SPECIALISED SERVER TECHNOLOGY FOR HD SURVEILLANCE

SECURE LOGIQ

www.securelogiq.com

About Secure Logiq

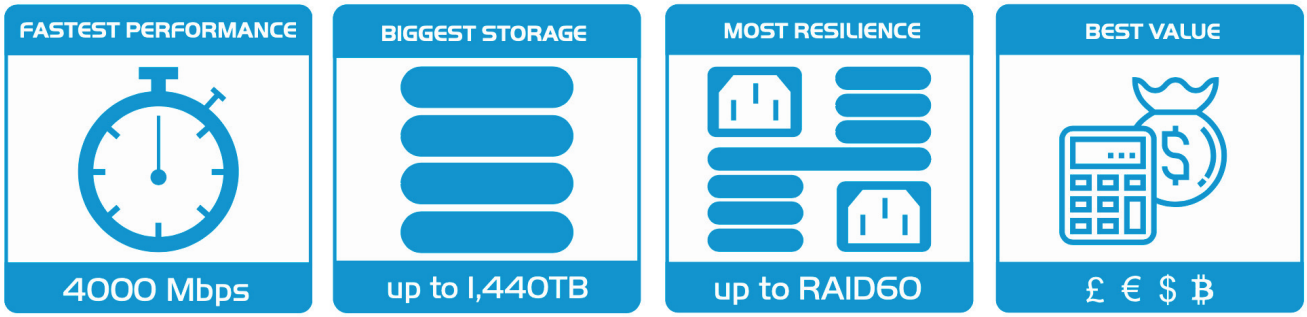
Since 2011 Secure Logiq have been developing the missing piece of the HD surveillance jigsaw, servers specifically designed for HD surveillance. A new concept in the surveillance industry, our team of technical experts have over 150 years of both IP CCTV and server experience and boasts respected thought leaders from both the HD Surveillance and IT hardware industries.

In a short space of time Secure Logiq have become the world's leading independent manufacturer of servers, workstations and client machines optimised for HD Surveillance and Video Analytics applications.

Secure Logiq's company ethos is based on four core principles - to provide the Fastest Performance, the Biggest Storage, the Most Resilience and the Best Value in HD video processing, viewing and storage technology.

Our Vision

To create a new product group and brand name in the CCTV industry and become the first and only choice for specialised servers in the IP Surveillance arena.



Exciting developments in the product range are; larger useable storage sizes across all 1U, 2U and 4U servers, maintaining Secure Logiq's position of having the highest storage density of any industry available servers.

Keeping at the forefront of IT driven technological development, we have moved our entire enterprise server range across to the latest Intel Scalable Architecture and, to reduce the pain of Windows updates, all servers now come with Windows Server 2019 as standard.

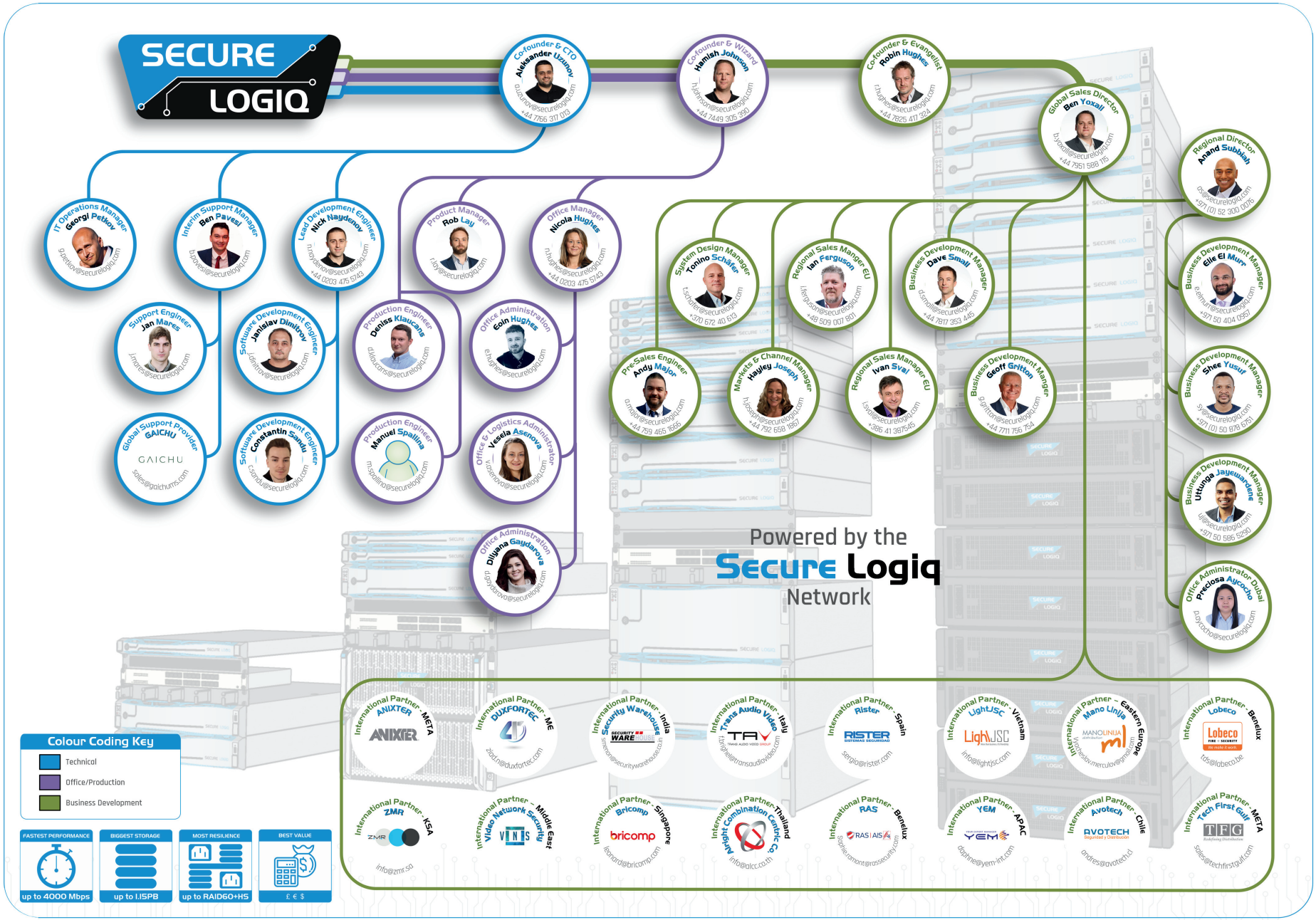
With our unique in-house optimisation we continue to lead the industry in terms of the total throughput our servers can handle. We have also updated the technology in our award-winning Analytics Optimised server range allowing more channels of analytic processing at no additional cost.

Our new custom-made chassis and bezels allow us to continue to enhance the resilience of our range with our 1U range now shipping with dual SSD's in RAID1 to match the larger units. We are excited to announce that all Secure Logiq hardware now ships with Logiqal Healthcheck Pro, our free intuitive health monitoring and alerting utility, now with support for Linux operating systems.

Finally, as we continue to grow, we are now offering a 5 year next business day warranty free of charge on all enterprise servers globally.

Ask for a copy of our product guide where you will find hints and tips about the best product fit for different software solutions, but if in doubt please phone our expert technical sales team who will design and guarantee a solution for you.

Our Team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International Partner - META Tech First Gulf sales@techfirst1gulf.com
Colour Coding Key
Technical
Office/Production
Business Development
FASTEST PERFORMANCE up to 4000 Mbps
BIGGEST STORAGE up to 1.15PB
MOST RESILIENCE up to RAID60+HS
BEST VALUE £ € $

Why Secure Logiq?

EXPERTS IN IP SURVEILLANCE

From the start of your Secure Logiq journey you will be guided by experts in both IT Hardware and IP Surveillance, we don't just understand the server we are selling you but also every system compo- nent connected to it offering unparalleled levels of pre and post-sales support.

UK MANUFACTURER

We are proud to be a UK manufacturing success story. All Secure Logiq products are hand assembled in our purpose built 6000-Sqft manufacturing facility in London. Utilising only Enterprise components all product is soak, load and stress tested prior to despatch, the secret to our near zero failure rate. Self-developed Internal systems mean that any order can be built and despatched within 10 working days.

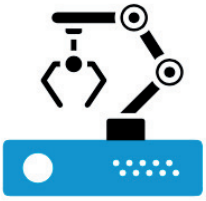
DESIGN GUARANTEE

Internal benchmarking and an in-depth knowledge of all industry leading VMS solutions means that the Secure Logiq design team will offer you an optimised solution, reducing project costs and TCO whilst minimising power and rack space requirements. The Secure Logiq design guarantee means that if our team design a system for you and there is any shortcoming in storage or processing, we will make this up at our own expense. Most quotations can be turned around in 24 Hours.

SUPPORT

An innovative concept in this sector, once you have purchased a Secure Logiq product, support is from the people who actually sold you the product in the first place. All Secure Logiq staff are experts in IP Surveillance and prioritise the preserving of video archives, system settings and software licences over providing the fastest fix. Our in-house Logiqal Healthcheck Pro utility allows you to monitor all Secure Logiq hardware in the field in real-time, creating alerts and providing a warning for abnormal hardware usage as well as temperature issues and component failure. IPMI allows us to interrogate and rebuild a server remotely even if the OS has been lost.

CUSTOM SOLUTIONS



If you don't see what you are looking for in the product guide, just ask. Everything from customised high GPU solutions for Video Analytics to advanced failover solutions with fault tolerance and dual recording is all in our area of expertise. If it is related to electronic security we have almost certainly done it before.

Why Secure Logiq?

HI-TECH - LOW IMPACT

Minimising our impact on the environment is at the heart of everything we do. Secure Logiq solutions invariably offer power savings over our competition's product with associated reductions in global carbon emissions and safeguarding our Earths dwindling resources.

Go to www.securelogiq.com/green-paper, for the Secure Logiq 'Green Paper'.

GLOBAL REACH

As our reputation continues to grow so does our global footprint, with Secure Logiq customers and installations in every continent. Our team have a vast experience of international sales in the HD surveillance arena, we currently export to over 30 countries but we are always looking for more so please give us a call whatever your geographical location.

TRAINING

Well informed customers reduce support requirements. Ask us about our in-house or external training events covering all aspects of server and client hardware including installation, maintenance and system design training.

Our boardroom and showroom are also available for customer presentations and live demonstrations of our Logiqal Healthcheck Pro and Logiqal Benchmark software.

Software

LOGIQAL BENCHMARK
POWERED BY SECURE LOGIQ

Secure Logiq's Logiqal Benchmark facility allows us to create a complete virtual environment replicating your entire IP Surveillance system and providing proof that the server hardware is fit for purpose. This software is unique and not offered by any other server manufacturer globally.

LOGIQAL HEALTHCHECK PRO
POWERED BY SECURE LOGIQ

Logiqal Healthcheck Pro brings to the professional security installer a complete suite of management tools to ensure, at a glance, their global customer security estates are secure, optimised and fully operational at all times. Visual confirmation utilising a simple to understand traffic light system confirms the operational status of every customer site, either as icons or displayed live on a map and allows the security network and server hardware to be monitored from a single screen.

Award Winning Products

Being winners of the Benchmark Innovation Awards for the last two years in both hardware and software categories solidifies our position of being at the cutting edge of IP Surveillance technology.

Logiqal Core

Our software development team are passionate about creating products that look outside the box to solve problems our customers may encounter.

LOGIQAL CORE

Logiqal CORE is a software layer that has been designed to provide tailored redundancy for security industry applications and offers benefits to users in two main areas, virtualisation and resilience.

With Logiqal CORE, identical or disparate operating systems can be installed on a single server across a number of Virtual Machines (VMs).

This overcomes application features and limitations. Implementing Logiqal CORE translates into lower total costs of ownership by reducing the number of physical servers, resources, rack space and power requirements.

No matter what VMS you use, Secure Logiq's Logiqal CORE offers everything from the simplest like for like failover, through to complicated setups such as multiple remote sites failing to a single site or partial failover if you don't need full failover for all of your system.

Most importantly, Logiqal CORE provides application failover while also replicating your storage function. This means that you will still have your historic archive even if a storage server fails.

LOGIQAL CORE by SECURE LOGIQ

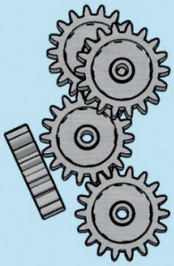
Applications on Top Layer

Applications installed onto the required operating system/systems as usual.

Operating system / VM Layer

Windows Server | CentOS | Linux | Windows 10 | ubuntu

With **LOGIQAL CORE**, identical or disparate operating systems can be installed on a single server across a number of Virtual Machines (VMs), overcoming application features/limitations.



Implementing **LOGIQAL CORE** translates into lower total costs of ownership by reducing the number of physical servers, resources, rack space and power requirements.

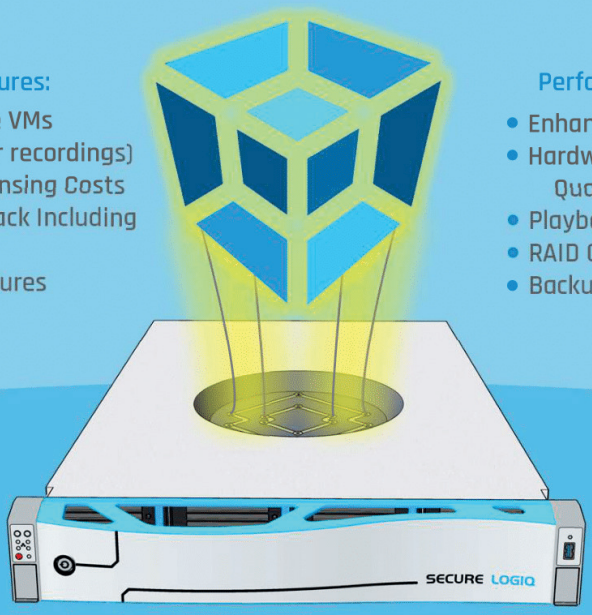
LOGIQAL CORE • The Power of SECURE LOGIQ

Resilience Benefits/Features:

- Failover of One or Multiple VMs
- Redundant Archive (mirror recordings)
- Reduced Applications Licensing Costs
- Automated Failover/Failback Including Recorded Archive.
- Multiple Failover Architectures Supported

Performance Enhancements:

- Enhanced Processing Efficiency
- Hardware Resource Allocation-Quality of Service (QoS)
- Playback Optimisation
- RAID Optimisation
- Backups and Restore Snapshots



SECURE LOGIQ Hardware Foundations

Design Service

Historically Secure Logiq have developed a reputation of providing an industry leading design service ensuring customers always get the best hardware solution designed for, and optimised towards, their enterprise electronic security application.

The mathematics behind calculating the processing and storage requirements for video is actually quite simple. It is based on a few basic variables such as camera resolution, frame rate and the archive time required. Where it gets more complicated is when you have to start factoring in additional functionality such as licence plate recognition, advanced video analytics, streaming to mobile devices, or thinking about the outgoing bandwidth requirements for a large control room with multiple monitors.

This is where vast experience comes into play.

Example Schedule

Example Processing and Storage Schedule

Your Project Name : Camera Group Summaries

ID	Recording Group* or Profile Name	Array	Stream	Prim.	2NDRY		Audio	Rec Avg	Spike	Storage Required		Live Stream Averages			
A	Site Recording	Custom	QTY	Days	Days	Enc.	Mbps	Mbps	Mbps	Primary TB	2NDRY TB	Lvl	Res.	FPS	Mbps
1	2MP Cameras		105	90	90	H.264	0	395.23	578.27	384.16	384.16	3	2MP	25	5.646
2	4MP Cameras		36	90	90	H.264	0.128	279.96	402.87	272.12	272.12	3	4MP	25	11.47
3	20MP Cameras		2	90	90	H.264	0	40.96	59.92	39.81	39.81	3	20MP	25	57.82

Maximum spike bandwidths Mbps are based on multipes of 3 down to 1.5 times for scene complexities (Lvl) 1 to 5 as follows:

Level 1 : 3.00 Level 2 : 2.63 Level 3 : 2.25 Level 4 : 1.88 Level 5 : 1.50

Spike bandwidths have been applied proportionally from 100% for a single camera down to 25% for 150 and higher quantitites.
Should the above calculations not suite your site/operational requirements we can ammend as per your instructions.

Your Project Name : Camera Stream Profiles

						Camera Stream Averages									Daily	Live Stream Averages			
	Prim.	2NDRY	Daily		Audio	Quiescent				Active					RecAvg	(Single sensor if multi)			
Profile Name	Days	Days	Hours	Enc.	Mbps	Lvl	Res.	FPS	Mbps	Lvl	Res.	FPS	Mbps	%Active	Mbps	Lvl	Res.	FPS	Mbps
1 2MP Cameras	90	90	24.0	H.264	-	2	2MP	3	0.54	2	2MP	25	3.76	100%	3.76	3	2MP	25	5.65
2 4MP Cameras	90	90	24.0	H.264	0.128	2	4MP	3	1.11	2	4MP	25	7.65	100%	7.78	3	4MP	25	11.47
3 20MP Cameras	90	90	24.0	H.264	-	2	20MP	3	5.58	2	20MP	12	20.48	100%	20.48	3	20MP	25	57.82

"Lvl" indicates an assumed complexity level from 1 up to 5. Note that our default setting is a Lvl 2; it is the security integrators responsibility to confirm that the resulting bitrates are suitable for their project/recording environment. Streams with no Lvl number are client supplied bitrates.
The Daily RecAvg Mbps figures are the averages over a 24hr period for storage calculations irregardles of Hours per day of actual recording.

Your Project Name : Site Recording Storage Summary

Storage Configuration:			Required for Streams	Actual as per Below	Spare
Number of Cameras:		Primary Storage:	696.09 TB	728 TB	32 TB / 4.6%
Numbers of Servers:	1 / 1	Secondaray Storage:	696.09 TB	728 TB	32 TB / 4.6%
	primary / secondary				

Primary Recording

Server Name	RAID	% of required storage assigned to server	TB Usable	TB Used	TB Spare	Est Spk Mbps
HPS-4UXL-U728 (1)	50	100%	728	696.1	31.9	1,041
		Total Usable (TB):	728			
		Total Used (TB):		696		
		Total Spare (TB):			32	
		Est. Peak (Mbps):				1,041

Secondary Recording

Server Name	RAID	% of required storage assigned to server	TB Usable	TB Used	TB Spare	Est Spk Mbps
HPS-4UXL-U728 (2)	50	100%	728	696.1	31.9	1,041
		Total Usable (TB):	728			
		Total Used (TB):		696		
		Total Spare (TB):			32	
		Est. Peak (Mbps):				1,041

Example Schedule
Example Processing and Storage Schedule

Your Project Name : HPS-4UXL-U728 (1) Server Details (in storage group 'Site Recording')

Array Configuration: RAID50 Over 4 Axle with 2 Hotspare Drive
Total Capacity: 812 TB (738.51 TiB)
Capacity after RAID: 728 TB (662.11 TiB)
Storage Summary: 696.09TB Used with 31.91TB Spare (%4.58)
Cameras: 143 Cameras within 3 Camera Profile Groups

Note that picture above is indicative of rack-space U size and not necessarily the actual server image.

Cameras/Profiles assigned to above server

Recording Group* or Profile Name	Stream	Prim.	2NDRY		Audio	Rec Av	Spike	Storage Required		Review Streams: Live Stream Averages					
Site Recording	QTY	Days	Days	Enc.	Mbps	Mbps	Mbps	Primary TB	2NDRY TB	Qty	Lvl	Res.	FPS	Mbps	Qty
1 2MP Cameras	105	105	90	H.264	0	395	578	384.16	384.16	36	3	2MP	25	16.94	16
2 4MP Cameras	36	36	90	H.264	0.128	280	403	272.12	272.12	12	3	4MP	25	34.42	16
3 20MP Cameras	2	2	90	H.264	0	41	60	39.81	39.81	2	3	20MP	25	173.4	1

Note: When camera quantities cannot be equally split across a number of primary or secondary units, an extra camera will be shown across units to allow for balanced recording, i.e. the odd camera out can be placed on any server

Estimated Network Throughputs

		Recording Spike		Review		Live	
	Gbps	%	Gbps	%	Gbps	%	Gbps
Port 1	10	100%	1.041		-		-
Port 2	10		-	100%	0.297	100%	0.225

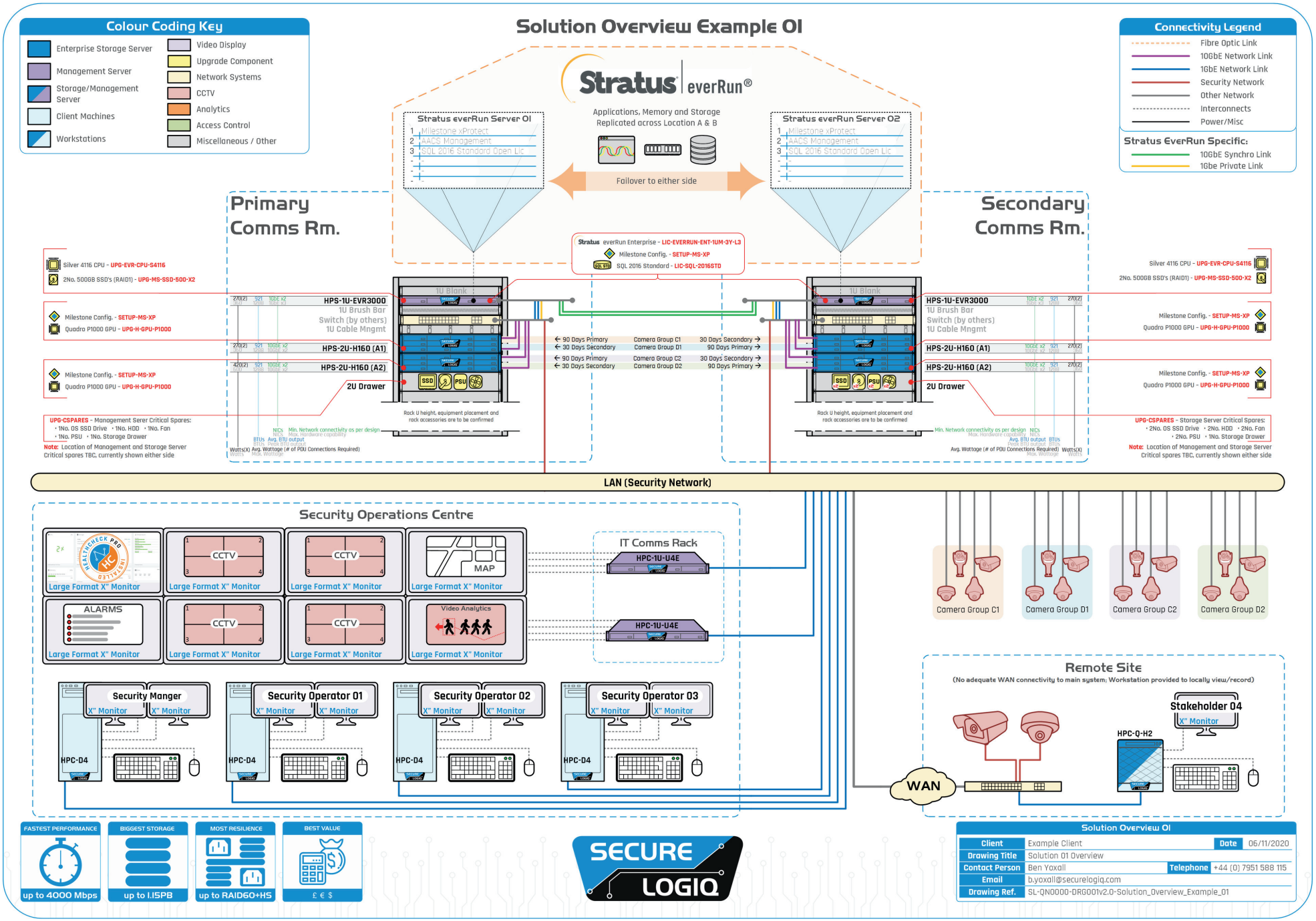
Spare Bandwidth In 2Gbps Max	Spare Bandwidth Out 2Gbps Max
48%	74%

1) Refer to quotation for any servers that have upgraded network connectivity beyond either 2No. 1 or 10 GbE copper ports or other upgrades.
2) Recording throughput is calculated based on spike bandwitch estimates using a proportional increase from 3 times Active Mbps for a single camera to 3 times Active Mbps for 25% of 150 cameras total per server or above (should this not suite your requirment please request alternate calculations.)
3) In general we would recommend eitehr separate LAN Switches or VLANs to sepperate incomming camera stream network from outgoing client network trafic.
4) Live Stream Bandwidths for this project are assumed to be passed through the Recording Servers at the same complexity and spike bandwidth calculations as active recorded streams

Design Service

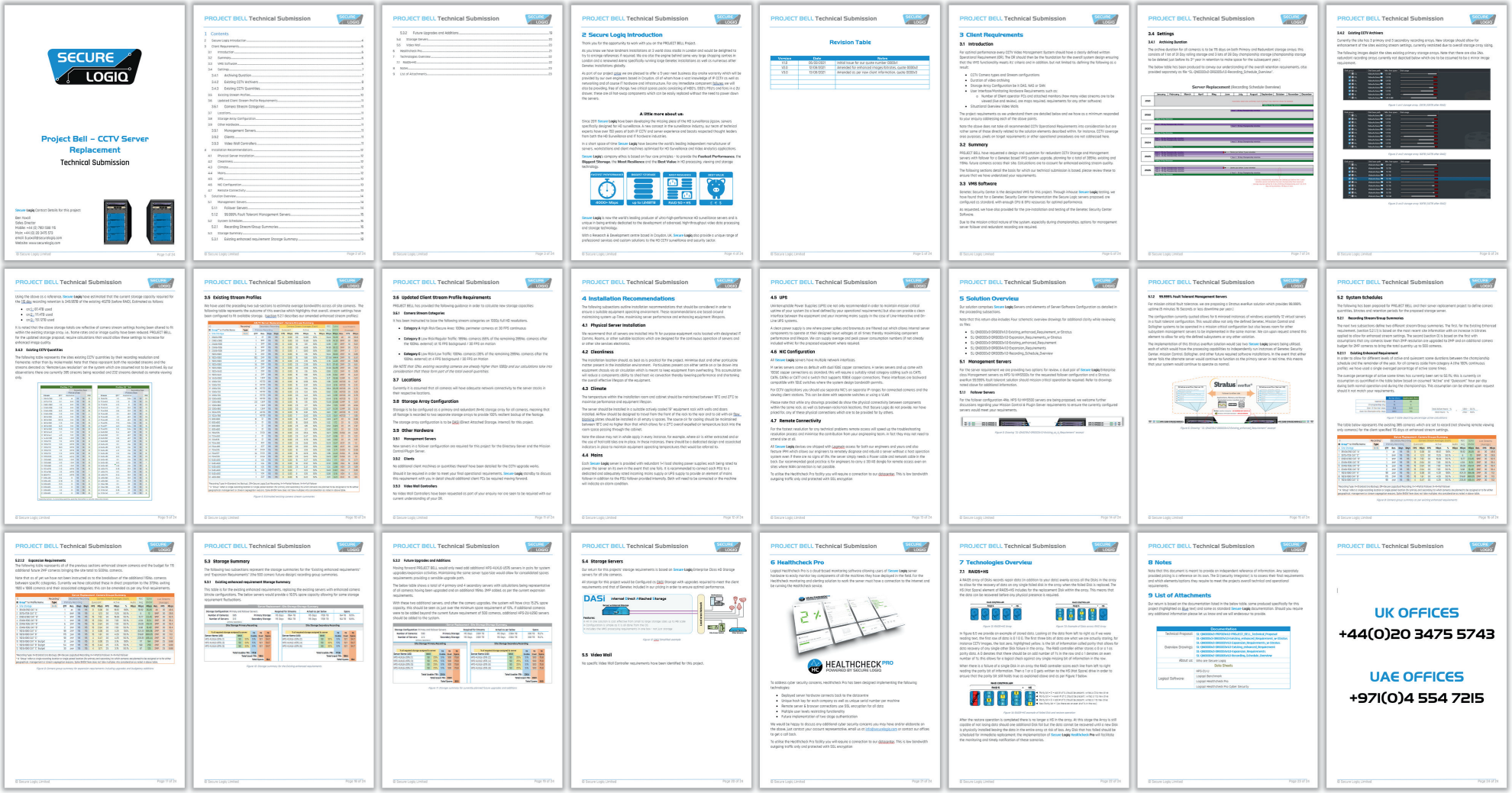
Secure Logiq's design department will provide everything needed for your project including Recording, bandwidth and storage schedules, detailed system diagrams right through to a full technical submission, tailored to your requirements and containing your logos so that you can simply drop them into your documentation.

At Secure Logiq we have invested heavily in our design team and offer a design guarantee, if you let us do the calculations for you, we will guarantee the processing and storage necessary and if we don't get it right, we make up any shortfall ourselves, free of charge.



Example System Design Diagram

Detailed Technical Return Documentation



FASTEST PERFORMANCE — up to 4000 Mbps

BIGGEST STORAGE — up to 1.15PB

MOST RESILIENCE — up to RAID60+HS

BEST VALUE — £ € $

SECURE LOGIQ

YOUR PROJECT NAME			
Client	YOUR COMPANY NAME	Date	11/01/2023
Drawing Title	Technical Return Example		
Contact Person	Secure Logiq	Telephone	+44 (0) 20 3475 5743
Email	info@securelogiq.com		
Drawing Ref.	SL-QNXXXXv1-DRG001r1-YOUR_PROJECT_NAME		

Drawn By: T.Schafer Checked & Authorised by: B.Yoxall

Example System Design Diagram

Reducing Total Cost of Ownership (TCO)

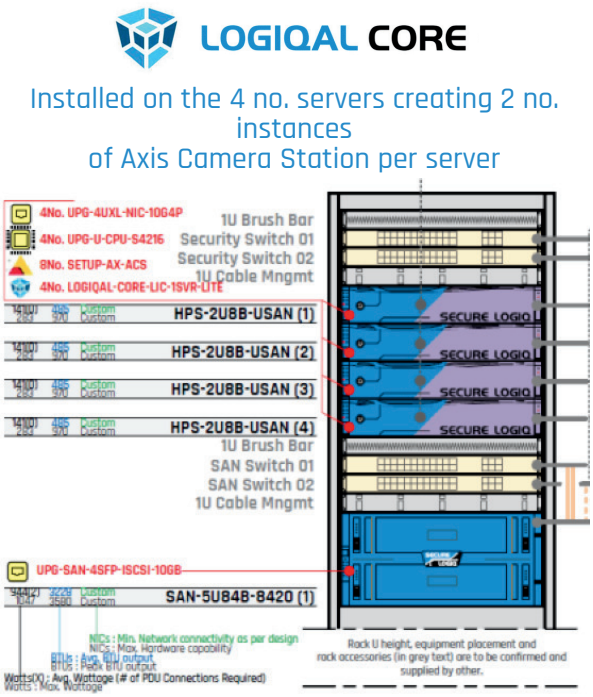
When looking at a implementing a new electronic security system there are many factors to think about but once you have decided on your operational requirement many decisions fall down to finances, in particular two questions:

- How much is the system going to cost me to install i.e. Capital Expenditure or CAPEX
- How much is the system going to cost me to run i.e. Operational Expenditure or OPEX

At Secure Logiq we specialise in optimising the hardware solution for the application with the aim of minimising any hardware requirements often taking into account any future expansion plans.

Due to our vast industry knowledge combined with having the industry's highest throughput and highest storage density servers we can often supply solutions that use less physical hardware than our IT Centric competition which will often have a lower CAPEX and OPEX by utilising less Rack space, cooling, power and indeed non-renewable RAW materials. The illustration below specifically looks at the OPEX savings (CAPEX savings were about 30%).

Project requirements for this 800 1080P camera solution were entered into the VMS manufacturers storage calculator which recommended 13 of their 2U storage servers and a separate 1U Access Control server



With the Secure Logiq solution we consolidated the design into 4 high powered processing servers, each running multiple instances of the VMS utilising our Logiqal Core software, and a super high density SAN solution offering the same total storage amount but in a significantly smaller physical footprint, in total 16U of rack space vs 28U for the IT Centric solution.

Reducing Total Cost of Ownership (TCO)

Manufacturer	Product	Quantity	Power Consumption	BTU	Rack Space	Power Consumption	Heat Dissipation	Rack Space
VMS Manufacturer	Intel Xeon based Server with 144TB Storage	12	217W [1]	742BTU [1]	2U	2821W	9646BTU	24U
VMS Manufacturer	Intel Xeon based Server with 32TB Storage	1	157W [1]	537BTU [1]	2U	157W	537BTU	2U
Access Control Server	HPS-1U-HMS500	1	87W	299BTU	2U	87W	299BTU	2U
					Total	3,065W	10,482BTU	28U

Manufacturer	Product	Quantity	Power Consumption	BTU	Rack Space	Power Consumption	Heat Dissipation	Rack Space
Secure Logiq	HPS-2U8B-USAN	4	141W	485BTU	2U	564W	1940BTU	8U
Secure Logiq	SAN-SOLUTION	1	944W	3228BTU	2U	944W	3228BTU	8U
					Total	1,508W	5,168BTU	16U

Solution	Power Consumption	Heat Dissipation	Rack Space	Approx Annual Running cost [2]	Carbon Emitted [3]
VMS Manufacturer	26,849kWh	26,910kWh	28U	£ 26,707.90	13,332Kg
Secure Logiq SAN	13,210kWh	13,268kWh	16U	£ 13,154.22	6,567Kg

1: Average Power consumption and heat dissipation for the server's was not available on their datasheet, we have used the numbers from the Secure Logiq equivalent which are the HPS-2U-H140 and HPS-2U-H30 respectivly.

2: Electricity cost at £0.4968 per kWh, this is the average commercial properties pricing as taken from this source https://www.businesselectricityprices.org.uk/cost-per-kwh/.

3: Carbon emitted is based on the current UK usage as of 11:40 on 07/02/23 248g/kWh. Source https://grid.iamkate.com/.

Looking at the statistics in the chart above you will see that the total average power requirement for the Secure Logiq solution was almost exactly half of the power requirement for the IT Centric solution which also translates into half of the cooling requirement in the rack. At current UK power pricing simply powering and cooling the server solution delivers over £65,000.00 of power savings over the 5 year warranty period of the equipment.

Sustainability

Sustainability is at the heart of every thing we do at Secure Logiq. Of course, power savings have a direct affect on the total Carbon footprint of the solution, in our example the difference is over 7 tonnes of Carbon emitted every year and 150 Kg less of processed metal in the overall solution. With our partners we also offer incentives to recycle valuable non renewable raw materials.

In our efforts to become a carbon neutral company, in 2022 we planted over 3000 trees to enhance our sustainable manufacturing credentials. Other steps have been focused on energy reduction. This has seen the replacement of conventional lighting in our new HQ with low power LED lights. Additionally, all the gas space heaters have been replaced with electric heaters. Importantly, power for the whole building is all generated on site. The roof is covered with solar panels to harvest clean energy all year round and battery storage means the production process and heating can all be powered and we are transitioning our fleet to all electric vehicles.

These efforts have been recognised with an Intersec Award for Security Sustainability Service of the year.

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