



WareOnEarth
COMMUNICATIONS, Inc.

Your IPv6 Transition Experts

As a pioneer in IPv6 R&D and deployment since 1998 and as a Information Assurance leader, WareOnEarth Communications delivers the winning combination that will ensure your smooth transition to the next generation IP network, allowing you to take full advantage of its potential.

WareOnEarth Communications – Your Partner for a Successful Transition

Since 1998, WareOnEarth Communications, a recognized leader in Information Assurance, has pioneered the R&D and deployment of IPv6 for the Department of Defense. WareOnEarth Communications' engineers and scientists were among the first to test and evaluate IPv6 for the Defense Research and Engineering Network in support of Internet2 initiatives. They also produced the first implementation that served as the model, which the DoD used to mandate transition by FY2008. WareOnEarth Communications' engineers and scientists also have set up an IPv6 test bed for evaluating COTS and GOTS solutions and IPv6 performance across the network layer of the Internet. Having worked in all aspects of IPv6 planning and deployment, our highly experienced IPv6 experts are best suited to meet your transition needs.

Today's Internet Protocol – a Victim of its Own Success

In the 1970s, when the experts in academia and the Department of Defense worked out the details of what was to become today's Internet, one could not have imagined the result – a network that has embedded itself in the heart of commerce, defense and recreation. Their creation, a wild success by every measure, is now groaning under the weight of that success.

With address depletion, burgeoning routing tables, security weaknesses and many other factors threatening to greatly harm this vital resource, change is needed.

The Answer – IPv6

Many of the problems with today's network trace back to limitations in the base protocol, IPv4. Built on 25-year-old assumptions, the network must change to address the challenges of its size and pervasive use. The answer lies in the foundation protocol, IPv6, sometimes referred to as IP Next Generation or IPng. This new protocol will carry on the torch lit by those early networking pioneers. Long in development, IPv6 is now ready to not only address the operational limitations of today's network but also enable the network to deliver even greater value as a tool of commerce and as a shield of defense.

In 2003, to lay a solid foundation for the future, the DoD led the way in what will be the largest migration to IPv6 by mandating that the Services transition to IPv6 by FY2008. The reasons for this transition are numerous as will be the benefits when it is complete.

With WareOnEarth Communications as your transition partner, you can rely on our experience and dedication to make this transition a success.

IPv6 – Delivering New Benefits

Elimination of Address Limitations IPv6 (RFC 1883) increases the addressing space. For consumers the benefits are obvious. For the DoD, this means better support for the end-to-end exchange of information among the increasing numbers of highly computerized and interconnected soldiers, Service platforms, sensor webs, and facilities that make up the net-centric Global Information Grid.

Network Performance Improvements The use of 128-bit addressing space also enables route optimization. Performance overhead is reduced by not having to use Network Address Translation (NAT) and removing the need for any special routers being used as foreign agents. Additionally, improved efficiency by simultaneous transmission of data is enabled by improved Multi-Cast and new Any-Cast support (RFC 2375). IPv6 enables a number of routing improvements, which are discussed in detail in RFC 2185.

Integrated Quality of Service (QOS) Support Operations in today’s C4I architectures make heavy use of video and traditional phone applications. IPv6 improvements will greatly improve the quality and extend the reach of these applications. Improved QOS will better enable the deployment of VoIP, delivering further efficiency and capabilities.

Reduced Network Administration Load IPv6 supports Neighbor Discovery (RFC 2461) and Stateless Autoconfiguration (RFC 2462). These tools discover the presence of nodes on the network, routing devices and detect configuration parameters on the network thereby helping to minimize manual administration of networks in the DoD’s dynamic environment.

Native Support of Wireless and Mobility IPv6 greatly improves the ability to use “mobile devices.” Specific to wireless is the capability to deploy full mesh WiFi connectivity with and across disparate networks, even across countries. Under IPv4 connectivity is limited within a given network. This allows the mobile forces to communicate within theatre operations with instruments such as PDA’s, VoIP wireless phones and other mobile devices.

Security is No Longer an Add-On IPsec is mandatory in IPv6. While it is optional for IPv4, a user still has to understand and be able to implement IPsec across their network. The use of IPsec requires the use of the PKI trust model. This model is currently in use within DoD for CAC implementation. IPv4 addressing band-aids, such as Network Address Translation (NAT) have increased security concerns when it comes to traceability. Conversely, if all items are addressable and Internet routable, as is the case with IPv6, traceability is inherent.

Contact Us

Julia Settle

Director, Business Development

jsettle@wareonearth.com

(703) 517-1327 (mobile)

WareOnEarth Communications Service Offerings

- Provide architectural plans and transition support.
- Implement necessary security for IPv6 services.
- Assist with analysis and implementation of new, innovative IPv6-enabled technologies for communication requirements.
- Provide necessary documentation for accreditation of networks.
- Validate and assist with the porting of applications from IPv4 to IPv6.
- Determine performance based matrices.
- Assist in requirements analysis and performance analysis to include TCP tuning and Jumbo Frame migration.
- Assist in providing management architecture for command and control of your network requirements.
- In addition, WareOnEarth Communications offers a complete suite of Information Assurance and Network Engineering services to make a complete turn-key offering.

Advantages of WareOnEarth Communications

The WareOnEarth Communications’ IPv6 team is made up of engineering, networking and information security professionals that have the technical and managerial skills to assist your organization and to smoothly transition your network to IPv6. Our team has first hand knowledge of the challenges organizations face in evaluating and fielding IPv6. Our breadth of experience will ensure quick development of the solutions that fit your organization’s unique environment. This experience allows our engineers to consistently exceed expectations in delivering a robust future-proof network.

Our Contacts:

Government Agencies may use the following Contract Vehicles to do business with WCI:

- GSA IT Schedule GS-35F-0076R
- SPAWAR IA N65236-02-D-7838
- DISA ENCORE DCA200-02-D-5010 (ENCORE-SC-02-052)
- DISA IASSURE DCA200-00-D-5018 (S2246D3168)
- USAF NETCENTS FA8771-04-D-0003 (SUB04-018)
- USAF ITS F01620-02-A-0003 (ITS-SC-02-042)
- SPAWAR CISS N65236-01-D-3818 (NDO-SC-0033)

