

**Statement of Work (SOW)
For the installation of a Telephony Communications
solution
At SSC Enterprise Data Centre, Bldg. O-215,
CFB Borden, Borden, ON**

05 December 2017

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Acronyms

Acronyms used in this document

AES	Advanced Encryption Standard
APL	Approved Products List (DISA)
CAT6	Category 6 wired cabling
CLASS	Custom Local Area Signaling Services
CSN	Canadian Switched Network
DISA	Defence Information Systems Agency
DSN	Defense Switch Network
DTN	Defense Telephone Network
EDC	Enterprise Data Centre
GDNS	Global Defence Network Services
IP	Internet Protocol
QSIG	Protocol for Integrated Services Digital Network (ISDN) communications based on the Q.931 standard
MTR	Main Telephone Room
POE	Power Over Ethernet
PRI	Primary Rate Interface
PSTN	Public Service Telephone Network
SM	Single Mode (optical fibre)
SOW	Statement of Work
SRTP	Secure Real-time Transport Protocol
SSC	Shared Services Canada
SIP	Session Initiation Protocol
ST	Straight Tip (optical fiber connectors)
T1	Transmission System 1
TDM	Time Division Multiplex
UTP	Unshielded Twisted Pair
VoIP	Voice over Internet Protocol
WCS	Workplace Communication Service

1. Introduction

There is a new Shared Services Canada (SSC) Enterprise Data Centre (EDC) complex (Bldg. O-215) being constructed for DND at 83 Lundy Lane, Borden, Ontario. For SSC EDC Bldg O-215, SSC/DND is installing a contractor provide a Telephony Solution based on technical requirements contained within this document.

Borden Data Center operational telephony service will provide a service for the Borden Data Center SSC, facility management and security staff for the purposes of voice and fax communications.

Borden Data Center operational telephony service will provide a service that permits the data center staff & tenants to make emergency voice calls, and personnel voice calls as related to their work within the data center.

Borden Data Center operational telephony service will not be used by data center tenants, their platforms or their applications for out of band management by telephony, remote management by telephony, or point to point telephony connectivity.

Building occupancy is immediate.

This document details the work to be performed by the contractor, for Shared Services Canada (SSC). This Statement of Work (SOW) is based on the best information provide to the SSC Desk officer from various sources and are described here.

2. Project Objectives

To implement a contractor provided a Telephony Solution based on requirements detailed in the Project Scope defined in this document at CFB Borden SSC Enterprise Data Centre (EDC) Bldg O-215. All work to be coordinated with the SSC – DND Desk officer and the Site POC.

3. Project Scope

The contractor will design, configure and implement a contractor provided a voice communications system solution with voice trunking to CFB Borden base PBX 3712. CFB Borden base PBX 3712 is managed under the GDNS contract held by Telus.

In order to fulfill this SOW, the contractor will:

3.1 Provide, install, and configure the following:

- Provide Hybrid VoIP - TDM Telephony system that will support the following:
 - Up to twenty four (24) analogue lines/stations including telephones and fax machines,
 - Analogue telephony as specified in appendix E
 - Up to Sixty four (64) VoIP desk telephones and VoIP conference phones,

- VoIP telephony as specified in appendix F and appendix G,
 - Up to One (1) T1-PRI (QSig) Tie trunk,
 - T1-PRI QSig as specified in appendix C,
 - Hardware and software must be list on APL and JITC certified,
- Provide Fibre optic multiplexers based on the following requirements:
 - Refer to appendix A for connectivity options,
 - SM fibre optic pair with ST connectors for T1 PRI trunk entering building O-215 (room 103B) from building O-102 to contractor provided T1 PRI telephony equipment in room (103B),
 - Telephony equipment can be placed in room 103B,
 - Optical multiplexer equipment can be placed in room 103B,
 - Fiber optic connectivity as specified in appendix D
 - SM fibre optic pairs with ST connectors for analogue line/station connectivity and VoIP Telephony network between MTR room 103B and Point of Presence 1 (room 115),
 - Optical multiplexer equipment can be placed in MTR room 103B and Point of Presence 1 (room 115),
 - Telephony equipment can be placed in MTR room 103B and Point of Presence 1 (room 115),
 - Fiber optic connectivity as specified in appendix D
 - SM fibre optic pair with ST connectors for analogue line/station connectivity between Point of Presence 1 (room 115) and Staging Area 1 (room 125C),
 - Optical multiplexer equipment can be placed in Staging Area 1 (room 125C) and Point of Presence 1 (room 115),
 - Telephony equipment can be placed in Point of Presence 1 (room 115),
 - Fiber optic connectivity as specified in appendix D
 - SM fibre optic pair with ST connectors for analogue line/station connectivity between Point of Presence 1 (room 115) and Staging Area 2 (room 127C),
 - Optical multiplexer equipment can be placed in Staging Area 1 (room 127C) and Point of Presence 1 (room 115),
 - Telephony equipment can be placed in Point of Presence 1 (room 115),
 - Fiber optic connectivity as specified in appendix D
- Provide Twelve (12) analogue telephones of which nine (9) will be installed as per User Matrix Profile supplied after contract award,
 - Analogue telephony features as specified in appendix E
- Provide Fifty four (54) VoIP telephones of which forty six (46) will be installed as per User Matrix Profile supplied after contract award,
 - VoIP telephony features as specified in appendix F

- Provide Three (3) VoIP conference telephones of which two (2) will be installed as per User Matrix Profile supplied after contract award,
 - VoIP conference telephony features as specified in appendix G
- Provide Fifty (50) telephone wall mounts of which forty three (43) will be installed as per User Matrix Profile supplied after contract award,
- Provide all Ethernet and fibre patch cables required for the contractor supplied equipment,
- Install and configure one (1) UPS (Eaton) and batteries as defined in appendix (supplied by Canada),
- Installation and Configuration of hardware and software as noted within this SOW,
- Installation and Configuration of ancillary equipment and telephony sets as per SSC/DND documentation (User Profile Worksheet to be provided by SSC after contract award),
- Provide On Site training for USERS on phones, features and voice mail for key personnel (train the trainers) (no more than five (5) persons with duration not less than two (2) hours) with supporting material left and re-useable by the trainers,
- Provide On Site training for SYSTEM ADMINISTRATORS covering adds, moves and changes of people and phones, system troubleshooting, and system auditing for key personnel (no more than five (5) personnel with duration not less than six (6) hours) with supporting material left and re-useable by the DND & SSC, and
- Provide One (1) Year software & hardware support, and onsite maintenance contract (operational hours are 365 days for 24hrs / 7days) with response time of four (4) hours).

3.2 Provisioning the solution to:

The telephony solution will be provisioned to deliver:

- Data network (IP) connectivity conforming with the data networking/IP addressing plan as provided by SSC;
 - Telephony IP networks including media, signalling and management networks will be separate VLANs that are segregated and isolated from all other networks (absolutely no external IP network connectivity),
- Telephony call trunking and routing conforming with the DTN national dialing plan and policies as provided by DND/SSC,
- End users & end telephony devices programming, and voicemail programming into the system(s) according to the User Profile Matrix supplied after contract award,
- Up to two (2) Bilingual Auto Attendant / IVR trees to three (3) levels depth with voice recordings from SSC personnel,
- Ensure emergency calls are routed according to CFB Borden base policy, and
- Enable on-site notification of emergency calls as directed by SSC/DND.

3.3 Interface with:

The telephony system will be interfacing with the following provided eqpt:

- T1 PRI (QSig) Tie Trunks between CFB Borden PBX 3712 (CS 1000 Release 5.0 DSN) as defined in appendix C , and
- Two (2) analog telephone line to the facsimile machine (supplied by SSC).

3.4 Pre-staging tasks

Contractor can pre-stage the system to minimized on site time; possible pre-staging tasks are

- Configure/ Provision/ Program telephony system and components, ...
- Work with Telus for the configuration and programming of the T1 PRI connectivity to CFB Borden PBX 3712 (CS 1000 release 5.0 DSN),
- Configure/ Provision/ Program the telephony solution applications including voicemail, auto attendant and on site emergency call notification,
- Configure/ Provision/ Program the telephones and user profiles,
- Ship all equipment to CFB Borden building O-215, 83 Lundy , Borden, Ontario site ensure label contains building O-215 and building POC.

3.5 Onsite tasks

- Meet with the POC and validate the telephony solution requirements,
- Review with the SSC rep the User Profile Matrix document, the equipment room layout and the site internal cabling,
- As required, participate in all project meetings/conference calls with the SSC Desk officer and/or site POC,
- Work with the SSC and other contractor teams (as designated by SSC),
- Work with the SSC and Telus (as designated by SSC),
- Inventory the equipment prior to starting the installation,
- Verify the rack power provide for the system install, ensure grounding as per manufacturer specifications, equipment as required for Office Area (room 103B), Staging Area 1 (room 125C), Staging Area 2 (room 127C), and Point of Presence 1 (room 115) as directed by site POC,
- Installation of related telephony hardware and cabling (Note: depend on the configuration and/or building wire contractor may choose to use either Bix panels, 25PR Pigtails or RJ45 plugs),
- Connect the system to the building wiring,
 - To establish telephony connection with CFB Borden PBX 3712 (CFB Borden PBX 3712 configuration will be completed under the GDNS contract by Telus),
- The installation, and implementation of telephony system to include (but not limited to) the following,

- Digit dialing for O-215 AACM
 - Four (4 digits in-building dialing),
 - PSTN access through local PRI trunks: 89+10 digits,
 - CSN access through local PRI trunks: 86+7 digits,
- Program and configure Voicemail ports,
- Program/setup up to two (2) Auto Attendant / IVR trees (maximum three (3) levels) for the main site number and one other number (as required),
- Program a maximum of one hundred (100) locals/sets with associated eighty (80) voice mailboxes including:
 - Program and configure up to two (2) analog lines for fax machines (SSC provided),
 - Program and configure up to two (2) VoIP conference sets and additional microphones,
 - Program and configure one (1) VoIP emergency calls On Site Notification telephone as directed by site POC,
- Install and configure all telephones,
 - Place set in their respective location/offices,
- Work with the SSC/DND and other delegated vendors/contractors to migrate the locals from the CFB Borden PBX 3712 to the EDC Telephony Solution (no retention of services or telephones from CFB Borden PBX 3712 is required),
- Ensure 911 emergency call routing is functioning correctly with CFB Borden PSAP with building O-215 onsite notification;
- Completely acceptance test the system with site POC and SSC representatives:
 - test in building dialling,
 - test CSN dialling,
 - test external dialling,
 - PSTN local and long distance, ensure LD restrictions are enforced,
 - faxes
 - secure calls (if applicable)
 - verify Auto Attendant menus,
 - verify IVR functions (if applicable), and
 - confirm 911 ONS plus call routing with CFB Borden PSAP,
- Participate in customer testing of all equipment to ensure end to end connectivity and expected feature operation, and
- Complete USER training session, and SYSTEM ADMINISTRATOR training session within two (2) weeks before or after of building O-215 customer acceptance testing completion.

4. Other consideration

- Under the GDNS Contract, TELUS will make all the changes and/or installs on the CFB Borden CS1000 PBX,
- Contractor will provide all Ethernet and fibre patch cables required for the contractor supplied equipment,
- Contractor will ensure that power and earth ground met the manufacture requires for the telephony system,

- VoIP telephones are to support and use POE,
- Telephony PRI interoperability with CFB Borden CS1000 PBX is best achieved with Q.SIQ. Telephony solution is to support Q.SIG trunking.
- Telephony solution will be required to interoperate with secure devices supporting V150.1,
- Telephony solution will be required to interoperate with Canada Workplace Communication Service (WCS) see appendix H,
- Contractor will provide SSC Desk officer with a copy of as-builds (to include (but limited to) site drawing/pictures, copy of the all programming, copy of all passwords),
- Implementation timeline as mutually agreed to with the SSC Desk Officer and the Site POC,
- There will be **NO** remote access capability for this system,
- Upon request the awarded contractor request will be provide a copy of pertinent site drawings, and
- All Personal **MUST** hold a valid Enhanced Reliability security cleared (may need to provide their clearance number each time they enter the base or building),

5. Site POC responsibilities

- The Site POC will provide the appropriate mounting equipment. For this rack-mount installation, site POC will provide 19” rack within MTR and each IDF,
- Provide a prime contact for all implementation issues,
- Provide a site contact list for the project and ensure availability of required resources for the duration of the project,
- Allow appropriate access to the Equipment / Office room(s) for performing the installation,
- Installation of necessary power distribution boxes, conduits, groundings, lightning protection, connectors, cables and associated hardware,
- Provide grounded backup (generator) power within 1.5m of equipment to be installed,
- If applicable, provide laptop / PC, IP address, and/or LAN connection for the Avaya Aura admin terminal,
- When applicable, provide floor plans and identify location of telephones, extension info, faxes, POS, etc.,
- The Building has been prewired; therefore SSC will be responsible for the internal building wiring,
- Provide Power and Cooling,
- Site POC will supply earth ground in proximity of equipment installation which must be connected to the building structure’s main ground,
- Providing extension numbering schema,
- Providing script for auto attendant greetings,
- Providing menu for auto attendant application,
- Provide voice talent or recordings (MP3 or WAV format) for auto attendant greetings,
- Providing the IP addressing methodology currently employed (if applicable),
- Provide Ethernet network for telephony IP networks including media, signalling and management networks on separate VLANs that are segregated and isolated from all

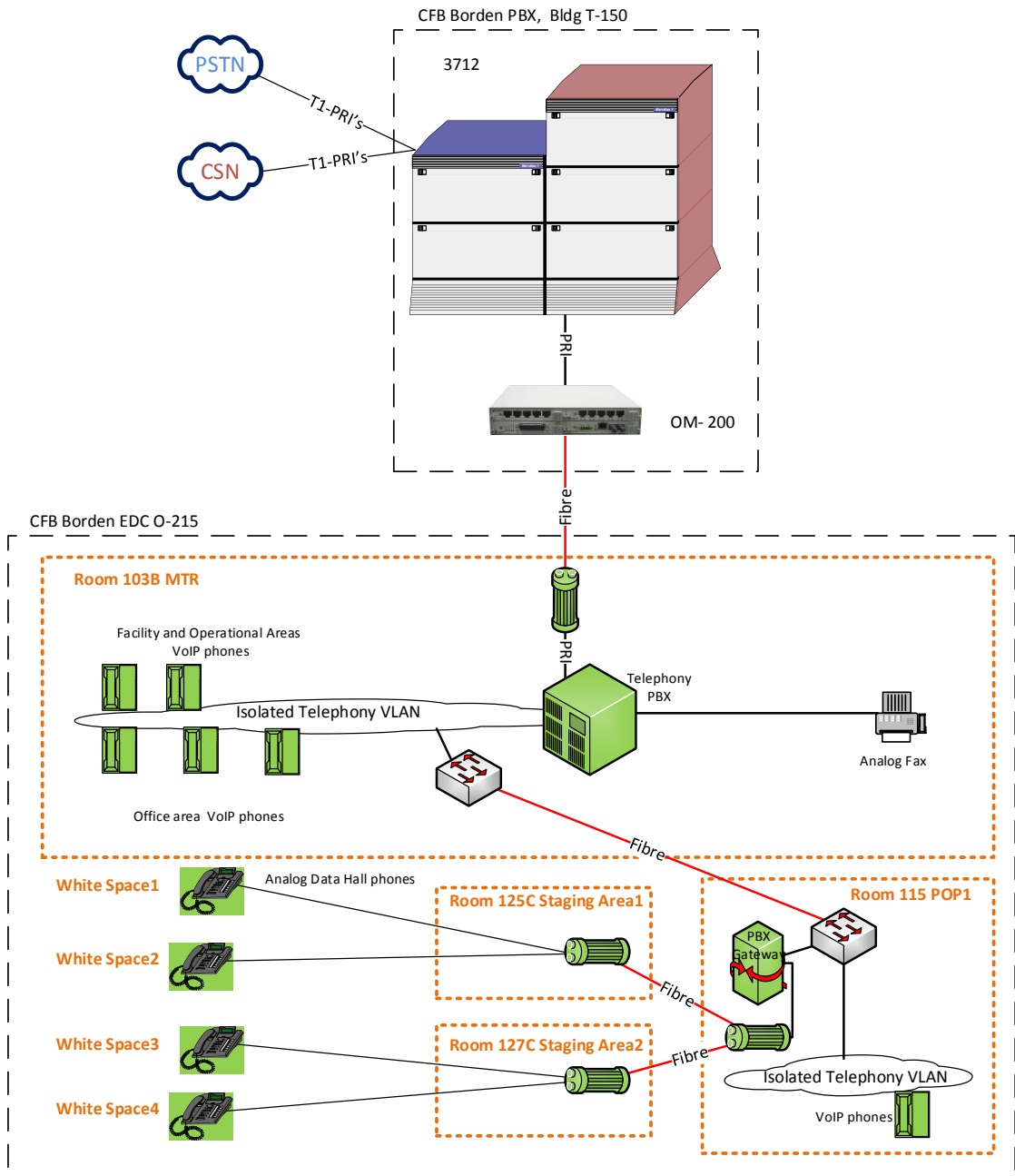
- other networks (absolutely no external IP network connectivity) (Network connectivity as per established by DND policy especially between SECURE areas and other areas),
- Provide Ethernet switches to support POE for VoIP telephones, and
 - POC and team must be available during implementation and training activities.

6. Acceptance Criteria and Sign-off

- Contractor to provide Site POC and the SSC Desk officer with an Acceptance & Sign-off document to review and agree upon in advance of installation.

Appendix A: CFB Borden EDC Telephony Solution

Proposed Hybrid solution for Borden EDC O-215 Option A



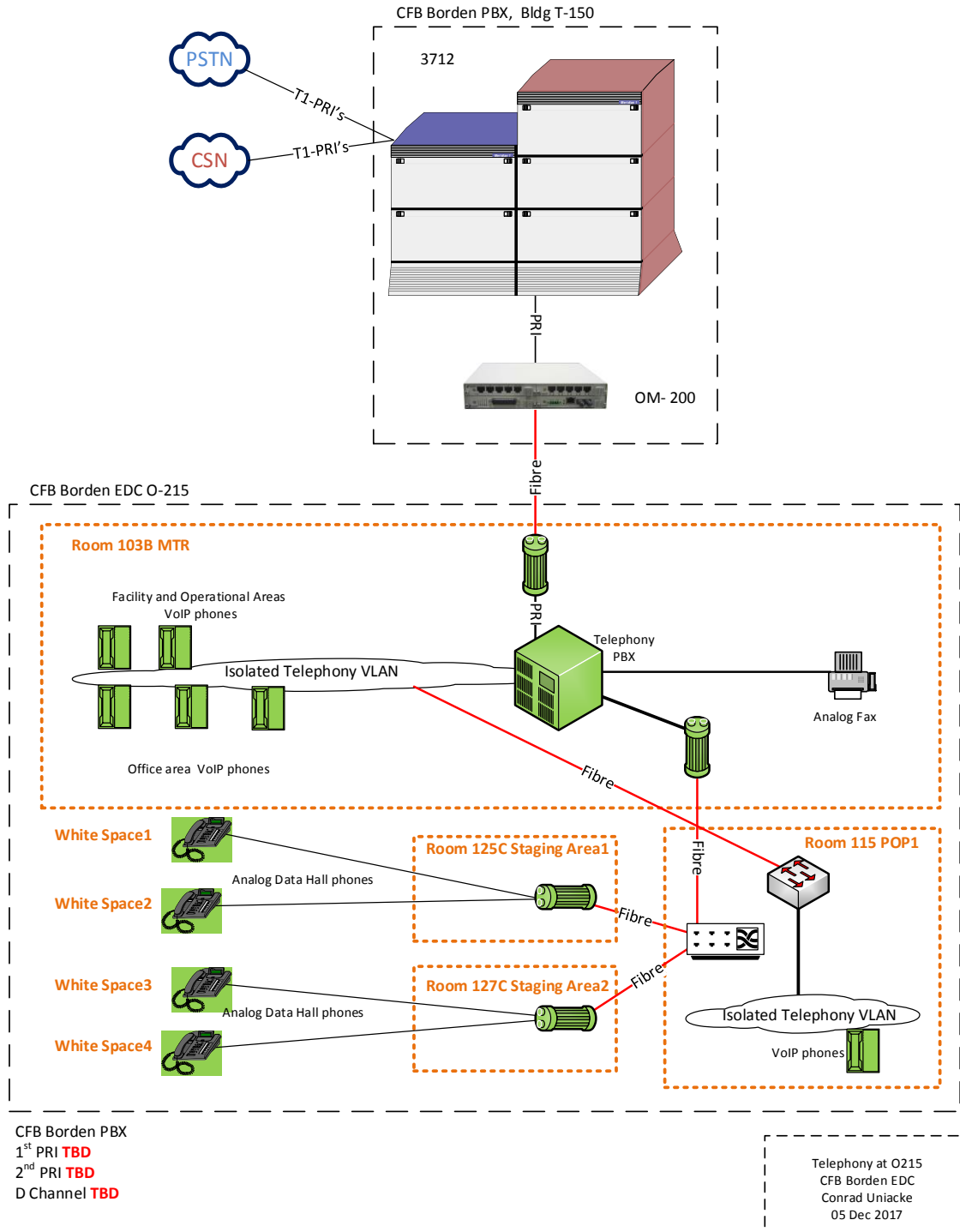
CFB Borden PBX
 1st PRI TBD
 2nd PRI TBD
 D Channel TBD

Items not in green provided by Canada
 All cabling unless otherwise noted will
 be Cat6 UTP

Telephony at O215
 CFB Borden EDC
 Conrad Uniacke
 05 Dec 2017

SOW for the Installation of Telephony Solution at SSC EDC, Bldg. O-215, Borden, ON

Proposed Hybrid solution for Borden EDC O-215 Option B



Items not in green provided by Canada
All cabling unless otherwise noted will be
Cat6 UTP

Appendix B: CFB Borden PBX 3712 Specifications

CFB Borden PBX 3712 configuration and specifications provided to ensure interoperability with existing telephony services. Contractor system must be interoperable at the highest level.

Avaya Communication Server 1000MG

System Parameters:

Software Version : 3621
System Type : Option 81C
Call Processor : CP PIV
Release : 5
Issue : 00 W +

Software packages installed

TYPE	pkg
OPTF	1
CUST	2
CDR	4
CTY	5
RAN	7
TAD	8
DNDI	9
EES	10
INTR	11
ANI	12
ANIR	13
BRTE	14
DNDG	16
MSB	17
SS25	18
DDSP	19
ODAS	20
DI	21
CHG	23
CAB	24
BAUT	25
CASM	26
CASR	27
BQUE	28
NTRF	29
NCOS	32
CPRK	33
SSC	34
IMS	35
UST	35

SOW for the Installation of Telephony Solution at SSC EDC, Bldg. O-215, Borden, ON

UMG	35
ROA	36
NSIG	37
MCBQ	38
NSC	39
BACD	40
ACDB	41
ACDC	42
LMAN	43
MUS	44
ACDA	45
MWC	46
AAB	47
GRP	48
NFCR	49
ACDD	50
LNK	51
FCA	52
SR	53
AA	54
HIST	55
AOP	56
BARS	57
NARS	58
CDP	59
PQUE	60
FCBQ	61
OHQ	62
NAUT	63
SNR	64
TDET	65
NXFR	67
ATVN	68
ACDR	69
HOT	70
DHLD	71
LSEL	72
SS5	73
DRNG	74
PBXI	75
DLDN	76
CSL	77
OOD	79
SCI	80
CCOS	81
CDRQ	83

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TENS	86
FTDS	87
DSET	88
TSET	89
LNR	90
DLT2	91
PXLT	92
SUPV	93
CPND	95
DNIS	98
BGD	99
RMS	100
MR	101
AWU	102
PMSI	103
OPAO	104
LLC	105
SLP	106
MCT	107
ICDR	108
APL	109
TVS	110
TOF	111
IDC	113
AUXS	114
DCP	115
PAGT	116
CBC	117
CCDR	118
EMUS	119
PLDN	120
SCMP	121
COMDT	122
IDA	122
DPNSS	123
DASS2	124
FTC	125
BKI	127
MFC	128
DTI2	129
SUPP	131
TBAR	132
ENS	133
MFE	135
LSCM	137
DTD	138

SOW for the Installation of Telephony Solution at SSC EDC, Bldg. O-215, Borden, ON

FFC	139
DCON	140
MPO	141
ICP	143
ABCD	144
ISDN	145
PRA	146
ISL	147
NTWK	148
IEC	149
DNXP	150
CDRE	151
FXS	152
IAP3P	153
PRI2	154
ACNT	155
THF	157
FGD	158
NAS	159
FNP	160
ISDN_INTL_SUP	161
SAR	162
MINT	163
LAPW	164
GPRI	167
COOP	169
ARIE	170
CPGS	172
ECCS	173
AAA	174
NMS	175
EOVF	178
HVS	179
DKS	180
SACP	181
TFM	182
VNS	183
OVLP	184
EDRG	185
POVR	186
RPA	187
LIMF	188
SVCT	189
SECL	191
ORC-RVQ	192
RCK	193

SOW for the Installation of Telephony Solution at SSC EDC, Bldg. O-215, Borden, ON

FAXS	195
OHOL	196
FFCSF	198
IPRA	202
XPE	203
XCT0	204
XCT1	205
MLWU	206
NACD	207
HSE	208
MLM	209
MAID	210
MLIO	211
VAWU	212
EAR	214
ECT	215
BRI	216
IVR	218
MWI	219
MSDL	222
FC68	223
M911	224
CWNT	225
MSDL SDI	227
MSDL STA	228
SSAU	229
DNWK	231
PEMD	232
BRIT	233
FCDR	234
BRIL	235
ACRL	236
MCMO	240
MULTI_USER	242
ALRM_FILTER	243
SYS_MSG_LKUP	245
VMBA	246
CALL_ID	247
M911 ENH	249
DPNA	250
SCDR	251
ARFW	253
PHTN	254
INBD	255
ADMINSET	256
ATX	258

SOW for the Installation of Telephony Solution at SSC EDC, Bldg. O-215, Borden, ON

CDRX	259	
EURO	261	
SAMM	262	
QSIG	263	
UIGW	283	
DPNSS189I	284	
REM_IPE	286	
DPNSS_ES	288	
ADSP	289	
CCB	290	
NI-2	291	
BTD	294	
MAT	296	
MQA	297	
CORENET	299	
CPP	301	
QSIGGF	305	
CPRKNET	306	
PAGENET	307	
PTU	308	
MASTER	309	
CPCI	310	
NGCC	311	
TATO	312	
OPEN_ALARM	315	
QSIG-SS	316	
QTN	321	
ETSI-SS	323	
NGEN	324	
DMWI	325	
RANBRD	327	
MUSBRD	328	
ESA	329	
ESA_SUPP	330	
ESA_CLMP	331	
CNUMB	332	
CNAME	333	
NI-2_CBC	334	
JTTC	335	
ESA_EXTERNAL_DM	337	
TWR1	347	
MEET	348	
MC32	350	
DBA	351	
FDID	362	
NMCE	364	

SOW for the Installation of Telephony Solution at SSC EDC, Bldg. O-215, Borden, ON

FIBN	365
BNE	367
CPP_CNI	368
STS_MSG	380
CDIR	381
VIRTUAL_OFFICE	382
ATAN	384
NI2NAME	385
M3900_PROD_ENH	386
VIR_OFF_ENH	387
ACDE	388
PONW	389
UUI	393
OAS	394
ICON	397
PCA	398
H323_VTRK	399
LOCX	400
PVQM	401
GRPRIM	404
SIP	406
CAC	407
MS_CONV	408
HIGH_AVAIL	410

Appendix C: Avaya Communication Server 1000 Q.931 (QSig) Features

CS 1000 R5.0 DSN QSIG Features	Title	Identifier
	Basic Call	QSIG-BC
	Calling Line Identification Presentation	SS-CLIP
	Calling Line Identification Restriction	SS-CLIR
	Connected Line Identification Presentation	SS-COLP
	Connected Line Identification Restriction	SS-COLR
	Identification Supplementary Service	SS-ISSD
	Name Identification Supplementary Service	SS-NISD
	Calling Name Identification Presentation	SS-CNIP
	Connected Name Identification Presentation	SS-CONP
	Calling/Connected Name Restriction	SS-CNIR
	Generic Functional Protocol (transport)	QSIG-GF
	Call Diversion	SS-CFSD
	Call Forwarding Unconditional	SS-CFU
	Call Forwarding on Busy	SS-CFB
	Call Forwarding on No Reply	SS-CFNR
	Call Deflection	SS-CD
	Path Replacement	ANF-PR
	Call Completion to Busy Subscribers	SS-CCBS
	Call Completion on No Reply	SS-CCNR
	Message Waiting Indication	SS-MWI
	Transit Counter	n/a

Appendix D: Building O-215 Fibre Optic Requirements

Following sections define fibre optic requirements for the O-215 telephony solution.

1. CFB Borden Inter-Building Fibre Optics

- 1.1. CFB Borden PBX 3712 will provide a T1 PRI service via CFB Borden inter-building fibre optic cabling as per the above specifications.
- 1.2. DND will ensure inter-building cable distances are within cable and signaling specifications.
- 1.3. CFB Borden utilizes 1310 nm single mode optics. ST optical connectors are used to terminate the base fibre optic cabling.
- 1.4. CFB Borden PBX 3712 fibre optic T1 PRI service will terminate in building O-215 MTR room 103B.
- 1.5. CFB Borden inter-building fibre optic multiplexers currently used are Luxcom OM200.
- 1.6. Interoperability with Luxcom OM200 OCA Sonet OC3 framing is required.
 - 1.6.1. <https://www.luxcom.com/product/om200/>

2. Building O-215 Intra-Building Fibre Optics

2.1. Staging Area 1

- 2.1.1. White Spaces (Data Halls) will have telephones for the purposes of EDC personnel support, data hall personnel tenant support and emergency calling.
- 2.1.2. White Spaces telephones will not be used for modems, out of band management or remote system connectivity.
- 2.1.3. White Spaces telephones will be analogue devices.
- 2.1.4. White Spaces telephones may be moved with the data hall provided telephone jacks; quantity to be no more than six (6) per White Space.
- 2.1.5. White Space 1 and White Space 2 telephony cables (CAT 6) will be terminated in Staging Area 1 (room 125C) for a total of no more than twelve (12) cables.
- 2.1.6. Between Staging Area 1 (room 125C) and Point of Presence 1 (room 115), 2 pair of SM fibre optic cabling will be provided and terminated with ST connectors.

2.2. Staging Area 2

- 2.2.1. White Spaces (Data Halls) will have telephones for the purposes of EDC personnel support, data hall personnel tenant support and emergency calling.
- 2.2.2. White Spaces telephones will not be used for modems, out of band management or remote system connectivity.
- 2.2.3. White Spaces telephones will be analogue devices.

- 2.2.4. White Spaces telephones may be moved with the data hall provided telephone jacks; quantity to be no more than six (6) per White Space.
- 2.2.5. White Space 3 and White Space 4 telephony cables (CAT 6) will be terminated in Staging Area 1 (room 125C) for a total of no more than twelve (12) cables.
- 2.2.6. Between Staging Area 2 (room 127C) and Point of Presence 1 (room 115), 2 pair of SM fibre optic cabling will be provided and terminated with ST connectors.

2.3. Point of Presence 1 and MTR Room 103B

- 2.3.1. Between Point of Presence 1 and MTR Room 103B, 2 pair of SM fibre optic cabling will be provided and terminated with ST connectors.
- 2.3.2. Ethernet networking (10/100/1000 Mbps) over fibre optic is available between these rooms.

Appendix E: Analogue Telephone Requirements

Following section defines the requirements of the telephony solution as applicable to analogue telephones.

1. Must be black or grey,
2. Must be wall mountable,
3. Must have minimum 2 line display with 16 characters each line,
4. Must have iconic labels or be bilingual (French & English) labelling,
5. Support dual-tone multi-frequency signaling (DTMF),
6. Must have ringer volume control,
7. Must have handset volume control,
8. Must have mute capabilities and Mute button,
9. Must have visual ring indication,
10. May have optional feature support such as redial, call history, message waiting indication, call timer, and date & time, and
11. Must be compatible with Centrex or standard telephone services.

Appendix F: VoIP Telephone Requirements

Following section defines the requirements of the telephony solution as applicable to VoIP telephones.

1. Must be black or grey,
2. Must be wall mountable,
3. Must have minimum 2 line display with 16 characters each line,
4. Must have iconic labels or be bilingual (French & English) labelling,
5. Support dual-tone multi-frequency signaling (DTMF),
6. Must support more than one line,
7. Must support Ethernet
8. Must support Power over Ethernet (POE),
9. Must support secure real time protocol (SRTP) with AES-256,
10. Must have ringer volume control,
11. Must have handset volume control,
12. Must have mute capabilities and Mute button,
13. Must have visual ring indication,
14. Must have visual message waiting indication,
15. Must have configurable (on/off) duplex speakerphone capabilities,
16. Must have capability to support standard wired headset, and
17. May have optional feature support such as redial, call history, call timer, conference, transfer and date & time.

Appendix G: VoIP Conference Telephone Requirements

Following section defines the requirements of the telephony solution as applicable to VoIP conference telephones.

1. Must be black or grey,
2. Must have minimum 2 line display with 16 characters each line,
3. Must have iconic labels or be bilingual (French & English) labelling,
4. Support dual-tone multi-frequency signaling (DTMF),
5. Must support more than one line,
6. Must support Ethernet
7. Must support Power over Ethernet (POE),
8. Must support secure real time protocol (SRTP) with AES-256,
9. Must have ringer volume control,
10. Must have volume control,
11. Must have mute capabilities, mute button, and mute visual indicator,
12. Must have visual ring indication,
13. Must have visual message waiting indication,
14. Must have extended microphones minimum of two(2), and
15. May have optional feature support such as redial, call history, call timer, conference, transfer and date & time.

Appendix H: Workplace Communication Service (WCS) Specifications

Following section defines the specifications of Canada's WCS solution. The telephony solution of building O-215 will be required to connect to WCS.

1. Based on Avaya Aura release 7.1,
2. Includes key elements of Avaya Communication Manager, Session Manager, and G-series Media Gateways
3. Will support Session Initiation Protocol (SIP), and
4. All PSTN and CSN calls will be routed via WCS.