

CASE STUDY: RADYNET

Delivering GPON Fiber Internet Service to Residential Neighborhoods

UFiber GPON products combine ease of use with price/performance value

UF-OLT and UF-Nano client devices are simple to configure and quick to deploy

Monitor and manage GPON networks using intuitive UNMS[™] software

Founded in 2004, Radynet has been a Wireless Internet Service Provider (WISP) for over a decade in the Czech Republic. In addition to internet service, Radynet offers IPTV, VoIP, and network installation services.

An established user of Ubiquiti® wireless equipment, Radynet has approximately 150 wireless deployments serving 3000 customers, mostly homes and small offices, in the Pilsen (Plzeň) Region. The company uses airMAX® AC products for new residential customers and UniFi® devices for corporate customers.

Aware of the limits of wireless, Radynet initiated its first fiber deployment to take advantage of an opportunity: the local municipality had plans to bury power cables in Nezvěstice, a town near the city of Pilsen.

Radynet asked permission to place fiber cables alongside the power cables, and fortunately, the municipality agreed. The municipality excavated a trench that was 2 km in length, and both power and fiber cables were buried together (Radynet covered the additional costs for fiber-only trenching).

"The municipality excavated a trench around 2 km long, which allowed us to connect 71 family houses and 64 flats." Libor Sedlak, Managing Director, Radynet

GPON PRODUCT SELECTION

For the first venture into fiber service, Radynet researched different fiber technologies and standards, ultimately choosing GPON (Gigabit Passive Optical Networking) for its cost-effectiveness.

During product testing, Radynet evaluated fiber products from various manufacturers, including the new UFiber GPON products from Ubiquiti Networks. The best choice proved to be UFiber GPON, whose quick and easy setup offers a significant advantage for deployment.

"We were impressed by the simplicity of setup of the UFiber GPON in comparison with other brands."

Libor Sedlak, Managing Director, Radynet



Laying down protective hosing



GPON DEPLOYMENT



A spool of microtubing

PROJECT TIMELINE

- Year 1, May 2015 2016: Paperwork, planning, and permits
- Year 2, May 2016 August 2016: Excavation and trenching
- Year 2, October 2016: Construction of central office
- Year 2, November 2016: First customer connected via UFiber GPON
- Year 3, August 2017: A total of 71 single-family houses and 64 flats (apartments), connected via UFiber GPON



Laying down cables in a trench



Fiber distribution point

UFIBER IN ACTION

Radynet deployed the following UFiber GPON products:

Model	Number	Purpose
UF-OLT	1	Optical Line Terminal (OLT) installed on provider premises
UF-Nano	60	Optical Network Unit (ONU) CPE installed on customer premises



UF-Nano installed in a home

CENTRALIZED CONTROL

	Q-1 candy	PON-N	ZVESTICE			CPU -	12%					RAME -	-	27%		0.+	102 O	
	ALCHI			- Chase Pe	4-		LEGANDE FIRE	OADAR .										
		10/16	PORT	-	MORE	-	SCRAL NO.	PROFILE	connection have	-	0.001	DISTANCE	SIGNAL		00010	Actess		
		(8796)	post	100 market	Of Ber Kana	₱ 101	UBATHTNESUP	Defailt profile	680 dh 25H 52S	20.3 KBps	41210ps	342 m	-	-27484	*	O stress 🕂 cases	Ø 8000	
	-	(8596)	pen2	STOD Kilowski	Ulberhave	+ 181	UBA3c7960674	Detuit profile	3d 52h 22m 53k	5.2+3ps	14000	305-m		-58-60m	-	O more de messee	Ønoce	
	-	(8796)	9072	1040-1944	offernine	* 101	UBN%(79)6222	Detwit profile	666 dh.21m 50h	Objes	0 Byrs	400 m	_	-2240m	× .	O 111141 📥 189988	Ø 1400	
	-	(100	pend	12-million	UPiker Hann	+ 130	UBN1x79x00x3	Detail profile	410h 44m 20s	13a.7xhps	Littles	229 m	_	-Dé dites	~	O 2222427 🕹 2020200	Ø 1000	
	-	(899)	pen2	12100-Dara	UfferNate	+ 120	UB%7c796092e	Cetask profile	side do 11m 40h	Ches	Ches	51 m	-	-22.60m	-	O statut & success	Ø NOCH	
	-	(875)	pant	1222 Labilities	urberture	* 120	UB151791340	Detail polis	274 th 30n 27s	200 0 ps	208/094	406 m	-	-20.6911	*	O ALLOW & PROPERTY	Ø NOCO	
Terminal	-	(1000)	pun3	12280 Premand	Uffer Kine	+ 120	UBATE?INCO??	Defails profile	134 31-35-575	Glass	Class	405-	_	-30-48m	1	O statut & research	Ønoce	
	-	(829)	0082	1270s-Haula	Ulbertion	+ 120	U815279605k	Oxfort profile	274 9h 30m 27t	436-box	462004	500 m	_	-17 60m	1	O HERRI 🕹 HERRIG	Ø ROCK	
	-	(8796)	pont	1200 Avera	Uffertune	* 120	UBN5(19)Deba	Default profile	274 9h 30m 2m	122.3 Klass	6.11095	427.00	-	-staba	*	C ALLENT 📥 FREMME	Ø 1000	
	-	(4994)	pen2	(240) States	uffer have	+ 161	UBNT:795009	Default profile	still dh 21m 50h	@ Byrs	6 April	60m	-	-20-88m	-	O second & research	Ø moc-	
	-	(8796)	0004	12413 Ingilitera	UfferNate	€ 120	084767961712	Detxit profile	274 9h 30m 20h	206304	208/001	420 m	_	-21.60m	1	O HETHER & REPORT	Ø BOCK	
	-	(8796)	pan2	1200" Autors	urber tuno	* 120	UB171790480	Default profile	2N #1308 LN	Clips	Class	460 m		-2048m	*	Q allows 🖓 success	Ø NOCH	
	-	498	pend	12753-6,dame	Ufferline	 3.63 	UBN7c7963420	Celuit puble	254 (h-30m 27s	Glass	6 Apr	\$20 m	-	-st-the	1	O statut & naveau	Ø soci	
	-	(8750)	gen3	12mm merchen	uffer have	* 120	0853(7900994	Detail profile	48670.320596	289304	190366	259 m	_	-22 dbm	*	O 111141 📥 1011400	Ø NOCH	
	-	(8396)	post	10703-Miles	UFBer Nano	◆ 161	UBN3c79sDec9	Default profile	234 9h-30m 275	Class	Class	318-m	-	-20484	*	Q annual Q annual	Ø moce	
	-	(83%)	pool	12748-Celhana	UfferNate	+ 101	UEX7c796065	Defailt profile	274 9-30n 26s	2293gs	11148ps	515 m	-	-01-85+	1	Q HILTH Q LEADER	Ø succ	
	-	(ATH)	pon3	1017 Belighten	Ofberhare	• 120	UENTR796De99	Detail profile	2% 9h 30m 1/h	181 bps	Ches	472 m	_	-21.60m	*	C HITME & FRANK	Ø noce	
	-	(8296)	pen3	1000 famous	Uffiler Kine	+ 120	UBN7e79608e0	Default profile	274 99-304 275	Glass	Class	260 m	_	-2240m	*	Q ALLOW A PROPERTY	Ø NOCH	
	-	(8996)	pen2	1302 Matasete	Ulberhare	+ 161	UBs7c79s0e98	Detail profile	274 9-30m 17s	5.54000	335.5 shpe	507 m		-17 dbm	-	O statut 🕹 nevera	Ø 84004	
	-	(8296)	9042	1800 fam	OfficerName	* 120	UBN7k7Hec500	Detail profile	2% 9h 30m 2%	Object	Class	500 m	-	-56-88m	*	O 11111 - 101110		
	-	(2000)	pant	130% Bride	Uffer Nate	+ 161	VENT(79:0009	Default profile	674 12h 38m 05	64,2×3gs	341995	292m	-	-2148m	~	Quantum Quantum	Ø NOCH	
	-	(ATM)	2003	12121-Baserona	Ufberhime	+ 101	UB17x79x85x8	Detail profile	2349-30+25	114bps	Nébes	400 m	_	-00-40-1	1	O HITSH & FRANK	Ø noce	

List of UFiber Nano[™] clients on the ONUs screen of the UFiber OLT

UBIQUITI NETWORK MANAGEMENT SYSTEM

Radynet uses the Ubiquiti Network Management System (UNMS), a comprehensive management controller, to easily monitor network activity and manage all registered devices, including the UF-OLT and UF-Nano clients.

Featuring an intuitive graphical UI, UNMS offers convenient device configuration, network monitoring, firmware upgrades, and configuration backups. It can also manage other Ubiquiti products, including airMAX and EdgeMAX® devices.

	111715	KANE KANE		VELON	HODELL	MACO REVICE	IF ADDRESS	UTINE	LAST SEDA	cru		4000MED 10	ACTIONS	utter	
_	(8250)	ROUMEDHEINER	5540	+ 162	UPBer OLT	0122-00-0014	30140222	401-00-22+22x	non		225	Contract of	North Canada Transman		
-	(10710)	the Maca		P 101	Unitermore	0418+774-0181		2124122122	-				> wine () stress ? - second		
-	(18796)	1007 Laborer		+ 120	Urbernare	04 10x7.50 1ad2		23099-229-289	104		- 25		> HORE () RESTORT () FROMANDE		
-	(8790)	12112-640900		+ 101	Ulbertone	041817391420		274 Sh 27m 2m	-		- 05		20 MORE () RECENT () REMAINS		
-	(896)	10 mad		+ 101	URberhore	0410+754-0895		December 14	-		- 05		>> word () sector 1 resource		
-	(856)	Libri fans		+ 140	Urbonere	041017-500030		27499-2710 200	104		- 25		Source Contrast de constant		
-	(1000)			+ 101	Ulberhare	041017504231		stool the Sh	-		- 05		> wore () rettur de ranner		
-	(10.540)	COMP Profession		+ 101	Ulbertime	64 18+7 54 1979		side at the side	100		- 05		> wate () menter in casesare		
-	(1000)	212 Adveger		+ 101	Urbernine	0415+75514sb		2Mah Linuth			- 05		> wow C mour L same		
-	(1010)	4) the balls		+ 101	Unternane	94 58+7 M4 62+5		46/22/01/25	-		- on		> HOR C RETURN & PROMOTE		
-	(8796)	station of Assessed		◆ 161	LFBerTane	0418+776-0674		M 12h 18h 52s	-		- 0%		>> NON C MILLON & COMMAN		
-	(#790)	100 Augustus		+ 161	UPberNine	0418+7.44-05-20		26-28-n 11s	-		05		>> wore () service		
-	(10110)	et takets		+ 101	Unternane	0415+776-0629		24/22/22/22/42	-		on		>> HORE () RETROT () FROMANE		
æ	(8796)	Lines reachese		* 120	UFBormane	043847760774		40071-2111-501	100		- 0%		>> HORE () RETAIL () FRANKING		
-	(8790)	LOUIS Transfe		♠ 101	UFBerNare	012847765286		680 eh 18m 40x	104		on		39 MONE () RETURN () FRANKLE		
-	(8290)	LOND-House		+ 120	URberhane	0418x7560x8x		2769-27n-25c	104		- 0%		Share C server & server		
-	(1996)	12125-Baueroom		+ 101	urbonare	04.30x7.9505x8		2769h 27m 2m	101		- 0%		** word () accur () cannot		
-	(825)	204-Kauper		+ 101	UlberNaro	04101736024		3655110-420	104		- 05		>> wore O return - researce		
-	(8990)	LUTIN Made		+ 120	UlberNate	64 10x7.56 (P.Se		276 Sh. 27m 2kit	-		- 05		>> wore () recture		
-	(10.00	LINE TANDALONE		+ 120	Urbernare	04 15 17 16 (815		276.99.27m 285	-				>> word () and use () a manual		
-	(8758)	1078-0-10		+ 101	Uf Ber Name	9418+7/1609/15		Of 12h 24m 21h	100		- ox		>> HORE Q RELIVE Q UNHOUSE		
-	(879)	12 views		+ 161	UPberNano	04 18 e7 8607 84		53d 13h 36m 50x	-		- 0%		>> wore Q materia P superior		
-	(876)	275 Smethow		+ 161	Universities	04 15+7 56-02 50		26-2 m 3s	-		05		>> mont Q second T superior		
-	(#115)	112 Balance		+ 120	Uf Bry Nane	0435+7760434		60141-10m-0%	Non		on		>> relate Q attaux - T unreveat		
-	(18796)	LOCI Institute		P 120	LFBrr7sane	0418+77617+2		23(9)(27)(25)	100		- 05		> HOR C RETUR & REMARK		

Devices screen of UNMS



Statistics screen of a UFiber Nano client

For networks spanning multiple geographical sites, UNMS allows centralized management of Ubiquiti devices, so mass configuration changes and remote firmware upgrades are readily deployed. Plus, it is available as a mobile app for installing devices from your smartphone or tablet.

"The UFiber GPON network has been under full load for around half a year. During that period we had only a single problem which was caused by a broken fiber cable. Apart from that this network needs no service and works smoothly."

Libor Sedlak, Managing Director, Radynet

FUTURE COMPANY GROWTH

Radynet plans to deploy more fiber with UFiber GPON in existing service locations and will also build out new wireless sites, extending the boundaries of their current coverage areas.

Visit Radynet at www.radynet.cz

For more case studies, visit www.ubnt.com/customers



UBIQUITI NETWORKS, INC. • 685 THIRD AVENUE, 27TH FLOOR, NEW YORK, NY 10017 USA • WWW.UBNT.COM



© 2018 Ubiquiti Networks, Inc. All rights reserved. Ubiquiti, Ubiquiti Networks, the Ubiquiti U logo, the Ubiquiti beam logo, airMAX, EdgeMAX, Nano, UniFi, and UNMS are trademarks or registered trademarks of Ubiquiti Networks, Inc. in the United States and in other countries. All other trademarks are the property of their respective owners. Photos courtesy of Radynet.