



SESSION 3

TECHNICAL DETAILS OF TUFMAN

First TUFMAN Training Workshop (TTW-1)
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Presentation outline



- TUFMAN setup/architecture
 - Components of TUFMAN
 - What is SQL Server
 - Support folders and files
 - The setup on a network
 - Network issues
 - The setup of a copy on a laptop
 - Hardware and software requirements
 - Backups
 - TUFMAN updates
 - Common technical problems

Components of TUFMAN



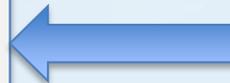
- TUFMAN has 2 main components:

Front-end

- The User interface
- A Microsoft Access file 'TUFMAN_Sqlserver.accdr'
- None of your data are stored in this file, the front-end reads all the data from the back-end
- Can be easily replaced so is not a critical file
- Contains a 'link' to the back-end, to access the data

Back-end

- The data
- Stored in an 'SQL Server' database
- Stores data only
- Must be backed up to safeguard your data, otherwise all can be lost



SQL Server Backend



What exactly is SQL Server?

SQL Server is simply a computer program that is used to store data that can be accessed by other computer programs.

- Can be run on any computer but is best hosted on a server
- Only runs on one computer and is accessed by other computers over the network (except for laptop copies)
- Very powerful database product that is robust, secure and high performance

SQL Server Backend



How does TUFMAN link to the SQL Server back-end?

- Done by 're-linking' in TUFMAN
- Connection details for each TUFMAN installation are stored in the TUFMAN_SQLServer.accdr file:
 - SQL Server name and address; server name or IP address and SQL Server 'instance'
 - Database name (e.g. Tufman_fm)
 - SQL Server username and password ('sa' account)

Support folders and files



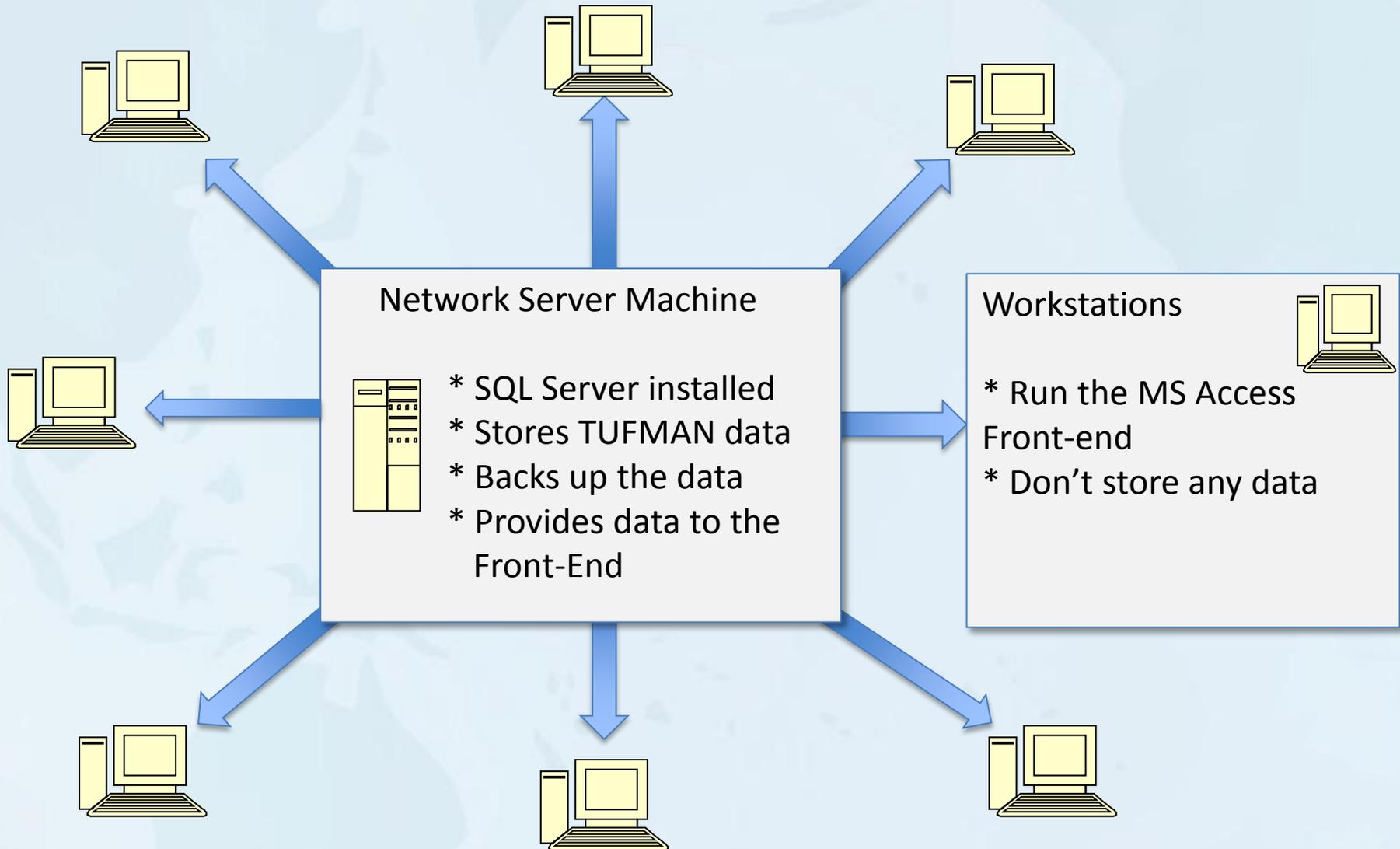
All installations

- ‘Maps’ folder – files used for mapping; EEZ boundaries, island shapes etc. In main TUFMAN folder.
- ‘WCPFC_templ’ folder – for the WCPFC reporting functions of TUFMAN with Excel template files used in those reports. Also in main TUFMAN folder
- ‘logo’ folder: optional and contains a single file ‘logo.jpg’.

Optional

- License certificates – Word doc template files used for license certificates
- ‘Backups folder’ – this folder could contain files, or a link to files, which are backups of the SQL Server database, i.e. the actual TUFMAN data.
- TUFMAN_Master folder – this folder will contain only one file, a backup of the TUFMAN_SQLServer.accdr file, in case you need to replace it for some reason.

TUFMAN Network Setup



Network Issues



- The network must be setup to allow the workstation PC's to access the TUFMAN SQL Server database (firewall has to be configured etc)
- Problems with the server or network will slow TUFMAN down or make it not work at all, since the front-end is always sending and receiving data over the network to the SQL Server database
- Changes to the server may result in TUFMAN losing access to the SQL Server, so changes to the server must be done carefully and with the TUFMAN setup in mind (e.g. Change the server name, IP address, firewall, SQL Server setup)

TUFMAN Setup on a laptop



- Generally this is to install a copy of TUFMAN so that the reports etc can be viewed while travelling. No data should be entered in this case
- SQL Server is installed on the laptop and a copy of the TUFMAN data installed into the SQL Server
 - TUFMAN is then linked to the laptop data
 - You can have as many laptops setup with a copy as you like, but the data will not be updated. Once back in the office TUFMAN should be linked back to the main server's TUFMAN database
 - When linked to a copy, TUFMAN will show this on the Main Title and won't allow data to be entered.

TUFMAN Setup on a laptop



T U F M A N - C O P Y



MAIN MENU

Main

Licensing

National Fleet

Logsheet

Vessel Activity
Log

Observers

Port Sampling

Unloadings

Packing Lists

Position Reports

Reporting

VDS
Management

Admin

Exit Tufman



Cook Islands - COPY



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**Secretariat of the Pacific Community
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Version 6.23

Hardware/Software Requirements



For the TUFMAN server, running SQL Server

- 2GB RAM
- X86 processor at 1.0GHz or x64 processor at 1.4GHz
- 10GB available hard drive space
- Windows Server 2008
- Network

Hardware/Software Requirements



For the Workstations (or laptops) running TUFMAN

- 1GB RAM
- 1.0GHz processor
- 5GB available hard drive space
- Windows XP
- Microsoft Access 2007, or Access 2007 runtime (free)
- Microsoft Excel 2007 recommended
- 1024x768 or higher resolution monitor
- Network access

Backups



- Setup up to run automatically.
 - Setup as a ‘scheduled task’ on the server
 - Run once per day in the evening
 - File is saved onto the server and also another location or 2, for accessibility and security (e.g. To a USB key in case of server failure)
- Backup file is usually zipped
 - E.g. TUFMAN_fm_daily.bak -> TUFMAN_fm_daily.zip
- The backup file contains all of your data, can be used to restore the database or to send the database to SPC
- Manual backups
 - Can be run at any time
 - Steps documented in ‘TUFMAN GUIDE - Backup and Restore the TUFMAN Database.pdf’
 - Open ‘SQL Server Management Studio’, this can be on the server or from another machine
 - Connect to the TUFMAN database
 - Run the ‘backup’ task. This will create a backup file on the server

Restoring from backup



Restoring is rarely needed, but here are some examples of when to restore:

- When changing to a new server, so the TUFMAN database is moved from an old server to a new one
- Complete server crash and loss of data, or damage to the server
- Accidental loss of data by user error (difficult but not impossible to do)
- Restoring after maintenance by SPC (rare)
- Installing a copy onto a laptop, for travel
- Installing a training TUFMAN database

Restoring from backups



- also described in the 'TUFMAN GUIDE - Backup and Restore the TUFMAN Database.pdf' document.
 - Open 'SQL Server Management Studio', this can be on the server or from another machine
 - Connect to the TUFMAN database
 - Delete the existing database if it's being replaced (caution is required here of course)
 - Run the 'restore' task, and then navigate to a previous backup file to restore from. The backup file should be unzipped, it will allow you to select a zipped file but the restore will not work.

TUFMAN updates



- TUFMAN is updated frequently
- Changes to user interface and also to the SQL Server database
- All contained in TUFMAN_SQLServer.accdr file
- TUFMAN maintains a 'version number' in the Access file and also in the database and uses version control to decide when to apply updates and which to apply. E.g.

- TUFMAN_SQLServer file version is 6.22
- SQL Server TUFMAN database version is 6.17

When TUFMAN is re-linked and run:

- TUFMAN compares it's version (6.22) to the database (6.17)
- 6.22 is > 6.17, so run updates: 6.18, 6.19, 6.20, 6.21, 6.22
- If updates are successful, update the SQL Server TUFMAN database version number to 6.22, and it is now up-to-date.

Some common technical problems



Re-linking problems

- Loss of connection from Access front-end to the SQL Server DB:
 - Network problems
 - Server network changes (name, IP address, etc)
 - Server software changes (firewall, SQL Server)
 - Updated TUFMAN_SQLServer.accdr file may not link and needs to be fixed by SPC (problem with different Microsoft Office versions)

Corruption of the TUFMAN_SQLServer.accdr file

- Common
- Due to the way Microsoft Access works. File gets bigger and bigger with use and stops working or shows funny errors. File size up to 700MB
- Power cuts
- Easily fixed, just replace file with a backup



END