

Sunshine Medical Facility

Network Proposal

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Table of context

Title page – 1
Table of context – 2
Executive summary – 3/4
Topology/Diagrams - 5/6
Material List – 7/9
Schedule – 10/11
Conclusion –12

Executive Summary: Sunshine Medical Facility Network Plan

Project Overview:

Sunshine Medical Facility is embarking on a comprehensive network upgrade, strategically designed in collaboration with ChecoTech Solutions & JS Computing. The initiative is fueled by the commitment to innovative solutions, addressing the specific needs of a 120 administrative personnel and 50-bed medical facility in Tampa.

ISP Selection:

Recognizing the pivotal role of robust internet connectivity in modern healthcare, Sunshine Medical Facility has chosen Frontier Business Communication Fiber Service as its dedicated Internet Service Provider (ISP), ensuring 2 gigabyte network speeds for seamless communication and access to digital resources.

VPN Router with QoS Features:

The TP-LINK G36 New Omada Pro Gigabit VPN Router plays a pivotal role in this network upgrade, bringing advanced Quality of Service (QoS) features for optimal network management. With up to 5 WAN Ports, highly secure VPN protocols, and an array of security features, it contributes to a robust and secure network environment.

Security Features:

The TP-LINK G36 New Omada Pro Gigabit VPN Router features abundant security features, including IDS/IPS, DPI, advanced firewall policies, DoS defense, IP/MAC/URL filtering, have proven effective in safeguarding networks, demonstrating success in previous implementations.

Scalability and Redundancy:

Building on successful project experiences, scalability is ensured with eight-48-port Jetstream managed switches in each building. Redundancy measures have been strategically implemented through a distributed server architecture.

Distributed Server Architecture:

- **EHR and Database Services:** Hosts the Electronic Health Records (EHR) system, providing database services for associated applications.
- **File and Print Services, Backup, and Recovery:** Offers file sharing and print services, along with managing backup and recovery for critical data.

- **Email and Communication Services, Telemedicine Support:** Hosts email services, provides unified communication, and supports telemedicine infrastructure if applicable.
- **Security Services, Authentication, and Access Control:** Deploys security services, manages authentication, and implements access control mechanisms.
- **Updates and Patch Management, Remote Access, Collaboration, Monitoring:** Centralizes updates, offers remote access, hosts collaboration tools, and implements monitoring for server performance.

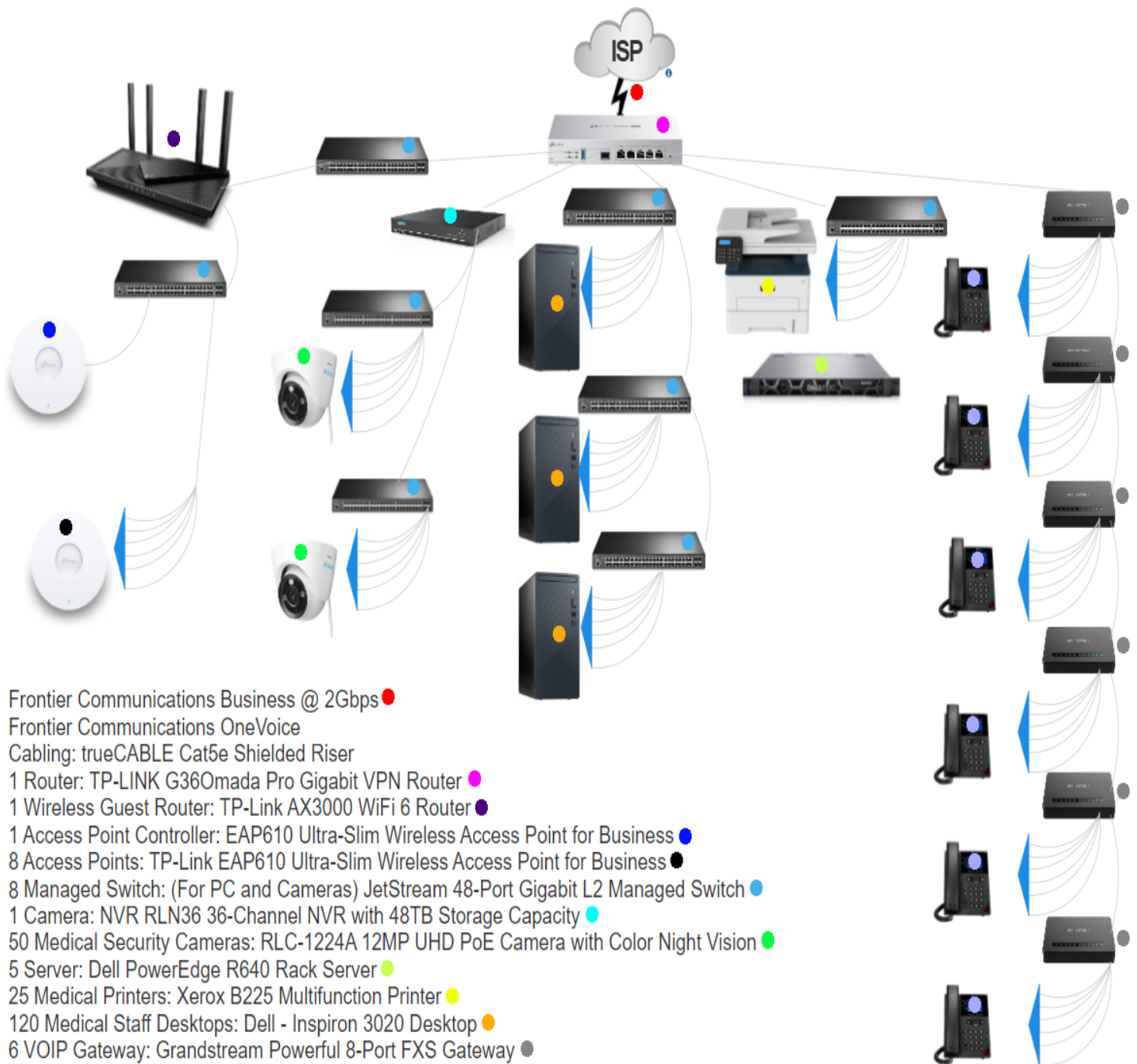
Guest Wi-Fi with Isolation:

Sunshine Medical Facility extends a free guest Wi-Fi service, facilitated by a separate TP-Link AX3000 WiFi 6 Router. This router is segregated by a VLAN through the Jetstream 48-port switch, ensuring the protection of the core network in case of any compromise on the guest network. This meticulous setup aligns with stringent security measures to safeguard sensitive medical information.

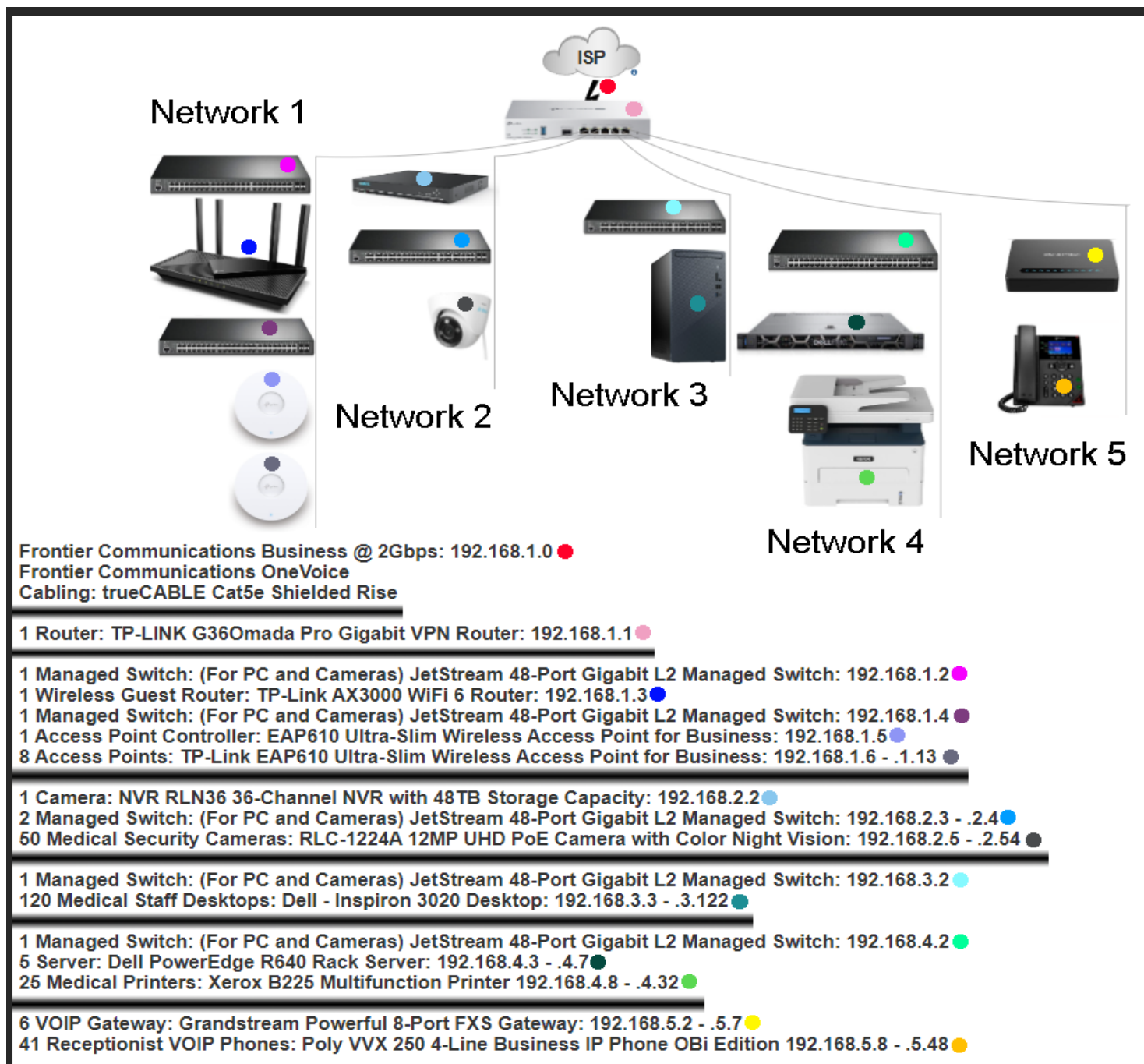
This structured proposal guides the implementation of a reliable and efficient WiMax-based network solution for Cornerstone Architect LLC, fostering seamless collaboration and enhancing productivity.

[Note: Detailed technical specifications and implementation details will be included in the full project documentation.]



Sunshine Medical Facility Physical Network Diagram



Sunshine Medical Facility Logical Network Diagram



Materials List

Item	Description	Quantity	Unit Price	Total Price
Frontier Communications Business	Business Fiber 2 Gig*	1	\$130	\$130
VOIP Services	Frontier Communications OneVoice	1	\$30	\$30
Wired Router	TP-LINK G36Omada Pro Gigabit VPN Router 	1	\$200	\$200
Wireless Guest Router	TP-Link AX3000 WiFi 6 Router – 802.11ax Wireless, Gigabit, Dual Band Internet, VPN Router	1	\$199.99	\$199.99
Access Points	TP-Link EAP610 Ultra-Slim Wireless Access Point for Business	9	\$84	\$756
Managed Switch	JetStream 48-Port Gigabit L2 Managed Switch with 4 SFP Slots (TL-SG3452) 	6	\$549	\$2,745

Managed Switch (Cameras)	JetStream 48-Port Gigabit L2 Managed Switch with 4 SFP Slots (TL-SG3452) 	2	\$549	\$1,098
Camera NVR	RLN36 36-Channel NVR with 48TB Storage Capacity	1	\$200	\$200
Medical Security Cameras	RLC-1224A 12MP UHD PoE Camera with Color Night Vision	50	\$109	\$5,450
Cabling	trueCABLE Cat5e Shielded Riser (CMR), 1000ft, Blue, 24AWG Solid Bare Copper, 350MHz, PoE++ (4PPoE), ETL	25	\$215	\$5,375
Server	Dell PowerEdge R640 Rack Server 	5	\$2,771.30	\$13,856.5
Medical Printers	Xerox B225 Multifunction Printer 	25	\$199	\$4,975

UPS	CyberPower CP1500PFCLCD PFC Sinewave UPS System, 1500VA/1000W, 12 Outlets, AVR, Mini Tower	158	\$219	\$34,602
Medical Staff Desktops	Dell - Inspiron 3020 Desktop - 13th Gen Intel Core i5 -	120	\$699.99	\$83,998.8
Receptionist VOIP Phones	Poly VVX 250 4-Line Business IP Phone OBi Edition	41	\$154.99	\$6,354.59
VOIP Gateway	Grandstream Powerful 8-Port FXS Gateway with Gigabit NAT Router (HT818)	6	\$120	\$720
Labor Cost		15 workers	\$30 an hour	\$180,000

Total Cost = \$339,971.81

Schedule

Week	Date	Day	Task and Activities
1	2023-11-27 to 2023-12-01	Mon-Fri	Team 1 - Project Kickoff, Planning, and Equipment Procurement
2	2023-12-04 to 2023-12-08	Mon-Fri	Team 1 - Install and Configure Frontier Communications Business Fiber 2 Gig
2	2023-12-04 to 2023-12-08	Mon-Fri	Team 1 - Setup and Test VOIP Services - Frontier Communications OneVoice
2	2023-12-04 to 2023-12-08	Mon-Fri	Team 1 - Configure and Test Router - TP-LINK G36 Omada Pro Gigabit VPN Router
3	2023-12-11 to 2023-12-15	Mon-Fri	Team 2 - Install and Configure Access Points - TP-Link EAP610 Ultra-Slim Wireless APs
4	2023-12-18 to 2023-12-22	Mon-Fri	Team 2 - Setup and Test Managed Switches - JetStream 48-Port Gigabit L2 Managed Switch
4	2023-12-18 to 2023-12-22		Team 2 - Install, Configure, and Test Security Cameras and NVR - RLN36 NVR, RLC-1224A Cameras
	Holiday Break		**Holiday Break**
5	2024-01-01 to 2024-01-05	Mon-Fri	Team 3 - Install and Configure Cabling - trueCABLE Cat5e Shielded Riser, 1000ft, Blue
5	2024-01-01 to 2024-01-05	Mon-Fri	Team 3 - Setup and Test Server - Dell PowerEdge R640 Rack Server
6	2024-01-08 to 2024-01-12	Mon-Fri	Team 2 - Install and Configure Medical Printers - Xerox B225 Multifunction Printers
7	2024-01-15 to 2024-01-19	Mon-Fri	Team 2 - Setup and Test UPS - CyberPower CP1500PFCLCD PFC Sinewave UPS System

7	2024-01-15 to 2024-01-19	Mon-Fri	Team 2 - Setup and Test Medical Staff Desktops - Dell Inspiron 3020 Desktops
8	2024-01-22 to 2024-01-26	Mon-Fri	Team 3 - Install, Configure, and Test VOIP Phones - Poly VVX 250 4-Line Business IP Phones
9	2024-01-29 to 2024-02-02	Mon-Fri	Team 3 - Configure VOIP Gateway - Grandstream FXS Gateway (HT818)
9	**Holiday Break**	Mon, Wed	**Holiday Break**
10	2024-02-12 to 2024-02-16	Mon-Fri	Team 2 - Final Adjustments and Testing, Project Completion

Conclusion

Having navigated the intricacies of the comprehensive network upgrade proposal for Sunshine Medical Facility, a collaborative endeavor with ChecoTech Solutions and JS Computing, we distill a concise overview of the innovative solutions crafted for the specific needs of this dynamic medical facility in Tampa. Tailored to cater to 120 administrative personnel and support a 50-bed medical facility, this project is poised to revolutionize Sunshine Medical Facility's network infrastructure.

The selection of Frontier Business Communication Fiber Service as the dedicated Internet Service Provider (ISP) underscores the importance of robust internet connectivity in modern healthcare, ensuring 2 gigabyte network speeds for seamless communication and access to digital resources.

The TP-LINK G36 New Omada Pro Gigabit VPN Router takes center stage, introducing advanced Quality of Service (QoS) features for optimal network management. Security remains paramount, with an array of features such as IDS/IPS, DPI, advanced firewall policies, DoS defense, and IP/MAC/URL filtering, creating a robust and secure network environment.

Scalability is assured through eight-48-port Jetstream managed switches in the entire building, drawing from successful project experiences. Redundancy measures are strategically implemented through a distributed server architecture, offering essential services like Electronic Health Records (EHR), Database Services, File and Print Services, Backup and Recovery, Email and Communication Services, Telemedicine Support, Security Services, Authentication, Access Control, Updates and Patch Management, Remote Access, Collaboration, and Monitoring.

An additional layer of security is provided with the implementation of a separate TP-Link AX3000 WiFi 6 Router for free guest Wi-Fi services. This router, isolated through VLAN segregation on the Jetstream 48-port switch, ensures the protection of the core network, aligning with stringent security measures to safeguard sensitive medical information.

As Sunshine Medical Facility takes this leap towards a more advanced and secure network infrastructure, it's important to note that this proposal's pricing is guaranteed for 60 days. The total cost of this transformative project is \$339,971.88, and the estimated project duration is 10 weeks. We look forward to the opportunity to collaborate closely on the successful implementation of this comprehensive network plan. If there are any inquiries or further discussions needed, we remain readily available. Thank you for entrusting us with this vital initiative.