

Approved,

RFC Editor's

Queue

- PWG Specifications in development:

- IPP 2.0, 2.1, and 2.2 - Stable Draft
- IPP Everywhere Printer Self-Certification Manual 1.0 (SELFCERT)
Draft - Prototype
- IPP Implementors Guide 2.0 (IG) - Stable Draft, in PWG Last Call
- IPP Shared Infrastructure Extensions (INFRA)
- Stable Draft



IPP WG Status (2/3)

- Recent Candidate Standards:
 - PWG 5100.15-2014: IPP FaxOut Service (errata)
 - PWG 5100.17-2014: IPP Scan Service (SCAN)
 - PWG 5100.1-2014: IPP Finishings 2.0 (FIN)
- Recent IETF RFCs:
 - RFC 7472: IPP over HTTPS Transport Binding and “ipps” URI Scheme



IPP WG Status (3/3)

- Up-to-date pending IANA registrations online:
 - <http://www.pwg.org/ipp/ipp-registrations.xml>
 - Continue to maintain this in parallel for new specifications
 - PWG version includes draft specifications that have reached prototype status
 - Also pending errata for PWG 5100.9 and 5107.3 to correct xxx-error usage (per WG mailing list discussion)
 - Explain issues and update registry for IANA Printer MIB (ASN.1 comments)
 - Update IANA IPP registry for keywords that do not require "-error" on the end



IPP WG Info / Participation

- We welcome participation from all interested parties
- IPP Working Group web page
 - <http://www.pwg.org/ipp/index.html>
- Subscribe to the IPP mailing list
 - <https://www.pwg.org/mailman/listinfo/ipp>
- IPP WG holds bi-weekly phone conferences announced on the IPP mailing list
 - Next conference calls May 11 and June 1, 2015 at 3pm ET
 - Skipping May 25, 2015 due to Memorial Day
 - Held on opposite weeks of Cloud Imaging Model WG
 - Held on same weeks of Imaging Device Security WG



The Printer Working Group

IDS Workgroup Status

Joe Murdock (Sharp), Alan Sukert (Xerox)



Purpose of the effort

- IDS is investigating and defining standards for addressing general security attributes for imaging devices and services. Our general goals are to:
 - Define standard metrics and protocol bindings to assess the health of Hardcopy Devices to gauge if they should be granted access to a network.
 - Define a set of standard security and policy attributes and values for authorizing Hard Copy Devices, their services and users in a global workspace
 - Provide a general security model for other PWG standards to reference
- IDS is also providing a path for vendors to review and contribute to the definition of new Common Criteria MFP Protection Profiles

Officers



- Chair:
 - Joe Murdock (Sharp Labs)
- Vice-Chair:
 - Alan Sukert (Xerox)
- Secretary:
 - Alan Sukert (Xerox)
- Document Editors:
 - Ira McDonald (High North): HCD-TNC
IDS-Model
 - Joe Murdock (Sharp Labs): IDS-Model
IDS-IAA
 - Alan Sukert (Xerox): IDS-IAA



Approved Candidate Standards

- PWG 5110.1-2014
 - HCD-Attributes
- PWG 5110.2-2013
 - HCD-NAP
- PWG 5110.3-2013
 - PWG-LOG Common Log



Current Document Status

- Updated IDS Charter approved
- HCD-TNC Binding Document
 - Reopened for revision to use TNC “batch” headers
 - Prototype draft completion date Q2, 2015
- IDS-Model Common Requirements
 - Define core IDS security model and integrate into SM3
 - Security Actors, Objects, Roles, and Types
 - Security Ticket XML Schema
 - Security operations (WSDL)
 - Prototype draft completion date Q3, 2015
- IDS-IAA specification - phase 1
 - Phase 1 - Initial version to address Actor and Object privileges and permissions
 - Prototype draft completion date Q3, 2015

Pending Documents



- IDS Health Remediation
 - Prototype draft completion TBD



Next Steps

- IDS TNC Binding
 - Reopened for revision to use TNC “batch” headers
- IDS Model specification
 - Finalize Actor and Object roles
 - Complete documentation of Security Ticket top-level elements
- IDS Identification, Authentication and Authorization specification
 - Phase 1 - Definition of core set of Policy Attributes
 - Access control values
- MFP Technical Community - monitor progress of Protection Profile work
- Resume IDS Health Remediation



Participation

- We welcome participation from PWG member companies and input from the user community
- The group maintains a Web Page for IDS update:
 - <http://www.pwg.org/ids/index.html>
- To subscribe to the IDS mailing list, go to:
 - <https://www.pwg.org/mailman/listinfo/ids>
- The group holds bi-weekly conference calls on Mondays at 11:00AM PT/2:00PM ET
 - Next teleconference May 11, 2015
 - Conference calls on same weeks as IPP conference calls
 - Conference calls on opposite weeks of SM conference calls



The Printer Working Group

Cloud Imaging Model Workgroup Status

Ron Nevo (Samsung), Bill Wagner (TIC)

Introduction



- The intent of the Cloud Imaging Model Working Group is to develop a model for providing Imaging Services via a Cloud Imaging System in a way consistent with the PWG Semantic Model.
- The current PWG Cloud Imaging Model contends that the operations interface between a User Client and a Cloud Imaging Service is no different than that between a User Client and any networked Imaging Service, with the exception of asynchronous notification capability (if any).
- However, Cloud Imaging Services often must interface with out-of-cloud end devices (e.g., printers, scanners) to which direct access is blocked by a firewall. The PWG Model identifies a Local Imaging System Proxy intermediate agent and defines a new set of operations from Proxy to Cloud Service.



Officers and Contributors

- Chair: Ron Nevo (Samsung)
- Vice Chair: Bill Wagner (TIC)
- Secretary: Michael Sweet (Apple)
- Document Editors:
 - Bill Wagner (TIC): Editor
 - Ron Nevo (Samsung): Editor



- The Cloud Imaging Requirements and Model specification has completed PWG Last Call. Last Call comments and resolution are at:
<ftp://ftp.pwg.org/pub/pwg/cloud/wd/lcrc-cloudimagingmodel10.docx>
 - There were 11 responses.
 - There was a total of 26 comments in two of the responses
 - Almost all responses were editorial
 - Comment on Internationalization was resolved by including what is evolving as PWG standard statement.
 - I also made some editorial changes while addressing Last Call comments.
- It is intended to put the current specification to vote, in conjunction with IPP INFRA, in the immediate future.
 - Please vote!



Next Steps

- **VOTE on Model Spec!**
- Any further Projects?
- Pending discussion of newly identified issues or new project subjects, there are no further Cloud conference calls scheduled.
- The Cloud Mail list (cloud@pwg.org) will remain active.



The Printer Working Group

Liaison Status



TCG News (1/4)

- Next TCG Members Meetings
 - 15-19 June 2015 – Edinburgh, Scotland - Ira will attend by phone
 - 19-23 October 2015 – Montreal, Canada – Ira may attend in person
- TPM Software Stack (TSS)
 - Scope: C-language low/high-level APIs to TPM 2.0 (discrete/firmware)
 - TSS System Level API 2.0 (low) – published 26 January 2016
 - http://www.trustedcomputinggroup.org/resources/tss_system_level_api_and_tpm_command_transmission_interface_specification
 - TSS Feature API 2.0 (high) – public review ended 6 January 2015
 - http://www.trustedcomputinggroup.org/resources/tss_feature_api_specification
 - TSS TPM Access Broker (daemon) – public review ended 5 March 2015
 - http://www.trustedcomputinggroup.org/resources/tss_tab_and_resource_manager

TCG News (2/4)



- Embedded Systems (EmSys) – Ira is co-editor
 - Scope: Auto, IoT, SmartGrid, Financial, Medical, Industrial Ctrl
 - Vehicle Services and IoT Subgroups - TPM 2.0, use cases, frameworks
 - TPM 2.0 Auto Thin Profile – published 13 March 2015
 - http://www.trustedcomputinggroup.org/resources/tcg_tpm_20_library_profile_for_automotivethin
 - TCG Guidance for Securing IoT – public review ends 20 May 2015
 - http://www.trustedcomputinggroup.org/resources/tcg_guidance_for_securing_iot
- PC Client
 - PC Client TPM 2.0 Profile – published 26 January 2015
 - http://www.trustedcomputinggroup.org/resources/pc_client_platform_tpm_profile_ptp_specification
 - PC Client TPM 2.0 EFI Protocol Spec– public review ended 13 April 2015
 - http://www.trustedcomputinggroup.org/resources/tcg_efi_protocol_specification



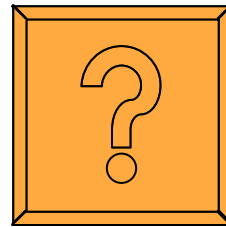
TCG News (3/4)

- Mobile Platform (MPWG) – Ira is co-editor
 - Scope: Mobile tablets, phones, PDAs, eBook readers, etc.
 - Formal liaisons – Global Platform (TEE), Mobey Forum (banking)
 - 2.0 Mobile Reference Arch – published 16 December 2014
 - http://www.trustedcomputinggroup.org/resources/tpm_20_mobile_reference_architecture_specification
 - TPM 2.0 Mobile CRB Interface – published 16 December 2014
 - http://www.trustedcomputinggroup.org/resources/tpm_20_mobile_command_response_buffer_interface_specification
 - TPM 2.0 Mobile Common Profile – public review ended 6 April 2015
 - http://www.trustedcomputinggroup.org/resources/tcg_tpm_20_mobile_common_profile



- Trusted Mobility Solutions (TMS) – Ira is co-chair
 - Scope: enterprise, medical, banking, virtualization, mobile mgmt
 - Formal liaisons – ETSI (NFV), Mobey Forum (banking)
 - Pending formal liaisons – Open Mobile Alliance (device mgmt), ITU-T (integrity), 3GPP (integrity), SCF (base stations), others
 - TMS BYOD Use Cases – published October 2013
 - http://www.trustedcomputinggroup.org/resources/tms_use_cases__bring_your_own_device_byod
- Trusted Multi-tenant Infrastructure (TMI)
 - Scope: Trusted Cloud/SDN end-to-end reference models
 - TMI Reference Model – published December 2013
 - http://www.trustedcomputinggroup.org/resources/trusted_multitenant_infrastructure_reference_framework
 - TMI Use Cases – published December 2013
 - http://www.trustedcomputinggroup.org/resources/tcg_trusted_multitenant_infrastructure_use_cases

Other Questions / Comments



Next PWG Meeting



- August 11-13 (Camas, WA, hosted by Sharp)

Thank You!



- Thank you Apple for hosting this meeting!