5G System integration Framework (5G-SF)

Why does the industry need System Integration (SI)?

There's dynamic transformation awaiting operators public 5G network and enterprise private 5G networks just around the corner, resulting from the deployment of next-generation network elements.

While 5G network architecture promotes disaggregation in RAN, transport, core and offers significant advantage in terms of flexibility and distributed deployment, it also renders few challenges in the integration of all the key components constituting the network.

Success of a distributed and disaggregated network hinges heavily on the ability of operators and enterprises to:

Identify the efficient combination of network functions and the underlying platforms

On-board the combination of network functions on a multi-cloud environment

Scale for deployment across diverse areas including radio access, transport and core elements that are cloud native (for both lab integration as well as in the production environment)
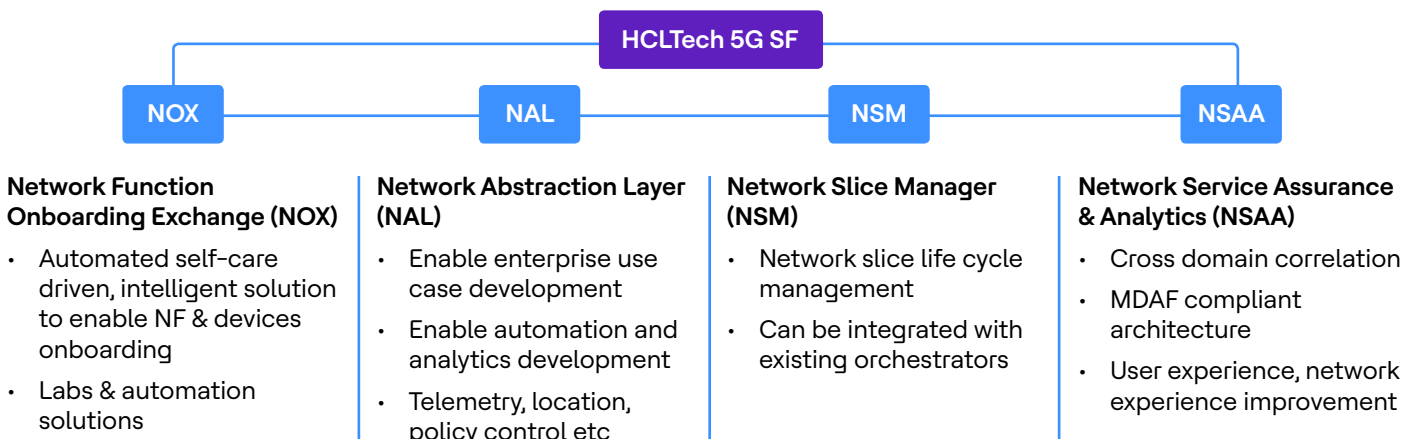
Create competencies in the disaggregated architecture

Operators, enterprises and vendors need an SI partner, who can scale in diverse technology domains to integrate, deploy and operate the network.
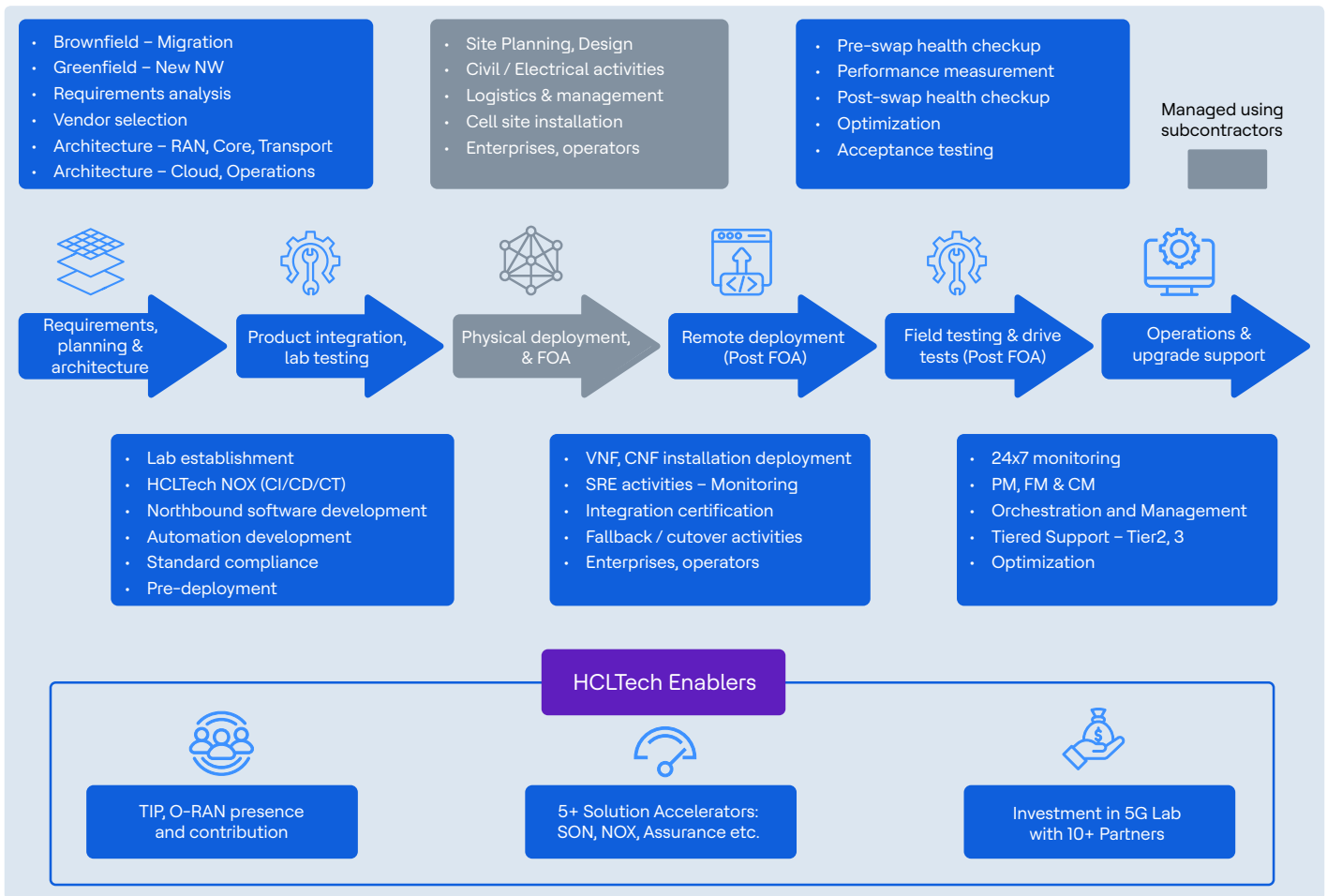
System integration supercharged

Leveraging HCLTech's presence across the telecom ecosystem, we have created a set of services to address unique SI requirements for disaggregated and distributed network domains that include RAN, transport, and core.

HCLTech 5G SF

NOX — NAL — NSM — NSAA

Network Function Onboarding Exchange (NOX)

- Automated self-care driven, intelligent solution to enable NF & devices onboarding
- Labs & automation solutions

Network Abstraction Layer (NAL)

- Enable enterprise use case development
- Enable automation and analytics development
- Telemetry, location, policy control etc

Network Slice Manager (NSM)

- Network slice life cycle management
- Can be integrated with existing orchestrators

Network Service Assurance & Analytics (NSAA)

- Cross domain correlation
- MDAF compliant architecture
- User experience, network experience improvement

HCLTech SI framework

Powered by our solution accelerators to optimize each phase of the life cycle

- Brownfield – Migration
- Greenfield – New NW
- Requirements analysis
- Vendor selection
- Architecture – RAN, Core, Transport
- Architecture – Cloud, Operations

- Site Planning, Design
- Civil / Electrical activities
- Logistics & management
- Cell site installation
- Enterprises, operators

- Pre-swap health checkup
- Performance measurement
- Post-swap health checkup
- Optimization
- Acceptance testing

Managed using subcontractors

Requirements, planning & architecture → **Product integration, lab testing** → **Physical deployment, & FOA** → **Remote deployment (Post FOA)** → **Field testing & drive tests (Post FOA)** → **Operations & upgrade support**

- Lab establishment
- HCLTech NOX (CI/CD/CT)
- Northbound software development
- Automation development
- Standard compliance
- Pre-deployment

- VNF, CNF installation deployment
- SRE activities – Monitoring
- Integration certification
- Fallback / cutover activities
- Enterprises, operators

- 24x7 monitoring
- PM, FM & CM
- Orchestration and Management
- Tiered Support – Tier2, 3
- Optimization

HCLTech Enablers

TIP, O-RAN presence and contribution

5+ Solution Accelerators: SON, NOX, Assurance etc.
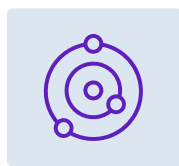
Investment in 5G Lab with 10+ Partners

Our key differentiators

Proven products & solution accelerators

- NOX - Network Onboarding eXchange
- NSM – Network Slice Manager
- NSAA – Network Service Assurance and Analytics
- NAL – Network Abstraction Layer
- ANA – Augmented Network Automation

Eco-system presence from Semi, OEMs, TSPs, Hyperscalers

- Ongoing engagement with Tier-1 companies for product development, network engineering and validation
- Significant presence in O-RAN, TIP. SI for O-RAN Plugfest activities

Investments in Labs & Products, Solutions

- Investments in 42 labs acorss the globe
- Investments in community participation, accelerator development

HCLTech

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