Network Services memo

to: Legacy AMC Theatres

from: Network Services

subject: Windstream Technology Refresh

Project Summary:
AMC has partnered with Windstream (formerly Earthlink) to perform a new and exciting technology refresh project! This project will increase broadband to enable your Theatre systems to run faster (credit card processing, POS transactions, back office computers, etc.) and your teams to better support guests.

The project has several outside companies and vendors supporting. Please be aware that these supporting teams may be contacting you for assistance and scheduling throughout the course of the effort. The work included in the Phases may not occur in the order shown below, and may also require multiple Technician visits to your Theatre.

Phase 1 Brief Description: Theatre Site Survey and New Circuit Installation
Players: Local cable company, Windstream, Sirius, AMC Network Services, AMC Theatre Managers
Site Survey:
1. If/When the cable company (Time Warner, Charter, Cox, Spectrum or various others) reaches out for the site survey, schedule a date/time that a Theatre or Facilities Manager can be available. **Note:** It's possible that the cable technician may arrive unannounced to complete the installation. While we hope, this is a rare occurrence, you may grant access if the technician is from your local cable provider.
2. **Arrive** at the Theatre at or before the scheduled site survey time.
3. **Accommodate** the cable company technician by allowing access to any areas they identify (building, offices, storage rooms, etc.). In keeping with our Vendor Access policy, accompany the technician if access to secured areas is needed. Note: In some cases, where cable internet access is unavailable, Ethernet Fiber Optic circuits will be installed. This site survey may be more involved than a typical cable site survey. If any planned construction or structural concerns arise during the survey, email Gary Gray.
New Circuit Installation:
1. **Store** the new cable access circuit in a safe, secured area when it is delivered to your Theatre in the coming weeks.
2. **Schedule** the installation of the cable modem when the cable company calls the Theatre.
3. **Arrive** at the Theatre at or before the scheduled installation time.
4. **Accommodate** the cable company technician by allowing access to any areas they identify (building, offices, storage rooms, etc.).

Phase 2 Brief Description: VeloCloud Installation, Mojo AP Installation, Move to New Circuit
Players: Windstream, OneSource Business Technologies (OSBT), Sirius, AMC Network Services, AMC Theatre Managers
This portion of the project will be to complete wiring, equipment setup, testing and turning on the new network. OneSource Business Technologies (OSBT)will reach out to Theatres individually for scheduling.
Note: You will be receiving shipments from Windstream/Earthlink with equipment for this work. Please be sure to store this equipment in a secure location in the Theatre and have it ready for the Technician upon arrival.

If you have any questions, please reach out to Gary Gray in Infrastructure Systems.

Customer Name: *AMC Carmike [Hosted Upgrade Conversion]*

Project Overview

Windstream will upgrade existing SD WAN sites from existing T-1 to Cable, Ethernet, or new T-1 with Hosted Voice, and convert existing FXS lines to Hosted Voice Analog for AMC Carmike locations. All sites will receive Windstream Installation Services, per the Customer Contract, the Service Order Form, and any subsequent amendments or change orders.

Overview of Site Visits	Windstream Contact Information

❖ **Site Visit 1:**
    ○ New Circuit Testing and Demarc Extension
    ○ **Cable Sites**: Continue to Visit 2 for Cutover
 	
❖ **Site Visit 2:**
    ○ SD WAN - WAN Migration
    ○ Test Existing Services
    ○ **Cable Sites**: Existing T-1 Disconnect
    ○ Hosted Voice Analog Conversion
	Windstream Service Activation
	See Remedy ETA
	
	Project Coordinator: Lisa Harmon
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	Project Manager: Ken Wilkie
	(704) 405-4857

	One Source Contact Information
	Project Manager: Latasha Williams (832) 782-6132 lwilliams@osbt.com **OSBT Command Center (C&C)** (713) 895-1799
Overview of Custom Elements	**Customer References**
❖ 2 LAN Connections ❖ Coordinated Customer Testing (up to 20 minutes) ❖ Reconfigure VeloCloud Edge Device	Wave Group Notes

Installation Standards

- **Google Chrome Browser must be installed on your laptop prior to arrival**
- All Instructions are for Installer unless otherwise specified.
- Do not unplug power from existing equipment in order to plug in router.
- The installation equipment must be arranged in such a way that allows for future accessibility.
- Cables must be neatly bundled with no loose wires left unorganized.
- See subsequent sections for router photo(s), list(s) of items included with shipment, and neatly bundled wiring example photos

VISIT 1

A   Activity Upon Arrival at Site

- □   Make Contact with Local Contact Person (LCON):--------   **Manager on Duty**
- □   Check Work Order or Ticket for Site-Specific Information
- □   In case of access denial, contact:-----------------------------   **Windstream PM or PC**
  OSBT C&C
- □   Check in with Windstream Service Activation-------------   **(888) 371-6896**

B   Installation Prep

- □   **Take photos of the existing installation, including port connections**
  - *Upload all photos to your ticket*

- □   Identify the new Cable modem
  - *See ticket for site info*
  - *Contact Windstream Service Activation if unable to locate*

- □   Locate CPE Installation site(s) ----------------   **Near Existing CPE**

  Evaluate Inside Wiring Requirements------   See **Section T - Exclusions**

  - Inside Wiring Requirements: -----------   **New T-1/Ethernet** - 300' Demarc Extension, if necessary
    Cable - None
    Demarc extension
    must be non-plenum Cat5E cable, with a vertical limit of 10 feet from the MPOE inside the Customer's suite or leased space, to a reasonably accessible location near the CPE installation location, which must be within 6 feet of a grounded, 110 VAC, electrical outlet.

C   Windstream Activations Checklist

<u>WIN SA</u>: Once all listed items for your group are verified, copy the appropriate list and paste into the order notes.

Data	Voice	PM
□ PreCog Run	□ Phones Up	□ Verification Of Site IDs
□ Main Path Up		
□ Secondary Path Up		
□ Failover Working		

D   **New Circuit Testing and Demarc Extension**

1. Run Demarc extension as described in Section B.
   a. Install and test connectivity of an RJ45 surface-mounted wall jack to the extended Demarc for the WAN circuit.

2. Confirm with the MoD that all services are currently working.

3. Install the Windstream CPE in the location designated in Equipment Inventory.
   a. If there is insufficient space for the new CPE, perform a soft-install near the existing Telco equipment. The new router can be mounted in place of the old router after cutover.
   b. When mounting, ensure 1" of space to enable cooling

4. Connect the new circuit to the provided CPE:

Access Type	CPE	Port		CPE	Port
Cable	ILEC provided Modem already connected				
6M T-1	Cisco 1921	T1/E1 WIC	➔	T1 Smart Jacks	-
10M Ethernet	Cisco 1921	GE 0/0	➔	LEC Ethernet Handoff	-

5. **Cable Sites**: Connect laptop to the Cable modem and confirm you can connect to the internet, then Proceed to Section F for WAN Cutover.

   T-1/Ethernet Sites: WIN SA will verify new CPE is up and DHCP pool is configured for Eth handoff to VeloCloud. Proceed to Section I for closeout.

VISIT 2

E   Activity Upon Arrival at Site

☐   Make Contact with Local Contact Person (LCON):--------   **Manager on Duty**
☐   Check Work Order or Ticket for Site-Specific
     Information
☐   In case of access denial, contact:-----------------------------   **Windstream PM or PC**
                                                                        OSBT C&C
☐   Call into the Windstream Conference Bridge   **See Remedy ETA for Bridge & PIN**

F   SD WAN – WAN Migration

1. Insert the provided SFP module into the SFP 1 slot of the VeloCloud Edge and connect the new Cable
    modem to it.

    a. Do not Disconnect the T-1 from the Adtran 6355.

Access Type	CPE	Port		CPE	Port
Cable	Edge 520	SFP 1	➔	Cable Modem	Any
6M T-1 (Adtran)	Edge 520	SFP 1	➔	Adtran 908e Gen 3	Eth 0/1
6M T-1 (Cisco)	Edge 520	SFP 1	➔	Cisco 1921	GE 0/1
10M Ethernet (Adtran)	Edge 520	SFP 1	➔	Adtran 3430	Eth 0/2
10M Ethernet (Cisco)	Edge 520	SFP 1	➔	Cisco 1921	GE 0/1

2. Win SA: Confirm the new path comes up in the Orchestrator

3. WIN SA: Conference in Customer NOC at (913) 213-2020, Op 2.

4. Win SA: Place the existing T-1 circuit in "Maintenance – Customer Disconnecting" mode in MRS.

5. Disconnect the Adtran 6355 from the VeloCloud Edge, but keep the Adtran 6355 connected to the T-
    1 circuit

6. With Customer IT, Win SA, and MoD, test existing data and Hosted Voice services.

7. Win SA: Verify the Edge Override is disabled.

    a. Partner Gateways will disappear from view after disabling

8. <u>WIN SA</u>: Disable Edge Overrides on GE1 and GE2 if present.
   a. DO NOT disable Edge Overrides on SFP1 or SFP2 if present.

Edit	✕	LAN7	Interface disabled		
Edit	✕	⊞ LAN8	Access 780 - Guest Wifi		
Edit	✕	⊕ GE1		DHCP	⛭ Auto D
Edit	✕	⊕ GE2		Static CIDR: 10.168.96.17/30 Gateway: 10.168.96.18	disabled
Edit	✕	⊕ SFP1		DHCP	⛭ Auto D
Edit	✕	⊕ SFP2		DHCP	⛭ Auto D

9. WIN SA: Select the profile in the Orchestrator based on the below criteria:
    a. All MPLS Sites – Select the "**Dual Core Switch CHI/DAL v1**"
    b. Non-MPLS Sites – Select the profile for your region.

10. Verify Partner Gateway is correctly assigned for your region or for MPLS:
    a. **IF PGs DO NOT MATCH PROFILE REGION – Escalate to NIE**

11. Move the GE 2 IPs to the GE 1 port

12. WIN SA: Update or Verify the GE 1 and GE 2 IPs using the below template:

	GE 1 IP	**GE 2 IP**
VCE Gateway IP	**10.X.X.17/30**	**10.X.X.21/30**
Client-side IP	10.X.X.18/30	10.X.X.22/30

    a. Under Route Advertisement, Verify Default Action is **Advertise.**

13. Move the existing Edge LAN connection from GE 2 to GE 1.

14. Connect the GE 2 port to the customer LAN as directed.

15. Connect the LAN 8 port to the Customer switch as directed by Customer IT.

16. Confirm all port connections as listed below:

Site Type	CPE	Port		CPE	Port
	Edge 520	SFP 1	➔	Primary Router/Modem	-
	Edge 520	SFP 2	➔	Cisco 819G	FE 0
	Edge 520	GE 1	➔	Cisco 3XXX (CSW-A)	1
All Remotes	Edge 520	GE 2	➔	Customer 3XXX (CSW-B) If Present. Otherwise, disregard	1
	Edge 520	LAN 8	➔	Customer Switch	As Directed
	Customer 2901	GE 0/1	➔	Cisco 3XXX (CSW-A)	4
	Customer 2901	GE 0/0	➔	Leave Disconnected	

17. Win SA/Installer: With Customer IT, identify which port in the AMC switch will be used for the Cisco ATA.

18. With Customer IT, Win SA, and MoD, test existing data and Hosted Voice services.

19. Win SA: If the Customer switch does not come up on port LAN 8, send pings via VLAN 780 to any IP within that subnet.
    a. You will not receive a ping response, but this will initiate traffic to be sent out the interface and allow the switch to add the MAC address to its forwarding table.

20. Win SA: Transfer the Installer and to the Hosted Voice Queue.

G   Hosted Voice Analog Activation (If ATA Was Shipped to Site)

1. Connect the Cisco SPA 122 to the existing Adtran 6355.

2. Move the FXS lines from the Adtran 6355 to the new Cisco SPA122.

3. Win Voice: Convert the existing FXS lines to HVA_Analog.

4. Make outbound and inbound test calls.
    a. Verify local, long distance, and toll-free functionality.

5. Connect the new Cisco SPA122 to the Customer Switch as determined in Section D 13. Revise?

6. Test Analog Lines on the ATA
    a. Verify dial tone and ANAC line on each channel.
    b. Verify that each channel has the correct line assignment.

7. The Voice Technician will advise of a channel to seize and call outbound.

8. Seize the channel and use it to make test calls.
    a. Test local, long distance, and toll free functionality.

9. Provide testing results to the Voice Technician

10. Work with Customer to test fax lines and hunt group, if applicable.

11. Test Hosted Voice Analog Failover by disconnecting the primary circuit during an active phone call.
    a. Call should continue uninterrupted.

12. Once testing is successfully completed, disconnect and unmount the Adtran 6355, place in provided box, and affix provided RMA label.

13. Advise the MoD that they will need to schedule a FedEx pickup.

H   Backout Plan

1. In the event that success criteria are not met, the installer will restore all equipment to the former, Legacy state using "before" photos from Section B as a reference, and ensure that all phones and other applicable services are working as they did in the Legacy environment

I   Upon Completion

□   Verify all services are up and running.

□   Verify all cabling and power is secured and neatly bundled with no loose wires left unorganized.

□   Clean up wire, plastic, paper, or any other trash left over from install. Dispose of all debris into Customer-approved debris bin.

□   **Take "after" photos of the completed installation and attach them to your ticket.**

□   Complete Work Order documentation.

□   See Manager before leaving site, and obtain signature on Work Order.

□   Box up displace CPE, affix RMA label, and provide to the Manager on duty.

□   Customer will be responsible for scheduling a FedEx pickup for the RMA device

VISIT 3

J   Activity Upon Arrival at Site

☐   Make Contact with Local Contact Person (LCON) and---   **Manager on Duty**
     locate pre-installation location:

☐   Check Work Order or Ticket for Site-Specific
     Information

☐   In case of access denial, contact: ----------------------------   **Windstream PM or PC**
     OSBT PM/C&C?

☐   Call into the Windstream Conference Bridge -------------   **See Remedy ETA for Bridge and PIN**

☐   **Take photos of the existing installation, including**   *Upload all photos to your ticket*
     port- connections

K   4G LTE CPE Swap

1. Call into Customer NOC at (913) 213-2020, Op 2, and advise them of the unit ID of the site you are working.

2. Power up the Cisco 819G and confirm access.

3. <u>WIN SA</u>: Confirm the 819G is configured with a DHCP pool.

4. Connect the new Cisco 819G (FE 0) to the VeloCloud Edge (SFP 2)
   a. If new SFP module is provided for SFP 2, the VeloCloud **MUST BE POWERED DOWN** when inserting it into the slot.

5. <u>WIN SA</u>: Confirm the new path comes up in the Orchestrator.

6. If directed by Customer NOC, move the primary WAN router from GE 1 to SFP 1

7. <u>WIN SA</u>: If the current T-1 Router is an Adtran 6355, release the MAC Address on the 6355 to
   a. Run command on 6355 `clear ip dhcp binding *`
   b. Run `sh arp` to confirm the VeloCloud has received an IP address

Links	Status	Status	Interface (WAN Type)	Throughput | Bandwidth	Pre-Notifications ❶	Alerts ❶	Signal ⊖
10.84.0.214 ❶ 10.84.0.214	🟢	🟢	SFP1 (Ethernet)	85.05 kbps ↑ 1.54 Mbps 90.62 kbps ↓ 1.49 Mbps	☑ Edit	☑ Edit	n/a
WM-Windstream-50/T1--/158908/ /EBSE/ ❶ 10.84.0.214	🚫	🚫	GE1 (Ethernet)	0 ↑ 1.53 Mbps 0 ↓ 1.49 Mbps	☑ Edit	☑ Edit	n/a
WO-4G-Verizon-40/EVDO/237060/ /EBNW/ Backup Standby	⊘	⊘	SFP2 (Ethernet)	0 ↑ 2.10 Mbps 0 ↓ 5.17 Mbps	☑ Edit	☑ Edit	n/a

8. <u>WIN SA</u>: Set the new 4G path to backup/standby mode.

9. <u>WIN SA</u>: Remove rate limiting statements from Cisco 819G.

10. Disconnect the Novatel USB modem from the VeloCloud.
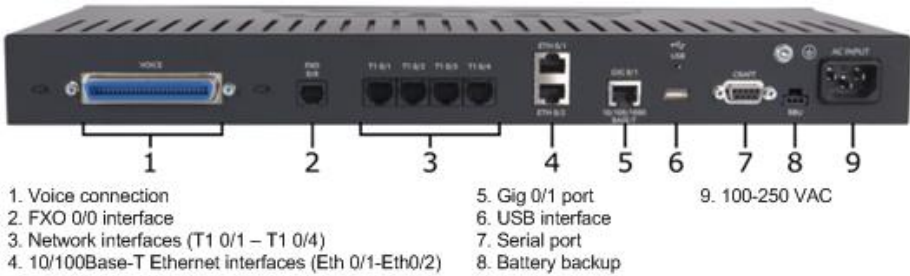
L Coordinated Customer Testing

1. <u>Customer NOC</u>: With Installer and WIN SA on the line, will perform the following predetermined tests. WIN SA and Installer will assist Customer IT with any necessary troubleshooting (up to 20 minutes).
   a. Internet Connectivity
   b. Validate AMC Stubs
   c. Credit Card / Gift Card Transaction
   d. Dine-In POS
   e. VoIP

2. <u>Win SA</u>: If the Customer switch does not come up on port LAN 8, send pings via VLAN 780 to any IP within that subnet.
   a. You will not receive a ping response, but this will initiate traffic to be sent out the interface and allow the switch to add the MAC address to its forwarding table.

3. <u>All Parties</u>: Test Failover to Secondary circuit by performing a simulated outage of the Primary circuit.
   a. Disconnect Primary circuit.
   b. <u>Customer IT</u>: Retest all items from **Section P 1**.
   c. Reconnect Primary circuit and repeat testing.

4. <u>WIN SA</u>: Confirm that both paths are green in the SD WAN Orchestrator before proceeding.

5. <u>All Parties</u>: Test Failover to Primary circuit by performing a simulated outage of the Secondary circuit.
   a. Disconnect Secondary circuit.
   b. <u>Customer IT</u>: Retest all items from **Section P 1**.
   c. Reconnect Secondary circuit and repeat testing.

6. **Success Criteria**: Completion of all tests listed in **Sections P 1 – P 5** in primary and backup environments.
   a. **If Troubleshooting connectivity issues will exceed 30 minutes before the first scheduled show time, proceed to Section K for Backout. Cutover will be rescheduled.**

M Backout Plan

1. In the event that success criteria are not met, the installer and Win SA will work with the Customer NOC will restore all equipment to the former, Legacy state using "before" photos from **Section N** as a reference and ensure that all phones and other applicable services are working as they did in the Legacy environment.

N Equipment and Items Included in Shipping Box

Adtran 908e 3rd Gen

	Included in Shipping Box
1	900e Series Base Unit
1	AOS Documentation CD
1	Power cable w/ grounded IEC plug
1	Wall mounting brackets and screws

1. Voice connection
2. FXO 0/0 interface
3. Network interfaces (T1 0/1 – T1 0/4)
4. 10/100Base-T Ethernet interfaces (Eth 0/1-Eth0/2)
5. Gig 0/1 port
6. USB interface
7. Serial port
8. Battery backup
9. 100-250 VAC

Adtran 3430

	Included in Shipping Box
1	Base Unit
1	Power Supply
1	Rubber Mounting Feet
1	Documentation Packet
1	Mounting Brackets

SFP Copper

	Included in Shipping Box
2	RJ45 Ethernet SFP Module

Cisco SPA 122

	Included in Shipping Box
1	Base Unit
1	Ethernet Cable
1	Telephone Cable
1	Power Adapter

1. Phone ports 1 & 2
2. Ethernet Port
3. Internet Port
4. A/C Port
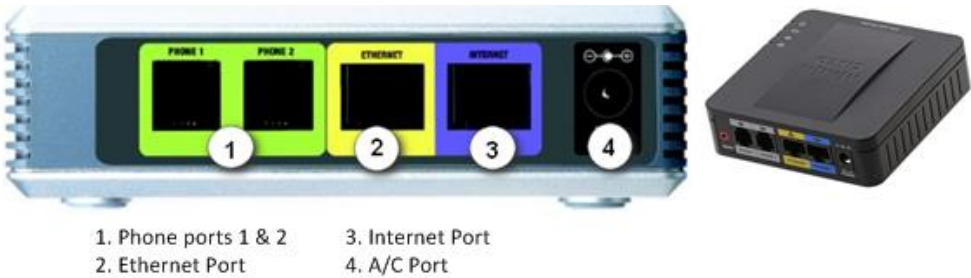
O **Neatly Bundled Wiring Examples**

P **Scope of Work Exclusions**

The Scope of Work for this MOP EXCLUDES the following:

- Installation or troubleshooting of other equipment, cables, software the AIC is not installing or which is not listed in this document
- Ongoing monitoring or support of any device, software, or equipment not expressly included in the Master Services Agreement
- Ground Wire over 100'
- Wiring over 300'
- Backboard over 4' X 8' X 3/4"
- Moving existing customer equipment to make room for backboard
- Fiber cable
- Cat3,4,6, or 7 Cable
- Conduit Installation
- Any Electrical work requiring licensed electricians
- Installation of new grounding electrode system/pipe/etc.
- Drilling through masonry, firewalls or walls leading to exterior of the customer premise
- Wiring external to the suite/premise (with the exception of the circuit extension)
- Cable runs through plenum
- Cable runs via conduit without available pull string
- Running replacement pull string
- Vertical heights in excess of 10 feet
- Installation of multi-gang wall plates(single wall plates supported)
- Cable runs between floors, buildings, crawl space or attics
- Disposal of old cable

Q   Parts and Materials

Standard Equipment:

- Laptop with network interface card (NIC), Ethernet, Wi-Fi, USB with serial port adaptor, CD/DVD-ROM, Windows 7 or newer, and Google Chrome browser.
- Wire strippers and Telco Snips
- Tone Generator and Wand
- Cat5, 4 pair cable (150 feet or more)
- Cross-Connect Wire (24 Gauge)
- 100' Extension Cord
- Assorted Iffi through #12 concrete anchors

- Punchdown Tool with 66 and 110 bit
- RJ11/45 Crimp Tool
- Butt Set (amplified recommended)
- Cell Phone
- Serial Console Cable
- Tie Wraps
- Assorted pan-head, self-tapping screws (#8, 10, and 12), or other assorted mounting screws

R   Network Diagram