

Introduction to RAS

This document describes the RAS process that will enable you to access the ODOT servers and Microsoft Outlook (E-mail) when you are away from your office and not on the internet. The process uses your laptop, modem, Secure ID card, and a telephone connection (using normal, everyday dialing conventions).

Terminology

RAS (*Remote Access Server*)

This is a server that is dedicated to handling users that are not on a LAN but need remote access to it. The remote access server allows users to gain access to files and print services on the LAN (other servers) from a remote location (such as out in the field).

LAN (*Local Area Network*)

A computer network that spans a relatively small area. Most LANs are confined to a single building or group of buildings. However, one LAN can be connected to other LANs over any distance via telephone lines and radio waves.

Analog

Analog is the original and still prevalent technology used for local telephone telecommunications transmission. Analog signals are direct reproductions of sound waves. Voice conversations, computer data, and video can be sent via analog technology; however, digital technology can be more reliable, particularly at high bandwidths (speeds). Broadcast and cell phone transmission has conventionally used analog technology, but it has now virtually disappeared (not supported, with very limited coverage). The analog system is not forward compatible (can not be upgraded to a Digital or GSM system).

Note: Analog land lines for modem use are not, currently, being phased out.

Digital

Digital technology is primarily used with new physical communications media, such as satellite and fiber optic transmission. A modem is used to convert the digital information in your computer to analog signals for your phone line and to convert analog phone signals to digital information for your computer.

Digital technology uses the following digital standards or systems:

- **TDMA** (*Time Division Multiple Access*) is a technology used in digital cellular telephone communication that divides a single channel into a number of timeslots in order to increase the amount of data that can be carried.

- **CDMA** (*Code Division Multiple Access*) is a digital cellular technology that uses spread-spectrum techniques. Unlike competing systems, such as GSM, that use TDMA, CDMA does not assign a specific frequency to each user. Instead, every channel uses the full available spectrum. Individual conversations are encoded with a pseudo-random digital sequence.
CDMA is a military technology first used during World War II by the English allies to foil German attempts at jamming transmissions. The allies decided to transmit over several frequencies, instead of one, making it difficult for the Germans to pick up the complete signal.
- **CDMA/TDMA** is a hybrid.

These older digital standards, and support for them, are currently being phased out and are not forward compatible (can not be upgraded to the GSM system).

GSM (*Global System for Mobile communication*)

GSM is a 'digital' mobile (cellular) telephone system, based on TDMA, that is widely used in Europe and other parts of the world. Throughout the evolution of cellular telecommunications, various systems have been developed without the benefit of standardized specifications. This presented many problems directly related to compatibility, especially with the development of digital radio technology. The GSM standard is intended to address these problems. GSM is a backward compatible system.

RAS (RSA) Secure ID Card

The RAS Secure ID card, or token, provides greater security than weak, static passwords. By combining something the user knows (i.e., a secret PIN) with something the user possesses (i.e., a unique RAS Secure ID token that generates a one-time password every 60 seconds), Microsoft Windows customers gain an effective way to secure user access to valuable company resources. The life expectancy of these RAS Secure ID cards is approximately 4 to 5 years.



Cellular Modem PCMCIA/PC Card

ODOT Information Systems (IS) Technology Services has recently configured a Cellular Modem PC card, more specifically a Verizon Air-Card, for use on a laptop. The card enables you to access the ODOT servers, and your Microsoft Outlook (E-mail), without the need of a phone. It works famously, connects quickly and appears to have a very stable connection, as long as the signal is good.



RAS in using an Analog Telephone Land Line

1. Connect the laptop to an analog telephone wall jack/outlet (land line) with a standard telephone cable. You will only be able to RAS in while connected to an analog telephone jack. An analog telephone jack is a standard 4 pin jack so it is not visibly possible to determine if it is an analog or a digital telephone jack. You must try it to see if it works.
2. Log on to the computer like you would normally when at work.
3. If you wish to connect to the server during Log On check the 'Log on using dial-up connection' box.

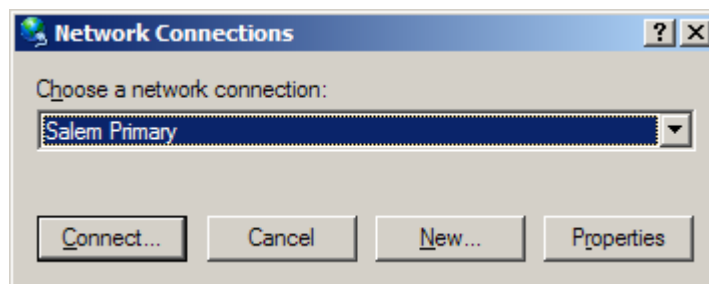
or

You can RAS in and connect at any time. If you choose not to check the 'Log on using dial-up connection box' you will get an error that says 'Windows cannot connect to a server'. Ignore it, if you like, and click **OK**.

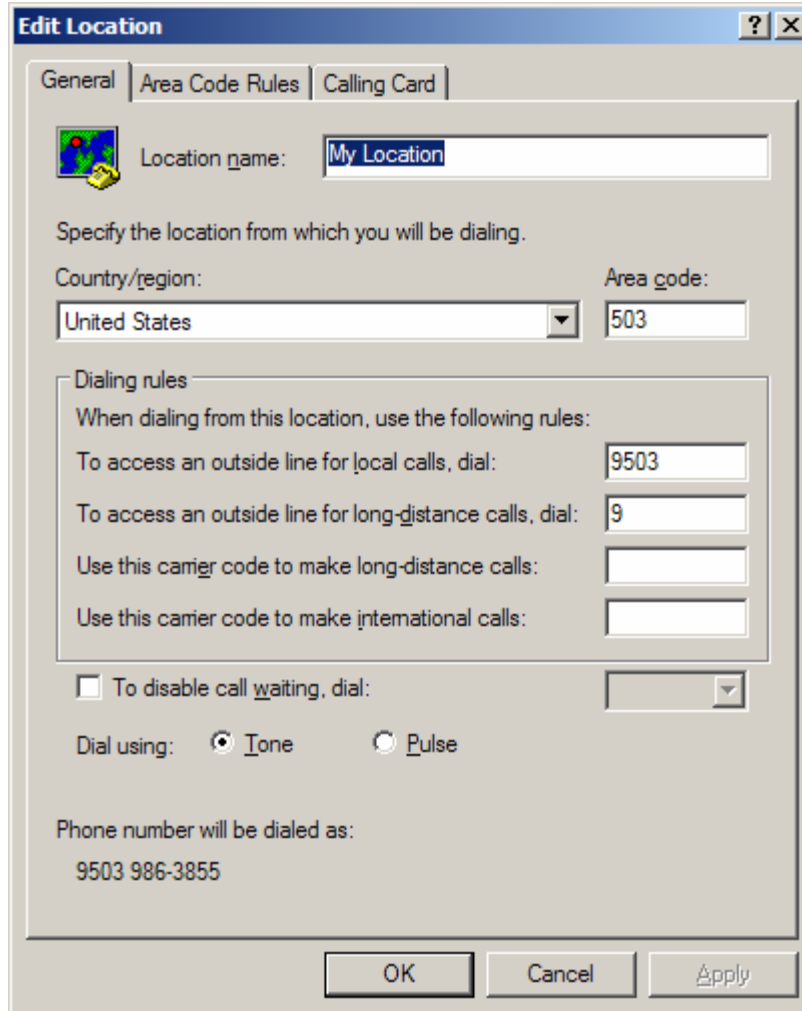
4. You may connect to the server at any time by double clicking the **RAS Connections** icon on the desktop. The icon will, normally, already be setup on the Desktop on your laptop computer.



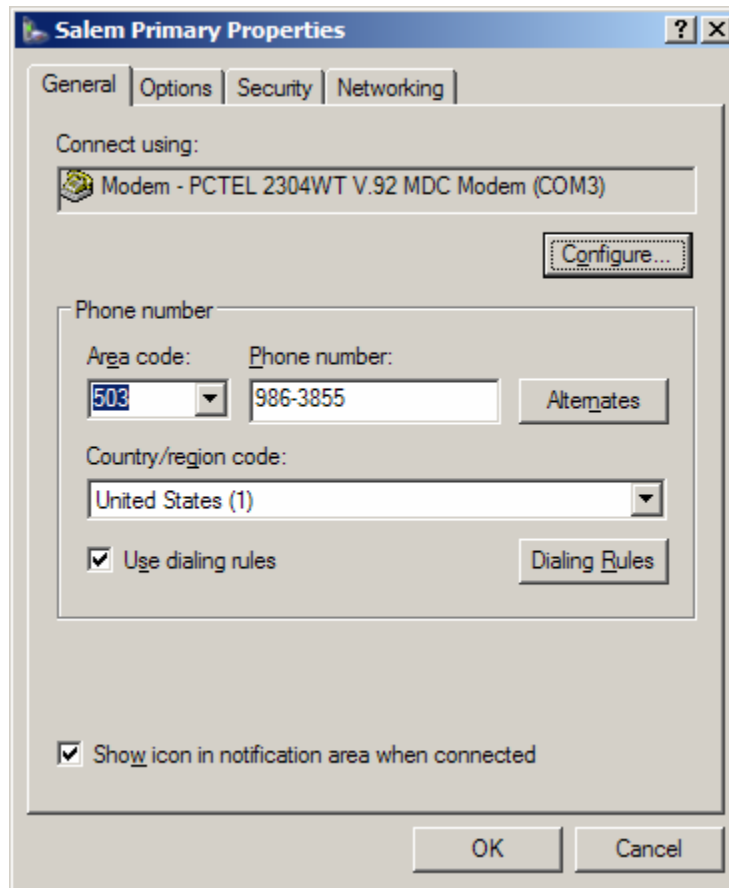
5. Choose the dial up Server you want to use by clicking on the down arrow on the right side of the selection criteria field in the Network Connections dialog box.



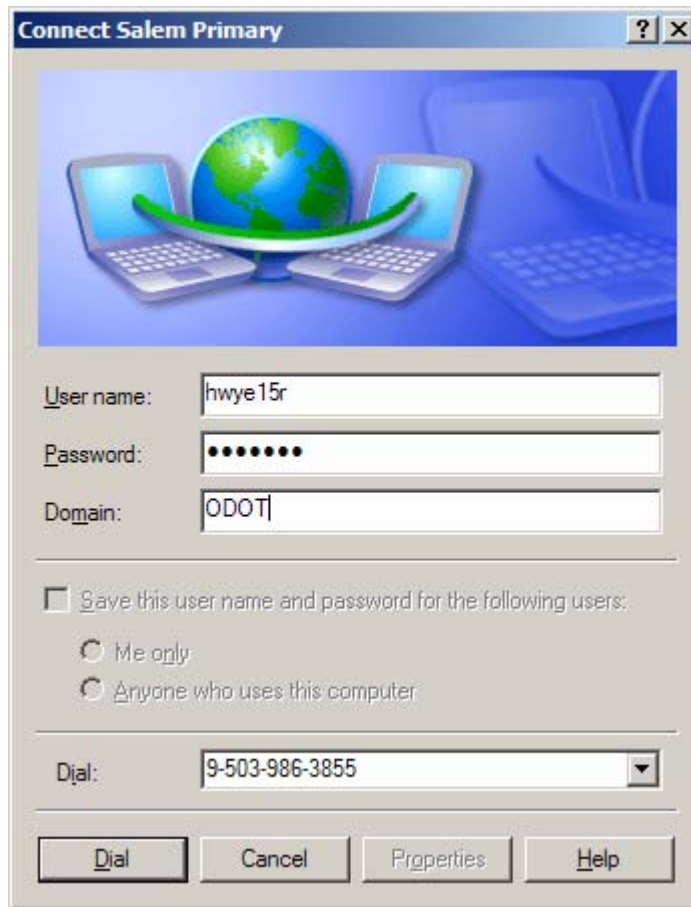
6. To create new or view the selected network connection properties and any dialing rules > **Properties** > **Dialing Rules** > **New** or **Edit**.



7. **OK > OK.**
8. Check **Use dialing rules** on.
9. **OK.**

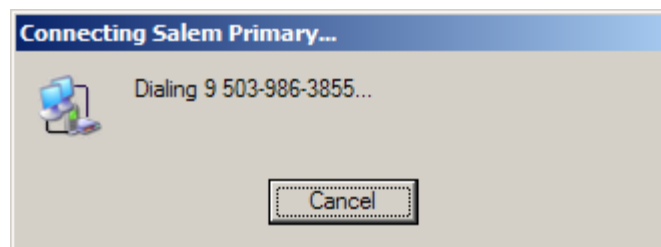


Note: Dashes and/or spaces in the phone number are for visual clarity only. They do not add pauses in the phone number when dialing. A comma will add a 2 second pause, 2 commas will add a 4 second pause, etc. Pauses can be important when accessing an outside phone line and/or using a calling card as they may be required in the dialing pattern to access different systems.



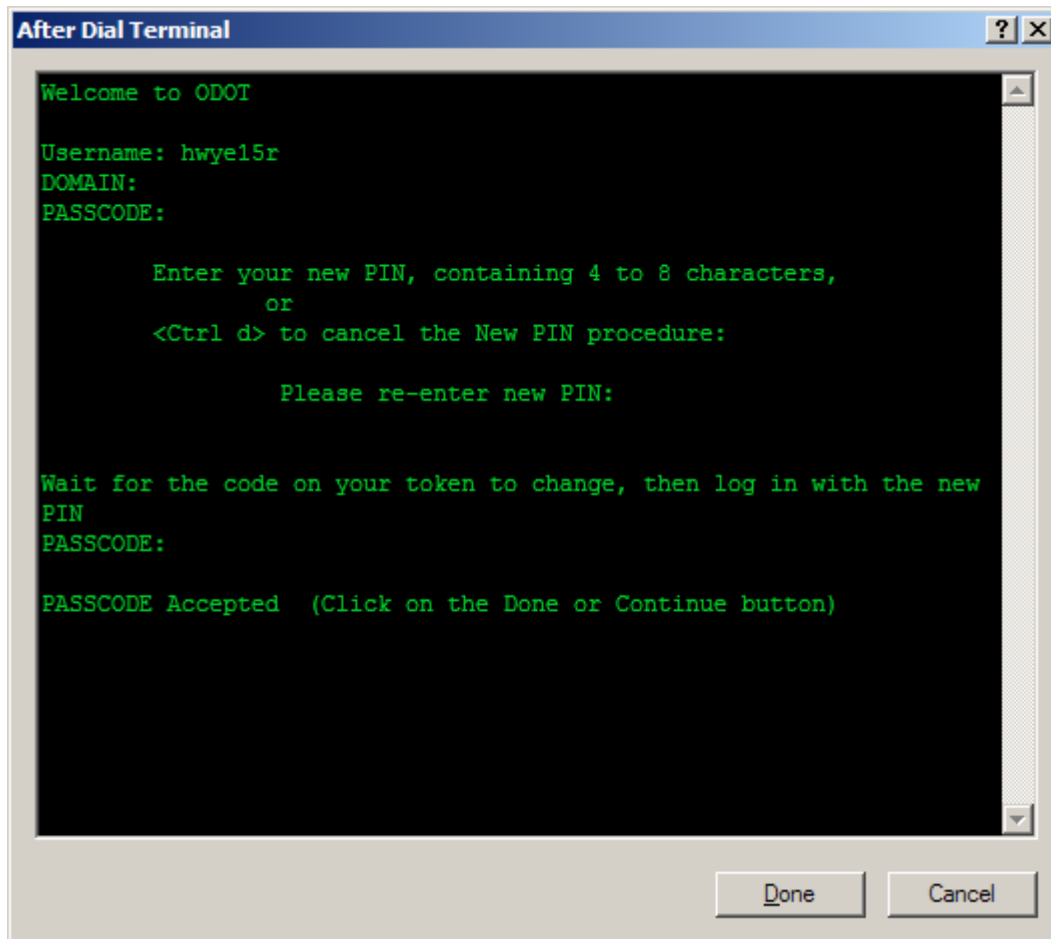
Note: The password in this dialog box is your Domain password, not your PIN. It is possible, though, to skip this dialog box and bypass any data entry here if you have logged on.

10. Click on **Dial**. You will see the following dialog box and hear the modem dial.



Connecting for the First Time

- If you are connecting for the **first time only**, the following terminal window will appear.



- When you are prompted enter:
 1. Username – your user ID (your 'racf' ID). Press **Enter**.
 2. DOMAIN – Leave this blank as the software will know it is 'ODOT'. Press **Enter**.
 3. PASSCODE – the number from the Secure ID card (for connecting for the first time only). Press **Enter**.
 4. When prompted to enter your new PIN, enter a 4 to 8 character PIN and press **Enter**. This PIN will be permanent until you choose to change it (unlike your Domain password). If you choose to use your current Domain password that Domain password will eventually be required to be changed, so choose a password for your PIN that you will remember. If you forget your PIN, or make a mistake entering your PIN, and become locked out you can call

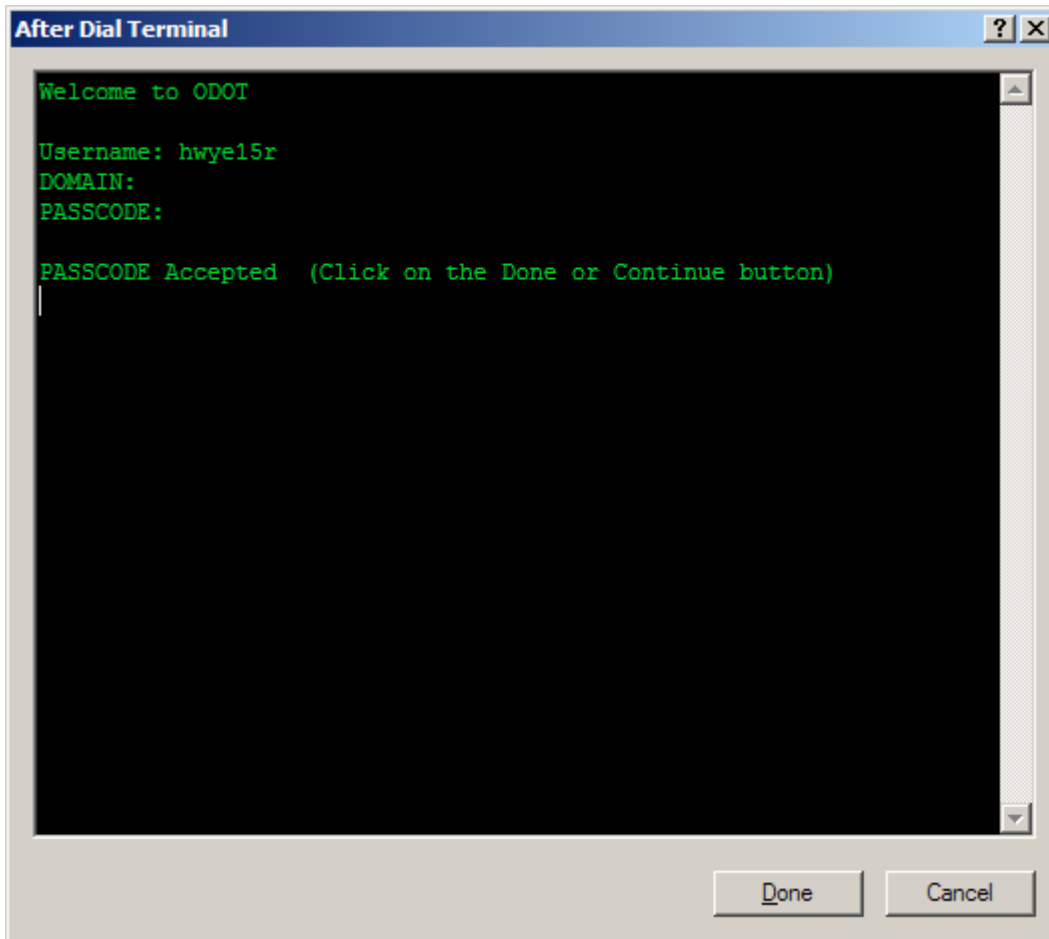
ODOT Computer Support to have it reset. You may then select a new PIN or choose to use the same PIN again.

5. To verify, re-enter the PIN you have chosen. Press **Enter**.
6. Wait for your Secure ID card number to change, enter your new PIN **followed by** the number on the Secure ID card. Press **Enter**.
7. Press Enter and wait until the screen says your pass code has been accepted and then select the Done button.

Note: Press **Enter** after each entry.

Subsequent Connections

- If you are connecting, after you have connected the first time and established your PIN, the following terminal window will now appear.

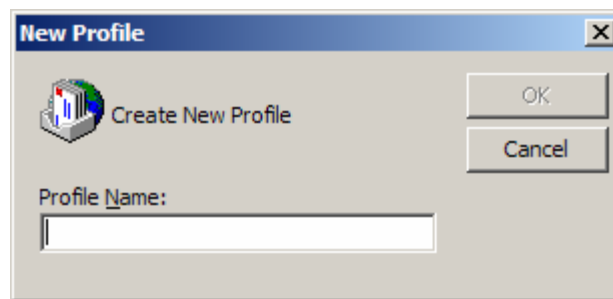


- When you are prompted enter:

1. Username – your user ID (your 'racf' ID). Press **Enter**.
2. DOMAIN – Leave this blank as the software will know it is 'ODOT'. Press **Enter**.
3. PASSCODE – your **PIN plus the numbers on the Secure ID card**. Press **Enter**.
4. When it says **PASSCODE Accepted** click on the **Done** button.

Profile

- Your profile should already be set up for you on your computer as this is standard on all ODOT laptops. Double click on your Microsoft Outlook icon. When Outlook launches you will be prompted to work offline or connect. In most cases you will want to connect. You can use Outlook like you would when connected at your office.
- If you get the following dialog box and you would like to access your Microsoft Outlook, you will need to contact ODOT Computer Support to create your new profile on the computer you are presently using.



RAS in using a Cell Phone

A cell phone and a special tethering cable, unique to the make and model of the cell phone, are required. RASing in with a cell phone uses the same procedure as RASing in while connected to a land line except the dialer would have to be set to not look for a dial tone. It is still possible, with the proper equipment, to RAS in using analog or TDMA/CDMA digital cell phones, but the system(s) are becoming erratic and unstable. A GSM cell phone is preferred because GSM technology provides advanced features not available with the other services and better, fully supported, more reliable service. A GSM cell phone is a cell phone that is capable of reading GSM frequencies and uses an internal SIM card (sometimes indicated by a message when you turn your phone on) or it will have a slot (usually in the battery compartment) for a SIM card. Digital (TDMA) phones do not have SIM cards.

- SIM Card** (*Subscriber Information Module card - a.k.a. "smart card"*)
 A SIM card is a small removable disk that slips in and out of a GSM cell phone. It holds all of a subscriber's personal information and phone settings. In essence, it is the subscriber's authorization to use the network. It also holds the phone number, personal security key and other data necessary for the handset to function. The card can be switched from phone to phone, letting the new phone receive all calls to the subscriber's number.

RAS Phone Numbers

Region 1	Portland	503-731-3333
Region 2	Springfield	541-744-8090
Region 3	Roseburg Primary	541-957-3694
Region 3	Roseburg Secondary	541-673-6149
Region 3	Coquille	541-396-7041
Region 4	Bend	541-388-6319
Region 4	Klamath Falls	541 851-0352
Region 4	The Dalles	541-296-1666
Region 5	La Grande	541-963-4396
Salem Area	Salem Primary	503-986-3855
Salem Area	Salem Secondary	503-986-6398 (Please try this number if you have a problem making a connection using the primary Salem number.)

Calling Cards

Calling cards (for long distance calls) should be available through your Region. Your **dialing rules** will be configured the same as the way you would normally, manually dial with your calling card.