



Gear up your PBX

Cut Costs, Boost Profits

Version 20160711

Installing your 3CX PBX



Goal of this Module

Installing 3CX Successfully

- Prerequisites
- Concepts of
 - Networks
 - FQDN
 - Certificates
- Web Based Setup Wizard

Pre-req: Operating Systems

- Windows Operating System 64bit
 - Microsoft Windows 10, 8.1, 8 and 7 SP1
 - Preferred Windows 10
- Microsoft Server 2016, 2012 R2, 2012 and 2008 R2
 - Preferred Windows Server 2012 R2
- Linux Debian 8 (amd64 architecture)
 - Install on existing installation
 - Download the 3CX ISO
 - <http://www.3cx.com/docs/installing-iso-debian>

Prereq: Windows Operating Systems State

- Full Windows Update
 - .Net 4.6.1 is required
- Compatible Browser
 - Chrome, Edge, FireFox (not IE)
- As free as possible from 3rd Party Software
 - NO Exchange
 - NO MS SQL
 - NO DNS
 - NO VPN
- Using an AntiVirus?
 - Add exclusions for 3CX folders and network traffic

Prereq: Linux Operating Systems State

- Full Updates
- Linux OS dedicated to 3CX
 - No other software installed

Pre-req: Hardware Performance

- Bare Metal or VM
 - Minimum Resource Requirements:
<http://www.3cx.com/docs/recommended-hardware-specifications-for-3cx/>
 - Resources depends on use case
 - Call Recording → HDD Size and Speed
 - VoIP Provider → Memory (Audio Proxy)

Prereq: Running as a VM

- Tested Hypervisor Platforms:
 - Microsoft Hyper V (>2008 R2)
 - VMware ESXi (>5.0)
 - KVM
 - Citrix XenServer (>7.0)
- Tested Hosted Platforms:
 - OVH
 - Google Cloud Engine Instance

Prereq: Networking - LAN

- Fundamental Network Knowledge Required
- RFC compliant internal network:
 - Restriction of HTTP
 - Restriction of SIP
- Simplicity beats Over Engineered:
 - 1 Network Interface
 - 1 IP Address
 - Disable Unused Adapters
- Wired Network Connection

Prereq: Networking - WAN

- Configurable Firewall
- Knowledge on how to configure your own Firewall
- Internet Access
 - Static IP brings many benefits
 - No HTTP(s) Proxy
 - No SSL Deep Inspection
 - Allow Outbound Traffic
 - Activation: → <https://activation.3cx.com>
 - Updates: <https://downloads.3cx.com>
 - WebMeeting: <https://webmeeting.3cx.net>

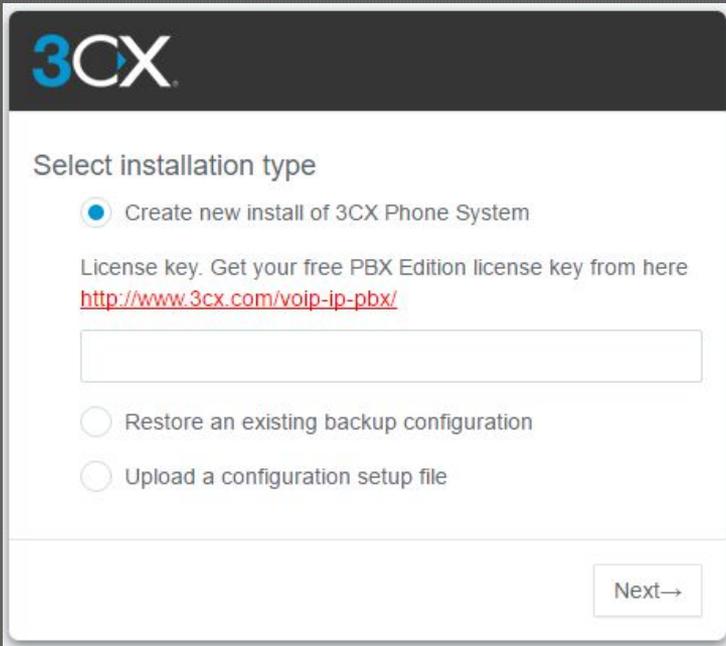
Prerequisites: A Key

- All Installs require a license key
 - 4 Types of Licenses
 - PBX Edition (FREE) (1 Trunk, Unlimited Ext, Ring Groups)
(feature set subject to change)
 - Standard (Queues, Bridges , Reports)
 - Pro (Adv. Reports & Queues , CRM, Hotel, Failover)
 - Enterprise (Standby Licence)

<http://www.3cx.com/phone-system/edition-comparison/>

Key Usage

- Enter **License** Key



The screenshot shows the 3CX installation wizard interface. At the top left is the 3CX logo. Below it, the heading 'Select installation type' is displayed. There are three radio button options: 'Create new install of 3CX Phone System' (which is selected), 'Restore an existing backup configuration', and 'Upload a configuration setup file'. Below the first option, there is a text prompt: 'License key. Get your free PBX Edition license key from here' followed by a red hyperlink: '<http://www.3cx.com/voip-ip-pbx/>'. A text input field is positioned below the link. At the bottom right of the form, there is a 'Next→' button.

- Don't have a key?
→ Use link to get a free PBX Edition license key

Concept: External FQDN - Part 1

- Why not IPs?
 - Certificates work on FQDNs not IPs
- Why not Self Signed?
 - Reduction of Administrative Overhead
 - InBuilt Trust to Endpoints
 - Browsers
 - IP Phones
 - Security

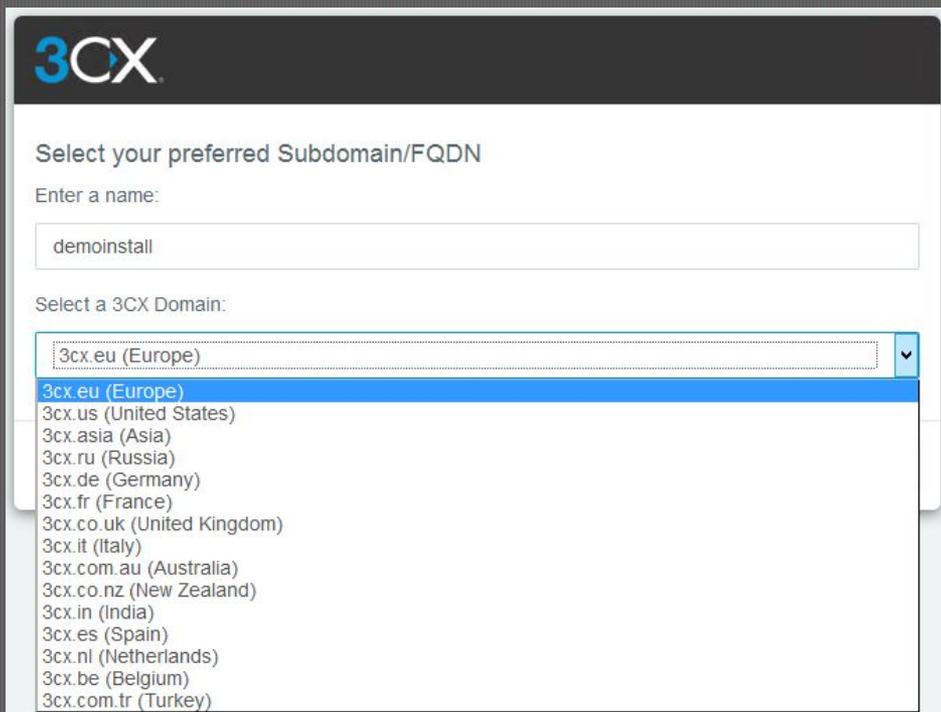
Read: <http://www.3cx.com/blog/docs/ssl-crt-csr/>

Concept: External FQDN - Part 2

- Static vs Dynamic IPs
 - Availability & Reachability
 - DNS
- 3CX Managed Domain vs. Own Domain
 - 3CX Managed Domains (req. Valid Maintenance)
 - Pro: Supports dynamic IPs
 - Pro: Free SSL certificate
 - Own Domain
 - Pro: Corporate Identity and Control
 - Pro: Allows Split DNS Setup
 - Con: Only with static IP
 - Con: Bring your Own Certificate

Usage: 3CX Domain

- Use “I need a 3CX FQDN”
- Enter “Hostname” for installation
(e.g. demoinstall.3cx.co.uk enter only demoinstall)
- Select Suffix



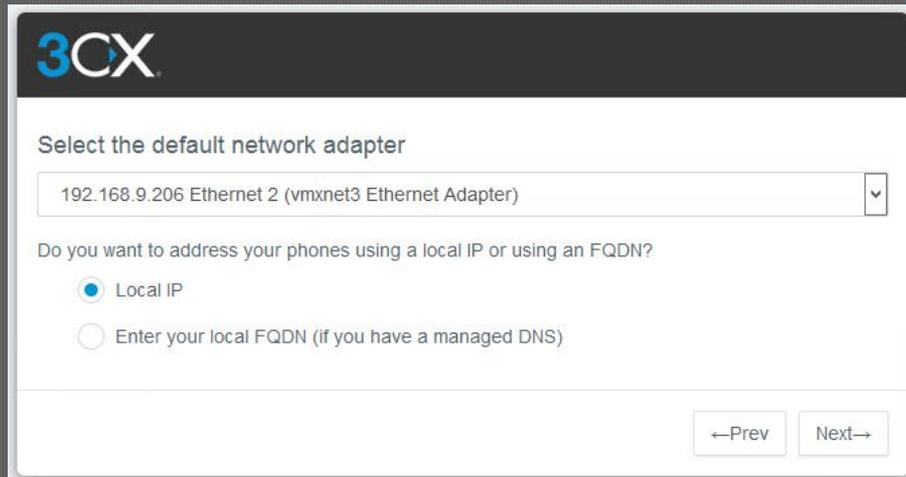
The screenshot shows the 3CX web interface for selecting a subdomain and domain. At the top left is the 3CX logo. Below it, the text "Select your preferred Subdomain/FQDN" is displayed. Underneath, there is a label "Enter a name:" followed by a text input field containing the text "demoinstall". Below this is another label "Select a 3CX Domain:" followed by a dropdown menu. The dropdown menu is open, showing a list of domain options with "3cx.eu (Europe)" selected and highlighted in blue. The list includes: 3cx.eu (Europe), 3cx.us (United States), 3cx.asia (Asia), 3cx.ru (Russia), 3cx.de (Germany), 3cx.fr (France), 3cx.co.uk (United Kingdom), 3cx.it (Italy), 3cx.com.au (Australia), 3cx.co.nz (New Zealand), 3cx.in (India), 3cx.es (Spain), 3cx.nl (Netherlands), 3cx.be (Belgium), and 3cx.com.tr (Turkey).

Concept: Internal FQDN or IP?

- ! Do **Not** Change Local Lan IP Address Of 3CX !
- When to use Internal FQDN?
 - Allows Split DNS Setups (Own Domain Required)
 - Allows Failover Setup
 - Prerequisites:
 - Configurable internal DNS Server
 - Configurable internal DHCP Server
- Nothing to Manage (Router Based Network)?
 - Install on Local Lan IP

Usage: Internal IP or FQDN

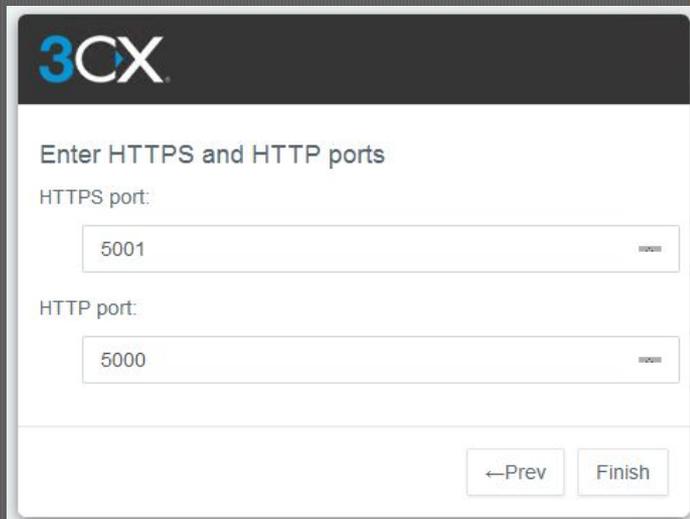
- If **Managed Network**
 - Create A Record
 - Point to Local Lan IP of PBX
 - Select “Enter your local FQDN”
 - Enter A Record in the PBXconfigTool
- If **Unmanaged Network** (Router is DNS and DHCP)
 - Option 2 in PBX Config Tool



The screenshot shows the 3CX configuration tool interface. At the top left is the 3CX logo. Below it, the text "Select the default network adapter" is displayed. A dropdown menu shows "192.168.9.206 Ethernet 2 (vmxnet3 Ethernet Adapter)". Below this, the question "Do you want to address your phones using a local IP or using an FQDN?" is shown. Two radio buttons are present: "Local IP" (which is selected) and "Enter your local FQDN (if you have a managed DNS)". At the bottom right, there are two buttons: "←Prev" and "Next→".

Concept: HTTP Ports

- WebServer
 - HTTP only Local LAN (based on RFC)
 - Default 5000
 - HTTPs local Lan and WAN
 - Default 5001
 - Free Port Choice (e.g. 80/443 if available in NAT)



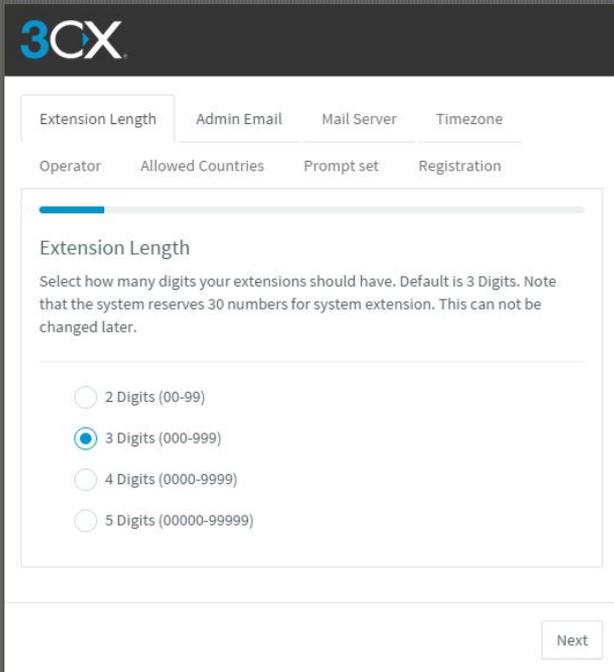
The screenshot shows a configuration window for 3CX. At the top left is the 3CX logo. Below it, the text "Enter HTTPS and HTTP ports" is displayed. There are two input fields: "HTTPS port:" with the value "5001" and "HTTP port:" with the value "5000". At the bottom, there are two buttons: "←Prev" and "Finish".

Web Based Setup Wizard

Extension Length

Not Changeable

External DID's ≠ Internal Extensions !



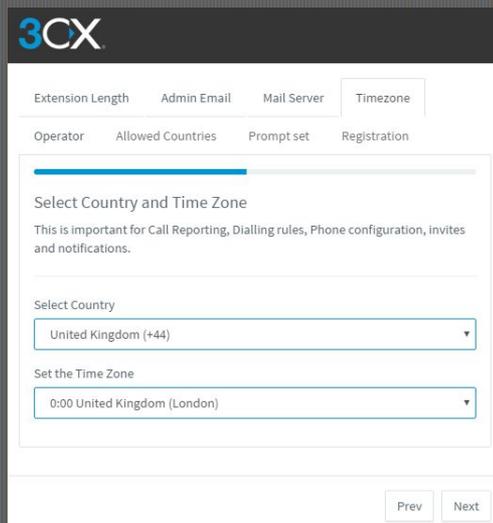
The screenshot shows the 3CX Web Based Setup Wizard interface. At the top left is the 3CX logo. Below it is a navigation bar with tabs: "Extension Length" (selected), "Admin Email", "Mail Server", "Timezone", "Operator", "Allowed Countries", "Prompt set", and "Registration". The main content area is titled "Extension Length" and contains the following text: "Select how many digits your extensions should have. Default is 3 Digits. Note that the system reserves 30 numbers for system extension. This can not be changed later." Below this text are four radio button options: "2 Digits (00-99)", "3 Digits (000-999)" (which is selected), "4 Digits (0000-9999)", and "5 Digits (00000-99999)". At the bottom right of the form is a "Next" button.

Web Based Setup Wizard

- Administrator Email
 - Receives:
 - Update Information
 - Backup & Restore Progress
 - Info & Warnings of System
- Mail Server
 - Sends:
 - Welcome Email
 - Faxes
 - VoiceMails
 - Missed Call notifications

Web Based Setup Wizard

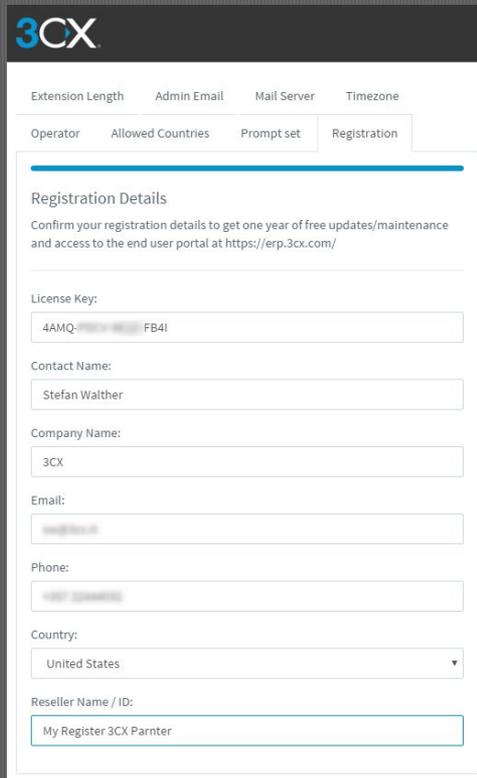
- Timezone
 - Default Timezone for IP Phones
 - Unrelated to: (Using System Time)
 - Reports
 - Profiles Switching
 - DID Switching
- Country
 - Sets Vbox Number
 - Allows calls to E164 Number



The screenshot shows the 3CX Web Based Setup Wizard interface. At the top, the 3CX logo is visible. Below it, there are several tabs: 'Extension Length', 'Admin Email', 'Mail Server', 'Timezone', 'Operator', 'Allowed Countries', 'Prompt set', and 'Registration'. The 'Timezone' tab is currently selected. The main content area is titled 'Select Country and Time Zone' and includes a sub-header: 'This is important for Call Reporting, Dialling rules, Phone configuration, invites and notifications.' Below this, there are two dropdown menus. The first is labeled 'Select Country' and is set to 'United Kingdom (+44)'. The second is labeled 'Set the Time Zone' and is set to '0:00 United Kingdom (London)'. At the bottom of the form, there are 'Prev' and 'Next' buttons.

Step 2: Pass the Wizard

- Registration
 - Owner of Key
 - @Reseller: Enter Partner ID
 - Instant Point Credits
 - Set Contact Person



The screenshot shows the 3CX registration wizard interface. At the top left is the 3CX logo. Below it is a navigation bar with tabs for "Extension Length", "Admin Email", "Mail Server", "Timezone", "Operator", "Allowed Countries", "Prompt set", and "Registration". The "Registration" tab is selected. The main content area is titled "Registration Details" and contains the following text: "Confirm your registration details to get one year of free updates/maintenance and access to the end user portal at <https://erp.3cx.com/>". Below this text are several input fields: "License Key:" with the value "4AMQ- [REDACTED] FB4I"; "Contact Name:" with the value "Stefan Walther"; "Company Name:" with the value "3CX"; "Email:" with a redacted value; "Phone:" with a redacted value; "Country:" with a dropdown menu showing "United States"; and "Reseller Name / ID:" with the value "My Register 3CX Parnter".

Done!



Support ▾

Updates ⁸⁵ ▾

English ▾



Logout

- Dashboard
- Phones
- Extensions
- Groups
- Contacts
- SIP Trunks
- Inbound Rules
- Outbound Rules
- Digital Receptionist
- Ring Groups
- Call Queues
- Bridges
- FXS/DECT
- Recordings
- Backup and Restore
- Call Log
- Call Reports

Dashboard

Help

System Status

Time	Status
12-12-30	15
12-12-35	20
12-12-40	18
12-12-45	22
12-12-50	16
12-12-55	20

Disk Usage: 83% used (16.9 GB free)

Memory Usage: 79% used (1.8 GB free)

CPU Usage: 22/100%

PBX Status

Trunks Up	0/0
Extensions Up	0/1
Number of calls in use	0/8
Blacklisted IPs	0
Event log	Purge
Call history	Purge 0 calls
Chat logs	Disabled
Automatic Backups	OFF
Firewall Check	Firewall test not run
<input checked="" type="checkbox"/> Services	<input checked="" type="checkbox"/> System Extensions

Information

FQDN	demoinstall.3cx.co.uk
IP	81.4. Dynamic
PUSH Account	3CX Account
Webmeeting FQDN	demoinstall.3cx.net
Webmeeting MCU	Configure
License	Activated PBX 15.0.56008.0
Maintenance	07/28/2017 9:11:05 AM OK
Sim Calls	8
Sim Meeting Participants	5
Outbound Rules	None. Click to add

Trunks

Phones

IP Blacklist

Events

Activity Log

Updates



Gear up your PBX

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More Training Material at:
www.3CX.com/3CXAcademy

