



Intelligent Transportation Systems Services

Version 1.0

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CONTENTS

| | |
|---|----------|
| 1. COMPUTING SERVICES | 3 |
| 1.1 Desktop, Laptop, Physical and Virtual Server Software Support | 4 |
| 1.1.1 Install Software..... | 4 |
| 1.1.2 Transfer Software /License..... | 4 |
| 1.1.3 Uninstall Software | 4 |
| 1.1.4 Upgrade Software | 4 |
| 1.1.5 Procure/COTS Applications | 4 |
| 1.1.6 Microsoft Windows | 5 |
| 1.1.7 Red Hat Enterprise Linux | 5 |
| 1.2 RFI (Request for Information)..... | 5 |
| 1.2.1 About Hardware..... | 5 |
| 1.2.2 About Software | 5 |
| 1.2.3 About Login/Account | 5 |
| 1.3 Microsoft Active Directory Account..... | 5 |
| 1.3.1 Account Creations | 5 |
| 1.3.2 Account Modifications | 5 |
| 1.3.3 Account Deactivation | 5 |
| 1.3.4 Account Deletion | 5 |
| 1.4 Secure File Transfer | 6 |
| 1.4.1 Account Creations | 6 |
| 1.4.2 Account Modifications | 6 |
| 1.4.3 Account Deactivation | 6 |
| 1.4.4 Account Deletion | 6 |
| 1.4.5 Folder Creation | 6 |
| 2. NETWORK SERVICES | 6 |
| 2.1 Network Access/Support | 7 |
| 2.1.1 Request for Network Administration Services | 7 |
| 2.1.2 Request to Activate Existing Network Drop | 7 |
| 2.1.3 Request to Deactivate Existing Network Drop..... | 7 |
| 2.1.4 Request to add new Network Drop..... | 7 |
| 3. NETWORK TRANSPORT SERVICES | 7 |
| 3.1 Layer 1 Transport | 8 |
| 3.1.1 Cabling and Wiring..... | 8 |
| 3.1.2 Fiber Optic Connectivity | 8 |

ITS Services

| | |
|--|-----------|
| 3.1.3 Point-to-Point Microwave | 8 |
| 3.1.4 Point-to-Multipoint Microwave | 8 |
| 3.2 Layer 2 Transport | 8 |
| 3.2.1 Point-to-Point | 8 |
| 3.2.2 Point-to-Multipoint | 8 |
| 3.2.3 Transparent Transport | 8 |
| 3.3 Layer 3 Transport | 8 |
| 3.3.1 Point-to-Point | 9 |
| 3.3.2 Point-to-Multipoint | 9 |
| 3.4 Verizon Cellular Data Modem Transport | 9 |
| 3.4.1 Cellular Data Modem Transport | 9 |
| | |
| 4. SECURE REMOTE ACCESS SERVICES | 10 |
| 4.1 Internal Customer Portals | 10 |
| 4.2 External Customer Portals | 10 |
| | |
| 5. IT HARDWARE SUPPORT | 11 |
| 5.1 Communications Equipment | 11 |
| 5.1.1 Modems | 11 |
| 5.1.2 Routers | 11 |
| 5.1.3 Switches | 11 |
| 5.1.4 Wireless Broadband Devices | 11 |
| 5.2 Computing Equipment | 11 |
| 5.2.1 Laptops | 11 |
| 5.2.2 Desktops | 11 |
| 5.2.3 Peripherals | 11 |
| | |
| 6. FOR APPROVED PROJECTS | 12 |
| 6.1 Consulting Services | 12 |
| 6.1.1 Request for Information | 12 |
| 6.1.2 Fiber Optic Integrity/Operability Testing | 12 |
| 6.1.3 Troubleshooting fiber optic related issues | 12 |
| 6.1.4 Fiber Huts | 12 |
| 6.1.5 Conduit Sharing (Infrastructure Sharing) | 13 |
| 6.1.6 Co-locate Equipment (Infrastructure Sharing) | 13 |
| 6.1.7 Fiber Optic Infrastructure Mapping/Documentation | 13 |
| 6.1.8 Surveys | 13 |



ITS Services

6.2 Implementation Services14
 6.2.1 Change Management14
6.3 Enhancement Services14
 6.3.1 Request to Add/Modify a Service capability14

ITS Services

1. COMPUTING SERVICES

To enable IT services and computing technology to perform business services more efficiently and effectively. Computing Services provides the back-end infrastructure, architecture and support for various IT services from managing the network and servers to software integration and web applications development.

The Computing Services include services for the Support for the Desktop, Laptop and Virtual Server Software Support which basically deals with the Installing, Uninstalling, Upgrading and transfer of software along with the Windows Support. Also provides information regarding the software, hardware and login details. Additionally, they assist the users about Microsoft Active Directory accounts and Secure File Transfers.

1.1 DESKTOP, LAPTOP, PHYSICAL AND VIRTUAL SERVER SOFTWARE SUPPORT

| No. | Service | Description |
|--------------|-----------------------------------|---|
| 1.1.1 | Install Software | A user may request TOTS to Install authorized and approved COTS software and to configure the application for proper usage. |
| 1.1.2 | Transfer Software /License | A user may request for transfer of authorized and approved COTS software licenses to another user or to another computer. |
| 1.1.3 | Uninstall Software | A user may request TOTS to uninstall authorized and approved COTS software from a computer and return the license back into inventory. |
| 1.1.4 | Upgrade Software | A user may request TOTS to perform an upgrade of authorized and approved COTS software and to configure the application for proper usage. |
| 1.1.5 | Procure/COTS Applications | A user may request for addition of a new software application to the service catalog. |

ITS Services

| | | |
|--------------|---------------------------------|--|
| 1.1.6 | Microsoft Windows | A user may request for managed desktop and server support. |
| 1.1.7 | Red Hat Enterprise Linux | A user may request for managed server support. |

1.2 RFI (REQUEST FOR INFORMATION)

| No. | Service | Description |
|--------------|----------------------------|---|
| 1.2.1 | About Hardware | A user may request for information about ordering, installing and/or configuring hardware services. |
| 1.2.2 | About Software | A user may request for information about installing or upgrading software COTS services. |
| 1.2.3 | About Login/Account | A user may request for information about login/account issues. |

1.3 MICROSOFT ACTIVE DIRECTORY ACCOUNT

| No. | Service | Description |
|--------------|------------------------------|---|
| 1.3.1 | Account Creations | A user may request for creation of User Accounts under the Active Directory. Assigning and enforcing security policies. |
| 1.3.2 | Account Modifications | A user may request for change in account settings and access permissions. |
| 1.3.3 | Account Deactivation | A user may request for deactivation of user account whenever necessary. |
| 1.3.4 | Account Deletion | A user may request for deletion of user account from the Active Directory. |

ITS Services

1.4 SECURE FILE TRANSFER

| No. | Service | Description |
|-------|------------------------------|--|
| 1.4.1 | Account Creations | A user may request for creation of User Accounts under the FTP service. Assigning and enforcing security policies. |
| 1.4.2 | Account Modifications | A user may request for change in account settings and access permissions. |
| 1.4.3 | Account Deactivation | A user may request for deactivation of user account whenever necessary. |
| 1.4.4 | Account Deletion | A user may request for deletion of user account from the Active Directory. |
| 1.4.5 | Folder Creation | A user may request for creation of user folders for uploading/downloading of files. |

2. NETWORK SERVICES

Network Service includes a list of capabilities that facilitates a network operation. Below are the services related to the Network Access and Disk Storage. Network Services/Managed Network Services are the services of management of networks by IT service providers for their clients. The scope of network services extends from LAN/WLAN management, unified communications to Network Consulting Services and Network implementation services. The network service contributes to the behavior of the higher layer service, which is characterized by at least performance, dependability, and security specifications.

The Network Access helps the users regarding the Administrative Services, activating/deactivating/adding a new Network Drop.

ITS Services

2.1 NETWORK ACCESS/SUPPORT

| No. | Service | Description |
|-------|--|--|
| 2.1.1 | Request for Network Administration Services | A user may request support for planned network events. |
| 2.1.2 | Request to Activate Existing Network Drop | A user may request for activation of an existing network drop. |
| 2.1.3 | Request to Deactivate Existing Network Drop | A user may request for deactivation of an existing network drop. |
| 2.1.4 | Request to add new Network Drop | A user may request for Installation of a new Network Drop. |

3. NETWORK TRANSPORT SERVICES

Network Transport Services mentioned below include services related to the different segments of Transport Layer. It provides services such as connection-oriented communication, reliability, flow control, and multiplexing. It provides logical communication between application processes running on different hosts within a layered architecture of protocols and other network components. The Transport layer is also responsible for the management of error correction, providing quality and reliability to the end user.

The Layer 1 Transport provides services related to Cabling & Wiring, Fiber Optic Connectivity, Point-to-Point Microwave and Point-to-Multipoint Microwave. The Layer 2 provides services related for Point-to-Point, Point-to-Multipoint and Transparent Transport. The Layer 3 provides services for Point-to-Point and Point-to-Multipoint. It also includes services for Engineering, Feasibility study, Installation and Validation.

ITS Services

3.1 LAYER 1 TRANSPORT

| No. | Service | Description |
|-------|--------------------------------------|---|
| 3.1.1 | Cabling and Wiring | A user may request for Engineering, Feasibility study, Copper, and other cabling. |
| 3.1.2 | Fiber Optic Connectivity | Layer 1 Transport between locations. Engineering, Feasibility study, Installation and Validation. |
| 3.1.3 | Point-to-Point Microwave | A user may request for Engineering, Feasibility study, Installation and Validation. |
| 3.1.4 | Point-to-Multipoint Microwave | A user may request for Engineering, Feasibility study, Installation and Validation. |

3.2 LAYER 2 TRANSPORT

| No. | Service | Description |
|-------|------------------------------|---|
| 3.2.1 | Point-to-Point | A user may request for Layer 2 Transport between any two locations. |
| 3.2.2 | Point-to-Multipoint | A user may request for Layer 2 Transport to tie together more than two locations. |
| 3.2.3 | Transparent Transport | Internal/External customers may request for provision of Layer 2 Transparent Transport. |

ITS Services

3.3 LAYER 3 TRANSPORT

| No. | Service | Description |
|--------------|----------------------------|---|
| 3.3.1 | Point-to-Point | A user may request for Layer 3 Transport between any two locations. |
| 3.3.2 | Point-to-Multipoint | A user may request for Layer 3 Transport to tie together more than two locations. |

3.4 VERIZON CELLULAR DATA MODEM TRANSPORT

| No. | Service | Description |
|--------------|--------------------------------------|--|
| 3.4.1 | Cellular Data Modem Transport | A user may request for Engineering, Feasibility study, Installation and Validation |

4. SECURE REMOTE ACCESS SERVICES

Secure remote access safeguards sensitive data when applications are accessed from computers outside the corporate network. Secure remote access allows authorized users to interact with information on your network from outside the gateway. However, in providing this access, organizations open themselves up to multiple vulnerabilities. Remote access security solutions and industry-leading remote desktop software can proactively manage these risks and keep your business productive, flexible and protected. Below are the services available for Internal and External Customer Portals. The Internal Customer Portal Service includes creation of bookmarks for users to access while off-site. The External Customer Portal Service includes creation of bookmarks for users to access network and systems as required by NDOT agreements.

| No. | Service | Description |
|------------|----------------------------------|--|
| 4.1 | INTERNAL CUSTOMER PORTALS | A user may request creation of bookmarks for users to access while off-site. |
| 4.2 | EXTERNAL CUSTOMER PORTALS | A user may request creation of bookmarks for users to access network and systems as required by NDOT agreements. |

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5. IT HARDWARE SUPPORT

IT Hardware Support involves providing information on computer's physical components. Hardware support services address hardware failures. It provides support services for a range of products including Desktops, Hand Held Devices, Workstations, Monitors, Servers, Storage and Networking equipment. The communications equipment services include services for Modems, Routers, Switches and Wireless Broadband Services. The Computing Services include services for Laptops, Desktops and Peripherals.

5.1 COMMUNICATIONS EQUIPMENT

| No. | Service | Description |
|-------|----------------------------|---|
| 5.1.1 | Modems | A user may request for Information about installing/configuring modems. |
| 5.1.2 | Routers | A user may request for Information about installing/configuring routers. |
| 5.1.3 | Switches | A user may request for Information about installing/configuring switches. |
| 5.1.4 | Wireless Broadband Devices | A user may request for Information about installing/configuring wireless broadband devices. |

5.2 COMPUTING EQUIPMENT

| No. | Service | Description |
|-------|-------------|--|
| 5.2.1 | Laptops | A user may request for change in settings/report issues. |
| 5.2.2 | Desktops | A user may request for change in settings/report issues. |
| 5.2.3 | Peripherals | A user may report issues on peripherals. |

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6. FOR APPROVED PROJECTS

In case of approved projects, ITS provides consultation and enhancement services along with implementing change. The consulting services include the services for Request for Information, Fiber Optic Integrity, Troubleshooting fiber optic related issues, Fiber Huts, Conduit Sharing (Infrastructure Sharing), Co-locate equipment (Infrastructure Sharing), Mapping, Fiber Optic Infrastructure Documentation and Surveys. It also provides services for Implementation and Enhancement Services.

6.1 CONSULTING SERVICES

| No. | Service | Description |
|--------------|--------------------------------|--|
| 6.1.1 | Request for Information | A user may request for information regarding IT-related changes like system upgrades, resource usage, business strategy. |

| No. | Service | Description |
|--------------|--|--|
| 6.1.2 | Fiber Optic Integrity/Operability Testing | A user may request troubleshooting non-connectivity, high signal loss etc. |

| No. | Service | Description |
|--------------|---|--|
| 6.1.3 | Troubleshooting fiber optic related issues | A user may request troubleshooting non-connectivity, high signal loss etc. |

| No. | Service | Description |
|--------------|-------------------|--|
| 6.1.4 | Fiber Huts | A user may request resolutions to issues found in a fiber hut. Power, Hardware, Fiber optic etc. |

ITS Services

| No. | Service | Description |
|-------|---|---|
| 6.1.5 | Conduit Sharing (Infrastructure Sharing) | A user may request access to NDOT owned conduit facilities. |

| No. | Service | Description |
|--------|---|--|
| 6.1.6. | Co-locate Equipment (Infrastructure Sharing) | A user may request floor space to install relay racks which may include installation of any additional associated components such as fuse panels, patch panels, fiber optic management, fiber optic transport equipment. |

| No. | Service | Description |
|-------|---|---|
| 6.1.7 | Fiber Optic Infrastructure Mapping/Documentation | A user may request mapped locations/documentation of deployed fiber optic and conduit infrastructure. |

| No. | Service | Description |
|-------|----------------|--|
| 6.1.8 | Surveys | A user may request a survey to assist in completion of pending or unfinished project construction. |

ITS Services

6.2 IMPLEMENTATION SERVICES

| No. | Service | Description |
|-------|--------------------------|--|
| 6.2.1 | Change Management | A user may request for an implemental change to their current existing system. |

6.3 ENHANCEMENT SERVICES

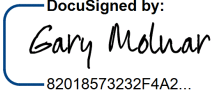
| No. | Service | Description |
|-------|---|--|
| 6.3.1 | Request to Add/Modify a Service capability | A user may request for a new service that is not currently available in the existing system but currently exists within the NDOT TOTS Service Catalog. |



ITS Services

Document Approval

The undersigned acknowledge they have reviewed the *ITS Services* document and agree with the content it presents. Any changes to this document will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 08/22/2019
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Role:

Appendix A: Key Terms

The following table provides definitions for terms relevant to this document.

| Term | Definition |
|-------------|--|
| <i>COTS</i> | <i>Commercial off-the-shelf</i> |
| <i>FTP</i> | <i>File Transfer Protocol</i> |
| <i>IT</i> | <i>Information Technology</i> |
| <i>ITS</i> | <i>Intelligent Transportation Systems</i> |
| <i>LAN</i> | <i>Local Area Network</i> |
| <i>NDOT</i> | <i>Nevada Department of Transportation</i> |
| <i>WLAN</i> | <i>Wireless Local Area Network</i> |
| <i>TOTS</i> | <i>Traffic Operations Technology Section</i> |