

**UNIVERSITY OF
PORTSMOUTH**



Pulse Connect
Fast & Reliable



Pulse connect

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Introduction

At Pulse Connect, we're all about delivering fast, secure, and scalable network solutions—designed to thrive in high-energy, ever-changing environments. We're thrilled to submit our proposal for the Festivity Junction project: a three-day celebration of music and crafts at the Royal Cornwall Events Centre, expected to welcome over 35,000 enthusiastic attendees.

Our network solution is built on a rock-solid, future-ready foundation that guarantees smooth, reliable connectivity across the entire venue. Whether it's strong wireless coverage for festival-goers or secure wired connections for vendors and staff, our design is all about efficiency, reliability, and a great user experience.



What's included ?

Here's what this pitch includes:

- The strategic thinking behind our network design
- A full security plan—covering both physical and digital aspects
- A detailed breakdown of our logical and physical network layout
- A clear, cost-effective invoice
- And what makes Pulse Connect the perfect fit for this project

What sets us apart?

It's our thoughtful blend of cutting-edge tech, real-world user needs, and a deep understanding of event logistics. We're confident Pulse Connect is the right partner to power Festivity Junction 2025.

Assumptions

- Public networks are more susceptible to attacks
 - Use firewalls/encryption/VLANS
- Bandwidth demand might get high as there are many festival attendees
 - Prioritise staff/vendor stalls
 - Set up different networks for staff and public
 - Consider using a star topology as it can accommodate heavy traffic
- Network might go down
 - Consider using multiple ISPs
 - Backup generators
- Equipment failure due to e.g weather/physical damage
 - Backup equipment e.g switches/cables
 - Equipment secure and protected/waterproof
 - Make sure attendees can't access components
- Stage areas will be more densely packed with attendees than most other areas
 - Consider prioritising

Security

Each user group(**Guests**, **VIPs**, **Staff**, **Stalls**, and **Wired Stalls**) will have a dedicated network to use.

Guests will use an open-access network with bandwidth limitations.

VIPs, Staff, and Stalls will have access to a private, secured network, with better performance.

VLANs (Virtual Local Area Networks) will be implemented, to isolate networks, also preventing unauthorised access.

All wireless networks will be encrypted using WPA3(Wi-Fi Protected Access)

Security

A firewall and DDoS Protection will be implemented to prevent unauthorised access from outside of the festival area, and mitigate cyber threats.

For physical security, network hardware will be secured in locked enclosures and racks, to prevent tampering, while all switches and routers will be placed near server/network hardware racks, only accessible to staff.

CCTV cameras will be installed at/near stalls and in other key locations, to monitor activity and prevent tampering.

Security

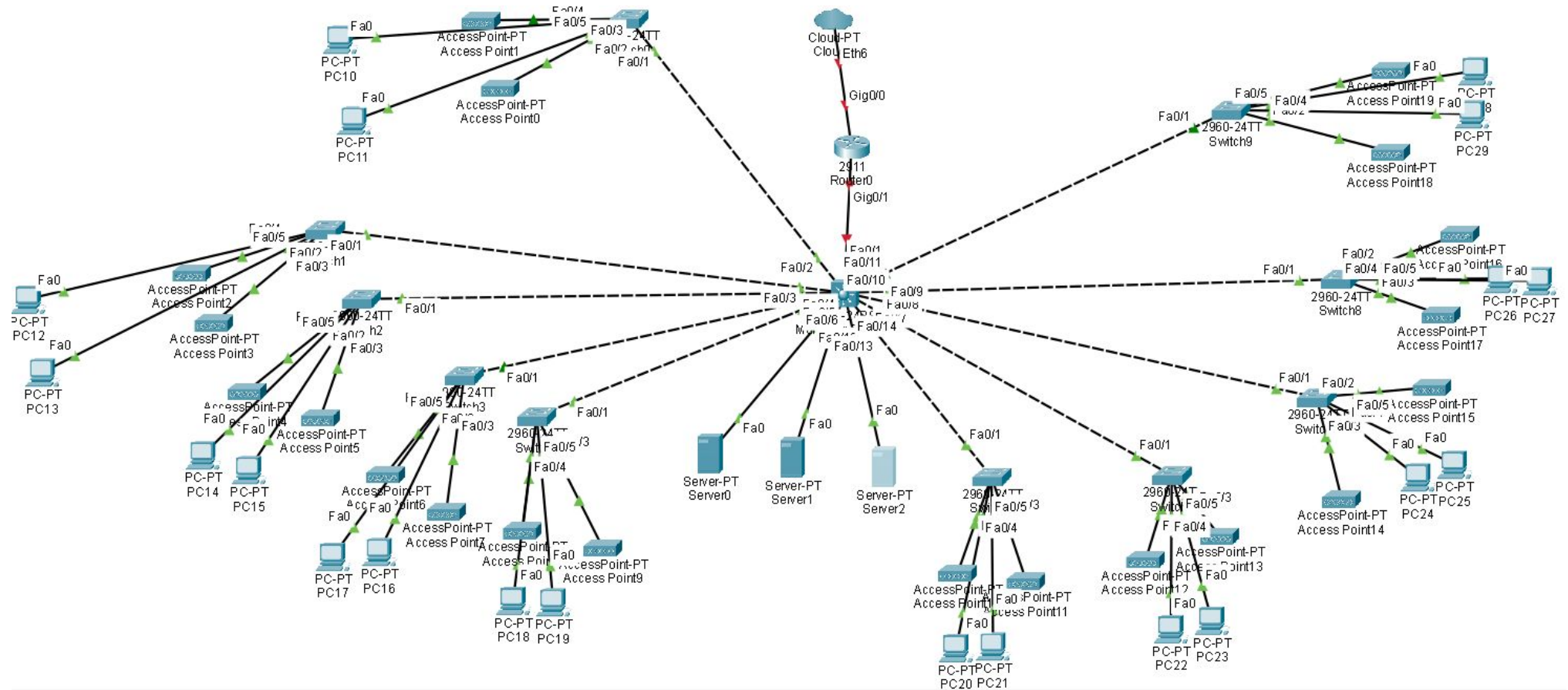
The networking equipment will be connected to backup power sources like:

- UPS(Uninterruptible Power Supply) units, to ensure constant power output by providing short-term backup power source during a short power outage.
- Generators - diesel generators that can provide power for longer periods in case power restoration fails.

This backup equipment will also be stored near server racks and other secluded stalls to ensure easy access for maintenance.



Logical Design

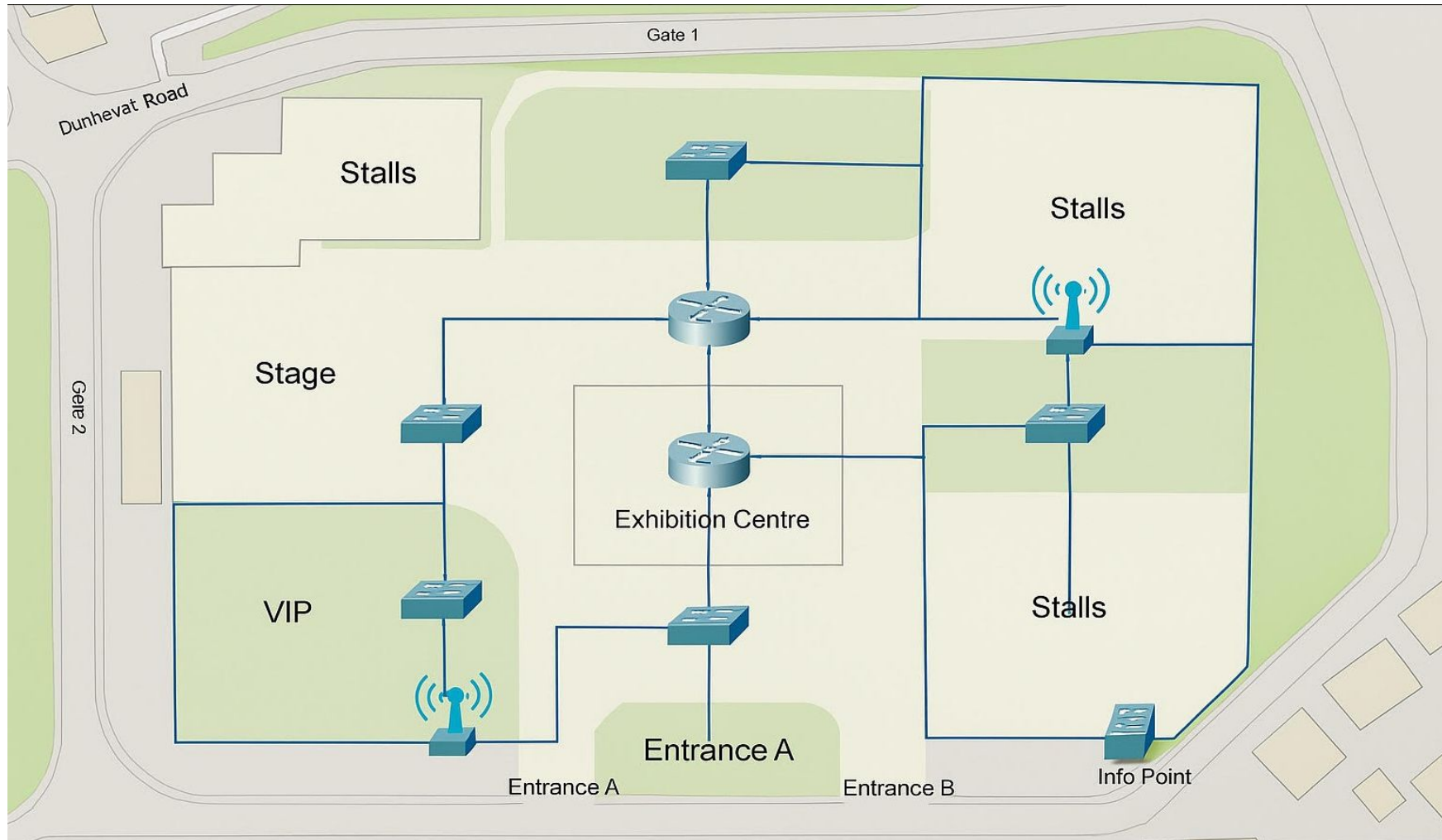


Logical design

- **3-tier hierarchical topology:** Core, Distribution, and Access layers
- **Cisco 3560**
 - Routes traffic between VLANs
 - Connects all access switches and servers
- **Cisco 2911 Router**
 - Connects to the internet via ISP
 - Handles NAT and external routing
- **Firewall**
 - Positioned between router and internal network
 - Controls inbound/outbound traffic
- **Cisco 2960 Switches**
 - Connects all wired devices and access points
 - Segments traffic to different VLANs
- **Access Points**
 - Provide wireless for public, staff, and VIPs
 - Connected to access switches
- **Servers**
 - Provide DHCP, DNS, and optional web services
 - Connected directly to the core switch
- **End Devices**
 - Stalls, info points, gates, staff/VIP/public users
 - Connected via access switches or wireless



Physical Design



Physical Design — Pucte

Festivity Junction

Physical design

The physical network layout for Festivity Junction 2025 has been thoughtfully crafted to deliver full-site coverage, maximum reliability, and smooth operations throughout the festival grounds.

Highlights of the Design:

- **Main Network Hub (MDF)**: Centrally housed in the Exhibition Centre, this hub serves as the heart of all network routing and switching. Its location is ideal, offering consistent power and reliable internet access.
- **Access Switches**: Placed near groups of stalls, stages, and info points, these switches are connected via structured cabling to maintain fast, stable connections.
- **Wireless Access Points (WAPs)**: Deployed across high-traffic areas including:
 - VIP Lounge
 - Food & Craft Vendor Areas
 - Entry and Exit Points
 - Staff and Ticketing Stations

These ensure festival-goers and staff enjoy smooth internet access, especially where mobile coverage may fall short.

- **Secure Network Zones**: The network is segmented to separate public users from vendors, staff, and VIPs. This enhances both performance and security.
- **Information Kiosks**: Twenty interactive touchscreen kiosks are spaced throughout the site, each connected by a wired link for reliable uptime and real-time attendee updates.
- **Redundancy & Cabling**: Cable paths are routed to avoid busy areas while keeping distances short to reduce latency and minimize wear. Key routes have backups to maintain service in case of failure.

Invoice



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QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
1	Cisco 2911 Edge Router	£1,200.00	£1,200.00
1	Cisco Catalyst A3560 (Core Switch)	£900.00	£900.00
10	Cisco Catalyst 2960-X (Access Switches)	£1,800.00	£18,000.00
20	Cisco Aironet 1832I (Access Points)	£400.00	£8,000.00
3	Rack Servers (Mid-Range)	£2,000.00	£6,000.00
100	Desktop PCs (End Devices)	£500.00	£50,000.00
30	Laptops (VIP/Staff Devices)	£700.00	£21,000.00
20	Tablets (Staff/Festival Makers)	£300.00	£6,000.00
1	Cisco ASA 5505 Firewall	£1,000.00	£1,000.00
1	Cat6 Patch Cable (Router ↔ Firewall)	£3.49	£3.49
1	Cat6 Patch Cable (Firewall ↔ Core Switch)	£3.49	£3.49
10	Cat6 Patch Cable (Core ↔ Access Switches)	£8.99	£89.90
3	Cat6 Patch Cable (Core ↔ Servers)	£6.99	£20.97
20	Cat6 Patch Cable (Access ↔ APs)	£8.99	£179.80
2	Cat6 Patch Cable (Access ↔ Gate PCs)	£6.99	£13.98
20	Cat6 Patch Cable (Access ↔ Info Points)	£6.99	£139.80
100	Cat6 Patch Cable (Access ↔ EPOS PCs)	£6.99	£699.00
1	Labour (Installation - 57 hours)	£1,710.00	£1,710.00

SUBTOTAL: £114,960.43

TAX(20%): £22,992.09

TOTAL DUE: £137,952.52

Summary



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Project Overview

- Proposal for Festivity Junction 2025: a 3-day music & crafts festival at the Royal Cornwall Events Centre
- Expected attendance: 35,000+ people

Our Solution

- Scalable, secure, and high-performance network infrastructure
- Reliable wireless for attendees; secure wired access for vendors and staff
- Designed for dynamic, high-density environments

Key Components of the Proposal

- Strategic design assumptions
- Comprehensive security plan (physical & digital)
- Logical and physical network architecture
- Clear, cost-effective pricing
- Unique value Pulse Connect brings to the project

Why Pulse Connect

- Future-proof, resilient design
- Strong focus on user experience and event operations
- Trusted partner for large-scale connectivity solutions

Conclusion

Pulse Connect is set to provide a network that's not just reliable and secure, but also built to grow with Festivity Junction 2025. We're confident our solution won't just meet your needs—it'll go beyond what you expect

Thank you for listening !

Do you have any questions ?

