

# **CWMP BOF**

---

October 1, 2012

PWG Virtual F2F Meeting

# Agenda

---



- CWMP BOF Overview
- CWMP Architecture Overview
- Example CWMP Management Architecture (for Printers/MFDs)
- Example CWMP Solution Components
- On-going Activities and Status
- Future Plans
- Status for Future Plans
- Next Steps and Proposed Schedule
- Proposed Schedule Diagram
- Discussion

# CWMP BOF Overview

---



- CWMP is a standard internet application protocol developed by Broadband Forum (BBF) for customer premise equipment (CPE).
- Standard CWMP data models for Imaging Devices can enable all brands to be remotely deployed, installed, and managed by an ACS (Auto-Configuration Server) through their entire life cycle like all other IT devices (routers, PCs, servers, smart phones, SetTops, etc.).
- CWMP BOF is providing guidance for developing the standard CWMP data models for Imaging Devices based on PWG Semantic Model.

# CWMP BOF Overview

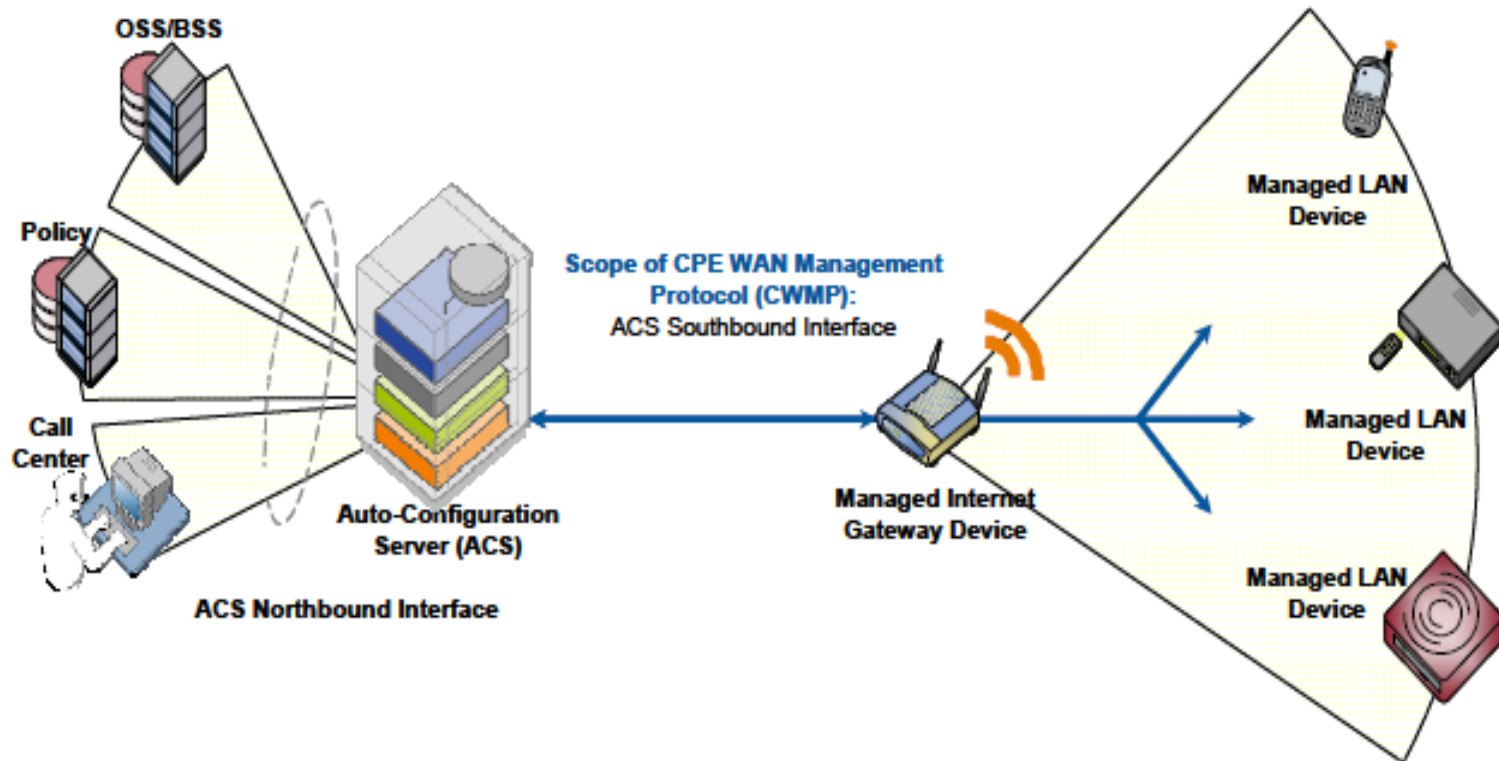
---



- Once each PWG-based CWMP data model for Imaging Devices has been developed, it should be proposed as a BBF project for BBF standardization.

# CWMP Architecture Overview

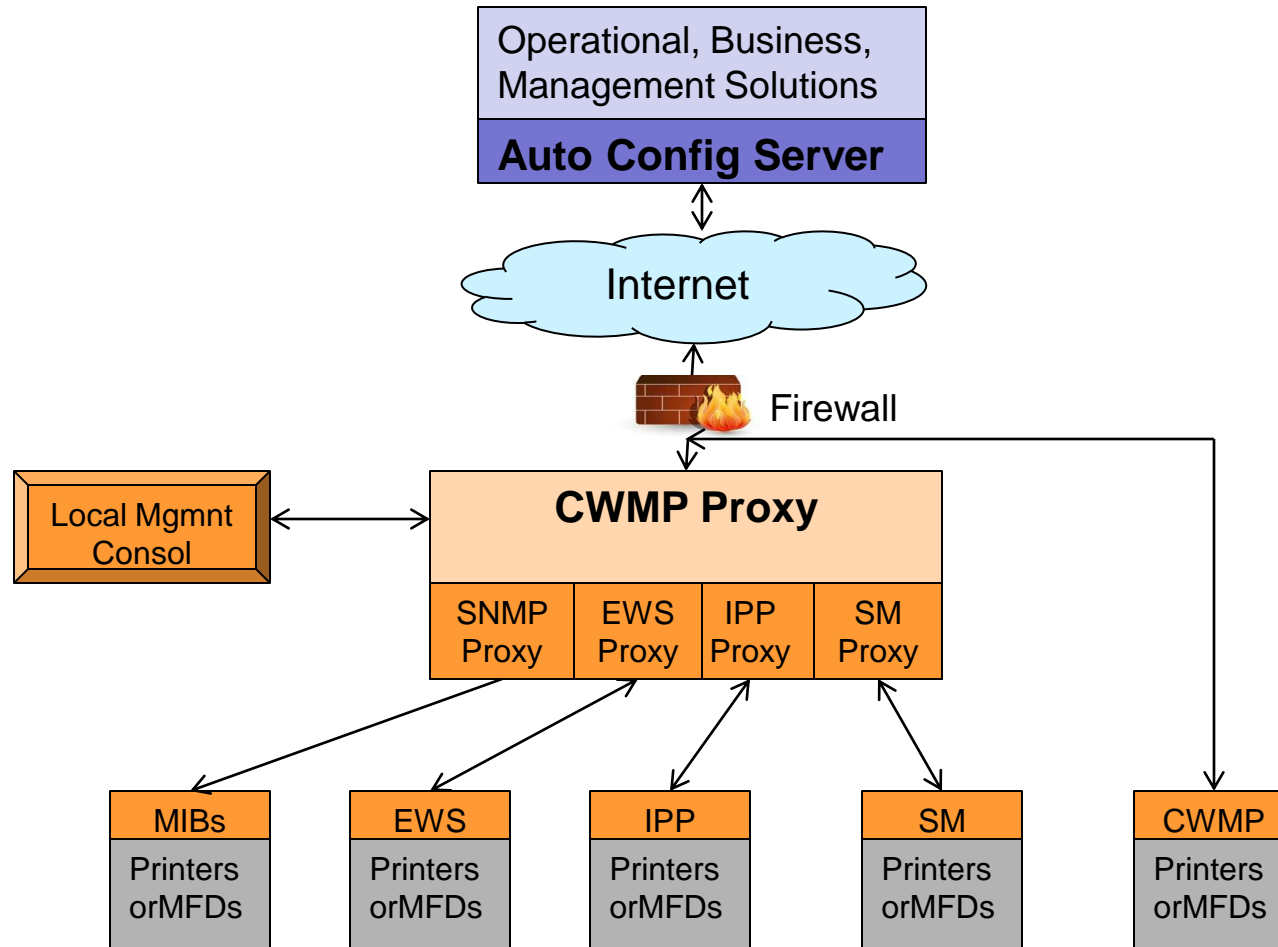
The following figure places TR-069 in the end-to-end management architecture:



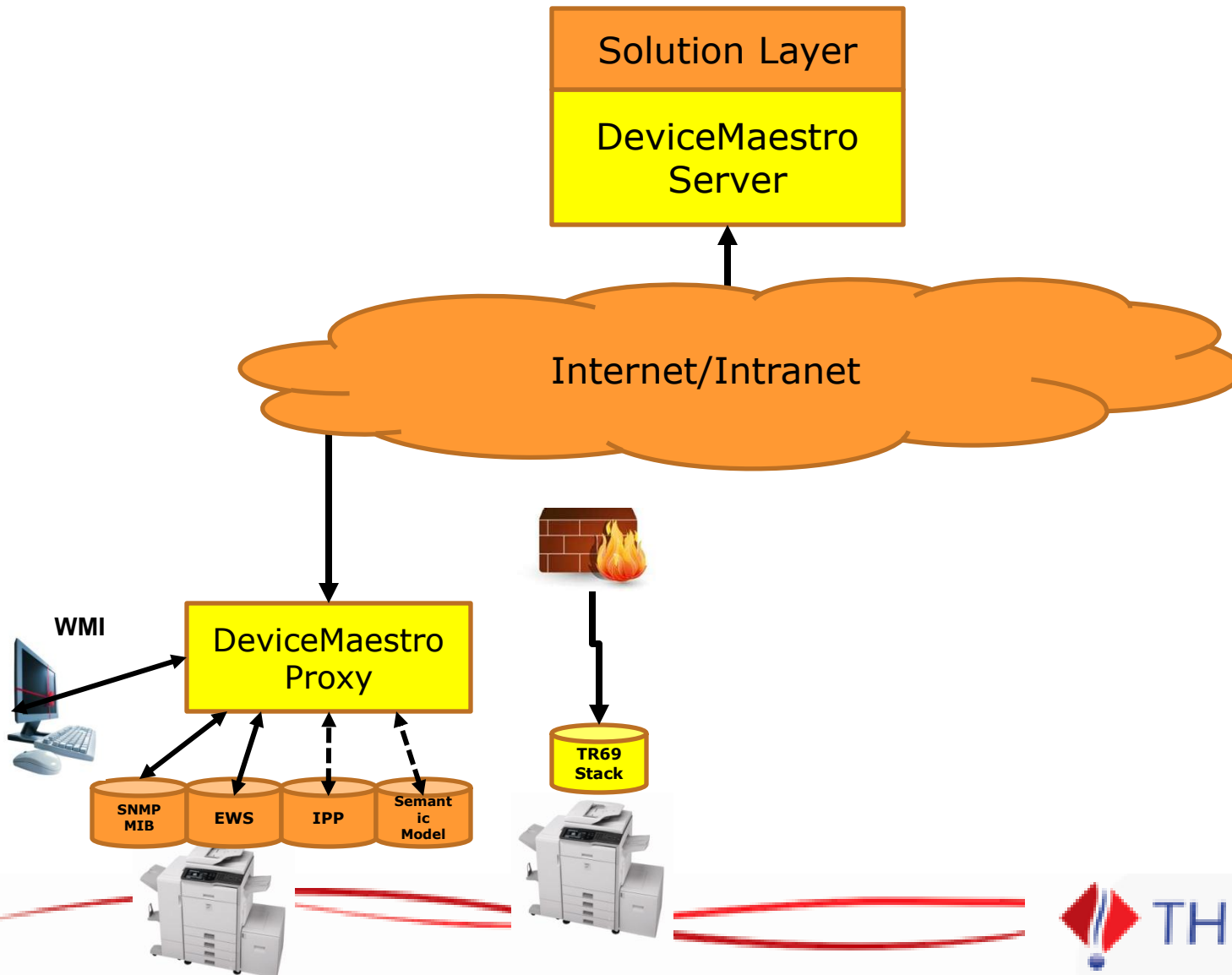
**Figure 1 – Positioning in the End-to-End Architecture**

- Standard interfaces to policy servers, call centers, and business applications (e.g. OSS/BSS/CRM)
- Strong security – transaction confidentiality and data integrity

# Example of CWMP Management Architecture for Printers/MFDs



# Example of CWMP Solution Components



# On-going Activities and Status

---



- Developing a PWG white paper on CWMP data models for Printers and MFDs
  - Guidance for developing PWG SM / IPP based data models  
<ftp://ftp.pwg.org/pub/pwg/BOFs/cwmp/white-cwmpmfdmodel10-20120604.pdf>
- Developing a translation tool for mapping PWG SM to CWMP data models for MFDs – first phase: Print Service.
  - Translated XML file of CWMP Data Model  
<ftp://ftp.pwg.org/pub/pwg/BOFs/cwmp/cwmp-data-model-20120130.xml>
  - Optimization for parameter name and hierarchy translation- done
  - Need to solve issues with translation of choices, unions.
- Incrementally prototyping CWMP data model for Printers via a CWMP proxy and an embedded CWMP client emulator for Printers – extending this data model as time allows.



# Future Plans

---

- The PWG hopes one or more BBF members will propose a basic CWMP model translated from PWG Semantic Model as a BBF project
  - When the model has sufficient elements representing all essential components of a CWMP managed Printer/MFD (see SOHO data model on Discussion slide)
    - Note: Only a BBF Principal member can propose a new BBF standards development project (see Next Steps slide)
- Propose a formal liaison relationship with BBF to monitor the consistency of the full CWMP model with the PWG Semantic Model standard
  - PWG based CWMP data model should be the direction in BBF
  - PWG has the domain experts and knowledge professionals

# Current Status for Future Plans

---



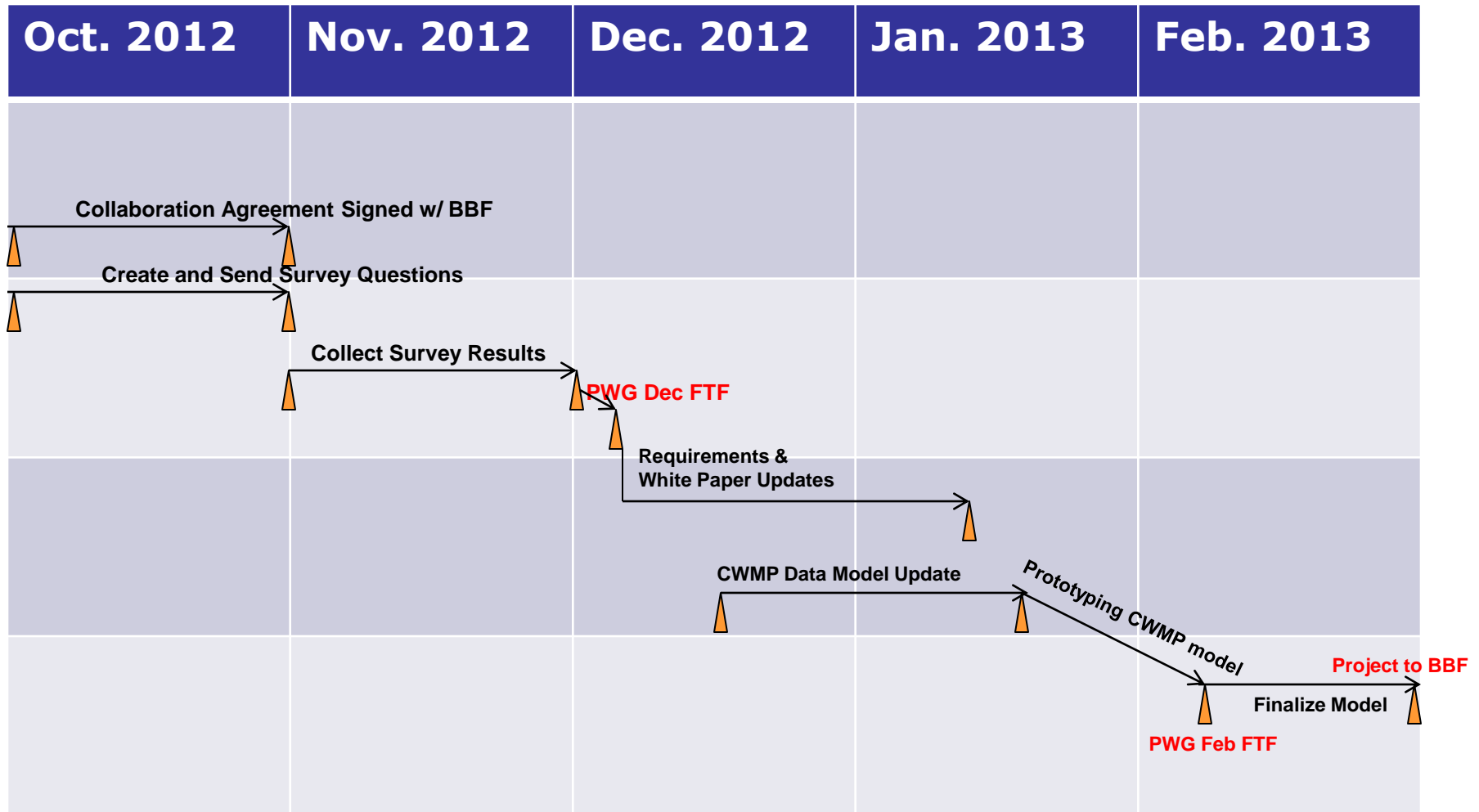
- Reached out to Marvell of which BBF representative and Software Director have agreed to -
  - 1) Collaborate in developing a CWMP standard data model for printer/MFD based on the PWG Semantic Model.
  - 2) Propose a CWMP project in BBF to bring in PWG developed CWMP data model for printer/MFD and further develop it into a BBF standard embraced by BBF members.
- Mike Sweet (PWG Chair) has reached out to the BBF CEO, awaiting response to discuss –
  - 1) Possible alternative BBF processes that allow PWG standard experts to actively participate BBF's meetings for CWMP printer/MFD data model standard development without violating BBF bylaws.
  - 2) Polling BBF members on the order of importance for BBF members' target market segments, and the desired features of CWMP data model for printer/MFD.

# Next Steps and Proposed Schedule

---

- Finalize a collaboration agreement with BBF by October 31, 2012 (Mike, Ira, John Egan, Gary Zimmerman, Nancy)
- Create and send survey questions to BBF members by November 1, 2012 (Team PWG+Marvell)
- Survey results due by November 30, 2012 – report in December PWG FTF December 5-7 2012 (Nancy, Ira)
- Requirements analysis and white paper update from survey results by January 15, 2013 (Nancy, Ira)
- CWMP Data Model update with SOHO requirements (version 1) by January 20, 2013 (Team PWG+Thinxtream)
- CWMP Data Model version 1 prototype demo in PWG FTF February 5-7, 2013 (Thinxtream)
- CWMP Data Model version 1 project proposal to BBF by February 28, 2013
- Next teleconference Friday October 26, 2012, 9am?

# Proposed Schedule Diagram



# Discussion

---



- Should we propose a simpler model to BBF sooner?
  - Predominant approach in developing standards in BBF is to develop a SOHO model first, followed by an Enterprise model.
  - Avoids explaining high-end PrintJob options to BBF members.
  - PWG SOHO model - IPP/2.0 required elements from PWG SM
- Should we also require the IPP Everywhere extensions to IPP/2.0 in the PWG SOHO data model?
  - Device UUID, Geolocation, etc.
- Should we continue to plan a second PWG based Enterprise Printer data model for proposal to BBF?
  - IPP/2.1 based for remote device life cycle management
- *Issue: How can the PWG ensure a model developed in BBF remains consistent with PWG standards?*  
*Outreach from PWG to BBF CEO now in progress.*