## Making SIP Interoperable

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#### SIP Forum

#### 41 Full Member Companies, over 1200 members

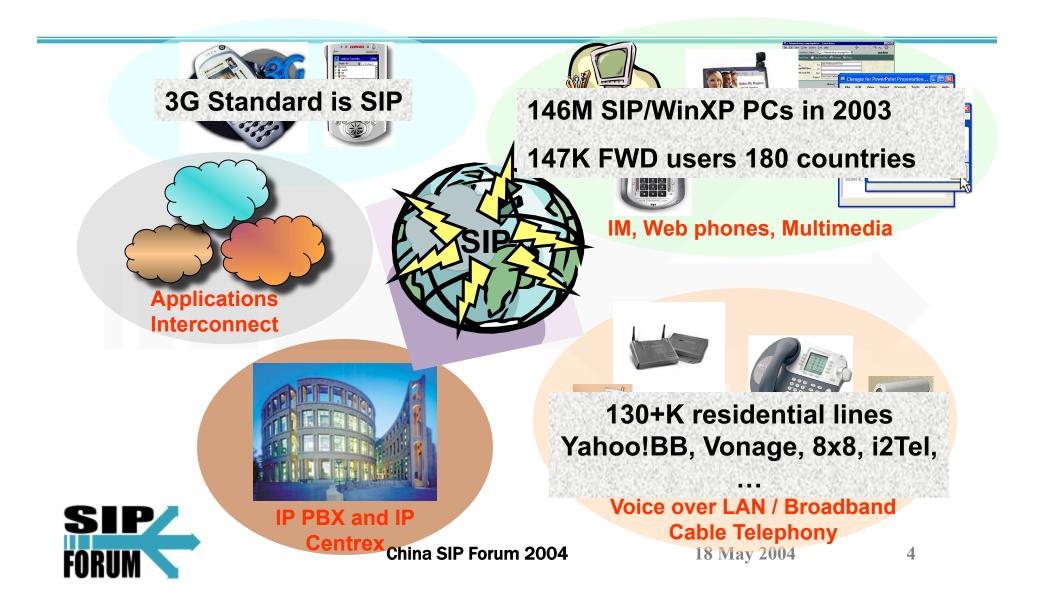




#### What is SIP?

- Internet Approach to Session Establishment
  - Smart Endpoints: HTTP
  - Network-Based Routing: SMTP
- Proven, Scalable Model
- Sessions are Independent of:
  - Access Network (Wireless, Wireline, Broadband)
    - Transport (IP, MPLS, IPv6, ATM, ...)

#### Where is SIP?



## **IETF Protocol Approach**

- Focused Protocols Provide Best Solution for Problem Domain
- IETF Protocol Suite Approach
   Demonstrated Superior to Monolithic
   Protocols for
  - Scale
  - Robustness
  - Longevity



### SIP and H.323

	SIP v2	H.323 v5
Philosophy	Designed for IP and Internet.  Open session between two points following the Web model (URL)	Designed for LAN multimedia. Detailed specs include physical layer (CODECs)
New Services	Extensions to SIP can be negotiated during session.	2+ years to deploy a new service; first requires ITU to ratify new version
Multimedia Handling	Can mix media during session. Include Presence management	Cannot mix media in same session. No Presence management
Failure Handling	Network failures handled by application	Network failures handled inside the H.323 protocol
Market	Standard gaining market share (replaced H.323 at Microsoft)	Broad support – legacy protocol. Last major H.323 rev. was V4 ratified in Nov. 2000.

## Interoperability

- Protocol Flexibility Often Results in Interoperability Problems
  - Many Different Ways of Doing Same Thing
  - Varying Implementations of Optional Protocol Elements
  - Incomplete Implementations



## Profiles or Implementation Agreements

- Works if Proper Subset and Honors ALL Mandatory Protocol Elements
  - 3GPP adds P-Headers, But Will Complete Calls Without Them; P-Headers do not Break non-3GPP SIP Implementations
- Does Not Work if Above Does Not Hold
  - Limits Provider's Ability to Use Products
  - Limits Provider's Ability to Interconnect
  - Limits Vendor: No Longer Global Market



### **Protocol Flexibility**

- Innovation in One Area Without Disrupting Other Areas
  - New Transport Types
  - New Media Types
  - New Application Types
- How to Achieve Interoperability?



# SiPit International Interoperability test event Interoperability Testing

- 14 Events to Date, in Asia, Europe, and U.S.
- 1st SIP Bakeoff
  - Can I Complete a Call Between 2 SIP UA's?
- SiPiT 14
  - Does My PBX / Hosted Service Work With Everyone Else?
  - 117 Participants, Including Manufacturers of Gateways, Phones, Applications, Media Servers, Soft Clients, Proxies, etc.



#### **SiPiT Process**

- Peer-to-Peer and Multi-Party Testing
- Developer Focus
  - Except for Aggregate Participation, All Results are Confidential
  - Encourage Open Testing
  - Remove Fear of Failure
- Considerable Exchange of Knowledge and Experience
- Shows Where Protocol Clarification Required



### **Thank You**

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