

**UBM TechWeb**

**Request for Proposal / Participation**

**Technologies and Concepts for use in the InteropNet  
Demonstration and Services Network**

**Interop - 2012**

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## 1 Introduction

Interop drives the adoption of technology, providing knowledge and insight to help IT and corporate decision-makers achieve business success.

Part of TechWeb's family of global brands, Interop is the leading business technology event series. Through in-depth educational programs, workshops, real-world demonstration and live technology implementation in its unique InteropNet program, Interop provides the forum for the most powerful innovations and solutions the industry has to offer.

Interop puts technology to the test through the InteropNet program. Attendees experience the latest innovations first-hand through this state-of-the-art, wide-scale deployment and interactive lab environment. This network is a key feature of Interop and is built in collaboration with hand selected, innovative vendors and volunteers, who come together to create a completely interoperable network using the industry's most cutting edge technology.

As an industry innovator you will provide the necessary components that bring together the InteropNet and build a leading edge network. Working together with a select team of industry and technology experts you will assist in the design, deployment, and management of an enterprise class Infrastructure.

Sponsoring the InteropNet puts your company's technology directly in front of business technology professionals.

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## 2 Opportunity

### 2.1 Outline

As an industry innovator you will provide the necessary components that bring together the InteropNet and build a leading edge network. Working together with a select team of industry and technology experts you will assist in design, deployment, and management of an enterprise class infrastructure.

Being a provider for the InteropNet offers an exhibitor invaluable marketing benefits and well as the opportunity to be promoted as a leading company. Opportunities include venue wide signage, coverage in Interop publications and co-branded press releases.

Categories necessary to build the InteropNet:

- Data Services (ISP)
- External Routing
- Network Infrastructure (internal switches and routers)
- Security and firewalls
- VoIP
- Wireless
- Network Management
- Data Center infrastructure
- Out of Band Access
- Network troubleshooting
- Workstations and servers
- Network analysis and forensics
- Network Identity and access control
- Cabling

See the section InteropNet Design Requirements for more detailed information.

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## 2.2 Multi-Vendor Solution

A strategic goal of the 2012 InteropNet is to have multiple Providers implement a portion of the network infrastructure across the InteropNet estate based on physical and logical boundaries. This is being done with the dual aim of reducing the entry cost in this particular category and providing an area to demonstrate both innovation in network design concepts and performance coupled with classic interoperability.

## 2.3 Innovation is Encouraged

The basic premise of InteropNet operations, is that it will offer Internet access for exhibitors, conference rooms, meeting rooms and attendees and provide a platform which will allow provider and exhibitors to best demonstrate current technologies and concepts. The design requirements included with this Request For Proposals (RFP) outline some of the typical requirements and methodologies we have used in the past. The final design and makeup of InteropNet technologies is determined by the Provider responses to this RFP and is subject to change or modification based on operational requirements and experience. **Interop Engineering reserves the option to only accept parts or relevant components of an RFP response, but not the whole solution or solutions being offered.** To aid in this the InteropNet attempts to demonstrate some of the concepts or event themes. For 2012 the focus will be on:

- **IPv6 migration and deployment**
  - **Green IT Operations (reduced Power Consumption)**
  - **Security Models**
  - **Unified Communications**
  - **High Speed (Multi-Gigabit) Network Infrastructure and Data Center Technologies**
  - **WiFi and WWAN**
-

### **3 Marketing Benefits**

2012 InteropNet Providers receive extensive marketing benefits to enable you to stand apart from competitors and to increase your event ROI:

#### **3.1 Thought Leadership/Evangelism**

- Participation in the InteropNet Tours
- Participation in the InteropNet Classroom (including promotion pre-show online, and also on at event signage and collateral)

#### **3.2 Lead Generation**

- Attendee data from InteropNet Tours
- Attendee data from InteropNet Classroom sessions

#### **3.3 Premium Branding**

- Logo on the NOC header
- Logo on the multiple InteropNet equipment racks on the expo floor and in convention center
- Logo on InteropNet Providers hanging banner in main concourse/lobby
- Logo and company description on InteropNet Sponsors page on the event web sites
- Logo in a pre-show direct mail piece (typical quantity/distribution of 100,000)
- Logo in the Conference Guide/Notebook
- Logo in the Expo Pocket Guide
- InteropNet Provider logo adjacent to your exhibitor page listing online

#### **3.4 Co-Marketing/PR/AR**

- Involvement in Interop's social media campaigns
  - Access to Interop's email marketing system with template to send emails to your customers/prospects related to your InteropNet participation
  - Access to Interop's extensive PR/AR benefits: [www.interop.com/pr](http://www.interop.com/pr)
  - Inclusion in a press release announcing the 2012 InteropNet Providers selections
  - Ability to post a whitepaper (related to your InteropNet participation) on the InteropNet web page
-

### 3.5 Customer Loyalty/Nurturing

- 4 \* Interop Conference Track passes for Las Vegas 2012
  - 4 \* Interop Conference Track passes for New York 2012
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## **4 General Information**

### **4.1 Definition of Terms**

The following terms used in the RFP documents shall be construed as follows:

- a. "TechWeb" shall mean UBM TechWeb
- b. "InteropNet" shall be considered synonymous with TechWeb
- c. "Las Vegas " shall be considered synonymous with the Interop Las Vegas event.
- d. "New York" shall be considered synonymous with the Interop New York event.
- e. "Provider" shall mean the individual, partnership, corporation or other entity to which this agreement is awarded, and shall be synonymous with the term "vendor".

### **4.2 Proposal and Submission Requirements**

#### **4.2.1 Minimum Requirements**

All proposals must satisfy the following:

- Provider must have a Booth Space commitment at both Interop Las Vegas 2012 and Interop New York 2012
- Compliance with the specifications outlined in this RFP
- Compliance with all deadlines, including timely submission of the proposal.

Proposals should include the following information

- Contact information for marketing and technical company representatives for the project.
  - Brief technical backgrounds of the engineers and technicians that will be assigned to the InteropNet.
  - A comprehensive plan for your portion of the network and how your solution fits into the required categories. Include diagrams, if applicable.  
In addition proposals should address each of the following areas:
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- Completeness of solution
- Stability of solution
- Level of Support
- HR and Engineering requirements
- Commitment to Interop
- A complete list of suggested products (including the type, part number and description).
- How your company would promote the Sponsorship if given the opportunity (See "Selection Criteria" below).

#### **4.3 In Writing or Electronic Form**

Proposals can be submitted in writing or via electronic methods and Proposers shall complete and return all applicable documents including forms, appendices, specifications, drawings, schematic diagrams and any technical and/or illustrative literature. TechWeb may deem a Proposer non-responsive if the Proposer fails to provide all required documentation and copies.

#### **4.4 Cost of RFP**

InteropNet is not responsible for any costs incurred by Proposer while submitting proposals. All Proposers who respond to solicitations do so solely at their own expense.

#### **4.5 Proposal Due Date**

Proposals are to be delivered by Proposers to:

Valerie Bojarski  
UBM TechWeb  
303 Second Street, Suite 900, South Tower  
San Francisco, CA 94107

Or via Email to

rfp@interop.net

**No later than 5.00pm, US Pacific Standard Time on Friday October 28<sup>th</sup> 2011.**

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#### **4.6 Late Proposals**

Late proposals will not be accepted and will not be returned to the Proposer.

#### **4.7 Withdrawal of Proposals**

Proposer may withdraw submitted proposal in writing or via email at any time prior to the specified due date and time. Faxed withdrawals will be accepted. A written request, signed by an authorized representative of the company, must be submitted to the Contract Administrator. After withdrawing a previously submitted proposal, the Proposer may submit another proposal at any time up to the specified due date and time.

#### **4.8 Rejection of Proposals**

InteropNet reserves the right to reject any or all proposals; to waive any minor informality in proposals received; to reject any unapproved alternate proposal(s); and reserve the right to reject the proposal of any Proposer who has previously failed to perform competently in any prior business relationship with TechWeb or its associated or related entities.

The rejection of any or all proposals shall not render TechWeb liable for costs or damages.

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## 5 Selection Criteria

### 5.1 All proposals will get categorized.

All proposals will first be examined to see if they fit any of the InteropNet Design Requirements or a subset of them (such as L2 but not L3 switches). Proposals will often be placed into multiple categories. The remaining proposals will then be put into new categories for their solution. All proposals will then be reviewed again to see if they fit into these new categories. We will also check references, and/or call the companies to ensure we have the correct category for each proposal.

### 5.2 Completeness of Solution

Each proposal will be examined to see if it is a solution or just a product offering. Specifically we will look for things such as:

- Does it cover more than one category
- Does it fill all the requirements for a category or just a subset of a category
- Is part of a bigger picture, does it need other components to function
- A product that covers more than one category will score higher, but it will lose points if it doesn't address a subset that another product does.

### 5.3 Level of Support

Each proposal will be examined for their support cost. Factors include:

- Is support onsite or just phone based
  - Does it need any support at all
  - Is it a new vendor and we don't know how to support it
  - Will we have the time to wait for a bug fix or read the manuals
  - A product that has no support may be accepted if we have hot standby spares. A single point of failure however, is unacceptable.
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## 5.4 People and Engineering requirements

Each proposal will be examined for their Engineering Resource cost. Factors include:

- How many personnel will we need
- Will we need to build more infrastructure like extra cables or servers
- Who will build this infrastructure
- If the product does not come with engineering support we will need to find additional staff elsewhere.

## 5.5 Commitment to Interop

Selection will be based in part on a company's commitment to Interop and other UBM TechWeb events as well as a commitment to promoting involvement in the InteropNet.

Examples of factors that will be considered include:

- Providers are required to be a primary exhibitor at Interop 2012 events
- Overall business relationship with Interop and TechWeb
- Promotion of your involvement in Interop and the InteropNet
- On your company web site
- In advertisements
- On Marketing Promotional Opportunities (MPOs)
- Submissions supporting both Las Vegas and New York will be given a higher preference.

## 5.6 Final selection

The final design and makeup of InteropNet technologies is determined by the Provider responses to this RFP and is subject to change or modification based on operational requirements and experience. **Interop Engineering reserves the option to only accept parts or relevant components of an RFP response, but not the whole solution or solutions being offered.** To aid in this the InteropNet attempts to demonstrate some of the concepts or event themes. For 2012 the focus will be on:

- **IPv6 migration and deployment**
  - **Green IT Operations (reduced Power Consumption)**
  - **Security Models**
  - **Unified Communications**
  - **High Speed (Multi-Gigabit) Network Infrastructure and Data Center Technologies**
  - **WiFi and WWAN**
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## **6 Schedule For Participation**

### **6.1 Engineering Planning Meeting**

#### **6.1.1 Location**

**UBM TechWeb Headquarters**  
303 Second Street  
Suite 900 South Tower  
San Francisco, CA 94107

#### **6.1.2 Event Dates**

January 25<sup>th</sup> 2012

### **6.2 Interop Las Vegas Hot Stage**

#### **6.2.1 Location**

**InteropNet Hot Stage Test Facility**  
159 Park Lane  
Brisbane, CA 94005

#### **6.2.2 Event Dates**

April 10<sup>th</sup> – April 20<sup>th</sup> 2012

### **6.3 Interop Las Vegas**

#### **6.3.1 Location**

**Mandalay Bay Convention Center**  
3950 Las Vegas Boulevard South  
Las Vegas, NV 89119

#### **6.3.2 Move-In**

Expected Move-In : Wednesday, May 2<sup>nd</sup>

#### **6.3.3 Move-Out**

Expected Move-Out : Thursday, May 10<sup>th</sup>/Friday May 11<sup>th</sup> 2012

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#### **6.3.4 Event Dates**

May 6<sup>th</sup> – May 10<sup>th</sup> 2012

### **6.4 Interop New York Hot Stage**

#### **6.4.1 Location**

##### **InteropNet Hot Stage Test Facility**

159 Park Lane  
Brisbane, CA 94005

#### **6.4.2 Event Dates**

August 13<sup>th</sup> - 24<sup>th</sup> 2012

### **6.5 Interop New York**

#### **6.5.1 Location**

##### **The Jacob K. Javits Convention Center of New York**

655 West 34th Street  
New York, NY 10001

#### **6.5.2 Move-In**

Expected Move-In : September 27, 2012

#### **6.5.3 Move-Out**

Expected Move-Out : October 4<sup>th</sup> - October 5<sup>th</sup>

#### **6.5.4 Event Dates**

Show October 3-4; Meetings October 1-5, 2012

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## **7 General Terms and Conditions**

### **7.1 Property of TechWeb/Proprietary Material**

All proposals submitted in response to this RFP shall become the property of InteropNet. Proposers must identify all copyrighted material, trade secrets or other proprietary information that the Proposers claim are exempt from any relevant Public Records Act (eg. California Government Code Section 6250 et seq.).

In the event a Proposer claims such an exemption, the Proposer is required to state in the proposal the following: "The Proposer will indemnify UBM TechWeb and its officers, employees and agents, and hold them harmless from any claim or liability and defend any action brought against them for their refusal to disclose copyrighted material, trade secrets or other proprietary information to any person making a request therefore."

Failure to include such a statement shall constitute a waiver of a Proposer's right to exemption from this disclosure.

### **7.2 Addendum (a)**

InteropNet reserves the right to submit addendum (a) to this RFP, which may add additional requirements to be considered responsive. All Proposers must acknowledge any addendum issued as a result of any change in this RFP.

Failure to indicate receipt of addendum may result in a proposal being rejected as non-responsive.

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## **8 InteropNet Design Requirements**

### **8.1 Introduction**

The InteropNet is a leading example of how to design, deploy and manage a multivendor, converged network. It is a platform for the introduction of new technologies and, utilizing "best practice" methodologies, provides a viable demonstration and reference model of networks that meet current and future business needs.

For 2012 it is proposed to expand upon the features and functionality of historical shows and foster an environment of innovation. To this end we are calling for participation from all interested organizations, who, believe they can add value to the InteropNet and its requirements for speed, stability, availability and maintainability. How those goals are achieved, what services can be Provided. As well as how we operate and manage the network are open for proposal.

### **8.2 Key Focus Areas**

InteropNet 2012 will attempt to highlight the following technologies or concepts in its design and operation.

- Full IPv6 Deployment including infrastructure and services
- Multiple Vendors providing Network Infrastructure
- Unified Communications Platform for Interoperability Testing
- Multi-Gigabit Transport Technologies (40 Gb and 100Gb Ethernet)
- Data Center Network Models
- Green IT concepts
- WiFi and WWAN

### **8.3 Level of Service**

The InteropNet, must provide high-speed Internet access for the exhibitors, conference rooms, meeting rooms, and attendees. More specifically, the requirements are to provide a 10/100/1000BaseT or 802.11a/g/n wireless connection that provides access to a very well connected high-speed Internet Service Provider via multiple Gigabit , Metro Ethernet or better links.

### **8.4 Show Location(s)**

Interop 2012 will be occupying the Mandalay Bay Convention Center (MBCC) in Las Vegas, Nevada and the Jacob K Javits Convention Center (Javits) in New York City. The InteropNet, encompasses both a Show Floor Area for Exhibitors and Attendees and an Off-Show Floor component consisting of Conference and Workshop areas.

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## 8.5 Architectural Model

The InteropNet consists of Five Key Areas:

- The Exhibitors' Network
- An Off-Show Floor Network
- Attendee Wireless
- NOC Network
- Co-Location Facility Network
- Network Management Network (Out of Band access)

The basic design model consists of:

- Unique individual subnets (or broadcast domains) in every distribution area Ethernet Edge Switches for basic connectivity
- Twisted pair cabling (and in some cases wireless technology) to connect each of the exhibitors.
- A high-speed copper and/or fiber optic backbone connecting Distribution Switches to the Distribution/Aggregation Routers.
- External Routers to connect to the data service provider
- A dedicated network for Network operations and services (DNS, Web Cache, email, etc.),
- A parallel network with its own switches and routers for out of band access.

## 8.6 The Exhibitors' Network

This network provides exhibitors with 10/100/1000Tx connection to the Internet with the additional functionality of Power Over Ethernet (POE) where required. This is delivered via edge or access switches in up to 10 show floor locations and connected to a multi-gigabit backbone network via multiple paths.

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## 8.7 Off-Show Floor Network

This network provides 10/100/1000 Tx with POE or wireless connectivity for all meeting rooms and other remote locations. IT is delivered by 10/100/1000 Tx distribution switches in multiple locations and connected to a gigabit or multi-gigabit backbone network via multiple paths. POE options may be required or requested.

These areas include:

- Show operations
- Registration areas
- Conference and workshop classrooms
- Attendee wireless
- Press Areas
- Exhibitor meeting rooms
- Keynote and other special event areas

## 8.8 Attendee Wireless

Show attendees are offered a free 802.11a/g/n connection in all areas of the show floor and off show floor.

Users of this network are also given the opportunity to use either a secured (WPA etc) or an unsecured connection.

### The NOC

The Network Operations Center (NOC) ensures the reliability of the network and resolves any network-related problems. Using a variety of tools, NOC Engineers detect network problems and have them corrected before end users are aware of their existence. The NOC also houses all external and primary distribution routers. The NOC also has its own internal network that services the 100+ engineers running the network as well as all related servers and services (DNS, DHCP, etc).

## 8.9 Network Management Network

This is a dedicated logically and physically separate Network that spans the entire InteropNet and is present at all rack locations on and off the show floor. It consists of Console Servers, 10/100/1000/POE Ethernet Switches, and Hubs providing low-level access from the NOC to equipment for configuration and testing in all remote locations.

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## 9 Required Categories

We require, at a minimum, proposals that address any or all of the following areas:

- Cabling
- Datacenter infrastructure
- Data Services (ISP)
- External Routing
- Network Infrastructure (internal routing and switching)
- Security and firewalls
- VoIP
- Wireless
- Network Management
- Out of Band Access
- Network troubleshooting
- Workstations and servers
- Network analysis and forensics
- Network Identity and access control

### 9.1 Cabling

One of the most basic and critical requirements for this network will be the data cabling. It consists of both Fiber Optic and Category 5 or 6 Unshielded Twisted Pair cabling.

The fiber will be used to connect the NOC to all of the remote switches and routers via the Distribution routers and switches both on and off the show floor.

The Category 5/6 UTP will be used to run from the show floor switches to each exhibitor booth via an overhead structured cabling system referred to as a "Rib". Category 5/6 UTP cables will also be used to run from the off-show floor switches to individual meeting and conference rooms. Some of the conference rooms and a portion of the show floor may be connected via wireless technology.

Minimum requirements are:

- Multiple lengths of multi strand (12 or 24 pair) fiber in combinations of singlemode, 62.5m and 50m multimode with MPO connection facilities.
  - Multiple lengths of Fiber patch cables and MPO patch Cables
  - 20,000' of bulk cat 6 (standard or 6A) cable
  - 300 – 7' cat 6 patch cables
  - 300 – 14' cat 6 patch cables
  - 300 – 25' cat 6 patch cables
  - 300 – 50' cat 6 patch cables
  - 300 - 100' cat 6 patch cables
-

## 9.2 Datacenter Infrastructure

InteropNet encloses all show floor equipment in standard lockable 19" equipment racks each supplied with 1 or more UPS systems. This includes the NOC and all remote locations.

Minimum requirements are:

- 24 3KVA UPS for equipment racks (110v and/or 208v)
- 24 remote manageable smart PDUs supporting 110V
- 8-10 smart PDUs supporting 24 ports of 208V or 110V
- Environmental monitoring
- 30 Full height (42+RU) 19" lockable equipment racks with Glass or Grill fronts and wheels

## 9.3 Data Services (ISP)

InteropNet requires very high bandwidth requirements and other services that exist beyond and outside the realms of the production show network.

Minimum requirements are:

- 2 \* OC12 or better connections to the internet via divergent paths
- IPv6 and IPv4 routing
- Offsite storage and co-location facilities (at the head end of the internet connections)
- Hosted VoIP and or related services

## 9.4 Network Infrastructure (internal switches and routers)

This category covers any and all L2 and L3 devices that control routing and network distribution for the entire network.

Minimum requirements are

- 10 Show Floor locations with 48+ ports per location with POE
  - 12 Off Show Floor (OSF) locations with 48 ports per location with POE
  - 15 NOC locations with 12-24 ports per location.
  - 2 or more gigabit uplinks for distribution switches
  - SNMP Manageable
  - OSPF routing
  - Core NOC router
  - 2 or more Core network routers
-

- 1 or more OSF router
- Support 5 or more unique subnets in every location (users, NOC, wireless, VoIP, etc)
- Full Support IPv4 and stateless/statefull IPv6 deployment

Additional requirements include:

- Approx. 24 10/100/1000Tx desktop style switches with POE for general use across the estate as required. Examples may include providing desktop connectivity in conference areas.

## 9.5 External Routing

This category covers any and all equipment for connecting the Interop Network to the Internet.

Minimum requirements are:

- 3 External routers supporting Gigabit Ethernet, OC3, DS3 or equivalent
- Full Support IPv4 and stateless/statefull IPv6 deployment
- The ability to route an entire Class A network IPv4 Network
- The Ability to Route a /32 IPv6 Network
- The ability to handle the noise floor of a class A network (150-400K flows, 40Mb/s background noise, Remote attack probes etc)
- Multicast connectivity to the MBONE or any other multicast peering with the Internet Service Provider (MBGP, PIM, DVMRP, etc.).
- OSPF (for internal routing)
- BGP4 and iBGP (for external routing)

## 9.6 Network Management

This category will cover all network discovery and management of the entire Interop network. Interop uses /16 subnets in all locations, most network discovery tools cannot function in this address space.

Minimum requirements are:

- SNMP v2 and v3
  - Ability to discover and identify devices across both IPv4 and IPv6 subnets
  - Resources to manage disparate resources and discovery
  - Aggregation and summarization of traps and alerts
  - Email, IM, RSS or other reporting features
  - Multi user access
  - History of events
  - Graphing and collation of event histories
-

## 9.7 Help Desk

All problems are logged in a ticketing system within the Help Desk Area. Problems are forwarded to the NOC and Help Desk members will track the status until each problem is resolved. Once a problem has been resolved, the ticket is archived, so the data can be used for statistical analysis or historical research into a particular problem or problem type.

Minimum requirements in this category are:

- custom fields in tickets
- import of exhibitor and other data from 3rd party sources
- email, rss and other notification methods
- custom workflows and escalation paths
- multiple escalation and approval paths
- ticket history and reporting
- multiple classes of users and administrators
- web based interface
- self-service ticketing portals for other vendors, exhibitors, show management and even attendees

## 9.8 Network Analysis and Forensics

This category covers all aspects of monitoring and analyzing the flows and conversations in the network. The tools in this are required for ensuring and monitoring our QoS and SLA agreements to the network users. By collecting and analyzing traffic, usage patterns, and statistics, NOC staff can identify overloaded or minimally functioning components on the network and make appropriate corrections.

Minimum requirements are:

- Copper and fiber Passive Taps (inline active devices will not be considered for this network)
  - Packet Sniffers
  - Port Aggregators
  - Flow multipliers for packet re-distribution
  - Flow history and analysis
-

## 9.9 Security Solutions

The InteropNet is wide open to the internet and advertises both IPv4 and Ipv6 address space. As such it is at risk from the myriad of problems, threats and attacks that are currently present.

Minimum requirements for this category are:

- Security checking tools to detect misuse and attacks.
- Endpoint enforcement systems for user filtering and analysis
- Firewalls or policy enforcement devices that can address malicious, unauthorized, or otherwise undesirable activity.
- Denial of Service attacks,
- Unauthorized Access Attempts,
- Pre-Attack Probes and
- Suspicious activity.
- Support for both IPv4 and IPv6

The provider for this area will also be asked to develop and contribute to specific security guidelines and procedures. So that InteropNet Engineering and Interop Show Operations will decide what actions to take upon detection of an attack or unauthorized usage.

## 9.10 Services, Workstations and Servers

Operation of the Interop Network requires a number of core services such as DNS, DHCP, RADIUS, SMTP Email relay. Workstation Platforms are required to provided additional functionality such as Web Hosting, FTP Services, SMTP Services. Additionally, management workstation and servers are required for various engineering and management tasks such as system logging and monitoring Additional Service Elements. This category also requires the design and definition of a high-availability layer to the services that will allow the engineering team to re-locate services to multiple locations.

Minimum requirement for this area are:

- Blade server (or equivalent) capable of supporting 20-30 CPUS each requiring 8-16GB Ram
  - High Availability, Load Balancing, Hypervisor or virtualized system allowing for failover between hardware locations.
  - Remote networked attached storage of 2-4 TB.
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## 9.11 Voice and Unified Communication Services

As a premier showcase for technologies deployed in a Service Provider/Metro/Corporate Environment. The InteropNet provides Voice Services for the Press, Show Management and NOC Staff. Additionally for 2012 we envision the InteropNet as a platform for Unified Communications, Video on Demand or Video over Ethernet Services across the show environs, allowing real time broadcasts of classroom sessions and monitoring of remote equipment locations.

Minimum requirements for this area:

- SIP or equivalent IP based PBX with DID, 911, local and long distance calling functions
- Voicemail (with email alerts)
- Find-me, follow-me
- Soft phones
- 20 NOC phones
- 5-10 Speaker/conference phones
- 60 handsets
- Messaging (IM) Capability
- Presence Capability
- Support for IPv6

## 9.12 Wireless

Wireless access is a critical component of the Interop Network. Attendees, press and show management all gauge part of their experience on the quality and performance of the wireless network.

Minimum requirements for this are:

- Support for 802.11 a/g/n
  - Support for IPv6
  - Support for WPA and open access
  - 75-100 access points (or equivalent)
  - Support for user roaming across subnets
  - Support for multiple SSIDs per subnet
  - Support for up to 3000 users for keynotes
  - Mesh or bridge networking for remote areas
  - POE capability and remote management of devices
  - Centralized Management/Monitoring Platform
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It should also be noted that the selected Wireless Vendor may need to interoperate with a “Captive Portal” or “Splash Screen” which may contain sponsor or show management information.

### **9.13 Out-of-Band Access**

The Network management (Out of Band access) network is a dedicated logically and physically separate Network that spans the entire InteropNet estate. It is critical to the initial and ongoing configuration and operation of all remote devices.

Minimum requirements for this category are:

- 35 \* 8-16 port Console servers
- 5-10 KVM switches supporting 20-30 end points
- 35 Smart PDUs with 8-24 ports (see also the Datacenter Infrastructure category)
- 35 10/100/1000 switches in 30-35 locations with fiber (minimum Gigabit) uplinks
- 2-4 fiber/copper high density switches for aggregation

### **9.14 Network troubleshooting**

During the design and deployment of the Interop Network the engineering team requires both remote and handheld troubleshooting tools to aid in the deployment of the network.

Minimum requirements for this category are:

- Fiber and Copper Cable analysis equipment to pre-screen backbone fiber, rib cables, drop cables, and patch cables to 10Gb certification levels.
- Hand Held devices for testing show floor and off show floor network drops
- Hand held devices for validating placement and implementation of wireless network access points
- Acceptance Testing, turn up configuration, and monitoring of WAN links
- Validating electrical power deployment and troubleshooting power issues.

### **9.15 Other**

Submissions that do not fit into any of the listed core categories are both welcome and encouraged. Please ensure you address all of the selection criteria.

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