

SERVICE 1

Telecommunications Testing & Quality Assurance Services

Service Definition Document

G-Cloud15 Procurement Submission

1. SERVICE OVERVIEW

TestFyra provides comprehensive telecommunications testing and quality assurance services for mobile networks, contact centres, and telecom infrastructure. Our service covers end-to-end testing from 2G through 5G networks, including VoLTE, VoWiFi, IMS core, network slicing, and IoT/connected device testing.

What We Do: We validate that your telecom systems work correctly before launch and continue working properly in production. We test voice calls, SMS, data services, roaming, network performance, and contact centre operations using real-world scenarios and automated testing platforms.

Who It's For: Mobile network operators, MVNOs, telecom equipment vendors, contact centre operators, government telecom services, IoT service providers, and organizations deploying connected vehicle or smart city solutions.

Key Deliverables

- Test strategy and planning documentation
- Automated test scripts and frameworks
- Test execution results and defect reports
- Performance benchmarking data
- Network quality KPI reports
- Compliance certification support

2. KEY FEATURES

2.1 End-to-End Network Testing

- E2E Test Management Services: Test planning, Test case design, Test case execution (manual and automated), Test reporting, HLD, LLD review, Requirements traceability matrix, Test coverage matrix, test management activities
- 2G/3G/4G/5G Testing: Complete protocol stack validation including RAN, core network, and service layer
- VoLTE/VoWiFi: Voice over LTE and WiFi calling testing with handover scenarios
- Network Slicing: 5G network slice validation and QoS verification
- IMS Core Testing: IP Multimedia Subsystem functional and performance testing
- Roaming Testing: National and international roaming validation using global test network

2.2 Contact Center Testing

- Load Testing: Simulate thousands of concurrent calls to validate capacity
- IVR Testing: Automated interactive voice response flow validation
- Omnichannel Testing: Voice, email, chat, social media, and WhatsApp testing
- Call Quality: MOS scoring, jitter, latency, and packet loss measurement
- Agent Simulation: Realistic customer-agent interaction testing, agent softphone automation

2. KEY FEATURES

2.3 Mobile Device Testing

- Handset Automation: Android and iOS device automation using UEX framework
- Device Compatibility: Testing across multiple device types and manufacturers
- Application Testing: Mobile app functional and performance testing
- Remote Testing: Access to physical devices worldwide via test network
- eSIM Testing: eSIM provisioning, activation, and lifecycle validation

2.4 TestFyra Accelerator Platform

- Traffic Generation: Simulate realistic call, SMS, and data traffic patterns
- Protocol Support: SIP, Diameter, HTTP/HTTPS, RRC, NAS protocols
- KPI Monitoring: Real-time performance counter extraction and analysis
- Scripting Engine: Custom test scenario development
- Reporting: Comprehensive test results with trend analysis

2. KEY FEATURES

2.5 Test Automation

- CI/CD Integration: Jenkins, GitLab, Azure DevOps integration
- Regression Testing: Automated regression test execution on demand
- Continuous Testing: 24/7 automated monitoring and testing
- Custom Frameworks: Bespoke automation solutions for specific requirements

3. KEY BENEFITS

Reduce Testing Time by 60-80%

Automation eliminates repetitive manual testing, allowing your team to focus on complex scenarios and edge cases.

Achieve 4-6X ROI

Early defect detection prevents costly production issues. Typical ROI within 6-12 months of engagement.

Launch with Confidence

Comprehensive pre-launch testing ensures services work correctly from day one, protecting brand reputation.

Continuous Quality Assurance

Ongoing automated testing detects issues before customers notice them, reducing support costs.

Independent Validation

Vendor-neutral testing provides unbiased assessment of equipment and services from multiple suppliers.

3. KEY BENEFITS

Regulatory Compliance

Support for OFCOM, FCC, and other regulatory testing requirements with audit-ready documentation.

Faster Time to Market

Parallel testing and automation accelerate release cycles, helping you launch new services faster than competitors.

Risk Mitigation

Proven testing methodologies reduce risk of failed launches, service outages, and security vulnerabilities.

4. HOW THE SERVICE WORKS

Phase 1: Discovery & Planning (1-2 weeks)

- Review technical requirements and architecture
- Define test scope, approach, and success criteria
- Identify test environments and access requirements
- Create test strategy and resource plan

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- **Deliverable:** Test Strategy Document

Phase 2: Test Environment Setup (1-2 weeks)

- Configure test tools and platforms
- Establish connectivity to test environments
- Set up monitoring and logging
- Create baseline test data

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- **Deliverable:** Test Environment Ready for Execution

4. HOW THE SERVICE WORKS

Phase 3: Test Design & Development (2-4 weeks)

- Develop detailed test cases and scripts
- Create automation frameworks (if required)
- Design performance test scenarios
- Set up KPI monitoring and alerting

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- **Deliverable:** Test Cases and Automation Scripts

Phase 4: Test Execution (4-12 weeks)

- Execute functional, performance, and integration tests
- Log defects and track resolution
- Generate daily test execution reports
- Conduct regression testing after fixes

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- **Deliverable:** Test Execution Reports and Defect Logs

4. HOW THE SERVICE WORKS

Phase 5: Reporting & Handover (1 week)

- Compile final test results and recommendations
 - Present findings to stakeholders
 - Provide test artifacts and documentation
 - Knowledge transfer to customer team
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- **Deliverable:** Final Test Report and Test Artifacts

5. SERVICE LEVELS & SUPPORT

Service Availability

- Target Availability: 99.5% during business hours (9am-6pm Mon-Fri UK time)
 - Planned Maintenance: Monthly maintenance window (notified 7 days advance)
 - Platform Uptime: TestFyra Accelerator and UEX platforms maintained to 99.5% availability
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Response Times

- Standard Support: 4-hour initial response, 8-hour resolution target (business hours)
 - Enhanced Support: 2-hour initial response, 4-hour resolution target (extended hours 8am-8pm)
 - Premium Support: 1-hour initial response, 2-hour resolution target (24/7/365)
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Support Channels

- Email: customer@testfyra.com
- Phone: +44 7814 154655
- Ticket Portal: JIRA Service Management
- Dedicated Slack channel (for retainer clients)

5. SERVICE LEVELS & SUPPORT

Escalation Process

- Level 1: Support Engineer (initial contact)
 - Level 2: Senior Test Engineer (complex technical issues)
 - Level 3: Test Manager (business-critical issues)
 - Level 4: Technical Director (major incidents)
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Reporting

- Daily: Test execution status reports
 - Weekly: Progress reports with KPI dashboards
 - Monthly: Comprehensive analysis with trend data and recommendations
 - Ad-hoc: Available on request
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6. TECHNICAL REQUIREMENTS

Customer Requirements

Network Access

- VPN or direct connectivity to test environments
- SIP trunk access for contact centre testing
- API access for automated testing (REST/SOAP)

Test Environments

- Dedicated or shared test environment
- Test SIM cards and phone numbers
- Access to network elements for KPI collection

Minimum Bandwidth

- 10 Mbps upload/download for small-scale testing
- 100 Mbps for large-scale performance testing

Firewall Rules

- Inbound: Ports 5060-5070 (SIP), 3868 (Diameter), 443 (HTTPS)
- Outbound: Standard HTTP/HTTPS, SSH (port 22)

TestFyra Infrastructure

Cloud Platform

- AWS infrastructure (UK regions: London, Manchester)
- ISO 27001 compliant data centres
- Encrypted data in transit (TLS 1.3) and at rest (AES-256)

Test Tools & Platforms

- TestFyra Accelerator (proprietary performance testing)
- UEX framework (mobile device automation)
- SolarWinds (network monitoring)
- JIRA (test management and defect tracking)
- Selenium/Appium (web and mobile automation)

Supported Protocols

- Voice: SIP, SIP-I, SIP-T, ISUP, H.323
- Mobile: RRC, NAS, S1-AP, Diameter, GTP
- Web: HTTP/HTTPS, WebSocket, REST, SOAP

Device Coverage

- 50+ physical device types available remotely
- Android 8.0+ and iOS 13+
- Major manufacturers: Samsung, Apple, Huawei, Xiaomi, OnePlus

8. SECURITY, COMPLIANCE & CONSTRAINTS

Security Measures

- Certifications: Cyber Essentials, ISO 27001 (in progress, expected Q2 2026)
 - Data Encryption: TLS 1.3 in transit, AES-256 at rest
 - Access Control: Multi-factor authentication, role-based access control
 - Audit Logging: Complete audit trail of all system access and changes
 - Penetration Testing: Annual third-party security assessments
 - Security Monitoring: 24/7 SOC monitoring for threats and anomalies
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Compliance

- GDPR: Full compliance with UK GDPR and Data Protection Act 2018
 - Data Residency: All customer data stored in UK data centers
 - Telecom Standards: 3GPP, GSMA, ETSI, ITU-T compliance testing
 - Regulatory: Support for OFCOM, FCC, and EU telecom regulations
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Backup & Disaster Recovery

- Backup Frequency: Daily incremental, weekly full backups
- Retention: 30 days online, 90 days archive
- Recovery Time Objective (RTO): 4 hours
- Recovery Point Objective (RPO): 24 hours
- DR Site: Secondary AWS region for failover

8. SECURITY, COMPLIANCE & CONSTRAINTS

Service Constraints

Dependencies

- Customer must provide test environment access
- Network firewall rules must permit test traffic
- Test SIM cards and phone numbers required for live testing
- API credentials needed for automated testing

Limitations

- Customer must provide test environment access
- Network firewall rules must permit test traffic
- Test SIM cards and phone numbers required for live testing
- API credentials needed for automated testing

Lead Times

- Standard projects: 2-3 weeks from contract signature
- Urgent projects: 1 week (subject to resource availability and 15% premium)
- Platform provisioning: 3-5 business days
- Custom automation development: 4-8 weeks

8. SECURITY, COMPLIANCE & CONSTRAINTS

Onboarding & Offboarding

Onboarding (2-4 weeks)

- Kick-off meeting and requirement review
- Environment access and connectivity setup
- Tool configuration and integration
- Team introductions and ways of working
- Initial test plan development

Offboarding (2-4 weeks)

- Final reporting and knowledge transfer
- Test artifact handover (scripts, documentation)
- Data extraction (30-day window)
- Environment decommissioning
- Lessons learned session

CONTACT INFORMATION - TESTFYRA LTD

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This Service Definition Document should be read in conjunction with TestFyra's Terms & Conditions, SFIA Rate Card, and Pricing Document for complete service details.

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END OF SERVICE DEFINITION