# DMTF Overview

**October 2013**
**Jeff Hilland, HP**
**President, DMTF**

# Disclaimer

- The information in this presentation represents a snapshot of work in progress within the DMTF.

- This information is subject to change. The Standard Specifications remain the normative reference for all information.

- For additional information, see the Distributed Management Task Force (DMTF) Web site.

The DMTF was formed to lead the development, adoption and unification of management standards and initiatives for desktop, enterprise and internet environments

www.dmff.org

# Agenda

- DMTF Background
  - Who is the DMTF?
  - DMTF Alliance Partners
- Technology as a whole
  - Management Initiatives
- Technical Committee
  - Organizational Chart
  - Process Changes
  - Current Technical Work
  - Opportunities for Involvement
- Interoperability Committee
  - CDM, SMF, VMF, CSC
- Regional Chapter Committee
- Marketing Committee
- Process & Incubator Committee
- Alliance & Academic Partners
- Working with the DMTF

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# Who is the DMTF?

## DMTF Board Companies

BROADCOM.  ca  CISCO  CITRIX  FUJITSU  hp

HITACHI  HUAWEI  IBM  intel  Microsoft  NetApp

ORACLE  software AG  SUNGARD Availability Services  TELECOM ITALIA  vmware

## DMTF Leadership Companies

Arquimedes Automacao e Informatica Ltda
Brocade Communications
China Academy of Telecommunication
Research, MIIT
China Electronics Standardization Institute
Daten Tecnologia Ltda
Dell
Digibras Industria do Brasil S/A

EMC
Inspur
Lenovo
Mellanox Technologies
NetIQ Corporation
Positivo Informatica S.A.
Red Hat
Samsung Electronics Company Ltd

Samsung Electronics Company
Savvis a CenturyLink Company
WBEM Solutions
ZTE Corporation

*More than 3,500 participants from well over 180 organizations crossing 43 countries*

# DMTF Alliance Partners

- China Communications Standards Association (CCSA)
- China Electronics Standardization Institute (CESI)
- Cloud Security Alliance (CSA)
- Cloud Standards Customer Council (CSCC)
- ECMA International (ECMA)
- Global Inter-Cloud Technology Forum (GICTF)
- The Green Grid (TGG)
- Metro Ethernet Forum (MEF)
- OASIS Symptoms Automation Framework (SAF) TC
- Open Data Center Alliance (ODCA)
- Open Grid Forum (OGF)
- The Open Group (TOG)
- SNIA/DMTF CR Process Flow
- Storage Networking Industry Association (SNIA)
- TagVault.org
- TeleManagement Forum (TMF)
- Trusted Computing Group (TCG)
- Unified Extensible Firmware Interface (UEFI)
    - And the DMTF is a member of the INCITS Executive Board & has representation in ISO JTC1 SC38/INCITS DAPS38 & requesting liaison relationship with ISO/IEC JTC1 SC38

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# Academic Alliances

- Alexandria University
- Athens University of Economics and Business
- Balarussian State University
- Bharathidasan University
- Case Western Reserve University
- ENST Bretagne
- Fudan University
- George Mason University
- Hangzhou Dianzi University
- HOSEI Univ
- Huazhong University of Science and Technology
- Imperial College of Science Technology and Medicine
- Indian Institute of Technology Roorkee
- Indian Institute of Technology, Bombay
- Institute of Information Security (IISEC)
- Instituto de Educao Tecnologica (IETEC)
- Kasetsart University
- Laurentian University
- Leibniz Supercomputing Center
- Ludwig Maximilians University
- Lund Institute of Technology
- Madrid Technical University
- Marshall University
- Modern College of Engineering, University of Pune
- Munich University of Technology
- Nanjing University
- Nanyang Polytechnic
- Nanyang Technological University

- National Research University Higher School of Economics
- National Technical University of Athens
- Naval Postgraduate School
- North Carolina State University
- Northwestern University
- Oakland Community College
- Ostfalia University of Applied Sciences
- Paul Sabatier University
- Peking University
- Penn State University
- POLITECNICO DI TORINO
- Pontifical Catholic University of Parana
- Pontifical Catholic University of Rio Grande do Sul
- Ruprecht-Karls-University Heidelberg
- Saint-Petersburg University for Aerospace Instrumentation
- Shanghai Jiao Tong University
- Stanford University
- Technische Universitaet Dresden
- Technische Universität Carolo-Wilhelmina zu Braunschweig
- TU Dortmund
- TU Muenchen
- Universidad Complutense de Madrid
- Universidad Libre Cali
- Universidade Federal do Rio Grande do Sul
- University College Dublin: Center for Cybersecurity and Cybercrime Investigation
- University Joseph Fourier of Grenoble
- University Karlstuhe
- University of Athens
- University of Aveiro- Portuagal
- University of Bologna
- University of Calgary
- University of California

- University of California-Irvine
- University of Cauca
- University of Edinburgh
- University of Hamburg
- University of Illinois
- University of Karlsruhe
- University of Leipzig
- University of Milan Bicocca
- University of Milano-Bicocca
- University of Minnesota
- University of Munich
- University of Murcia (Spain)
- University of New Hampshire
- University of Pisa - Italy
- University of Southampton
- University of Stuttgart
- University of Sydney
- University of Teesside
- University of Texas Health Science
- University of the Federal Armed Forces Munich
- University of the Rockies
- University of Tuebingen
- University of Twente
- University of Western Ontario
- University of Wuerzburg
- University Technology Petronas
- Vellore Institute of Technology
- Vienna University of Technology

# DMTF Background

Distributed Management Task Force
- Formed in 1992 with a focus on desktop management.
- DMI (1994)

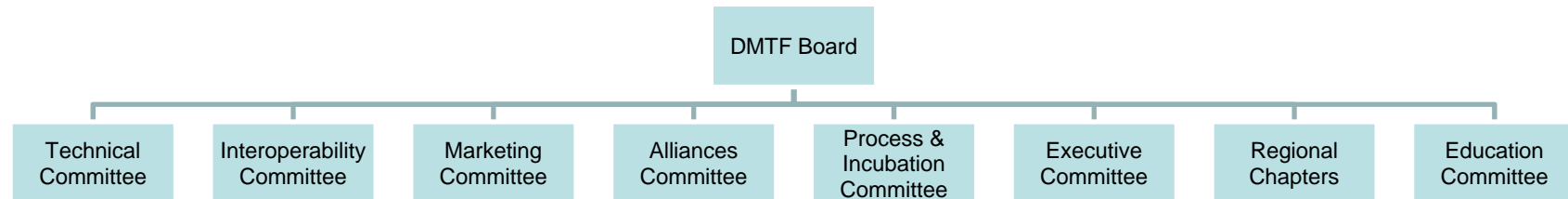Evolved from desktop management to web based enterprise management
- CIM (1996)
- DEN (1997)
- WBEM (1998)
- SMBIOS (1999)
- ASF (2001)
- CDM (2005)
- SMASH (2005)
- DASH (2006)
- PMCI & NC-SI (2007)
- OVF, VMan & WS-Man(2008)
- CMDBf (2009)
- Cloud (2010)
- CADF (2011)
- CIMI, SLM, MRP, VPP (2012)
- SDDC, Networking (2013)

Evolving work includes
- DMTF Management Initiatives, Protocols (Web Services), Profile Development, Schema Evolution, Internal Interfaces, Operations, Messages, Registries, Federation & more.
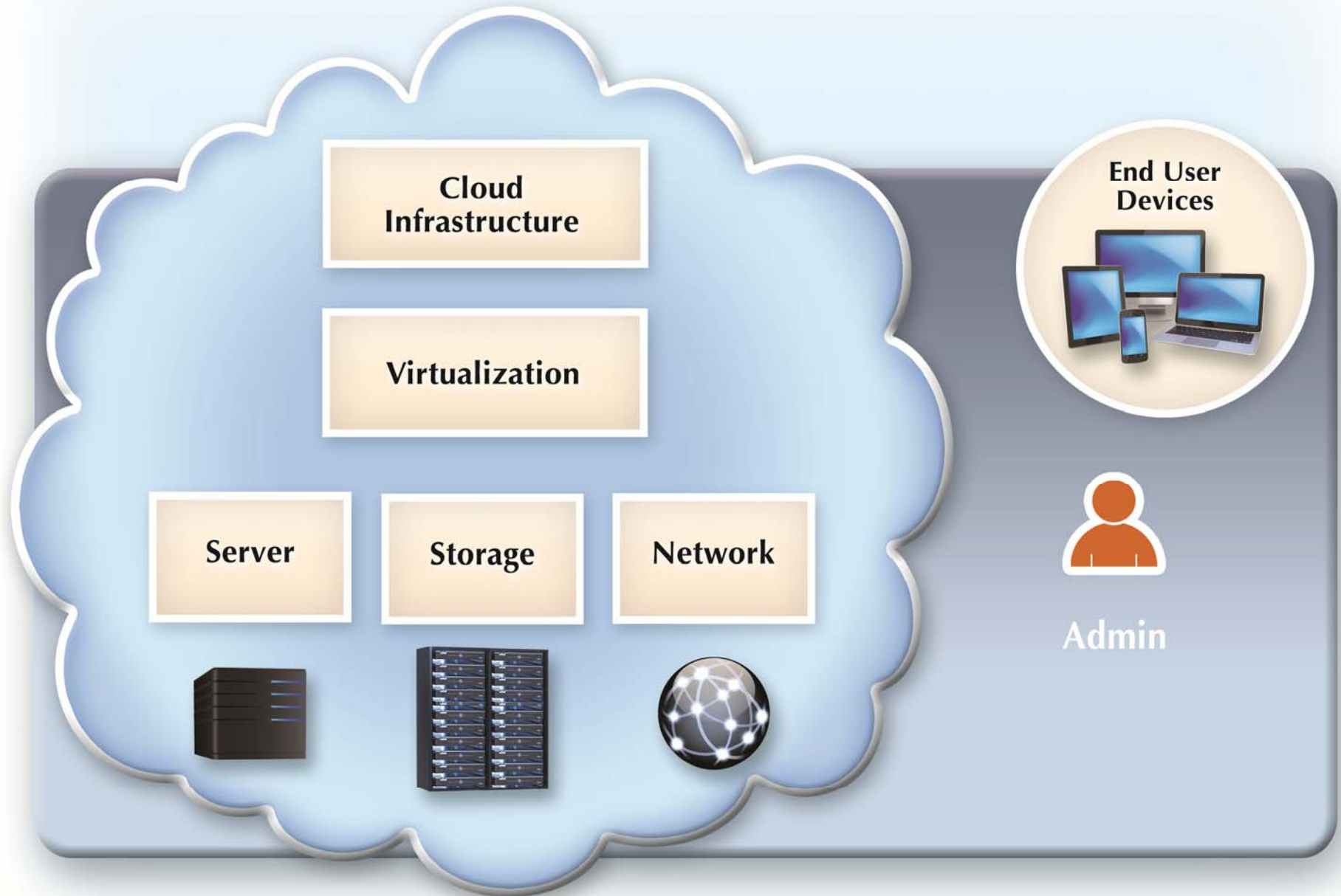
# How is the DMTF Organized?

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                              │ DMTF Board  │
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│Technical ││Interoper-││Marketing ││Alliances ││Process & ││Executive ││Regional  ││Education │
│Committee ││ability   ││Committee ││Committee ││Incubation││Committee ││Chapters  ││Committee │
│          ││Committee ││          ││          ││Committee ││          ││          ││          │
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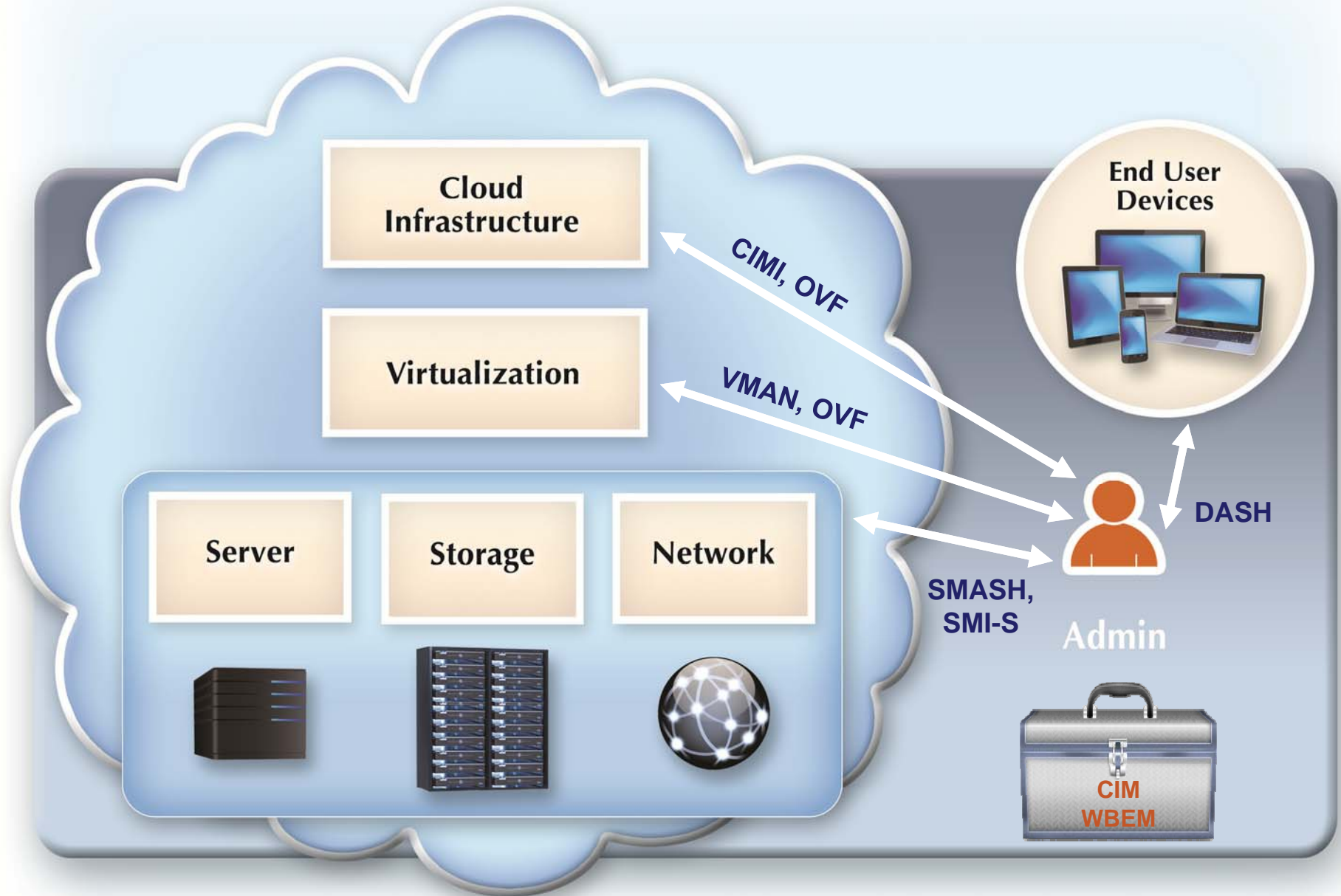
- Board approves specifications, defines direction, oversees activities and coordinates with other industry organizations
- Technical Committee reviews and approves specifications, white papers and other materials developed in Working Groups under the Technical Committee
- Interoperability Committee ensures interoperability through plug-fests, test tool development and conformance certification programs which are managed by Forums
- Marketing Committee coordinates press releases, conferences and events, web site content

- Alliance Committee coordinates alliance partner & academic alliance activities
- Process & Incubator Committee manages DMTF Policies and Incubators
- Executive Committee manages day to day operations of the DMTF
- Regional Chapter Committee coordinates activities with regional chapters of the DMTF
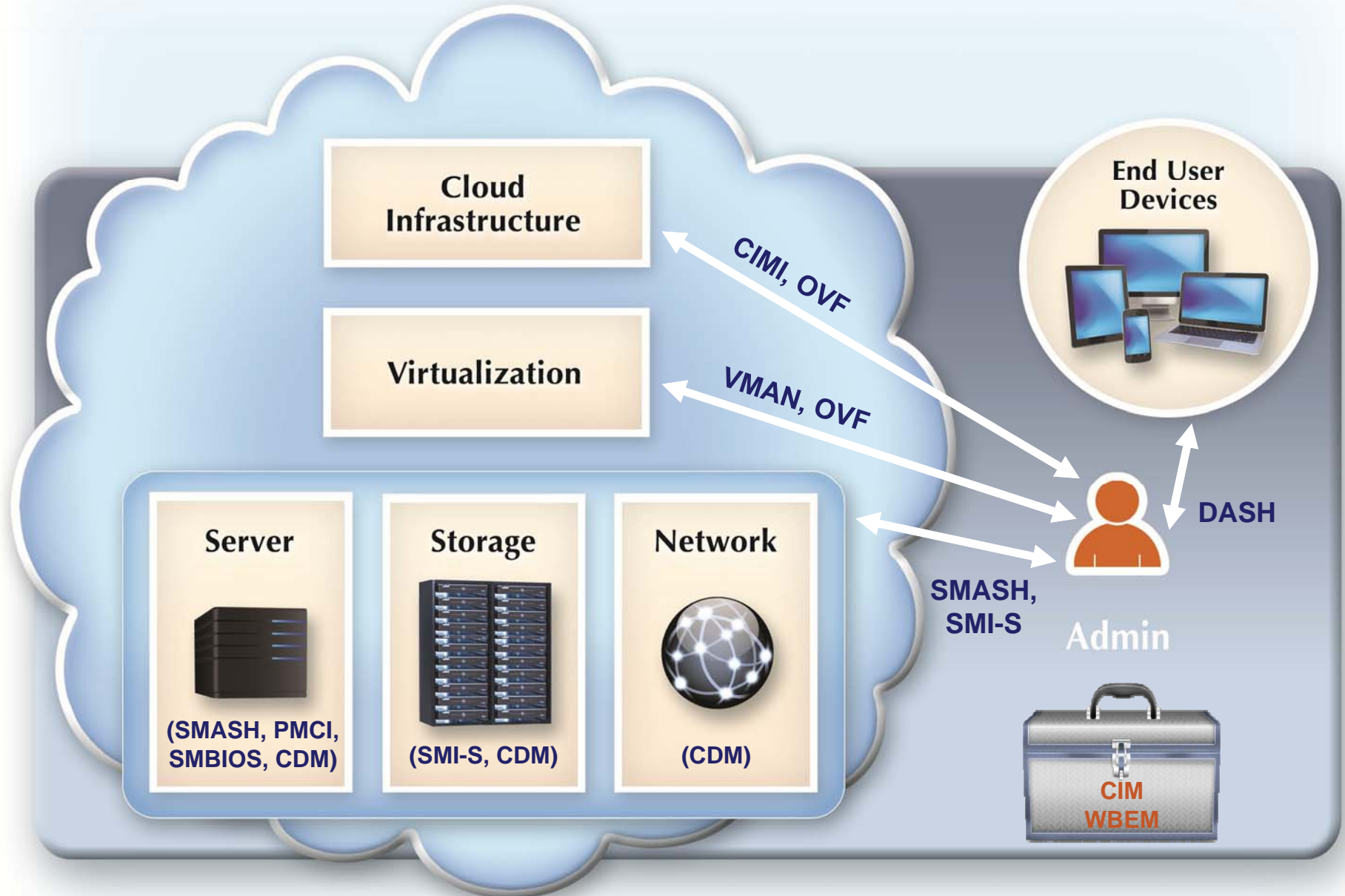- Education Committee coordinates education of DMTF standards

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# DMTF Management Technologies

Cloud Infrastructure

Virtualization

Server

Storage

Network

End User Devices

Admin

# DMTF Management Technologies

Cloud Infrastructure

Virtualization

Server

Storage

Network

End User Devices

CIMI, OVF

VMAN, OVF

DASH

SMASH, SMI-S

Admin

CIM WBEM
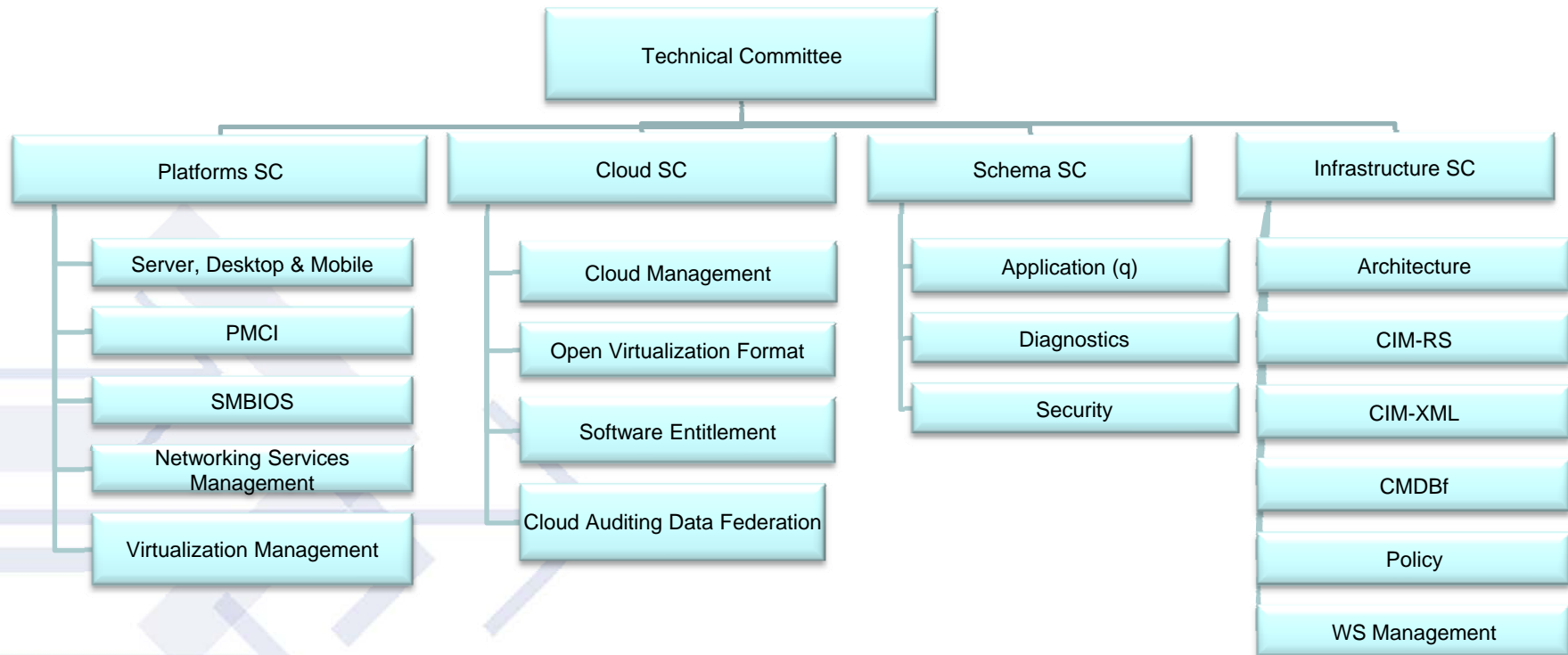
# DMTF Management Technologies

# DMTF Management Initiatives

- **SMASH – Systems Management Architecture for Server Hardware**
    - Vertical Manageability standard focused on Server Management
    - Defined by the SMASH Implementation Requirements Specification
    - Developed by the SMWG, Interoperability certified by SMForum
- **DASH – Desktop and Mobile Architecture for System Hardware**
    - Vertical Manageability standard focused on Desktop & Mobile Computer Management
    - Defined by the DASH Implementation Requirements Specification
    - Developed by the DMWG, Interoperability certified by SMForum
- **CDM – Common Diagnostics Model**
    - Defined by CDM Profile developed by Diagnostics WG
    - Interoperability certified by CDM Forum
- **VMan – Virtualization Management**
    - Defined in OVF and Virtualization Profiles
    - Developed in the System Virtualization, Partitioning and Clustering WG
    - Interoperability managed by VMF
- **CIMI – Cloud Infrastructure Management Interface**
    - Defined in CIMI Specs
    - Developed by Cloud Management WG
    - Beginning Interoperability phase

• VP of Technology – Hemal Shah, Broadcom

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                          │ Technical Committee  │
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| Platforms SC | Cloud SC | Schema SC | Infrastructure SC |
|---|---|---|---|
| Server, Desktop & Mobile | Cloud Management | Application (q) | Architecture |
| PMCI | Open Virtualization Format | Diagnostics | CIM-RS |
| SMBIOS | Software Entitlement | Security | CIM-XML |
| Networking Services Management | Cloud Auditing Data Federation | | CMDBf |
| Virtualization Management | | | Policy |
| | | | WS Management |

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## Ongoing Technical Work

- Schema SC
  - All DMTF Schema changes and additions going through this subcommittee
  - Schema continues to go on a 3-4 month release cycle
    - Schedule kept going 1 year out to help Alliance Partner planning
    - Release Process allows CR verification and Build automation
    - Visio diagram replacement under investigation
  - CIM 2.38 released, 2.39 in development
  - Common abstract profile definitions (ELE)
  - Initial View Class base classes are now in the Schema, with a few sub classes
  - WGs working on Diagnostics & Security
  - CR Tool in full use
    - CRs are being rendered in XML
    - A tool to fill out the CR template that will improve our automated builds
    - Available to Alliance Partners via website

## Ongoing Technical Work

- ## Infrastructure Subcommittee
  - CIM v3 definition done
  - CIM-RS released
  - PUG 1.1 released
  - MRP - Machine Readable Profile definition released
  - Web Services
    - 1.x going through ISO, 2.x work needs volunteers
  - CMDB Federation released use case White Paper (WIP).
  - WBEM Infrastructure Modeling – adding new profiles
  - Standard Message definition
  - Standard Indications 1.2 in development

# Ongoing Technical Work

- Platform Managment Subcommittee
  - PMCI - Platform Management Controller Interface
    - Embedded chip-to-chip systems management interface
    - Developing more mapping specs for PLDM & MCTP plus NC-SI version next
  - SMBIOS continued maintenance
    - SMBIOS is our most successful standard – in nearly every x86 machine for over a decade
    - SMBIOS being extended to encompass evolving systems
  - SDMP - Server Desktop and Mobile Platforms WG
    - No plans to combine SMASH & DASH implementation requirements documents
    - System View Class and NIC Configuration Profiles Complete
    - Working to resolve open issues in all specs, including wrapper specs
  - VMWG – Virtualization Management WG
    - OVF spun off as separate group, SVPC rechartered as VMWG
    - Working on Profiles and wrapper spec
      - Focus is run time management and migration of virtual systems
      - Hypervisors, Virtual Resources, Virtual Systems (including Partitions),Clustering
      - Virtual Networks
  - NSM - Networking Services Management
    - Re-chartered from Telco to add network services
    - Modernize CIM networking model with the help of SVPC and SDMPWG
    - Adding profiles for commonly found network services – *Initiative forthcoming*

# Ongoing Technical Work

- Cloud SC
  - CMWG – working on next version of CIMI. Holding plug fests and working on interoperability with Interop
  - SEWG – Software Entitlement WG – working on deliverables, white paper released.
  - OVF – Version 2.0 to encompass cloud released, working on vNext
  - CADF – first round deliverables met, working on next set of deliverables

# Interoperability Committee

VP of Interoperability – Bob Freund, Hitachi

Three Independent Forums

- Common Diagnostics Forum (CDM)
  - Promote plug-fests to test interoperability and test conformance tools
  - CDM conformance test suite in use now
  - Conformance Registry in use now.

- Systems Management Forum (SMF)
  - DASH 1.01 conformance test suite nearly ready, DASH 1.1 in the works
  - SMASH 1.0 conformance test suite under way
  - Certification Registry contains over 70 product entries now

- Virtualization and Cloud Management Forum (VCMF)
  - Ensure conformance and interoperability of products
  - Make VMAN and Cloud initiatives successful
  - Organize plugfests and other interoperability events

One Sub-Committee

- Conformance Sub-Committee
  - Common functions required by forums

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## Marketing Committee

- # Marketing Committee
  - VP of Marketing- Troy Bieggers, WSI

- # Focused on building awareness within the industry and with IT customers
  - Promoting DMTF standards and activities
  - Manage PR and press/analyst relationships
  - Attend industry events and place speaking sessions
  - Support development & distribution of educational resources
  - Create marketing collateral and content for external DMTF website
  - Collaborate with member companies & Alliance Partners on co-marketing

- # Sub-Committees
  - Virtualization Management Initiative Subcommittee
  - Japan Subcommittee

# Process & Incubation Committees

- Run by the VP of Process, Colleen Evans, Microsoft
- Process & Incubator Committees Develop DMTF procedures and oversees Incubators
  - Process documents can be found at http://www.dmtf.org/about/policies/
- Currently 2 active incubators: Virtualization Protection Profile, Software Defined Data Center
- Process Change Highlights:
  - Combined DSP4002 & 4004 into DSP4014 (one single process doc)
  - Changing Charters to reflect openness
- Alliance Partner involvement opportunity
  - During DSP Acquisition, Alliance Partners may request an early snapshot to be released as a Work In Progress when specs near completion (0.9?) to provide feedback.
    - Feedback would still need to come in through the feedback portal.
    - DSP request notifications handled through Alliance Committee
  - DSPList is now updated by TC/SC to reflect state of our standards
  - CRs can be released as a WIP to provide external review opportunity.

# Alliance Committee

- VP of Alliances is Mark Carlson, Oracle
- Manages Alliance Partners & Academic Alliances
  - Create Work Registers to create relationship where areas of interest and expertise intersect.
  - Facilitates work through Alliance Partner Liaison
  - Scope of work include Joint Releases, leveraging DMTF specification, feedback to/from DMTF, Joint Meetings, APTS & SVM

# Opportunities for Alliance Partner Involvement

- Greatest opportunity for involvement is where areas of interest and expertise intersect.
- Examples
  - Working needed schema changes into DMTF Schema
    - PWG, SNIA, OGF, The Green Grid
  - Working together on Profiles
    - PUG & Profiles
    - Would like to see Alliance Partners take advantage of DSP4005 opportunity to notify us that they are working on Profiles.
    - DMTF normatively referencing SMI-S profiles from SMASH Implementation Requirements Specs.
    - Technology submissions from SNIA to DMTF are now out as profiles
  - Working on Registries
    - DSP0228 has been modified to allow any standards organization to use it.
  - Joint Releases of specification
    - OMG
      - DSP0219 come out for DMTF Standard. It is covered by the work register between DMTF and OMG.
    - TMF
      - CIM/SID Harmonization Work – joint specification release!
  - Work together to ensure specifications enable solutions
    - UEFI
      - Working with DMWG, SMWG, PMCI & Core to see BIOS Modeling, Registries and Access Methods Specified
    - TGG
      - Working with DMWG on modeling

# Opportunities for Academic Partner Involvement

- There is still plenty of work to be done
- The DMTF maintains a list of possible research areas
  - http://dmtf.org/education/academicalliance
  - Help us get the word out!
- Examples
  - Profile & Model Development ideas:
    - GP/GPU, TPM, Display Control (Graphics and LCD), Serial Port, Parallel Port
    - Docking station modeling, Optical drive management, USB & device, Bluetooth
    - Cardbus (SD Card, MMC, etc), IR Device, 1394, Broadband device
    - GPS, Local Storage (anything not covered by SMI-S), Audio, Webcam
    - Generic IO Device (enable/Disable/description like a Logical Device profile inherited from ELE).
    - Generic Services, Operating System Management, Networking models
  - Comparison of DMTF interfaces in the same and similar markets.
  - Performance evaluation of DMTF interfaces (how heavy weight is CIM via the protocols on various implementations).
- Send us your ideas – we will get the word out.

# Events - SVM, APST & MDC

- SVM
  - This workshop is dedicated to academic research on standards and new technologies for systems and virtualization management, with a focus on cloud computing.
  - http://www.dmtf.org/news/events
- Alliance Partner Technical Symposium
  - DMTF Sponsored opportunity for gathering of multiple standards bodies to discuss issues and exchange ideas pertaining to work registers & other standards activities in the management space
  - http://www.dmtf.org/news/events
- Management Developers Conference
  - http://mandevcon.com/
  - Opportunity for educational & collaboration with individuals leading industry standardization efforts

# How to Work with the DMTF

- Join the DMTF
  - Scope of the DMTF is clear: it's all about management
  - Drive specifications through TC, conformance through the Interoperability Committee, messaging through the Marketing Committee and ground breaking areas through Incubators and International partnerships through Alliance and Regional Chapters
- Members
  - Active participation brings about standards based on best practices
  - Drive standards through participation
  - Consider bringing work into the DMTF
- Alliance Partners
  - DMTF Originated Work
    - Feedback from the DMTF
      - DSP Acquisition
      - Work In Progress Release capability
    - Feedback into the DMTF
      - Alliance Liaison
      - Joint Member (companies that are members of both organizations).
      - The DMTF Technology Adoption Policy
      - The DMTF Feedback Portal
  - Alliance Partner Originated Work
    - Similar mechanisms would speed things along if you wish DMTF input
- Academic Partners
  - Let us know what you are working on.
  - Let your colleagues know the opportunities for involvement,
    - idea exchange, advice from industry leaders

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Enjoy the Conference!