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# Making SIP Interoperable

China SIP Forum  
Beijing, May 2004

Prof. Ir.-MIT Eric W<sub>m</sub>. Burger  
Member of the Board, SIP Forum



# SIP Forum

41 Full Member Companies, over 1200 members



**SIMPLEt**  
SIMPLE interoperability test event



**SiPit**  
SIP interoperability test event

## Interoperability

- SIPit
- SIMPLEt
- Certification Working Group

## SIP Marketing

- Tradeshaw participation
- Speakers bureau
- Whitepapers and Website

## Service Providers

- Supports the entire community including wireline, wireless, cable operators, and ISPs
- Defines SIP and convergence needs for all Service Providers

# What is SIP?

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- ▶ 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?



**3G Standard is SIP**



**146M SIP/WinXP PCs in 2003**



**147K FWD users 180 countries**

**IM, Web phones, Multimedia**



**Applications  
Interconnect**



**130+K residential lines**  
**Yahoo!BB, Vonage, 8x8, i2Tel,**

...

**Voice over LAN / Broadband  
Cable Telephony**



**IP PBX and IP  
Centrex**

# IETF Protocol Approach

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- 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
<b>Philosophy</b>	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)
<b>New Services</b>	Extensions to SIP can be negotiated during session.	2+ years to deploy a new service; first requires ITU to ratify new version
<b>Multimedia Handling</b>	Can mix media during session. Include Presence management	Cannot mix media in same session. No Presence management
<b>Failure Handling</b>	Network failures handled by application	Network failures handled inside the H.323 protocol
<b>Market</b>	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

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- 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

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- 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

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

# International Interoperability Testing

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- 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

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- 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

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# Thank You

Prof. Ir.-MIT Eric W<sub>m</sub>. Burger  
[eburger@brooktrout.com](mailto:eburger@brooktrout.com)