WYOMING INTERNETWORK DECLARATION OF SERVICES

The Wyoming Internetwork is a shared Wide Area Network (WAN) that interconnects agency Local Area Networks (LAN) and intranets. This WAN is a statewide intranet for Wyoming state agencies transporting Transmission Control Protocol/Internet Protocol (TCP/IP). The WAN intranet is also a connection to the Internet for agency users. The Department of Administration and Information, Information Technology Division (ITD) has been charged with the development, support, maintenance, availability, and security of the shared network. The following information describes services and the scope of responsibility ITD has regarding the Wyoming Internetwork. These services are inclusive of what ITD charges in the network fee, which is a per device fee charged to the agencies.

SERVICES AND RESPONSIBILITIES

INTERCONNECTION OF AGENCY LANs AND INTRANETS VIA WAN BACKBONE AND ‘LAST MILE’ CIRCUITS

Facility circuits currently include dedicated digital, frame relay, Digital Subscriber Line (DSL), Asynchronous Transfer Mode (ATM) segments, leased lines, and state owned fiber optic sections. ‘Last mile’ is defined as the link between the end user (agency) and the state’s network. For example, this would be a link from a specific agency to the Emerson Building. (See page two for charges related to ‘last mile’ connections.)

DEMARcation POINT

The demarcation point between ITD and agency responsibility is defined as the port on the nodal router or remote office router where each state agency’s Ethernet or intranet is connected. ITD is responsible for management, design, engineering, availability, diagnostics, capacity planning, performance, and security on the WAN side of demarcation except as restricted by ‘last mile’ bandwidth demand. (See page two for reference to ‘last mile’ connections.)

MONITORING

The WAN hardware/software is monitored up to and including the demarcation point. The WAN backbone and ‘last mile’ circuits are monitored and alarmed for outages, traffic degradation thresholds, streaming, flooding, intrusion detection, bandwidth utilization and capacity planning. Possible security intrusions can be monitored when the agency provides ITD with their network security policy including IP addresses and protocol ports to be blocked, filtered, and/or monitored. Switches, servers, and other LAN devices are not monitored by ITD WAN management resources.

HARDWARE, SOFTWARE, AND CONTRACT SERVICES

ITD installs, maintains, and upgrades all WAN hardware, software and contracts for carrier services. The expenses for these items on the shared WAN backbone are the responsibility of ITD. ITD
Telecommunications issues Request for Proposals (RFP), and/or bids, and enters into contract negotiations for WAN goods and services on behalf of all agencies.

ITD provides routers, Digital Service Units (CSU/DSU), Frame Relay Access Devices (FRAD) and other devices in support of WAN portions of the network. ITD provides all maintenance, upgrades and replacements of existing ITD-supported WAN hardware/software as deemed necessary.

ITD maintains some replacement and redundant hardware for the WAN. ITD relies on vendor-guaranteed, next business day delivery on more expensive hardware items. ITD is responsible for maintaining hardware and software on the WAN backbone, as well as continued network management for detection of failure, degradation, and to maintain currency in accordance with vendor requirements. Upgrades, reconfigurations and other changes known to be disruptive to agency connectivity are scheduled and coordinated with the designated agency contact or network administrator. In the case of emergencies, agencies will be contacted as soon as it is feasibly possible. In the event that work needs to be completed and will cause an enterprise-wide outage, that work will be scheduled during the regular network services maintenance window unless otherwise coordinated with agencies in advance.

**Demand, Bandwidth, and New Technology**

WAN backbone bandwidths are upgraded based on demand and traffic patterns. Upgrades for ‘last mile’ lines are made only upon the request of an agency. ITD may inform a customer they are running their bandwidth full, but it is the agency’s decision whether or not to incur additional expense to upgrade their ‘last mile.’ The network design (multiplexers, multiple channels) allows for dynamic upgrading to certain levels. Above these levels, additional facilities are contracted from carrier(s). Bandwidth demands are normally anticipated in advance of network degradation. Backbone bandwidth upgrades are contracted and paid for by ITD as covered in the network rates. ‘Last mile’ upgrade costs are incurred by the contracting agency.

New technologies are phased in based upon requests by supported agencies and reviews by ITD management. The determinations are governed by ITD’s ability, capacity, and budget to meet agency requests. Individual user or agency requests for technology or features are considered in conjunction with the benefits and health of the shared network and consideration of other agencies sharing costs. ITD Telecommunications will assist requesting agencies in identifying proper circuit types for the performance requested.

**‘Last Mile’ Expenses**

‘Last mile’ expenses (installation, monthly, relocation) for circuits to agency locations, unique to an agency or group of agencies (three or less), not shared by all agencies, are the responsibility of the agency(s) connected. ITD Telecommunications can help a group of agencies sharing a single ‘last mile’ circuit with a memorandum of understanding (MOU) specifying their prorated share of the ‘last mile’ circuit. ‘Last mile’ bandwidth upgrades are contracted by ITD and paid for by the agency (or agencies) connected by the unique segment.
**Premises Wiring/LAN**

Each agency or group of agencies is responsible for connectivity and devices including premises wiring on the LAN/intranet side of the demarcation. Each agency retains control of the design of the LAN/intranet side of the demarcation. LAN to WAN support can be difficult if agencies operate outside of state standards in the setup of their LAN. ITD can provide LAN support at an additional charge if an agency is in need of additional services.

ITD Telecommunications can assist agencies with contracting for premises wiring. Cabling projects are directed to contractors that cover the Cheyenne area and statewide. These contractors have been selected by ITD through a competitive bid process.

**Internet Service**

ITD has bid and contracted with Internet Service Providers (ISPs) on behalf of all agencies. ITD has registered an Autonomous System (AS) number assigned by the American Registry for Internet Numbers (ARIN) to allow redundant Internet connectivity with different ISPs.

**Registration**

ITD is registered with the American Registry for Internet Numbers (ARIN) as the responsible organization for ‘acceptable use’ of the Internet by all agencies on the WAN. This includes efficient use of the address space and conformance to international protocol standards.

Internet Protocol (IP): ITD manages, administers and distributes IP addresses and subnet blocks. These addresses are distributed out of the Class B (159.238.x.x) block assigned by InterNIC to the State of Wyoming, A&I, ITD. The entire Class B address group is divided into variable length subnet blocks for efficient address utilization. Blocks of IP addresses can be allocated for individual agency LANs for distribution by agency personnel.

Network Address Translators (NAT) or proxy servers can be installed between the router and LAN/intranet segments by owning agencies. The use of NAT within a LAN needs to be coordinated with ITD to ensure that the LAN will not complicate any enterprise directory structure. Connected agencies may request private address blocks from ITD just as they do subnets from the (159.238) Class B block. These will usually come from the (10.0.0.0) private Class A block. The non-Class B (non-159.238) addresses must reside only on the agency LAN or intranet. The Non-Class B (non-159.238) IP addresses originating on state agency LANs are not routed on the WAN backbone. Non-Class B (non-159.238) addresses behind NAT or proxy servers may be divided into subnets, routed and managed by agency personnel.

**State of Wyoming Domains**

their agency. The agency is responsible for providing primary name servers for delegated subdomains. ITD will provide secondary name services for agency subdomains if requested.

DIRECTORY SERVICES SUPPORT

ITD MIS Support provides Novell intranet cross-LAN services, high-level Novell Directory Services (NDS) tree maintenance, and NDS administration for NetWare systems in the state NDS tree. In addition, ITD MIS Support provides enterprise Microsoft Active Directory (AD) infrastructure. ITD will adhere to statewide network security standards and apply them to the WAN.

SECURITY

ITD will adhere to statewide network and agency security standards and apply them to the WAN. ITD provides support for agency firewall and proxy server projects when requested for approved technology. ITD also provides a border firewall between the state network and its ISP. Agencies may implement rules on the border firewall to control traffic to the subnets of their agency. ITD does NOT provide default rules for agencies that have not implemented their own rules on the border firewall. Agencies retain the responsibility to protect the agency LAN or intranet.

ITD acts as a liaison with the Computer Emergency Response Team (CERT), Multi-State Information Sharing and Analysis Center (MS-ISAC), and law enforcement officials on possible security breaches and network security matters when the situation involves shared circuits or when requested by agencies.

VPN CONNECTIVITY

Virtual Private Network (VPN) connectivity is available both for individual computer access using an ITD provided VPN client, as well as through an agency provided edge device that allows VPN access for agencies with remote sites not on the state network. Dial-up access to agency LAN services are the responsibility of the agency.

SUPPORT

CONTACT INFORMATION

WAN network problems are reported to the ITD Customer Support Center at 307-777-5000.

HOURS

The Wyoming Internetwork WAN is designed and operated for availability on a 24/7/365 basis. It connects many users requiring continuous availability. All of the services listed above are supported by state employees with the normal work hours of 8:00 a.m. to 5:00 p.m., M-F excluding holidays, etc.

Network Control is physically supported in the Emerson Building from 7:00 a.m. to 11:00 p.m. on normal state working days (M-F). Network Control is also physically supported on certain other weekends or holidays as dictated by the demand for video session management. The Network Control phone number is answered 24/7/365 for emergency service assistance.
There are no restrictions on who may place a call for WAN assistance to Network Control. In order to expedite service, it is important to have a contact familiar with the problem and the equipment available to help with preliminary diagnostics, as well as perform as the responsible follow-up contact. LAN problems should be reported to agency network administrators or agency assigned ITD MIS support.

**Dispatching Response Times**

For emergencies or disruptions in the Cheyenne area the response time is typically less than one hour. Response times to dispatch outside the Cheyenne area can range from hours to days depending upon severity, travel time, weather and mutual negotiation with affected agencies. Outages and network degradation incidences are dispatched in order of priority or in order of notification. Problems are escalated to the carrier or vendor immediately upon diagnosis of probable cause, or for diagnostic help when the problem remains undefined. Non-emergency changes, upgrades, and replacements will be handled as soon as possible with toleration for equipment ordering, shipment, agency coordination scheduling and most efficient travel schemes.

ITD Telecommunications will place service orders with the carrier and follow the status of the order to ensure timely delivery and correct installation. ITD has employees and contract personnel covering statewide WAN service issues. The daily activities of these personnel include travel to agency field offices when required.

ITD Telecommunications coordinates between companies for service, installation and billing. The state of Wyoming is served by Qwest and fourteen other phone companies. Many of the circuits require more than one company’s involvement. ITD combines separate billing sources into one for agencies.

**Financial Management**

**Rates**

ITD Financial Management is responsible for rate setting on the shared network. Rate change notification will be distributed by the ITD Financial Manager.

ITD Financial Management will review the network costs and charges quarterly and can make rate adjustments on an annual basis unless it is determined that it is necessary to adjust sooner. The agencies will be requested to provide new computer counts every other year to determine the basis for the next biennium's budget period.

ITD Financial Management will distribute a breakdown analysis of the declared services to agency directors and/or agency fiscal officers.