Making SIP Real: Filling the Gaps
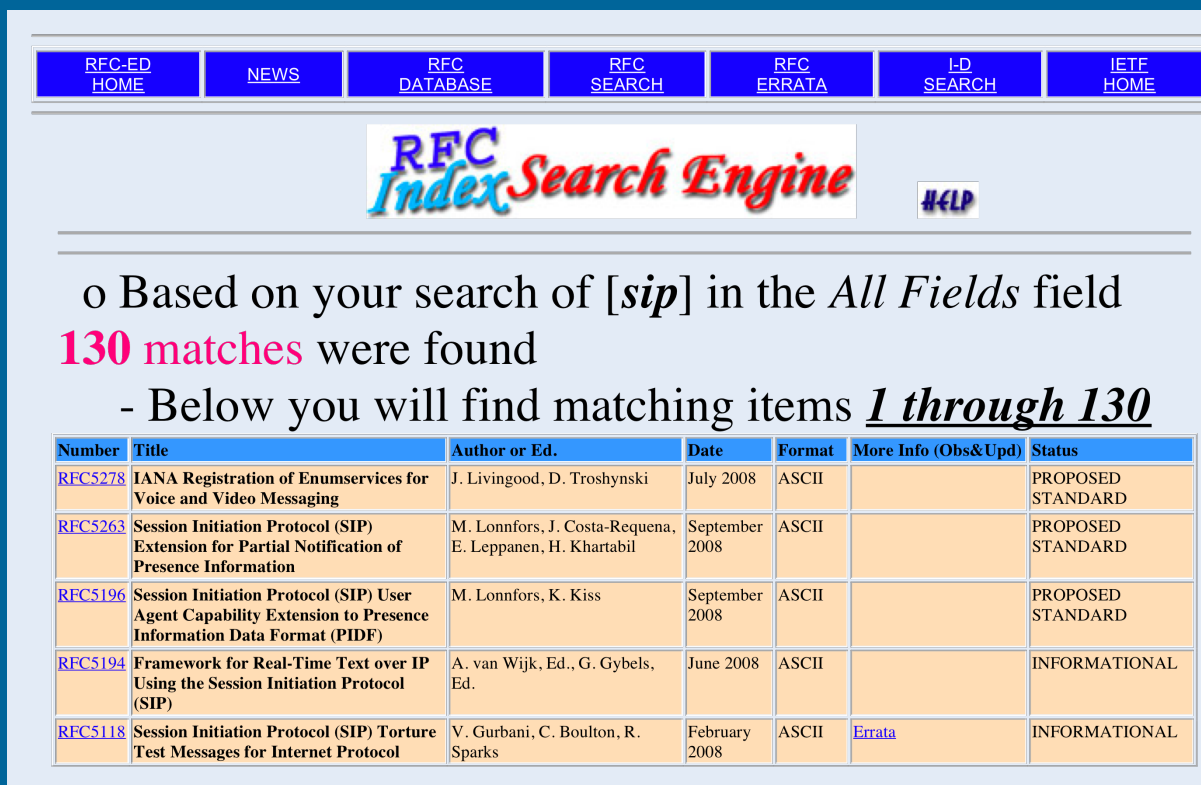
Dr. Eric Burger

Chairman of the Board, SIP Forum

eburger@sipforum.org
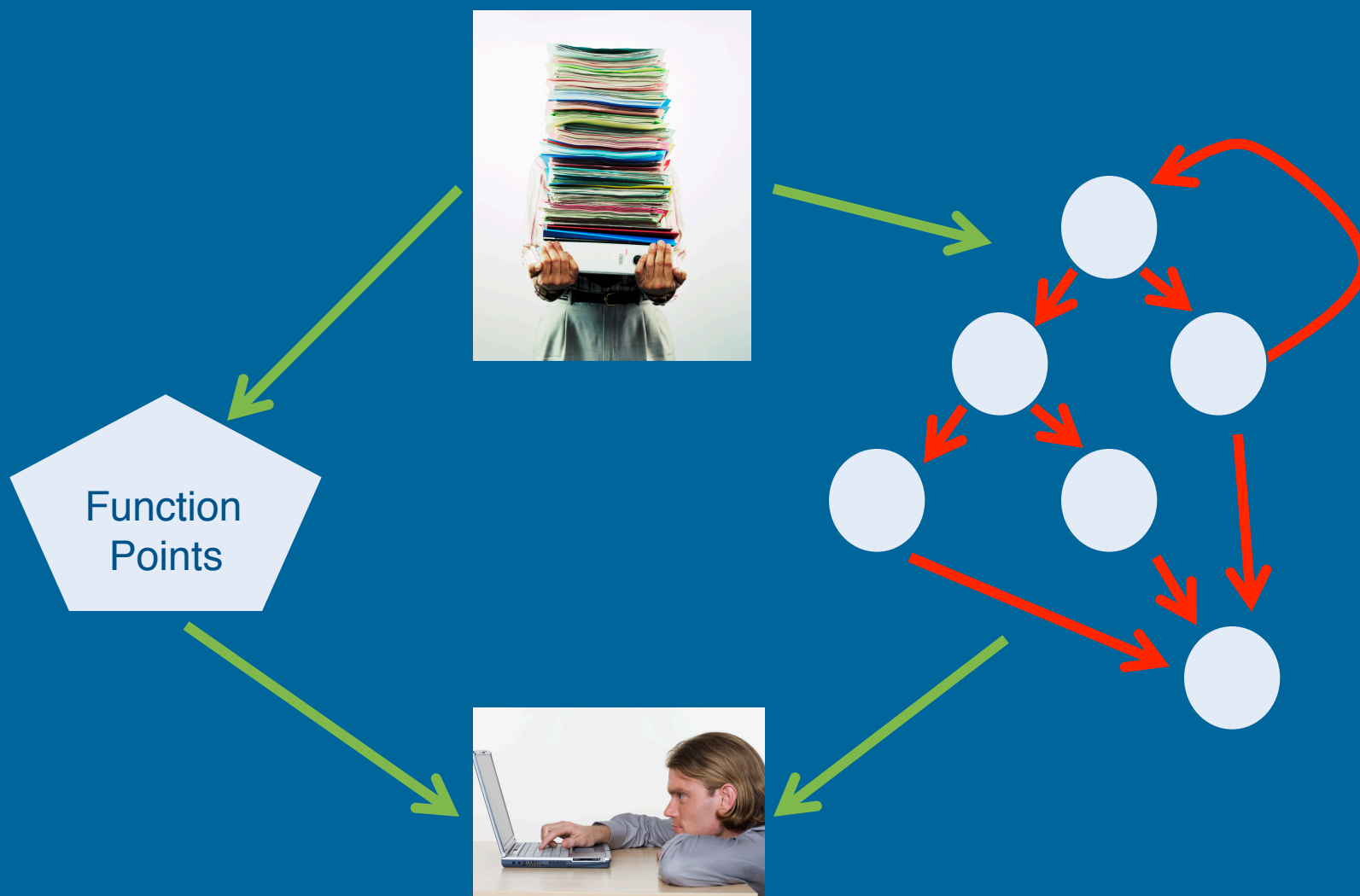
Why Do People Say SIP is Complex?
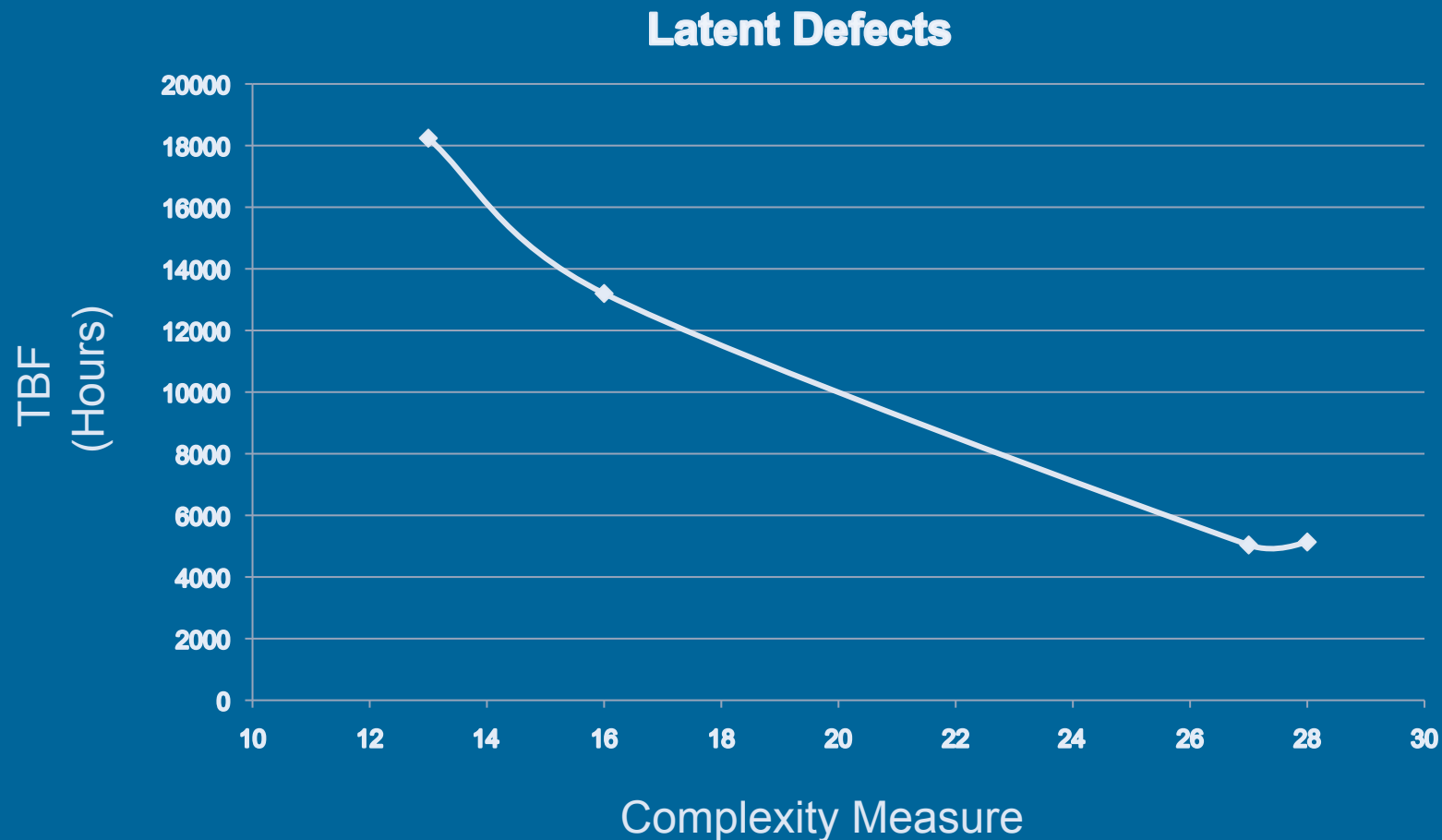
RFC Index Search Engine HELP

o Based on your search of [*sip*] in the *All Fields* field **130** matches were found

- Below you will find matching items *1 through 130*

Number	Title	Author or Ed.	Date	Format	More Info (Obs&Upd)	Status
RFC5278	IANA Registration of Enumservices for Voice and Video Messaging	J. Livingood, D. Troshynski	July 2008	ASCII		PROPOSED STANDARD
RFC5263	Session Initiation Protocol (SIP) Extension for Partial Notification of Presence Information	M. Lonnfors, J. Costa-Requena, E. Leppanen, H. Khartabil	September 2008	ASCII		PROPOSED STANDARD
RFC5196	Session Initiation Protocol (SIP) User Agent Capability Extension to Presence Information Data Format (PIDF)	M. Lonnfors, K. Kiss	September 2008	ASCII		PROPOSED STANDARD
RFC5194	Framework for Real-Time Text over IP Using the Session Initiation Protocol (SIP)	A. van Wijk, Ed., G. Gybels, Ed.	June 2008	ASCII		INFORMATIONAL
RFC5118	Session Initiation Protocol (SIP) Torture Test Messages for Internet Protocol	V. Gurbani, C. Boulton, R. Sparks	February 2008	ASCII	Errata	INFORMATIONAL

Computer Science Definition of Complex

Function Points

Why Complexity Matters

Latent Defects
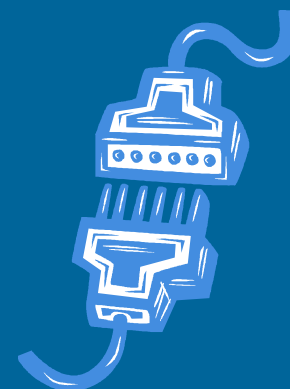
Is it Possible to Reduce Complexity?
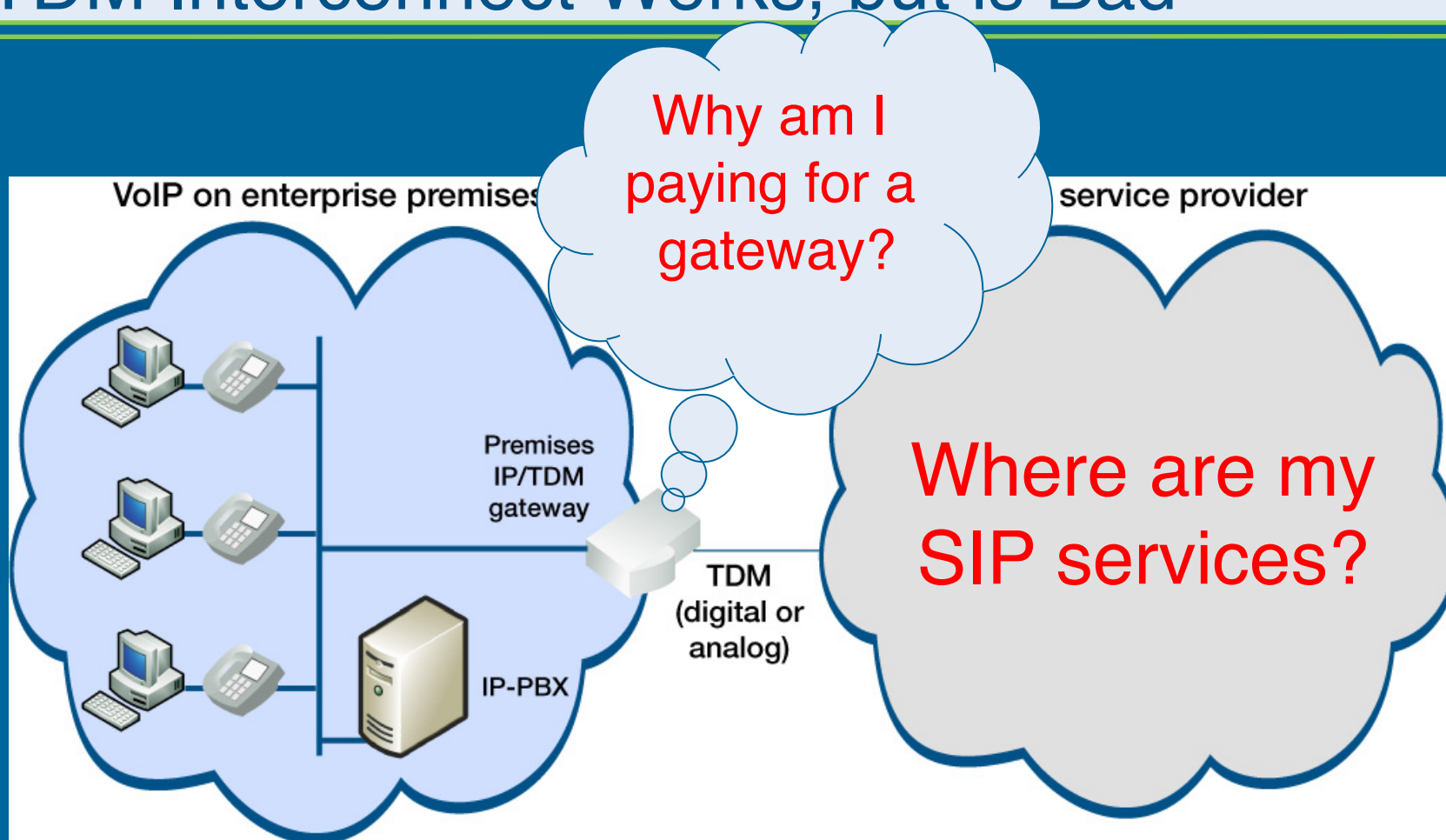
What are the Different Kinds of Profiles?

SIPconnect: A Simplifying Profile

Why SIPconnect?
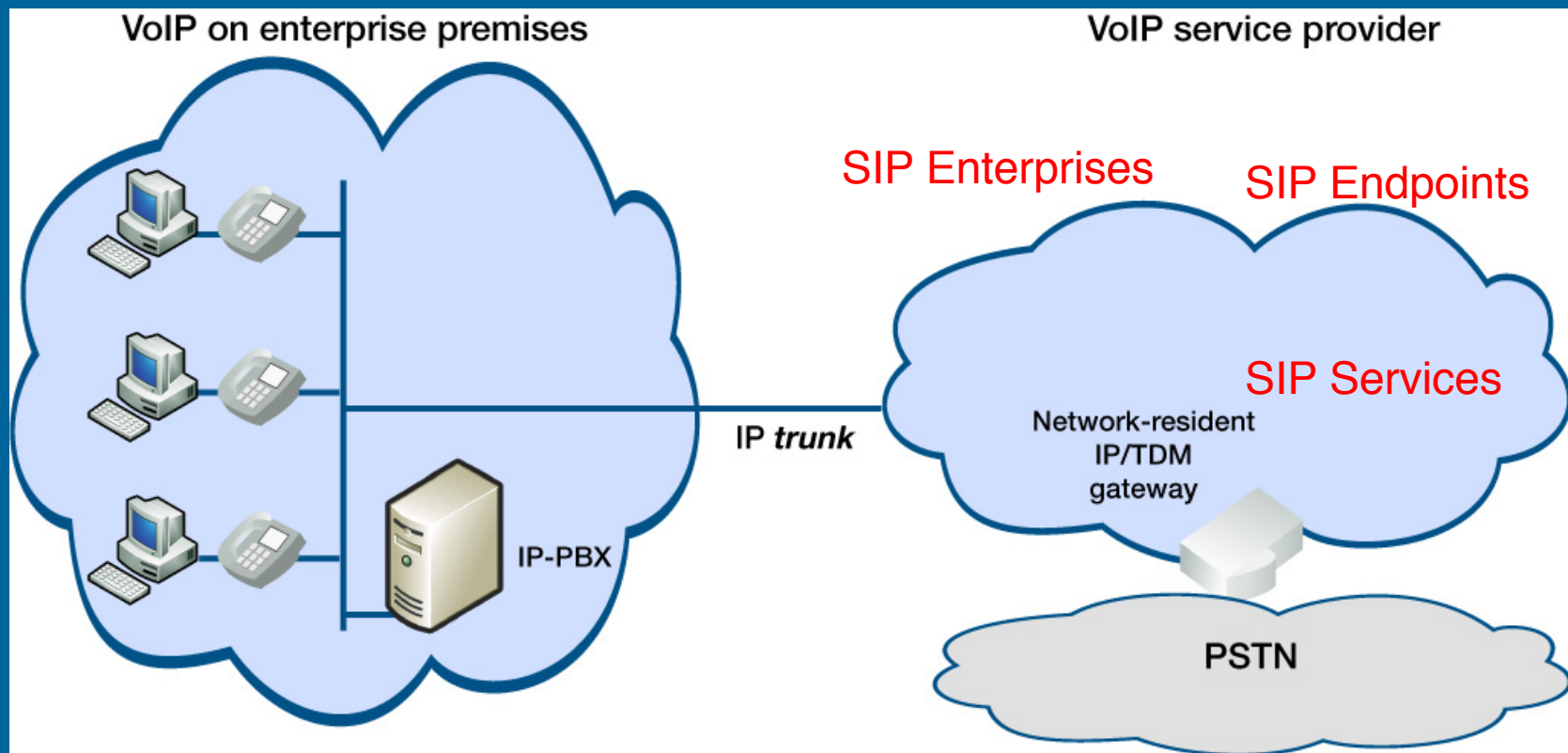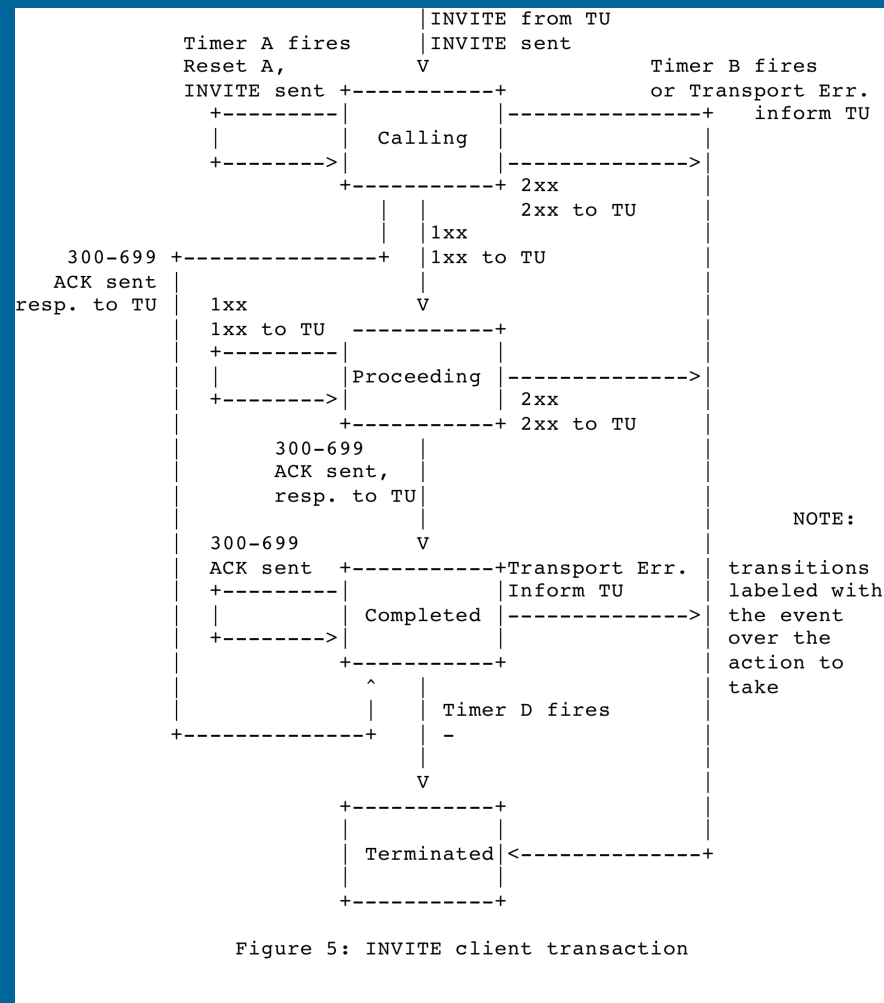# TDM Interconnect Works, but is Bad

IP Interconnect: SIP Trunk (SIPconnect)

VoIP on enterprise premises

IP-PBX

IP *trunk*

VoIP service provider

SIP Enterprises

SIP Endpoints

SIP Services

Network-resident IP/TDM gateway

PSTN

Is Complexity Just Wrong?


```
                                        |INVITE from TU
          Timer A fires                 |INVITE sent
          Reset A,             V              Timer B fires
          INVITE sent +-----------+        or Transport Err.
          +---------|           |---------------+    inform TU
          |         |  Calling  |               |
          +-------->|           |-------------->|
                    +-----------+ 2xx           |
                      |   |              2xx to TU   |
                      |   |1xx                       |
     300-699 +--------------|   |1xx to TU            |
     ACK sent |           |                          |
   resp. to TU |  1xx              V                 |
             |  1xx to TU  -----------+              |
             |  +---------|           |              |
             |  |         |Proceeding |------------->|
             |  +-------->|           | 2xx          |
             |            +-----------+ 2xx to TU     |
             |      300-699   |                      |
             |      ACK sent, |                      |
             |      resp. to TU|                     |
             |              |                        |         NOTE:
             |  300-699     V                        |
             |  ACK sent  +-----------+Transport Err.|  transitions
             |  +---------|           |Inform TU     |  labeled with
             |  |         | Completed |------------->|  the event
             |  +-------->|           |              |  over the
             |            +-----------+              |  action to
             |              ^   |                    |  take
             |              |   | Timer D fires      |
             +-------------+  | -                   |
                              |                      |
                              V                      |
                        +-----------+                |
                        |           |                |
                        | Terminated|<--------------+
                        |           |
                        +-----------+

             Figure 5: INVITE client transaction
```

Addressing a Complex World

SIPit Goal: Find and fix what doesn't work

Fix Bugs in Real Time

- ❖ Allows immediate retesting
- ❖ High-yield testing
  - ➤ Participants claim 4 to 6 months worth of results from 1 week at SIPit

Improve Standards

- ❖ If two teams argue over specification, need to clarify specification
- ❖ Testing identifies errors and omissions in the Standards
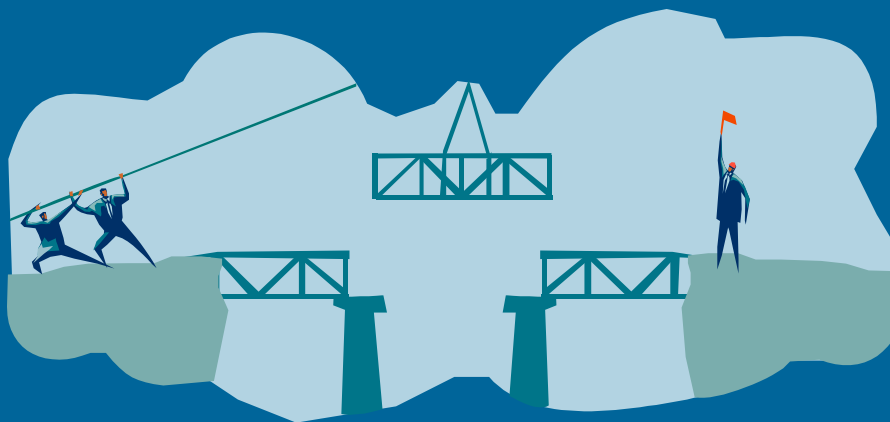- ❖ Reports from SIPit allow the IETF to focus on real industry needs
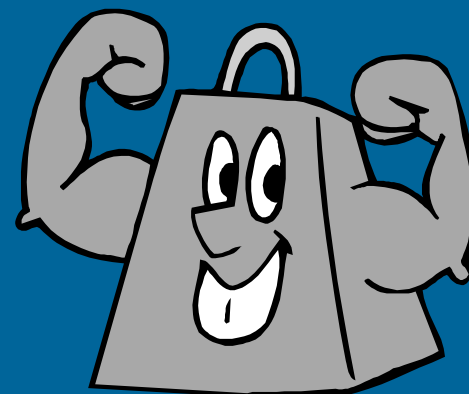
SIPit Events

- ❖ **SIPit 23 – October 2008 – Lannion, France**
  - ➢ Hosted by the ETSI Interopolis Service

- ❖ **SIPit 24 – May 2009 – Akihabara, Japan**
  - ➢ Hosted by WIDE

SIP is Strong and Getting Stronger

Thank You!

Eric Burger

Chairman of the Board, SIP Forum

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