4.1.3 TOLL-FREE SERVICE

> ***Qwest's Toll-Free Service (TFS) delivers a full-featured service offering that reaches both federal Agency installations and their constituents around the globe.***

Qwest has a long history of providing leading-edge voice and toll-free applications to the Federal Government. Flexible, reliable, and scalable, ▮▮

Figure 4.1.3-1 provides an easy reference to correlate narrative requirements to our proposal response.

Figure 4.1.3-1. Table of TFS Narrative Requirements

REQ ID	RFP Section	RFP Requirement	Proposal Response
5646	C.2.2.3.1.4 (1)	The following Toll Free Service capabilities are mandatory unless marked optional. 1. The contractor shall act as the responsible organization or "Resp Org" for assignment and maintenance of toll free numbers if requested by the subscribing Agency.	4.1.3.3.1.1
5613	C.2.2.3.1.4 (4)	The following Toll Free Service capabilities are mandatory unless marked optional. 4. When requested by a subscribing Agency, the contractor shall provide Universal International Toll Free Number service (also known as Universal International Free Phone Number – UIFN). This shall enable the Agency to request a single, unique toll free number that is the same throughout the world (Where available commercially from participating countries).	4.1.3.3.1.1
5535	C.2.2.3.1.4 (9)	The following Toll Free Service capabilities are mandatory unless marked optional. 9. The contractor shall, at a minimum, provide the capability to have all announcements recorded in English and Spanish languages. Other languages shall be optional.	4.1.3.3.1.1
5491	C.2.2.3.2	The features in Section C.2.2.3.2 shall be capable of being used independently of each other or in any combination except where noted in the contract.	4.1.3.3.1.2
5446	C.2.2.3.2.1 (1)	1. Agency based routing database (also known as Host Connect): The contractor shall implement and provide the appropriate interface and connectivity for the contractor's IVR application to successfully query and access a subscribing Agency's database(s).	4.1.3.3.1.2
5413	C.2.2.3.2.1 (2)	2. Alternate Routing (also known as "Cascade" routing): The contractor shall allow TFS calls to be re-routed on a pre-determined plan based upon availability of trunks (busy) at the terminating location, a maximum number of calls allowed in progress, or a pre-defined ring-no-answer condition.	4.1.3.3.1.2

REQ ID	RFP Section	RFP Requirement	Proposal Response
5179	C.2.2.3.2.1 (8)	8. Call Redirection: The contractor shall ensure that there is no double billing for toll free calls which have been transferred using call redirection. This includes calls redirected within the contractors' network from one operating platform to another operating platform.	4.1.3.3.1.2
5157	C.2.2.3.2.1 (8)	8. Call Redirection: The contractor shall state the amount of abbreviated-dial codes available for use with this feature.	4.1.3.3.1.2
5134	C.2.2.3.2.1 (9)	9. Computer Telephony Integration (CTI): The contractor shall provide CTI messaging capability that enables transfer of caller information and Agency-specified data between the TFS contractor and Agency-specified systems simultaneously with the associated inbound toll free call. This feature can be used to support a diverse set of applications such as screen pop/splash, intelligent call routing, enhanced reporting, third party call control, and multi-channel call blending solutions.	4.1.3.3.1.2
4912	C.2.2.3.2.1 (10)	10. Custom Call Records: The contractor shall provide a detailed description of each call detail record field including definitions of the data elements prior to activation of the feature.	4.1.3.3.1.2
4735	C.2.2.3.2.1 (14)(9)	14. Interactive Voice Response (IVR) The contractor shall provide the minimum required capabilities listed below: 9. At the Agency's option, the caller's IVR selection(s) information shall be transferred to the Agency.	4.1.3.3.1.2
4635	C.2.2.3.2.1 (16)	16. Network Call Distr butor: The contractor shall poll all of the subscr bing Agency's Private Branch Exchange (PBX)/Automatic Call Distributions (ACDs) regular intervals for real-time ACD operating status information to update a call routing processor which shall use call routing logic/algorithms that have been predefined by the Agency, to determine the best location or resource to deliver the inbound call.	4.1.3.3.1.2
4624	C.2.2.3.2.1 (16)	16. Network Call Distr butor: The call routing processor containing the call routing logic/algorithms shall be able to use, in the subscribing Agency's defined combinations, all real-time operating status information collected from the Agency's PBX/ACDs.	4.1.3.3.1.2
4413	C.2.2.3.2.1 (16)(3)	16. Call routing logic/algorithms that shall be accommodated shall include at a minimum: 3. Routing based upon least cost.	4.1.3.3.1.2
4402	C.2.2.3.2.1 (16)	16. The contractor shall document the maximum hourly call processing rate and grade of service (GOS) available without any degradation in performance (e.g. can process 100,000 calls per hour).	4.1.3.3.1.2
4369	C.2.2.3.2.1 (16)	16. The contractor shall provide, via a graphical user interface, all software and hardware necessary for subscriber Agency access to the call routing processor to permit Agency definition of the call routing logic/algorithms.	4.1.3.3.1.2
4335	C.2.2.3.2.1 (16)(3)	16. The Network Call Distr butor feature shall be offered as a managed service with the following options: 3. Agency-provided and contractor-based: [Optional] All the necessary components required to the provision of this feature (including ACD) will be provided by the Agency or Agency specified contractor. The Agency equipment shall be housed and managed by the contractor. (Where applicable).	4.1.3.3.1.2
4324	C.2.2.3.2.1 (16)(4)	16. The Network Call Distr butor feature shall be offered as a managed service with the following options: 4. The contractor shall provide any additional reporting or monitoring options that are available from the contractor's equivalent commercial service offering at no additional charge.	4.1.3.3.1.2
4201	C.2.2.3.2.1 (22)	22. Real Time Reporting: The contractor shall provide Agencies with the ability to monitor and report on summary and detail data relating to the status of TFS calls on a near real-time basis (e.g., minimum required refresh rate of 30 seconds and at other contractor proposed intervals).	4.1.3.3.1.2
3890	C.2.2.3.2.2	Reports shall be made available by electronic means such as a Web site, or via e-mail, or other contractor-proposed applications and have the capability to export data, in a standard file format, to Agency applications (e.g., spreadsheets, databases) for analysis.	4.1.3.3.1.2
3779	C.2.2.3.2.2	The contractor shall also provide any historical or real time reports that are commercially available with their TFS reporting packages.	4.1.3.3.1.2

4.1.3.1 Qwest's Technical Approach to TFS Delivery (L.34.1.4.1)

Qwest's technical approach to providing a fully compliant TFS is based on our decades of experience providing TFS to the Government, ███████ ███ ███ ███████████████████████

The sections that follow describe our technical approach to service delivery and how our approach benefits the Government. We'll also describe how Qwest TFS will facilitate the Federal Enterprise Architecture (FEA) objectives, how Qwest proposes to address problems that may be encountered in providing TFS, and how our synchronization network architecture supports TFS.

4.1.3.1.1 Approach to TFS Delivery (L.34.1.4.1(a))

Qwest's technical approach to providing TFS is based on using existing Qwest products that provide the features and capabilities required by the Request for Proposal (RFP). ███████████████████████ ███ ███ ███ ███ ███ ███ ███ ███ ███ ███████████████████████

These applications work seamlessly to provide a broad range of features to our current Government and Commercial customers. ███████

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Qwest provides an organization of experienced professionals to work with Agencies to develop, engineer, and implement advanced TFS applications. ████████████████████████████████████

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Switched and dedicated domestic TFS access from Qwest is available throughout the required Continental United States (CONUS) and Outside Continental United States (OCONUS) locations for calls terminating anywhere in the U.S. ███████████████████████

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4.1.3.1.2 Benefits of Qwest's Approach to TFS (L.34.1.4.1(b))

Qwest's Networx TFS offering provides the Government with a comprehensive set of features and benefits, as shown in *Figure 4.1.3-3*.

Figure 4.1.3-3. Qwest's TFS Features and Benefits

Feature	Benefit		
Enhanced Intelligent Network Routing	Ensures reliable and highly available toll-free service	████████████████████	
Flexible Access Arrangements	Agencies have the flex bility to choose switched or dedicated services based on their individual needs	████████████████████	
Enhanced Routing Capabilities	Completely customizable to meet specific Agency needs	████████████████████	
Qwest's Extensive Voice and Toll-Free Network	High availability and ubiquitous coverage	████████████████████	

Additionally, Qwest supports the Government's FEA objectives, as demonstrated *Figure 4.1.3-4*.

Figure 4.1.3-4 Qwest's TFS Support to FEA Objectives

FEA Objectives	How Qwest's Supports FEA Objectives
Improve utilization of Government information resources to focus on core agency mission and service delivery to citizens by using the FEA	Qwest TFS leverages existing telecommunications infrastructure and equipment. This allows Agencies to focus on core missions and service delivery to constituents.
Enhance cost savings and cost avoidance	TFS is available in dedicated and switched access methods, enabling standards-based connectivity to the Government's existing telecommunications systems, avoiding additional investment costs.
Increase cross-agency and inter-government collaboration	TFS allows remote callers access to Agencies via Public Switched Telephone Network (PSTN), Voice over Internet Protocol (VoIP), cell phone, and any other standard telephone connection. ████████

4.1.3.1.3 Solutions to TFS Problems (L.34.1.4.1(c))

Qwest has extensive experience in the delivery of TFS services. We apply this experience to ensure the delivery of high-quality TFS to Agencies.

Data contained on this page is subject to the restrictions on the title page of this contract.

4.1.3.1.4 Synchronization Network Architecture (L.34.1.4.1(d))

Data contained on this page is subject to the restrictions on the title page of this contract.

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4.1.3.2 Satisfaction of TFS Performance Requirements (L.34.1.4.2)

Data contained on this page is subject to the restrictions on the title page of this contract.

4.1.3.2.1 TFS Quality of Service (L.34.1.4.2(a))

Figure 4.1.3-8. Qwest's Compliance with Government TFS Performance Metrics

Key Performance Indicator (KPI)	Service Level	Performance Standard (Threshold)	Acceptable Quality Level (AQL)	████████
Availability (POP-to-POP)	Routine	99.95%	≥ 99.95%	███
Availability (POP-to-terminating Service Delivery Point)	Routine	99.5%	≥ 99.5%	██
	Critical	99.95%	≥ 99.95%	███
Grade of Service (Call Blockage)	Routine	0.07	≤ 0.07	██
	Critical	0.01	≤ 0.01	██
Time To Restore	Without Dispatch	4 hours	≤ 4 hours	███
	With Dispatch	8 hours	≤ 8 hours	███

Qwest KPI definitions for TFS comply with the Networx RFP definitions as follows:

Availability: Qwest will measure availability according to RFP C.2.2.3.4.1, using the standard formula: Availability = RI(HR) –

COT(HR)/RI(HR) x 100. ████████████████████████████
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Time to Restore: Qwest uses ███████ as the trouble ticketing system for all products in the Networx RFP, including TFS. ████████████████
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4.1.3.2.2 Approach for Monitoring and Measuring TFS KPIs and AQLs (L.34.1.4.2(b))

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4.1.3.2.3 TFS Performance Improvements (L.34.1.4.2(c))

Qwest proposes to meet the KPIs and AQLs for TFS. ███████████

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███ Qwest is able to leverage our vast TFS product portfolio, which includes a variety of Service

Enabling Device (SED) providers and specific TFS solutions. Through a special combination of vendor solutions and talented engineering capabilities, Qwest will be able to serve an Agency's business needs.

4.1.3.2.4 Additional TFS Performance Metrics (L.34.1.4.2(d))

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4.1.3.3 Satisfaction of TFS Service Specifications (L.34.1.4.3)

Qwest complies with the requested technical capabilities, features, and interfaces of the Networx RFP, as detailed in Sections 4.1.3.3.1 through 4.1.3.3.4 that follow.

4.1.3.3.1 Satisfaction of TFS Requirements (L.34.1.4.3(a))

Qwest's TFS provides inbound toll-free calling, call routing capabilities, and enhanced features. Qwest TFS allows customers to originate toll-free calls domestically (CONUS and OCONUS) and non-domestically. ITFS is provided by Qwest using established relationships with international carriers, providing country-specific toll-free origination numbers. Similarly, Qwest UIFN allows customers to originate toll-free calls from outside of the domestic U.S. However, with UIFN, the client receives a single international toll-free number, and customers in each participating country use that number for call origination. Portability of 8XX numbers and vanity numbers is supported.

Our network-based IVR includes a speech recognition solution for both inbound and outbound applications ████████████████████████ █████████████████████ It works as a stand-alone application or integrates with Web, computer telephony integration (CTI) platforms, and database information. This network-based IVR provides the reliability and scale of a network-based solution with the control and flexibility of a premises-based implementation. █████████████████████████████████████

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The network-based IVR provides the required speech recognition support for English and Spanish and exceeds requirements by providing support for Canadian French. Our network-based IVR and routing tools allow for customized network announcements, specified recordings to disconnect a call after it has played, and voice prompts. The network provides appropriate announcements, depending on the network conditions specified.

Dialed Number Identification Service (DNIS) and Automatic Number Identification (ANI) are fully supported for TFS for call routing and call identification. ███

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Qwest understands and complies with industry, national, and international standards, including those issued by the Internet Engineering Task Force, International Telecommunication Union (ITU), and American National Standards Institute (ANSI). Qwest's network is built on standards-based technologies, enables a building block approach, and supports the access methods the Government requires.

Qwest complies with the requested technical capabilities, features, and interfaces of the RFP, as referenced in the stipulated J tables and elsewhere in this response.

4.1.3.3.1.1 Satisfaction of TFS Capability Requirements (L.34.1.4.3(a); C.2.2.3.1.4)

Qwest fully complies with all mandatory stipulated and narrative features, capabilities, and interface requirements for TFS. The text in ***Figure 4.1.3-9*** is intended to provide the technical description required per

L.34.1.4.3(a) and does not limit or caveat Qwest's compliance in any way. IDs shown map to IDs in Section C.2.2.3.2.1.

Figure 4.1.3-9. Qwest Toll-Free Service Features

ID	Capability	
1	Responsible Organization	
2	Toll-Free Number Portability	
3	Presently-assigned and vanity numbers	
4	Universal International Toll-Free	
5	Terminations at single or multiple locations	
6	Defaults during network congestion	

ID	Capability	████████████		
7	Call Not Completed	████████████████████████		
8	Customized Call Not Completed	████████████████████████		
9	English and Spanish Announce-ments	████████████████████████		
10	Message for disconnected numbers	████████████████████████		
11	Dialed Number Identification Service	████████████████████████		
12	Identify and Provide ANI	████████████████████████		

Responsible Organization for Toll-Free Numbers

(Req_ID 5646; C.2.2.3.1.4 (1))

Qwest provides TFS as the Responsible Organizations (RespOrg) in conjunction with the National SMS/800. As a RespOrg, Qwest will reserve and route toll-free numbers for Agencies. Those Agencies become the sole owner of those toll-free numbers.

Toll-free numbers can be transferred to and from other RespOrgs, which is known as porting. Porting of toll-free numbers is accomplished by submitting a Letter of Authorization to the SMS/800.

As a RespOrg, Qwest manages Networx toll-free network requirements with the following responsibilities:

- Reserving and administering toll-free numbers
- Routing areas of origination via the SMS/800 and terminating via the Qwest network
- Provisioning switched and dedicated services, including a wide range of enhanced features and services required by Networx

Universal International Free Phone Number (UIFN)
(Req_ID 5613; C.2.2.3.1.4 (4))

Qwest UIFN allows toll-free origination from non-domestic locations that are supported by the ITU UIFN program. With UIFN, the Agency receives a single international toll-free number, and callers in each participating country use that same number for call origination. UIFN-originated calls can terminate anywhere domestically, CONUS or OCONUS.

English and Spanish Announcements (Req_ID 5535; C.2.2.3.1.4 (9))

Qwest's network-based IVR supports speech recognition as valid caller input for caller prompt routing. ████████████████████████ ███ ███████ The network-based IVR provides speech recognition support for English, Spanish, and Canadian French. ██████████████████ ██ ██ ███████████████████████████████
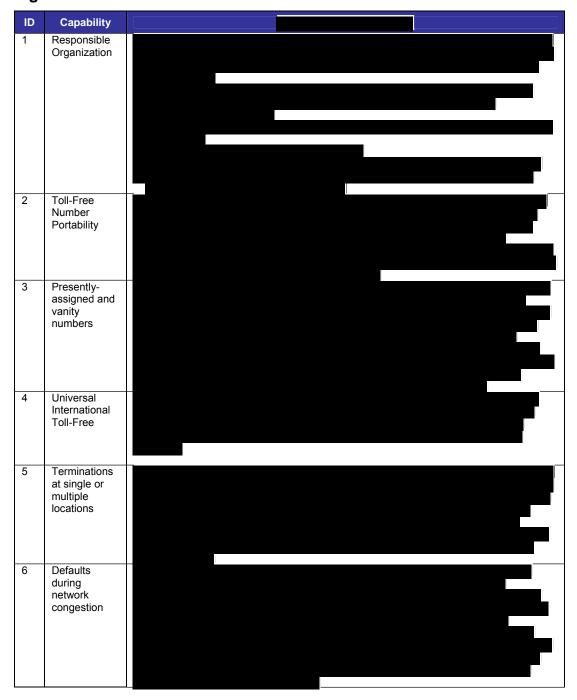
4.1.3.3.1.2 Satisfaction of TFS Feature Requirements (L.34.1.4.3(a); C.2.2.3.2)

Qwest fully complies with all mandatory stipulated and narrative features, capabilities, and interface requirements for TFS. The text in *Figures 4.1.3-10* and *4.1.3-11* is in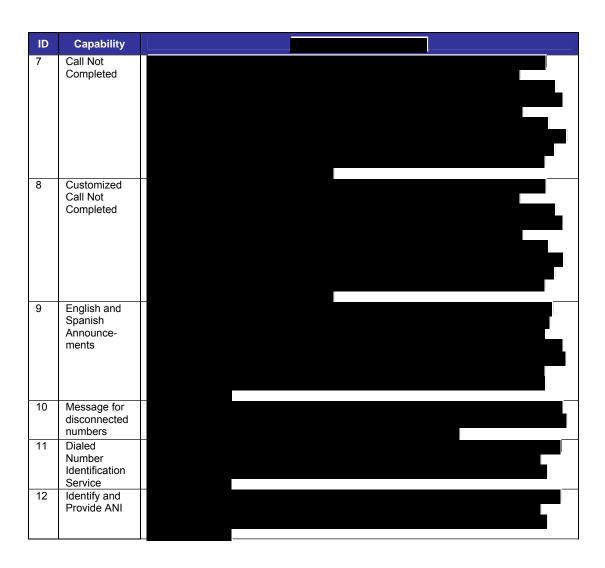tended to provide the technical description required per L.34.1.4.3(a) and does not limit or caveat Qwest's compliance in any way. IDs shown map to IDs in Section C.2.2.3.2.1.

Figure 4.1.3-10. Qwest Toll-Free Service Features

ID	Feature		
1	Agency-based routing database		
2	Alternate Routing		
3	ANI		
4	ANI-Based Routing		
5	Announced Connect		
6	Announcements		

ID	Feature		
7	Call Prompter		
11	Day of Week Routing		
12	Day of Year Routing		
13	In-Route Announcement		
14	Interactive Voice Response		

ID	Feature		
15	Make Busy		
16	Network Call Distributor		
17	Network Queuing		
18	NPA/NNX Routing		
19	Office Locator Database Service		
20	Operator Connect Bridging		
21	Percentage Call Allocation		
23	Routing Control		

ID	Feature		
24	Service Assurance Routing		
25	Speech Recognition		
26	Tailored Call Coverage		
27	Time of Day Routing		

ID	Feature		
███	████ ███		
███	████ ███		
███	████ ███		

Figure 4.1.3-11 provides detail on Qwest's TFS features reports and how these reports meet the Networx requirements. ID numbers shown map to IDs in Section C.2.2.3.2.2.

Figure 4.1.3-11. Qwest Toll-Free Service Features-Reports

ID	Feature	
28	Call Status Report-Toll-Free Service	

ID	Feature	██████████
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29	Call Status Report Alternate Routing	███████████████████████
30	Call Status Report Announcement	███████████████████████
31	Call Status Report Call Prompter	███████████████████████
32	Call Status Report IVR	███████████████████████
33	Caller Information Report	███████████████████████

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ID	Feature	███████████
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34	Caller Profile Report	█████████████████████
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35	Call Redirection Report (Optional)	████

The sections below address all narrative features as required by Section J.9.

Feature Independence (Req_ID 5491; C.2.2.3.2)

Qwest offers multiple enhanced toll-free features and services that are capable of working independently or in any combination (except where noted) to meet the Networx 8xx voice services (VS) needs.

Agency Based Routing Database (also known as Host Connect) (Req_ID 5446; C.2.2.3.2.1 (1))

Qwest's network-based IVR platform is an IVR and voice recognition solution for both inbound and outbound applications ██████████████████

██████ It works as a stand-alone application or integrates with Web, CTI platforms, and database information. Qwest's network-based IVR provides the reliability and scalability of a network-based solution with the control and flexibility of a premises-based implementation. ████████████

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Alternate Routing (also known as "Cascade" routing) (Req_ID 5413; C.2.2.3.2.1 (2))

Qwest's Busy Ring No Answer (BRNA) routes toll-free calls to a new location when the previous location is either "Busy" or in a "No Answer" condition. BRNA will route on these conditions based on predefined timing criteria (either through defaults or customer requested timing criteria). ██████

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Call Redirection (Req_ID 5179; C.2.2.3.2.1 (8))

Call redirection is a network-based enhanced routing service that allows an Agency (called party) to forward their TFS calls (calling party) to any PSTN number or other toll-free number during the same call. ██████

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Call Redirection (Req_ID 5157; C.2.2.3.2.1(8))

Qwest has the technical capability to provide unlimited abbreviated dial codes.

Computer Telephony Integration (Req_ID 5134; C.2.2.3.2.1(9))

Qwest's network-based IVR will work as a stand-alone application or integrate with Web platforms, CTI platforms, or database information. A Qwest project engineer will be assigned to all orders to help manage Agency requirements for an efficient and timely service implementation.

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Custom Call Records (Req_ID 4912; C.2.2.3.2.1(10))

Custom Call Records are a combination of TFS call details combined with IVR and call prompting details. ████████████████████████ ██ ██ ██ ██ ████████████

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Qwest will provide the detailed description of available call detail record fields, including definitions, from which the Agency can choose to customize its report.

Interactive Voice Response (Req_ID 4735; C.2.2.3.2.1(14)(9))

Qwest's network-based IVR infrastructure is a comprehensive offering that includes an enterprise-level platform and all the tools, services, and alliances necessary to meet the requirements of a sophisticated IVR application. Qwest's IVR recording options capture caller information and store it in a database where Agencies can obtain access to all this information in standard and custom-built reports. ██████████████████████████

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Network Call Distributor – Polling for Real-Time ACD Status (Req_ID 4635; C.2.2.3.2.1(16))

Qwest's Intelligent Pre-Route (IPR) product provides call distribution directly from the Qwest TFS Voice network to the Agency location, group, or agent best able to handle the call. IPR-destined calls are captured in the Qwest TFS Voice network and query the IPR product for the appropriate routing information. █████████████████████████████████████

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██████████████████████████████ The Agency is given the opportunity to manage and control the routing plan through Qwest's Control Networx portal.

Network Call Distributor – Call Routing Processor Uses Real-Time Operating Status (Req_ID 4624; C.2.2.3.2.1 (16))

Qwest's IPR product relies on real-time information from the subscribing Agency's PBX/ACD for the updating of call routing algorithms. This information is constantly updated, allowing the most accurate routing decisions to be applied to the inbound call.

Network Call Distributor – Call Routing Logic/Algorithms Based Upon Least Cost (Req_ID 4413; C.2.2.3.2.1 (16)(3))

Qwest's IPR can be configured to route based upon least cost as determined by the subscribing Agency's Call Center managers.

Network Call Distributor – Maximum Hourly Call Processing Rate/GOS Available (Req_ID 4402; C.2.2.3.2.1 (16))

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Network Call Distributor – Call Routing Processor GUI (Req_ID 4369; C.2.2.3.2.1 (16))

Qwest allows the Agency to manage and control the Qwest IPR operating environment. Customers are allowed access to the hosted application through a graphical interface tool to capture reports and administer call flows. ████████████████████████████████████

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Network Call Distributor – Additional Reporting or Monitoring Options (Req_ID 4324; C.2.2.3.2.1(16)(4))

Qwest IPR allows the customer to capture information about the call while that call is being processed through the network call routing process. ██

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Network Call Distributor – Agency-provided and contractor-based (Optional) (Req_ID 4335; C.2.2.3.2.1 (16)(3))

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Real Time Reporting (Req_ID 4201; C.2.2.3.2.1 (22))

Qwest's TFS Real Time Reporting will be available to Agencies via the
██████████████████████████. Agencies will be able to monitor and report on
summary and detail TFS call data on a near real-time basis. ████████████
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Reports Available by Electronic Means (Req_ID 3890; C.2.2.3.2.2)

TFS Reports will be available via the Qwest ████████████████.
Agencies will be able to generate detailed and/or summary reports. Reports
can be pulled on a pre-scheduled basis or as needed. ████████████████
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████ Qwest TFS reporting will allow Agencies to download and export data
into spreadsheets, databases, and other applications.

**Commercially Available Historical or Real-Time Reports (Req_ID 3779;
C.2.2.3.2.2)**

Qwest will make available all TFS historical and real-time reporting
capabilities that are commercially available via the ████████████████
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**4.1.3.3.1.3 Satisfaction of TFS Interface Requirements (L.34.1.4.3(d);
C.2.2.3.3)**

Qwest provides the standards-based TFS service interfaces requested
by the Government. Dedicated and switched (non-dedicated) access services
are available for analog, digital, PRI, and T-1 interfaces, using the Qwest fiber

backbone and state-of-the-art switches. ***Figure 4.1.3-12*** demonstrates that Qwest meets the interface requirements specified in C.2.2.3.3.2. Qwest fully complies with all mandatory stipulated and narrative features, capabilities, and interface requirements for TFS. The text in Figure 4.1.3-12 is intended to provide the technical description required per L.34.1.4.3(a) and does not limit or caveat Qwest's compliance in any way.

Figure 4.1.3-12. Summary of Qwest TFS Service Interfaces

UNI Type	Interface Type and Standard	Payload Data Rate or Bandwidth			
1	Analog Line: Two-Wire (Std: Telcordia SR TSV-02275)	4 kHz Bandwidth			
2	Analog Line: Four- Wire (Std: Telcordia SR-TS V-02275)	4 kHz Bandwidth			
3	Analog Trunk: Two- Wire (Std: Telcordia SR-TS V-002275)	4 kHz Bandwidth			
4	Analog Trunk: Four- Wire (Std: Telcordia SR-TSV-002275)	4 kHz Bandwidth			
5	Digital Trunk: T-1 TSV-002275 and ANSI T-1.102/1 07/403)	(Std: Telcordia SRSignaling Up to 1.536 Mbps			
6	Digital Trunk: ISDN PRI T Reference Point (Std: ANSI T-1.607 and 610)	Up to 1.536 Mbps			
7	Digital: T-3 Channelized (Std: Telcordia GR-499 CORE)	Up to 43.008 Mbps			
8 (Non-Domestic)	Digital Trunk: E-1 Channelized (Std: ITU-TSS G.702)	Up to 1.92 Mbps			
9 (Optional)	Optical: SONET OC-1 (Std: ANSI T-1.105 and 106)	49.536 Mbps			
10 (Non-U.S.)	Digital: E3 Channelized (Std: ITU-TSS G.702)	Up to 30.72 Mbps			
11	Digital Line: ISDN BRI S and T Reference Point (Std: ANSI T-1.607 and 610)	Up to 128 kbps (2x64 kbps)			

4.1.3.3.2 Proposed Enhancements to TFS (L.34.1.4.3(b))

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4.1.3.3.3 Network Modifications Required for TFS Delivery (L.34.1.4.3(c))

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4.1.3.3.4 Experience with TFS Delivery (L.34.1.4.3(d))

Qwest provides long distance services and broadband data, as well as global voice and video communications. Qwest sells its products and services to large and small businesses, government Agencies, and public and private educational institutions.

Qwest has a rich tradition with more than 100 years of providing local, long distance, and operator services. Qwest has served Federal Agencies for more than 40 years and has a comprehensive understanding of their unique requirements, processes, and applications.

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4.1.3.4 Robust Delivery of TFS (L.34.1.4.4)

The Qwest Fiber Network is the backbone transport of the intelligent Qwest network providing TFS. Combining leading-edge network technology with this backbone transport allows Qwest to respond quickly and cost-effectively to the Government's changing TFS needs.

4.1.3.4.1 Support for Government TFS Traffic (L.34.1.4.4(a))

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Qwest continually monitors the TFS voice network traffic patterns to support capacity management. ██████████████████████████████████

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4.1.3.4.2 Qwest's Measures and Engineering Practices (L.34.1.4.4(b))

Qwest has evolved its network to support a host of traditional and emerging VS, including Toll-Free Services, VoIP, and IP Telephony services. Over the history of the Qwest network, we have developed tracking mechanisms for monitoring and tracking network performance. ████████████

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4.1.3.5 TFS Optimization and Interoperability (L.34.1.4.5)

Qwest's approach to service delivery for General Services Administration Networx is comprehensive and customer-focused. ████████

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4.1.3.5.1 Optimizing the Engineering of TFS (L.34.1.4.5(a))

Qwest continually undertakes activities designed to keep our products, services, and network operating capabilities equal to or better than targeted performance levels. ██

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Qwest engages in continuous dialogue with our strategic customers to identify potential service enhancements. ██████████████████

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4.1.3.5.2 Methods Applied to Optimize Network Architecture (L.34.1.4.5 (b))

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4.1.3.5.3 Access Optimization for TFS (L.34.1.4.5(c))

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4.1.3.5.4 Vision for TFS Internetworking (L.34.1.4.5(d))

The Qwest network has the capacity and advanced capabilities to support today's mission-critical applications, including VS, TFS, VoIP, and bandwidth-intensive L2 and L3 business applications. For years, Qwest's state-of-the-art IP network has been transferring voice, video, and data across the globe for today's leading enterprise businesses. These business applications require a network that is flexible and tuned to the customer's exact specifications for reliability, performance, and service.

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To meet the emerging technological demands of Agencies, Qwest offers any-to-any connectivity on its converged network infrastructure. Qwest's ability to provide the network technology to support legacy technologies and services—and also the next wave of application-focused networking needs—makes Qwest a solutions provider of choice. To facilitate access into their network, Agencies have the option to order from Qwest networking ports with a variety of port speeds, ranging from 56Kbps to 10Gbps. For each Qwest networking port, Qwest provides associated local loop access.

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