AssetGen

AssetGen™ Cabling Architect

Cabling Systems Design and Planning

Efficient planning and design of complex cabling systems

Ideal for data centres, offices, campus and non-IT infrastructure

Visio™ integration for diagrams and associated Bill of Materials (BOM)

Prepare and update proposals quickly from high level requirements

Covers copper, fibre, modular systems, blown fibre, ducting

Works with other AssetGen products which cover detailed design and operations

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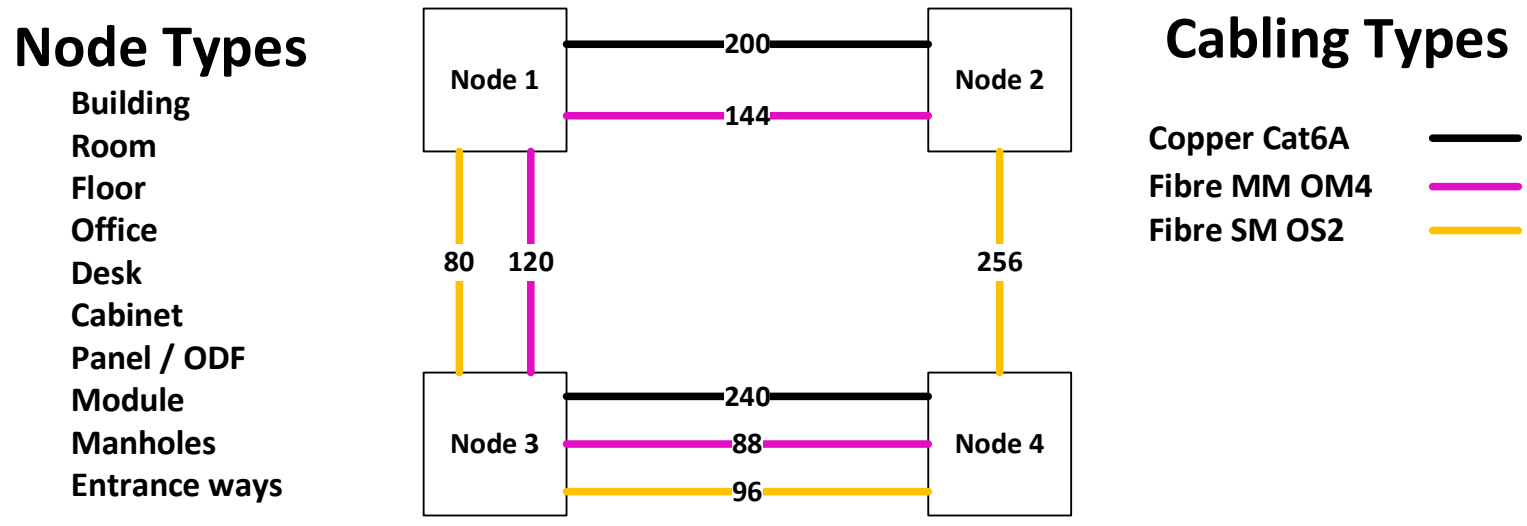
AssetGen Cabling Architect Overview

The AssetGen Cabling Architect (ACA) is an integration between MS Visio and MS Excel to support faster planning and design of cabling systems. It can be customised to support different cabling component types and connections based on product offerings and requirements. ACA can be used as the conceptual stages of a new design, as well as the creation of tender documents, refinement of needs and reverse engineering of existing cabling. It also provides a convenient system for managing ongoing high level capacity management of cabling systems, inter-site fibre links or flexible containment systems.

Cabling design may cover data centres, campuses, cages, cabinets, offices, inside / outside plants as well as flexible containment such as blown fibre and ducting. Non-IT environments which use common infrastructure cabling such as ships, oil platforms, utilities, broadcasting, building management, etc. can be incorporated into planning along with traditional IT needs.

Connectivity between nodes is made by drawing links with cable types and quantities. For control and update cable identifiers can be assigned and a BoM created in seconds. It makes it simple and quick to refine and update design changes. The same process can be used from inter building links down to specific modules, or even splices depending on scope and scale.



Design cabling at different levels of detail using nodes and links

ACA is based on common Microsoft applications so designs can be costed, communicated and updated across teams and customer / supplier interfaces easily and quickly. Existing engineering resource and skills can be used more efficiently without a large investment in toolsets.

AssetGen Cabling Architect is available as a yearly subscription licence which covers the supply of the software files as well as technical resource time to cover training and usage.

Faster delivery of complex cabling proposals ✓

Multi-technology and flexible scaling ✓

Easy to customise for products and cable types ✓

Uses MS Office applications for simplicity ✓

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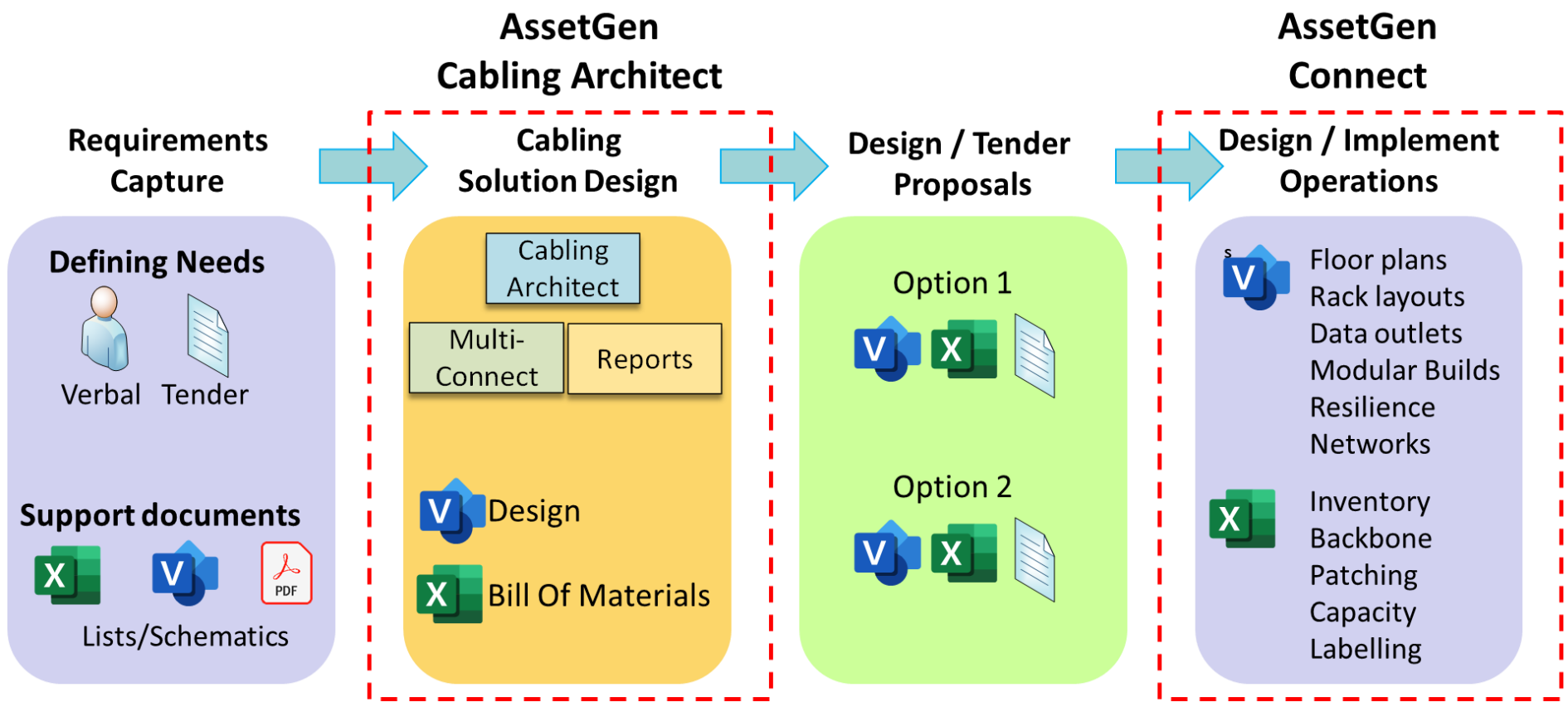
Design / Build / Operate Lifecycle

You can start with a clean sheet of paper when designing cabling infrastructure with AssetGen Cabling Architect (ACA). or you can load data from any pre-existing Excel spreadsheets with locations, cabinets and equipment. Maybe a tender document might be another start point with high level requirements or diagrams, that may need more detail on fire specifications or supplier part codes. Floor plans of new or existing rooms could help understand placement, routing and distances. These sources can all be used to reduce the design time involved, with ACA linking and refreshing data and diagrams.

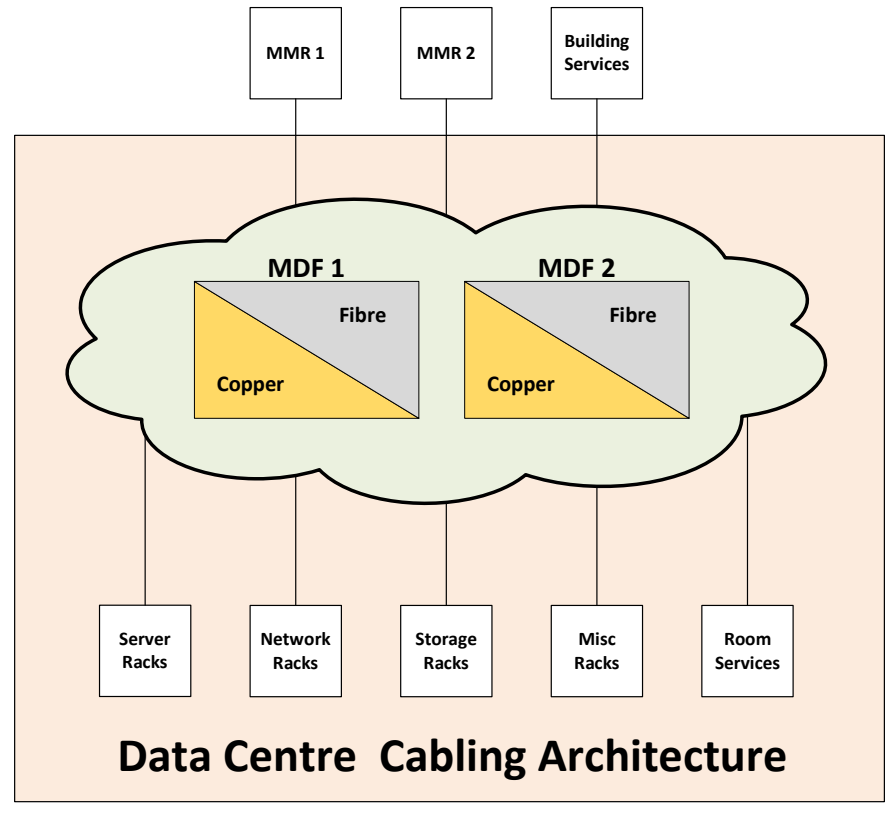
AssetGen Cabling Architect supports the solutions design phase between requirements and build. For detailed design, implementation, testing and handover, the AssetGen Connect database system is better placed to document every component and cable. Connect creates and updates Visio diagrams of floor plans, racks, networks and other views for operational management.



AssetGen Cabling Architect efficiently translates requirements into designs and proposals

Data Centre Process Example

A proposed data centre requires physical connectivity with 2 distribution zones to server, network, storage and other racks, as well as connectivity to external Meet-Me-Rooms (MMRs) and DC management racks. There is uncertainty whether to adopt top of rack switches, or end of row switches. Designs and quotes for both are required with quite different cabling needs. IT equipment selection has still to be finalised so detailed quantities and lengths are likely to change later. With a few racks it gets complex, with more it becomes time consuming and overwhelming for designers to maintain and refresh multiple designs.



ACA helps with design choices

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AssetGen Cabling Architect Design Process

Design time reduction is a combination of faster design, less errors, presentation of different options and easy updating with changes. ACA reduces hours of engineering effort down to minutes or seconds. The AssetGen Cabling Architect supports the variety of connectivity methods for many different types of environments. For example, smart building networks require connectivity between equipment rooms, data outlets, WiFi access points, digital signage, access control, building management voice and other services. Manufacturing environments, healthcare and universities may have different needs.

The design process is quick and straight forward.

Step 1 Enter node data or re-use existing Excel lists.

Step 2 Connect nodes with initial connection types. Use Multi-Connect for speed.

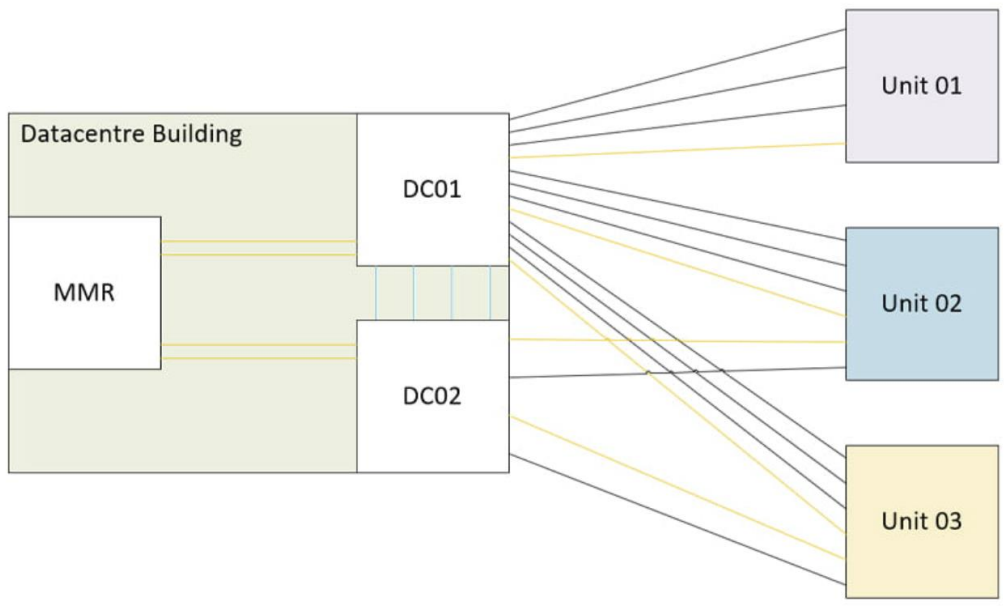
Step 3 Assign cable IDs using Cable Architect for control and updating.

Step 4 Export a BOM spreadsheet to fill in qty, length, costs, specs, etc. quickly and provide cost reports

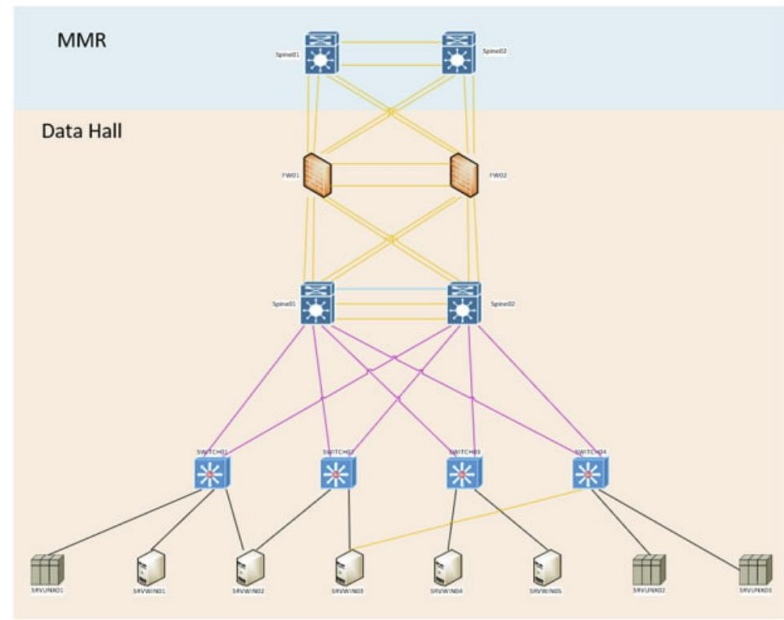
Step 5 Optional - Import Excel BOM back into ACA to show logical and physical cabling design.

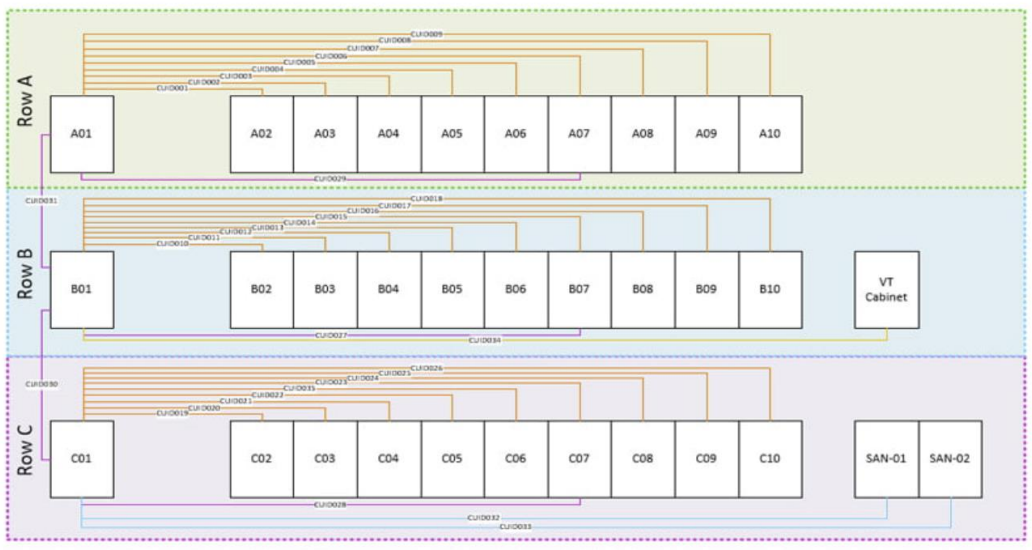
With experience and customisation these steps can be completed in minutes – so more time to think about the design, refining the outputs and communicating.

Site Layout



Network Layout





Backbone Connectivity

Cable_ID	Cable QTY	Node A	Node B	Cable Type	Cable_Length	Cable Specification	Fire Rating	Colour	Manufacturer	Installation Date
CUID001	24	A01	A02	Cu CAT5A	4	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID002	24	A01	A03	Cu CAT5A	6	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID003	24	A01	A04	Cu CAT5A	8	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID004	24	A01	A05	Cu CAT5A	10	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID005	24	A01	A06	Cu CAT5A	12	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID006	24	A01	A07	Cu CAT5A	14	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID007	24	A01	A08	Cu CAT5A	16	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID008	24	A01	A09	Cu CAT5A	18	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID009	24	A01	A10	Cu CAT5A	20	External-CST-LSZH	CPR-DOP ECA	Orange	Panduit	08/08/2023
CUID010	24	B01	B02	Cu CAT5A	4	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID011	24	B01	B03	Cu CAT5A	6	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID012	24	B01	B04	Cu CAT5A	8	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID013	24	B01	B05	Cu CAT5A	10	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID014	24	B01	B06	Cu CAT5A	12	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID015	24	B01	B07	Cu CAT5A	14	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID016	24	B01	B08	Cu CAT5A	16	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID017	24	B01	B09	Cu CAT5A	18	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID018	24	B01	B10	Cu CAT5A	20	External-CST-LSZH	CPR-DOP ECA	Blue	Panduit	08/08/2023
CUID019	24	C01	C02	Cu CAT5A	4	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID020	24	C01	C03	Cu CAT5A	6	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID021	24	C01	C04	Cu CAT5A	8	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID022	24	C01	C05	Cu CAT5A	10	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID023	24	C01	C07	Cu CAT5A	14	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID024	24	C01	C08	Cu CAT5A	16	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID025	24	C01	C09	Cu CAT5A	18	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID026	24	C01	C10	Cu CAT5A	20	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	08/08/2023
CUID027	24	B01	B07	Fibre MM OM4	14	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Aqua	Corning	04/09/2023
CUID028	24	C01	C07	Fibre MM OM4	14	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Aqua	Corning	04/09/2023
CUID029	24	A01	A07	Fibre MM OM4	14	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Aqua	Corning	04/09/2023
CUID030	24	C01	B01	Fibre MM OM4	5	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Aqua	Corning	04/09/2023
CUID031	24	B01	A01	Fibre MM OM4	5	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Aqua	Corning	04/09/2023
CUID032	12	C01	SAN-01	Fibre MTP MM OM4	24	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Aqua	Corning	04/09/2023
CUID033	12	C01	SAN-02	Fibre MTP MM OM4	26	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Aqua	Corning	04/09/2023
CUID034	24	B01	VT Cabinet	Fibre SM	26	Armoured-Buffered Internal-CST-LSZH	CPR-DOP CCA	Yellow	Corning	04/09/2023
CUID035	24	C01	C06	Cu CAT5A	12	External-CST-LSZH	CPR-DOP ECA	Red	Panduit	12/08/2023

Backbone Connectivity Report

Design cabling at different levels of detail using nodes and links

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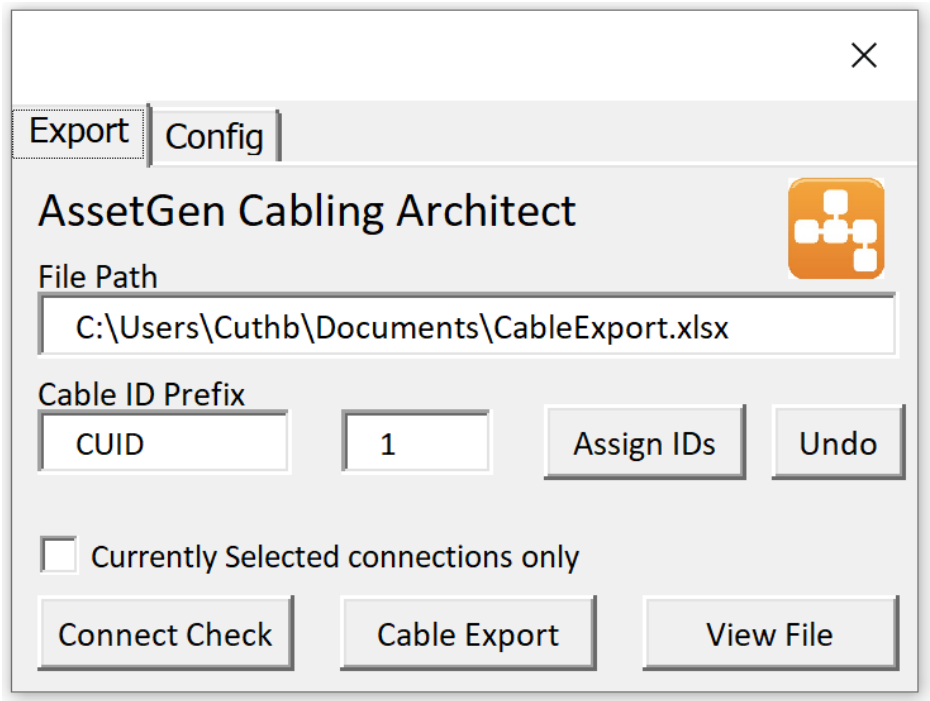
The ACA Package

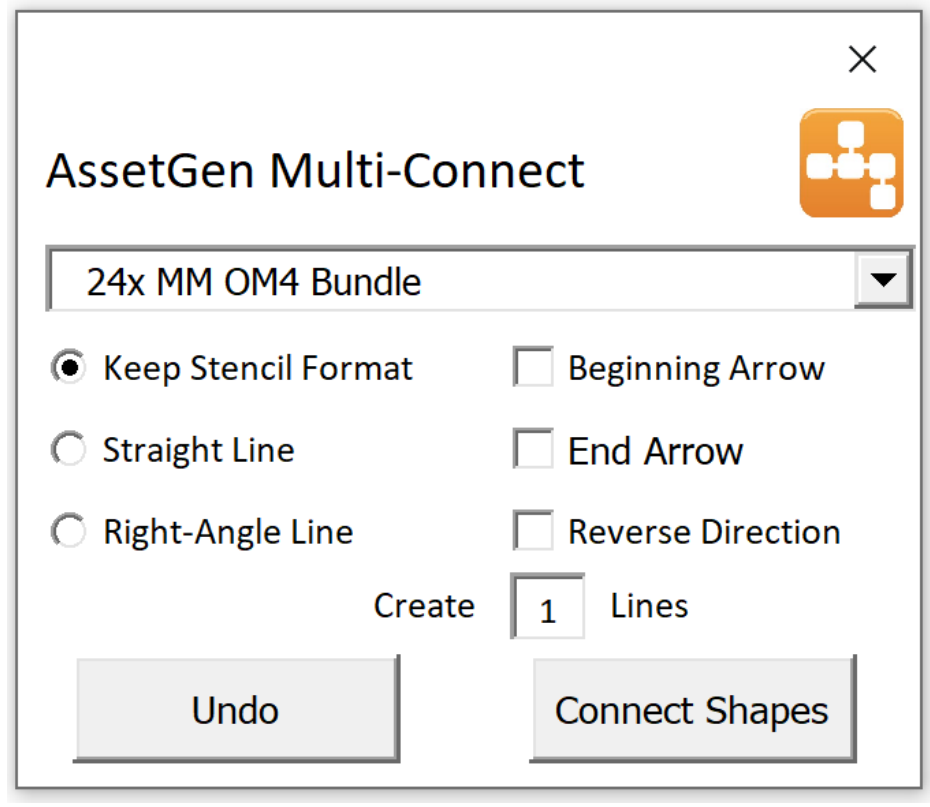
Included in the AssetGen Cabling Architect (ACA) subscription are special Visio shapes which extend normal Visio functionality, reducing design time and making updates easier.



Cable Architect Shape

The Cabling Architect assigns connectivity identifiers to all ACA connectors, exports a BOM spreadsheet file of the design and enables instant viewings. Default settings can be changed for different projects and customers to make file management easier.

BOM files can be imported back into ACA to refresh data as well as add additional detail to default cable shapes.



Multi-Connect Shape

The Multi-Connect creates multiple connections between shapes using different cabling types without connection mistakes. A connection can represent a consolidated bundle of cables, or represent individual cables that can be created multiple times in parallel.

To increase flexibility for other drawing types it can also override connector defaults to include arrow heads such as TX/RX and straight/right angled connectors. Multi-connect can also be used for VLAN, DWDM, virtual channels, data flows etc.

Other shapes and components

Delivered with the ACA package are other components to assist with designs.

- A sample Visio template to help produce an initial design.
- A sample Excel file to help node and connection importing.
- A reports shape that enables quick access to custom reports.
- Connector shapes with Cable ID labels which can be turned on and off.
- Two ruler shapes (metric, imperial) for overlaying on cable routes to measure distance.

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Licencing - AssetGen Cabling Architect

AssetGen Cabling Architect (ACA) is provided as a yearly subscription service covering the supply and update of the Visio components, as well as technical resource to support ACA skills needs. The subscription is registered to a specific user and can be transferred to others within the subscription period. Updates to ACA are provided to registered users with valid subscriptions.

Two licence options are available.

Standard licence	AssetGen Cabling Architect + 16 hours remote technical resource
Extended licence	AssetGen Cabling Architect + 32 hours remote technical resource

The remote technical resource covers skills transfer on Visio skills and customisation of shapes / connectors around products and design needs. It may also cover linking to data sources as well as general diagramming methods.

About Square Mile Systems

Square Mile Systems is based in the United Kingdom, developing the AssetGen system at our HQ in Poulton, Gloucestershire. The first production version of AssetGen was released in 2006 with customers across all sectors and continents then purchasing the system. While mainly focused on complex enterprise level ICT systems documentation, AssetGen is also used for marine, industrial, military and transportation environments that have adopted IT and IoT technologies.

Square Mile Systems works with various industry trade associations in the UK and North America developing best practices and standards for documenting and visualising complex ICT infrastructure.

For more information, please visit our websites which have more product information, webinars and contact forms.

Alternatively, call us at our HQ and we will be glad to help. **Tel +44 (0) 1285 852190**

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