

SERVICES CATALOGUE

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A Cisco Premier Partner & Cisco Learning Partner Associate



CONTENTS

1. Welcome to ProNetExpert	5
1.1. Who is ProNetExpert?	5
1.2. Services	5
1.3. Reference Projects	5
2. Consultancy Services	7
2.1 On-site and Remote Delivery	7
2.1.1. On-Site Delivery	7
2.1.2. Remote Delivery	7
2.2. Network Troubleshooting	7
2.3. Network Configuration	8
2.4. Network Auditing	8
2.5. Network Design	8
2.6. Network Optimisation	9
2.7. Business Consulting	9
2.8. Evenings and Weekends	9
3. Training Services	10
3.1 Bespoke Training	10
3.2 Tailored Workshops	10
3.3 Exam Preparation	10
3.4 Training Locations	11
3.5 Training Facilities	11
3.6 Instructors	11
3.7 www.coursefox.co.uk	11
3.8 CCDE Bootcamps	11
3.9 Lab Rental	12
3.10 One-to-One Training Sessions	12
4. Network Management	13
4.1. Real-Time Monitoring	13
4.1.1. Availability Monitoring	13
4.1.2. Reports	14
4.1.3. Online Instant Client Access	14
4.1.4. Configuration Changes	14
4.1.5. Documentation	14
4.1.6. Management Link	14

5. CCIE HOTLINE	15
5.1. How CCIE Hotline Works	15
5.2. Delivery Times	15
5.3 www.cciehotline.com	15
6. Security Services	16
6.1. Security Assessments	16
6.2. Dial-In RAS Security Assessments	16
6.3. Web Application Assessments	16
6.4. Wireless Security Assessments	16
6.5. Social Engineering	17
6.6. Telecommunications Assessments	17
6.7. Database Assessments	17
6.8. Physical Security	17
6.9 Certified Ethical Hacker and Penetration Training	18
6.9.1. Courses Available	18
6.9.2 Locations	18
7. Technologies	19
7.1. Routing and Switching	19
7.1.1. Routing Technologies	19
7.1.2. Switching Technologies	19
7.1.3. Internal Routing Protocols	19
7.1.4. Border Gateway Protocol	20
7.1.5. Quality of Service	20
7.1.6. IP Version 6	21
7.2. Security and Ironport	21
7.2.1. The Cisco ASA Firewall	21
7.2.2. Network Access Control (NAC)	22
7.2.3. Monitoring, Analysis and Response System (MARS)	22
7.2.4. Intrusion Detection and Prevention (IDS/IPS)	23
7.2.5. Cisco Security Agent (CSA)	23
7.2.6. Ironport	24
7.3. Voice Over IP (VOIP)	25
7.3.1. Unified Communications Manager	24
7.4. Telepresence	26
7.5. Service Provider Networking	26
7.5.1. MPLS	26

7.6. Storage Networking	27
7.7. Optical Networking	27
7.8. Content Networking	27
7.9. WAN Optimisation	28
7.10. Wireless Networking	28
7.10.1. Cisco 802.11n	29
7.11. WIMAX	29
7.12. IP Video Surveillance	30
7.13. Digital Media Services	30
8. Hardware	31
8.1. Network Design	31
8.2. Hardware Supply	31

1. WELCOME TO PRONETEXPERT

1.1 WHO IS PRONETEXPERT?

Headquartered in the UK, ProNetExpert are a global provider of Cisco Network Consultancy, Network Security, Network Management and Training Services.

With a focus on delivering advanced Cisco network solutions and keeping up to date on the latest Cisco technologies, ProNetExpert employ the most experienced and qualified Cisco Certified Internetwork Experts (CCIEs), to deliver expert network solutions however complex or specialised the solution, covering all flavours of networking, including Routing and Switching, Security, Wireless, Voice over IP and Unified Communications, Service Provider and Storage Networking.

As a certified Cisco Learning Partner Associate and in partnering with other Cisco Learning Partners in the UK and Europe ProNetExpert provide quality assured Certified Cisco Training for their clients and delegates on a public schedule at top training facilities throughout the UK or as tailored training and workshops delivered on site at their customer premises.

For network support and management clients can choose from fully managed, monitored and supported networks to opting for the popular ProNetExpert CCIE Hotline, giving clients instant access to CCIEs around the world in aiding troubleshooting or configuration change requirements.

With security being a priority for most businesses ProNetExpert's consultants work with their clients to help them identify vulnerabilities in their networks, through penetration testing and social engineering , enabling them to shut down security weaknesses and achieve compliance.

1.2 SERVICES

CONSULTANCY SERVICES

- Onsite and Remote Delivery
- Network Troubleshooting
- Network Configuration
- Network Auditing
- Network Design
- Network Optimisation
- Business Consulting
- Project Management

TRAINING SERVICES

- CCxA, CCxP, CCIE, CCDE Training
- Specialist Certification Training
- Public Schedule Courses
- Bespoke Training
- Tailored Workshops
- Facilities across the UK
- Customer Premises Delivery
- CCSI Instructor Provision
- CourseFox
- Lab Rental

NETWORK MANAGEMENT

- CCIE Hotline
- Fully Managed Solutions
- Real-Time Monitoring
- Bank Holiday Support
- Ad-Hoc Support

SECURITY SERVICES

- PCI Compliance
- Penetration Testing
- Security Audits
- Network Security Assessments
- Certified Ethical Hacker (CEH) Training

TECHNOLOGIES

- Routing and Switching
- Security and Ironport
- Voice over IP (VOIP)
- Telepresence
- Service Provider Networking
- Storage Networking
- Optical Networking
- Content Networking
- WAN Optimisation
- Data Centre Networking
- Wireless
- WIMAX
- IP Version 6 (Ipv6)
- IP Video Surveillance
- Digital Media Services

HARDWARE

- Cisco Hardware
- Design Recommendations

1.3 REFERENCE PROJECTS

ProNetExpert provide details of recent projects and ongoing work online on their website at www.pronetexpert.com or on request by contacting info@pronetexpert.com.

2. CONSULTANCY SERVICES

2.1 ON-SITE AND REMOTE DELIVERY

ProNetExpert offer their clients an option of selecting instant delivery of work provided by a remote consultant or on-site delivery of projects by the consultant at the customer's premises. How the work is carried out is determined by the type and scale of the work and is discussed with the client at the project initiation phase.

2.1.1 On-Site Delivery

The majority of network project require on-site installation and configuration. ProNetExpert provide project planning, installation, management, support and quality control for all sizes of on-site projects.

Where the project is larger in scope ProNetExpert will first have their consultants come on site to meet with the relevant customer staff to discuss their existing network structure and project requirements, and will put together a proposal for the client illustrating the recommended plan of action for network changes or implementation.

Ongoing work can be carried out on-site and remotely as appropriate to the project.

2.1.2 Remote Delivery

It is often found that many customers simply need instant support to make minor configuration changes. ProNetExpert receive frequent requests from clients and IT staff who need help from a Cisco expert to complete, verify or clean up network device configurations.

ProNetExpert realise that not all delivery requires a site visit for project setup and can very quickly organise a consultant to work with the client on the same day or when needed.

Remote delivery may also undertaken as part of a larger project, whereby the ProNetExpert consultant will prepare device configurations, undertake device functionality testing or develop project design or management documentation.

2.2 NETWORK TROUBLESHOOTING

Utilising network scanning software ProNetExpert can help identify and solve network issues on the LAN and WAN.

By identifying what type of traffic is utilising the majority of network bandwidth

ProNetExpert can recommend and configure optimisation, traffic splitting, policy routing or quality of service procedures.

Additionally where the problem may lie in device configuration, ProNetExpert can provide a remote or on-site consultant to work with the client to resolve problematic configurations, for example to ensure the correct flow of network traffic for speed and redundancy.

2.3 NETWORK CONFIGURATION

When the network has been fully planned and designed, the implementation phase can begin. For new installations ProNetExpert will typically prepare the devices prior to their site installation giving them time to test the device is fully operational, to install latest software patches and to pre-configure and test configurations. Of course equipment can be delivered directly to site and configured there, depending on the client requirements.

ProNetExpert realise that their clients are often concerned about the impact of network changes and will work with their clients to ensure appropriate measurements and planning is undertaken in order to minimise down time. For clients who require evening or weekend installations, this can be arranged.

ProNetExpert's consultants work to ensure accurate configuration of devices whilst promoting security, functionality and redundancy.

2.4 NETWORK AUDITING

At the project initiation phase or when a project is being undertaken in response to network performance issues or limitations, ProNetExpert will normally carry out an audit of the client network.

This allows ProNetExpert to appropriately identify and understand the existing network infrastructure, configuration and components. Auditing the network before network design commences helps ProNetExpert to give their clients a better evaluated and more comprehensive solution.

Networks audits can also be completed in response to network issues, where the client needs only for network errors to be understood and for relevant mitigation procedures to be suggested.

2.5 NETWORK DESIGN

Prior to carrying out an installation project ProNetExpert will put together a design document that gives in both picture and in explanation a full view of the network as it is going to be implemented.

Documentation will include network diagrams, IP addressing, routing information and traffic flow, and explanation of any additional features to be implemented, for example policy-based routing or quality of service.

Depending on the scope of the project ProNetExpert will typically meet with the client prior to the design phase to review the current network infrastructure and discuss the impact and suitability of potential solutions.

2.6 NETWORK OPTIMISATION

Where some clients have a functional network, they may find that performance is generally not meeting their expectations or that it suffers when certain network applications are in use.

ProNetExpert's consultants can perform audits on the network to identify why the network is lagging and recommend solutions to improve it, perhaps through routing optimisation, using quality of service (QoS) or Wan Optimisation (WAAS).

2.7 BUSINESS CONSULTING

ProNetExpert work with several partner companies offering Cisco services, whose engineers understand, but cannot provide comprehensive information on the full Cisco product portfolio.

ProNetExpert can provide consultants who can attend meetings on behalf of the client to better explain the Cisco technologies and offer general design advice and product guidance.

2.8 EVENINGS AND WEEKENDS

In addition to providing consultancy services within normal working hours, ProNetExpert also offer evening and weekend consultancy services, as required.

3. TRAINING SERVICES

3.1 CISCO CERTIFICATION TRAINING

ProNetExpert work with several Cisco training companies to deliver all official Cisco training courses throughout the UK and Ireland, with specific courses being offered in the US, Canada and Dubai.

Course offered include CCNA, CCDA, CCNP, CCVP, CCSP, CCDP, CCIP, CCIE and CCDE courses as well as all specialisation certifications required by companies maintaining or striving to achieve Premier, Silver or Gold Partner status with Cisco.

ProNetExpert provide Cisco Certified Trainers to come on-site to deliver official Cisco Training courses for a larger number of employees or tailored training that fits in well with company requirements or around employees who cannot be away from their normal operational position for a whole five or ten day period.

3.2 BESPOKE TRAINING

ProNetExpert realise that many company employees are not necessarily working to achieve Cisco Certification, but instead want their employees to be more knowledgeable on their specific network configuration or to understand a specific product set.

Often ProNetExpert can provide training at the customer premises or at a training centre if required, that is tailored to meet the client's

exact requirements. This gives the client the opportunity to choose what they want to learn in a week, perhaps three days focused on Cisco routers and Switching, a day on ASAs security training and a day on Voice.

3.3 TAILORED WORKSHOPS

Many clients contact ProNetExpert looking not just to give their employees generic training, but to actually work with their employees on their networks, providing them with hands on training and allowing them to understand how their networks are configured. This allows the student to get training that is specific to their job role.

As needed ProNetExpert can provide labs that allow the student to test out potential network designs or simulate existing network structures that they effectively can have a play around with.

3.4 EXAM PREPARATION

On those last couple of days prior to an exam or when attempting to gain recertification many candidates simply require a quick two or

three day top-up course, that focuses heavily on fast exam preparation as opposed to full courses with lab scenarios.

ProNetExpert cater for these candidates by providing bespoke top-up or refresher training, typically at the customer premises.

3.5 TRAINING LOCATIONS

ProNetExpert provide internally and through their partnering training companies courses in:

- London
- Guildford
- Birmingham
- Manchester
- Leeds
- Glasgow
- Edinburgh
- Belfast
- Dublin

3.6 TRAINING FACILITIES

All training facilities used by ProNetExpert's students offer a quiet and peaceful environment to aid the candidate's learning. All rooms are fully air-conditioned and candidates will be provided with tea and coffee facilities as well as a free lunch.

ProNetExpert will also help the candidate, as needed, to organise hotels.

3.7 INSTRUCTORS

All instructors provided by ProNetExpert are fully Cisco Certified Systems Instructors (CCSI Certified).

ProNetExpert focus on bringing onboard only those instructors who have spent a significant amount of time working not only as trainer, but also in the field, because they believe that to really give their candidates a full understanding of life scenarios they require an instructor that understands real world networks and can feed that experience to their students throughout the course and answer questions relating to true network scenarios.

ProNetExpert can provide Instructors not only internally, but also to meet partner course requirements.

3.8 WWW.COURSEFOX.CO.UK

Course is ProNetExpert's primary course scheduling and booking site, from where information and schedules can be obtained.

3.9 CCDE BOOTCAMPS

ProNetExpert strive to remain up-to-date on the newest of Cisco Certifications. Currently ProNetExpert are the only global provider of CCDE written and lab training with training being delivered by a Certified CCDE Trainer.

3.10 LAB RENTAL

ProNetExpert are currently working to provide students and Cisco Certification students with access to remote lab rack rental. This is something that should be operational over the next couple of months.

3.11 ONE-TO-ONE TRAINING SESSIONS

For those students who prefer one-to-one training sessions with a qualified instructor ProNetExpert can arrange.

Students prepare for their exam through remote one-to-one sessions typically on a once per week basis or more frequently as their exam gets closer. This is a popular choice amongst CCIE/CCDE candidates.

4. NETWORK MANAGEMENT

ProNetExpert provide a range of network management services that include ad-hoc response to network failures and real-time device and circuit monitoring, with a more instant reactive response from the ProNet Support Team.

The ProNetExpert Support Team act as a single point of contact for any network failure or configuration issues, allowing for prompt response to network configuration change requests as well as to network hardware or circuit failure, ensuring maximum uptime of LAN and WAN networks.

4.1 REAL-TIME MONITORING

Using WhatsUp Gold, a comprehensive real-time monitoring tool and Simple Network Management Protocol (SNMP), configured on all monitored devices, ProNetExpert can observe the functionality and availability of network hardware, circuits and connections. This provides for fast response from The ProNet support team on network failure, allowing for problems to be resolved before end-users observe the downtime.

The use of SNMP allows ProNetExpert to gather additional information, such as router or switch CPU, memory and interface utilisation, as well as network traffic flow information and bandwidth usage. Event logs

can be maintained and customised queries can be built.

The client will be provided with monthly reports highlighting network problem areas, performance statistics, and resource utilisation, giving the client summary information on their network health and making them aware of potential network vulnerabilities.

ProNetExpert can provide the client with their own view of the monitoring software so that they can see and gather information about their network as they require it.

4.1.1 Availability Monitoring

Using WhatsUp Gold and SNMP, ProNetExpert will monitor network device availability, including hardware availability, interface availability and bandwidth utilisation. On failure of a device ProNetExpert will inform the relevant client contact of the loss and will work with them to ensure traffic is routing down a redundant path if this is available and commence troubleshooting and resolution for the network outage.

4.1.2 Reports

ProNetExpert will provide the client with monthly network reports summarising monitored devices availability and utilisation information for that period.

4.1.3 Online Instant Client Access

The client will be provided with an online IP address through which they will be able to have a similar view to monitoring their network as does the ProNetExpert Support Team and can view their network functionality and statistics in real-time for themselves.

4.1.4 Configuration Changes

Clients will be allowed to request up to 10 minor change requests per quarter, where a minor change request is considered to take less than 30 minutes. Additional configuration changes or changes that require more than 30 minutes to implement will be undertaken on a project basis and charged accordingly.

4.1.5 Documentation

As agreed by the client ProNetExpert will maintain network documentation including network diagrams and configurations and client IT contact information. This will allow the ProNetExpert engineer to quickly understand the network structure, reducing the time required to identify network devices

on the network when troubleshooting network issues.

By archiving device configuration scripts ProNetExpert will quickly be able to restore the functionality of the network on complete hardware failure.

4.1.6 Management Link

ProNetExpert will establish with the client a Virtual Private Network (VPN) link, through which ProNetExpert will have access to network devices located on the client network and from where they can make network changes on request.

5. CCIE HOTLINE

The ProNetExpert CCIE Hotline provides fast access to CCIE support around the globe. Where the client has a request to help set up or complete a configuration or needs help to understand how a project may be completed they can use the CCIE hotline as a fast method of getting in contact with a qualified CCIE.

5.1 HOW CCIE HOTLINE WORKS

When a customer completes the CCIE Hotline form on the www.cciehotline.com website or writes to cciehotline@pronetexpert.com, the query is initially assigned to the appropriate CCIE category whether it is a Routing, Switching, Security, Storage etc query.

The query will be picked up by the ProNetExpert operations team who will contact the customer and assign a CCIE consultant to the query, from a large pool of CCIEs who work for ProNetExpert globally.

Both the operations team member and the engineer will then work with the customer to complete their network requirement.

5.2 DELIVERY TIMES

The CCIE Hotline is available 24 hours a day, 7 days a week*

5.3 WWW.CCIEHOTLINE.COM

To submit a CCIE Hotline query customers can complete the form on the www.cciehotline.com website or by writing to cciehotline@pronetexpert.com.

* While CCIE Hotline strives to resolve queries 24 hours a day 7 days a week, response may be slightly slower outside normal UK working hours 08.30 to 18.30.

6. SECURITY SERVICES

6.1 SECURITY ASSESSMENTS

ProNetExpert provide vulnerability assessments during which their consultants closely map the network architecture, examine all open ports, hosts and services with access to the Web, and ensure that these network devices are secure.

Attempts will be made to gather information such as domain names, IP network ranges, operating system and applications. Also to identify systems on the network and how they are related.

Services that are exposed through open ports (such as http, SMTP or terminal services). Once open ports and attached services are identified, ProNetExpert can determine whether each service has been updated with the most recent patches and will identify other vulnerabilities.

6.2 DIAL-IN RAS SECURITY ASSESSMENTS

Dial-in links pose a potential threat to the integrity of the network security system. ProNetExpert examine dial-up connections that allow employees to access the network through public telephone lines or other dial-up connections.

Given a range of telephone exchanges that may include modems, ProNetExpert can

identify target numbers that allow for remote access and can attempt to exploit vulnerabilities in the system.

6.3 WEB APPLICATION ASSESSMENTS

Web Application assessments examine what services are being offered on Web-based portals and e-commerce applications. This allows ProNetExpert's consultants to identify potential vulnerabilities with respect to authentication, authorization, data integrity, data confidentiality, and consumer privacy concerns.

ProNetExpert can test these applications using either zero-knowledge testing or full-access testing to examine the full range of potential vulnerabilities.

6.4 WIRELESS SECURITY ASSESSMENTS

Wireless networks, while highly convenient, present additional security threats since the wireless signals are not limited by the physical boundaries of a traditional network.

ProNetExpert's security consultants work with the client to implement secure wireless

networks and prevent wireless communications from being exposed to eavesdropping or unauthorized intruders.

6.5 SOCIAL ENGINEERING

Social engineering involves manipulating and/or deceiving company employees and other human resources to gain unauthorized access to a network or to confidential information.

ProNetExpert work with their clients to help them to identify weak links in the security chain through exploitation of human vulnerabilities.

Once individual or systemic weaknesses are identified, ProNetExpert can recommend procedures designed to ensure that employees do not divulge information that could compromise company assets. The social engineering assessment not only uses tactics intended to gain confidential information, but also to induce unsuspecting employees to create vulnerabilities that can subsequently be exploited to gain access to confidential information.

6.6 TELECOMMUNICATIONS ASSESSMENTS

ProNetExpert provide vulnerability testing in private bank exchanges that operate company voicemail and messaging systems.

Unauthorized access to these systems can allow an intruder to eavesdrop on and manipulate employee voicemail messages, initiate outgoing calls from internal company lines, and access corporate telephone networks and directories.

6.7 DATABASE ASSESSMENTS

Client lists, credit card records, and other confidential information held in databases must be given particular protection from unauthorized disclosure.

ProNetExpert test database integrity to determine whether any vulnerability may compromise sensitive information.

6.8 PHYSICAL SECURITY

Access to confidential information can often be obtained by simply gaining physical access to company premises. ProNetExpert conducts on-site surveillance to assess physical security and uses social engineering, pass key duplication, and other techniques designed to gain physical entry into secure areas and the network system.

In addition, ProNetExpert offer Security consulting Services on all kinds of Security equipment such as GPS tracking, bugs & taps and detectors, listening devices, telephone encryption, telephone recorders, audio bugs, cellular encryption and telephone encryption, wireless jammers, voice changers, night vision

monocular and binoculars, counter surveillance equipment, covert video surveillance, generic CCTV, biometrical recognition, personal security and self defense.

6.9 CERTIFIED ETHICAL HACKER (CEH) & PENETRATION TESTING TRAINING

ProNetExpert provide 2 day Penetration Testing courses and 5 day Certified Ethical Hacker Training in the UK, giving candidates the opportunity to work in an interactive environment where they are shown how to scan, test and hack their own systems.

6.9.1 Courses Available

- 2 day Penetration Testing for Beginners
- 2 day Penetration Testing Advanced
- 5 day Certified Ethical Hacker (CEH)

6.9.2 Locations

All public schedule courses are held in London, however ProNetExpert can provide in-house training globally on request.

7. TECHNOLOGIES

7.1 ROUTING AND SWITCHING

Routing and Switching is core to every network and good design of that network is key to optimising performance, redundancy and traffic flow. At ProNetExpert Cisco Experts focus on delivering efficient and highly functional routing and switching networks with excellent design principles in mind. The ProNetExpert Cisco Routing and Switching Consultancy Services incorporate strategic and tactical project planning, network design, installation and support for all sized network infrastructures, maximising the efficiency of a multitude of routing protocols and principles.

7.1.1 Routing Technologies

- Static Routing
- RIP (Routing Information Protocol)
- OSPF (Open Shortest Path First)
- EIGRP (Enhanced Interior Gateway Routing Protocol)
- IS-IS (Intermediate System to Intermediate System)
- ODR (On Demand Routing)
- BGP (Border Gateway Protocol)
- PBR (Policy Based Routing)
- Traffic Engineering
- QoS (Quality of Service)
- Ipv6 (IP Version 6)

7.1.2 Switching Technologies

- Spanning Tree Protocol (STP / RSTP / MST)
- Layer 2 and Layer 3 Etherchannels
- Virtual LANs (VLANs)
- VLAN Trunking (ISL & 802.1q)
- Layer 2 Security

7.1.3 Internal Routing Protocols

Internal Routing Protocols formulate the flow of traffic across every internal network for small businesses to enterprise sized organisations. The proper configuration of these protocols ensures the selection of optimal, load-balanced and redundant routes. ProNetExpert's consultants work with their clients to help them maximise the efficiency of their networks and optimise their network performance.

The ProNetExpert team will help in configuring:

- RIP (Routing Information Protocol)
- OSPF (Open Shortest Path First)
- EIGRP (Enhanced Interior Gateway Routing Protocol)
- IS-IS (Intermediate System to Intermediate System)
- PBR (Policy Based Routing)
- Traffic Engineering

- QoS (Quality of Service)
- Redistribution
- Network Merges and Overlapping IP addressing

7.1.4 Border Gateway Protocol

Border Gateway Protocol (BGP) is the core Internet routing protocol. It is used to maintain a table of IP networks or 'prefixes' which designate network reachability among autonomous systems (AS). BGP does not use traditional IGP metrics, but makes routing decisions based on path, network policies and complex rule sets.

ProNetExpert's team includes several CCIE Service Provider certified consultants and offer comprehensive Cisco Service Provider Consultancy.

Cisco BGP Consultancy Services include:

- BGP Transit Autonomous Systems
- BGP Route Selection
- Policy Controls
- Attributes Manipulation
- Policy Controls
- iBGP and eBGP
- Service Provider Connectivity
- Scaling Service Provider Networks
- Optimisation

7.1.5 Quality of Service

QoS (Quality of Service) refers to the ability of a network to provide improved service to selected network traffic over various underlying technologies including Frame Relay, ATM, Ethernet and 802.1 networks, SONET, and IP-routed networks.

In particular, QoS features provide improved and more predictable network service by supporting dedicated bandwidth, Improving loss characteristics, avoiding and managing network congestion, shaping network traffic and setting traffic priorities across the network.

Cisco QoS Consultancy offerings include:

- Modular Quality of Service (class maps, policy maps, service policies)
- Cisco Classification
- Network-Based Application Recognition (NBAR)
- Cisco AutoQos
- Cisco QoS Queuing mechanisms (FIFO, PQ, CQ, LLQ)
- Cisco QoS Congestion Avoidance mechanisms (RED, WRED)
- Cisco QoS Congestion management
- Traffic Policing & Traffic Shaping
- CAR Rate Limiting
- Cisco Link Efficiency mechanisms (CRTP, LFI, Compression)

7.1.6 IP Version 6

IPv6 (IP version 6) is the latest version of the Internet Protocol (IP) and will replace the existing IPv4 addressing scheme. Due to the exponential growth of the Internet, the world is starting to run out of public IPv4 addresses such as (141.1.1.1). ProNetExpert is one of the first consultancy companies to offer training, migrations and complete new designs using IP version 6 technology.

Deploying IPv6 in a network can be a complicated process. Consideration must be taken not only on the implementation of IPv6, but also on the impact of an IPv6 migration to an existing IPv4 network.

IP Version 6 Support Services include:

- Developing IPv6 strategies
- IPv6 readiness audits
- Testing and Staging IPv6 scenarios
- Planning and Designing the IPv6 implementation
- Full IPv6 Migration
- Implementing IPv6 Transition Features
- Implementing secure IPv6 networks
- Supporting and troubleshooting IPv6 Installations
- Full Cisco IPv6 Support

7.2 SECURITY AND IRONPORT

Network Security is one of the most critical concerns facing organisations today. At ProNetExpert Cisco Experts design and install

networks to avert emerging threats and provide rapid response to security violations.

At ProNetExpert a security culture is operated, whereby all of installations are executed to a set of high security standards.

Cisco Security Expert Specialists and Security CCIEs with expert knowledge and experience in the Cisco Self Defending Network, plan and build networks to be Security Compliant, to minimise risk, to reduce the burden of IT administration and maximise the speed of response the threats and attacks.

Cisco Security Consultancy Services include:

- Cisco ASA Firewall Configuration
- Cisco PIX Firewall Configuration
- Cisco Firewall Services Module
- Cisco Network Access Control (NAC)
- Cisco Monitoring, Analysis and Response System (MARS)
- Cisco Intrusion Detection System (IDS)
- Cisco Intrusion Prevention System (IPS)
- IPSec VPN Solutions
- Cisco VPN Concentrator Migrations to ASA
- Cisco DDoS Mitigation Solutions
- Cisco Security Agent (Cisco CSA)
- Cisco Access Control Server (Cisco ACS)
- Cisco Ironport Web and Email Filtering

7.2.1 The Cisco ASA Firewall

The Cisco ASA 5500 Series Adaptive Security provides intelligent threat defense and secure communications services that stop attacks

before they impact business continuity. The Cisco ASA 5500 series enables organizations to lower their deployment and operations costs while delivering comprehensive security for networks of all sizes.

Cisco ASA Firewall Consultancy Services include:

- Translations and Connections
- Access Control Lists (ACLs)
- Firewall Rules
- Content Filtering
- Object Grouping
- Authentication, Authorization, and Accounting (AAA)
- ASA Modular Policy Framework
- Advanced Protocol Handling
- Virtual Private Networks (VPN)
- SSL VPN Configuration / Easy VPN
- AnyConnect Client / Cisco VPN Client
- Firewall Virtualisation and Contexts
- ASA Transparent Firewall
- ASA Failover and Redundancy
- Security Appliance Device Manager (ASDM)
- AIP-Security Services (IPS Module)

7.2.2 Network Access Control (NAC)

Cisco NAC (Network Admission Control) enforces an organization's security policies on all devices seeking network access. Cisco Network Admission Control (NAC) allows only compliant and trusted endpoint devices, such as PCs, servers, and PDAs, onto the network, restricting the access of non-compliant

devices, and thereby limiting the potential damage from emerging security threats and risks.

Cisco NAC gives organizations a powerful, roles-based method of preventing unauthorized access and improving network resiliency.

Cisco NAC (Network Admission Control) Consultancy Services include:

- Cisco NAC Appliance Configuration
- In-band and Out-of-band Configuration
- Cisco Trust Agent
- Cisco Secure Access Control Server (ACS)
- Posture Assessment
- Clean Access Manager (CAM)
- Clean Access Server (CAS)

7.2.3 Monitoring, Analysis and Response System (MARS)

Cisco Security Monitoring, Analysis, and Response System (MARS) provides security monitoring for network devices and host applications supporting both Cisco and other vendors. Security monitoring with MARS greatly reduces false positives by providing an end-to-end topological view of the network, which helps improve threat identification, mitigation responses, and compliance.

Cisco MARS Consultancy Services include:

- Monitoring and Securing Host Application Devices
- CS-MARS Architecture (Local Controller and Global Controller configuration)

- Archive and Restore Procedures
- Running, creating and customising reports
- Incident Investigation and Mitigation
- Integration of multi-vendor devices
- Rule Creation and Customisation
- Signature and Log Level Tuning

7.2.4 Intrusion Detection and Prevention Systems (IDS /IPS)

Business networks of all sizes face increasingly sophisticated attacks that can impede productivity, obstruct access to applications and resources, and disrupt communications. The Cisco Intrusion Prevention System (IPS) protects the entire network with a range of deployment options. This inline, network-based defense identifies, classifies, and stops known and unknown threats to your network.

Cisco IPS (Intrusion Prevention System) Consultancy Services include:

- Cisco 4200 Series IPS Configuration
- Catalyst 6500 ISDM-2 Blade IPS Configuration
- IPS Signature Configuration
- IPS Signature Tuning
- IPS Shunning Techniques
- IPS Anomaly Detection
- IPS Signature Updates
- IPS Maintenance
- IPS Alarm Configuration

7.2.5 Cisco Security Agent (CSA)

Cisco CSA Cisco® Security Agent (Host Intrusion Prevention System) is the first endpoint security solution that combines zero-update attack defense, policy-driven data loss prevention, and signature-based antivirus detection in a single agent. This unique blend of capabilities defends servers and desktops against sophisticated day-zero attacks, and enforces acceptable-use and compliance policies within a simple management infrastructure.

Cisco CSA Consultancy Services include:

- CSA Management Console
- CSA Client Setup
- CSA Agent Kits
- Host Systems Protection (windows and Unix)
- CSA Application Classes
- CSA Variables
- CSA Security Policies and Rules
- CSA System Correlation Rules

7.2.6 Ironport

Cisco IronPort email security appliances are easy-to-deploy solutions that defend email systems against spam, viruses, phishing and a variety of other threats. It is used by eight of the ten largest ISPs and more than 40 percent of the world's largest enterprises. These systems have a demonstrated a record of unparalleled performance, accuracy and reliability.

The Cisco IronPort S-Series is a high-capacity web security appliance designed to combat spyware (which has quickly evolved to become one of the most significant corporate security issues) and other web-based threats.

More than 80 percent of corporate PCs are infected with spyware, yet less than 10 percent of corporations have deployed perimeter spyware defenses.

Cisco Ironport Consultancy Services include:

- Policy Layers / Decryption Policies
- Routing Policies / Access Policies URL filtering / Predefined URL Categories
- Custom URL Categories / Time Based Policies
- Web reputation filtering / The DVS Anti-malware Engine
- Webroot / McAfee / HTTPS inspection
- Authentication
- Integrating with a directory server via LDAP
- Using message filters / redirect and modify messages
- Safe deployment and debugging of message filters
- Domain Key Identified Mail
- Sender Profile Framework verification

7.3 VOICE OVER IP (VOIP)

VoIP is more popular than ever, primarily due the cost savings it brings to the organisations that employ it. At ProNetExpert Cisco Voice consultants work with customers to overcome concerns of the complex technology and to deliver smooth migrations and improvements to IP Telephony networks.

ProNetExpert offer cutting-edge Cisco Voice over IP Consultancy and Unified Communications Consulting, providing expert advice on generic Voice over IP and in the emerging Unified Communications market segment.

Cisco Expert Specialists provide Cisco VOIP Support Services on:

- Cisco Call Manager
- Cisco Unified Communications Manager
- Cisco Unified Contact Center
- Cisco Unified Meetingplace
- Cisco IP Communicator
- Voice Gateways
- SIP
- H.323
- Quality of Service (QoS)
- Voice and Video Conferencing
- IP Telephony and Cisco Unity
- Voice over Wireless LAN (VoWLAN)
- Message Service
- Cisco Rich Media
- Non-Cisco VOIP Solutions

7.3.1 Unified Communications Manager

Cisco Unified Communications Manager (formerly Cisco Call Manager) is an enterprise-class IP telephony call-processing system that provides traditional telephony features as well as advanced capabilities, such as mobility, presence, preference, and rich conferencing services.

Cisco Unified Communications Manager Support Services include:

- Installation and Operation of Cisco Unified Communications Manager
- Troubleshooting and Maintenance of Cisco Unified Communications Manager
- Internal calls and calls to the PSTN
- Cisco Unified Communications Manager
- Media Resources & Voice mail
- Dial plan configuration Cisco Unified Communications Manager
- On-cluster configuration
- Secure Cisco Unified Communications IP Telephony
- Call admission control to prevent over-subscription of the IP WAN
- Cisco Unified Communications Manager
- Express in SRST mode
- Call processing resiliency in remote sites using SRST & MGCP

7.4 TELEPRESENCE

Cisco has developed an innovative solution that creates an "in-person" meeting experience over the converged network. Cisco TelePresence delivers real-time, face-to-face interactions between people and places in their work and personal lives using advanced visual, audio, and collaboration technologies.

These technologies transmit life-size, high-definition images and spatial discrete audio. Now it's easier than ever to discern facial expressions for those crucial business discussions and negotiations across the "virtual table."

The components of Cisco TelePresence use standard technologies in conjunction with specialized applications and hardware to create an approachable solution using the network and unified communications as core components.

ProNetExpert understands, that the need to cut travel costs becomes more important as budgets get tighter. Our Cisco TelePresence Consultants will help you designing, installing, operating, maintaining and troubleshooting your Cisco TelePresence Video Conferencing System.

Cisco TelePresence Support Services include:

- Room Readiness Assessment (RRA) using the RRA tool
- TelePresence Network Architecture and Network Path Assessment

- Cisco TelePresence Manager (CTM) Server
- Cisco TelePresence CTM Software application
- Cisco TelePresence Business Unit (TSBU) multipoint capabilities
- Tuning Cisco TelePresence Cameras
- Cisco TelePresence Multipoint Switch
- Cisco TelePresence System 500, 1000, 3000 & 3200 series

- Cisco Nexus 5000 & Cisco Nexus 7000 series
- IP Multicast on a large scale

7.5.1 MPLS

Cisco IOS Multiprotocol Label Switching (MPLS) enables Enterprises and Service Providers to build next-generation intelligent networks that deliver a wide variety of advanced, value-added services over a single infrastructure.

This economical solution can be integrated seamlessly over any existing infrastructure, such as IP, Frame Relay, ATM, or Ethernet.

Subscribers with differing access links can be aggregated on an MPLS edge without changing their current environments, as MPLS is independent of access technologies.

Our Cisco MPLS Consultancy Services include:

- Cisco MPLS Layer 3 VPNs
- Cisco MPLS Layer 2 VPNs
- Cisco MPLS Traffic Engineering
- Quality of Service (QoS)
- GMPLS
- IPv6 MPLS
- Fast Reroute
- Any Transport over MPLS (AToM)

7.5 SERVICE PROVIDER NETWORKING

Service Providers are the heart of the Internet and are considered to be the crown class of Internetworking.

SP Technology is used by big blue chip and enterprise customers. ProNetExpert employ several CCIE Service Provider certified consultants offering comprehensive Cisco Service Provider Consultancy on:

- Multiprotocol Label Switching (MPLS)
- Routing and Traffic Engineering
- Intermediate System to Intermediate System Configuration (IS-IS)
- Border Gateway Protocol (BGP) Configuration
- IOS XR
- Gigabit Switch Router (Cisco GSR - 12000 series)
- Cisco 7200, Cisco 7300, Cisco 7400 & Cisco 7600 Router platforms
- Cisco ASR 1000 & Cisco ASR 9000 series
- Cisco CRS-1 (Carrier Routing System)

7.6 STORAGE NETWORKING

Data Centre infrastructures must evolve rapidly to improve resiliency, increase business responsiveness, and keep up with the growing demands of new applications, whilst reducing overall power consumption.

Storage costs are growing faster than server costs, increasing the need for efficient and cost-effective storage. In highly competitive environments that comply with government regulations for data recovery, 24-hour access to critical information is imperative.

The ProNetExpert Storage Consultancy Services include expertise on:

- VSANs
- Zoning
- FICON
- iSCSI
- IVR
- Fabric Binding
- FCIP & Fibre Channels
- Cisco MDS 9000 series

7.7 OPTICAL NETWORKING

Cisco optical technology accelerates service delivery through remote provisioning across Ethernet-enabled dense wavelength-division multiplexing (DWDM) networks.

The ONS 15454 is the flagship of the Cisco Optical portfolio, which includes core, edge/access, and DWDM platforms

supporting a broad range of provider, carrier, and enterprise solutions.

The ProNetExpert Optical Networking Consultancy Services include expertise on:

- Metro Core (ONS 15600 / ONS 15454 / SONET / SDH / MSSP)
- Metro DWDM (ONS 15454 MSTP / ONS 15500 Series Metro DWDM)
- Metro Edge Access (ONS 15327 / ONS 15310 / SONET / SDH / MSPP)
- Cisco Optical Network Management
- Cisco Transport Manager

7.8 CONTENT NETWORKING

Cisco WAAS & ACE Consultancy becomes more and more important as business demands on the network increase.

ProNetExpert has Cisco WAAS & ACE Consultants who can help to optimise existing infrastructures for high-class content delivery and performance.

Continued Cisco CCS Support Services on the Cisco CSS 11500 Content Switches is also provided.

ProNetExpert Content Networking consultancy services includes:

- Application Control Engine appliance
- ACE Blade Architecture
- ACE Contexts
- ACE SSL Termination

- Server Load Balancing (SLB)
- Layer 4 - Layer 7 Optimisation
- Wide Area Application Services appliance
- WAAS Blade Architectures
- NME-WAE
- WCCP
- Cisco WAAS Application Optimizers
- Cisco WAAS Mobile Client Solution
- Cisco Load Balancing solutions (Cisco Content Switch CSS 11500)

- Wide Area Application Services appliance
- WAAS Blade Architectures
- NME-WAE
- WCCP and WCCPv2
- Caching / QOS / NETFLOW
- Cisco WAAS Central Manager
- Cisco WAAS Transport Flow Optimizations (TFO)
- Cisco WAAS configuration for CIFS and NFS
- Cisco WAAS Application Traffic Policies
- Cisco WAAS Application Optimizers
- Cisco WAAS Mobile Client Solution

7.9 WAN OPTIMISATION

WAN optimization products seek to accelerate a broad range of applications accessed by distributed enterprise users by eliminating redundant transmissions, staging data in local caches, compressing and prioritizing data, and streamlining chatty protocols (e.g. CIFS).

WAN Optimization is a superset of WAFS in that it also addresses SSL-encrypted ASP and Intranet applications, Multimedia e-learning applications, component techniques of WAN Optimization including WAFS, CIFS proxy, HTTPS Proxy, media multicasting, Web caching and bandwidth management.

WAN Optimization enables customers to achieve substantial long term cost savings on leased line and bandwidth costs.

ProNetExpert WAN Optimisation services include:

7.10 WIRELESS NETWORKING

Wireless Networking is a key requirement for most organisations giving them the ability to provide instant access to data and voice without physical connectivity to their employees and guests.

ProNetExpert Wireless services include:

- Wireless Mesh networking
- Cisco Wireless LAN Controllers, LWAPP solutions, Cisco 4400 series
- Cisco 4400 series, Cisco 2100 series, Cisco WLC network module (ISR)
- Unified Wireless Access Points and Antennas
- Wireless LAN Solution Engine (WLSE)
- Cisco WiSM blade
- Cisco Wireless Control System implementations (WCS)

- Cisco IOS based autonomous WLAN solutions
- Wireless Site surveys (ie Air Magnet) & RF Analysis
- Wireless Spectrum Analysis (ie Cognio - now Cisco)
- Location Based Services, Location Based Appliance (LBS) & RFID Technology
- Cisco 3300 Series Mobility Services Engine (MSE)
- Wireless LAN Security audits and implementations (802.1x, WPA, WPA-2, AES)
- Wireless LAN Quality of Service (QoS)
- Voice over Wireless LAN (WLAN)
- Wimax deployments
- Cisco 802.11n Solutions
- Non-Cisco 802.11a, 802.11g and 802.11n Solutions
- Beam Forming, Spatial Multiplexing, Maximal Ratio Combining (MRC)
- 40 MHz Channel Bonding
- Frame Aggregation (MSDU / MPDU) & Block Acknowledgements
- 2.4 GHz & 5 GHz 802.11n operations
- Cisco 802.11n solutions (new deployments & migrations from legacy)
- High Throughput Mode (HT)
- Cisco 1140 series 802.11n Access Points
- Cisco 1250 series 802.11n Access Points

7.10.1 Cisco 802.11n

802.11n has much to offer enterprises in the areas of throughput, reliability, and predictability. However it is important for enterprises to examine the specific ways in which 802.11n can enhance their wireless networks and to separate some of the hype from the facts.

ProNet Expert is at the forefront of this next generation Wireless technology and offers 802.11n consultancy services around the following portfolio:

- 802.11n MIMO (Multiple In - Multiple Out)

7.11 WIMAX

Cisco Broadband Wireless (WIMAX) is the industry's first end-to-end IP next-generation network (IP NGN) solution that integrates licensed and unlicensed wireless access technologies into a converged IP service delivery architecture. Built on the same Carrier Ethernet infrastructure used by cable, wireline, and mobile operators, Cisco Broadband Wireless adds Mobile WiMAX, WiFi hot spots, and WiFi mesh, creating new opportunities for service providers, customers, and markets.

The device- and access-independence enabled by IP NGNs, along with the ability to exercise precise control of converged applications means that you deliver not just access, but flexible personalized experiences to subscribers. You become an "experience provider" who can command greater customer loyalty, brand impact, and service revenue.

ProNetExpert WiMAX services cover:

- Cisco BTS 10200
- IEEE802.16e-2005 Mobile WiMAX
- Cisco Service Application Module for IP (SAMI)
- WiMAX Microwave Access Interoperability
- HSDPA / HSUPA / LTE
- WiMAX Radio Interface (OFDM / OFDMA)
- Cisco Broadband Wireless Gateway (BWG)
- Cisco BWX Broadband Wireless Access System
- Cisco BWX 8300 Series
- Cisco IP NGN Carrier Ethernet
- Self-service signup and provisioning
- Cisco Intelligent Services Gateway (ISG)

7.12 IP VIDEO SURVEILLANCE

The Cisco IP Video Surveillance solution is a flexible, comprehensive and complete solution to manage Physical Security. It integrates smoothly with existing, legacy CCTV camera solutions or can be operated on a pure IP level. It offers live and archived streams in all common media formats and provides archived storage for video streams.

The ProNet Expert Security consultants are at the forefront of technology and can help you migrating to or installing a full IP Video Surveillance Solution in order to save huge amounts on operational costs.

Cisco IP Video Surveillance Consultancy Services include Business Consultancy on why to migrate to a Cisco IP Video Surveillance Solution plus Re-Design, Design, Operation, Configuration, Troubleshooting and Maintenance of Cisco IP Video Surveillance Solutions including, Stream Manager, underlying Solaris infrastructure, analogue cameras, digital IP cameras, dashboards, PTZ cameras, domes, Video Manager and Storage System (VMSS), Video Surveillance Manager Overview (VSM), Encoders, Decoders, Video Surveillance Operation Manager (VSOM) and Cisco IP Video Surveillance solutions for the ISR (Integrated Services Router).

7.13 DIGITAL MEDIA SERVICES

The Cisco Digital Media System is a comprehensive suite of digital signage, Enterprise TV, and desktop video applications that allows companies to use digital media to increase sales, enhance customer experience, and facilitate learning.

- Digital Media Manager
- Digital Signage
- Desktop Video
- Digital Media Encoder (DME)
- Cisco Video Portal (VP)
- Digital Media Player (DMP)
- Enterprise TV
- Cisco ACNS Platforms
- Video Portal & Cisco IP Televisio

8. HARDWARE

ProNetExpert can provide their clients with advice on what hardware to select in order to meet their network requirements as well as what the latest software versions and patches are.

ProNetExpert will also provide the equipment to the customer as required.

8.1 NETWORK DESIGN

ProNetExpert can help to put together the network design, for customers who wish to improve or implement all types of network infrastructures.

This may include identifying end-of-life hardware and suggesting the relevant replacements or generally specifying the hardware that is most functional and cost appropriate to the customer's needs.

8.2 HARDWARE SUPPLY

ProNetExpert work to provide hardware on request to their clients at a discounted rate.

CONTACT US



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