# [Template] Database Migration Checklist: <client name>

Technical Contact:

Admin Contact:

Salesforce Case#:

Jira Task#:

## Source Server - <hostname> <IP>

⌄ Click here to expand...
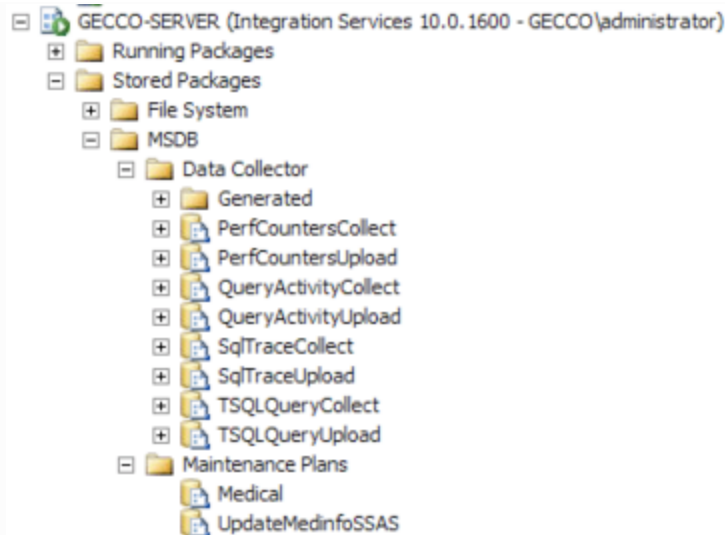
**Questions**
⌄ Click here to expand...
General

- Non-MI databases?  (In general, do not touch these.)
    - [FRAMESdata] - should this also be migrated? Yes
- Will old server be decommisioned? No
- Has autogrowth kicked in? No
- Non-MI Logins needed?  No, new Logins will be created
    - Should this be replaced with GECCO\Administrator instead?
    - GECCO-SERVER\Administrator
    - GECCO-SERVER\medadmin (this Login owns the "PopulateMedinfoSSAS" job)
    - GECCO-SERVER\SQLAdmin

- Backup directory accessible? Yes
- MI App Uses Windows Authentication?  No
- Is "Auto Shrink" enabled for [medical]?  No
- Is [medical_testv76] using simple recovery model with TLs shrunk?  No...add as migration task!
- Will IP and hostname be changed post the migration?

SQL Jobs

- The "FRAMESdata Import" jobs seem to be part of an SSIS process (for Optimatix)
    - D:\MEDINFO\OptiMatix\FRAMESdata\FRAMESdata Import.dtsx
    - Should this also be moved?  YES.  EI will do testing.
- Disabled jobs needed? None are disabled
- Services are being run with GECCO-SERVER\SQLAdmin user
    - Will need someone with access to this user to set the services on the new server?  No, IT has provisioned GECCO\SQLAdmin

Misc Services

- SSIS packages?  Yes, but had to create Login for GECCO\administrator with sysadmin rights to access:

```
⊟   GECCO-SERVER (Integration Services 10.0.1600 - GECCO\administrator)
    ⊞ 📁 Running Packages
    ⊟ 📁 Stored Packages
        ⊞ 📁 File System
        ⊟ 📁 MSDB
            ⊟ 📁 Data Collector
                ⊞ 📁 Generated
                ⊞ 📄 PerfCountersCollect
                ⊞ 📄 PerfCountersUpload
                ⊞ 📄 QueryActivityCollect
                ⊞ 📄 QueryActivityUpload
                ⊞ 📄 SqlTraceCollect
                ⊞ 📄 SqlTraceUpload
                ⊞ 📄 TSQLQueryCollect
                ⊞ 📄 TSQLQueryUpload
            ⊟ 📁 Maintenance Plans
                📄 Medical
                📄 UpdateMedinfoSSAS
```
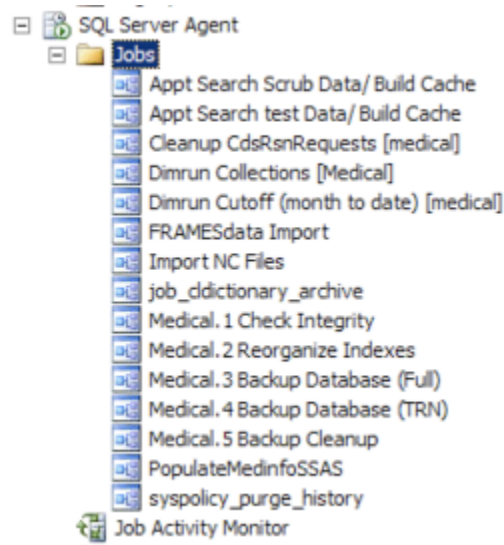
- SSAS database for the Dashboard?  "MedinfoSSAS" exists and is accessible
- As for the SSIS job for the Dashboard ("PopulateMedinfoSSAS"):
    - Does it use a Proxy? No
    - What SSIS package is it using?  UpdateMedinfoSSAS

**Specs:**
⌄ SQL Jobs

- Maintenance Plans
    - Medical

- 15 Jobs Enabled

```
⊟ 📖 SQL Server Agent
    ⊟ 📁 Jobs
        📄 Appt Search Scrub Data/ Build Cache
        📄 Appt Search test Data/ Build Cache
        📄 Cleanup CdsRsnRequests [medical]
        📄 Dimrun Collections [Medical]
        📄 Dimrun Cutoff (month to date) [medical]
        📄 FRAMESdata Import
        📄 Import NC Files
        📄 job_cldictionary_archive
        📄 Medical.1 Check Integrity
        📄 Medical.2 Reorganize Indexes
        📄 Medical.3 Backup Database (Full)
        📄 Medical.4 Backup Database (TRN)
        📄 Medical.5 Backup Cleanup
        📄 PopulateMedinfoSSAS
        📄 syspolicy_purge_history
    📅 Job Activity Monitor
```
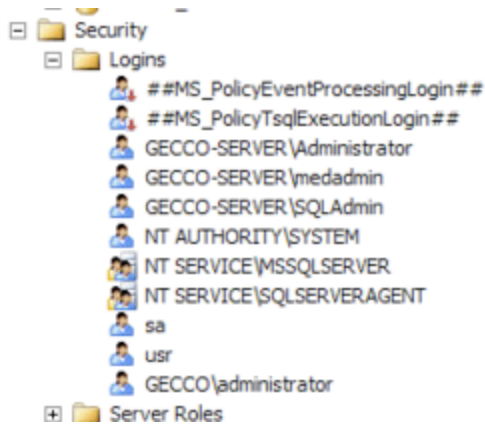
- No Jobs Disabled

⌄ SQL Server Settings

- Min Memory - 1024 MB (1024 MB recommended)
- Max Memory - 10,240 MB (usually 80% of server memory; should leave 2GB+ for the OS and 2GB+ for the application)
- Login auditing - Failed Logins Only
- Compress backup - unchecked
- Xp_cmdshell turned on (for Import NC job)
- Network protocols - Shared Memory & TCP/IP turned on
- Database Mail XPs turned on (for Patient Portal)

- Optimize for ad hoc workloads turned off
- Mixed Authentication Mode
- Backup Directory:
  - Old - D:\MSSQL10.MSSQLSERVER\MSSQL\Backup\medical
  - New - C:\Program Files\Microsoft SQL Server\MSSQL14.GECCO\MSSQL\Backup

### Logins

```
☐ 📁 Security
   ☐ 📁 Logins
        👤 ##MS_PolicyEventProcessingLogin##
        👤 ##MS_PolicyTsqlExecutionLogin##
        👤 GECCO-SERVER\Administrator
        👤 GECCO-SERVER\medadmin
        👤 GECCO-SERVER\SQLAdmin
        👤 NT AUTHORITY\SYSTEM
        👤 NT SERVICE\MSSQLSERVER
        👤 NT SERVICE\SQLSERVERAGENT
        👤 sa
        👤 usr
        👤 GECCO\administrator
   ⊞ 📁 Server Roles
```

### Overview Results

Script Repo:  https://bitbucket.org/MedinfoAdmins/midb-development/src/master/migration-sql/SQL_Migration_Overview.sql

| _General | Servername | MEDSERV |
|---|---|---|
| _General | Version | Microsoft SQL Server 2008 R2 (SP2) - 10.50.4042.0 (X64)   Mar 26 2015 21:18:04   Copyright (c) Microsoft Corporation  Standard Edition (64-bit) on Windows NT 6.1 <X64> (Build 7601: Service Pack 1) |
| Agent | Alerts | 0 |
| Agent | Jobs | 16 |
| Agent | Operators | 0 |
| Agent | Proxies | 0 |
| Agent | SSIS Packages in MSDB | 9 |
| Management | DataCollector Sets - Running /Paused | 0 |
| Management | DB Mail Accounts | 1 |
| Management | DB Mail Profiles | 1 |
| Management | ExtendedEventSessions - Running | 1 |
| Management | ExtendedEventSessions - Stopped | 0 |
| MI | Dashboard | 0 |
| MI | ERX | 1 |

| MI | Ola Hallengren's Maintenance Strategy | 0 |
|---|---|---|
| MI | Patient Portal - SQL Jobs | 1 |
| Security | Credentials | 0 |
| Security | SQL Logins | 4 |
| Security | Windows Group Logins | 2 |
| Security | Windows Logins | 2 |
| Server Objects | Backup Devices | 0 |
| Server Objects | Endpoints | 5 |
| Server Objects | Server Triggers | 0 |
| Server Objects | Servers | 1 |

⌄ System Info

| Item | Value | | | |
|---|---|---|---|---|
| OS Name | Microsoft Windows Server 2008 R2 Standard | | | |
| Version | 6.1.7601 Service Pack 1 Build 7601 | | | |
| Other OS Description | Not Available | | | |
| OS Manufacturer | Microsoft Corporation | | | |
| System Name | MEDSERV | | | |
| System Manufacturer | Dell Inc. | | | |
| System Model | PowerEdge T410 | | | |
| System Type | x64-based PC | | | |
| Processor | Intel(R) Xeon(R) CPU | E5607 @ 2.27GHz, 2261 Mhz, 4 Core(s), 4 Logical Processor(s) | | |
| Processor | Intel(R) Xeon(R) CPU | E5607 @ 2.27GHz, 2261 Mhz, 4 Core(s), 4 Logical Processor(s) | | |
| BIOS Version/Date | Dell Inc. 1.6.3, 2/1/2011 | | | |
| SMBIOS Version | 2.6 | | | |
| Windows Directory | C:\Windows | | | |
| System Directory | C:\Windows\system32 | | | |
| Boot Device | \Device\HarddiskVolume1 | | | |
| Locale | United States | | | |
| Hardware Abstraction Layer | Version = "6.1.7601.24214" | | | |
| User Name | Not Available | | | |
| Time Zone | Central Standard Time | | | |
| Installed Physical Memory (RAM) | 12.0 GB | | | |
| Total Physical Memory | 12.0 GB | | | |
| Available Physical Memory | 465 MB | | | |
| Total Virtual Memory | 24.0 GB | | | |
| Available Virtual Memory | 10.1 GB | | | |
| Page File Space | 12.0 GB | | | |
| Page File | C:\pagefile.sys | | | |

## SQL Server Services

| Name | State | Start Mode | Log On As | Process ID | Service Type |
|---|---|---|---|---|---|
| SQL Server Integration Services 10.0 | Running | Automatic | NT AUTHORITY\NETWORKSERVICE | 2428 | |
| SQL Server (SQLEXPRESS) | Running | Automatic | NT AUTHORITY\NETWORKSERVICE | 2512 | SQL Server |
| SQL Full-text Filter Daemon Launcher (MSSQLSERVER) | Running | Manual | NT AUTHORITY\LOCALSERVICE | 6040 | |
| SQL Full-text Filter Daemon Launcher (SQLEXPRESS) | Running | Manual | NT AUTHORITY\LOCALSERVICE | 3828 | |
| SQL Server (MSSQLSERVER) | Running | Automatic | BETHESDAHEALTHC\administrator | 6316 | SQL Server |
| SQL Server Analysis Services (MSSQLSERVER) | Running | Automatic | BETHESDAHEALTHC\administrator | 5748 | Analysis Server |
| SQL Server Reporting Services (MSSQLSERVER) | Running | Automatic | BETHESDAHEALTHC\administrator | 7128 | Report Server |
| SQL Server Reporting Services (SQLEXPRESS) | Running | Automatic | NT AUTHORITY\NETWORKSERVICE | 3544 | Report Server |
| SQL Server Agent (SQLEXPRESS) | Stopped | Other (Boot, System, Disabled or Unknown) | NT AUTHORITY\NETWORKSERVICE | 0 | SQL Agent |
| SQL Server Browser | Running | Automatic | NT AUTHORITY\LOCALSERVICE | 3940 | |
| SQL Server Agent (MSSQLSERVER) | Running | Automatic | BETHESDAHEALTHC\administrator | 5000 | SQL Agent |

## SQL Server Network Protocols

| Protocol Name | Status |
|---|---|
| Shared Memory | Enabled |
| Named Pipes | Disabled |
| TCP/IP | Enabled |

## Firewall Settings

https://msdn.microsoft.com/en-us/library/cc646023.aspx

Port Exceptions:

- ~~SQL Server - TCP 1433~~
- ~~SQL Server Browser - UDP 1434~~
- ~~SSAS - TCP 2383~~
- ~~SSIS - TCP 135~~

[medical] Settings

| Collation: | SQL_Latin1_General_CP1_CI_AS |
| Recovery model: | Full |
| Compatibility level: | SQL Server 2008 (100) |

Other options:

**Automatic**
| Auto Close | False |
| Auto Create Statistics | True |
| Auto Shrink | False |
| Auto Update Statistics | True |
| Auto Update Statistics Asynchronously | False |

**Cursor**
| Close Cursor on Commit Enabled | False |
| Default Cursor | GLOBAL |

**Miscellaneous**
| ANSI NULL Default | False |
| ANSI NULLS Enabled | False |
| ANSI Padding Enabled | False |
| ANSI Warnings Enabled | False |
| Arithmetic Abort Enabled | False |
| Concatenate Null Yields Null | False |
| Cross-database Ownership Chaining Enabled | False |
| Date Correlation Optimization Enabled | False |
| Numeric Round-Abort | False |
| Parameterization | Simple |
| Quoted Identifiers Enabled | False |
| Recursive Triggers Enabled | False |
| Trustworthy | False |
| VarDecimal Storage Format Enabled | True |

**Recovery**
| Page Verify | TORN_PAGE_DETECTION |

**Service Broker**
| Broker Enabled | False |
| Honor Broker Priority | False |
| Service Broker Identifier | c6db20e3-3fbc-4e11-bd5d-548f9f9dc5d8 |

**State**
| Database Read-Only | False |
| Database State | NORMAL |
| Encryption Enabled | False |
| Restrict Access | MULTI_USER |

**Space Concerns:**

Click here to expand...

medical

Script ▾ Help

| Database name: | medical |
| Owner: | sa |

☑ Use full-text indexing

Database files:

| Logical Name | File Type | Filegroup | Initial Size (MB) | Autogrowth | Path | File Name |
|---|---|---|---|---|---|---|
| medical | Rows ... | PRIMARY | 3040 | By 1 MB, unrestricted growth | D:\MSSQL10.MSSQLSERVER\MSSQL\DATA | medical_restore.mdf |
| medical_log | Log | Not Applicable | 5836 | By 10 percent, restricted growth t... | D:\MSSQL10.MSSQLSERVER\MSSQL\DATA | medical_restore_1.LDF |

**medical_testv76**

Script ▾ | Help

| | | |
|---|---|---|
| Database name: | medical_testv76 | |
| Owner: | sa | |

☑ Use full-text indexing

Database files:

| Logical Na... | File Ty... | Filegroup | Initial Size (... | Autogrowth | | Path | File Name |
|---|---|---|---|---|---|---|---|
| medical | Rows... | PRIMARY | 2414 | By 1 MB, unrestricted growth | ... | D:\MSSQL10.MSSQLSERVER\MSSQ... | medical_testv76.mdf |
| medical_log | Log | Not Applic... | 7062 | By 10 percent, restricted gro... | ... | D:\MSSQL10.MSSQLSERVER\MSSQ... | medical_testv76_1.LDF |

| | | |
|---|---|---|
| Database name: | FRAMESdata | |
| Owner: | sa | |

☑ Use full-text indexing

Database files:

| Logical Name | File Type | Filegroup | Initial Size (MB) | Autogrowth | | Path | File Name |
|---|---|---|---|---|---|---|---|
| FRAMESdata | Rows ... | PRIMARY | 600 | By 100 MB, unrestricted growth | ... | D:\MSSQL10.MSSQLSERVER\MSSQL\DATA | FRAMESdata.mdf |
| FRAMESdat... | Log | Not Applicable | 300 | By 100 MB, restricted growth to 2... | ... | D:\MSSQL10.MSSQLSERVER\MSSQL\DATA | FRAMESdata_log.ldf |

| Name | Type ▲ | Total Size | Free Space | |
|---|---|---|---|---|
| **Hard Disk Drives (2)** | | | | |
| Local Disk (C:) | Local Disk | 68.3 GB | 10.4 GB | |
| HP RDX (D:) | Local Disk | 558 GB | 191 GB | |

-------------------------------------------------------------------
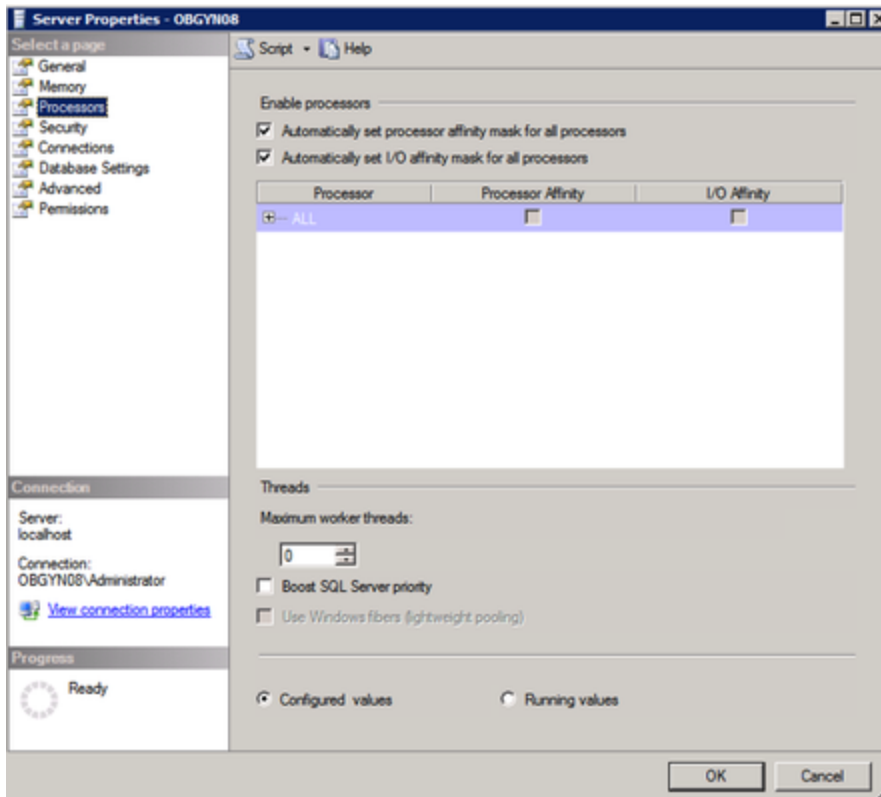
Analysis:

- Recommend at least 1 TB for the new server, especially since there is only one drive
- In total, all three databases take up about 15 GB in the D:\ drive. Seeing that the D:\ drive has 191 GB of free space, there is still plenty of space for the databases to grow.

**CPU Concerns:**
⌄ Click here to expand...

**Windows Task Manager**

File   Options   View   Help

Applications | Processes | Services | Performance | Networking | Users

**CPU Usage**

2 %

**CPU Usage History**

**Memory**

9.30 GB

**Physical Memory Usage History**

**Physical Memory (MB)**

| | |
|---|---|
| Total | 22516 |
| Cached | 5096 |
| Free | 9221 |

**Kernel Memory (MB)**

| | |
|---|---|
| Total | 595 |
| Paged | 410 |
| Nonpaged | 185 |

**System**

| | |
|---|---|
| Handles | 35025 |
| Threads | 1724 |
| Processes | 112 |
| Up Time | 34:02:22 |
| Page File | 8650M / 44642M |

Resource Monitor...

Processes: 112 | CPU Usage: 2% | Physical Memory: 42%

CPU   ■ 2%   □ 100% Maximum Frequency

| Image | PID | Description | Threads | CPU | Average CPU |
|---|---|---|---|---|---|
| g2host.exe | 2692 | GoToMyPC ScreenSharing plugin | 13 | 2 | 1.93 |
| perfmon.exe | 4532 | Reliability and Performance Monitor | 9 | 0 | 0.37 |
| services.exe | 700 | Services and Controller app | 9 | 0 | 0.16 |
| g2comm.exe | 1144 | GoToMyPC Communications | 71 | 0 | 0.11 |
| sqlservr.exe | 2912 | SQL Server Windows NT - 64 Bit | 131 | 0 | 0.10 |
| DSRVTL2.EXE | 2352 | | 7 | 0 | 0.09 |
| taskmgr.exe | 8584 | Windows Task Manager | 5 | 0 | 0.07 |
| System | 4 | NT Kernel & System | 249 | 0 | 0.05 |
| cqmghost.exe | 4680 | Foundation Agent Service | 9 | 0 | 0.04 |
| MEDLICSRV.EXE | 2056 | | 4 | 0 | 0.04 |

-----------------------------------------------------------------

Analysis:

- During business hours, the total CPU usage remains around 2%.
- The old server has 8 Cores and 16 Logical Processors, however the new one only has 1 Core and 1 Logical Processor.  Target should not be less than Source and should have at the very least 2 cores

## Target Server - &lt;hostname&gt; &lt;IP&gt;

⌄ Click here to expand...

**Requirements**
⌄ Checklist

| | Required | Notes |
|---|---|---|
| ☐ | Mixed Authentication Enabled | |
| ☐ | Needed SQL Server Services /Tools Installed (ex. SSMS, SSIS, SSAS, SSDT) | Is the dedicated login (GECCO\SQLAdmin) available? Ensure that SQL Server Agent has "automatic" startup type |
| ☐ | Latest SP and CU installed | https://support.microsoft.com/en-us/help/321185/how-to-determine-the-version-edition-and-update-level-of-sql-server-an 2017 CU 13 is the latest |
| ☐ | Valid version of SQL Server Installed (Must be no later than 2012) | Microsoft SQL Server 2017 (RTM-CU13) (KB4466404) - 14.0.3048.4 (X64)   Nov 30 2018 12:57:58 Copyright (C) 2017 Microsoft Corporation  Standard Edition (64-bit) on Windows Server 2016 Standard 10.0 <X64> (Build 14393: ) (Hypervisor) |

| | | |
|---|---|---|
| ☐ | Memory, CPU, Storage Check In general:<br><br>• Should not be less than Source<br>• At the very least 2 cores<br>• Can use DMVs/Perfmon counters to monitor performance | • 12 Cores & 12 logical processors<br>• 24 GB of RAM (old one had 22 GB)<br>• 1TB of free storage in C:\ |
| ☐ | Check SQL Config Manager for Network Protocols | Shared Memory & TCP/IP enabled |
| ☐ | Check firewall settings | Firewall turned off in source server |
| ☐ | Windows Activation | |
| ☐ | Check SQL Instance | Named instance used |
| ☐ | Check Drives | C:\ only.  Recommend that a separate drive be provisioned for backups. |

**Specs:**

⌄ System Info

| Item | Value |
|---|---|
| OS Name | Microsoft Windows Server 2008 R2 Standard |
| Version | 6.1.7601 Service Pack 1 Build 7601 |
| Other OS Description | Not Available |
| OS Manufacturer | Microsoft Corporation |
| System Name | MEDSERV |
| System Manufacturer | Dell Inc. |
| System Model | PowerEdge T410 |
| System Type | x64-based PC |
| Processor | Intel(R) Xeon(R) CPU      E5607  @ 2.27GHz, 2261 Mhz, 4 Core(s), 4 Logical Processor(s) |
| Processor | Intel(R) Xeon(R) CPU      E5607  @ 2.27GHz, 2261 Mhz, 4 Core(s), 4 Logical Processor(s) |
| BIOS Version/Date | Dell Inc. 1.6.3, 2/1/2011 |
| SMBIOS Version | 2.6 |
| Windows Directory | C:\Windows |
| System Directory | C:\Windows\system32 |
| Boot Device | \Device\HarddiskVolume1 |
| Locale | United States |
| Hardware Abstraction Layer | Version = "6.1.7601.24214" |
| User Name | Not Available |
| Time Zone | Central Standard Time |
| Installed Physical Memory (RAM) | 12.0 GB |
| Total Physical Memory | 12.0 GB |
| Available Physical Memory | 465 MB |
| Total Virtual Memory | 24.0 GB |
| Available Virtual Memory | 10.1 GB |
| Page File Space | 12.0 GB |
| Page File | C:\pagefile.sys |

⌄ SQL Server Services

| Name | State | Start Mode | Log On As | Process ID | Service Type |
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| SQL Server Reporting Services (MSSQLSERVER) | Running | Automatic | BETHESDAHEALTHC\administrator | 7128 | Report Server |
| SQL Server Reporting Services (SQLEXPRESS) | Running | Automatic | NT AUTHORITY\NETWORKSERVICE | 3544 | Report Server |
| SQL Server Agent (SQLEXPRESS) | Stopped | Other (Boot, System, Disabled or Unknown) | NT AUTHORITY\NETWORKSERVICE | 0 | SQL Agent |
| SQL Server Browser | Running | Automatic | NT AUTHORITY\LOCALSERVICE | 3940 | |
| SQL Server Agent (MSSQLSERVER) | Running | Automatic | BETHESDAHEALTHC\administrator | 5000 | SQL Agent |

## SQL Server Network Protocols



## Firewall Settings



**Space Concerns:**

Click here to expand...



----------------------------------------------------------------
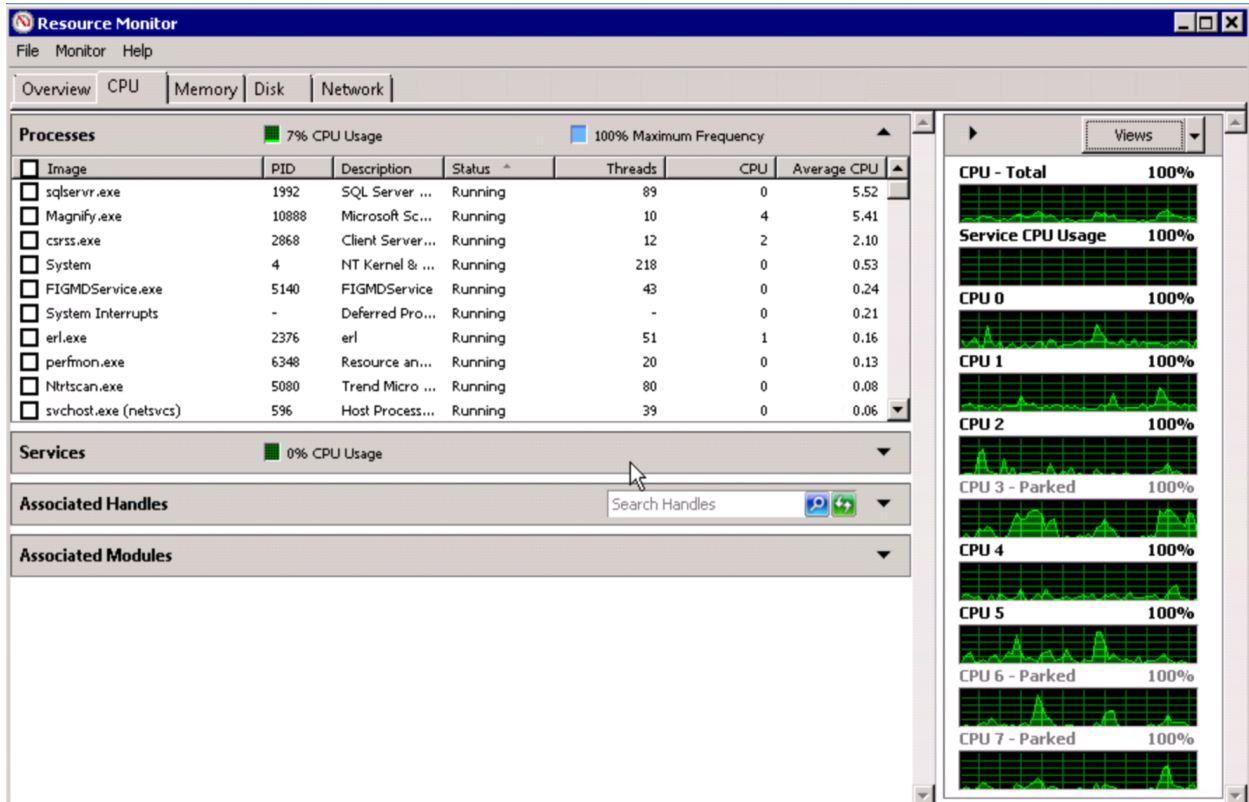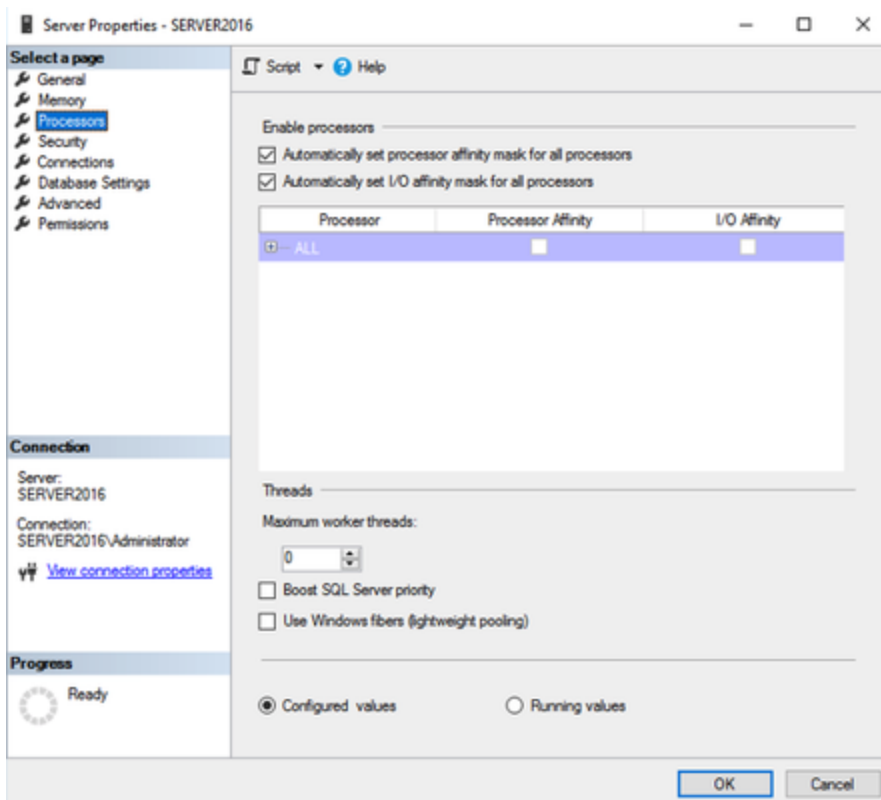
Analysis:

- In total, all three databases take up 46,933 MB in the E:\ drive. However, the E:\ drive only has 161 MB of free space left. More space is definitely needed here.

**CPU Concerns:**

⌄ Click here to expand...



| Image | PID | Description | Status ▲ | Threads | CPU | Average CPU |
|---|---|---|---|---|---|---|
| ☐ sqlservr.exe | 1992 | SQL Server ... | Running | 89 | 0 | 5.52 |
| ☐ Magnify.exe | 10888 | Microsoft Sc... | Running | 10 | 4 | 5.41 |
| ☐ csrss.exe | 2868 | Client Server... | Running | 12 | 2 | 2.10 |
| ☐ System | 4 | NT Kernel & ... | Running | 218 | 0 | 0.53 |
| ☐ FIGMDService.exe | 5140 | FIGMDService | Running | 43 | 0 | 0.24 |
| ☐ System Interrupts | - | Deferred Pro... | Running | - | 0 | 0.21 |
| ☐ erl.exe | 2376 | erl | Running | 51 | 1 | 0.16 |
| ☐ perfmon.exe | 6348 | Resource an... | Running | 20 | 0 | 0.13 |
| ☐ Ntrtscan.exe | 5080 | Trend Micro ... | Running | 80 | 0 | 0.08 |
| ☐ svchost.exe (netsvcs) | 596 | Host Process... | Running | 39 | 0 | 0.06 |

| CPU | ■ 2% | ☐ 100% Maximum Frequency | | | | △ |
|---|---|---|---|---|---|---|
| Image | PID | Description | | Threads | CPU | Average CPU |
| g2host.exe | 2692 | GoToMyPC ScreenSharing plugin | | 13 | 2 | 1.93 |
| perfmon.exe | 4532 | Reliability and Performance Monitor | | 9 | 0 | 0.37 |
| services.exe | 700 | Services and Controller app | | 9 | 0 | 0.16 |
| g2comm.exe | 1144 | GoToMyPC Communications | | 71 | 0 | 0.11 |
| sqlservr.exe | 2912 | SQL Server Windows NT - 64 Bit | | 131 | 0 | 0.10 |
| DSRVTL2.EXE | 2352 | | | 7 | 0 | 0.09 |
| taskmgr.exe | 8584 | Windows Task Manager | | 5 | 0 | 0.07 |
| System | 4 | NT Kernel & System | | 249 | 0 | 0.05 |
| cqmghost.exe | 4680 | Foundation Agent Service | | 9 | 0 | 0.04 |
| MEDLICSRV.EXE | 2056 | | | 4 | 0 | 0.04 |

----------------------------------------------------------------

Analysis:

- On average, the total CPU usage is at about 0% (which makes sense, since it is not active yet).  However, there is an unusually high activity on "CPU 4 (Node 1)"
    - Verified that processor affinity settings are vanilla (which is how they are in the old server)

## Migration Tasks

### ⌄ Prerequisites

☐ Create spreadsheet to log time changes were made

☐ Review instance level settings

☐ IT needs to install latest SP and CU

☐ IT needs to provide dedicated service account: https://docs.microsoft.com/en-us/sql/ssms/agent/select-an-account-for-the-sql-server-agent-service?view=sql-server-2016#windows-domain-account-permissions

☐ Setup SSRS and other services using dedicated service account

☐ Copy FULL backup to new instance and use to create dummy [medical]

☐ Address non-MI databases?

☐ IT needs to re-create Windows logins

☐ IT needs to be aware of resource limitations

☐ IT needs to be aware of network latency

☐ Speak with IT about Backup / Recovery Strategy

☐ Create SSIS Proxy (none)

☐ Audit rephtml.tbl on the application server

    ☐ See if site uses Crystal Reports or some other reporting platform that requires an ODBC connection – doesn't seem like it

☐ Script out usr (and other logins)

> Before exporting, "medical" must already exist in the new server (it is the "default" database for some of the users).
>
> -export_sql_logins.sql
>
>     * Run this on the old server
>
> - exec sp_help_revlogin
>
>     * Modify the script to set the file locations and ownership.
>
>     * This will show all the Login accounts that we may port over.  Run this by the client.
>
>     * Anything with ## we do not need
>
>     * Also avoid BUILTIN\Administrators, NT AUTHORITY\SYSTEM, etc…
>
> - user_accounts_to_export.sql
>
>     * Generate this script to run on the new server
>
> - We may need to discuss with the client about some of the users.

☐ map mwuser to usr

```
Use [$databaseName];

GO

ALTER USER OrphanUser WITH LOGIN = correctedLoginName
```

☐ Grant mwuser rights to MI objects

```
grant select, insert, update, delete to mwuser

grant exec to mwuser
```

☐ Script out and re-create SQL Jobs (exclude ones from Maintenance Plans)
    ☐ Review file paths carefully.  Change file path as necessary to match target server.
    ☐ Disable the SQL Agent job(s) on target server until we cut over.
    ☐ DB Mail Accounts and Profiles (pending Support)
☐ Maintenance Plans (via Wizard)
☐ Configure Server Settings
☐ Configure DB Settings
☐ Configure Firewall Port Exceptions
    ☐ UDP port 1434 may need to be opened and the SQL Browser enabled
    ☐
☐ Configure network protocols
☐ Enable "Optimize for Ad hoc Workloads" setting

☐ Enable "Compress backup" setting

> - Everything is quicker.  The only downside is CPU or increased IO performance (which isn't an issue for most clients)
>
> - The only time not to run backup compression is if it's a VLDB and there was some rto that decompressing the backup couldn't meet.

☐ Re-enable xp_cmdshell (for Import NC Job)

☐ Set Min Server Memory to 1 GB (1024 MB recommended)

☐ Set Max Server Memory to 26 GB (usually 80% of server memory; should leave 2GB+ for the OS and 2GB+ for the application)

☐ Enable Database Mail XPs (for Patient Portal notifications)

☐ Re-install Dashboard? Support will handle

☐ Migrate SSIS package **and directory** (for custom packages, wait for confirmation from 3rd party)
   ☐ If conducting dtsx testing in BIDS/SSDT, ensure that [medical] logs don't blow up

☐ Install BIDS/SSDT/VS

☐ Move over C:\MEDINFO directory (used by SSIS packages: C:\MEDINFO\exporteddata\) -- inform client!

☐ Migrate SSAS database(s)

☐ Disable SA Login??  No, but inform them of new SA password!

☐ Investigate and recreate any other server-level objects:

1. Backup devices - None
2. End points – None
3. Linked Servers and Linked Logins - None
4. SQL Server Agent Proxies - None
5. Credentials – Completed
6. Replication - None
7. Impersonation Rights - None
8. Operators - None

☐ Coordinate w/ Eddie and other technicians (ex. Interface, HDL, Support)

☐ Check for "orphaned" users (EXEC sp_change_users_login 'REPORT').  If exists, see which logins it should be associated with.  Otherwise, delete the user during migration.

☐ Test SQL Jobs

☐ Test "Import NC Files" job

> **If the application is not being moved, then the directory structure for eRX may not be present yet.  In this case, move ERX HTTP downloader and dll's to the target server.

```
select * from clparms as [a] where 1=1 and a.code='erx' and a.
skey='up'
```

> This will show where ALPHA1 & 3 points to
>
> If they point to old server, the download will fail.  This must be updated to point to the new directory
>
> Test using something like:

```
exec util_newcrop_import @filename='NCTSV-201907.EXE',
@checkSyslog = 0, @debug = 1  --using last month's file
```

If files are downloaded, then erx downloads are working

☐ Confirm whether the source will continue to be online. Recommend that they keep old server alive for at least 1 week!

☐ Remind client that new server will be renamed!

## The Day Of

☐ Contact client to confirm plan

☐ Create spreadsheet to log time changes were made

| | Task Description | Time Completed (Time Zone) | Notes |
|---|---|---|---|
| ☐ | Make sure users are off | | |
| ☐ | Disable jobs in source server | | |
| ☐ | At specified start time, place [medical] in "read-only" mode | | Properties > Options (NOT take offline) Color will become grey <br><br> ```USE [master]``` <br><br> ```GO``` <br><br> ```ALTER DATABASE [medical] SET  READ_ONLY WITH ROLLBACK IMMEDIATE-- NO_WAIT``` <br><br> ```GO``` |
| ☐ | Take FULL backup of databases | | Take a "copy only" backup and "verify backup integrity."  It is easier to kick off the backup manually, instead of using a job. |
| ☐ | Transfer backup files to new server | | |
| ☐ | Drop "bogus" database in new server | | When dropping, be sure to "close existing connections" |
| ☐ | Restore backups to new instance | | Make sure that checkboxes are not checked <br><br> Query into the new database (select top 10 * from clmaster) |
| ☐ | Set databases from "read-only" to "read-write" | | |

| | | | |
|---|---|---|---|
| ☐ | Check Login Permissions | Map mwuser to usr | |

```
Use [$databaseName];

GO

ALTER USER OrphanUser WITH LOGIN =
correctedLoginName
```

Grant mwuser rights to MI objects

```
grant select, insert, update,
delete to mwuser
grant exec to mwuser
```

| | | |
|---|---|---|
| ☐ | ~~Create SSIS Proxy~~ (none) | |
| ☐ | ~~Re-import SSIS packages with updated directories~~ (no need) | |
| ☐ | Shrink logs (if autogrowth has kicked in) | |
| ☐ | Change TL autogrowth from 10% to 1024 MB (w/ initial size 1024 MB) | May have to be done while in SIMPLE recovery model (N/A in this case)<br><br>Remember that when switching back to FULL, a full backup must be taken<br><br>If you set it to grow in 1024MB increments it will create 8 VLFs each time it grows<br><br>If you set it to grow at a %, you'll end up with lots of vlfs of varying size over time<br><br>What would be good to know is how large their tempdb is and extend it accordingly to that size<br><br>Also helps to create a tempdb for each processor up to around 8<br><br>Recommended to set each to 1024 and grow at 1024. |
| ☐ | ~~Turn off auto shrink~~ | |

| | | | |
|---|---|---|---|
| ☐ | Test "Import NC Files" job | | **If the application is not being moved, then the directory structure for eRX may not be present yet. In this case, move ERX HTTP downloader and dll's to the target server.**<br><br>```sql<br>select * from clparms as [a]<br>where 1=1 and a.code='erx'<br>and a.skey='up'<br>```<br><br>This will show where ALPHA1 & 3 points to<br><br>If they point to old server, the download will fail. This must be updated to point to the new directory<br><br>Test using something like:<br><br>```sql<br>exec util_newcrop_import<br>@filename='NCTSV-201807.<br>EXE', @checkSyslog = 0,<br>@debug = 1  --using last<br>month's file<br>```<br><br>If files are downloaded, then erx downloads are working |
| ☐ | Check for "orphaned" users | | ```sql<br>EXEC sp_change_users_login 'REPORT'<br>```<br><br>If exists, see which logins it should be associated with. Otherwise, delete the user. |
| ☐ | Ensure server computer name has been renamed | | https://msdn.microsoft.com/en-us/library/ms143799.aspx |
| ☐ | Point MI to new database | | Restart MI Services (Net Services) and Redirector Service, then make sure that the database is pointed to the new one (MSETUP) |
| ☐ | Conduct unit testing | | Try adding a middle name to a test patient and verify the change in CLMASTER |
| ☐ | Re-enable jobs | | |
| ☐ | Take full backup of [medical] | | |
| ☐ | Set old databases to offline | | Tasks > Take offline<br><br>--use this if hanging<br><br>```sql<br>ALTER DATABASE <dbname> SET<br>OFFLINE WITH ROLLBACK IMMEDIATE<br>``` |
| ☐ | ~~Backup and restore the SQL Server Agent job history and maintenance plan history~~ | | You can restore msdb as a different db name on the new server and export out of it if need be. |

| | | | |
|---|---|---|---|
| ☐ | ~~Run DBCC UPDATEUSAGE on restored database - DBCC ('<database_name>') WITH COUNT_ROWS~~ | | |
| ☐ | Run dbcc checkdb<br><br>```dbcc checkdb ('medical') WITH NO_INFOMSGS, ALL_ERRORMSGS``` | | This should come back very clean<br>While this is running, the database is still usable<br>Log: "Run Successfully -- No issues"<br><br>```select * from sys.dm_exec_requests```<br><br>This will allow us to see where "dcbb checkdb" is<br><br>DBCC commands may run over the weekend if jobs are setup |
| ☐ | Rebuild Indexes | | |
| ☐ | Review SQL log for any errors | | |
| ☐ | ~~Update statistics (sp_updatestats)~~ | | Is this necessary after a rebuild index? (http://www.sqlskills.com/blogs/paul/search-engine-qa-10-rebuilding-indexes-and-updating-statistics/) |
| ☐ | Remove tmp backups in both target and source servers | | |

☐ Update SF connect info

☐ Update SF "Microsoft SQL Server Version" field

☐ Send time log to client

☐ Baseline the new server and analyze its performance metrics

☐ Set Compatibility Level to newest level after testing

## Related articles

- Targeted Database Migration Checklist: Newport Diagnostic Center
- [Template] Targeted Database Migration Checklist: <client name>
- [External] [In-Progress] Database Migration PowerShell Commands
- Targeted Database Migration Checklist: <Cuidado Latino Medical Clinic>
- Targeted Database Migration Checklist: Main Street Family Practice