# Flex (Dynamic) T-1

Nextera's Flex T-1 delivers high-speed, scalable bandwidth shared between voice and internet. This business-class service is dedicated to the customer and is symmetrical with simultaneous download and upload speeds at any given time. Unlike an Integrated T-1, unused voice channels won't sit idle — as voice calls connect and disconnect, bandwidth is dynamically allocated to internet. Flex T-1s are designed to connect to customer's telephone system (PBX) via standard CAS or PRI interfaces.
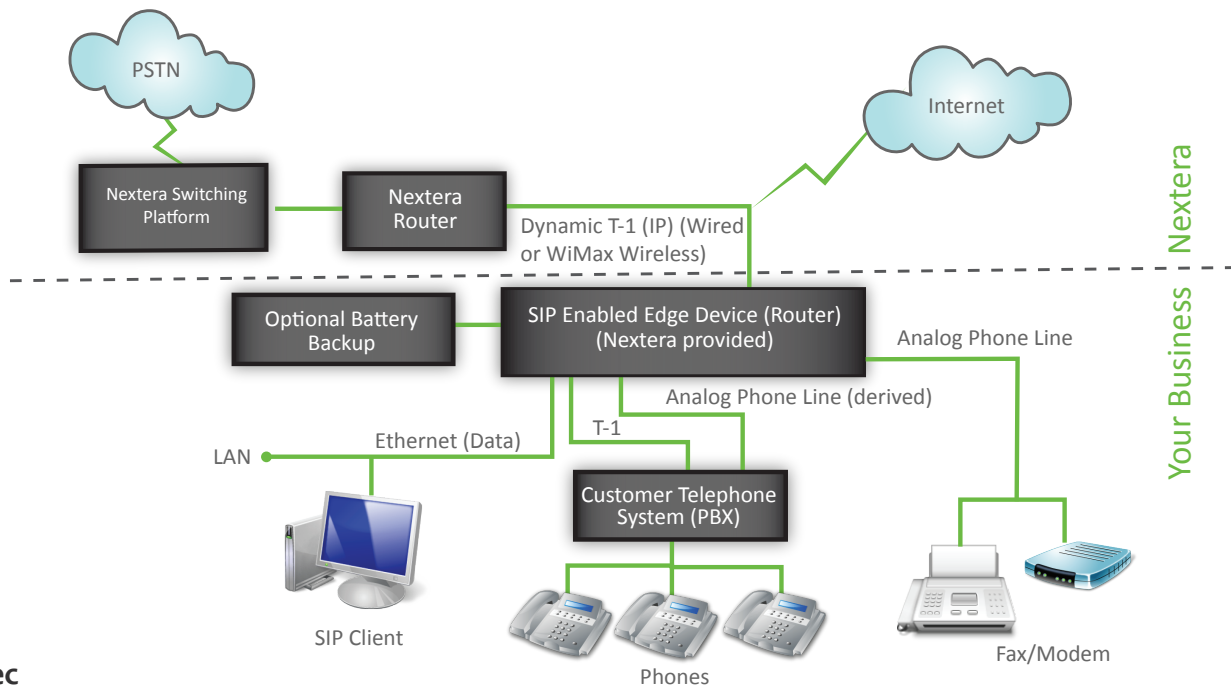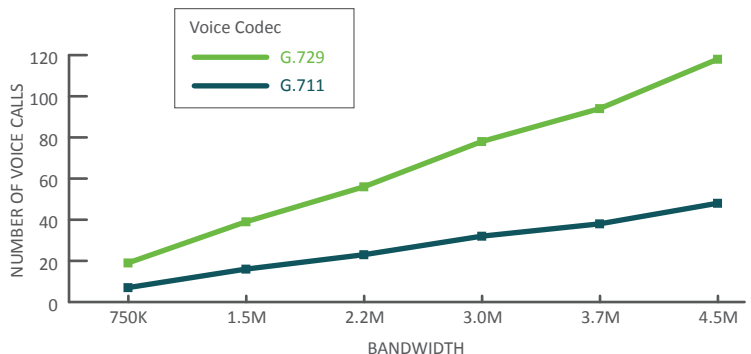

Codec

Each voice call uses a portion of the Flex T-1's bandwidth. The amount of the bandwidth used depends on the voice codec selected by the customer – G.711 or G.729

Voice Codec G.711	Voice Codec G.729
95.2K Bandwidth Used	39.2K Bandwidth Used
Excellent Call Quality	Good Call Quality

G.711 codec provides uncompressed high quality voice. G.711 generally supports analog service such as fax, modems, alarm lines and credit card machines, however if customers experience continuous problems on a Dynamic T-1, the fax/modem will be converted to an analog line which takes up to 7 days, barring facility issues.

G.729 codec provides compressed voice with less fidelity than a G.711 codec or normal analog phone lines. G.729 does not support fax, modems, alarm lines or credit card machines. Nextera will automatically adjust to G.711 in the event that fax and modem tones are detected, however, is best effort for fax, modem, alarm or other analog devices when using G.729.

The voice codec selected by the customer has a direct impact on the number of voice calls available and the amount of internet bandwidth available.

Derived Analog Lines

Optionally, derived analog lines are available, which are channelized within the Nextera-provided equipment. The total amount of voice channels available for T-1 only, derived lines only and combination of T-1 and derived lines is as follows:

T-1 Wired

Number of T-1s	Available Bandwidth	Max # of Voice Channels using G.711*			Max # of Voice Channels using G.729*		
		T-1	Analog	T-1/Analog	T-1	Analog	T-1/Analog
1	1.5M	16	16	16	39	24	39
2	3M	32	24	32	48	24	48
3	4.5M	16	24	40	39	24	48

* Due to limitation of router, max number of voice channels is 24. Analog Lines are Derived Lines

T-1 WiMax (wireless)

Available Bandwidth	Max # of Voice Channels using G.711*			Max # of Voice Channels using G.729*		
	T-1	Analog	T-1/Analog	T-1	Analog	T-1/Analog
1.5M	16	16	16	39	24	39
2M	21	21	21	39	24	39
3M	32	24	32	39	24	39
4M	39	24	39	39	24	39
5M	39	24	39	39	24	39
6M	39	24	39	39	24	39

Customer's Telephone System

The customer's telephone system recognizes a Flex T-1 as a standard PRI or CAS T-1 and analog (derived) lines based on configuration made within the router that is provided and installed by Nextera at the customer site.

The customer's telephone system (PBX) must be configured to support the desired number of voice calls.

Why Choose Nextera's Flex T-1?

Value
- Flex T-1s capitalize on your equipment investment with a TDM interface.
- A single service that handles both your voice and internet needs.
- Dynamically allocates bandwidth for internet usage as voice calls connect and disconnect, providing the ultimate value.

Efficiency
- Automatically allocates inbound and outbound data and voice traffic based on your business needs.
- Identifies each DID to receive inbound calls only, place only outbound calls, or a combination, allowing you to reduce the number of analog lines and increase operational efficiency.

Productivity
- No need to re-train employees because equipment doesn't change.
- Grow the solution as your business requirements grow. Scalability is provided by adding additional channels and/or bandwidth.
- More than double voice capacity by utilizing compression codecs.
- Tie multiple locations together with extension dialing.

Savings
- Spend less time routing calls by assigning phone numbers (DIDs) to each employee, fax machine, and modem.
- Create internal efficiencies and eliminate customer run-around to ultimately save time and money.
- Converged access allows dynamic bandwidth utilization.

Service
- Provides incoming caller ID so you know who is calling. When you are prepared to provide the service your customer deserves, the result is improved customer satisfaction.
- T-1 Failsafe is redundant by automatically re-routing calls to a pre-selected number if T-1 is unavailable.

Nextera's Flex T-1 includes:

/29 Subnet with 8 IP addresses (6 usable) • 10 email boxes •Caller ID •Hunting • Local and EAS Calling • Call Blocking (0, 1+, 411, International, Local) • Porting or Assignment of Telephone Numbers • Account Codes (non-validated) • Inbound Only Calling Capability • Outbound Only Calling Capability • Combination Inbound/Outbound Calling Capability

Optional Features: Account Codes (validated)•T-1 Failsafe (forwards calls to a customer-selected TN when T-1 service is unavailable) • VPN (Virtual Phone Numbers —Long Distance Telephone Numbers from remote locations which ring to a customer-identified DID. Incoming calls only.) • OnNet Remote numbers availble with dedicated T-1