

NC DIT Delivers Effective, Affordable IT Solutions and Services to State Agencies

The NC Department of Information Technology (DIT) is the leading provider of IT services to state agencies, local governments, and educational institutions across North Carolina. The Department supports critical services to the state and operates under the leadership of the State of North Carolina Chief Information Officer (SCIO), as appointed by the Governor. The State CIO provides direct management over IT operations and has statewide IT responsibilities, including technical architecture, procedure, project management, and security. The Office of the State CIO provides oversight of state agency IT projects and manages IT procurement, cybersecurity, business relationship strategies, and statewide architecture. The SCIO is also represented



on Boards and Commissions including the 911 Board, the NC Geographic Information Coordinating Council (GICC), and the Criminal Justice Information Network (CJIN).

NC DIT Services

<https://it.nc.gov/services/service-directory>

- Enterprise Identity Management
- Multiple Data Centers and ITIL-Trained Service Desk and 24/7 Support Teams
- Hosting Services include Mainframe, Database, Distributed, Platform; Floor; Storage, AIX/Solaris, and Customer Premise Network Security Services
- Security includes Cybersecurity, Risk Management, and Disaster Recovery and Failover Plans and Testing
- Network Infrastructure includes WAN / LAN / WLAN and Cabling Services
- Telephony includes EIPT, Contact Center, Cellular, and other Traditional Services
- Enterprise Productivity, Communications, and Collaboration Tools
- Enterprise Monitoring Networks, Servers, and Applications
- NC GDAC Data Analytics and CGIA Geographic Information Analysis
- Project Management, Strategic Planning, Design, and System Architecture
- Regulatory Compliance Standards and Guidelines
- New Offerings! Cloud Services, Distributed Systems Disaster Recovery, and Enterprise Service Bus



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NC DIT: Flexible, Affordable IT Solutions

Enterprise Identity Management

- NCID provides services 24/7, 365 days a year.
 - Identity Management to state, local, business and citizen users
 - Unified platform for e-business authentication and access to customer-based applications
- Multi-Factor Authentication (MFA) assures security via mobile apps, phone calls, text messages, third-party software, or tokens.
- Enterprise Active Directory Services (EADS)
 - Reduces state agency infrastructure and operating costs
 - Automates management of network-based resources

Multiple Data Centers, ITIL-Trained Service Desk and 24/7 Support Teams

- Two geographically separate, state-of-the-art Data Centers:
 - 10GB dual-routed, MAN-connected, which allows continuous connectivity between the two data centers
 - Enterprise Level UPS with onsite diesel-powered backup generators
 - NIST 800-53 compliant
 - 24/7 operations
 - Mainframe services, secure racks for distributed systems, network components, and storage
 - Floor-hosting options for agencies preferring to manage their own infrastructure
- DIT Service Desk operates 24/7 and provides assistance and rapid restoration of services received via phone or Service Portal ticket.
 - All incidents are logged, resolved, or escalated to next support level.
- DIT Incident Management Center (IMC) is a 24/7 network operation center that monitors events impacting the DIT core network, mainframe, servers, and data centers.

Hosting Services, Including Mainframe, Database, Distributed, Platform, Floor Hosting, and Storage

DIT hosting services ensure cost-effective services and security for computers, and storage at both NC DIT Data Centers.

- IBM Mainframe Hosting for z/OS for state and local governments, municipalities, and school systems includes:
 - Pervasive encryption utilizing latest CPU processors running z/OS
 - IRS 1075 secure partitions for agencies with highly sensitive data
 - Customer Information Control System (CICS) regions for daily use
 - Batch application needs available after hours and weekends.
- Middleware and Software Services Management MQSeries, DB2 Connect, CTG, WebSphere App Services, CAAPM MQ Series monitoring, and high-speed printing services
- Database services include IBM's DB2 on the mainframe, Oracle, and MS SQL Server on distributed systems
- Database replication, clustering, monitoring, performance stats, on-call paging support, and migration assistance
- Design assistance ensures integrity, security, and recoverability.
- Managed or unmanaged (floor hosting) distributed environment solutions utilizing IBM AIX, Solaris, MS Windows, and RedHat Linux
- DIT helps with design and service offerings for:
 - Highly Available (HA) needs
 - Disaster Recovery (DR)
 - On-premise DIT Cloud offerings for self-service, self-managed environments
 - On-premise DIT Cloud offers cost-effective services to agencies for development, migration, or other needs that can be available within 15-20 minutes of the request.
- Hosting environments can be integrated with
 - Storage, backup, and archive services
 - Secured environment with 24/7 monitoring.
- Storage options vary to meet agency needs and include:
 - Network Attached Storage (NAS)
 - Enterprise-class Storage Area Networks (SAN)
 - Archive or cold storage
 - Reporting capabilities

NC DIT: Security and Communications Services

Security Services Including Cybersecurity, Risk Management, Disaster Recovery and Failover Plans and Testing

DIT offers Security and Disaster Recovery solutions and options to ensure continuous or near-continuous operations. This is accomplished through architectural validation during implementation or as needed when situations require a reassessment. Services and options include:

- Onsite premise Network Security and Firewall Management, VPN Security, and Intrusion Protection Services (IPS) with 24/7 monitoring, and encryption
 - MS SCCM (Security System Configuration Management) for server, desktop management, and patching services
 - McAfee ePolicy Orchestrator for antivirus, laptop encryption, and web content filtering
 - MS Intune Mobile Device for mobile devices
 - MobileIron (via state contract) for mobile device management.
- Disaster Recovery services and options for agency-defined events include:
 - Notification Manager component of the Assurance Software package for agency call tree for agency-defined events
 - DIT's security and threat email notification system and mailing lists
 - Incident response is 24/7, including NC National Guard and security as needed.
 - Forensic services as needed
 - Failover testing processes, plans, and procedures
 - Business Continuity Planning, Business Impact Assessments (per application).

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Network Infrastructure WAN, LAN, WLAN, and Cabling Services

As a managed service provider, DIT offers fast, reliable, and secure network connectivity. DIT's Managed Network Services consults to meet agency business needs, design implementation, and 24/7 support to meet Service Level Commitments.

- Managed WAN Services connects agencies' Local Area Network (LAN) to other customer locations, state agencies, (including DIT) and Internet using the state network.
 - Service Suite includes Enterprise WAN (Gold 99.9% SLA and Silver 99.5% SLA), Hybrid SD-WAN (Silver 99.5% SLA), and Business Class Broadband (Bronze 99% SLO).
 - Key features include statewide security compliance, speeds up to 10Gb, and all hardware, software, and last-mile circuits to deliver service to agency premises.
- Managed LAN Services provides Local Area Network (LAN) infrastructure within a building or campus to enable communications among local resources within an agency. Services include:
 - Support of infrastructure components (wired and wireless) and resources to connect from end-user computing devices
 - Equipment, maintenance, configuration, administration, monitoring, and support of on-premise networking infrastructure.
- Managed Wireless (WLAN) services provide user mobility within an agency office building for authorized state employees and visitors, including employee access to Internet and separate guest (visitor) access to Internet.
- Cabling Services offers convenient access to structured cabling design, installation, and project management. Services include:
 - Cabling infrastructures to transport data, voice, and video over various copper and fiber optic media
 - For government organizations, services range from typical office/cubicle environments to Data Centers to interconnection of buildings in campus environments.

NC DIT: Compliance and Communications Today

Regulatory Compliance Standards and Guidelines

DIT abides by NIST 800, FIPS 200, IRS 1075 and other federal and state compliance requirements.

- For agencies needing to meet state or federal security compliance requirements, DIT offers consulting and planning for projects and environments to ensure adherence to the appropriate requirement set.
- DIT has experience with several NIST guidelines including but not limited to NIST 800-53, 800-63-3, 800-100, 800-88, & 800-160.
- DIT also has experience with FIPS 200 and IRS 1075, as several of these are implemented with the mainframe and in distributed systems (where required).
- DIT regularly reviews current security needs and complies with Security Technical Implementation Guides (STIGS) to ensure that various Operating Systems are initially configured to meet the security needs of the data the system holds or transmits.
- Enterprise Security and Risk Management Office (ESRMO) provides resources for the State of NC Information Systems and Security Plan, NC Statewide Information Security Manual, and training and consulting services for agencies to guard against unauthorized use, disclosure, modification, or loss of data.



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Telephony, Including Enterprise (EIPT), Contact Center, Cellular, and other Traditional Services

DIT's Managed Telephony Services include design, implementation, remote monitoring, and support to meet Service Level Commitments.

- Managed Enterprise IP Telephony (EIPT) provides users with all the features and functionality of traditional telephone systems, including new features, such as:
 - Instant messaging
 - Voice/video calling and messaging
 - Presence and conferencing.
- DIT's Managed Enterprise Contact Center portfolio offers an array of services to agencies, enabling delivery of unified and highly personalized citizen communications. Citizens and employees receive access to information and resources through human interface (agent service) or a networked interface (self-service Interactive Voice Response (IVR) system).
- These capabilities are integrated into DIT's Enterprise IP Telephony (EIPT) voice infrastructure. Services include the following options:
 - Agent Services: Contact Center Agent and Supervisor, remote agents, reporting systems, screen pops, multi-channel service, virtual queuing, call recording, and wall board support
 - Self Services: IVR-touch tone, directed speech, and natural language speech recognition.
- DIT also offers traditional telephony convenience contracts for procurement of non-DIT managed telephony services such as Cellular, Centrex, long distance, toll-free services, and audio conferencing.

IT Solutions and Services for State Agencies

Enterprise Monitoring Networks, Servers, and Applications

DIT offers services for monitoring networks (routers, switches, APs, and firewalls); servers (AIX, Linux, Solaris, and Windows) and applications.

- Fault Management – Spectrum; Log file and process monitoring via sysEDGE; CA App Synthetic Monitor
- Performance Management – Nokia VitalSuite and CA Network Flow Analysis (NFA); CA eHealth to be replaced by CA UIM; CA App Performance Management and App Delivery Analysis
- Security/Log Management – IBM QRadar
- Configuration Management – Micro Focus Network Automation
- Alert Console
- Auto-ticketing; new possibilities with Service-Now implementation

Enterprise Productivity, Communications and Collaboration Tools

DIT offers Microsoft and other productivity tools in a secure Government Cloud with authentication and access provided by the State's Identity Management solution.

- Microsoft Office 365 (O365) addresses outdated office software issues and productivity challenges and is available in the Commercial Cloud and the secure Government Cloud.
- Microsoft Dynamics 365 is a Customer Relations Management (CRM) tool available for statewide business process platforms to transform legacy paper-based business processes.
- Microsoft Office Product Suite options include: Full Suite (G3 License) Office, Email/Archive, SharePoint, One Drive, Skype for Business (G3 and G1), Web-only access (G1)
- Power BI, Mobile Device Management (Intune)

NC Government Data Analytics Center (GDAC) and the NC Center for Geographic Information and Analysis (CGIA)

GDAC's mission is to promote collaboration and access to data for making timely business decisions. GDAC does the following:

- Develops analytics to support state agency business needs to support data sharing and service development.
- Protects and secures data via a data governance model which ensures proper access and data usage.
- Assists state agencies in defining analytic needs, access to data sources, and scoping level of effort.
- Provides tools and supports CJLEADS, NC-FACTS, and NC ECIDS.

CGIA is the lead agency for coordinating Geographic Information Systems (GIS) and offering these services to state and local government agencies.

- GIS coordinates statewide geospatial initiatives through NC Geographic Information Coordinating Council (NC GICC).
- Promotes data sharing, informed decision making, and cost efficiencies

Project Management, Strategic Planning, Design, and System Architecture

- Solutions Architecture (SA) Team provides strategic planning to assist State agencies in technology decisions.
- Business Analysts assist State agencies with technology requirements and solutions; Business Case development; requirements gathering; and solution evaluators.
- Certified Project Management Advisors (PMAs) are assigned to state agency projects to support and ensure success.

The Future is Now at NC DIT

DIT researches new products and offerings that are cost effective and bring value to North Carolina. Three recent areas include Cloud Services, a Distributed Systems Disaster Recovery solution, and an Enterprise Service Bus solution for various intra- and inter-data exchanges.

To take advantage of these services, work with your Business Relationship Managers (BRMs) to determine needs and requirements of your agency's applications and environments.

Cloud Services and Cloud Management Platform

- DIT implemented an on-premise Cloud Solution that offers agencies a distributed environment in which they can control testing, migration, and options for single systems up to complex multi-tier environments using MS SQL or Oracle back-end databases.
- DIT is implementing a Cloud Management Platform (CMP) that will allow agencies to easily work in whichever cloud suits their data security and application needs.
 - Initially CMP will offer two Cloud Vendors (CV) and will add other Cloud Vendors as needed.
 - Agencies will not need to negotiate CV contracts nor various billing issues as these items will be handled through DIT.



- RTO / RPO times gauged in minutes
- Individual file recovery (useful for ransomware situations)
- User test environment that also serves as verification of testing activities for future audits.

Disaster Recovery Solution

- DIT recognized the need for a cost-effective Disaster Recovery (DR) solution for distributed systems that meet Recovery Time Objectives (RTO) and Recovery Point Objectives (RPO) of State agencies' business applications.
- Beginning in 2019, DIT is offering the following:
 - DRaaS that is cost effective

Enterprise Service Bus (ESB)

- DIT is implementing an Enterprise Service Bus (ESB) based on Dell/Boomi product offerings.
- The ESB will be a High-Availability (HA) implementation across both State Data Centers designed to operate 24/7.
- The ESB provides numerous connecting capabilities for applications to help eliminate point-to-point connections and provide a safe, secure transfer of information.



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