



### **Experience Makes the Difference**

Solana Networks has a team of experts with working experience at Nortel, Tropic Networks, JDS Uniphase, Belair Networks, GEC Marconi and Telesat Canada. Our team of innovators holds 18 issued patents and has authored over 50 technical publications in international conferences and workshops. In addition, they have authored several IETF drafts. Solana Networks is perfectly positioned to enable your organization to take advantage of the growth area of IP networks. We have the experience, depth and know-how needed to enable the success of your networking solution.

### **What We Can Do For You**

Solana Networks understands the challenges associated with developing and deploying products/solutions for today's complex IT environment and telecommunication networks. By engaging Solana Network's consulting team, you gain the advantage of expert advice, innovative solutions, and extensive real-world experience. We provide expertise that can help you reduce the risks and costs inherent in developing and running complex IT environments.

Solana Networks provides strong options for companies who want to achieve quick time to market on new products and rapid turnaround on short-term time sensitive features for an upcoming release. We can provide complete cost effective solutions for customers wishing to enhance R&D, product development and design services.

## Recent projects completed at Solana Networks include:

- A contract for a leading US wireless equipment vendor to provide analysis, recommendations and software **development of IP QoS, MPLS, and TDM-over-IP features** in backhaul wireless cellular equipment. This work enabled the customer to offer new services such as traffic prioritization and Ethernet-based transport of cellular voice calls.
- Development of UCLPv2 Optical Network Management System deployed on Canarie's CA\*NET4 network. The system allows users to build and manage complex optical networks, across multiple administrative domains. It was designed, architected and developed based on **Service Oriented Architecture and Web Services**. Technologies used include: SOAP, XML, WSRF, WSDL, TL1, etc.
- **Development of a GIS-based Cyber Security Monitoring System** that assesses the vulnerability of IT infrastructure to physical threats. The system was developed as part of a project commissioned by Public Safety and Emergency Preparedness Canada (PSEPC) with the involvement of DRDC Canada. The developed system supports monitoring and visualization of IT networks using a Network Management System (NMS) combined with ESRI-based GIS technology.
- Design and trial of an **Internet Public Alerting System (IPAS)** for Industry Canada. IPAS provides public officials with a fast reliable means of disseminating emergency disaster warnings to large numbers of people. This distributed client-server system was built using secure networking technology and can scale to support millions of users. The system was trialed in 8 Canadian municipalities.

- A project developing a framework of network security metrics to **depict the IA health of IT networks**. IT managers are spending significant resources to improve Information Assurance (IA) i.e., security, availability and QoS of their network. One major challenge is the lack of simple quantitative metrics. The framework was developed to address this need for the Canadian Federal Government department, OCIEPEP.

## Our Services

### Custom Software Development and Rapid Prototyping:

Solana Networks offers its clients a rich selection of software development services. Strong experience in the use of standard software development life cycles and rapid prototyping models ensures the delivery of the highest quality firmware and software on a variety of platforms. Our full system software development lifecycle starts from the requirements gathering phase and systematically moves through the specification, design, code, verification and test, and customer handoff phases.

Solana Networks key areas of specialization include:

- Protocol development & integration for routing, switching & wireless platforms
- System design and network architecture
- Development of application software based on Service Oriented Architecture (SOA)
- Development of data-plane software and drivers
- Test and verification

## Studies, Analysis and Research in Emerging Technology & Protocols

Solana Networks offers its clients technology analysis and evaluation services. We can assist you in assessing a particular emerging technology with a view to making strategic decisions for network deployment, product design and corporate direction. This work is carried out by a Solana Networks team with thorough understanding of architectures related to distributed computing, networking, IP routing devices, computer systems, scalability analysis and business applications.

This service can be tailored to meet your specific requirements, with options that include:

- Analysis of emerging protocol and architecture trends at standards organizations such as the IETF and the ITU. Network impact analysis for emerging applications such as VoIP and IPTV.
- In-depth research study, extensive literature survey and rapid prototyping in areas related to data networking protocols, architecture and security threats & vulnerability.
- Simulation and performance studies of networks, systems and protocols along with analysis and statistical performance evaluation.

## Network Assessment, Analysis and Monitoring

Solana Networks also offers services for network monitoring and audits. Using our non-intrusive diagnostics appliance, SmartHawk, Solana Networks can provide a thorough analysis of the network routing health and performance of your network. Network security audits (non-intrusive) are also provided. Reports and recommendations are provided post-audit to improve robustness of the customer network.

## Areas of Specialized Expertise:

Our dedicated team of engineers brings expertise that has seen the successful deployment of products in many of today's IP Networks. Our expertise and experience can bring tangible benefits to your organization that will help improve your costs, productivity, and efficiency.

### Network Protocols:

IP, TCP, UDP, HTTP, ICMP, SNMP, LDP, RSVP, RTP, RTCP, OSPF, ISIS, BGP, DHCP, VRRP, 802.1, 802.3, 802.11, GMPLS, G709, SIP, IPSec, RADIUS, CESoPSN

### Technologies:

MPLS, Routing, Ethernet, IP QoS, TDM over IP, Network Security, VoIP, Wireless LAN, GIS, Web Services and SOA

### Programming Languages:

C/C++, JAVA, TCL/TK, PERL, HTML, XML, PHP, CSS, SOAP, .NET, ASP, JavaScript, Assembly Languages, Visual C++, Visual Basic

### Operating Systems:

Linux, VxWorks, FreeBSD, OSE, Unix, Windows XP/2000/NT/98

### Database

DB2, Oracle, MySQL, MS SQL, MS Access, PostgreSQL



## About Solana Networks

Solana Networks is an Ottawa based company with a primary focus on Internet based architectures, protocols and applications. We offer software design and technology assessment services to both the private and public sectors. The Solana team combines a strong research background and involvement in standard bodies with experience in building IP based products.

Solana Networks employees hold valid security clearances from the Federal Government of Canada. Solana is also an approved supplier of cyber security and IM/IT services to the Government of Canada via the Cyber Protection Supply Arrangement (CPSA) and the Professional Services Supply Arrangement (PS Online).

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