



*The mission of CTK Healthcare and Career Institute is to offer quality professional trainings in Healthcare, Information Technology and Business related disciplines.*

## **Technical Infrastructure Planning: Development & Implementation**

### **Ensuring Security, Maintenance & Upgrades**

#### **CTK Healthcare & Career Institute**

##### **Overview:**

This document outlines CTK Healthcare & Career Institute's structured plan for developing, implementing, securing, maintaining, and upgrading its technical infrastructure. It ensures operational reliability, data protection, cybersecurity readiness, and scalability as CTK expands its programs and campuses.

##### **Key Components of Technical Infrastructure Planning:**

- Technology development and implementation for instructional and administrative operations.
- Network stability and bandwidth management for online/hybrid programs.
- Cybersecurity measures to protect institutional and student data.
- Routine maintenance and continuous system monitoring.
- Scalable upgrade planning to support new programs and additional campuses.
- Staff training on technology systems, compliance, and secure usage.

##### **Needs Assessment Findings:**

- Increased reliance on LMS, virtual classrooms, and digital student services requires higher network stability.
- Cybersecurity risks demand stricter protections and system monitoring.
- Hardware replacement cycles and software updates must be standardized.
- Staff require ongoing training for new technology tools.
- Backup and redundancy systems need strengthening for business continuity.

##### **Recommendations:**

- Develop an annual Technical Infrastructure Plan aligned with institutional growth.
- Implement multi-layer cybersecurity, including MFA, encryption, and firewalls.
- Schedule regular system updates and quarterly maintenance checks.
- Expand bandwidth and network capacity based on enrollment growth.
- Establish cloud-based backup systems with automatic daily backups.
- Provide mandatory staff training on cybersecurity and technology operations.

##### **Plan & Procedure (Simple Clean Outline):**

1. Planning and Development

- Conduct annual reviews of technology needs across all departments.
- Identify gaps in hardware, software, and connectivity.
- Develop budget proposals for upgrades and replacements.
- Align technology planning with new program launches and campus expansions.

## 2. System Implementation

- Install and configure hardware and software following standardized procedures.
- Test systems for compatibility and performance.
- Document configurations and update asset inventory logs.
- Provide training for instructors and administrative staff.

## 3. Security Protocols

- Enforce strong passwords and multi-factor authentication (MFA).
- Use encrypted devices and secure storage for sensitive data.
- Maintain firewalls, antivirus software, and intrusion detection systems.
- Monitor security alerts and conduct monthly vulnerability scans.

## 4. Maintenance Procedure

- Perform quarterly maintenance on all institutional technology.
- Update operating systems and licensed software regularly.
- Track performance metrics to identify issues early.
- Replace outdated or malfunctioning equipment promptly.

## 5. Backup & Disaster Recovery

- Conduct automatic daily backups for critical systems.
- Store backups securely in both cloud and physical secure locations.
- Test backup restoration quarterly.
- Maintain documentation for disaster recovery procedures.

## 6. Upgrade & Scalability Planning

- Review all hardware and software annually.
- Plan upgrades ahead of new program and campus openings.
- Expand storage, bandwidth, and server capacity based on demand.
- Upgrade online testing tools, LMS features, and classroom technology regularly.

### **Conclusion:**

This technical infrastructure plan ensures CTK Healthcare & Career Institute maintains a secure, reliable, efficient, and scalable technology environment supporting students, faculty, compliance, and institutional growth.