



Avaya Communication Server 1000

Avaya CS 1000 Media Gateway 1000 T System Evaluation

Avaya Data Solutions

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Table of Contents

AVAYA COMMUNICATION SERVER 1000 MEDIA GATEWAY 1000 T SYSTEM EVALUATION	4
LOCATION PROFILE	5
MG 1000T SAMPLE SITE LAYOUT	7
FINDINGS AND RECOMMENDATIONS	8
SYSTEM AND SITE REQUIREMENTS CHECKLIST	13
EQUIPMENT ROOM ENVIRONMENT	13
MAINTENANCE AND TECHNICIAN AREA ENVIRONMENT	15
POWER AND GROUNDING	16
AC POWER & GROUND WORKSHEET	23
SYSTEM POWER AND GROUND CONNECTIONS	25
CABINET INSTALLATION	29
CABLING INSTALLATION	30
SYSTEM OPERATION	32
SYSTEM SOFTWARE	35
NETWORKING PARAMETERS FOR VoIP	37
PRODUCT BULLETINS FOR VINTAGE/RELEASE UPDATES.....	38

Avaya Communication Server 1000 Media Gateway 1000 T System Evaluation

for

SUMMARY:

A system evaluation of the _____(Customer) Avaya CS 1000 Media Gateway 1000 T 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 Avaya MG 1000T 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

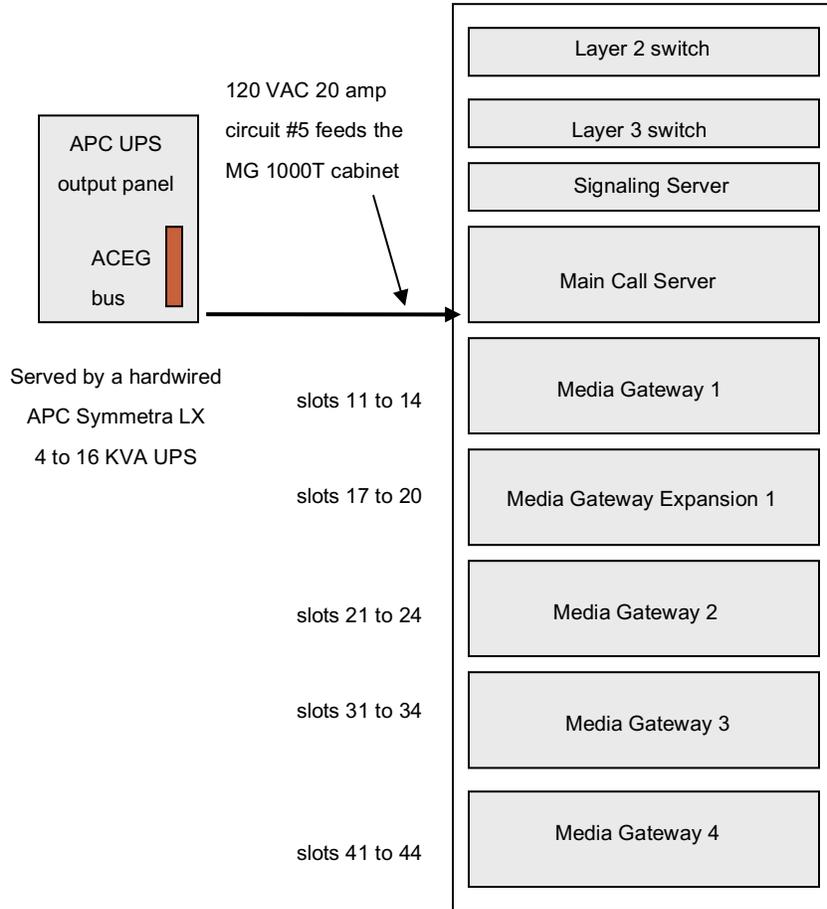
	Type/Platform	Software Release	Ports
PBX	MG 1000T	XX21/X.00	XXX
	_____	_____	_____
TM			
	_____	_____	_____
Call Center Server			
	_____	_____	_____
Avaya CallPilot IPE	201i		
	_____	_____	_____
VGMC	NTVQ01BA		
	_____	_____	_____
Signaling Server	ISP 1100, CP PM, COTS		
	_____	_____	_____

Equipment Information:

	Type	Quantity	Power Equipment	Quantity
Cabinets :			UPS Type:	
Call Server	NTDU06			
Media Gateway	NTDU14		PoE Yes No	
MG Expansion	NTDU15			
Signaling Serve	ISP 1100, COTS and CP PM			
			Evaluation Type:	

MG 1000T sample site layout

3.7 amps of current draw on the branch circuit



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 MG 1000T 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

<p>Item #</p> <p>Findings:</p> <p>Recommendation:</p>	
--	--

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

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration 553-3031-210

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

- | | |
|--|-------|
| <p>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]</p> | <hr/> |
| <p>14. Lighting illumination is 50 to 75 foot candles measured 76 cm (30 in.) above the equipment room floor. [Recommendation]</p> | <hr/> |
| <p>15. Equipment room is protected from receiving direct sunlight. Direct sunlight is prevented from shining on electronic hardware, especially disk drives. [Major]</p> | <hr/> |
| <p>16. Adequate floor space has been made available to install equipment racks, patch panels, power systems (UPS) etc. [Major]</p> | <hr/> |
| <p>17. RS-232 terminal/communications devices should not exceed the 50 foot cable length limit unless line drivers are utilized. [Major]</p> | <hr/> |
| <p>18. The storage room for spare parts is secure. [Recommendation]</p> | <hr/> |
| <p>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]</p> | <hr/> |
| <p>20. The storage area is dust-free and away from high humidity and machinery such as electric motors of transformers. [Major]</p> | <hr/> |
| <p>21. Circuit cards which are not in use are stored in a protective antistatic bag. [Major]</p> | <hr/> |
| <p>22. Media Gateway and Call Server covers are installed. [Major]</p> | <hr/> |

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

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

Per Avaya Communication Server 1000S: Planning and Engineering (553-3031-120), an isolated ground topology is the recommended and preferred method of grounding for use for as the Avaya CS 1000 MG 1000 T “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 is not accepted in Canada per code.

Avaya MG 1000T 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 MG 1000T and associated equipment only. Circuits being served for purposes such as lighting, air conditioning, heating, generators, copiers, or motors from the MG 1000T service panel are not recommended. Panel I.D.: [Major]

Power and Grounding

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

- 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] _____
- 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 MG 1000T system. [Critical] _____
- 11a. Power from each outlet meets the input requirements of at least one MG 1000T power supply listed in the following tables: [Major] _____

Power and Grounding

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

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	

Power and Grounding

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

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

Power and Grounding

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

AC input requirements for each MG 1000T or MG 1000T 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	

Power and Grounding

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

	and 250 Volts Single phase	
Frequency	50 Hz	
Power (I/P max)	300 VA maximum	
Fuse	16 A	
Outlet Type	Receptacles by DIN regulation	

- 11c. Power from each outlet meets the input requirements of at least one MG 1000T 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 and Grounding

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Planning and Engineering (553-3031-120)

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

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

Voltage Measurements:	AC	MIN -MAX
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 technical publications.

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 1000T powered by multiple service Panels, a #6 AWG (#40 Metric Wire Gauge) ground wire from the rear panel grounding lug of each MG 1000T 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 MG 1000T 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 MG 1000T components operating at the same time at full load _____
 - equipment unrelated to the MG 1000T is not powered from a transformer that provides service to the MG 1000T 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 mm ²) green/yellow wire
North America; other areas in Europe	Not smaller than #6 AWG (16 mm ²) at any point
UK	Two green/yellow wires no thinner than two 10 mm ²

System Power and Ground Connections

Meets
Specifications
Y / N

- 6. A 120VAC non-switched receptacle is provided within 9 feet of the MG 1000T cabinet(s). It is strongly recommended that each Media Gateway/Media Gateway Expansion pair for MG 1000T 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 MG 1000T 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 MG 1000T is connected to untested horizontal structural steel, water pipes, or other unreliable ground paths. [Major]

- 12. The cabinet ground bus is mounted near the MG 1000T 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 MG 1000T 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 MG 1000T 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]

System Power and Ground Connections

Meets
Specifications
Y / N

- 17. Equipment unrelated to the MG 1000T system in any way is not powered from the same 120 VAC receptacles or UPS system as the PBX. [Major]
- 18. In isolated ground environments, other equipment, equipment racks, or metallic conduit do not come in contact with the MG 1000T equipment rack. [Major]
- 19. The earth source, which the MG 1000T 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 1000T, MG 1000T 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]

System Power and Ground Connections

Meets
Specifications
Y / N

Note: The appropriate AC power cord kit is used for the installation as listed in the following table. (These cords connect a MG 1000T 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

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

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

Meets
Specifications
Y / N

For additional information refer to:

Avaya Communication Server 1000S: Installation and Configuration (553-3031-210)

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]

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 1000T
- four 25-pair cables from each MG 1000T Expander
- four conductors for the AUX cable from the MG 1000T
- 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 1000S: Installation and Configuration (553-3031-210)* 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 SCK 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"

System Operation

X11 Software General Release Bulletin (shipped with new software)

Meets
Specifications
Y / N

10. LD 137 ELNK "STAT ELNK" command

11. GTR, technical publications, and Backup logs are located in switch room. Note:

Ensure appropriate level and system type of publications s 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]

System Operation

Meets
Specifications
Y / N

X11 Software General Release Bulletin (shipped with new software)

19. Printouts of Signaling Server config.ini and bootp.tab files readily available.

[Minor]

```
pdt> cd /u/config, copy config.ini, copy bootp.tab
```

Memory size

20. The installation meets the minimum memory requirements for Avaya Communication Server 1000 Release 5.5 software.

MG 1000T Release 5.5 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 maximum call register count recommended for MG 1000T Release 5.5 software.

Recommended maximum call register counts			
	Recommended	Memory	Memory
	call register	required	required
System	count	(SL-1 words)	(MByte)
MG 1000T	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

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.

MG 1000T-800 call registers [Major]

5. MG 1000T 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

System Software

Meets
Specifications
Y / N

- 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 _____

