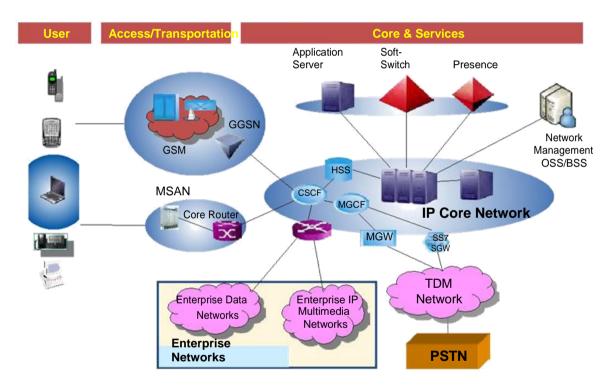# TMA solutions

Your Quality Partner for Software Solutions

Telecom Testing Services

- ✓ **800+** telecom test engineers
- ✓ **19+** years of experience providing telecom testing services
- ✓ Clients include many world leading telecom companies such as: Avaya, Alcatel – Lucent, Genband, Amdocs, Shoretel, Nortel, IBM, NTT, NEC
- ✓ Many projects involving:
    - 50 – 300 engineers
    - Teams in different time zones
    - Demand for a diverse set of skills and technologies
    - High availability and reliability for mission critical applications
    - Multi-year engagement

Technologies

VoIP Technologies	VoIP, NGN, IMS, MPLS, ISDN, PSTN, VRRP, MGCP, SIP, RTP
Wireless Technologies	GSM, GPRS, CDMA, UMTS, 802.11-WiFi, 802.16-WiMAX
Signaling & Protocols	SIP, H.323, H.248/MEGACO, SS7/CCS7, Codecs, ISDN
Network Management	SNMP
Applications/Services	IMS Core, SIP, RTP, RTSP, HTTP, SSH, DHCP, SNMP, Unified Communication, Contact Center, Audio Voice Services
Layer3 Protocols/Routing	ICMP, BGP, ISIS, MPLS, OSPF
Layer2 Protocols	1483 Bridge Group, ARP, STP, L2TP, PPP
Infrastructure/Security	ATM, TCP/IP, LAN/VLAN, NGN, MPLS, IPv6, IPSec, SSH

Test Tools

Test Case Tracking Bug/Defect Tracking	• TCAT, Quality Center, Clarify, Remedy • Team Track, ClearQuest, Bugzilla • JIRA, Redmine, Problem Reporting System (PRS)
GUI Test	• QTP, Silk Test, QA Run, Robot Test
CLI Test	• TCL/Tk/Expect, Perl, Awk, Java, Unix shell, Fanfare
Automated Testing Tools	• LoadRunner, Apache Workbench, Test Director • Mimic, Nessus
Test Tools	• IXIA, SmartBits, Ameritec, Hammer • SIPP, Hurricane, NES, Fortissimo
Instrument Control	• MatLab, Labview
CATT Automation Tools	

Testing Services

Test Strategy
- • Testing approach
- • Objective
- • Resource
- • Environment

Test Solution, Planning and Design
- • Test lab building
- • Test plan and test suite definition
- • Test case generation
- • Test script development

Test Execution and Reporting
- • Sanity test and first level of verification
- • Feature Test
- • Integration & system test
- • Performance test
- • Regression test
- • Compatibility test
- • Acceptance test
- • Installation & upgrade test
- • Localization test
- • Bug/defect support
- • Optimization and report

Full Product Verification Support
- • Manage all aspects of product testing

Sample Telecom Testing Projects

- • Enterprise Communication Systems
- • Carrier VoIP and Applications

- • Multimedia Applications
- • Service Edge Router
- • Access Management System
- • Element Management System
- • Network Management System
- • Network Performance System
- • Common Element Management System
- • Blade Networks
- • Broadband Access
- • Firewall & Web Switching