

JUNIPER NETWORKS SOLUTIONS FOR GOVERNMENTS

Helping Governments Communicate More Effectively over Interconnected IP Networks

Challenge

Government organizations need high-performance networks to help collect and distribute intelligence and information resources to serve and protect their constituents.

Solution

A high-performance network infrastructure that helps government organizations accelerate the deployment of services and applications.

Benefits

- Consolidation and delivery of services and applications across highly distributed environments
- Rapid deployment and scaling of new services and applications
- Protection and recovery of services and applications against risks and sophisticated threats
- Operational improvements to help reduce administrative, training and other costs

Globalization and the advancement of the Internet have dramatically changed the way governments operate. To maximize efficiency, governments are moving critical processes, such as trade, taxes and citizen services, to networked systems. They are connecting a myriad of networks and collaborating with businesses, communities and other branches of government to deliver services quickly and cost-efficiently.

Government includes all public administration, defense and justice activities in a country. Although many governments also deliver healthcare, education, utilities and transportation, these are addressed separately in other documents. Since responsibilities between levels of government vary widely depending on the country, this solution brief addresses both national and local governments.

The Challenge

Governments around the world are facing significant challenges as they attempt to improve citizen services while controlling costs. Automating transactions is one way to achieve that goal. E-government, using information and communications technology to improve the efficiency, delivery and accessibility of public services, is a major trend in many nations. Data security and citizen privacy are a major requirement for many e-government projects, with many countries regulating both electronic data security and the privacy of personal information. Any e-government initiative needs to balance user accessibility with security and reliability.

Governments are also working with other governments, businesses and communities to deliver new and better services. Governments worldwide are standardizing on next-generation, high availability (HA) IP technologies and platforms to communicate with partners and deploy mission-critical systems in a cost-effective, reliable and secure manner. Governments are also looking to ensure the integrity of their networks and the information residing within them using layered security defenses. At the same time, governments must be able to deploy accessible solutions that meet the needs of today's citizens and communities, yet scale for tomorrow's advancements.

The Juniper Networks Government Solutions

Juniper Networks® helps governments communicate more effectively, both within and outside their organizations, with a diverse set of solutions that provide layered security, high performance, and HA for interconnected IP networks. Juniper Networks solutions for government include:

- Data center, headquarters and branch/remote office routing infrastructure solutions that provide the basis of a highly reliable and available high-performance network
- Security and threat management solutions that protect governments from internal and external threats
- Remote access control solutions that securely improve the productivity of geographically distributed government organizations
- Unified access control solutions that transparently and seamlessly control access to internal network resources and applications
- Application acceleration solutions that improve the performance of applications and WANs while maintaining availability and security

Juniper Networks Data Center, Headquarters, and Branch/Remote Office Routing Infrastructure Solutions

Juniper Networks infrastructure solutions are high-performance routing platforms that meet bandwidth and reliability demands of governments worldwide, while ensuring the economics and performance of mission critical networks. Juniper Networks routing platforms are in use today by national and municipal governments deploying complex network services. Powered by an innovative, programmable application-specific integrated circuit (ASIC)-based architecture, and leveraging the production-hardened Juniper Networks JUNOS® Software, these routing platforms enable government agencies to economically scale their networks, matching any traffic and IP service requirements.

While many government departments are transitioning their network and applications to IP, they often still need to support legacy time-division multiplexing (TDM) applications. Juniper Networks CTP Series Circuit to Packet Platforms allow government organizations to reliably transport their circuit-based applications across next-generation IP networks.

Table 1: Routing Case Study U.S. Department of Defense – Defense Research and Engineering Network (DREN)

Situation

Network required a complete infrastructure upgrade to support over 4,300 scientists and engineers at over 100 computing sites.

Solution

Juniper Networks M Series Multiservice Edge Routers, and Juniper Networks T Series Core Routers.

Results

A 70+ site, Juniper Networks next-generation network based on MPLS elevated critical IP performance metrics by 500 percent, due to higher throughput and reduced latency for converged voice, data and video traffic. The cutover was completed 12 months ahead of schedule.

Customer Quote

“The architecture Juniper uses in its routing engine and its overall chassis has exceeded our greatest expectations.”

– Rodger Johnson, DREN Program Manager, Office of the Secretary of Defense, High Performance Computing Modernization Program

Juniper Networks Security and Threat Management Solutions

Juniper Networks security and threat management solutions provide defense at the network perimeter, as well as at the application level, to secure government agencies against increasingly malicious application-level attacks. These solutions protect networks with integrated features such as virtual private networks (VPNs), stateful firewall, intrusion detection and prevention, content filtering, antivirus, anti-spam, and more—all in a single platform. Deploying these integrated yet standard security solutions has been proven to lower total cost of ownership for governments. Juniper Networks security solutions are managed by a policy-based, central management system that can scale to meet the needs of the largest government networks.

**Table 2: Routing Case Study
City of Burbank**

Situation

Monitoring systems for a cross-city electrical power grid required increased network security, performance, and availability.

Solution

Juniper Network and Security Manager, and Juniper Networks IDP Series Intrusion Detection and Prevention Appliances.

Results

The IDP Series and firewall/IPsec VPN platforms provided the city with proactive security while enabling much greater speed and reliability. Network attacks no longer disrupt operations, improving the productivity of IT staff. The security solution is robust enough to support new citizen portals and video streaming.

Customer Quote

“The technology behind Juniper Networks security appliances made it a clear-cut winner in my mind. We needed a centralized security solution for the entire city and Juniper was the only vendor that offered us a traditional firewall platform and a true real-time intrusion and detection system.”

– Perry Jarvis, Network Operations Manager, City of Burbank, California

Juniper Networks Remote Access Control Solutions

Juniper Networks remote access control solutions allow government employees and business partners to access government applications securely using only a standard web browser, improving user efficiency and reducing the strain on IT administration.

**Table 3: Network Security Case Study
U.S. Dept. of Labor Mine Safety and Health
Administration (MHSa)**

Situation

Employees working from home or traveling needed secure remote access that was Federal Information Processing Standards (FIPS) Level 2 compliant.

Solution

Juniper Networks SA Series SSL VPN Appliances.

Results

The SA Series provides an extremely secure yet easy-to-use remote access solution for over 2200 eligible employees. User requests to the MHSa help desk have gone down, while departmental efficiency has gone up. Employees can now fully participate in meetings while offsite using Web-based meeting applications.

Customer Quote

“The Juniper Networks solution provided us with a way to provide users with broadband remote access to our network at any time from anywhere, without allowing viruses or worms to penetrate our network.”

– Syed Hafeez, Information Security Officer, MHSa

Juniper Networks Unified Access Control

Governments need to provide appropriate access to valid users, while simultaneously protecting network resources and applications against any breach of privacy, integrity or business continuity. Solutions must be flexible enough to comply with government regulations, without tearing out network equipment or creating new levels of user management complexity.

With Juniper Networks Unified Access Control, government IT departments can easily create a unique access control policy for each user or for groups of users, depending on their identity, location and device security state. All of this is accomplished without a forklift upgrade to the LAN, wireless, security or database infrastructure. Through open programming interfaces and the support of open standards from Trusted Network Connect (TNC), a subgroup of the Trusted Computing Group, UAC makes full use of existing government IT investments.

**Table 4: Unified Access Control Case Study
Fredrikstad Kommune, A Municipal Authority
in Norway**

Situation
Employees using non-standard applications needed to process confidential health service and social security data from various locations.

Solution
Juniper Networks Unified Access Control.

Results
The UAC solution maintains high levels of data security throughout the network, while ensuring compliance with stringent data protection laws.

Customer Quote
“Juniper Networks UAC is an open standards solution that provides high levels of visibility and control across the network and enables us to leverage our existing equipment.”
– Tor Ulf Nilsson, IT Advisor for Fredrikstad Kommune

Juniper Networks Application Acceleration

Juniper Networks application acceleration platforms improve the performance of applications, both in the data center and across the WAN. Governments use application acceleration platforms to speed business applications between agency locations and business partners. The solutions increase user satisfaction and extend the life of network components such as servers and WAN links.

**Table 5: Application Acceleration Case Study
Dubai Municipality**

Situation
Rapid growth in number of locations and connected computers put a heavy strain on the municipality’s WAN connections.

Solution
Juniper Networks WX Series Application Acceleration Platforms.

Results
The WX Series instantly increased WAN capacity threefold, alleviating network congestion and vastly improving application response times. Installation was simple, requiring no downtime and little training.

Customer Quote
“Traffic shaping provided us some small benefits, but we really needed more capacity. Juniper Networks WX Series platforms immediately gave us five times more network capacity during peak periods. Our users immediately saw much better application performance. We plan to purchase additional units to deploy to new locations as the need arises.”
– Indranil Guha, Head of Network Services

Partnerships

With its global alliance partners, Juniper Networks creates competitive advantage and lowers risk for its customers. Juniper Networks has partnered with leading vendors in content and media, security, infrastructure, managed services delivery, network management and applications. Each partnership is focused on a particular aspect of delivering next-generation networking and security solutions, providing customers with the most sophisticated, open and interoperable solutions in the industry.

Table 6: Juniper Networks Government Solution Breadth

| | ROUTING INFRASTRUCTURE | SECURITY AND THREAT MANAGEMENT | SECURE REMOTE ACCESS | UNIFIED ACCESS CONTROL | APPLICATION ACCELERATION |
|----------------------|------------------------|--------------------------------|----------------------|------------------------|--------------------------|
| Data Center | • | • | | • | • |
| Head Offices | • | • | | • | • |
| Branch/Remote Office | • | • | • | • | • |
| Remote/Mobile Users | | • | • | | • |

Features and Benefits

- Best-in-class routing
- Advanced security for perimeter and network interior
- Remote access with advanced host integrity checks
- Scales from the the smallest branch to the biggest country

The Juniper network solution for governments includes the most advanced routing technologies that are currently used to run core Internet provider networks all over the world. The comprehensive and well integrated security products can scale and defend any network – a small office with 40 Mbps, or a large organization, with up to 120 Gbps. No other solution can bridge such a wide range of scale and be configured from a single management system. Adding application acceleration allows location that can't upgrade their bandwidth or have latency sensitive application to operate at near LAN rate.

Juniper tests and validates solutions components to meet government standards. Validation is being continuously updated for new products and software releases. Contact your local Juniper representative for more information.

Solution Components

This solution is comprised of routing elements from the T, M, MX and J Series routers, along with security devices that include Juniper Networks SSG Series Secure Services Gateways, NetScreen Series Security Systems, the IDP Series, and SRX Series Services Gateways. Application acceleration can be standalone (WXC Series Application Acceleration Platforms) or

integrated into the J Series Services Routers with the Juniper Networks ISM 200 Integrated Services Module. Remote access is implemented with the SA Series SSL VPN Appliances, and Unified Access Control is realized by using Juniper Networks IC Series Unified Access Control Appliances, SSG Series Secure Services Gateways, and EX Series Ethernet Switches.

Summary—Optimizing Government Communications over IP Networks

Juniper Networks provides government customers around the globe with solutions that improve communications over their IP networks. Through deployment of Juniper Networks proven solutions, government departments and agencies at all levels can dramatically increase the performance, availability and security of their most critical business functions.

Next Steps

For more information on Juniper Networks solutions for governments, please visit www.juniper.net/public sector or contact your Juniper Networks representative today.

About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at www.juniper.net.

Corporate And Sales Headquarters

Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or 408.745.2000
Fax: 408.745.2100

APAC Headquarters

Juniper Networks (Hong Kong)
26/F, Cityplaza One
1111 King's Road
Taikoo Shing, Hong Kong
Phone: 852.2332.3636
Fax: 852.2574.7803

EMEA Headquarters

Juniper Networks Ireland
Airside Business Park
Swords, County Dublin, Ireland
Phone: 35.31.8903.600
Fax: 35.31.8903.601

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