Cisco Connected Roadways and Intelligent Transport Systems

The Mobile TeleWorker gains flexibility and productivity. Cisco delivers a suite of teleworking solutions with a cost-effective approach that preserves business security and agility, increases productivity, and reduce costs by continuously connecting the TeleWorker, anytime, from every location at home or on the road.

Teleworker/Mobile Worker

IP Soft Phone
TelePresence MOVI
Video Conferencing
Virtual Desktop
WAAS Mobile
Anyconnect VPN Client

ISR G2 Router
VPN
Firewall
Wireless

Mobile Phone
Anyconnect VPN Client

Cloud Services

Cisco webex

ScanSafe

Network Management

Cisco Security Manager (CSM)

Data Centre Network Manager (DCNM)

Identity Service Engine (ISE)

Prime

Network Control Systems (NCS)

LAN Management System (LMS)

Network Analysis Module (NAM)

Collaboration Manager (CM)

Cisco Security solutions protect assets and empowers the workforce. Context-aware security provides high level intelligence, policy governance, and enforcement capabilities. Significantly enhancing the accuracy, effectiveness, and timeliness of any organisation's security implementation.

Internet

Cloud Services can offer savings in IT resources such as computing storage and application services. "The Cloud" can provide theses services as elastic resources that are suitable for use in existing or new applications without a large investment in capital resources and ongoing maintenance costs. **WebEx** delivers online meetings and easy-to-use web collaboration tools to the entire workforce. **Scansafe** keeps malware off the corporate network and more effectively controls and secures web usage.

Travelers

Remote Traveler Support

Personal Information Access

WiFi Access Point

Mobility Router

Traffic Management Center

Door Access Control

Video Surveillance Virtual Matrix

ASR 903 Router

IP Phone Console

- Traffic Management
- Emissions Management
- Fleet and Freight Management
- Information Service Provider
- Toll Administration
- Maintenance and Construction Management
- Emergency Management
- Transit Management
- Archived Data Management
- Traffic Enforcement and Collection
- Commercial Vehicle Administration

Wide Area Wireless Communications

Fixed Point Wide Area Communications

Vehicle to Vehicle 802.11p Comms

Dedicated Short Range Comms (DSRC)

Vehicles

- Vehicle
- Maintenance and Construction Vehicle
- Emergency Vehicle
- Commercial Vehicle
- Transit Vehicle

819/829 4G Router/DSRC/ 4.9/B14 Modem

Rugged Mobile Computer Connected Field Staff

Field

- Roadway
- Toll Collection
- Parking Management
- Security Monitoring
- Commercial Vehicle Check

Cisco IE2000/3000

IP Camera

Cisco 819/829 Router

Local Office/Depot

PSTN

ISR G2 Router
WAN Optimisation (WAAS)
Push-To-Talk Radio (IPICS)
Survivable Remote Site Telephony (SRST)

WiFi Access Point

Catalyst 3750X Switch Cluster PoE Energywise

Door Access Control

Video Surveillance

Digital Signage

TelePresence

IP Video Phone

VXC/Tablet (Virtual Desktop)

Internet Edge

ASR1000 Router
WebEx Node

ASA5500 Firewall
Intrusion Prevention (IPS)
Virtual Private Network (VPN)

Video Communication Server (VCS) Expressway

Ironport Email Security
Anti-Spam, Anti-Virus
Data Loss Prevention (DLP)

Ironport Web Security
Acceptable Use Policy (AUP)
Malware Prevention

Wireless LAN Controller (Guest Access)

WAN Aggregation

Wireless LAN Controller

WAN Optimisation (WAAS)

ASR 1000 Router

ASR 1000 Router

WAN Optimisation (WAAS)

Wide Area Application Services (WAAS) is a comprehensive WAN optimization solution that accelerates applications over the WAN, delivers video to the branch office, and provides local hosting of branch-office IT services. Cisco WAAS allows IT departments to centralize applications and storage in the Data Centre while maintaining LAN-like application performance.

IP/MPLS in the WAN enables converged secure link virtualisation. It reduces overall costs by supporting multiple logical networks across a single physical infrastructure.

Primary Data Center

Ethernet
Fibre Channel over Ethernet (FCoE)
Fibre Channel Storage Links

Catalyst 6500 VSS Services Layer Firewall
Server Load Balancing (ACE)
Network Application Monitoring (NAM)

Nexus 7000 Core/Aggregation Switch

Nexus 7000 Core/Aggregation Switch

Catalyst 6500 VSS Services Layer Firewall
Server Load Balancing (ACE)
Network Application Monitoring (NAM)

Voice Services

Unified Computing System (UCS) Blade

- Hypervisor
- Nexus 1000v
- Virtual Machines
  - Communication Manager (CUCM)
  - Unity Connection (CUC)
  - Jabber (Presence)
  - Contact Centre (UCCX)
  - Meeting Place
  - Attendant Console

Unified Computing System (UCS) Blade

- Hypervisor
- Nexus 1000v
- Virtual Machines
  - Digital Media Manager (DMM)
  - Show & Share Server
  - Webex Social
  - Network Management
  - TelePresence Ctrl Server (TCS)
  - TelePresence Manager (TMS)

Unified Computing System (UCS) Blade

- Hypervisor
- Desktop Virtualisation Software
- Virtual Machines

Nexus 5000 Switch

Nexus 2000 Switch

Unified Computing System (UCS)

- IPICS Server
- Physical Access Manager (PAM)
- Video Surveillance Operations Manager
- Video Surveillance Media Server (VSMS)
- Enterprise Content Delivery Sys (ECDS)

Nexus 5000 Switch

Nexus 2000 Switch

Unified Computing System (UCS) Rack

- Mobility Services Engine (MSE)
- Media Exchange Engine (MXE)
- Video Comms Server (VCS)
- TPresence Multipoint Control Unit (MCU)

Nexus 5000 Switch

Nexus 2000 Switch

ISR G2 PSTN Gateway Voice/Video DSP

PSTN

SAN

MDS 9500 SAN Switch

MDS 9500 SAN Switch

Storage

Storage

Cisco Unified Fabric Data Centre provides flexible, agile, high-performance, non-stop operations; self-integrating information technology, reduced staff costs with increased uptime through automation, and more rapid return on investment. It accelerates virtualisation and enables automation to extend the lifecycle of mission-critical resources to support evolving needs. Rail companies can reduce their total cost of ownership (TCO) and increase business agility—both critical to combating the server sprawl and inefficiency inherent in many data centres today.

HQ Campus

ISR G2 PSTN Gateway Voice/Video DSP

PSTN

Building Management System (BMS) HVAC/Lights

Catalyst 6500 VSS Core Switch

Catalyst 3750X Switch Cluster PoE Energywise

WiFi Access Point

Door Access Control

Video Surveillance

PC/Tablet (Virtual Desktop)

IP Video Phone

Digital Signage

TelePresence

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