Avaya Communication Server 1000

Communication Server 1000 (Communication Server 1000S) System Evaluation

Avaya Data Solutions
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System evaluation:
Avaya Communication Server 1000S

for

_____

SUMMARY: A system evaluation of the _____(Customer) Avaya CS 1000S solution in _____(City) was requested by _____(Name) of _____(Company). The evaluation was performed on _____(Date). The nature of the evaluation was to determine if the CS 1000S was installed per manufacturing specifications and Product Bulletin requirements.

Distribution:

Evaluated by:

Date:

Location Profile

Site Information:

Audit Engineer:		Evaluation Date:	
Distributor:		Customer:	
Address:		Address:	
Contact:		Site Telephone:	
Telephone:		Attendees:	
Email:			

System Information:

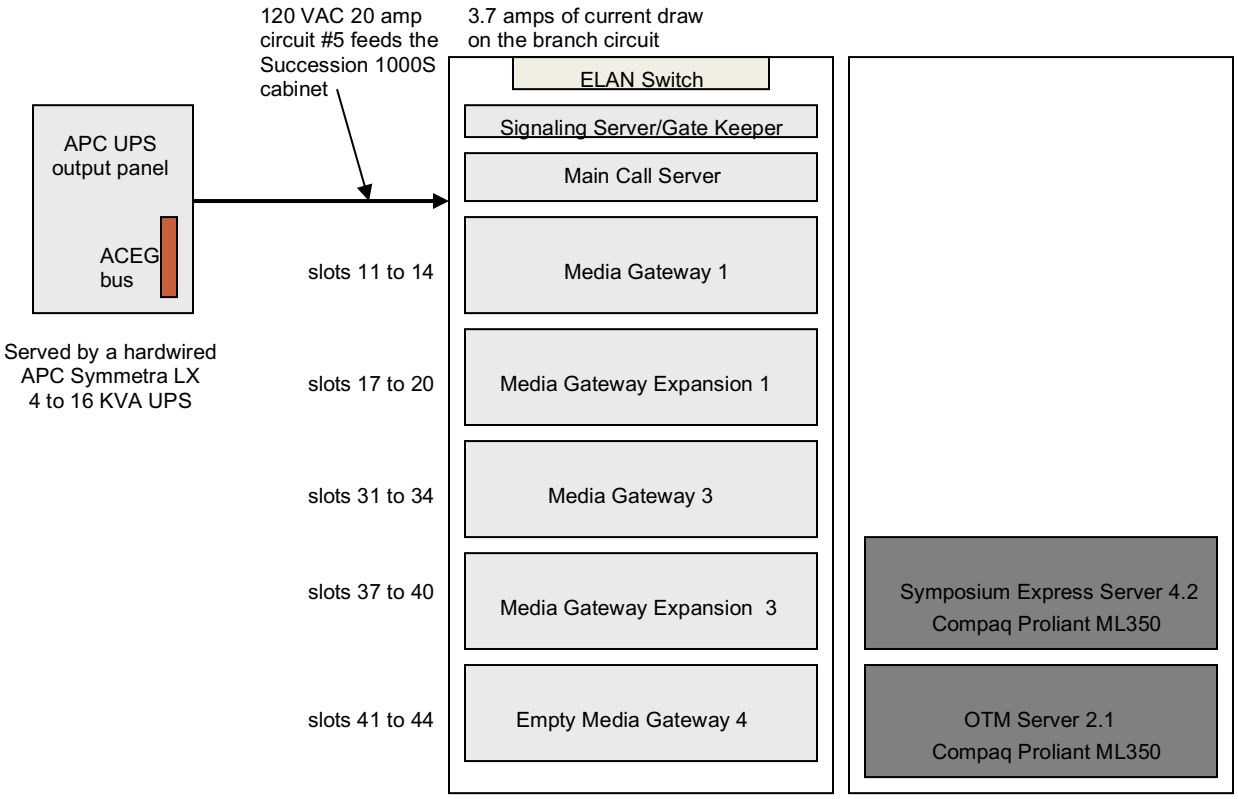
System Serial Number: XXXXX

	Type/Platform	Software Release	Ports
PBX	NCS 1000S	XX21/X.00	XXX
OTM			
Symposium Call Center Server			
Avaya CallPilot IPE	201i		
VGMC	NTVQ01BA		

Equipment Information:

	Type	Quantity	**Power Equipment**		Quantity
Cabinets :			UPS Type:		
Call Server	NTDU06				
Media Gateway	NTDU14		PoE Yes No		
MG Expansion	NTDU15				
Signaling Server	NTDU27 on X.XX.XX load				
			Evaluation Type:		

SAMPLE SITE LAYOUT



The main #6 AWG system grounding conductor terminates inside AC service panel #3 in the back room near the UPS system

FINDINGS AND RECOMMENDATIONS

Introduction:
The evaluation of this CS 1000S system, located _____ was requested by _____. The request was initiated because _____
_____.
The evaluation was performed on (date) _____ and covered the areas of Equipment Room Environment, Maintenance and Technician Area Environment, Power and Grounding, System Power and Ground Connections, Cabinet Installation, Cabling Installation, System Operation, System Software, and Network Parameters for VoIP.
_____ (name of company representative) was the main contact person during the evaluation process. All questions that pertain to this report may be directed to: _____.

DISCREPANCIES AND RECOMMENDATIONS:

EQUIPMENT ROOM ENVIRONMENT

Item # **Findings:** **Recommendation:**	

MAINTENANCE AND TECHNICIAN AREA ENVIRONMENT

Item # **Findings:** **Recommendation:**	

POWER AND GROUNDING

Item # **Findings:** **Recommendation:**	

SYSTEM POWER AND GROUND CONNECTIONS

Item # **Findings:** **Recommendation:**	

CABINET INSTALLATION

Item # **Findings:** **Recommendation:**	

CABLING INSTALLATION

Item # **Findings:** **Recommendation:**	

SYSTEM OPERATION

Item # **Findings:** **Recommendation:**	

SYSTEM SOFTWARE

Item # **Findings:** **Recommendation:**	

NETWORK PARAMETERS FOR VoIP

Item # **Findings:** **Recommendation:**	

CONCLUSION

NOTE: *This report is based on checklist items contained in this document. The checklist item under each subheading is answered with a "Y" or "N", signifying that it either complies or does not comply with Avaya specifications. An "N/A" means that the checklist question does not apply in this instance. The specifications are based on Avaya Practices, Product Bulletins, Product Advisories, and General Release Bulletins. Each checklist item is given a weight. The item may be deemed as "Critical, Major, Minor, or Recommended" in nature. A system evaluation is found to be "non-compliant" when one "Critical" or two "Major" discrepancies have been identified. Checklist weighting is not given to Applications products questions. The aim of an evaluation is to ensure installation completeness, optimize system performance/ reliability, and provide a safe environment for personnel.*

Further Comments:

SYSTEM AND SITE REQUIREMENTS CHECKLIST

Equipment Room Environment

System Evaluation Checklist for Option 11C/Small Systems

		Meets Specifications Y / N
1.	Temperature is maintained between 0° and 45° C (32° and 113° F) and does not deviate any more than 5°F within a 24 hour period. A temperature of 22°C (72°F) is recommended. Temperature: _____° (Indicate C or F) [Major]	_____
2.	Humidity is between 5% and 95% non-condensing. Humidity _____% [Major, Critical if more than 95% or less than 5%]	_____
3.	Environment does not show any visible signs of moisture. [Critical]	_____
4.	Ventilating openings on equipment are free of obstructions. [Major]	_____
5.	The room is clean, relatively dust-free, and well ventilated. [Minor, Major if concrete dust]	_____
6.	Equipment location is not subject to constant vibration. [Major]	_____
7.	Equipment is located at least 12 ft (3660 mm) away from sources of electrostatic, electromagnetic, or radio frequency interference. [FCC CFR 47 Part 15 for Class A devices. (<20 milliGauss ELF) [Major]	_____
8.	Equipment is not located under liquid-carrying pipes. [Major]	_____
9.	Equipment room is not conducive to generating electrostatic discharge (ESD) [Major]	_____
10.	Anti-static wrist straps, sprays and/or mats in evidence on site. [Recommendation]	_____
11.	Switch room door has a lock installed. [Minor]	_____
12.	No tripping or safety hazards exist in the equipment room. [Major]	_____

Equipment Room Environment (continued)

Meets Specifications Y / N

13. Installation is not located close to sources of EMI/RFI, such as high-voltage power lines, radar, broadcast stations, mobile communications, power tools, appliances (such as vacuum cleaners), and office business machines (such as copiers), industrial machines and ultrasonic cleaners, vehicle ignition, arc welders, dielectric heaters and dimmer switches. [Major] _____
14. Lighting illumination is 50 to 75 foot candles measured 76 cm (30 in.) above the equipment room floor. [Recommendation] _____
15. Equipment room is protected from receiving direct sunlight. Direct sunlight is prevented from shining on electronic hardware, especially disk drives. [Major] _____
16. Adequate floor space has been made available to install equipment racks, patch panels, power systems (UPS) etc. [Major] _____
17. RS-232 terminal/communications devices should not exceed the 50 foot cable length limit unless line drivers are utilized. [Major] _____
18. The storage room for spare parts is secure. [Recommendation] _____
19. If it is not possible that the site maintain the environment of the storage area exactly the same as the environment of the operating equipment, stored materials are allowed time to adjust to the equipment room environment before using them. [Major] _____
20. The storage area is dust-free and away from high humidity and machinery such as electric motors of transformers. [Major] _____
21. Circuit cards which are not in use are stored in a protective antistatic bag. [Major] _____
22. Media Gateway and Call Server covers are installed. [Major] _____

Maintenance and Technician Area Environment

23. A locking cabinet or storage area is in place for backup disks [Recommendation] _____
24. The area contains a table or desk terminal, printer, or equivalent device [Recommendation] _____
25. Maintenance workstation is equipped with a: [Major]
    - dial-up modem or connected to the network; _____
    - terminal emulator application such as Telnet or rlogin; _____
    - web browser; _____
    - operational maintenance telephone. _____
26. Observations/Comments

Power and Grounding

System Evaluation Checklist for Option 11C/Small Systems

Meets Specifications Y / N

An isolated ground topology is the recommended/preferred method of grounding for use as the Avaya Communication Server 1000S "single point ground" source. In the absence of such facilities, a portable or hardwired UPS system may be used. It is preferable that UPS systems contain load isolation transformers in their design. Isolated Ground topology <u>is not</u> accepted in Canada per code.

Avaya CS 1000S System AC Service Panel

1. The AC supply conductors are dedicated and uninterrupted from the building primary source or transformer to the PBX main AC service panel.(This does not apply to sub panels). [Major] _____
2. Verify that an Isolated Ground (IG) or ACEG conductor is installed from MGN/ X0 to an IG or ACEG bus in the AC panel serving the PBX equipment room. This point will become the single point ground reference for the PBX. Note: In some cases an AC panel may not be a requirement. Various UPS systems will establish the same intent and purpose as the panel IG/ACEG bus. The engineer performing the evaluation should research the application and determine its intent. [Critical] _____
3. The IG/ACEG conductor is sized per code. (NEC 250). Note: It is recommended that the ACEG conductor be the same size as the largest phase conductor. [Major] _____
4. The IG/ACEG conductor runs in the same raceway (conduit) as the phase and neutral conductors (NEC 250). [Major] _____
5. The IG/ACEG conductor is insulated, permanent, and continuous (no splices). (NEC 250) [Major] _____
6. A dedicated AC panel is installed in the PBX room for the CS 1000S and associated equipment only. Circuits being served for purposes such as lighting, air conditioning, heating, generators, copiers, or motors from the CS 1000S service panel are not recommended. Panel I.D.:_____ [Major] _____
7. Circuit breakers are identified/labeled at the AC service panel. (NEC 110-22) [Minor] _____
8. Ensure that all voltage and current levels recorded are within the defined limits. [Critical] Note: A licensed Electrician should obtain these results. See the AC Power/Ground Worksheet _____
9. The workspace clearance around the AC service panel is 3 feet. (NEC 110-26) [Major] _____

Meets Specifications Y / N

Power and Grounding (continued)

10. All RS-232 ancillary devices connected to the system I/O circuit cards must be wired from the same AC panel as the PBX power supplies, with individual hot, neutral, and isolated/ACEG ground wires. Note: Protection devices such as electro-optical isolators must be installed for all RS-232 devices (terminal, modem, etc.) not served from the same AC service panel as the CS 1000S system. [Critical] _____

11a. Power from each outlet meets the input requirements of at least one CS 1000S power supply listed in the following tables: [Major] _____

AC input requirements for each Call Server		y/n
(North America)		
Voltage	Recommended: 100-120 Volts Maximum limits: 90 and 132 Volts Single phase	
Frequency	50-60 Hz	
Power (I/P max)	60 VA maximum	
Outlet Type	120 Volts, 15 Amp supply	
(Europe and UK)		
Voltage	Recommended: 208/220 Volts Maximum limits: 180 and 250 Volts Single phase	
Frequency	50-60 Hz	
Power (I/P max)	60 VA maximum	
Outlet Type	208/240 Volts, 15 Amp supply	
Carried out in accordance with local power specifications.		
The supplied power is single-phase 240 or three-phase 208 Y and has a system ground conductor		
(Germany)		
Voltage	Recommended: 230 Volts Maximum limits: 180 and 250 Volts Single phase	
Frequency	50 Hz	
Power (I/P max)	60 VA maximum	
Fuse	16 A	
Outlet Type	Receptacles by DIN regulation	

Meets Specifications Y / N

Power and Grounding (continued)

11b. Power from each outlet meets the input requirements of at least one CS 1000S power supply listed in the following tables (continued):

AC input requirements for each MG 1000S or MG 1000S Expander		y/n
(North America)		
Voltage	Recommended: 100-120 Volts. Maximum limits: 90 and 132 Volts Single phase	
Frequency	50-60 Hz	
Power (I/P max)	300 VA maximum	
Outlet Type	120 Volts, 15 Amp supply	
(Europe and UK)		
Voltage	Recommended: 208/220 Volts Maximum limits: 180 and 250 Volts Single phase	
Frequency	50-60 Hz	
Power (I/P max)	300 VA maximum	
Outlet Type	208/240 Volts, 15 Amp supply	
Carried out in accordance with local power specifications		
The supplied power is single-phase 240 or three-phase 208 Y and has a system ground conductor		
(Germany)		
Voltage	Recommended: 230 Volts Maximum limits: 180 and 250 Volts Single phase	
Frequency	50 Hz	
Power (I/P max)	300 VA maximum	
Fuse	16 A	
Outlet Type	Receptacles by DIN regulation	

Power and Grounding (continued)

Meets Specifications Y / N

11c. Power from each outlet meets the input requirements of at least one CS 1000S power supply listed in the following tables (continued):

AC input requirements for each Signaling Server		y/n
(North America)		
Voltage	Recommended: 100-120 Volts Maximum limits: 90 and 132 Volts Single phase	
Frequency	50-60 Hz	
Power (I/P max)	200 VA maximum	
Outlet Type	120 Volts, 15 Amp supply	
(Europe and UK)		
Voltage	Recommended: 208/220 Volts Maximum limits: 180 and 250 Volts Single phase	
Frequency	50-60 Hz	
Power (I/P max)	200 VA maximum	
Outlet Type	208/240 Volts, 15 Amp supply	
Carried out in accordance with local power specifications.		
The supplied power is single-phase 240 or three-phase 208 Y, and has a system ground conductor		
(Germany)		
Voltage	Recommended: 230 Volts Maximum limits: 180 and 250 Volts Single phase	
Frequency	50 Hz	
Power (I/P max)	200 VA maximum	
Fuse	16 A	
Outlet Type	Receptacles by DIN regulation	

Location of power outlets

NOTE: The maximum distance between a power outlet and the system equipment is met, in relation to the length of the power cord.

- *In North America, the power cord is 9 ft 10 in. (3000 mm).*
- *Outside North America, the power cord is 8 ft 2 in. (2490 mm).*

12. Observations/Comments

AC Power & Ground Worksheet

AC Service Panel Measurements

Note: If a portable UPS system is used, measurements will only be taken on the input/output voltage and the neutral-ground voltage. Percent of load must also be notated

Voltage Measurements:	AC		MIN	MAX
Between neutral and phase A	_____	volts	105v	125v
Between neutral and phase B	_____	volts	105v	125v
Between neutral and phase C	_____	volts	105v	125v
Between ground and phase A	_____	volts	105v	125v
Between ground and phase B	_____	volts	105v	125v
Between ground and phase C	_____	volts	105v	125v
Between phase A and phase B	_____	volts	180v	250v
Between phase A and phase C	_____	volts	180v	250v
Between phase B and phase C	_____	volts	180v	250v
Between neutral and ground (ACEG)	_____	Vrms	0.0v	0.5Vrms

UPS percent of load:
UPS input voltage:
UPS output voltage:

Current Measurements:	AC		MAX
Neutral conductor amps	_____	amps	See Note 1
Ground conductor amps (IG or ACEG)	_____	amps	0.5 amps
Phase A amps	_____	amps	
Phase B amps	_____	amps	
Phase C amps	_____	amps	

Note 1: The neutral current should never exceed the current in any single-phase leg.
A licensed electrician must take AC service panel measurements.
Voltage and current values must comply with documentation.

Voltage between neutral and ground could signify poor or loose connections or non-continuous grounding.

Current flow in the grounding conductor may indicate that the neutral has been used for equipment grounding.

If currents are balanced in a three phase system and there is significant neutral current, then harmonics are present. Harmonics can deteriorate transformers over time by over heating their internal wiring. Solution: Use transformers specifically designed for harmonic loading (k-factor-rated).

System Power and Ground Connections

Meets Specifications Y / N

1. The Signaling Server power cord is plugged into the rack's AC outlet and the rack's AC outlet is grounded to its dedicated electrical panel. [Major] _____
2. In a system with more than one MG 1000S powered by multiple service Panels, a #6 AWG (#40 Metric Wire Gauge) ground wire from the rear panel grounding lug of each MG 1000S is connected to an NTBK80 Ground Bar. The ground bar is connected to the Single Point Ground reference. [Major]
   Note: In the UK, the ground wire from the CS 1000S equipment is connected to an NTBK80 Ground Bar or through a Krone Test Jack Frame. _____
3. When multiple pieces of equipment are installed in a rack, a separate connection is run from the grounding lug on each piece of equipment to the NTBK80 Ground Bar. [Major] _____
4. In an installation where a dedicated panel cannot provide optimal conditions, a load isolation transformer or load isolation transformer-based UPS/Line conditioner with the following characteristics is used: [Major]
   - 120/208/240 V AC input, over-current protected at primary _____
   - 120/208/240 V AC available at secondary outputs, each circuit breaker protected _____
   - primary and secondary windings are completely isolated from one another _____
   - it is approved for use locally as a stand-alone user product (CSA, UL, or other locally recognized clear markings) _____
   - it is capable of providing power to all CS 1000S components operating at the same time at full load _____
   - equipment unrelated to the CS 1000S is not powered from a transformer that provides service to the CS 1000S system _____
   - it is electrostatically shielded to minimize ELF fields _____
5. The installation meets the specific grounding requirements for the area: [Major] _____

Germany	#8 AWG (10 mm2) green/yellow wire
North America; other areas in Europe	Not smaller than #6 AWG (16 mm2) at any point
UK	Two green/yellow wires no thinner than two 10 mm2

System Power and Ground Connections (continued)

Meets Specifications Y / N

6. A 120VAC non-switched receptacle is provided within 9 feet of the CS 1000S cabinet(s). It is strongly recommended that each Media Gateway/Media Gateway Expansion pair for 1000S systems be powered from one dedicated 120VAC, 15/20 amp branch circuit with individual hot, neutral, and AC equipment ground/isolated ground wires. **Do not exceed 80% of the maximum branch circuit or UPS load rating.** [Major] _____
7. A system ground conductor, sized at a minimum of a #6 AWG stranded, insulated wire is installed from the cabinet ground bus to the ACEG bus in the AC panel. Where UPS systems are employed, a #6 AWG wire can be installed from the cabinet ground bus to the grounded metallic case of the UPS using a ground lug. [Critical if missing; Major if undersized]. _____
8. A #6 AWG insulated, stranded conductor is installed between each CS 1000S cabinet ground lug and the cabinet ground bus. [Major] _____
9. All grounding conductors are clearly identified/labeled. [Minor] _____
10. Ground connections are tagged with a clear message such as "CRITICAL CONNECTION: DO NOT REMOVE OR DISCONNECT. [Minor] _____
11. No telecommunications ground bus of the CS 1000S is connected to untested horizontal structural steel, water pipes, or other unreliable ground paths. [Major] _____
12. The cabinet ground bus is mounted near the CS 1000S cabinets. [Major] _____

UPS Requirements

13. Cabinets are grounded to the same AC service panel or UPS that provides input power to the PBX system. [Major] _____
14. All UPS systems must have a ground lug (to accommodate a minimum of #6AWG wire) or ground bus installed and bonded to the UPS metallic enclosure to allow connections to the PBX system ground bus and the AC panel ACEG bus. Note: If the UPS system is equipped with an isolation transformer, the ground lug or bus must be wired from the center tap (X0) of the transformer (The ground lug or bus allows a parallel connection to the CS 1000S single point ground source in case the UPS power cord is unplugged). [Major] _____
15. #6 AWG grounding conductors are installed from the UPS ground bus/lug to the CS1000S cabinet ground bus and the ACEG bus in the AC service panel. See items #3 and #10 above. [Major] _____
16. CSUs (Channel Service Units) are connected to reserve power (UPS) or are span powered. [Major] _____
17. Equipment unrelated to the CS1000S system in any way is not powered from the same 120 VAC receptacles or UPS system as the PBX. [Major] _____

System Power and Ground Connections (continued)

Meets Specifications Y / N

18. In isolated ground environments, other equipment, equipment racks, or metallic conduit do not come in contact with the CS 1000S equipment rack. [Major] _____
19. The earth source, which the CS 1000S system connects to via the AC service panel, has a resistance of 5 ohms or less. [Major] _____
20. There are continuous conductors as opposed to spliced conductors. [Major] _____
21. Conductors must terminate in a permanent way. [Major] _____
22. All terminations are easily visible and accessible for maintenance purposes. [Major] _____
23. The resistance between the ground post of any equipment and the single point ground to which it connects is less than 0.25 ohms for an installed Call Server, MG 1000S, MG 1000S Expander, or Signaling Server. [Major] _____
24. The installation uses one of the following bus bars as a system SPG: [Major]
    - building principal ground, normally in a building with one floor
    - floor ground bar, normally in buildings with more than one floor
    - dedicated TMGB/TGB bonded to the building grounding system
    - ACEG bus located inside the PBX service panel

    _____

Other items

25. QUA6 Power Failure Transfer Units (PFTU) are available to transfer trunk lines during a power or system failure. [Recommendation] _____

Note: *The appropriate AC power cord kit is used for the installation as listed in the following table. (These cords connect a CS 1000S system to a commercial AC power source.)*

Country / Region	AC Power Cord	Voltage Rating	Current Rating	Plug Type
North America	A0379412	250 V	10 A	NEMA 6-15P
Argentina	A0814961	250 V	10 A	IRAM 2073
North America	NTTK14	125 V	13 A	NEMA 5-15P
Australia/ New Zealand	NTTK15	250 V	10 A	AS3112
Europe	NTTK16	250 V	10 A	CEE(7)VII
Switzerland	NTTK17	250 V	10 A	SEV 1011
UK/Ireland	NTTK18	250 V	10 A	BS1363
Denmark	NTTK22	250 V	10 A	AFSNIT

Cabinet Installation

System Evaluation Checklist for Option 11C/Small Systems

		Meets Specifications Y / N
1.	Circuit cards are of allowable vintage (no outstanding Product Advisories/Bulletins). [Major]	
2.	Circuit cards are locked into place. [Minor]	
3.	All MDF/IDF blocks are clearly labeled. [Major]	
4.	PBX cabling is not strapped to the exterior of any conduit or raceway as a means of support. [Major]	
5.	MICB cards, where installed, use cards slots 1, 2, 3 in Media Gateways and slots 7, 8, 9 in Media Gateway Expanders only. [Major]	
6.	M2250 consoles utilize 5 consecutive units and are properly cross-wired with three power TNs. The "AUX" cable may be utilized to take the place of two power TNs only!! See console cable wh/sl, rd/or, & rd/grn pairs [Major]	

Application Tapes & Messaging System Tape Cartridges

7.	Media is not subject to rapid changes in temperature or humidity. [Major]	
8.	Media is kept away from strong magnetic fields. [Major]	
9.	Database backups are routinely performed and are readily available. [Major]	
10.	System installation CDs, PC cards are available for the PBX and Applications products in the event of severe system hardware malfunction or data corruption. [Critical]	
11.	Observations/Comments	

Cabling Installation

System Evaluation Checklist for Option 11C/Small Systems

Meets Specifications Y / N

Outside Plant Cabling and Protectors

1. Entrance cable sheath is grounded as close as possible at the point of entry to an approved ground source. [Major] (NEC 800-33; 40) _____
2. Splice cases are properly grounded. [Major] _____
3. Approved protection devices are used for Telco network and campus cables. (Carbon, Gas tube type for network cables; fast-acting, low let-through type on campus cables). (NEC 800) [Major] _____
4. Protection devices are installed at both ends of a cable in a campus environment. (Silicon Avalanche type. see Oneac 5SDP; 5SAP) [Major] ANSI/UL 497-1995 Specs -10V for digital sets; 48VDC for analog sets. _____
5. All protection device grounding conductors are grounded to an approved source with an appropriately sized wire. The grounding conductors must be kept as short and straight as possible. (No sharp bends- 8" radius) (NEC 800-40) [Major] _____

Cabinet Cabling

6. Cabling must be installed in a neat and orderly fashion. [Major] _____
7. MDF cables are seated and secured in place using factory velcro straps. [Major] _____
8. All cables for cabinets, Call Servers, Media Gateways/Expanders, Signaling Servers (SDI, AUX, VGMC ELAN/TLAN, CE-MUX, DS-30X, and 10/100BaseT cables) and adapters are properly fastened. [Major] _____
9. Power wiring must not be installed in a parallel fashion with CAT5 cabling. Installing power wires perpendicular to CAT5 cables is preferred and minimizes effects from EMI/ELF fields. [Major] _____
10. EMI mitigating ferrite rings (NTVQ83AA) are installed on Voice Gateway Media Card TLAN/ELAN patch cables. [Major] _____
11. NTCW84JA assemblies are used for each VGMC connector. [Major] _____
12. CAT5 patch cables are not installed near fluorescent lighting fixtures. [Major] _____
13. ELAN/TLAN patch cables for VGMC and Signaling Server hardware are "factory made" and kept at 20 cable feet or less. [Recommendation] _____
14. All patch cables are labeled and correlate to a network infrastructure diagram/schematic. [Minor] _____

Cabling Installation (continued)

Meets Specifications Y / N

Cross-connect terminal requirements

15. To allow for future expansion and equipment changes at the cross-connect terminal, the cross-connect terminal has enough space for connecting blocks to terminate the following wires: [Recommendation]
    - three 25-pair cables from each MG 1000S _____
    - four 25-pair cables from each MG 1000S Expander _____
    - four conductors for the AUX cable from the MG 1000S _____
    - one 25-pair cable from each QUA6 PFTU _____
    - wiring from telephones and trunks _____
16. In the UK
    If the Krone Test Jack Frame is used, only authorized personnel are allowed access the Krone Test Jack Frame and it is installed in a locked room or in an environment that prevents free access to the equipment. Refer to *Avaya Communication Server 1000E: Installation and Configuration* (NN43041-310) for additional information about the cross-connect terminals. [Major] _____
17. Observations/Comments

System Operation

X11 Software General Release Bulletin (shipped with new software)

Meets Specifications Y / N

System Diagnostics

1. LD 30 Network and Signaling Diagnostic (NWS). [Minor] _____
2. LD 34 Tone and Digit Switch and Digitone Receiver (TDS). [Major] Check results from the midnight routines. _____
3. LD 37 Input/Output Diagnostic (IOD). Use "STAT" command for TTYs [Major] _____
4. LD 38 Conference Circuit Diagnostic (CNF). [Major] Check results from the midnight routines. _____
5. LD 43 Data Dump (EDD). [Critical] Check for successful completion of a manual data dump. _____
6. LD 44 Software Audit (AUD). [Major] Must be configured in BKGD of Ld-17. Check for normal AUD000 messages. _____
7. LD 48 Status of ELAN/ Mail/ESDI Links. [Major] Make sure all AMLs that are in use are ACTIVE EMPTY. _____
8. LD 60 Digital Trunk Diagnostic (DTI/PRI). [Major] Use the SSCK command to check system clocks. **Locked on to IP daughterboard #1.** Also check midnight routines for frame slips, CRC errors. _____
9. LD 117 "STAT HOST" _____
10. LD 137 ELNK "STAT ELNK" command _____
11. GTR, documentation, and Backup logs are located in switch room. Note: Ensure appropriate level and system type of technical documents are available. [Minor] _____
12. The PBX maintenance modem/terminal server performs as expected. [Major] _____
13. A terminal server or SEB modem is configured as to allow Telnet access to the system. [Recommendation] _____
14. The system is equipped with a working maintenance terminal and printer. [Major] _____
15. A PC is available on location in order to access Element Manager/NRS [Major] _____
16. Minimum level PEPs are installed in the system. This includes DepList PEPs for the Call Servers, required PEPs for Signaling Servers, and Voice Gateway Media Card PEPs. [Recommendation] _____
17. IP sets are on the latest recommended firmware. [Recommendation] _____
18. Signaling Servers are load sharing (equal number of registered IP phones) [Recommendation] _____
19. Printouts of Signaling Server config.ini and bootp.tab files readily available. [Minor]
    pdt> cd /u/config, copy config.ini, copy bootp.tab _____

Meets Specifications Y / N

System Operation (continued)

Memory size

20. The installation meets the minimum memory requirements.

Minimum memory requirements			
Processor	**Flash memory required**	**DRAM memory required**	**Total memory**
SSC	48 MByte	32 MByte	80 MByte

21. The installation does not exceed the recommended maximum call register count.

Recommended maximum call register counts			
	Recommended	**Memory**	**Memory**
	call register	**required**	**required**
System	**count**	**(SL-1 words)**	**(MByte)**
CS 1000S	800	181 600	0.693
Note: Call registers are 227 SL-1 words long. One SL-1 word is 4 bytes.			

22. Observations/Comments

System Software

System Evaluation Checklist for Option 11C/Small Systems

Meets Specifications Y / N

Overlay 15/21 Customer Data Block

1. SRCD (Auto Set Relocation Code) has a value programmed. [Major if SPRE is 1, Minor if other] _____

Overlay 17/22 Configuration Record

2. Daily Routine defined as LD 34, 38, 60,137 [Major] _____
3. LD 44 in background routine. [Major] _____
4. The number of call registers (NCR) within the maximum value required per GRB documentation regarding port size and features used.
   1000S- 800 call registers [Major] _____
5. 1000S LPIB and HPIB values equal 450 [Recommendation] _____
6. History File is defined as MTC, BUG and is set at minimum length of 60,000 characters. [Major] _____
7. ERRM is configured as ERR, BUG, AUD [Major] _____
8. RLS IDs are configured for each D-Channel where appropriate. [Major] _____

Overlay 11/12/13 Digital Sets / Attendant Consoles/ Digitone Receivers

9. Switchroom phone requires MTA for class of service. [Major] _____
10. Consoles powered via unused TNs are correctly programmed “PWR”. [Major] _____
11. Consoles are cross-wired properly and must utilize consecutive units. [Major] _____
12. Observations/Comments

Networking Parameters for VoIP

System Evaluation Checklist for Option 11C/Small Systems

		Meets Specifications Y / N
1.	A LAN/WAN assessment has been performed on the customer network. [Critical]	
2.	The layer 2 switch ports (Baystack 470) in place for the CS 1000S ELAN/TLAN are configured for full duplex, auto negotiate. [Major]	
3.	The port speed for ELAN related ports are configured at 10 Mbps for CS 1000S systems. [Major]	
4.	The ELAN subnet and the TLAN subnet are on separate subnets. [Major]	
5.	All applications on the ELAN subnet are on the same subnet. [Major]	
6.	The port speed for all TLAN ports on the layer 2 switch are configured for 100 Mbps [Major]	
7.	VGMC circuit cards in the same node are on the same TLAN subnet. [Major]	
8.	Minimum of one VGMC DSP resource for every TDM port (T-1 trunks, digital phones, analog phones, analog trunks, Avaya CallPilot channels). [Recommendation] For non-blocking requirements one DSP per TDM port is a best practice.	
9.	Layer 2 switches derive UPS power from different branch circuit sources, if possible, in order to minimize single points of failure. [Recommendation]	
10.	Observations/Comments	