ADDENDUM NO.: 001
IFB NO.: 689
Description: Queens College Unified
Communications Solution
Project: CUNY - Queens College
Telephone Upgrade
Bid Opening Date: February 16, 2021

Specifics of the Addendum: Revision to the Scope of Work & Detailed Specifications

Section A - Scope of Work & Detailed Specifications
Bidder Experience/Qualifications:

The Non-Avaya Business Partner requirement has been removed.

All other terms and conditions of the original Invitation for Bids or Request for Proposals shall remain the same. This notice shall be signed and attached to the Invitation for Bids and shall form a part of your bid.

SCOPE OF WORK & DETAILED SPECIFICATIONS

Queens College Telephone Upgrade

The City University of New York: Queens College requires a consultant and strategic partner to assist in replacing an end-of-life legacy voice PBX. The Bidder shall provide Consulting Services to develop and deploy a unified communications solution using Microsoft Teams and Office 365.

BACKGROUND:

Queens College currently operates an Avaya 8720 CMR 4.0 platform with a Voice Messaging Platform AVST Call Xpress 8.7 communicates to the PBX using two 12 ports PRI configurations to two DMG to SIP. The main Avaya PBX (5 EPNs) is located in Powdermaker Hall, and an Extended Port Network (EPN) located in Queens Hall. The extended port network six is connected via Single mode fiber to Queens Hall.

Queens College is seeking to replace approx. 3000 stations with Yealink headsets and 1000 analog endpoints totaling 4000 stations.

BIDDER EXPERIENCE/QUALIFICATIONS:

Bidder shall have the following experience and qualifications:

- Experience in deploying Microsoft Teams Calling and Meetings at a College/ University;
- Microsoft Partner
- Experienced Microsoft Architect Engineers and Avaya Engineers in-house
- Integration experience with M365 identify integration and department consolidation

QUEENS COLLEGE WILL PROVIDE THE FOLLOWING:

1. PSTN service to connect via Direct Routing to Microsoft Office 365;
2. Microsoft A-5 Licenses for the end-users;
3. Yealink Handsets;
4. Systems access virtual and physical; and
5. Campus access

DEFINITIONS:

CF	CUNYFirst is CIS ERP software
FreshWorks	QC ITIL and helpdesk software
NUANCE	Speech attendant (calls routed to extension when saying first & last name or department name)
ECAS	Call accounting system (no billing, only used for call record detailing)
AVST	Voicemail and auto-attendant
QC	Queens College
CIS	Computer Information Services
CUNY 907	M365 CUNY tenant
CUNYLoginID	CUNY login ID
CQD	Call Quality Dashboard
VDI	Virtual Desktop Infrastructure
TDM	Time Division Multiplexing
EPN	Expansion Port Network

The Bidder is required to assist Queens College in developing Microsoft Teams with Direct Routing and deploy Teams as a Calling and Meeting Solution. The Bidder shall provide the following services for the duration of the project. The anticipated completion of the project is May 30, 2021.

- Microsoft Professional Services to design, program, install, configure, and test Microsoft Teams with Direct Routing;
- AudioCodes and Ribbon to program, install, configure and test Microsoft Teams with Direct Routing; and
- Avaya Configuration and Integration
- Detail documentation, including diagrams, flowcharts, systems documentation, and complete project details (for example).
- Administration and end-user training
- Testing, troubleshooting, and user acceptance

Bidder shall proactively collaborate with the Queens College Project Manager to properly document the project's progress, including but not limited to successes and failure points. A key success factor to this project is a strategic blueprint on the deployment of Microsoft Teams within Queens College so other CUNY College can model Microsoft Teams.

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Reporting: Any report provided by the Bidder shall be disseminated to Queens College in an acceptable and timely manner, as agreed upon by both Bidder and Queens College during the kick-off meeting. Queens College will provide either a DropBox or Microsoft OneDrive/SharePoint Collaboration area.

BIDDER SHALL PROVIDE:

- Provide materials for cabling and accessories required for new installation
- Run the needed cables for new installation
- Terminate the needed cables for new installation such as; cabling to SBC's, cabling from Analog Gateways to termination blocks and cross-connects, PRI's to Avaya switch, and SBCs.
- SBC's, existing PBX to PRI's and SBC's. Note: The vendor is not responsible for horizontal station cabling.
- Accommodate for existing and future SIP trunking and DIDs:
  - Total number of DIDs 3940
  - 7 PRIs (for Inbound and outbound calls) Service Provider is Broadview/Windstream
  - 2 PRIs PBX to AVST (24 ports total)
- Provide all required system installation, configuration, and programming
- Provide and install, program, and configure all SBC's (Session boarder controllers)
- Program and install all gateways on existing Avaya PBX (SIP, IP, or PRIS) for trunking, dial plans, and routing
- Provide and install, program, and configure all gateways on new Teams PBX (SIP, IP or PRIS) for trunking, dial plans, and routing
- Provide a phase-out plan of existing PBX after the full cutover to Teams PBX
- Provide and configure all features that are included with MS team's/O365 voice PBX
- Provide and install, program, and configure Call Management System solution
- Provide a solution in replacement for (AVST, Nuance, Calero Ecas) call accounting system, Speech attendant, and voicemail
- Configure and provision existing Yealink series phones that QC has procured, which will include faculty, staff, and common area telephones
- Configure and program analog all the ports for telephones and other analog devices, including cross-connecting and testing
- The vendor will complete all the hardware installation either on the field and/or in the server environment
- Provide annual maintenance (remote and onsite) for all hardware, software and professional services/support for entire system

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- Provide details for Microsoft and partner professional services contract
- Provide the training package (end-user and administration)
- Integrate CUNYfirst loginID to work with Microsoft Teams PBX
- The contractor shall interconnect the new telephone system to PSTN services and provide all cabling and cross-connect equipment. Coordinate with telephone Service providers for all configurations
- Responsible for racking and stacking, installation, the configuration of analog gateways on-premise

DIRECT ROUTING:

- Replacement of Existing Avaya PBX with MS teams
- Design/Deploy for Direct Routing and Voice roll out to replace Avaya PBX
- Phase-out plan for Avaya PBX
- Direct Routing Design Workshop
- Design to include two (2) Session Border Controllers (SBC), redundant pair of Ribbon 2000s
- Configure cross-connects of carrier supplied SIP trunks to SBCs (SBC to SBC)
- Analog gateway to support up to 1,000 analog devices
- Datacenter cabling for all consultant provided voice infrastructure
    - Queens College provides cabling for IP phones and will be installed on Cat5 or higher for IP phones only (Consultant does not need to supply)
    - Queens College provides Cat5, or higher cabling will be configured as a converged installation for IP phones and data traffic (Consultant does not need to supply)
- The consultant shall interconnect the new telephone system to PSTN service and provide all cabling and cross-connect equipment.
- PSTN Termination
    - PRI integration to Seven (7) downstream Avaya PSTN integration points via Seven (7) PRI interfaces and the SBC
    - PRI integration with One (1) local PSTN carrier via seven (7) PRIs
    - This integration will allow the Ribbon SBC to become a "man in the middle" between the carrier termination and the downstream Avaya on-premises PBX infrastructure
    - Remote configuration of up to 2,000 phones (common area, faculty, staff, and analog lines)
- Deploy/Enable Microsoft Teams with a Microsoft Phone System and direct routing
    - Teams Configuration
    - License Assignment
    - QoS Group Policy Creation and Assignment
    - Audio conferencing service configuration
    - Default number
    - Languages

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- ♣ Bridge settings
- ♣ Customize meeting invite
- Configuration of Avaya PBX for SIP trunking to the CUNY 907 Microsoft Teams Tenant
- Change management documentation
- Call forwarding setup to Queens College's ITIL system (FreshWorks)
- Basic E911 setup
    - ♣ Accommodate with existing PRIs PS/ALI circuit
    - ♣ Enable for future enhanced e911 for future SIP trunking
    - ♣ Work with Queens College to determine what locations will need to be added to Office 365 Emergency dialing locations
        - Queens College will map physical locations in their premise to network subnets, VLANS, or BSSIDs.
        - Consultant/vendor work with Queens College to map one (1) civic address location for up to five (5) subnets, VLANs, or BSSIDs to be imported as Civic addresses to office 365 emergency locations. Additional location can be added as additional effort.
- Auto attendant's configuration and setup
- Integrate CUNYFIRSTID to work within Microsoft Teams
- Quality Assurance check
- Provide training for the Queens College Telecommunications team
    - ♣ Provide a training manual
    - ♣ Provide administrator training
    - ♣ Provide end-user training

ACTIVITIES FOR DIRECT ROUTING:

- **Discovery Workshop**

Objective: The workshop aims to identify and document Queens College's use case scenarios of how the Microsoft Teams solution will work within the environment.

Discovery will include:

- Scenario analysis and use case definition for PSTN and internal call routing
    - Microsoft licensing requirements
    - Voice policies and dial-plans
- Settings for audio conferencing, meetings, & collaboration spaces
- Gap analysis on Crestron Meeting room configuration
- Call queues, auto attendants, and response groups
- Resource accounts and service numbers

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- Azure voicemail
  - DNS and internet traffic routing
- Network Assessment
  - ♣ Microsoft network assessment
    - ▪ Queens College will provide the Microsoft Network Assessment completed October 01, 2020, as a starting point
  - ♣ Microsoft bandwidth assessment
  - ♣ Bandwidth calculator (if applicable)
  - ♣ Firewall rule validation
  - ♣ Network Architecture
  - ♣ QoS Considerations
  - ♣ Split Tunnel VPN Considerations
  - ♣ Network overview, technologies in use, support for QoS
  - ♣ Perimeter network
- Adoption & Change Management (ACM) Discovery
  - ♣ Interview key stakeholders
  - ♣ Persona analysis
    - ▪ Device selection
    - ▪ Teams client policies
  - ♣ Site analysis
    - ▪ User Locations
    - ▪ Desktop/Client platform
    - ▪ Mobility considerations
  - ♣ Baseline user quality of service survey
- Identify, agree upon, and document key success criteria.
- Mobile application for Android and iOS platform

- **Assessment**

Objective: Explain and document why configurations and settings were selected, thus linking the structure back to the Queens College business requirements.

Assessment will be organized by the following:

- Tenant/global level requirements and settings
- Core routing sites
- Site-level designs
  - Gateway with local PSTN breakouts and third-party integrations

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- o Gateway with SIP connectivity to the core with third-party integrations (examples: paging, doorbells, PBX)
- o Gateway with SIP connectivity to the core site
- o Adjust the bill of materials to meet the goals

- **Calling Design**

Objective: Design engagement with a focus on Calling in the Microsoft Teams environment.

- Calling
    - ♣ Setup Call Quality Dashboard (CQD)
    - ♣ License enablement/assignment
    - ♣ Phone System/Office 365 Enablement
    - ♣ Assign phone numbers in Office 365/teams
    - ♣ Assign/enable cloud voicemail
    - ♣ Scenario analysis and use case definition for PSTN and internal call routing
    - ♣ Identify SIP trunking source and routes
    - ♣ Microsoft licensing requirements
    - ♣ Voice policies and dial-plans
    - ♣ Settings for audio conferencing, meetings, & collaboration spaces
    - ♣ Call queues and response groups
    - ♣ Resource accounts and service numbers
    - ♣ Azure voicemail
    - ♣ Analog requirements
    - ♣ DNS and internet traffic routing
    - ♣ Least cost routing
    - ♣ Emergency services and e911/enhanced e911
        - Crises alert pop-up to public safety office
        - Hotline ringdown to public safety office
    - ♣ Media bypass
    - ♣ Virtual Desktop Infrastructure (VDI) with Calling and Meetings

- SBC Requirements
    - ♣ SIP provider and DID's
    - ♣ Trunk and session
    - ♣ Media options
    - ♣ Forking

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- ♣ Number manipulation/Incoming DID call handling treatment
- ♣ Emergency services
- ♣ Caller ID
- ♣ Redundancy
- ♣ Accommodate for 7 PRIs and future SIP trunking
- Network Assessment
  - ♣ Microsoft network assessment
  - ♣ Microsoft bandwidth assessment
- Adoption & Change Management (ACM) Discovery
- Interview key stakeholders
  - ♣ Microsoft Teams governance
  - ♣ Persona analysis
    - ▪ Device selection
    - ▪ Teams client policies
- Site profile
- Baseline user quality of service survey

- **<u>Persona Analysis</u>**

Objective: The analysis will evaluate and document the types of users with the Queens College Microsoft Client Environment; the user persona analysis will be built on up to eight-core personas commonly found within the Queens College organizations.

Collaborate with Queens College to understand which personas exist within the organization and the typical mapping of common Teams feature sets to those personas.

- Interview a subset of representatives from each persona discovered.
  - ♣ Identify any blockers to migration for specific personas that may require further investigation.
  - ♣ Discover current pain points or frustrations with the existing system.
- Presentation of findings and recommendations from the discovery and interview process
- Guide the Teams project to define which personas/business functions/business units can be migrated to the Teams application to feed into site and migration planning.
- Review and identify the ideal devices for users (i.e., desk phones or headsets).

SITE SURVEY

Objective: The Site Survey aims to understand site requirements to prepare for the QC Solution design and deployment. The consultant will document the existing telephony environment (network services, trunking, TDM, VoIP, analog such as paging, phones, doorbells, etc.), voice integrations, and meeting spaces. The technician will also document power availability, Rackspace, physical access requirements, shipment receiving capability. The Site Survey will validate functional condition scoping and reveal possible design adjustments.

REMOTE DEPLOYMENT

- Project Management oversight, planning, and gathering
- Prepare the Office 365 tenant for Microsoft Teams
  - Map to global policies
    - Enable/disable features
  - Communicate the proper network configurations for Teams DR
  - Communicate appropriate design of the firewall settings to support the SBC for DR
  - Communicate recommended QoS settings
- Configure two (2) SBCs for DR
- Configure up to twenty-five (25) Auto Attendants
  - Implementation of Office 365 cloud auto-attendants to handle basic call handling for main number inbound calling
    - Note: Any user that will be reachable from this auto-attendant will be required to be enabled for Teams phone system
  - Implementation and configuration Office 365 call queues that are simple in nature/construct.
    - Note: Any user that will be reachable from the call queue will be required to be enabled for the MS Teams phone system
- Pair the SBCs to the University/Queens College O365 tenant
- Configure voice route, PSTN usage, dial-plans
- Configure, call queues, & response groups
- Configure Call Quality Dashboards (CQD)
- PBX configuration with SBC
  - Provide all Avaya system configuration to communicate with MS O365 Teams Voice
- Conduct User Acceptance Testing
  - O365 Admin Test
  - Teams Phone System Core Functionality
  - PSTN Calling
    - Teams PSTN Conferencing.

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- Mobile application
  - Deployment on Android and iOS devices

ONSITE DEPLOYMENT

- Ribbon SBCs
  - Install (2) Ribbon 2000 SBC to support 7 existing PRIs and future SIP implementation/migration
  - Communicate recommended Quality of Service settings
  - Guide on obtaining phone numbers from the Queens College's service provider
  - Triage support and manage RAID log

- AudioCodes or Ribbon Analog gateways
  - Install /configure analog gateways for 1,000 analog endpoints
  - 952 analog ports in existing PBX MDF room
  - 48 analog ports in Queens Hall EPN MDF

MICROSOFT TENANT TEAMS CALLING CONFIGURATION

Objective: Remote configuration of the Queens College Office 365 Teams Calling. Including, but not limited to, establishing and or verifying:

- Custom Application settings
- Policies
- Licenses
- Administrators & Users
- Call Quality dashboard
- Call analytics
- External Communication settings
- Federated domains
- Regionally hosted meeting
- Firewall rule validation
- Avaya PBX for SIP trunking to MSFT Teams tenant

ADOPTION AND CHANGE MANAGEMENT

Objective: Adoption and change management is critical to the transition to Microsoft Teams, and it impacts the way people work and strategic effort on the focused

- Customized persona-based messaging to drive awareness
- Accommodation for varying learning styles with a variety of training mediums

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- Manager coaching to create leadership buy-in
- Champions community to support change at a grassroots level.

DIRECT ROUTING (PHASED APPROACH)

Phase 01: Planning

- Kick-Off Meeting (Agenda)
  - Introductions and Scope review
  - Discuss timelines and date blackouts
  - Remote Work
  - Onsite Work
  - Resources Requirements
  - Project Expectations
  - Schedule cadence calls and technical breaks
  - Communication Plan
- Service Provider a Supply Orders
  - Lead times and constraints
  - Delivery locations
  - Receiving and Storage Plan
- Managed Service Initial Planning
- Service Level Objectives
- Process alignment
- Third part coordination (example: FreshWorks)
- End-User Change Communication Planning
- Identify Champions from QC and CIS
- Training plan
- Communication Plan

Phase 02: Avaya Configuration & Integration

- Participate in planning and design engineering calls related to the Avaya integration side of this project
- Provide programming and testing for (7) PRI cards on the Avaya to integrate dial plan and inbound/outbound calling with the Session Border Controller
- Provide for programming on the Avaya Communication Manager of the Uniform Dial Plan table and other configuration necessary for the call routing and dial plan between Avaya and Microsoft Teams to allow for the station to station calling

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- Provide for engineering support, programming assistance, and testing for the remote installation of the Audiocodes or Ribbon Media pack environment
- Provide on-site engineer to rack and stack the Session Border Controller equipment and the Audiocodes or Ribbon Mediapack equipment, power on, network connect and test (if applicable)
- Provide for the on-site labor to run the necessary T1/PRI cables between the AudioCodes or Ribbon Mediapacks and the Avaya gateways
- Provide for the on-site punch down / cross-wire, connectivity and testing for approximately 1048 analog ports on the AudioCodes or Ribbon Mediapack environment
- Supply the miscellaneous PRI cables, amphenol cables and telco blocks to cable out the PRI connections and analog ports needed for this project

Phase 03: SBC's Implementation

SBC (Session Border Controller) Integration and Configuration

- Configure Ribbon Session Border Controller (licensed for up to approx. 200 SIP sessions) for MS Teams Direct Routing
  - Note: This SBC firmware version must be updated to firmware versions per this link;
    https://docs.microsoft.com/en-us/microsoftteams/direct-routing-border-controllers
    - Provisioning and configuration
    - Network
    - Firmware update to latest stable version
  - PSTN Termination
    - Termination with chosen SIP carrier
    - SIP Trunk to SBC 1 for on-net routing to legacy PBX infrastructure
    - Configuration on SBC 1 for SIP Trunk to this SBC for on-net routing
  - Basic Transformations
    - Call within the organization
    - Call Local
    - Call Long distance
    - Call International
    - Call Emergency Services
    - Replicate Transformation Rules from SBC 1 in SBC 2
  - SBC Integration – SIP redundancy
    - Configure SBC 1 with carrier based SIP termination and replication of Transformation Rules and Signaling Groups to insure carrier based failover and redundancy can be configured in environment with both SBCs (SBC 1 & SBC 2).

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Phase 04: Direct Routing Implementation

Note: The implementation phase will be modified based upon the LLD and Call Design portion

- Pilot
    - Identify pilot users (QC IT and Select CIS Staff)
    - Deploy solution per the LLD
    - Compute metrics from network traffic and quality of service
    - Create a remediation plan
    - Implement remediation plan
        - If the pilot fails, rinse and repeat the above three steps
    - Confirm success criteria has been met
    - Update documentation with lessons learned
- Production Section Deployment GO/NO-GO
    - Review pilot metrics and success criteria and validate for at-scale deployment
    - Coordinate Supply Chain and resources updated project plan
- Equipment Installation
    - Coordinate site resources and necessary access (consultant/QC/CIS)
    - Receive additional equipment that was identified in the LLD
        - Configure equipment and test if necessary
- Queens College System Cutover
    - Plan, communicate, and test before executing a flash or phase cutover
    - User acceptance testing after the flash or phase cutover
    - Validation of functionality and requirements are met.

DEPLOY SITE CONNECTIVITY

Direct Routing
- Verify site has local internet ingress/egress
- Verify infrastructure requirements – physical LAN connections, IP Network info, PSTN connections
- Ensure firewall setting at each site allow for Media and SIP signaling – FQDNs, and TCP/IP Ports
- Verify deployed equipment is operational, validate configurations
- Establish remote or onsite access to devices

Site Connectivity SBC's and Analog Gateways

- o Coordinate installation dates with Queens College for circuits at remote gateway sites
- o Prior to performing installation and configurations of SBC
- o Verify adequate Rackspace and power for SBC
- o Perform SBC configurations and tenant pairing
- o Apply certifications required for full functionality for SBC
- o Meeting with project team prior to scheduling cutover

Site Migration

- Vendor to be available remote and/or onsite at select locations during cutover to provide specific attention to critical areas of need. This will ensure the cutover aligns with the requirements of the site and facilitate support.

Microsoft Teams Call Design Feature Requirements for Completion

Section Components:

- High-Level Design Document(s)
- Project Plan
- Materials

Calling Features:

- Helpdesk call center
- Voicemail
- E911
- Panic button/alerts
- Speech attendant
- Call accounting system/Call reporting tools
- Fixed functions keys: Menu, hold, message, speaker, mute, volume/ringing/contrast
- Dial from a desktop app (teams)
- User-created speed dial entries
- Brower-based desktop configuration and programming tool for easy access to telephone system features and key labeling
- Support multiple languages: English, Spanish
- Display voice messaging information such as the number of new messages and the number of saved messages
- Show voice messaging navigation prompts in text on display as well as audio
- Allow voice message to be played on pc (teams)
- Mute and message keys with LED illumination from status indication (message waiting indicator)

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- Off-hood call announce and hands-free answer back

- On-hood dialing

- Dedicated jack with broad 3rd party support

- Support for handset, headset, and hands-free mute

- Call hold (place/retrieve)

- Call waiting/camping

- Call transfer (easy to use) – announced

- Call transfer (easy to use) – unannounced/blind

- Do not disturb

- Call forward setting (multiple)

- User-adjustable ringing, warble, pitch, or sound file

- Conference call setup

- Voicemail access – large messaging waiting lamp

- Direct page/group page/ set to set paging

- Last number redials

- Bridge extension appearance/shared extension

- Mobile Apps

Testing, Troubleshooting and User Acceptance

- Testing
  - Client Sign-On
  - Instant Messaging
  - Peer-to-Peer Audio/Video
  - Audio/Video/Web Conferencing
  - PSTN Calling (Inbound/Outbound)
  - PSTN Audio Conferencing (Internal join/external join)
  - Additional Tests to be determined in collaboration with Queens College

- Troubleshooting
  - Facilitate any required troubleshooting for errors or problems during validation testing. The troubleshooting may include, but not be limited to: SBC log files, firewall rules, SIP traces

- User Acceptance
  - Phones – verify phones options, validate call routing for internal, local, national, and international calling. Also, validates conference and meeting policies

- o Meeting Rooms – based on room profile definitions, validate call routing for local, national, and international calling as it relates to Teams meetings. Also validates conference and meeting policies

- **Closeout**

Documentation

- o Project documentation
- o Technical documentation
- o Flowchart & diagrams
- o Agreements and contracts
- o Test results documentation
- o QA documentation
- o Scope Creep (if any, documentation)
- o Change Management documentation
- o Change Order documentation

Detailed Product Specifications

Qty	Manufacturer	Part Number	Description
2	Ribbon	SBC-2K-CRD-T1E1	RIBBON : SBC2000 T1/E1 MODULE W/ 1 T1/E1. LICENSABLE GROWTH TO 8 T1/E1
1	Ribbon	SBC-2K-LIC-FORK	RIBBON : ENABLES THE SBC CALL FORKING, UP TO 8 DESTINATIONS
2	Ribbon	SBC-2K-LIC-SILK	RIBBON : ADDS SILK CODEC SUPPORT TO 100 SESSIONS (ANY COMBINATION OF TDM/FXX/SIP SIP) ON THE SBC 2000
12	Ribbon	SBC-2K-LIC-T1E1	RIBBON : ENABLES 1 T1E1 PORT ON THE SBC 2000
10	Ribbon	SBC-2K-LIC100REG	RIBBON : PROVIDES 100 LICENSES OF REGISTRAR
1	Ribbon	SBC-2K-LIC100SIP	RIBBON : PROVIDES 100 SESSIONS OF SIP TO SIP AND ENABLES TRANSCODING
2	Ribbon	SBC-2K-LIC25SIP	RIBBON : PROVIDES 25 SESSIONS OF SIP TO SIP AND ENABLES TRANSCODING
1	Ribbon	SBC-2K-PSU-AC	RIBBON : SBC2000 AC POWER SUPPLY
1	Ribbon	SBC-2K-R-4	RIBBON : REVISED SBC 2000 W/ 4 DSPS. SIP:SIP LICENSABLE
36	Ribbon	SRV-DC-PRM-A-E-Q	SYNNEX GOLDSEAL SONUS SERVICES : RIBBON DISTRIBUTOR SUPPORTING ENTERPRISE, 24X7 RTS, NBD REPL HW SHIP, SW DOWNLOADS, PROD GROUP A
1	Ribbon	SRV-DC-PRM-A-E-Q	SYNNEX GOLDSEAL SONUS SERVICES : RIBBON DISTRIBUTOR SUPPORTING ENTERPRISE, 24X7 RTS, NBD REPL HW SHIP, SW DOWNLOADS, PROD GROUP A
1	Ribbon	SBC-2K-LIC-FORK	RIBBON : ENABLES THE SBC CALL FORKING, UP TO 8 DESTINATIONS
2	Ribbon	SBC-2K-LIC-SILK	RIBBON : ADDS SILK CODEC SUPPORT TO 100 SESSIONS (ANY COMBINATION OF TDM/FXX/SIP SIP) ON THE SBC 2000

Qty	Manufacturer	Part Number	Description
10	Ribbon	SBC-2K-LIC100REG	RIBBON : PROVIDES 100 LICENSES OF REGISTRAR
1	Ribbon	SBC-2K-LIC100SIP	RIBBON : PROVIDES 100 SESSIONS OF SIP TO SIP AND ENABLES TRANSCODING
2	Ribbon	SBC-2K-LIC25SIP	RIBBON : PROVIDES 25 SESSIONS OF SIP TO SIP AND ENABLES TRANSCODING
1	Ribbon	SBC-2K-PSU-AC	RIBBON : SBC2000 AC POWER SUPPLY
1	Ribbon	SBC-2K-R-4	RIBBON : REVISED SBC 2000 W/ 4 DSPS. SIP:SIP LICENSABLE
36	Ribbon	SRV-DC-PRM-A-E-Q	SYNNEX GOLDSEAL SONUS SERVICES : RIBBON DISTRIBUTOR SUPPORTING ENTERPRISE, 24X7 RTS, NBD REPL HW SHIP, SW DOWNLOADS, PROD GROUP A
1	Ribbon	SRV-DC-PRM-A-E-Q	SYNNEX GOLDSEAL SONUS SERVICES : RIBBON DISTRIBUTOR SUPPORTING ENTERPRISE, 24X7 RTS, NBD REPL HW SHIP, SW DOWNLOADS, PROD GROUP A

Qty	Manufacturer	Part Number	Description
2	Audiocodes	MP124/24S/AC/SIP	MediaPack 124 analog VoIP gateway with 24 FXS ports "
2	Audiocodes	ACTS24X7-MP11X_S4/YR	Annual Support for MP124/24S/AC/SIP
2	Audiocodes	AHR-MP11X_S4/YR	Annual Hardware Replacement for MP124/24S/AC/SIP
4	Audiocodes	MP1288-288S-2AC	MediaPack 1288 high-density analog VoIP gateway with 288 FXS ports "
4	Audiocodes	ACTS24X7-M1288_24/YR	Annual Support for MP1288-288S-2AC
4	Audiocodes	AHR-M1288_24/YR	Annual Hardware Replacement for MP1288-288S-2AC
2	Audiocodes	MP11X-E-REMT-IMPL	MP11X; Enhanced remote Implementation Service for advanced networking, security, dial plan, routing, manipulations, testing & special features (paging/security, modems, doorbell, SAS, dual registration, user info, aux. files, etc).
4	Audiocodes	MP1288-288-REMT-IMPL	Remote implementation of MP-1288 high-density analog gateway with 288 FXS ports

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ANDREW M. CUOMO
Governor

ALFONSO L. CARNEY, JR.
Chair

REUBEN R. MCDANIEL, III
President & CEO

Phases	Deliverables	% Completed
Phase 1	• Planning • Delivery of all required hardware and software • Prep the hardware and software for installation	15
Phase 2	• Installation and Configuration of all required hardware and software • Program, configure existing Avaya, T1 PRI setup, Microsoft • All necessary steps to enable Microsoft Teams PBX • Install program and configure SBC's	25
Phase 3	• Program, configure and install subscribers and telephone • Program, configure, cross connect analog lines • Program and test auto attendants	25
Phase 4	• Complete all remaining items listed in the scope • Provide complete documentations • Phase out existing Avaya PBX • Microsoft Teams O365 Voice for full functional system • Provide needed training	35