

# Appendix D

## Requirements Compliance Certification

Requirement	Satisfied	Partially Satisfied	Not Satisfied
<b>2.2.1 Network Infrastructure</b>			
Support for 802.11b and 802.11g access throughout the coverage area			
Support for best-effort service, 1 Mbps per subscriber upstream and downstream			
95% in-street (outdoor) coverage			
90% in-building (indoor) coverage			
Support for a mixed wireless and wired backhaul solution			
Support for the use of City-owned assets			
Support for pole, roof and wall mounting			
Compliance to IP56/NEma4 dust and water ingress			
Support for ambient temperature ranges of -40 C to +50 C			
Support for logical segmentation of the network for different "domains" of users			
Support for designating certain areas for open, free access			
Support for in-motion subscribers at up to 60 Mph			
Support for unilateral inbound roaming relationships			
Support for unilateral outbound roaming relationships			
Sufficient capacity to support subscriber projections and service levels through contract term			
Scalable to support additional users, capacity and functions			
Support for IPv4 and IPv6 addressing			
Support for traffic prioritization			
Backup power support for up to 8 hours			
Fault tolerance mechanisms to mitigate single points of failure			
Guaranteed reliability of 99.9% for Wi-Fi tier of the network			
Guaranteed reliability of 99.999% for backhaul tier of the network			
Support for optional "peering points" with other service providers			
Support for providing advanced subscriber services from backhaul tier of the network			
Physical security for all critical network components			
Support for MAC address filtering			
Support for 64 and 128-bit WEP encryption			
Support for TKIP encryption			
Support for AES encryption			
Support for WPA standard			
Support for 802.1x using EAP and RADIUS			
Support for suppression of ESSIDs			
Support for multiple ESSIDs			
Support for mapping ESSIDs to VLANs			

Support for filtering of traffic by IP address, subnet, TCP port and other mechanisms

Support for VPN tunneling

Support for encryption of all control and network management traffic

### **2.2.2 Architecture and Design**

An overall architecture for the System

A detail design for the System

A detailed wireless spectrum plan

A detailed integration plan for all components of the System

A description of the core business processes

A plan describing how reliability requirements and service levels will be met

A plan describing the tools and processes for post installation testing and verification of performance

A description of deliverables to be provided to WP post-installation

A detailed implementation plan, statement of work, project schedule and milestone payment schedule

A final as-built plan supplied in ESR1 coverage or shapefile format

### **2.2.3 Installation**

Installation of all components of the System

Coordination on access to assets, permits, etc.

Ramp up and activation of all technology and processes required for the System

Configuration and integration of all components of the System

Adherence to all FCC guidelines for wireless equipment, installation, configuration, etc.

Tuning services as required throughout the System for the entire contract term

### **2.2.4 Telecommunications Provisioning**

All leased telecommunications services required for Wi-Fi egress points

All leased telecommunications services required for connection of Wi-Fi egress points back to Internet PoP

Provisions for alternate peering points over time

Description of how capacity estimates were derived, using Kbps/user or oversubscription rates

### **2.2.5 Network Monitoring and Management**

Basic adherence to ISO network management functions

- Performance Management

- Configuration Management

- Accounting Management

- Fault Management

- Security Management

- Support for event notifications
- Support for group management of System components
- Built-in configuration database
- Support for SNMP
- Graphical representation of System components
- Support for configurable ACLs
- Ability to "drill down" on System components
- Ability to auto-discovery new devices in the System
- Support for wireless proxy agents
- Support for statistical reporting
- Support for remote management and updates to remote System components

### **2.2.6 Network Maintenance and Upgrade**

- Plan for how maintenance and upgrade will be addressed
- Provisions for spare inventory, upgrade cycles, capacity upgrades, etc.
- Risk mitigation for network obsolescence
- Provisions for refresh of entire System within seven years
- Minimal disruption of service during upgrades
- Backwards compatibility for existing applications, services and devices

Product roadmaps for all vendor equipment used in the System

### **2.2.7 Operations Support Systems**

- Support for multiple service providers (SPs)
- Ability to define flexible wholesale service plans, pricing and ratings based on usage or flat rates
- Ability to support flexible service policies for time and quality of service
- Design, deployment and management of a subscriber portal for the System
- Ability to support co-branding of portal
- Ability to support wholesale billing, receivables collections and settlement with SPs

- Ability to support inbound and outbound roaming relationships
- Ability to define basic access and other value added service plans
- Ability to perform usage tracking, customer reporting and usage policy enforcement
- Interoperability with RADIUS-based public access points and gateways

### **2.2.8 Customer Service and Technical Support**

- Support for tier-two customer service and technical support
- Support for issues from tier-one agents dealing with billing, invoice and/or settlement
- Support for issues from tier-one agents dealing with technical problems reported by subscribers

- A toll free number for tier-one agents
- Support for 7x24x365 hours
- Support for problem reporting and resolution via email, Web and interactive messaging
- Dedicated technical expert available to WP 7x24x365 by phone and/or pager
- Proactive notifications to SPs for network problems, outages and other issues
- Development and maintenance of a library of FAQs
- Secure managed database of all SP information, call tracking detail, resolutions, etc.
- Creation of routine and ad-hoc reporting on issues, wait times, abandoned calls, etc.
- Support for three-party calls from SPs and their subscribers
- Support for total call management
- Elaboration on SLAs proposed
- Elaboration on additional features and/or functions proposed
- Definition of preliminary call and/or process flows
- Elaboration on and additional knowledge management features proposed

#### **2.2.9 Software Hosting and Facilities**

- Secure facility with controlled entry
- Climate controlled for all equipment requirements
- Backup power to maintain availability for 24 hour interruption
- 24x7x365 monitoring
- Backup and recovery tools and processes
- Proactive capacity planning
- Problem avoidance and change management tools and processes

#### **2.2.10 Program and Project Management**

- Designation of executive sponsor throughout contract term
- Designation of primary single point of contact
- Delivery of routine program and project status reports
- Designation of issue escalation path with names, contact information, etc.

**Notes**