



**AccessData<sup>®</sup>**

## SYSTEM SPECIFICATIONS GUIDE

SUMMATION PRO

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## ACCESSDATA SUMMATION PRO OVERVIEW

The AccessData Summation Pro solution is comprised of a series of functional components that allow the solution to be scaled to meet the varying needs of even the most demanding organizations. These components can be installed on single server or distributed in various ways across multiple servers depending on the needs of the organization.

The following section contains a brief explanation of each of the AccessData Summation Pro components and its role within the solution:

- **Web Suite** – The Web Suite provides the interface through which users access the AccessData Summation Pro solution.
- **Application Services**
  - **Windows Communication Foundation Services** – The Windows Communication Foundation Services (“WCF”) manage the flow of data between the various AccessData Summation Pro components.
  - **Asynchronous Processing Services** – The Asynchronous Processing Services (“Async”) are responsible for the execution of certain user actions such as bulk coding, searching, and load file import ingestion.
  - **Work Manager** – The Work Manager governs the flow of work to the processing engine.
- **Processing Engine** – The processing engine performs data processing tasks such as the expansion of archives (e.g., .PST, .NSF, and .ZIP files), indexing, de-duplication analysis, file identification, secondary culling and filtering, and the creation of production and export sets.
- **SQL Database**<sup>1</sup> – The AccessData Summation Pro solution utilizes a Microsoft SQL Server instance to maintain databases containing file metadata, user data, and workflow information.
- **Case Data/Evidence Storage** – The AccessData Summation Pro solution can leverage many types of local or external storage, including network attached storage (NAS), storage area network (SAN), and direct-attached storage (DAS), to host evidence and other case-related data.

## GENERAL CONSIDERATIONS

AccessData strongly encourages the use of physical hardware platforms in any implementation of the AccessData Summation Pro solution. The support of any implementation which attempts to host one or more components on virtualized platforms is subject to the discretion of AccessData. AccessData reserves the right, during the troubleshooting of a support issue, to withdraw support on a specific issue if it is found to be induced by virtualization.

**NOTE: VIRTUALIZATION USING MICROSOFT HYPER-V IS NOT SUPPORTED.**

AccessData strongly encourages the SQL Server instance hosting the AccessData Summation Pro solution exist on a dedicated hardware platform. The support of any implementation which attempts to host the SQL Database component on the same hardware platform as other enterprise applications is subject to the discretion of AccessData. Attempts to host the SQL database component in the same instance as other enterprise applications will not be supported.

AccessData forbids the installation of any of the AccessData Summation Pro solution’s components on any system that hosts a Microsoft Domain Controller.

Please contact your AccessData technical support representative for further information.

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<sup>1</sup> For organizations seeking a more cost-effective alternative to Microsoft SQL Server, AccessData also supports and distributes PostgreSQL and SQL Server Express with each new installation of Summation Pro.

## SERVICE ACCOUNT

The AccessData Summation Pro solution requires the use of a single, preferably dedicated, service account to operate properly. In a multi-server installation environment, a domain-level service account is required. Workgroup authentication is only supported for single-server installation environments. In either case, the service account must be a local administrator with “Logon as Service” and “Interactive Logon” system permissions.

The service account must be added to the Logins of the SQL Instance being used to host the SQL Database component.

## ADDITIONAL RECOMMENDATIONS

AccessData strongly recommends that the Microsoft Indexing Service either be configured to exclude the directories or drives containing case files, database files, temp/log files or disabled entirely.

AccessData strongly recommends that any anti-virus or anti-malware software on any each server hosting components of the AccessData Summation Pro solution are configured to disable on-access scanning of the directories or drives containing case files, database files, or temp/log files. Additionally, should any full scans be scheduled, they should be monitored to ensure they are not interfering with the overall performance of the solution.

AccessData recommends disabling the creation of 8.3 character length filenames and updates to the last access timestamp on NTFS formatted volumes to improve performance in disk input/output operation.

AccessData recommends setting both the minimum and maximum sizes of the system pagefile to double the amount of RAM on the system. For optimal performance, the pagefile can be moved to a dedicated, low-latency (e.g., RAID 0 or SSD) disk space that meets the calculated capacity requirements. For further information, please read <http://support.microsoft.com/kb/2860880> or contact your AccessData technical support representative for further information.

## GENERAL HARDWARE REQUIREMENTS

The overall performance of the AccessData Summation Pro solution is dependent on the hardware employed to host its various components. Ideally, all implementations would employ the latest multi-threaded processors, large amounts of memory, and arrays of solid state disc drives. The componentized nature of the AccessData Summation Pro solution allows the flexibility to create a cost-effective environment that conforms to the differing needs of a diverse client base.

### PROCESSORS AND MEMORY

The quality of the processors employed in the implementation environment will have a direct effect on the overall performance of the AccessData Summation Pro solution. Sites such as [cpubenchmark.net](http://cpubenchmark.net) can be used to compare the relative performance of different processors. Additionally, some components use the number of logical processor cores on a system to calculate the total number of threads available to perform certain operations.

Minimum hardware recommendations for some of the components when deployed on their own servers in an enterprise environment can be found below in Table 1 and examples of some common configurations of the AccessData Summation Pro solution are located in Appendix B. Please contact your AccessData technical support representative for further information and assistance.

System Component	CPUs	Memory
Web Suite	4 logical cores	4GB RAM
Application Services	4 logical cores	16GB RAM
Processing Engine	8 logical cores	16GB RAM
SQL Database	8 logical cores	32GB RAM

Table 1 - Minimum Hardware Recommendations

During certain operations, components in the AccessData Summation Pro solution can leverage all available processor and memory resources available to the host system. Systems with insufficient memory resources can experience bottlenecks as certain operations may cause the system to start [paging](#). The presence of any paging on a system will result in an associated reduction in the performance of the solution and severe paging – also known as “[thrashing](#)” – can lead to operational failure. It is strongly recommended that any system involved in the implementation environment possess at least 1GB of RAM for each logical processor core (e.g., an 8-core system should have at least 8GB of RAM) to reduce the likelihood of paging. Additionally, it is recommended that any system hosting a Processing Engine component possess at least 2GB of RAM for each logical processor core (e.g., an 8-core system should have at least 16GB of RAM).

### STORAGE

The storage requirements of the AccessData Summation Pro solution are dependent on a number of variables including the number of active projects, the volume of data involved in the projects and the workflow of the organization. Both the back-end storage hardware being employed and its configuration can greatly affect the overall performance of the AccessData Summation Pro

solution. Table 2 contains descriptions, characteristics, and recommendations on the of the various types of storage involved in the AccessData Summation Pro solution.

	Description	Storage Characteristics
<b>Operating System and Applications</b>	Local disk volume on any system hosting one or more components that provides storage for the operating system and application files.	The initial space requirements should include 40GB for the operating system and additional space sufficient to accommodate the components being hosted. Systems with more than 16GB of RAM will require additional space to accommodate the system pagefile. This storage should be fault-tolerant. <b>Recommendation: RAID 1.</b>
<b>Staged Evidence</b>	File share on either a local disk volume or network storage that provides storage for data that will be ingested as evidence or imported via loadfile (e.g., forensic images, native files, TIFF images, PDF images, OCR text files, and loadfiles).	The initial space requirements are dependent on the needs of organization, but can be significant. This storage should be fault-tolerant. <b>Recommendation: RAID 10 or RAID 5.</b>
<b>Case Data</b>	File share on either a local disk volume or network storage that provides storage for case-specific data, application-generated files, and internally- maintained copies of specific types of ingested data.	The initial space requirements for ingested evidence are roughly 33% of the space of the associated staged evidence and the initial space requirements for imported data are 100% of the space of the associated staged evidence. Additional space will be required to support ongoing workflow operations. This storage should be fault tolerant. <b>Recommendation: RAID 10 or RAID 5.</b>
<b>Exported Data</b>	File share on either a local disk volume or network storage that is used as a target for exported native files, TIFF images, PDF images, and loadfiles.	Exported data is separate from the associated records in a case and can be purged to reduce the requirements of this storage space. The space requirements and fault tolerance are entirely dependent on the organization’s workflow. <b>Recommendation: Any.</b>
<b>SQL Databases</b>	Local disk volume on the system hosting the SQL Database component that provides storage for the system and application database files.	The initial space requirements are roughly 33% of the space of the associated staged evidence. Additional space will be required to support ongoing workflow operations. This storage should be fault tolerant. <b>Recommendation: RAID 10 or RAID 5.</b>
<b>SQL Logs</b>	Local disk volume on the system hosting the SQL Database component that provides storage for the system and application database log files.	The initial space requirements are dependent on the size and number of databases and the frequency of database maintenance operations, but will be smaller than the space required for the SQL Databases. Additional space will be required to support ongoing workflow operations. This storage should be fault tolerant. <b>Recommendation: RAID 1.</b>
<b>Temp DB</b>	Local disk volume on the system hosting the SQL Database component that provides storage for the temporary database files.	The space requirements are dependent on the frequency of database maintenance operations. The speed of this space is important. This storage requires no fault tolerance. <b>Recommendation: RAID 0 or SSD.</b>
<b>ADTemp</b>	Local disc volume on any system hosting the Processing Engine component that provides storage for ephemeral files generated by the Processing Engine component.	At least 50GB of space is required, but the minimum recommended size is 500GB. The most important characteristic of this space is its speed. This storage requires no fault tolerance. <b>Recommendation: RAID 0 or SSD.</b>

Table 2 - Storage

For optimal performance, initial consideration should be given to the seek time, latency, and data transfer rates of the storage. High disk activity can be expected during certain operations and is not necessarily indicative of a problem. Sustained rates of disk activity above 85% or persistent disc queues over 2 per disk during operations will result in a bottleneck effect and a corresponding reduction in the overall performance of the solution.

NOTE: SUSTAINED PERIODS OF HIGH DISK USE AND PERSISTENT DISK QUEUES CAN BE A SYMPTOM OF INSUFFICIENT MEMORY RESOURCES. PLEASE SEE THE PROCESSORS AND MEMORY SECTION OF THIS DOCUMENT FOR ADDITIONAL INFORMATION.

Ongoing attention should also be paid to the space utilization and fragmentation of the storage which can themselves lead to a decrease in performance. There are a number of different methods by which disc queuing and fragmentation issues can be addressed including the use of high-RPM drives, RAID technologies<sup>2</sup>, or solid-state drives (SSD).

## NETWORK

The AccessData Summation Pro solution is a componentized, web-based platform. Communication between the various components is performed over Transmission Control Protocol (TCP) ports as depicted in Figure 1. A more comprehensive list of the ports used for communication can be found on the next page in Table 3.

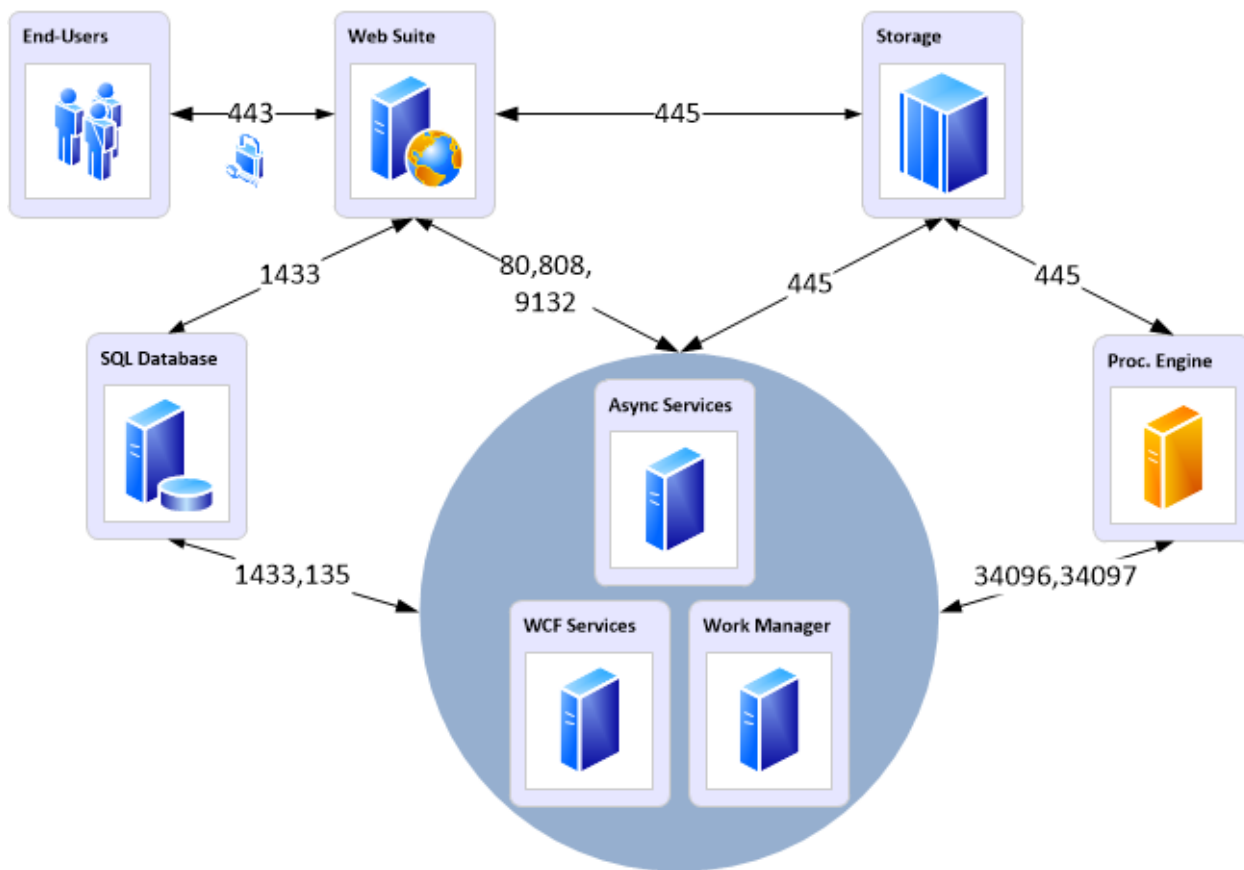


Figure 1 – Simplified Summation Network Communication Diagram

<sup>2</sup> AccessData recommends a minimum 512MB cache on any RAID controller.

It is important to note that some ports are only used to negotiate a connection between two components with the actual communication using ephemeral ports in the dynamic port ranges<sup>3</sup> of the respective servers.

Source Component	Destination Component	Port
<b>Web Suite</b>	Asynchronous Processing Services	80,808
	Case Data/Evidence Storage	445
	End-Users	443
	SQL Database	1433
	Windows Communication Foundation Services	9132
	Work Manager	9132
<b>Windows Communication Foundation Services</b>	Case Data/Evidence Storage	445
	SQL Database	1433
	Web Suite	9132
	Work Manager	9132
<b>Asynchronous Processing Services</b>	Case Data/Evidence Storage	445
	SQL Database	1433,135
	Web Suite	80,808
<b>Processing Engine</b>	Case Data/Evidence Storage	445
	Work Manager	34096,34097
<b>Work Manager</b>	Case Data/Evidence Storage	445
	Processing Engine	34096,34097
	SQL Database	1433
	Web Suite	9132
	Windows Communication Foundation Services	9132
<b>SQL Database</b>	Asynchronous Processing Services	1433,135
	Web Suite	1433
	Windows Communication Foundation Services	1433
	Work Manager	1433
<b>Case Data/Evidence Storage</b>	Asynchronous Processing Services	445
	Processing Engine	445
	Web Suite	445
	Windows Communication Foundation Services	445
	Work Manager	445

**Table 3 - TCP Ports Employed By the Various Components**

AccessData recommends the use of 1GbE or 10GbE network connections and strongly discourages the use of iSCSI network connectors or link aggregation (i.e., NIC teaming) in any form. The AccessData Summation Pro solution does not use IPv6 for communication and AccessData recommends disabling IPv6 if it is not otherwise required.

<sup>3</sup> Beginning with Windows Server 2008, the default dynamic port range of Windows Server is 49152 through 65535. Please see Microsoft’s Knowledge Base (<http://support.microsoft.com/kb/929851>) for more details.



Communications between the AccessData Summation Pro solution and the web-based end-user interface are protected by Secure Socket Layer encryption (SSL), which requires the use of a public certificate signed by a trusted certificate authority. Some implementations may require the purchase of a properly-configured certificate from a commercial Certificate Authority.

## GENERAL SOFTWARE REQUIREMENTS

The AccessData Summation Pro solution has been designed to leverage Microsoft server technologies. Licensing for Microsoft Windows and Microsoft SQL Server must be obtained through Microsoft or an authorized reseller.

Component	Software Requirements
<b>Web Suite</b>	Microsoft Windows Server 2008 R2 or 2012 R2 <sup>4</sup> Microsoft Internet Information Services 7.5 Microsoft Distributed Transaction Coordinator <i>Microsoft .NET Framework 4.0<sup>5</sup></i> <i>Microsoft Visual C++ 2010 x64 Redistributable</i>
<b>Application Services</b>	Microsoft Windows Server 2008 R2 or 2012 R2 <sup>3</sup> Microsoft Distributed Transaction Coordinator <i>Microsoft .NET Framework 4.0</i> <i>Microsoft SQL Server 2008 R2 Management Objects (x64)</i> <i>Microsoft SQL Server System CLR Types (x64)</i> <i>Microsoft Visual C++ 2010 x64 Redistributable</i> <i>Microsoft Visual C++ 2010 x86 Redistributable</i> Microsoft Outlook 64-bit <sup>6</sup>
<b>Processing Engine</b>	Microsoft Windows Server 2008 R2 or 2012 R2 <sup>3</sup> Microsoft Distributed Transaction Coordinator <i>Microsoft .NET Framework 4.0</i> <i>Microsoft Visual C++ 2008 Redistributable</i> <i>Microsoft Visual C++ 2010 x64 Redistributable</i>
<b>SQL Database</b>	Microsoft Windows Server 2008 R2 or 2012 R2 <sup>3</sup> Microsoft SQL Server 2008 R2 or 2012 <sup>3</sup>
<b>End-User Computers</b>	Microsoft Internet Explorer 9 <sup>7</sup> Microsoft Silverlight 5.1 Adobe Flash 11.7 AccessData NearNative Viewer AccessData Bulk Print Local

Table 4 - Software Requirements

<sup>4</sup> The edition of Windows Server and SQL Server (i.e., Standard, Enterprise, etc.) will be dependent on the amount of memory installed in the server.

<sup>5</sup> Italicized requirements can be installed as part of the component installation process and do not need to be in place prior to implementation.

<sup>6</sup> Microsoft Outlook 64-bit is only required to allow the Processing Engine to produce .PST reductions.

<sup>7</sup> Microsoft Internet Explorer 10 and Microsoft Internet Explorer 11 are generally both acceptable with compatibility mode enabled.

## SQL DATABASE

The SQL Database component is the heart of the AccessData Summation Pro solution and its performance is crucial to the overall performance of the application. Microsoft SQL Server operates under the assumption that the server hosting it exists solely to host its databases. Understanding this behavior and the reasoning behind it is important to the performance of the AccessData Summation Pro solution, especially in implementation environments in which the SQL Database component is sharing a server with additional components. AccessData recommends that a qualified Database Administrator assist in both the initial configuration and ongoing maintenance of the SQL Database component.

**NOTE: IF USING MICROSOFT SQL EXPRESS AS THE UNDERLYING DATABASE, MONITORING THE SIZES OF THE DATABASES IS CRUCIAL. MICROSOFT SQL EXPRESS CAPS THE MAXIMUM SIZE OF DATABASES TO 10GB. EXCEEDING THIS LIMIT MAY RESULT IN IRRECOVERABLE DATABASE CORRUPTION.**

Microsoft SQL Server will cache the data it reads from storage in memory to improve its performance and will cache entire databases if it has the resources available to do so. The benefit of this behavior is that adding memory to the server hosting the SQL Database component can be expected to improve its performance. The drawback of this behavior is that Microsoft SQL Server's default settings allow it to claim up to 2 petabytes of memory. AccessData recommends that the Maximum Server Memory setting in Microsoft SQL Server be set to reduce the likelihood of the SQL component claiming all of the server's available memory.

The storage used by the SQL database component also plays an important role in the application's overall performance. AccessData recommends that the SQL data files, the SQL transaction log files, and the TempDB database are physically segregated from each other and from the operating system. Ideally, SQL data files should be located on storage with high read-write performance and redundancy; SQL transaction log files should be located on storage with high write performance and redundancy; and the TempDB should be located on storage with the fastest possible read-write performance, but does not require any redundancy. For more information, please see <http://technet.microsoft.com/en-us/library/cc966534.aspx> or contact your AccessData technical support representative.

## SQL SERVER REQUIREMENTS

The support of any implementation which attempts to host the SQL Database component on the same hardware platform as other enterprise applications is subject to the discretion of AccessData. The use of a single SQL instance to host the SQL database component and any other enterprise applications is not supported.

AccessData requires that the SQL instance being used to host the SQL Database component is created using the Default US Collation, SQL\_Latin1\_General\_CP1\_CI\_AS.

AccessData requires that the SQL Instance being used to host the SQL Database component must have Mixed Mode Authentication enabled and the Service Account must be added as an Administrator to the instance.

AccessData requires that the Network Configuration of the SQL Instance being used to host the SQL Database component must have the TCP/IP and Named Pipes Protocols enabled.

## DATABASE MAINTENANCE

Databases require ongoing maintenance to prevent poor application performance, system downtime, and data loss.<sup>8</sup> There is no one-size-fits-all solution to database maintenance and regular attention must be given to ensure the continued successful operation

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<sup>8</sup> For a summary of best-practice maintenance recommendations, see <http://technet.microsoft.com/en-us/magazine/2008.08.database.aspx#id0230078>.

of any maintenance plan, but the implementation of a basic maintenance plan is a relatively simple undertaking. The following guidelines can be used to assist in the development of a basic Microsoft SQL Server maintenance plan.

For additional information on SQL database maintenance, please see the footnotes included within this section or contact your AccessData technical support representative. Additional assistance with database maintenance, including the development of customized plans and professionally-staffed on-going maintenance, is available through AccessData's Support Services department. Please contact your AccessData salesperson for additional information and pricing.

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## DATABASE RECOVERY MODEL

The selection of a database recovery model<sup>9</sup> is the first decision that must be made when developing a SQL maintenance plan. The recovery models provided by Microsoft SQL Server are meant to address varying levels of resource availability and acceptable data loss.

AccessData recommends the use of the Full Recovery model with user databases, but supports the use of either the Full Recovery model or the Simple Recovery model.

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## DATABASE BACKUP STRATEGY

A database backup strategy<sup>10</sup> is generally the focus of any maintenance plan. While primarily meant to protect against data loss, database backups may also be necessary to address other significant maintenance requirements. Microsoft SQL Server supports three primary database backup methods: Full, Differential, and Log:

- The Full backup method creates a complete record of a database. A Full backup record provides the ability to restore a database to a single point-in-time.
- The Differential backup method requires the existence of a Full backup and creates a record of any extents that have been modified since the Full backup was created. A Differential backup record in combination with its associated Full backup record provides the ability to restore a database to a single point-in-time.
- The Log backup method creates a record of all transactions made in a database since the last Log backup. A Log backup record in combination with its associated Full and Differential backup records provides the ability to restore to any point from the time of the Full backup record to, contingent on the success of a tail log backup, the most recent transaction in the database.

The Full and Differential backup methods are available to both the Simple and Full recovery models. The Log backup method is unavailable under the Simple recovery model. The output of any backup method should be directed to a location that is not being used to store active SQL database files (e.g., MDF, NDF, or LDF files).

**NOTE: LOG BACKUPS MUST BE TAKEN FOR ANY DATABASE USING THE FULL RECOVERY MODEL; THE FILE CONTAINING THE DATABASE'S TRANSACTION LOG WILL OTHERWISE CONTINUE TO GROW INDEFINITELY.**

AccessData strongly recommends that, at minimum, full backups of both system and user databases are made regularly. Additional complexity and scheduling will be dictated by criteria such as acceptable work-loss exposure, the speed and volume of storage available for both the data files themselves and the backup records, and the maintenance's impact on the overall performance of the application.

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<sup>9</sup> For detailed information on Microsoft SQL recovery models, see [http://technet.microsoft.com/en-us/library/ms189275\(v=sql.105\).aspx](http://technet.microsoft.com/en-us/library/ms189275(v=sql.105).aspx).

<sup>10</sup> For detailed information on Microsoft SQL backup methods and strategies, see [http://technet.microsoft.com/en-us/library/ms187048\(v=sql.105\).aspx](http://technet.microsoft.com/en-us/library/ms187048(v=sql.105).aspx).

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## DATABASE INDEX OPTIMIZATION

Microsoft SQL server uses indexes to quickly query commonly used data and improve operation. Rebuilding and reorganizing these indexes<sup>11</sup> is important to the overall performance of the application.

As modifications are made to the tables within a database, the associated indexes will be subject to internal (i.e., excessive, unused memory allocated to the indexes) and external fragmentation (i.e., indexes that are stored non-sequentially) which can degrade performance. Regular reorganization (i.e., reordering an index within its existing allocated memory) and rebuilding (i.e., reordering the index into freshly-allocated contiguous memory) of fragmented indexes is necessary to counteract the results of this activity.

The AccessData Summation Pro solution performs database index optimization following certain activities, but AccessData recommends performing scheduled index optimization regularly in concert with Full backups<sup>12</sup>.

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## DATABASE INTEGRITY CHECKS

Database integrity checks<sup>13</sup> are a method by which any logical or physical issues in a database can be identified. Depending on the severity of an identified issue, a database can either be repaired or restored to a point prior to the genesis of the damage.

AccessData recommends that integrity checks be run prior to any Full backup to help ensure the integrity of the database contained within the backup.

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## MAINTENANCE CLEANUP

Maintenance cleanup<sup>14</sup> is a necessary piece of any maintenance plan which must be explicitly run to remove old backup files and other unnecessary maintenance records.

AccessData recommends establishing a regular maintenance cleanup schedule based on the Full backup schedule and organizational backup retention policies.

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<sup>11</sup> For detailed information on Microsoft SQL index optimization, see [http://technet.microsoft.com/en-us/library/ms190910\(v=sql.105\).aspx](http://technet.microsoft.com/en-us/library/ms190910(v=sql.105).aspx).

<sup>12</sup> Scheduled index optimization should be performed prior to the Full backup; scheduled index optimization performed after a Full backup can dramatically increase the size of the subsequent differential and log backup records.

<sup>13</sup> For detailed information on Microsoft SQL database integrity checks, see [http://msdn.microsoft.com/en-us/library/ms176064\(v=sql.105\).aspx](http://msdn.microsoft.com/en-us/library/ms176064(v=sql.105).aspx).

<sup>14</sup> For detailed information on Microsoft SQL maintenance cleanup, see [http://msdn.microsoft.com/en-us/library/ms345177\(v=sql.105\).aspx](http://msdn.microsoft.com/en-us/library/ms345177(v=sql.105).aspx).

## APPENDIX A: PRE-IMPLEMENTATION CHECKLIST

The following checklist should be used to document the prerequisites necessary to ensure the successful implementation of the AccessData Summation Pro solution and should be completed prior to product implementation by an AccessData technician.

### 1. **Hardware Information**

- 1.1. The servers that have been designated for component configuration are available.
- 1.2. The servers' operating systems have been installed and are fully-patched.
- 1.3. The servers' storage volumes have been properly provisioned and formatted.

### 2. **Network Configuration**

- 2.1. The appropriate ports are open between the servers.

### 3. **Service Account**

- 3.1. A dedicated service account named \_\_\_\_\_ has been created.
- 3.2. The service account has been added to the local Administrators group on all servers in the environment.
- 3.3. The service account has been provided with the *Interactive Logon* permission.
- 3.4. The service account has been provided with the *Logon As Service* permission.
- 3.5. The service account's password options have been set to *Password Never Expires* and *User Cannot Change Password*.

### 4. **SQL Server Configuration**

- 4.1. Microsoft SQL Server has been installed and is fully patched.
- 4.2. The SQL instance name is \_\_\_\_\_ (default: "Default").
- 4.3. The SQL instance is configured to use port \_\_\_\_\_ (default: 1433).
- 4.4. The SQL instance is configured to use "SQL\_Latin1\_General\_CP1\_CI\_AS" coalition.
- 4.5. The SQL instance has Mixed Mode authentication enabled.
- 4.6. The Service Account has been added to the SQL instance as a user and has been given *sysadmin* rights.

### 5. **Software Licensing**

- 5.1. The license dongle is accessible and has been properly stocked with the appropriate licenses.

### 6. **Software Installation Media**

- 6.1. The AccessData technician has provided the FTP credentials to retrieve the latest software ISO.
- 6.2. The latest software ISO has been downloaded and copied to the servers.
- 6.3. Software capable of mounting an ISO (e.g., WinCDEMU) or extracting from an ISO (e.g., 7-ZIP) has been installed on at least one of the servers.

### 7. **Certificates**

- 7.1. A certificate has been created for use with IIS with this common name: \_\_\_\_\_.

### 8. **Authentication Configuration**

- 8.1. Summation Pro will be configured to use "Forms" / "Active Directory"<sup>15</sup> for user authentication (pick one).

<sup>15</sup> If using Active Directory authentication, knowledge of the name of the Active Directory server to be used to authenticate users and credentials capable of querying Active Directory will be necessary.

## APPENDIX B: SAMPLE ENVIRONMENTS

The section below contains a series of hypothetical hardware configurations that illustrate some of the more common methods used to implement the AccessData Summation Pro solution.

NOTE: THESE EXAMPLES ARE FOR DEMONSTRATIVE PURPOSES ONLY AND SHOULD NOT BE SOLELY RELIED UPON AS THEY MAY NOT BE APPROPRIATE FOR YOUR ENVIRONMENT.

### EXAMPLE ONE: DESKTOP ENVIRONMENT

	Components	Hardware Specifications
<b>Single Desktop</b>	<ul style="list-style-type: none"> <li>• Web Suite</li> <li>• Windows Communication Foundation Service</li> <li>• Asynchronous Processing Services</li> <li>• Processing Engine</li> <li>• Work Manager</li> <li>• SQL Database</li> <li>• Case Data/Evidence Storage</li> </ul>	Logical Cores: 8 RAM: 16GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB 10k RPM Drive</li> <li>• DB Files/Logs, Case Data/Evidence Storage – 1GB 10k Drive</li> <li>• TempDB, ADTemp – 500GB SSD</li> </ul>

### EXAMPLE TWO: SINGLE SERVER ENVIRONMENT

	Components	Hardware Specifications
<b>Single Server</b>	<ul style="list-style-type: none"> <li>• Web Suite</li> <li>• Windows Communication Foundation Service</li> <li>• Asynchronous Processing Services</li> <li>• Processing Engine</li> <li>• Work Manager</li> <li>• SQL Database</li> <li>• Case Data/Evidence Storage</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• DB Files/Logs – 500GB RAID 5 SAS</li> <li>• TempDB, ADTemp – 500GB SSD</li> <li>• Case Data/Evidence Storage – 1TB RAID 5 SAS</li> </ul>

**EXAMPLE THREE: TWO SERVER ENVIRONMENT**

	Components	Hardware Specifications
<b>Application Server</b>	<ul style="list-style-type: none"> <li>• Web Suite</li> <li>• Windows Communication Foundation Service</li> <li>• Asynchronous Processing Services</li> <li>• Processing Engine</li> <li>• Work Manager</li> <li>• Case Data/Evidence Storage</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> <li>• Case Data/Evidence Storage – 1TB RAID 5/10 NAS/SAN/DAS</li> </ul>
<b>Database Server</b>	<ul style="list-style-type: none"> <li>• SQL Database</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• DB Files – 1TB RAID 5/10 DAS/NAS/SAN</li> <li>• DB Logs – 500GB RAID 1 SAS</li> <li>• TempDB – 100GB RAID 0 SAS or SSD</li> </ul>

**EXAMPLE FOUR: TWO SERVER ENVIRONMENT**

Server	Components	Hardware Specifications
<b>Application/DB Server</b>	<ul style="list-style-type: none"> <li>• Web Suite</li> <li>• Windows Communication Foundation Service</li> <li>• Asynchronous Processing Services</li> <li>• Processing Engine</li> <li>• Work Manager</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> </ul>
<b>Processing Server</b>	<ul style="list-style-type: none"> <li>• Processing Engine</li> <li>• Case Data/Evidence Storage</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> <li>• Case Data/Evidence Storage – 1TB RAID 5/10 NAS/SAN/DAS</li> </ul>

EXAMPLE FIVE: THREE SERVER ENVIRONMENT

Server	Components	Hardware Specifications
<b>Web/Applications Server</b>	<ul style="list-style-type: none"> <li>• Web Suite</li> <li>• Windows Communication Foundation Service</li> <li>• Asynchronous Processing Services</li> <li>• Processing Engine</li> <li>• Work Manager</li> </ul>	Logical Cores: 8 RAM: 16GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> </ul>
<b>Processing Server</b>	<ul style="list-style-type: none"> <li>• Distributed Processing Engine</li> <li>• Case Data/Evidence Storage</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> <li>• Case Data/Evidence Storage – 1TB RAID 5/10 NAS/SAN/DAS</li> </ul>
<b>Database Server</b>	<ul style="list-style-type: none"> <li>• SQL Database</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• DB Files – 1TB RAID 5/10 DAS/NAS/SAN</li> <li>• DB Logs – 500GB RAID 1 SAS</li> <li>• TempDB – 100GB RAID 0 SAS or SSD</li> </ul>



EXAMPLE SIX: FOUR SERVER ENVIRONMENT

Server	Components	Hardware Specifications
<b>Application Server</b>	<ul style="list-style-type: none"> <li>• Web Suite</li> <li>• Windows Communication Foundation Service</li> <li>• Asynchronous Processing Services</li> <li>• Processing Engine</li> <li>• Work Manager</li> </ul>	Logical Cores: 8 RAM: 16GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• Case Data/Evidence Storage – 1TB RAID 5/10 NAS/SAN/DAS</li> </ul>
<b>Processing Server</b>	<ul style="list-style-type: none"> <li>• Distributed Processing Engine</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> </ul>
<b>Processing Server</b>	<ul style="list-style-type: none"> <li>• Distributed Processing Engine</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> </ul>
<b>Database Server</b>	<ul style="list-style-type: none"> <li>• SQL Database</li> </ul>	Logical Cores: 32 RAM: 64GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• DB Files – 1TB RAID 5/10 DAS/NAS/SAN</li> <li>• DB Logs – 500GB RAID 1 SAS</li> <li>• TempDB – 500GB RAID 0 SAS or SSD</li> </ul>

EXAMPLE SEVEN: FOUR SERVER ENVIRONMENT

Server	Components	Hardware Specifications
<b>Web Server</b>	<ul style="list-style-type: none"> <li>• Web Suite</li> </ul>	Logical Cores: 8 RAM: 16GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> </ul>
<b>Application Server</b>	<ul style="list-style-type: none"> <li>• Windows Communication Foundation Service</li> <li>• Asynchronous Processing Services</li> <li>• Processing Engine</li> <li>• Work Manager</li> </ul>	Logical Cores: 8 RAM: 16GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> </ul>
<b>Processing Server</b>	<ul style="list-style-type: none"> <li>• Distributed Processing Engine</li> <li>• Case Data/Evidence Storage</li> </ul>	Logical Cores: 16 RAM: 32GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• ADTemp – 500GB RAID 0 SAS or SSD</li> <li>• Case Data/Evidence Storage – 1TB RAID 5/10 NAS/SAN/DAS</li> </ul>
<b>Database Server</b>	<ul style="list-style-type: none"> <li>• SQL Database</li> </ul>	Logical Cores: 32 RAM: 64GB Network Connection: 1GbE NIC Drive Sets: <ul style="list-style-type: none"> <li>• OS/Apps – 150GB RAID 1 SAS</li> <li>• DB Files – 1TB RAID 5/10 DAS/NAS/SAN</li> <li>• DB Logs – 500GB RAID 1 SAS</li> <li>• TempDB – 500GB RAID 0 SAS or SSD</li> </ul>

## APPENDIX C: SAMPLE SQL MAINTENANCE PLANS

The section below contains a pair of hypothetical SQL maintenance plans. Please note that the maintenance tasks outlined below are for demonstrative purposes only and may not be appropriate for your environment. AccessData Global Support Services offers paid solutions tailored to help with the design, implementation, and continued administration of SQL database maintenance plans. Please contact Global Support Services or your sales representative for additional information.

### SAMPLE MAINTENANCE PLAN ONE: SIMPLE RECOVERY MODEL

#### Job #1: Full Backup (System Databases)

Description: Performs an integrity check and full backup on all system databases.

Schedule: Occurs every day at 12:00:00 AM.

- Step 1. Check the integrity of the system databases.
- Step 2. Perform a Full backup of the system databases.

#### Job #2: Full Backup (User Databases)

Description: Performs an index optimization, integrity check, and full backup on all user databases.

Schedule: Occurs every day at 12:00:00 AM.

- Step 1. Defragment the indexes and update the statistics of the user databases.
- Step 2. Check the integrity of the user databases.
- Step 3. Perform a Full backup of the user databases.

#### Job #3: Differential Backup (User Databases)

Description: Performs a differential backup on all user databases.

Schedule: Occurs every day every 6 hours between 6:00:00 AM and 11:59:59 PM.

- Step 1. Perform a Differential backup of the user databases.

#### Job #4: Cleanup

Description: Deletes all backup and job history records that are older than 30 days.

Schedule: Occurs every week on Sunday at 12:00:00 AM.

- Step 1. Execute `sp_delete_backuphistory`.
- Step 2. Execute `sp_purge_jobhistory`.

### FULL RECOVERY MODEL MAINTENANCE PLAN

#### Job #1: Full Backup (System Databases)

Description: Performs an integrity check and full backup on all system databases.

Schedule: Occurs every day at 1:00:00 AM.

- Step 1. Check the integrity of the system databases.
- Step 2. Perform a Full backup of the system databases.

#### Job #2: Full Backup (User Databases)

Description: Performs an index optimization, integrity check, and full backup on all user databases.

Schedule: Occurs every week on Saturday at 1:00:00 AM.

- Step 1. Defragment the indexes and update the statistics of the user databases.
- Step 2. Check the integrity of the user databases.
- Step 3. Perform a Full backup of the user databases.

**Job #3: Differential Backup (User Databases)**

Description: Performs a differential backup on all user databases.

Schedule: Occurs every week on Monday, Tuesday, Wednesday, Thursday, Friday, and Sunday at 1:00:00 AM.

- Step 1. Perform a Differential backup of the user databases.

**Job #4: Transaction Log Backup (User Databases)**

Description: Performs a transaction log backup on all user databases.

Schedule: Occurs every day every 4 hours between 12:00:00 AM and 11:59:59 PM.

- Step 1. Perform a Log backup of the user databases.

**Job #5: Cleanup**

Description: Deletes all backup and job history records that are older than 30 days.

Schedule: Occurs every week on Sunday at 12:00:00 AM.

- Step 3. Execute sp\_delete\_backuphistory.
- Step 4. Execute sp\_purge\_jobhistory.