Temas de Monografía 2009

1. **Broadband over powerlines, BPL**

Broadband over power lines (BPL), also known as power-line internet or Powerband, is the use of PLC technology to provide broadband Internet access through ordinary power lines. A computer (or any other device) would need only to plug a BPL "modem" into any outlet in an equipped building to have high-speed Internet access.
Coordinador: Alejandro Dantiacq
Alumno: Bertagna, Pablo

2. **IEEE 802.15.4a**

Specifies two additional PHYs using Ultra-wideband (UWB) and Chirp Spread Spectrum (CSS). The UWB PHY is designated frequencies in three ranges: below 1 GHz, between 3 and 5 GHz, and between 6 and 10 GHz. The CSS PHY is designated to the 2450 MHz ISM band.[
Coordinador: Jorge Robles
Alumno: DIEBRA, Juan Manuel Leg: 26027

3. **Voice over IP Security**

Ver SIP Digest, SIPs, SRTP, H.235, ZRTP, SPIT, TLS
Coordinador: Armando Lima/Patricia Clérigo

Alumno:.....

4. **MOME IP monitoring and measurement**

http://www.ist-mome.org/about/
Coordinador: Santiago Pérez

Alumno: Tominelli, Abel Vladimiro Leg: 26089

5. **IEEE 802.11e**

IEEE 802.11e as of late 2005 has been approved as a standard that defines a set of Quality of Service enhancements for LAN applications, in particular the 802.11 WiFi standard. The standard is considered of critical importance for delay-sensitive applications, such as Voice over Wireless IP and Streaming Multimedia. The protocol enhances the IEEE 802.11 Media Access Control (MAC) layer.
Coordinador: Gustavo Mercado

Alumno:.....

6. **Sensor Web Enablement WG**

OGC members are specifying interoperability interfaces and metadata encodings that enable real time integration of heterogeneous sensor webs into the information infrastructure. Developers will use these specifications in creating applications, platforms, and products involving Web-connected devices such as flood gauges, air pollution monitors, stress gauges on bridges, mobile heart monitors, Webcams, and robots as well as space and airborne earth imaging devices.

Coordinador: Cristian Pérez

Alumno: Pablo Silvestrelli

7. **Anycast en IPv6**

Anycast is a network addressing and routing scheme whereby data is routed to the "nearest" or "best" destination as viewed by the routing
Coordinador: Carlos Taffernaberry

Alumno: ALONSO, Alejandro Leg: 22760

8. **Path MTU Discovery**

The Internet Protocol defines the "path MTU" of an Internet transmission path as the smallest MTU of any of the IP hops of the "path" from the source address to the destination address. Or, looked at another way, the "path MTU" defines the largest MTU value that can traverse the "path" without the packets sufferring further fragmentation
Coordinador: Alejandro Dantiacq

9. **ENUM**

Telephone Number Mapping (ENUM or Enum, from TElephone NUmber Mapping) is a suite of protocols to unify the telephone numbering system E.164 with the Internet addressing system DNS by using an indirect lookup method, to obtain NAPTR records. The records are stored at a DNS database.
Coordinador: Gerardo Gosetto

Alumno:.....

10.TTCN-3 (Testing and Test Control Notation version 3) is a strongly typed test scripting language used in conformance testing of communicating systems and a specification of test infrastructure interfaces that glue abstract test scripts with concrete communication environments. TTCN-3 has been developed by ETSI and its predecessor is TTCN-2. Despite sharing same fundamental concepts, TTCN-2 and TTCN-3 are essentially two different languages, the latter having simpler syntax and standardized adapter interfaces. TTCN-3 has been used to test SIP, WiMAX, and DSRC test systems. TTCN-3 scripts can be combined with ASN.1 type definitions. ASN.1 is natively supported by major TTCN-3 tool vendors.
Coordinador: Santiago Pérez

Alumno:.....

11.SILK - nuevo codec utilizado por Skype y liberado (free) a la competencia, no OPENSOURCE. Especificaciones y Características técnicas.
Coordinador: Patricia Clérigo

Alumno: IGUAL, Sebastian Leg: 23619

12.VoIP Codecs

Análisis de los codec de audio y video existentes. Especificaciones y Características Técnicas. Comparativa.
Coordinador: Patricia Clérigo

Alumno:.....

13. **Internet Protocol Television (IPTV)** se ha convertido en la denominación más común

para los sistemas de distribución por subscripción de señales de televisión y/ó vídeo usando conexiones de banda ancha sobre el protocolo IP
http://es.wikipedia.org/wiki/IPTV
Coordinador: Gustavo Mercado

Alumno: NAVARRO, Marcos Leg: 23729

14. **IP ECN (**Explicit Congestion Notification)

Network congestion avoidance is a process used in computer networks to avoid congestion. The fundamental problem is that all network resources are limited, including router processing time and link throughput.
Another approach is to use IP ECN. ECN is only used when the two hosts signal that they want to use it. With this method, an ECN bit is used to signal that there is explicit congestion
Pegado de <http://en.wikipedia.org/wiki/Network_congestion_avoidance>
Coordinador: Alejandro Dantiacq

Alumno:.....

15. **VoIP Traffic generators Trade-off**

- Codima autoVoIP Traffic Simulator - Simulate and Stress Test all types of VoIP networks
- Spirent Communications - Test Solutions for VoIP networks and devices
- Candela Technologies LANForge FIRE VOIP/RTP/PESQ call generator
- Empirix Signaling and Media load and feature testing
- GL Communications
    - PacketGen - generates SIP calls with or without RTP traffic
    - PacketScan - monitor, collect, and analyze QoS statistics on VOIP traffic
- Integrated Research Prognosis will simulate, record and analyze VOIP traffic in real time.
- Iperf creates network traffic and measures performance
    - Can be used to test a network to see how it might perform with increased VOIP traffic
- Ixia VOIP traffic generators and Network assessment tools
- MyVoIPSpeed simulates VoIP traffic over your Internet connection, measures key diagnostics including Jitter and Packet Loss, and provides an analysis of the voice quality
- PacketIsland 4"x4" in-line micro-appliances used in a distributed multi-site enterprise or SME to generate live VoIP traffic and measure loss, jitter, MOS, route performance, route flaps, etc. Also measures ongoing data traffic in network.
- Sipp SIP Performance Test Tool - Performance tester for SIP
- pjsip-perf Open source call generator from pjsip.org to measure SIP call/transaction performance.
- Touchstone 100% software-based VoIP and video verification tools.
    - WinSIP - SIP signaling and Audio/Video media generator
    - Win323 - H.323 signaling and Audio/Video media generator
- Valid8.com Valid8.com is a leading provider of SIP, H.323, Megaco, SIGTRAN traffic generation solutions.

Alumno:.....

16.VoIP Monitoring and Test Tools Trade-off

- ACQUA: VoIP Speech Quality Analysis System
- Agilent Technologies DNA MX and TNA software
- Brix Networks real-time VoIP performance management and service assurance solutions
- ClarifiedNetworks Monitoring and high level flow analysis and visualization
- ClearSight Networks ClearSite Analyzer
- Codima Toolbox VoIP Management from pre deployment to post deployment and network visualization in Visio
- Consultronics
- Empirix monitoring and analysis
- Fluke Networks OptiView VoIP, ProtocolExpert Plus and Link Analyzer
- Hammer Call Analyzer
- Inet GeoProbe IP
- Intelica VoIP Intelligence Call Monitoring, Analysis and Reporting
- Malden
- Minacom QOS monitoring and testing
- NetTest monitoring of QOS and network performance
- NetIQ monitoring of QOS and network performance
- PacketIsland micro-appliances and asterisk agent for QoS monitoring of SIP and Cisco SCCP VoIP calls
- PathSolutions SwitchMonitor VoIP
- Packet Data Systems Clarinet Protocol Test System
    - Simulation and analysis of SIP, SIP-T & H.323. QOS measurement, recording, replay etc.
- Psytechnics monitoring of QOS
- Qovia monitoring of QOS
- Rochelle Analog QOS products - can be used with an ATA
- Sage Instruments VOIP test equipment and systems
- Spirent Communications - Test Solutions for VoIP networks and devices
- Sunrise Telecom VOIP and Telecom test equipment
- TamoSoft CommView and CommView for WiFi network analyzers for wired and wireless (802.11 a/b/g/n) networks
    - Real-time VoIP call monitoring
    - SIP and H.323 analysis and decoding, call playback
    - Jitter, QoS, Bandwidth charts
- Telchemy monitoring of QOS
    - Their technology appears in numerous other products list
- Touchstone
    - WinEyeQ
        - 100% software-based
        - monitors/analyzes/records/replays SIP and H.323 traffic, audio/video media and QOS.
    - TraceBuster
        - records/replays SIP and H.323 traffic, audio/video media and QOS.
- Unsniff Network Analyzer RTP/SIP/IAX2 visual analysis, one-click playback, whitepapers
- Valid8.com Valid8.com is the leading provider of SIP, H.323, Megaco, SIGTRAN conformance test solutions.
- Viola Networks NetAlly RealTime and VoIP Assessment

- **VQManager web-based, 24 X 7 real-time QoS monitoring tool for VoIP networks.**
- WildPackets EtherPeek VX - monitor QOS, packet loss, voice quality, etc.
- See Also:
  - Call Quality Metrics
  - Network World Review of 7 VOIP Analysis Tools

Alumno:.....

17- Protocolos peer to peer.
Una red **peer-to-peer** (**P2P**) o *red de pares*, es una red de computadoras en la que todos o algunos aspectos de esta funcionan sin clientes ni servidores fijos, sino una serie de nodos que se comportan como iguales entre si. Es decir, actúan simultáneamente como clientes y servidores respecto a los demás nodos de la red.
Coordinador: Carlos Taffernaberry
Alumno: Juan Manuel Tello

18- Clusters de alta disponibilidad de aplicaciones.
Un **cluster de alta disponibilidad** es un conjunto de dos o más máquinas que se caracterizan por mantener una serie de servicios compartidos y por estar constantemente
monitorizándose entre sí. Podemos dividirlo en dos clases:
Alta disponibilidad de infraestructura: Si se produce un fallo de hardware en alguna de las máquinas del cluster, el software de alta disponibilidad es capaz de arrancar automáticamente los servicios en cualquiera de las otras máquinas del cluster (failover). Y cuando la máquina que ha fallado se recupera, los servicios son nuevamente migrados a la máquina original (failback). Esta capacidad de recuperación automática de servicios nos garantiza la alta disponibilidad de los servicios ofrecidos por el cluster, minimizando así la percepción del fallo por parte de los usuarios.
Alta disponibilidad de aplicación: Si se produce un fallo del hardware o de las aplicaciones de alguna de las máquinas del cluster, el software de alta disponibilidad es capaz de arrancar automáticamente los servicios que han fallado en cualquiera de las otras máquinas del cluster. Y cuando la máquina que ha fallado se recupera, los servicios
son nuevamente migrados a la máquina original. Esta capacidad de recuperación automática de servicios nos garantiza la integridad de la información, ya que no hay pérdida de datos, y además evita molestias a los usuarios, que no tienen por qué notar que se ha producido un problema.
Coordinador: Carlos Taffernaberry
Alumno: MILITELLO, Pablo Leg: 26016

19- Funcionamiento Redes Wireless 802.11 ad hoc.
Describir a nivel de protocolo el modo operativo de la capa de
coordinación distribuida, tramas involucradas, modos operativos, etc.
Coordinador: Santiago Pérez

20- Simulador NS2 en ambientes wireless 802.11
Describir el nivel de soporte del protocolo wireless 802.11, capacidad de configuración, tramas involucradas, modos operativos, capacidad de
Teleinformatica página 4
simulacion de redes ad hoc y con infraestructura, etc.
Coordinador: Santiago Pérez

21- Dispositivos de Redes Ethernet y wireless de ambientes industirales
Describir las características de los dispositivos activos y pasivos,
costos, condiciones operativas, protocolos, etc. en ambientes industriales.
Coordinador: Santiago Pérez

22- Wireless Sensor Network Testbeds http://www.wisebed.eu/

Coordinador: Gustavo Mercado
Alumno: Aguirre, Matías