

Voice Services

Service Description Version 1.00

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Purpose

This Enterprise Service Description is applicable to Voice Services offered by MN.IT Services and described in the MN.IT Service Catalog. This document describes the services and features that are included with the **Voice Services** offering.

Overview

Voice Services break down into two broad categories of services – dial tone and voice-related applications or services.

Dial tone services provide connections to the public switched telephone network (PSTN). Telephone equipment is provided by MN.IT Services to customers. Dial tone services include:

- **Classic Voice**, which is telephone lines and telephone numbers of various types, analog or digital circuits, 911 access services and long distance services, all of which are contracted through third-party telephone companies.
- **Private Branch Exchange Systems (PBXs)** of various types, including Enterprise IP Telephony (IPT) and individual premise-based systems that are analog, digital or digital IP-enabled.

Voice-related applications or services provide a wide range of capabilities that meet business needs. These services include, but are not limited to:

- **Voicemail**, which provides automatic phone messaging and simple menus that answer or direct incoming phone calls.
 - **Contact/call center**, supporting telephone call queuing, monitoring, routing and reports for agents who interact with inbound and outbound callers using voice and/or web chat.
 - **Interactive voice response (IVR)**, providing automated menus that answer incoming telephone calls and speak pre-recorded and dynamic information through connections to external computer systems, transfer calls to call centers based on caller input, and perform other sophisticated, customized functions.
 - **Value-added applications for Enterprise IPT**, including call recording, quality monitoring, workforce management, mobility support and notification/alerting.
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- **Over-the-phone interpretation** services in which the end-user interacts with a limited English proficiency (LEP) citizen by accessing an interpreter for any language.
- **e-Fax services** for inbound and outbound faxing that can replace the need for fax machines.

Benefits

Voice Services covers a broad range of customer deliverables that share one common characteristic – voice communications. The value of voice services is most fully realized when they are holistically planned for the entire organization. Aggregating the delivery of voice services ensures efficient, thorough and cost-effective implementation of the technology. Taking this approach informs the following primary benefits of MN.IT Voice Services:

- Whether the need is for a single phone line or a custom application to answer a large-volume toll-free number for citizens, any voice service from the simple to the complex is available.
- A single consolidated voice bill to each customer streamlines expense management and budgeting.
- The MN.IT service catalog and links to Web portals – enabling authorized staff to order, request changes and schedule removals of each type of voice service with its related elements, to view invoices, and in some cases to provision the services – make for timely, flexible and nimble responsiveness to business needs.
- Voice service offerings require telecommunications provider contracts with telephone companies (telcos), cable companies and other vendors of equipment and services – MN.IT's purchasing power yields competitive contract pricing and efficiency in vendor relationship management.
- The broad and deep expertise of MN.IT voice services staff in service design, implementation and troubleshooting helps to ensure responsiveness and ongoing success in this area.
- A voice services user group that has operated successfully for many years is available to all voice customers, functioning as a forum for product, technical and help desk staff to share information, ideas and suggestions.

Standard Features

This section describes the standard features of the two Voice Services categories. In all cases, the MN.IT Service Desk is the single point of contact.

Dial Tone Services

Dial tone services provide connections to the public switched telephone network (PSTN) to make and receive phone calls and to obtain related functionalities. Dial tone services are provisioned on MN.IT infrastructure or through telephone companies. The long distance service associated with dial tone services is an integrated part of this offering. Dial tone services fall into the following categories:

Classic Voice services that are contracted through third-party telephone companies (telcos).

- **Centrex, business lines and residential lines.** The lines are provisioned in telephone company central offices and are delivered over copper wire to the locations. The specific service type the customer orders is a function of business requirements, the location, the serving telco, and the telco facilities available.

Items that can be ordered include, but are not limited to:

- Line (Centrex/Business/Residential) in (location name/address)
- Standard feature package (if available)
- Special features (specify)
- Telephone
- Installation
- Inside wiring
- Directory listing(s)

- **Analog or digital trunks and lines** for various applications, which are used most commonly to deliver connections and dial access for voice-grade equipment such as highway cameras, specialty modems, airplane flight monitors and on-premise telephone equipment. Blocks of telephone numbers are often provisioned in association with the trunks or lines.

Items that can be ordered include, but are not limited to:

Trunk or point-to-point line (location name/address)
 Type (analog or digital)
 Speed (specify)
 Channels (quantity)
 Contract period (1, 3, 5 year)
 Installation
 Inside wiring

Telephone numbers (quantity) – if applicable (includes E911 service)
 Directory listing(s) (if applicable)

- **911/E911 service** related to customer on-premise telephone equipment in specialty situations, e.g., a phone system or Public Safety Answering Point (PSAP) system that for technical reasons requires separate connection to the national 911 database, rather than using a more common method of obtaining 911/E911 service through voice lines or trunks.

Items that can be ordered include, but are not limited to:

Access to Provider contracted service
 Design services (if applicable)

- **Long distance services**, which include outbound long distance, toll-free service, calling cards and authorization codes to restrict long distance access or identify billing accounts.

Items that can be ordered include, but are not limited to:

Outbound direct dial access to service (included in order for dial tone service of any type)
 Toll-free service (specify features or restrictions, including directory listings and types)
 Calling card (name on card)
 Authorization codes

Private Branch Exchange Systems (PBXs), which are telephone systems of varying sizes and customer bases.

- **Enterprise IPT** is provisioned on MN.IT infrastructure that has connectivity to both the PSTN for the dialing plan, phone numbers and E911, and to the State's wide area network, MNET, to link the phones and locations together into a single cohesive solution. Enterprise IPT offers enhanced features, such as custom phone directories and a statewide dialing plan to reduce long distance costs. This system has over 25,000 individual operating telephones and serves much of the Executive Branch, as well as other governmental entities throughout Minnesota.

Items that can be ordered include, but are not limited to:

Phone service in (location name/address/name of customer/new site or existing?)
 Telephone number ported from another service (option)
 Additional line appearance(s) (specify lines)
 Telephone
 License
 Professional services (service design, implementation and/or training)
 Directory listing(s)

Note: this is a designed network application service and will include items from other parts of MN.IT Services (LAN upgrade and/or management, bandwidth, remote site survivability, network design services).

Protocol converter port, analog to IP (optional)
 Special features (specify)

- **Individual premise-based systems** that are analog, digital or digital IP-enabled. These systems serve a smaller user base than Enterprise IPT – typically a small office, specific work groups at a customer location, or a single customer location. These types of systems make use of MN.IT services for trunking, telephone numbers, and wide area network services. The specifics of the implementation determine what MN.IT services are needed for the system to function properly.

Items that can be ordered include, but are not limited to:

- Phone service in (location name/address)
- Additional associated feature(s) (specify)
- Telephone
- Professional services (service design, implementation and/or training)
- Directory listing(s)
- Installation (optional – vendor or MN.IT staff)
- Inside wiring (many types depending on specifics)

Voice-Related Applications or Services

These are services or solutions that add value to, or supplement, the Dial Tone Services. The voice-related applications or services are provisioned either on infrastructure that MN.IT owns and operates, or through contracts with telcos or other providers. For some applications or services, both provisioning mechanisms are applicable. The services include:

Voicemail, which is automatic phone messaging and simple menus (“automated attendants”) that answer or direct incoming phone calls. Voicemail is provided in two ways – on MN.IT systems of different types, some of which are integrated into the various types of dial tone services, or through telephone companies using central-office based voicemail for Centrex, business and residential lines.

- **Voicemail on MN.IT systems** offers the core features, as well as expanded and enhanced services for **Enterprise IPT customers**, including synchronization with EUCC Email for “single inbox” capability (hear voicemail through Outlook and use voicemail to hear phone messages, emails and calendar).

Items that can be ordered for Enterprise IPT voicemail include, but are not limited to:

- Mailbox (specify parameters) in (location name/address/name of customer/new site or existing?)
- Synchronization with EUCC Email if available (yes/no)
- Additional associated feature(s) (specify)
- License

Voicemail in **select Centrex locations** throughout Minnesota is also delivered on MN.IT systems.

Items that can be ordered for Centrex voicemail on MN.IT systems include, but are not limited to:

- Mailbox (specify parameters) in (location name/address)
- Additional associated feature(s) (specify)

- **Telco central office voicemail** is used on Centrex, business and residential lines, typically in locations where a MN.IT-provisioned system is not available.

Items that can be ordered for telco central office voicemail include, but are not limited to:

- Mailbox (location) in (location name/address)
- Additional associated feature(s) (specify)

Contact/call center service, which supports telephone call queuing, monitoring, routing and reports for agents that interact with inbound and outbound callers using voice and/or web chat. These services run on MN.IT infrastructure and are incorporated into various dial tone services delivered by PBXs. The call center agents are customer employees that are typically configured with computer desktop tools specially designated for the call center environment and the PBX system in place at the location. Inbound or outbound calls are routed according to business logic, calls are queued to wait for available agents, the agents and supervisors can monitor the status of queues, and a full suite of reports is available.

Another typical feature is skills-based routing, where the business logic scripting defines the skill group the call should be directed to or from (e.g., Spanish speaker, expert on topic A, etc.).

Web chat capabilities can be built into a customer website and linked into the contact center system for seamless interaction, and Web agents and supervisors are set up as a skill group.

Items that can be ordered can include the following, although specific items may be available only on particular types of MN.IT contact center infrastructure (i.e., on Enterprise IPT versus a customer premise solution). They are not limited to these items, however:

Agent/supervisor service in (location name/address/name of customer/new site or existing?) – note this includes a personal line and an affiliated voicemail box.

Telephone number on personal line ported from another service (option)

Telephone

Licenses

Professional services (service design, implementation and/or training)

Note: this is a designed network application service and will include items from other parts of MN.IT Services (LAN upgrade and/or management, bandwidth, remote site survivability, network design services).

Special features (specify)

Interactive voice response (IVR) applications, allowing a computer to interact with callers through the use of both touchtone and voice commands. Typically, an IVR application is more complex, more sophisticated and delivers more functionality than simple “automated attendant” type caller menus that are provisioned in voicemail. Many IVR applications interface with a customer’s computer system, automate the retrieval of information from the computer, and deliver that information to callers via the telephone (e.g., a citizen can hear the status of a tax refund or listen to specific individual information based on an input such as a license number, case number, etc.).

In addition, applications often are tightly integrated with the customer website or other external systems to perform tasks such as generating an email based on inputs or conditions which are monitored by the IVR application.

The IVR applications are delivered in two ways:

- on MN.IT infrastructure and computer systems, with IVR incorporated into various dial tone services delivered by PBXs.

Items that can be ordered can include the following, although specific items may be available only on particular types of MN.IT infrastructure (i.e., on Enterprise IPT versus a customer premise solution). They are not limited to these items, however:

IVR service in (location name/address/name of customer/new site or existing?).

Telephone number that points to the application (toll free or local, existing or new)

Ports (quantity)

Speech recognition (yes/no)

Licenses

Professional services (service design and implementation)

- by telephone companies or providers that have external equipment or central-office based services dedicated to IVR.

Items that can be ordered can include the following, although specific items may be available based on the provider. They are not limited to these items, however:

IVR service in (location name/address/name of customer/new site or existing?).

Telephone number that points to the application (toll free or local, existing or new)

Special features

Value-added applications for Enterprise IPT, which perform such functions as call recording, quality monitoring, workforce management, mobility support and notification/alerting.

- **Call Recording / Quality Monitoring** is a modular application that requires a per-seat (user) license and runs on dedicated infrastructure that is part of Enterprise IPT. It is used for the many reasons that customers need to monitor and record calls – agents in the call center, support personnel, subject matter experts, legal personnel, etc. There are many options for monitoring and recording calls to nurture the caller experience, control quality and protect the interests of the customer. The application does call recording, live voice and screen monitoring and overall quality and compliance management. Customers can order levels of the application based on business needs.

Items that can be ordered include, but are not limited to:

- Recording/Monitoring Support (quantity based on number of seats)
- Licenses and maintenance coverage for licenses (specific license types based on features)
- Professional services (service design, implementation and/or training)

- **Workforce Management** is used in contact center environments as a planning tool for staffing. It allows managers to forecast staff needs accurately based on historical data and situational inputs. Using the options within the application, managers can develop schedules for multiple sites, track key performance indicators, and manage real-time adherence to prescribed staff levels (e.g., is an agent “available” for customer contact at the times defined in a schedule?). The application requires a per-seat (user) license and runs on dedicated infrastructure that is part of Enterprise IPT.

Items that can be ordered include, but are not limited to:

- Workforce Management Support (quantity based on number of seats)
- Licenses and maintenance coverage for licenses
- Professional services (service design, implementation and/or training)

- **Mobility Support** is an umbrella term that covers several technologies. When combined, they offer a full suite of network and telephone applications to support remote (off-site) knowledge workers and call center agents in fixed (stationary) locations, as well as “nomadic” Enterprise IPT users who install a “softphone” on their laptops. A softphone is equivalent in features and functionality to the Enterprise IPT phone, but is actually client software installed on the laptop. Once the user connects to the Internet and connects securely to the State network, the softphone client software and a voice headset provide voice service. The nomadic user is one that does not remain at a stationary location, but instead needs voice functionality from Enterprise IPT wherever a connection to the Internet is available. In addition, compliance with the State of Minnesota’s E911 statutes regarding location information is included.

Items that can be ordered include, but are not limited to:

- 911 Database subscription access (quantity based on number of seats)
- IPT desktop phone license (yes/no)
- Contact center services (yes/no)
- Softphone license (yes/no)
- Professional services (service design, implementation and/or training)

Note: this can be a designed network application service, depending on the implementation business requirements (e.g., remote fixed location versus nomadic user) and can include items from other parts of MN.IT Services (e.g., virtual office service, Virtual Private Network service).

Special features (specify)

- **Notification/Alerting** is an application that integrates delivers custom messages, notifications, alerts and device management options to customers that use Enterprise IPT. The notification or management targets can be IPT phones, overhead paging systems, pagers and mobile devices, or alarms, fire suppression systems and elevators. Another use is telephone call outdial notifications with reporting. The infrastructure for the application is part of MN.IT’s Enterprise IPT. Examples of use are for weather or security alerts pushed to IPT phones, computer desktops, and other devices in voice and text formats, callouts for snow plow or emergency crews, or building and facilities alerts for security officers and maintenance staff. The customer’s implementation is based on specific business requirements and the desired features. A broad range of features are standard, and optional professional services are available for integration into external systems or other designed solutions.

Items that can be ordered include, but are not limited to:

Notification/Alerting services in (location name/address/name of customer/new site or existing?).
Professional services (service design, implementation and/or training)
Special features

Over-the-phone interpretation service give the end-user the ability to have an in-person or telephone conversation, on an ad hoc basis, with a limited English proficiency (LEP) citizen by accessing an interpreter for any language. The LEP citizen, the State end-user and the interpreter have a three-way conversation. The contracted provider for this service offers instantaneous access to the interpreters via a toll free telephone number. Once the customer is signed up for this service, the billing is completely usage based, with standard pricing regardless of the language needed. The service is available regardless of the type of dial tone service in use. Typical users of this service are enforcement and public safety officers, medical and court workers, social services workers, call center agents, and park or public facilities workers who interact with citizens.

Items that can be ordered include, but are not limited to:

Interpretation account
Special items (e.g., dual handset phone)

e-Fax services for inbound and outbound faxing can replace the need for fax machines. These services are commonly used when signed forms and documents need to be sent and received as customers interact with citizens, businesses and other stakeholders. By setting up individual fax telephone numbers for end-users, customers are able to improve confidentiality and efficiency by eliminating a shared fax machine. End-users can either use desktop client software or a website to send outgoing faxes to any type of fax machine or service. e-Fax is provisioned on MN.IT infrastructure and is available regardless of the type of dial tone service in use.

Items that can be ordered include, but are not limited to:

e-Fax service (location name/address)
Additional phone numbers
Implementation
Special features

Related Information

- Minnesota Statute 207 Chapter 16E (Office of Enterprise Technology)
- Minnesota Statute Chapter 403.15 (911 law)
- Enterprise Technology Fund 970 Rate Schedule
- Operational documents and information on OET websites
- State Contract Releases on MMD's website
- Voice Services Service Level Agreement