Carl Bulger (left) presided.

PRESENTATION:

Irv Salzberg shared with us his successful transition from Verizon's Plain Old Telephone Service to Voice over the Internet Protocol (VOIP).

(Photo courtesy of Dennis Edgington)

Submitted by Barry Hammond

The white telephone on the shelf behind Irv is connected to his Cisco Analog Telephone Adapter (ATA) which allows him to use the Internet for his telephone calls, foreign and domestic. The white cable is plugged into the Ethernet outlet in the front of the classroom connecting his box to our Comcast internet provider. Here is his PowerPoint Presentation:

REPLACING FIOS VOIP

INTRODUCTION

Several months ago I discovered that a considerable amount of money could be saved on my Verizon monthly bill by dropping the phone portion of my triple play FIOS. The requirements for a new telephone provider boiled down to:

1. Saving money,
2. Reliability, quality and accessibility (we have relatives overseas) were not to be compromised and,
3. Our physical location and arrangement of home telephones were to be unaltered.

VOIP technology appeared to be the most promising approach to accomplish this. I selected a service provider, after a cost and reliability discovery search, and proceeded to test the service. Needless to say, both my wife and I were skeptical of ending a 50 year association with Verizon POTS.

The results were spectacular and a month after starting the tests I ported my 50 year old POTS number to the new VOIP service. Not only did the service completely meet our requirements but we accrued some additional benefits that were very significant for us:

1. Portability and
2. Ease of adding and deleting new phone numbers.

Submitted by Barry Hammond

REQUIREMENTS

MY

- **REDUCED COST**
- **SERVICE RELIABILITY**
  - Outages
  - Billing
- **VOICE QUALITY**
- **ACCESSABILITY**
  - Problem Resolution
  - Statistics
- **EASE OF USE**
  - Overseas Calling
  - Adding phone numbers

VOIP

INTERNET ACCESS (anywhere)

- At least 80 kilobits/ second service
- Router – wireless &/or RJ45 interface

VOIP SERVICE PROVIDER

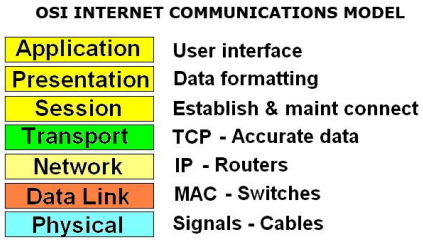
ATA

Submitted by Barry Hammond

SOME DEFINITIONS

- **POTS - Plain Old Telephone Service.**

- **PSTN - Public Switched Telephone Network.**



- **SIP - Session Initiation Protocol:**
  SIP is an internet signaling protocol for creating, modifying and terminating sessions with one or more participants. These sessions can include Internet telephone calls, multimedia distribution, and multimedia conferences.

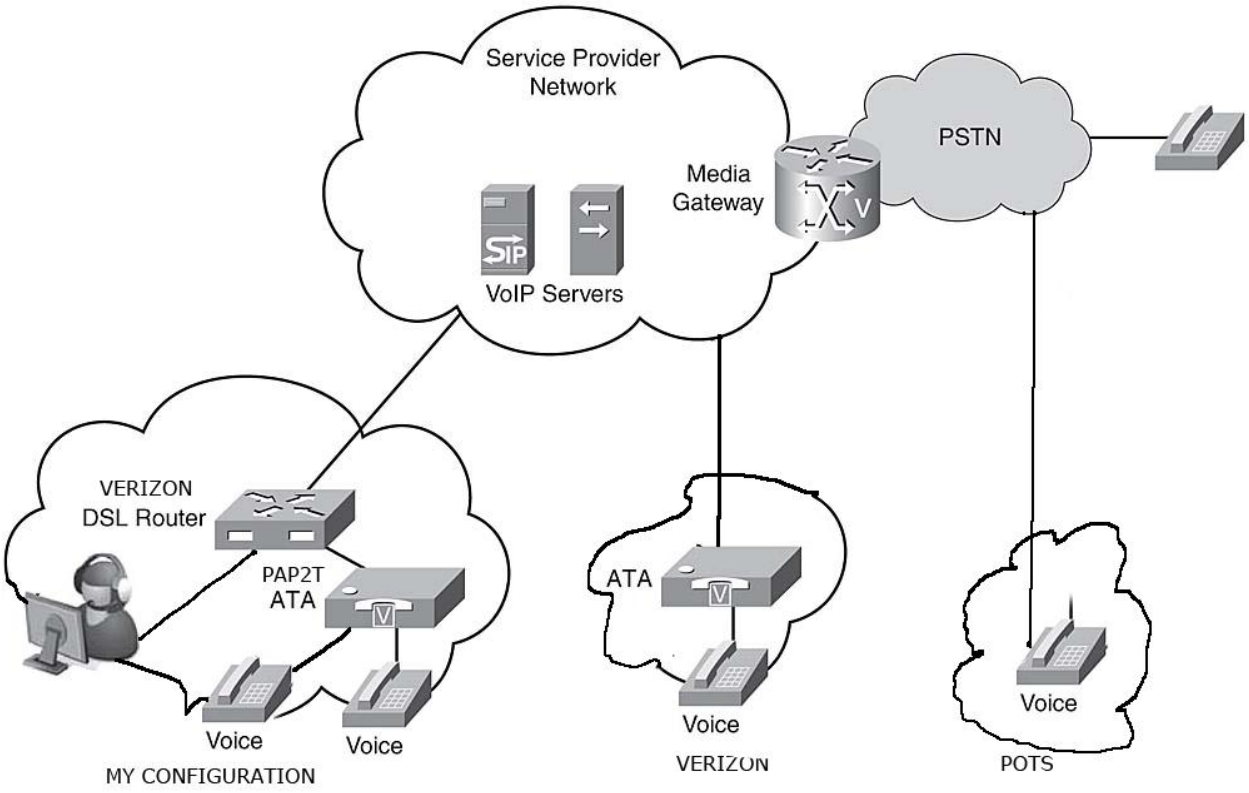
- **VOIP - Voice Over Internet Protocol:**
  While traditional telephone service uses analog technology to place audio frequencies on a wire, VOIP digitizes the sound of your voice into packets of data. In milliseconds, these data packets are sent over the Internet. When the data reaches the final destination, it is converted back to sound. If VOIP is used to call someone on the traditional phone PSTN the VOIP call is converted to sound once it reaches the network and the call is routed normally.

- **ATA - Analog Telephone Adapter:**
  An ATA is a device used to connect one or more standard analog telephones to a digital telephone system. An ATA is connected between an IP network (such as a broadband connection) and an existing telephone jack in order to provide service nearly indistinguishable from PSTN providers on all the other telephone jacks in the residence.

The OSI Internet Communications Model in the upper right is the definition of any communications system. The bottom four, Transport thru Physical, are transparent to the user. The top three, (Application, Presentation, and Session), require the user to acquire hardware and software to communicate.

Submitted by Barry Hammond

HOW VOIP WORKS



On the right is Plain Old Telephone Service with the home phone of people with whom you communicate connected directly to the Public Switched Telephone Network. In the middle is the Verizon telephone service with the home phone connected to an Analog Telephone Adapter, which Verizon provides in the white box mounted on the outside wall (usually in the garage). This is what Irv was using before he started using VOIP. On the left is the VOIP setup that Irv Salzberg now uses with his telephones connected to a Cisco Model PAP2T Analog Telephone Adapter connected to a Verizon Broadband FiOS Router (mislabeled a Verizon DSL Router) which connect to the VoIP service with which he has contracted. The particular Cisco ATA that he bought will accommodate two telephones, a telephone and a fax, or a telephone and an answering machine. He must pay his VoIP service provider for each. ATA's with more inputs are available for more money. Irv paid $30 on eBay for his. He says it's

Submitted by Barry Hammond

available from Amazon for $60. His home telephone really is one phone number representing a home network of five or six wireless phones. But, when he goes on vacation or travel, he can take his ATA with him and access the number from anywhere in the world.

SELECTING A SERVICE PROVIDER

PROVIDER	INITIAL COST	COST/ MIN	COST/ MONTH	PROBLEM RESOLUTION	RELIABILITY	CALL QUALITY	COMPATIBLILITY				UK	INDIA
							POTS PHONE	WINDOWS	IOS	ANDROID		
VOIP.MS	$55.00		$6.95	G	G	G	Y	Y	Y	Y	$0.008	$0.024
VERIZON FIOS			$50.00	F	G	G	Y	N	N	N	$0.080	$0.280
MAGICJACK+	$70.00		$2.50	P	F to P	F to P	Y	N	Y	N	$0.020	$0.050
VONAGE			$25.99	G to F	G	G	Y	N	N	N	$0.040	$0.150
SKYPE	$0.00	$0.03	$0.00	P	F to P	F to P	N	Y	Y	Y	$0.026	$0.106

Note #1: One time portage costs are the same for all providers
Note #2: Call services are the same for all providers
Note #3: Portability is the same for all providers except verizon
Note #4: Extension access is the same for all providers f wireless home phones are used

Irv chose VOIP.MS as his VOIP service provider from hundreds of such providers. Monthly service charges are $6.95 versus $50/mo charged by Verizon FiOS. MagicJack has cheaper monthly charges but its problem resolution, reliability, and call quality are fair to poor. Vonage is $26/mo. Skype charges by the minute and it is also Fair to Poor in the three categories. Furthermore, VOIP.MS is the only service that is compatible with calling people who have Plain Old Telephone Service or devices with Windows, Apple iOS, and Android operating systems.

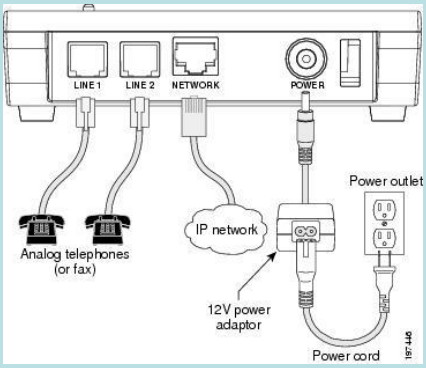
Submitted by Barry Hammond

VOIP HARDWARE CONFIGURATION

HOME, INDIA, SENEGAL

PC, IOS & ANDROID APPS - 3CX or Zoiper

CISCO's PAP2T ATA



The Cisco ATA measures approximately five inches square by about one inch thick. You can use 3CX or Zoiper software on your Windows, Apple iOS, or Android devices. 3CX is free. He has communicated with the UK, Senegal, India, New Zealand, Australia, and European countries.

Submitted by Barry Hammond

MY RESULTS with VOIP.MS

- One time costs:
  - Cisco PAP2T-NA ATA ~ 30$
  - Porting phone number – 25$
  - 911 registration – 1.50$
- Monthly costs (choice of 2 plans):
  - 6.95$/ month 0.000 $/minute or
  - 1.49$/month 0.015 $/minute (Break Even Point = 364 min/mo)
- Portability for use any where in the world where internet access is available
- Reduced telephone costs from 50$ to 7$ per month
- Same services quality and reliability
- One + four US phone numbers

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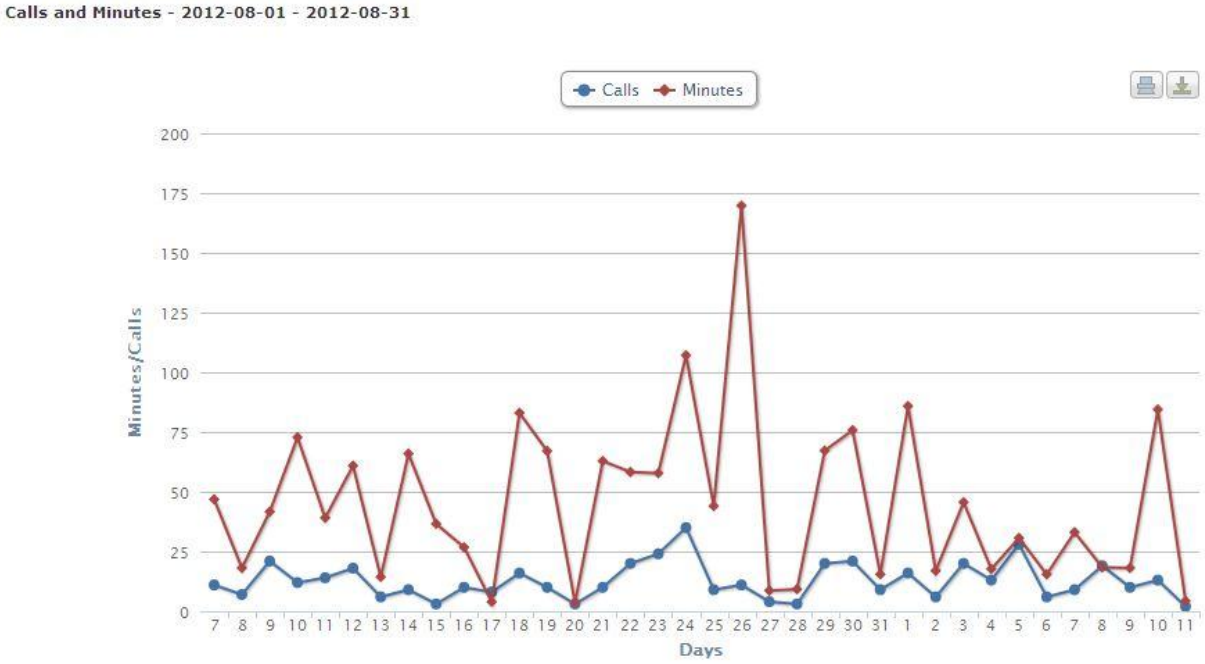
911 registration is a one-time cost unless you go someplace for a long period of time. Then you would want to re-register for the 911 number in that location. No matter where you travel you can take the Cisco ATA with you and all of your calls will be the equivalent to a local call.

Submitted by Barry Hammond

MY CALL USAGE



Submitted by Barry Hammond

This is the Cisco PAP2T setup screen. Irv has selected “newyork.voip.ms” as his proxy because that is closest to Bowie. If he were in the UK or Europe, he would probably choose the “london.voip.ms”.

Submitted by Barry Hammond