TMA
solutions

**Your Enterprise
Software Developer**

Next Generation
Network RnD
& Solution Consulting
Services

WHY TMA?

Telecom Competencies

- 22 Years of Experiences with Telecom Software Services
- Best in Telecom Software Services in Vietnam
- Trusted by World-Class Telecom Service Providers
- End to End Services
- Flexible business models - FTE, Project-based, TMO
- Experienced Resource Pool, Easy to Scale – 500+ Telecom Engineer

NGN Solutions Competencies

- Solid knowledge about NGN Solutions with 20+ Years of Experiences
- Wide range of Solutions - SoftSwitch to NGN, Enterprise to Telco
- Wide ranges of Products – Call Controller, Signaling Controller, IMS, SBC, Application Server, Contact Center
- Core Technologies Enabled: Cloud, NFV
- Standardized in-house Framework and Model for Automation, CI/CD

WE ARE HERE TO SOLVE YOUR PROBLEMS

Our End-To-End Services

Engineering, Design and Development

▸ From Defect resolution and management
▸ To Features development and Releases management
▸ Plus CI/CD enabling

Full Testing Services

▸ All Testing types including Performance and Security testing
▸ All Platforms from Appliance to Software Edition to Cloud-based
▸ By All means from Manual to Automation to Continuous Testing

Professional Services

▸ Tier-3 Customer Support Services
▸ Demo and Deployment Services
▸ In-Service Migration and Upgrade procedures

Technology Evolution

▸ Virtualize and create Software Editions for the Products
▸ Support Cloud Migration - Public and Private
▸ Enable 5G Inter-operability

TECHNOLOGIES

Our NGN Tech-Stack

Technologies

▸ *Network:*
   SoftSwitch, IMS, 4G/LTE, 5G, 3GPP MC, PSTN, SS7
▸ *Network Transformation:*
   Class 4, Class 5, MGCF, AGCF,
   BGF, IMS, Transcoding, TAS & Media Services,
   SBC Solutions, Billing Mediation

▸ *New Technologies:* Virtualization, Cloud, NFV
▸ *Protocols Stack:*
   • VoIP, Voice/Video HD Codec, SDP, MGCP, H.248,
   • SIP, SIP-I/SIP-T, ISUP, SCCP, TUP, TCAP, Diameter, HTTP2
   • SigTran, MTP2, MTP3, M3UA, M2UA, M2PA
   • SCTP, TCP, UDP, TLS, IPv4, IPv6, IPSec

Frameworks and Solutions

▸ *Automation Framework:* TMA Automation Framework, Robot Automation Framework, TMA Automation Analysis Tool
▸ *Design Solution:*
   • Languages and Frameworks: C/C++, Python, Django/Tornado, Java, Spring MVC, Angular8, Scripting
   • High Availability Solutions
   • Cloud/NFV Enabled
▸ *Standardized CI/CD model:* Jenkins, Pipelines, Docker, IaC, Coverity, Continuous Testing

Tools

▸ *Testing tools:* HP QC, Atlassian Suite (JIRA, Confluence, Crucible, BitBucket)
▸ *Security tools:* Nessus, OWASP, NMAP, BurpSuit, Accunetix, Kali Linux (Linux penetration testing tools)
▸ *Other tools:* Wireshark, TCPdump, Putty, Colasoft Packet Play, SmartBits, SIPp, LDAP Browser, MIB Browser, Tera Term, Mincom, Syslog viewer

Platforms

Linux:
RHEL, Centos

Virtualization:
KVM, VMWare, OpenStack

Cloud:
OpenStack, AWS

Network Transformation Solutions to NGNs for Telco

Description

Enable solutions for Telco to migrate their legacy networks to NGN (SoftSwitch & IMS)

Services

01 Development

New Features & Tools
Product Sustaining

02 Product & Solution Integration Testing

Full testing including Performance & Security test
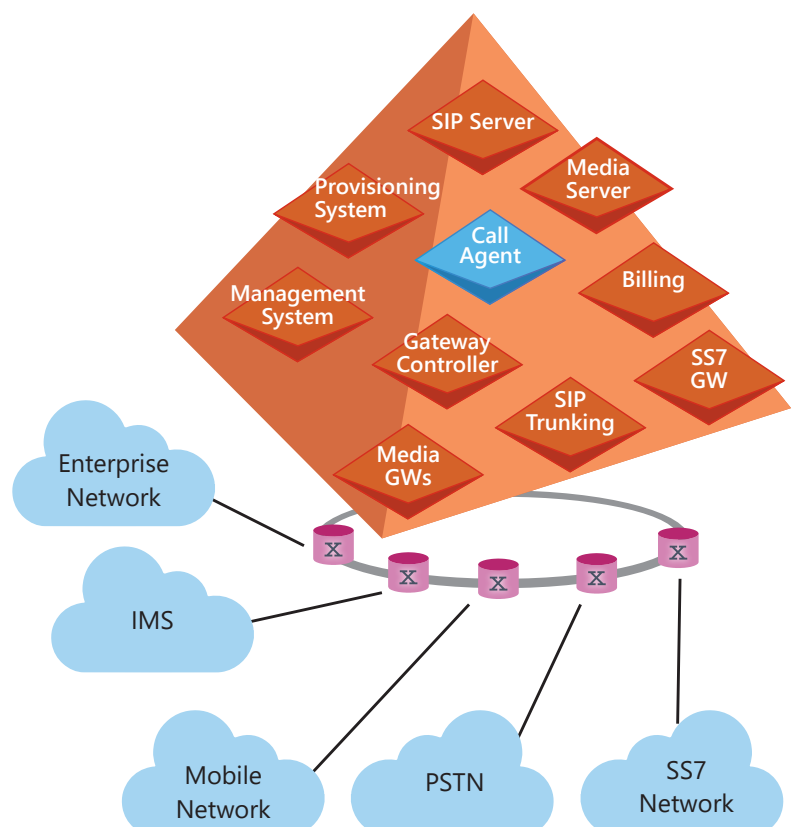Manual, Automation and Continuous Testing

03 Production Services

Demo, deployment support
Migration and Upgrade procedure development

Technologies

▸ **Platform:**
RHEL, KVM, VMWare, NFV, OpenStack

▸ **Framework:**
Ansible, Spring MVC, Pacemaker

▸ **Technologies:**
SoftSwitch, IMS, VoIP,
Voice/Video HD Codec,
SDP, MGCP, H.248, Transcoding,
SIP, SIP-I/SIP-T, MGCF, AGCF, BGF,
SG, Billing Mediation

▸ **Languages:**
C/C++, Java, Spring, PHP, Protel

▸ **CI/CD:**
Jenkins, Docker

SIP Server
Provisioning System
Media Server
Call Agent
Management System
Billing
Gateway Controller
SS7 GW
SIP Trunking
Media GWs

Enterprise Network
IMS
Mobile Network
PSTN
SS7 Network

Signaling Controller VNF

Description

Design and migrate Signaling Controller Platform onto NFV architect	Orchestration & Life Cycle Management	CSAR package & VNF-D Development	Ve-Vnfm Development – VNFM integration	Disaster Recovery Mechanism

Services

Design   **Develop**   **Cloud Deployment**   **Testing**

Technologies

- **Platform:**
  Centos, KVM, VMWare, NFV, OpenStack, VCP

- **Framework:**
  RESTful API, Django, High Availability – Pacemaker

- **Functions:**
  Diameter Router (4G, LTE), IWF, SS7, STP, SG, …

- **Languages:**
  C/C++, Python, Django

- **CI/CD:**
  Jenkins, Docker