SIP WG Status

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Overview

- SIP Working Group(s)
- SIP WG Rules
- SIP Work Items
- SIP Today and Tomorrow
- Related Work in the IETF
- SIP Standardization Issues
- Conclusion

SIP Working Group(s)

- MMUSIC
  - Developed SIP from Feb 1996 to Feb 1999
  - Still takes care of SDP and SDPng
- SIP
  - Initiated in Oslo (Sep 1999) for “load balancing”
  - Look after the base spec + core protocol extensions
- SIPPING
  - Initiated in Minneapolis (Mar 2001) – same reason
  - About to be approved by the IESG
  - Work on applications of SIP

SIP WG Status

Kind of busy…

- ~25 Active Drafts
- 13 items on Last Call Calendar
- 2 day interim meeting in February
- 3 meetings at last IETF + several Bar BOFs
- 700+ mails over last two months
- 2 meetings at next IETF + several Bar BOFs

SIPPING WG Status

- Split decided at last IEFT
- New WG close to approval by IESG

- Specify uses and applications of SIP
- Derive and elaborate requirements on SIP
- Feed new requirements to SIP WG
  - to consider appropriate SIP extensions

- First meeting(s) at 51st IETF
- ~40 Internet Drafts to look after

SIP-related Groups

- PINT: origin of SUBSCRIBE/NOTIFY
- IPTEL: CPL and TRIP
- SIMPLE: SIP for Presence (+ IMPP to define payload)
- SPIRITS: SIP as “transport” mechanism

- PacketCable DCS
- SoftSwitch Consortium
- 3GPP, 3GPP2
  - Using SIP for the next generation wireless networks
- ETSI Tiphon, IMTC: H.323 Interworking, Tests
- SIP Forum, SIP Center

What are we doing…?

SIP Work Items

- RFC 2543 bis
- ***SIP Call Control***
- Caller preferences, server features
- Reliable provisional responses
- Session timers
- ***SIP MIB***
- State Cookies
- ***Security and Privacy***
- ***Packet Cable DCS Convergence***
- ***SIP Events***
- NAT-/Firewall-friendly SIP

SIPPING Work Items

- ***SIP Call Flows***
- ***SIP for Telephony (SIP-T)***
- ***SIP – H.323 Interworking***
- Mobility / 3G Networks
- SIP Usage Guidelines
- Multiparty Conferencing
- SIP Application Components
- Living w/ MIME, DNS, DHCP, ENUM, …
- SIP Support for Hearing Impaired Users

How are we doing it…?

SIP Process Demystified

- "Why does it take so long…?"
- Process to move documents ahead…
  - Tracking documents and nagging people
  - Rakesh Shah from dynamicsoft volunteered
  - Helps to keep the overview of what is going on
  - WG web pages updates (together w/ Dean Willis)
- Information at our supplemental web site

Remember…

- We are trying to make standards.
  - Aiming for quality – so this takes a while.
- Not every RFC is a [{proposed,draft}] standard.
  - Informational and Experimental RFCs
  - (Those may become de-facto standards though.)
- An Internet-Draft has no standing whatsoever!
- Many Internet-Draft will silently disappear.
  - Wait for a stable spec to implement against…

SIP Last Call Process (1)

1. Proposal to go to WG Last Call
   - Create tracking page (so we know what happens)
2. Initial Consensus
   - Chairs review, inquire list, determine consensus
   - Hand-over to “Last Call Coordinator”
3. Pre-screening
   - NITS review: 1 reviewer
   - Make the draft “formally” IESG-proof
4. Prioritization & Scheduling
   - Detailed review: 3 reviewers
   - WG Last Call

SIP Last Call Process (2)

5. WG Discussion
   - List discussion of issues, suggestions, solutions
   - Modify and re-submit draft as needed
   - Re-issue WG Last Call (if needed)
6. Determine WG Consensus
   - May incur further work (and may start over again)
7. Hand-over to IESG
8. IESG Decision Process

When will it be done…?

SIP Today

RFC 1889: Real-time Transport Protocol (RTP)
RFC 1890: RTP Profile for Conferencing
RFC 2198: Redundancy for RTP

RFC 2327: Session Description Protocol (SDP)
RFC 2543: Session Initiation Protocol (+ bis-03)
RFC 2824: Call Processing Language (CPL)
RFC 2833: Tones over RTP (“DTMF”)
RFC 2976: The SIP INFO Method
RFC 3050: SIP CGI
RFC 3087: SIP Request-URIs for Service Control

SIP Tomorrow

- Autoconfiguration
  - DHCP option for SIP
  - SIP server location
  - (phone control – no SIP WG activity)
- SIP Server Features
  - Supported: Unsupported: Proxy-Require:
- SIP ISUP MIME
- Reliable Provisional Responses
  - PRACK method

SIP: The Day After Tomorrow

- Session Timer
- SIP Call Flows
- Call Control Framework
- Call Transfer
- SIP-T
  - SIP ISUP interworking
  - SIP overlap sending

SIP Next Week

- SIP Guidelines
- Application Components Outline
- SIP Caller Preferences
- SIP Security Requirements
- SIP Privacy
- SIP Session State
- SIP Resource Condition Met (COMET method)
- SIP MIB
- SIP Events (SUBSCRIBE / NOTIFY)
- H.323 Interworking Requirements

SIP further down the road…

- SIP for Mobility (3G)
- SIP with QoS and Billing
  - Tough in the end-to-end world ("what to bill for?")
- SIP and Conferencing
- Others…
- Proposal: SIP for Appliances?

SIP for Draft Standard…

- Plans
  - WG Last Call beginning of October 2001
  - Completion in December 2001
- Prerequisites:
  - Stable spec (only minor changes from Proposed)
  - ≥ 2 interoperable implementations for each feature
    - We are not worried about this part
  - SIP MIB!

What else is done…?

Reminder: SIP is Multimedia

- Origin: MMUSIC
  Multiparty Multimedia Session Control

- From Invitation… to initiation, modification, and termination
- From Multiparty… to point-to-point-focused
- From Multimedia… to voice-centric

The latter is not SIP — but it is the way SIP is looked at today in many cases.

MMUSIC WG: SDP

SDP (RFC 2327) being revised

- Bug fixes and clarifications
- Minor extensions / changes

Limited extensions being finalized

- Simple Capability Negotiation
  - Status: Passed WG Last Call, now for IESG
- Flow IDs
  - Status: Discussion in WG Last Call

From SDP to SDPng

- SDP has enabled SIP + streaming applications
  - works fine for many cases
  - makes many implicit assumptions
- BUT: Designed for Session Announcements
  - rather than for interactive “negotiations”
  - has exceeded its limit
- Many recent extensions
  - to better support SIP, MEGACO in the short-term
  - General solution being worked out

SDP Next Generation (SDPng)

- Being designed to address SDP’s flaws…
  - Limited expressiveness
    - For individual media and their combination
    - Often only very basic media descriptions available
  - No real negotiation functionality
  - Limited extensibility (clumsy, hard to coordinate)
  - No semantics for media sessions (only implicit)
- Also: Avoid second system syndrome!
  - Simple, easy to parse, extensible, limited scope

SDPng Structure

Definitions	→ “optional” may be “imported”
Potential and Actual Configurations	→ SDP m= blocks refers to definitions
Constraints	→ on configurations “optional”
Session Attributes	→ SDP session attr’s + stream semantics

SDPng Status

- Requirements agreed upon in MMUSIC
  - Also input from SIP, MEGACO
- Basic structure agreed upon
- XML-based syntax chosen
- Strawman proposal available
- Draft spec expected for 51^{st} IETF
- Next steps: definitions (media, transport, …)

IPTEL: CPL & TRIP

- Call Processing Language (CPL)
  - Done: RFC 2824
- Telephony Routing over IP (TRIP)
  - RFC 2871: Framework for Telephony Routing
  - TRIP Protocol: With IESG for Proposed Standard
  - “TRIP light” for Gateways

Finally: Keep SIP SIP!

- “Trendy” standards attract many contributors
  - well, sometimes too many contributors...
- Difficult to maintain architectural integrity
  - explosion of functions, fields, uses, interpretations, ...
- Sheer volume of contributions hard to co-ordinate
- When SIP is no longer used as SIP…
  - “We use SIP - but with the following changes…”
  - “SIP for everything - just because it’s there…”
- Risks for durability and future evolution

Summary

- Interest in and use of SIP grows tremendously
- A lot of work done – and still a lot to do

- SIP: Core protocol and architecture
- SIPPING: Applications and their requirements
- MMUSIC: Session description

- Further groups are picking up on SIP
- BUT: Don't SIP everything!

Further Information

www.ietf.org/html.charters/sip-charter.html

www.greycouncil.com/sipwg

www.greycouncil.com/sippingwg

www.cs.columbia.edu/~hgs/sip

www.cs.columbia.edu/~hgs/sip/sipit