



Enabling Telecoms
Transform in a Changing
Business Landscape



Overview

The telecommunications industry is one of the most dynamic and volatile industries in the world. The industry is witnessing de-regulation in some of the world's largest telecom markets like India and China fueling further growth prospects for the industry. With competition increasing and industry consolidation, service providers are compelled to keep pace with the changing marketplace.

Some of the key trends in the telecom infrastructure market have spurred huge investments in next-generation products, the rise of Chinese vendors, rollout of converged IP transport networks, extension of networks for residential triple-play services, and more tele-working. Carriers are embarking on convergence of their networks and service infrastructures in developed markets. Top-line revenue growth for technology suppliers is predicted to be modest, owing to competition from new vendors and more realistic network-building plans from carriers.



Mahindra Satyam in Technology Infrastructure

Mahindra Satyam's overall Tech Infrastructure market space may be grouped into three segments, namely, computing, consumer electronics and communication. Our client's success is on the top of our mind and we have been consistently helping our customers with our flexible and innovative delivery and engagement models. Mahindra Satyam's Tech infrastructure solutions help customers across the entire value chain in reducing cost, migrating to the new and maintaining legacy systems. In many ways, we help customers focus on their strategic business goals by partnering with them to innovate in their products, help their customers in integrating their products and systems and take complete care of their IT to reduce cost and time to market.

With our knowledge and experience acquired by working with some of the pioneering names of the industry and strong resources we are equipped to help our customers tackle transformational initiatives which would help their businesses stay competitive.

Our services and solutions help clients:

- Keep pace with customer expectations by meeting product launch deadlines,
- Reduce dependency on human resource by spreading out automation
- Effectively maintaining legacy systems and migration services to lower operational expertise

Service Portfolio

The Tech Infrastructure portfolio includes Product Development, 3G Applications, Protocol Stacks, NMS Applications and Products, Network & Device Performance Testing, Network Assurance, Network Security, System Integration, Maintenance and Support, including wide range of Testing & Validation Tools across a variety of Platforms and Technologies.

Our business Model consists of CoEs (Centres of Excellence) conceptualized by our service offerings, in collaboration with sales and delivery.

Mobile Solutions Offerings

Competency is spread across all the layers of technology stack. Key areas include mobile OS, Middleware and application layer including several industry specific mobility solutions. We offer services in design, development and porting of firmware, testing and quality assurance of mobile devices. Mahindra Satyam is a certified Symbian Platinum Partner and a BREW authenticated member. Applications span across several flavors of mobile operating systems, wireless technologies, and development environments. We also have a dedicated mobile competency center based out of Singapore which works on cutting edge mobile solutions.

EMS/NMS Engineering Solutions

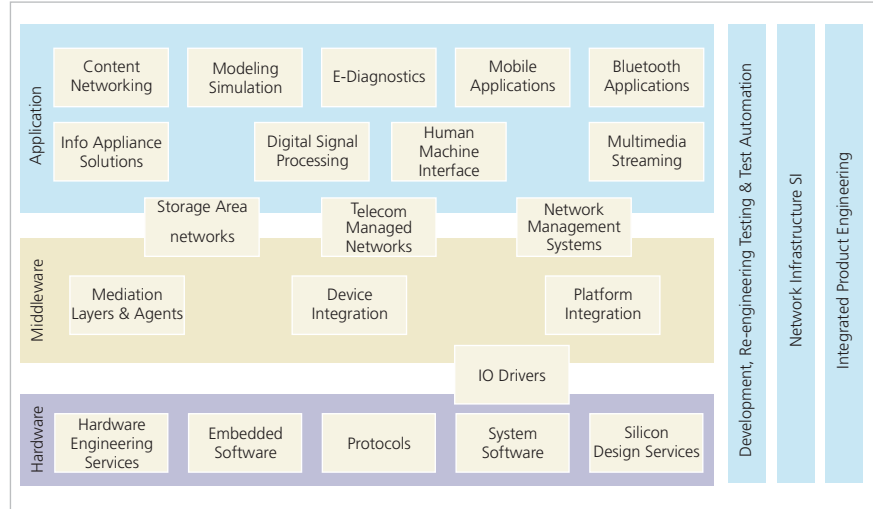
Tech Infrastructure EMS Framework is a software solution managing different types of network elements in the telecommunication management network. Its distributed client-server architecture follows prevalent industry standards and is designed to support varied Network Elements from Telecom, Datacom and Wireless world. EMS/NMS solutions are provided for wireless networks like WiFi, WiMAX, 3G, 2G and wired/fixed line networks. Other services include Product Engineering for provisioning and NMS for Microwave Links.

Network Devices, Solutions & System Integration offers a wide range of solutions across access and core networks - components, protocol stacks and soft switches.

These include:

- Performance Testing Services (Equipment manufacturers, Service providers, Enterprises/governments)
- Development and Maintenance services (2G, 2.5 G networks), 3G Features and Enhancements
- Development of components Gateways, 3G NMS, RLC and 3G stacks
- IP Protocols like (H.248, BGP, OSPF, TCP/IP, and SIP)

Services Landscape



7 of the top 10 Electronics and Electrical Equipment companies

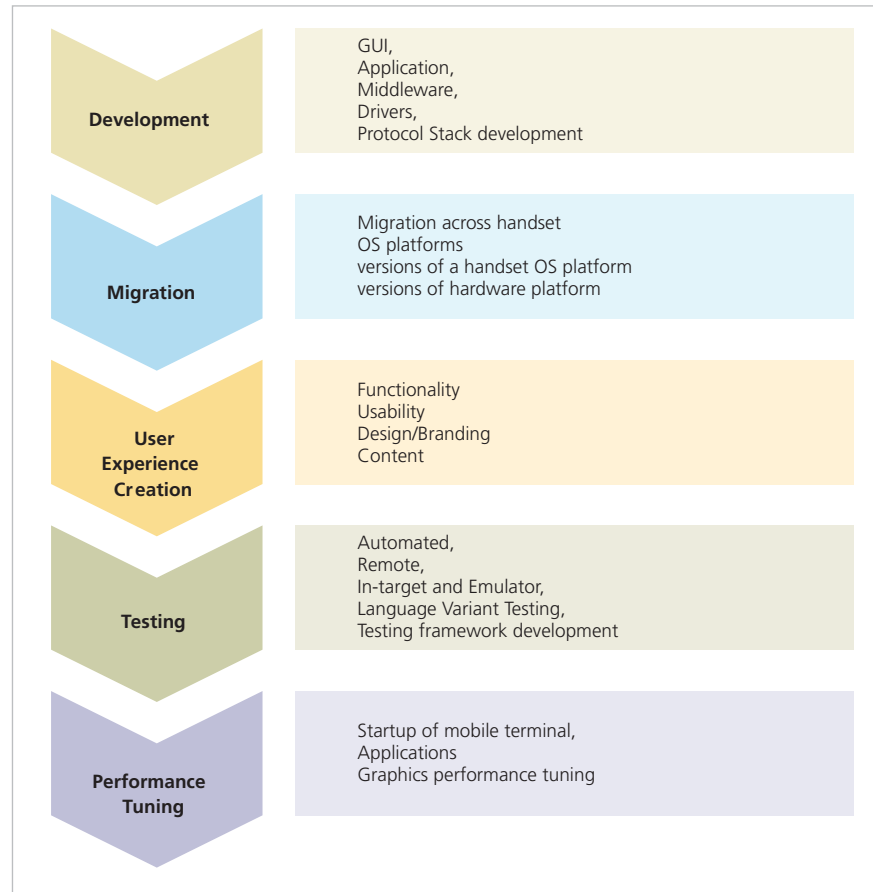
5 of the top 10 Telcos

4 of the top 5 NEPs

3 of the top Handset Manufacturers

Exclusive partner for one of the largest Australian Telcos

Mobile Handset Competency: Key offerings



Market geographies include US, Europe, Japan, Greater China (with Taiwan and HK) and Korea.

Several NMS engineering engagements for Wireline, Wireless and Optical equipments

Collaborates with the largest 3G service provider.

IVR/CTI

- Full-fledged end-to-end IVR and CTI lab to develop expertise and train new talent
- IVR and CTI team led by highly experienced associates with real time experience in project execution for some of the largest Fortune 500 companies across various industries
- Internal projects for competency Building and in-house implementations

Product Engineering

Our Product Engineering Services



Our product development includes design and development of various network elements encompassing voice, data and multimedia (triple play). Products such as SOHO VPN Routers, Network security such as TNC compliance applications, deep Content Analysis and protocol development have been some of our recent product engineering services.

The Tech Infrastructure practice is characterised by strong domain expertise in system software and Network Platforms services, across various platforms and versions. It includes:

- Product engineering Services
- Development of SIP based SBC/

- ALG, Device drivers
- Interoperability/Conformance/ Performance testing
- QoS/QoE Management
- Middleware development/ integration
- Contact Center solutions/ Integration (E.g. Genesys, Cisco, Nortel)
- Network Security
- Platform Migration

Our Testing and Network Performance Competency includes testing of:

- Triple play services,
- IPTV,
- VoIP,
- IPsec/VPN/L2-L3 security,
- Routing and Switching functionalities,
- WLAN Wireless,
- Protocol Conformance, network performance, scalability and resilience testing.

Protocol Based Expertise

Mahindra Satyam also has strong expertise in protocol development, implementation and conformance testing.

- Experience in developing routing software supporting TCP/IP
- Implementation of Cells in Frame, Wireless Application Protocol, Wireless Session Protocol and Multimedia protocols like JPEG, MPEG, Quick Time, MP3, AU and WAV
- Development of decoder for PPTP
- Development of H.248 protocol
- WCCP (Web Cache Control Protocol)
- Capabilities of conformance testing for IPv4/IPv6, TCP, Routing (RIP, OSPF, BGP, etc), Bridging Metro Ethernet, SIP.

Deep Content Analysis (DCA) deals with analysis of an entire network packet. It includes dealing with Proxy firewalls, and various protocols, scanning of mails and documents/files in various formats, etc

Notable Initiatives

The mobile broadband market is shaping up rapidly with wide-scale deployments across the globe. Mahindra Satyam's Tech Infrastructure practice also offers development expertise in the MAC and PHY layers of the Mobile WiMAX standard.

VoIP/SIP Expertise:

VoIP/SIP applications based expertise includes:

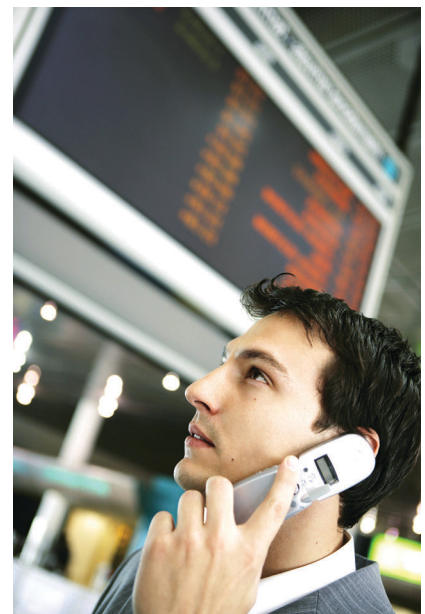
- Expertise on SIP & its extensions e.g. SIMPLE, INFO, REFER etc
- RTP/RTCP, Audio Codecs development (G.711, G.726, G.729, AMR, iLBC etc)
- SIP ALG, SIP Monitoring, SIP Security based on AAA (Diameter & Radius)

CoE Initiatives:

- SIP Monitoring Tool
- SIP-PSTN Interop involving IP-PBX, Softswitch etc.
- Development of IP-Phone
- Development of SBC/ALG

We have experience in developing SoftPhone client for VoIP which integrates RTP/RTCP protocols

- SIP Protocol Stack Development and Stack Testing
- VoIP Testing for Voice enabled VPN Router



About Mahindra Satyam

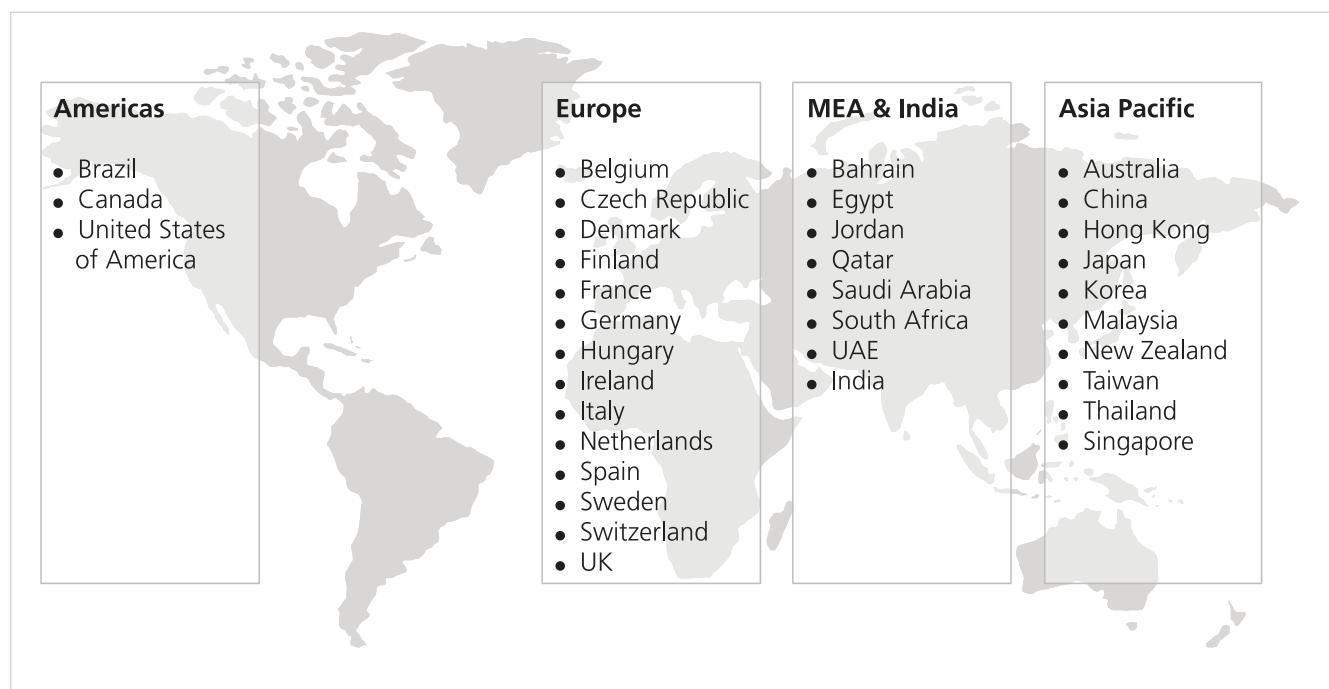
Mahindra Satyam is a leading global business and information technology services company that leverages deep industry and functional expertise, leading technology practices, and an advanced, global delivery model to help clients transform their highest-value business processes and improve their business performance.

The company's professionals excel in enterprise solutions, supply chain management, client relationship management, business intelligence, business process quality, engineering and product lifecycle management, and infrastructure services, among other key capabilities.

Mahindra Satyam is part of the multi-billion Mahindra Group, a global industrial federation of companies and one of the top 10 business houses based in India. The Group's interests span automotive products, aviation, components, farm equipment, financial services, hospitality, information technology, logistics, real estate and retail.

Mahindra Satyam development and delivery centers in the US, Canada, Brazil, the UK, Hungary, Egypt, UAE, India, China, Malaysia, Singapore, and Australia serve numerous clients, including many Fortune 500 organizations.

Global Presence



Contact

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