PWG Quarterly Oct 2006 WIMS CIM Update Project Status

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WIMS CIM Update Project

- Alliance partnership between PWG and DMTF (Distributed Management Task Force), dmtf.org

- DMTF is a large industry consortium

  - Home of CIM: Common Information Model (for management)

  - Many CIM and CIM-related standards

  - Also recently SMASH, WS-Management

  - Numerous working groups with specific areas of concentration

    - Server, Desktop & Mobile, Core Schema, Architecture, WBEM Interoperability & Protocols, etc.

  - Mainly conference calls, regular face-to-face meetings

  - Very sophisticated web sites

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Goals

- Bring the CIM model of printing up to date with PWG models

  - CIM schema includes classes for Printer, PrintService, PrintJob, PrintQueue

  - Current classes missing many interesting attributes

    - CIM_Printer class has approx 30 properties; by comparison PrinterMIB has approx 140 properties

  - Current classes not clearly defined

    - CIM_Printer contains some aspects of PrintService

- Ensure that every property in CIM printing-related classes is implementable interoperably

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Participants

- Active participants

  - Dell: Rick Landau

  - High North: Ira McDonald

  - IBM: Harry Lewis

  - Sharp: Craig Whittle

  - Bill Wagner (WIMS Chair)

  - Xerox: Peter Zehler

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What's Missing

- Current CIM_Printer (and other) classes are pretty basic

- Some categories of management information entirely absent

  – Console displays and lights

  – Input trays, output trays, input media

  – Media paths

  – Toners, colorants, and other supplies

  – Communications channels and language interpreters
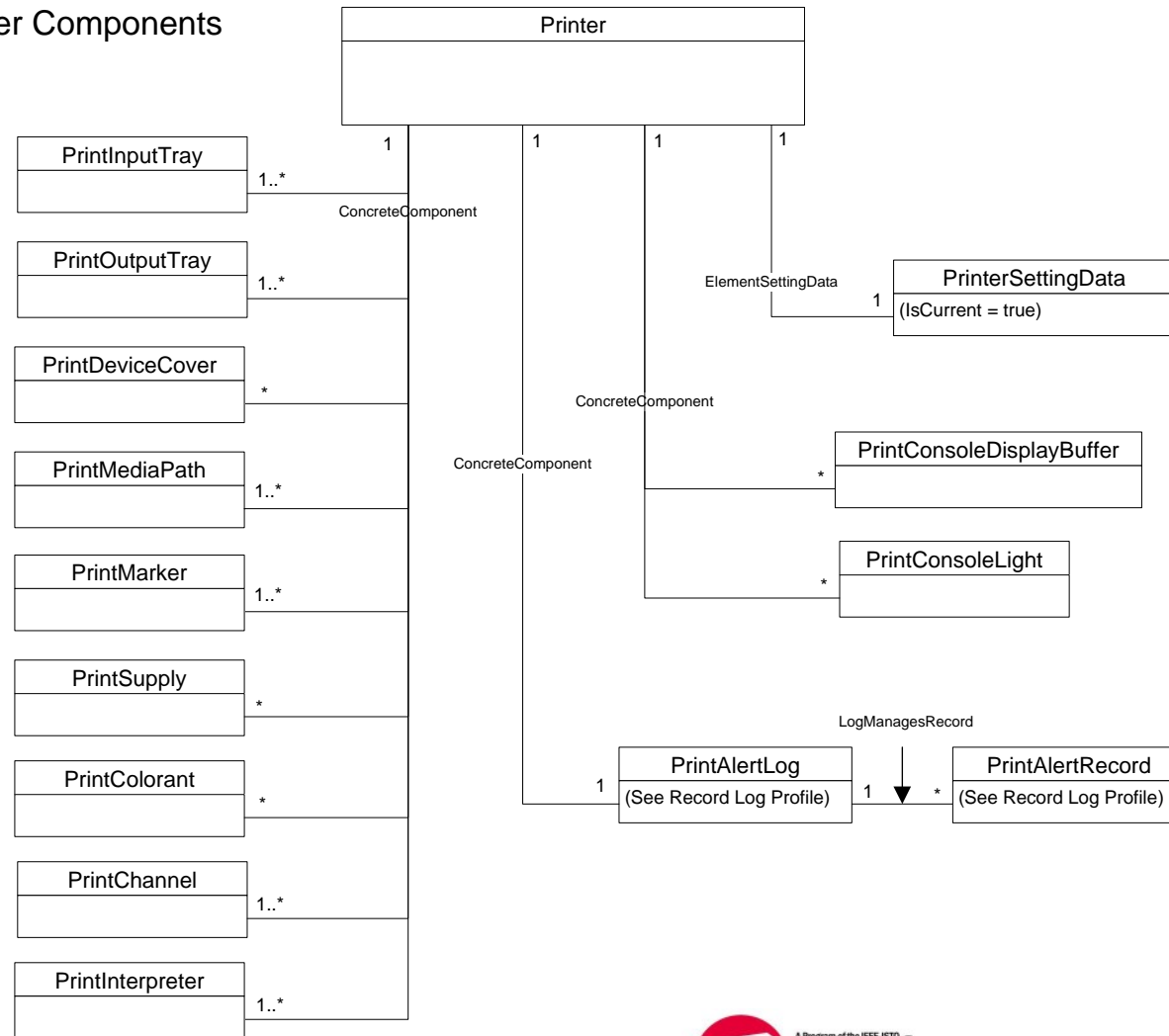
  – Counters

Process to Change the Model

- In DMTF, submit Change Requests (CRs) to change CIM classes or define new classes

  - Concentrate on printer as device first, then service, job, queue

  - Change in phases: cosmetic changes, corrections, major restructuring

- Decide on changes, draft CRs, submit CRs to appropriate CIM Working Group

  - Usually the CIM Core Schema Working Group

- In PWG,

  - Selected range of printers and use cases

  - Selected properties to move forward from Printer MIB

  - Developed model of class inheritance and relationships

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Method

- Doing major surgery on CIM_Printer (the print device)
  - Will add 11 classes analogous to prtXxx tables
    - InputTray, OutputTray, DeviceCover, MediaPath, Marker, Supply, Colorant, Channel, Interpreter, ConsoleLight, ConsoleDisplayBuffer
    - Actual class names have "CIM_Print" prefix
  - Plus three special classes: AlertLog, AlertRecord, PrinterSettingData
  - Also add properties to the CIM_Printer base class
  - Total approx 120 new properties from PrinterMIB and Semantic Model

- Many CRs to write
  - Custom machine translation from MIB to MOF format, does 90% of the work (thanks, Ira)
    - Add Status and Key properties by hand editing
    - Run through MOF lint and pretty printer
    - Create a DMTF CR to add the class

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Class Hierarchy of New Classes

Printer Components

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Current State

- All Phase 1 (editorial, cosmetic) CRs approved, are included in CIM Schema 2.14, published 2006/12/04

- Submitted the first of approx fifteen CRs: add new class CIM_PrintOutputTray

- Working on machine translations and CRs for the next several

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Future

- Update the PrintService and PrintJob classes

    – Based on IPP and Semantic Model

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Prototype Implementation

- Build a prototype implementation of a CIM Provider that embodies the new Printer device classes (Rick, Dell)

    - Proxy to SNMP printers

    - Proof point for implementability of new classes and properties

    - Possible testbed for interoperability

- Two instances of "implementation experience" required for DMTF to promote classes from experimental status to final status

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Documents

- FTP area in ftp://ftp.pwg.org/pub/pwg/wims/wd and .../wims/cim

    – Previous CRs

    – Current property lists, proposed class structure

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Look at Documents

- What would people like to see?

    - New CR (not the ultra-long one)

    - Printer MIB and CIM_Printer MOF

    - CIM "Flat classes"

    - Spreadsheets of properties to be added and class grouping

    - Current proposed class structure

Questions?

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