Enterprise Planning – Small Scale
ARGUS Enterprise 11.0

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ARGUS Software – An Altus Group Company
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Purpose

The purpose of this document is to provide information about the architecture and server requirements of small enterprises.
About Small-Scale Design

The small-scale design is a good selection for production environments with less than 10 users or when creating pilot or test environments for medium scale implementations. It is a sensible solution for small work groups that need the security and integration capabilities of the full enterprise solution, as opposed to the smaller workstation solutions, but without the complexity and setup times of the medium scale design.

The small-scale design is a good choice for:

- **Production environments** where the user counts are moderate (less than 10) and where the maximum property portfolios sizes consist of less than 200 property models.

- **Pilot Environments** used for pre-production design and concept prototyping with system customization. The pilot environment is temporary, but may be transformed into production.

- **Test Environments** that are permanently maintained for ongoing system changes and upgrades. The test environment is recommended for organizations that have large-scale production systems in place for ARGUS Enterprise 11.0 and staff dedicated to solution customization.

When considering the small-scale design, consider the following benefits and limitations of the approach:

- **Compact** — The small-scale design represents a physically and economically compact approach to system build-out using one highly specified server as opposed to multiple servers to share the load.

- **Simple** — The small-scale build-out provides the quickest avenue in terms of hardware and software provisioning, with the lowest requirements for ongoing maintenance and initial upfront cost.

- **Lack of Redundancy** — The small-scale design does not provide application service redundancy. The design does not intrinsically support high-level data redundancy or availability protection. System and data backups should be part of the regularly scheduled IT procedures as appropriate for the environment purpose.

- **Scalability** — The small-scale design is limited in the number of property portfolios and concurrent users it can support. For increased scalability, please consider the medium or large-scale deployment.

ARGUS Enterprise Components

ARGUS Enterprise supports the following user interfaces:

- **ARGUS Enterprise Windows Client** — The main user interface.

- **Excel Add-in** — A convenient tool for importing/exporting bulk data between ARGUS Enterprise and Microsoft Excel 2007 and above.

ARGUS Enterprise supports the following Server Components:

- **Application Service** — This component broker’s data requests between the ARGUS Enterprise client user interfaces and the ARGUS Data Warehouse (ADW) Database.

- **Process Service** — This component services bulk change requests submitted by the user for background processing (e.g. recalculation of a scenario of properties, import of bulk changes to asset models via XL4ADW or the Data Service)

- **Data Service** — This optional component services import/export of data between the ARGUS Data Warehouse (ADW) Database and a customer’s line-of-business systems via a web service interface and optionally the Custom Data Service Client provided where appropriate in some services engagements.
• **Argus Data Warehouse (ADW) database** – The data storage for ARGUS Enterprise.

• **SQL Server Reporting Services (SSRS)** – The use of this Microsoft provided service allows for the rendering of Portfolio level reports.
Architecture

The small-scale physical architecture represents the most compact approach and minimum scale configuration possible for the full ARGUS Enterprise platform. The application tier, process service, and database server are all physically installed on the one server. SSRS reports are run locally, not using the server implementation of SSRS to reduce load on the single server. This configuration does not offer fault-tolerance at the solution level and will have significant performance issues if seriously loaded.
System Requirements

The following represents minimal supported system requirements for use of ARGUS Enterprise 11.0:

### ARGUS Enterprise Workstation & Client

<table>
<thead>
<tr>
<th>Component</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer and Processor</td>
<td>2 gigahertz (GHz) processor or higher</td>
</tr>
<tr>
<td>Memory</td>
<td>4 gigabyte (GB) RAM or higher</td>
</tr>
<tr>
<td>Hard Disk</td>
<td>2 GB; a portion of this disk space may be freed up post-installation by removing the original download package.</td>
</tr>
<tr>
<td>Display</td>
<td>1024x768 or higher resolution</td>
</tr>
<tr>
<td>Operating System</td>
<td>Microsoft Windows Vista with SP1 (32-bit or 64-bit); Microsoft Windows 7 (32-bit or 64-bit); Microsoft Windows 8 (32-bit or 64-bit); Microsoft Windows 10 (32-bit or 64-bit).</td>
</tr>
<tr>
<td>Other</td>
<td>Installation of the .NET framework 4.0 is a pre-requisite for use with the Enterprise platform. These minimum guidelines are subject to modification based on unique system specifications.</td>
</tr>
<tr>
<td>Additional</td>
<td>Export to PDF requires an accompanying reader such as Adobe Acrobat Reader. Some functions, such as Export to Excel, require Microsoft Excel 2007, 2010, 2013 or 2016. File exported to the .sf format require ARGUS Valuation-DCF to open/modify.</td>
</tr>
</tbody>
</table>
ARGUS Enterprise Application Server

<table>
<thead>
<tr>
<th>Component</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Dual processors rated faster than 2.5GHz</td>
<td>Quad processors rated faster than 2.5GHz</td>
</tr>
<tr>
<td>RAM</td>
<td>8 GB</td>
<td>16 GB</td>
</tr>
<tr>
<td>Disk</td>
<td>10GB</td>
<td>&gt;10 GB</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows Server 2008 R2 Std x86 or x64</td>
<td>Windows Server 2012 R2 Std 64 bit</td>
</tr>
<tr>
<td>Database</td>
<td>Local Microsoft SQL Server 2008 Express or later</td>
<td>Shared Microsoft SQL Server 2008 R2 Express or later</td>
</tr>
<tr>
<td>Other</td>
<td>If local reports are not used, then SSRS is required for Repertoire Reporting.</td>
<td></td>
</tr>
</tbody>
</table>

A shared installation of SQL Express may be used, however, the following limitations apply to SQL Express installed on a server:

- 10 GB database
- Single core processing
- 1 GB RAM.

If you choose to install a shared installation of SQL Express, we do not recommend more than three concurrent users.
Summary

To quickly on-ramp an ARGUS Enterprise 11.0 system, the small-scale design offers compelling strategic features and flexibility in purpose. Please consider that when starting with a core small-scale design, definite challenges exist if the environment proves to be under-scaled in actual usage. Initial selections in physical hardware are critical to ensure that performance and data volumes meet the usage needs for the duration of the environment.

Expectations for end-users in a pilot or test environment should be set at a lower level than for a production environment. While shown with the SQL Server Reporting Services component install locally within the client, there is some performance gain in distributing this component to a remote host either installed on the SQL Server database or otherwise. In this design approach, performance gains are most clearly found by adding/using faster CPUs and RAM on the client PC.