

Introduction

Together with the 3CX phone system software, you will probably need some hardware to interface with existing telephony equipment, fax machines or phone lines. Patton offers a complete line of reliable, stand-alone VoIP gateway hardware called SmartNode, which does exactly that. All SmartNodes are tightly integrated with the 3CX phone system and, of course, extensively tested for interoperability.

This document helps you to identify the right SmartNode for your needs.

Choosing a PSTN Gateway

To connect your 3CX phone system to the physical PSTN telephony lines you have available, consider the following models. They are ordered by interface type and call capacity, and connect through SIP over the IP network to the 3CX phone system. A capacity of 4 calls means: 4 simultaneous calls can be made from the 3CX system to the PSTN. Each call can be a voice or fax call.



For ISDN BRI Lines

Patton ISDN BRI gateways come in versions from 1 to 4 BRI interfaces. Corresponding call capacities are 2 to 8 simultaneous calls (each BRI interface carries 2 simultaneous calls). Patton BRI gateways of all types can be stacked (registered separately to 3CX) in order to connect more than 4 lines.

BRI Lines	Call Capacity	Model	Notes
1	2	SN4552/2BIS/EUI	
2	4	SN4554/2BIS/EUI	Best value to ISDN-enable your 3CX system
2+1	4	SN4634/3BIS/EUI	More versatile than the SN4554/2BIS/EUI, but higher priced. Includes a bonus third ISDN port for migration options
4+1	8	SN4638/5BIS/EUI	Includes a bonus fifth ISDN port for migration options

For ISDN PRI Lines in Europe

Patton ISDN PRI gateways have 1 or 4 physical PRI interfaces, and there are different models to cover the whole range of capacity from 15 to 120 voice calls. You can pick the one that comes closest to your required capacity and only pay the price for what you actually need. Call capacity is limited by software and can be increased through software licenses.

All models can be also be used in the US, as the physical interface can be software configured to E1 (Europe) or T1 (US).

PRI Lines	Call Capacity	Model	Notes
1	15	SN4960/1E15V/UI	
1	30	SN4960/1E30V/UI	Best value to ISDN-enable your 3CX with a full PRI E1
4	15	SN4960/4E15V/UI	
4	30	SN4960/4E30V/UI	More versatile option
4	60	SN4960/4E60V/UI	
4	120	SN4960/4E120V/UI	

For ISDN PRI or T1 robbed-bit lines in the US

Patton ISDN PRI gateways have 1 or 4 physical PRI interfaces, and there are different models to cover the whole range of capacity from 15 to 120 voice calls. You can pick the one that comes closest to your required capacity and only pay the price for what you actually need. Call capacity is limited by software and can be increased through software licenses.

All models can be also be used in Europe, as the physical interface can be software configured to E1 (Europe) or T1 (US).

PRI Lines	Call Capacity	Model	Notes
1	15	SN4960/1E15V/UI	
1	24	SN4960/1E24V/UI	Best value to ISDN-enable your 3CX with a full PRI T1
4	15	SN4960/4E15V/UI	
4	24	SN4960/4E24V/UI	More versatile option
4	48	SN4960/4E48V/UI	
4	96	SN4960/4E96V/UI	

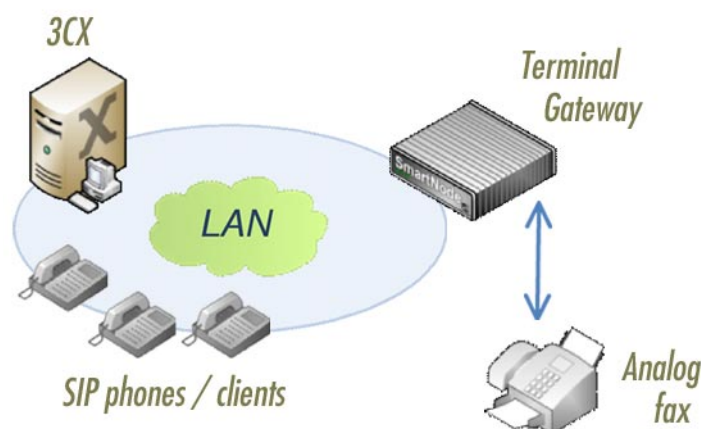
For analog lines

Patton analog FXO gateways have 2 to 32 physical analog interfaces. The number of interfaces is equal to the call capacity. For 8, 12 and 16 lines, you can easily stack several 4 port models. This might be more cost effective, as the models at SN4916 comes with redundant power supply and rack-mountable heavy duty metal case which makes it a little pricey.

FXO Lines	Call Capacity	Model	Notes
2	2	SN4112/JO/EUI	
4	4	SN4114/JO/EUI	Best value to connect 3CX to your analog PSTN lines
16	16	SN4916/JO/EUI	
24	24	SN4924/JO/EUI	
32	32	SN4932/JO/EUI	

Choosing a Terminal Gateway

To integrate analog devices like fax machines, modems or wireless DECT phones with your 3CX phone system, you need a terminal gateway. Patton offers terminal gateways with support from a single up to 32 lines. All devices can easily be stacked.



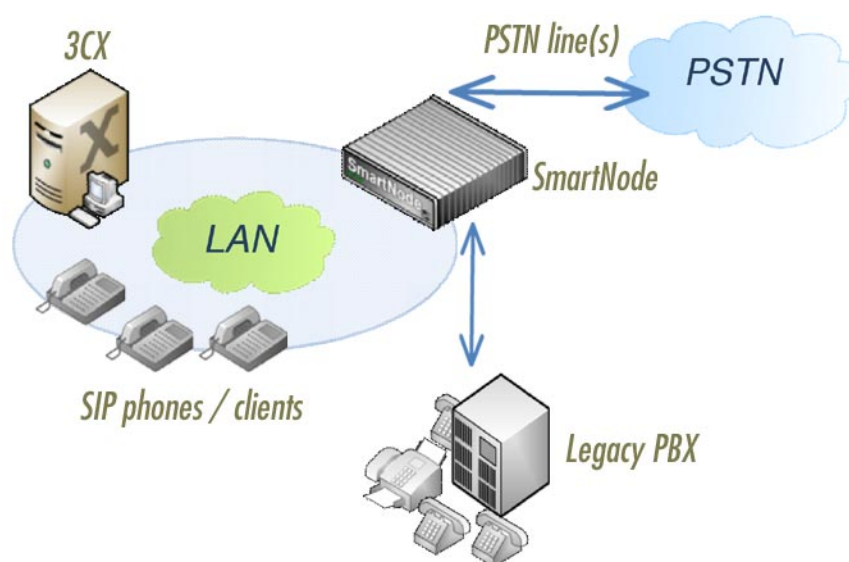
Please consider the following models:

FXS Ports	Call Capacity	Model	Notes
1	1	M-ATA/EUI	
4	4	SN4114/JS/EUI	
6	6	SN4116/JS/EUI	
8	8	SN4118/JS/EUI	
24	24	SN4924/JS/RUI	
32	32	SN4932/JS/RUI	

Migrating Smoothly from Legacy to IP

You might want to keep your existing PBX, at least for a certain period of time. How to interface the old PBX system with the new 3CX system? Patton SmartNodes can also answer this question. We are calling this setup “drop-and-insert” (because the SmartNode is inserted between the PBX and the PSTN lines), and its advantages are:

- Still use your old PBX system as long as you want
- Immediately start the 3CX system without having to disrupt the PBX service
- Both the old PBX and 3CX “share” the PSTN lines – they both can make outgoing calls
- Route incoming calls to 3CX or the old PBX depending on the called or calling party number
- Switch off your old PBX at your leisure



For ISDN BRI lines

BRI interfaces that connect to the PSTN are called to be “user” side or “slave”. BRI interfaces that connect to a PBX are called “network” side or “master”. On several Patton SmartNode BRI devices, interfaces can be software configured to be either “user” or “network”.

Patton ISDN BRI gateways come in versions from 1 to 4 BRI interfaces. Corresponding call capacities are 2 to 8 simultaneous calls (each BRI interface carries 2 simultaneous calls). Patton BRI gateways of all types can be stacked (registered separately to 3CX) in order to connect more than 4 lines.

User Lines	Network Lines	Call Capacity	Model	Notes
1	1	2	SN4552/2BIS/EUI	1 port fix user, one port fix network
2	1	4	SN4634/3BIS/EUI	All ports configurable user or network
3 or 4	2 or 1	8	SN4638/5BIS/EUI	All ports configurable user or network

For ISDN PRI lines in Europe

E1 interfaces that connect to the PSTN are called to be “user” side or “slave”. E1 interfaces that connect to a PBX are called “network” side or “master”. On the Patton SmartNode E1 devices, all interfaces can be software configured to be either “user” or “network” – so you can use any model with more than 1 interface in the drop-and-insert application.

User Lines	Network Lines	Call Capacity	Model	Notes
1	1	15	SN4960/4E15V/UI	
1	1	30	SN4960/4E30V/UI	
2	2	60	SN4960/4E60V/UI	

For ISDN PRI or T1 robbed-bit lines in the US

T1 interfaces that connect to the PSTN are called to be “user” side or “slave”. T1 interfaces that connect to a PBX are called “network” side or “master”. On the Patton SmartNode T1 devices, all interfaces can be software configured to be either “user” or “network” – so you can use any model with more than 1 interface in the drop-and-insert application.

User Lines	Network Lines	Call Capacity	Model	Notes
1	1	15	SN4960/4E15V/UI	
1	1	24	SN4960/4E24V/UI	
2	2	48	SN4960/4E48V/UI	

For analog lines

Analog interfaces that connect to the PSTN are called FXO. Analog interfaces that connect to the PBX are called FXS (see also the corresponding tech note at http://www.patton.com/technotes/fxs_fxo.pdf). The following SmartNode models have both FXS and FXO interfaces, so they are suited for the drop-and-insert application. For larger installations (more ports), SmartNodes can also be stacked to perform the same function.

FXO Lines	FXS Lines	Call Capacity	Model	Notes
2	2	4	SN4114/2JS2JO/EUI	
4	4	8	SN4118/4JS4JO/EUI	

Additional Information

For additional help or any questions, please visit the 3CX forum at www.3cx.com/forums, or contact Patton Technical Support at: support@patton.com.

Contacting Patton

If you have any additional questions please feel free to contact Patton's Technical Support:

- E-mail support—e-mail sent to **support@patton.com** will be answered within 1 business day
- Telephone support—standard telephone support is available five days a week—from 8:00 am to 5:00 pm EST (1300 to 2200 UTC)—by calling +1 (301) 975-1007

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