Our Vision:

To be recognised as the best ICT function in UK Fire & Rescue with the best solutions, cloud delivered and the best value.

ECFRS ICT Strategy

Our Mission Statement:

We will deliver quality, cost effective ICT solutions to help make Essex Safer. We can measure this through Total Cost of Ownership, Total Cost per User, Satisfaction, Availability, Stability etc.

Our Strategy:

We will move to a cloud based, virtual environment, maximising the investment in subscription, support & maintenance. Our "Architectural Principles" guide us on this journey.

Jan Swanwick Head of ICT

ESSEX COUNTY FIRE & RESCUE SERVICE

ECFRS ICT Strategy

Service Strategy

To be defined, but what our ICT Strategy supports and enables. Based on the current Service Strategy we have formed the following.

Vision, Mission, Purpose, Strategy & Tactics

- **Vision** – a vision is a statement of what you would like to become. It should be enduring and an ultimate stretch goal – most likely something that will never be attained.
  To be recognised as the best ICT function in UK Fire & Rescue with the best solutions, cloud delivered and the best value.

- **Mission** – a mission is a statement of how we will accomplish our vision. It is usually a summary of core competencies and competitive advantage.
  We will deliver quality, cost effective ICT solutions to help make Essex Safer. We can measure this through Total Cost of Ownership, Total Cost per User, Satisfaction, Availability, Stability etc.

- **Purpose** – a purpose is a statement of why we exist or our reason for being. It should energise people to focus on something greater than oneself.
  We have a statutory responsibility to reduce (prevent) incidents occurring, to protect people and property and to respond to emergencies when they do happen

- **Strategy** –a strategy is a plan to achieve the Vision, Mission and Purpose. It is what you are going to do. Strategy is long-term (1-5 years)
  We will support the Service Strategy with the ICT Strategy. We will move to a cloud based, virtual environment, maximising the investment in subscription, support & maintenance and enabling the most effective business processes.
  Our "Architectural Principles" guide us on this journey.

- **Tactics** – Tactics are specific actions that you will take to implement the strategy. It is how you are going to do it. Tactics are actions taken by everyone in the organisation and should be aligned with and focused on strategy. Tactics are many and will change periodically as improvements take place
  Defined by our "Technology Bricks" and the associated lifecycle.

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Our Architectural Principles for 2016 (The ~ 10 Commandments)

- **Cloud first (or justify why not) then buy, finally, build**
- **Strategic supplier partnerships first (Microsoft)**
- **Rationalise and simplify (sweat the assets)**
- **Design for reuse & maximise that reuse (replace not add, exploit)**
- **Appropriate security (and Cyber threat aware)**
- **Interoperability as a design principle**
- **Sustainability (in all that means)**
- **Reliable, available, and if justified - Non-Stop**
- **Effective data, information and knowledge management**
- **Location Independent**

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Technology Bricks – What we use to deliver the Strategy

Technology Bricks are the fundamental components that are used to deliver solutions to the client base. They cover everything from the processes used to initiate and govern change through the tools used to build the change and ending with the components, processes and tools used to deliver the solution to the client base.

As long as you select a suitable component from the catalogue, taking into account the deployment and target environment then you may assume no challenges will be made to your design. If you wish to go outside of this catalogue, then you must raise this as an 'Exception' to the Design Authority Team for approval to proceed.

The "Bricks" fit into a Lifecycle that enables progression and retirement of aging or inappropriate technology. Ours is:-

- **Investigate** - Emerging technology that is likely to fit with strategy. Usage of any component in this category will require an architectural exception approval
- **Develop** - Look for opportunities to use for new solutions, building experience and knowledge throughout the team
- **Exploit** – This is now our mainstream component and we should fully exploit the product.
- **Contain** - No further significant development of this product or development USING this product should be undertaken, plan to retire in 12-36 months. Usage of any component in this category will require an architectural exception approval
- **Retire** – No development or enhancement of this product or development USING this product should be undertaken. Plan for retirement within the next 18 months. Usage of any component in this category will require an architectural exception approval.

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Functional Area Processes and Frameworks	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
Project Management	ALL			Prince 2	Prince 2		JDI
Programme Management	ALL			MSP			JDI
Enterprise Architecture	ALL		TOGAF				TLAR
Application Design	ALL		UML				TLAR
Solutions Development	ALL		AGILE		Waterfall		JDI

Owned by the ICT Management Team

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Functional Area Development	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
Database	Enterprise	Server	MS SQL SAAS Azure Tables		Microsoft SQL Server	MySQL	Microsoft Access Oracle
Development Tools	Enterprise	Desktop	Python	Visual Studio	CodeCharge Studio		Notepad++
Email	Enterprise	Server		Exchange Online		Exchange On-Prem	
Source Management	Enterprise	Server		Team Foundation Server	Team Foundation Server		Subversion
Workflow	Enterprise	Web	Clarizen		Microsoft CRM	Sharepoint on-prem	email
Workflow	Workgroup	Server			Cherwell		

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Functional Area Infrastructure	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
Network Access Security	Enterprise	Server/Appliance			Microsoft NPAS		
Backup	Enterprise	Web	Azure Backup DPM	StorSimple		Assigra	
Data Storage	Enterprise	Server			StorSimple	LH SAN	LH SAN
Data Storage	Enterprise	Server		Sharepoint Online Onedrive		Sharepoint On-Prem Fileservers	
DHCP	Enterprise	Server/Appliance			MS DHCP		
Environmental monitoring	Enterprise	Server/Appliance			TBA		
Internet circuit provision	Enterprise	Service			VRF	DUCL (KP), BT (DR)	
IP address Management	Enterprise	Server/Appliance			SolarWinds IPAM		Spreadsheet IP Tracker

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Functional Area Infrastructure	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
LAN sniffer (incident forensics)	Enterprise	Server/Appliance	Netmon		Wireshark		
LAN switch management	Enterprise	Server/Appliance				Procurve Manager +	IMC
Mobile communications	Enterprise	Service		EE		O2	
Monitoring & Alerting	Enterprise	Server			Solarwinds Orion, SCOM		IPMonitor
Network Switching	Enterprise	Server/Appliance	Meraki HP		Hewlett Packard	Legacy Switches	
NW Capacity management (LAN, Internet)	Enterprise	Server/Appliance			PingPlotter		

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Functional Area Infrastructure	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
NW Capacity management WAN	Enterprise	Server/Appliance			DUCL Orion		
PSN / ESMCP	Enterprise	Service					
PSTN	Enterprise	Service			SIP	POTS	
RADIUS (admin authentication)	Enterprise	Server/Appliance			Microsoft NPAS		
SBCs	Enterprise	Server/Appliance			Audiocodes managed by DUCL		
SIP connections	Enterprise	Service			DUCL/Gamma		
Syslog (debug / troubleshooting)	Enterprise	Server/Appliance	Splunk			SolarWinds Kiwi	Syslog
UPS	Enterprise	Server/Appliance			APC		Socomec (Control)
Virtualisation	Enterprise	Server		HyperV	HyperV		VmWare

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Functional Area Infrastructure	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
WAN (Routers, MPLS circuits)	Enterprise	Service	BT/Police		DUCL		
Wi-Fi Infrastructure	Enterprise	Server	Aruba Meraki				Hewlett Packard legacy APS

Owned by the ICT Infrastructure Team and Networks Team

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Functional Area (ICT) Management Information	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
ITSM Service Management	Enterprise	Server	Microsoft Service Manager		Cherwell		
ITSM Vendor Management	Enterprise	Server		Cherwell			Excel
Reporting	Enterprise	Web	Power BI		SSRS BERT	PHP	
Project Management	Workgroup	Web	JIRA, Project Online, Clarizen, Cherwell			MS Project	Excel

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Functional Area Security	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
Data Leakage Protection	Enterprise	Server/Appliance	Microsoft Solution				
Email scanning at the perimeter	Enterprise	Web	Exchange Online	Mimecast			Websense
End point protection (Malware + Host IPS)	Enterprise	Desktop	Microsoft SCEP, Sophos			Sophos	
Exchange protection (Malware)	Enterprise	Server/Appliance		Exchange Online			
Firewalls (Corporate)	Enterprise	Server/Appliance	Meraki		Checkpoint		
Firewalls (Employee / guest)	Enterprise	Server/Appliance	Meraki			Fortinet	
Internet filtering (Corporate)	Enterprise	Hybrid		Z-scaler	Checkpoint		Websense
Internet filtering (Employee/guest)	Enterprise	Server/Appliance				Fortinet	
MDM	Enterprise	Server/Appliance			Intune	Good	

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Functional Area Security	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
Privileged access management	Enterprise	Server/Appliance			Dell TPAM		
RADIUS / 2FA (RAS auth)	Enterprise	Web	Freja (EOLP) Azure 2FA			Cryptomas	
Removable media controls	Enterprise	Desktop	To be Investigated			Sophos	
Reverse Proxy	Enterprise	Server/Appliance			Netscaler		
Secure file exchange	Enterprise	Server/Appliance	Egress			LiquidFiles SFTP appliance	
Security Incident and Event Monitoring	Enterprise	Server/Appliance			LogRhythm		
Server file system protection (Malware)	Enterprise	Server/Appliance		SCEP		Sophos	
SharePoint protection (Malware)	Enterprise	Server/Appliance		Sharepoint on-line	Sophos		

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Functional Area Security	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
VPN - Corporate laptops	Enterprise	Server/Appliance	Direct Access				
VPN - SSL	Enterprise	Server/Appliance			Netscaler		
Vulnerability scanning (Web apps and technical)	Enterprise	Hybrid	Qualys, Rapid7			Surecloud	
Web application firewalls for ADFS	Enterprise	Server/Appliance	Azure			Microsoft	

Owned by

ICT Security Manager

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Functional Area Operating Systems & Environments	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
Server Operating System	Enterprise	Server			Server 21012 R2		Server 2003 Server 2008
Desktop Operating System (PC)	Enterprise				Windows 10	Windows 7	Windows XP
Desktop Operating System (Embedded)	Enterprise			Windows 10	Windows 7		
Desktop Operating System (VDI)	Enterprise						
Citrix VDI-in-a-box	Enterprise					Yes	
Citrix XenApp	Enterprise						
Microsoft App-V	Enterprise						

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Functional Area Operating Systems & Environments	Scale	Deployment	Investigate	Develop	Exploit	Contain	Retire
VMWare							Yes
Microsoft Exchange							
Microsoft Lync							
Microsoft Sharepoint Server							
Microsoft SQL Server							
MY SQL Server						5.6	
Oracle							
Sophos							
Microsoft SCOM							
Microsoft SCCM							

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Functional Area Applications - Corporate	Owner	Deployment	Investigate	Develop	Exploit	Contain	Retire
Room Booking Service	ICT	Server	MS Resources			RBS	
Actuate (PB Views)	Performance						
BIRT Designer Professional	Performance						
CadCorp	Performance						
CHEMDATA	Operations						
Cherwell	ICT & HR						
Coda Dream	Finance						
Concerto	Property						
Crash Recovery System	Operations						
EOPAS	Occ health (HR)						

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Functional Area Applications - Corporate	Owner	Deployment	Investigate	Develop	Exploit	Contain	Retire
Mosaic Profiler	Community Safety						
Navori	Media						
SAP	HR & Finance						
TASK Self Service	Operations						
Vector CMS	Operations						
VDMS (MDT)	Operations						
CMS	Operations						
Archive Manager	ICT						
Good Control	ICT						
Good For Enterprise	ICT						
Microsoft Office				Office 365	2016	2010	Any others
Microsoft Access							

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Functional Area Applications - Corporate	Owner	Deployment	Investigate	Develop	Exploit	Contain	Retire
Microsoft OneNote							
Microsoft Project							
Microsoft Publisher							
Microsoft Visio							
Print manager Plus							
JCAD	Charles Thomas - Risk Department						
Q-Pulse 5	Workshops						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Act! Pro	EFA						
Adobe Creative Cloud							
AutoCAD 2013 - English							
Crystal Reports	ICT?						
Draeger Quaestor Light Titanium Edition	Operations (BA)						
GIS	Performance						
Hosecalc	Operations						
Huddle						YES	
Pyrosim	Technical Fire Safety						
Scania Multi	Workshops						
Telka BIMsight	Property						
Tiger 2020	ICT						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Becrypt	ICT						Yes
Citrix Go-to-Assist	ICT						Yes
Filezilla Client	ICT						
2AR3 Programmer	Paul Roast - Comms						
AbleBits.com Duplicate Remover for Excel (for installation on Terminal Server)	TFS - Wendy Marshall Ian Roxburgh- Harding						
AD Photo Edit Bulk Edition	ICT						
ADManager Plus	ICT						
Adobe Digital Editions	Media						
Adobe Dreamweaver CC 2015	Media						
Adobe Photoshop	Media						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Adobe Photoshop CS5	Media						
Adobe Premiere Pro CC 2015	Media						
Adobe Reader XI (11.0.07)	ICT						
Advanced Query Tool	Performance				v9.1.4		
AED Manager	Operational - Defib software						
AIUS	MDT						
Allok Flash Converter	Media						
AQT	Performance						
AssetManager 2009	???????????						
Asta Powerproject	Property Services						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Astrium MDCG 7.0.11.9883	MDT						
AVLS/GPS	MDT						
BacTalk2	Paul Wells - BA						
Barcode Macros	????????????						
blue8compass 7.3	Water						
blue8world 2.4	Water						
blue8world Interface to blue8compass 7.1	Water						
Bodyguard IR-Link II Version 20.01(c)	BA - Paul Wells						
Brother P-touch Editor 5.0	Paul Roast / ICT						
Bullard	Technical Department						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Canon PhotoStitch / Scanner	Media						
Command Support System 1.5 Patch 8.0 (8.0.0.7)	Operational						
Command Support System Server 1.7 (1.7.0.9)	Operational						
Corel PaintShop Pro X7	Media						
CorelDRAW Graphics Suite X5	Media						
C-Tools Plus	ICT - C touch screens						
CutePDF Writer 3.0	ICT						
CyberLink PowerDVD	Windows OS add - on						
DCS-Time 4.2	Workshops						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Document Management System	ICT						
Dragon Naturally Speaking	Wendy Marshall, Kathy Payne, Lee Heaton						
DVD stacker software Microboards automation GX2	Media						
DVDShrink / Imageburn	Media						
DWG TrueView 2009	Property Services						
Eltek Darca Plus 3.0	Operational - BA Chamber software						
Entel Programmer	Comms - Paul Roast						
FastStone Capture 8.2	Workplace Fire Safety						
Fiddler	ICT						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
FME Desktop 2014 (Build 14234 - win32)	Performance						
FreeMind	ICT						
GanttProject	Property Services						
GIMP 2.8.6	Media						
GML Viewer 4.0	Property Services						
Google Chrome	ICT						
Google Earth	ICT						
Google SketchUp Pro 7	??????????????????						
HP Web Jetadmin 10.3	ICT						
Hummingbird DM Extensions 5.2.105	ICT						
HydraVision	OCAT - Dan Davis						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
HyperTerminal Private Edition v7.0	ICT						
ieSpell	ICT - not used						
IRS	Performance						
iTunes	ICT - only used to wipe iPads						
KABA	Workshops						
Kutools for Excel 10.0.0.228	ICT						
Lloyds TSB Filter Wizard	Finance - Payroll						
LogRhythm Job Manager	ICT - CM2						
MagicDisc 2.7.106	ICT						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
MapInfo License Server	ICT						
MarkWare	Brady printer software at Workshops						
MDOP MBAM	ICT - Bitlocker						
Meeting Monitor Client 4.3	ICT						
MIS	Comm Safety / Workshops						
MOTOTRBO Customer Programming Software	MDT						
Nib	Wendy Marshall touchpad/pen						
Northgate Compass 7.4	Water - no longer uses						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Notepad++	ICT						
Onstream Trapeze	Technical Fire Satety						
ORCalc [v3.6.2]	Mark Askew - Property Services						
Oshens	Health and Safety						
PAC SecureNet	Property Services						
Paint Shop Pro 8	Media						
particleIllusion 3.0.4	OCAT - Dan Davis						
PDF Complete Corporate Edition	Media						
PDF-eXPLODE V3.1.0	Finance						
PDF-XChange 4	Finance						
Picasa 3	????????????????????						
PuTTY version 0.63	ICT						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Resource Central	ICT						
Resource Central Addin 2010	ICT						
ResourceXpress Meeting Monitor V3.7d	ICT						
Roxio Easy Media Creator 7	Media						
SketchUp DWG Importer	Property Services						
SMART Meeting Pro	ICT - Smartboard PC's						
SolarWinds Orion	ICT						
Solibri Model Viewer v7.1	Property Services						
SSHTectia Server	ICT						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Symantec System Recovery 2011	ICT						
Symphony Bluelight Gazetteer	Performance						
Symphony Bluelight iExchange SQL Server	Performance						
Symphony Bluelight SQL Server	Performance						
Symphony iMatch	Performance						
Synchronize It!	ICT						
Tekla Model Sharing Foundation, IFC import plugin 1.65	Property Services						
Tekla Model Sharing Foundation,	Property Services						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
WebViewerXml plugin 1.9							
TightVNC	ICT						
TPLpagers 3.02.2	ICT Paul Roast						
UltraVNC v1.0.2	ICT						
vCenter Orchestrator	ICT						
Veeam Virtualization Extensions UI	ICT						
Vitalograph Spirotrac	HR Occ Health						
VLC media player	ICT						
WDM 4.8.5	ICT						
WinRAR 5.00 (64-bit)	ICT						
WinZip	ICT						

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Functional Area Applications - Specialist	Owner		Investigate	Develop	Exploit	Contain	Retire
Wireshark 1.12.1 (64-bit)	ICT						
YesSoftware DemoCharge	ICT - RD						
Zoho	ICT - CM2 and SW						

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The Tactics we use are

- **Microsoft Products first**
- **Microsoft Cloud (Azure, O365, CRM Online, SaaS, IaaS etc.) first**
- **Maximum value from all support & maintenance contracts**
- **Solutions follow the Technology Brick Model**
- **Virtual not Physical**
- **Least access necessary model**

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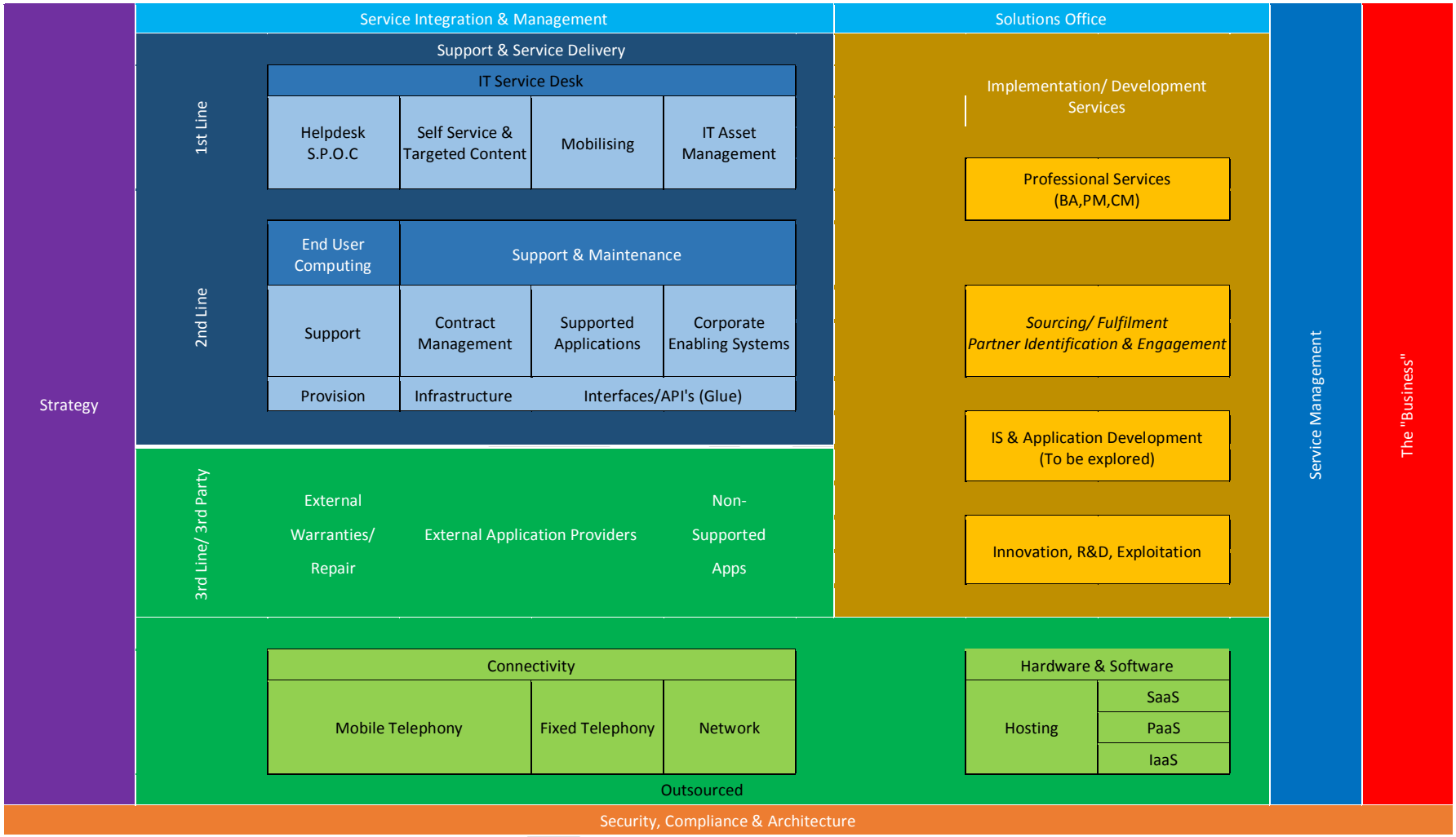
Target Operating Model



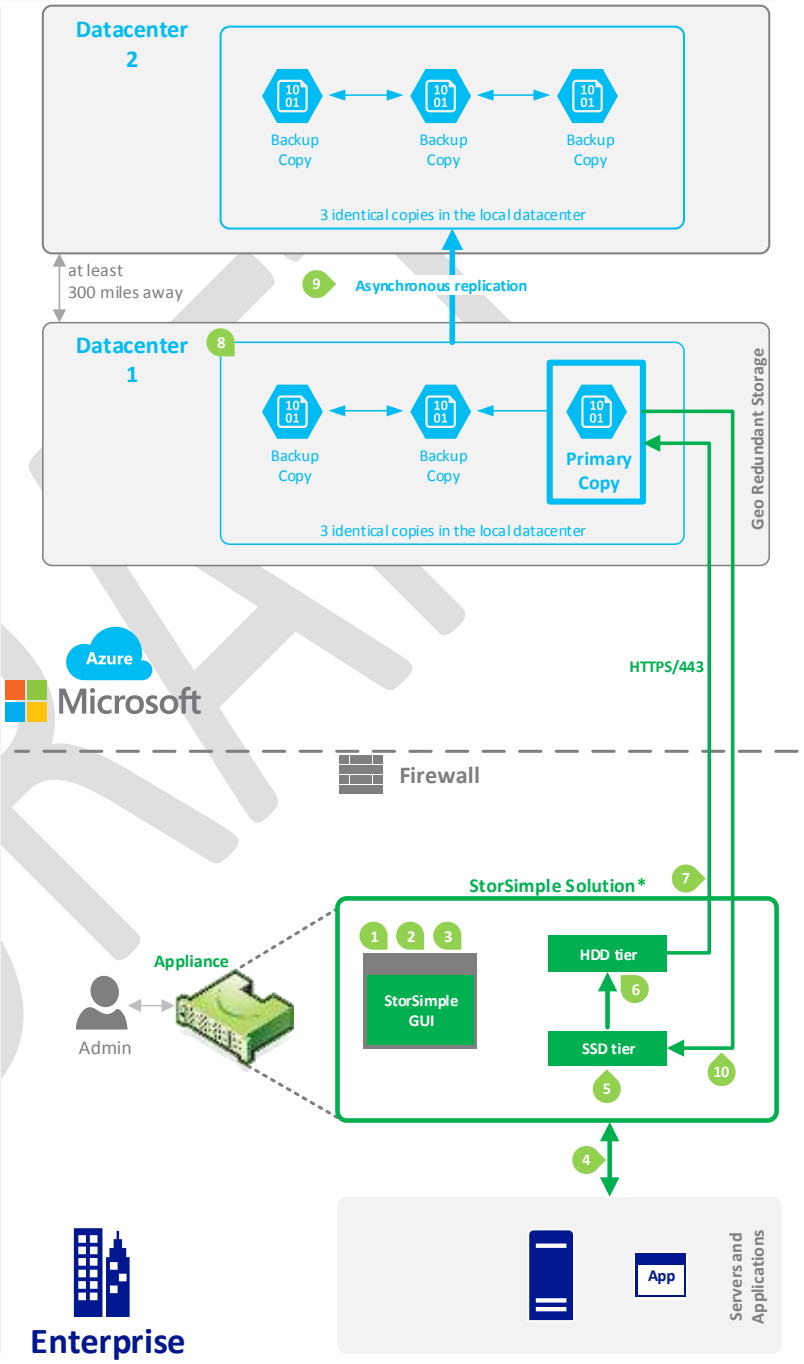
From ITIL & Derby City Council

Example architecture overview.

Hybrid Cloud Storage

Affordable cloud solution that seamlessly extends on-premises capabilities for primary storage, backup, archive, and disaster recovery with no end user or application changes.

StorSimple is a storage solution that uses both an on-premises appliance and Microsoft Azure.

1. The administrator sets up an Azure storage account in the Azure management portal. The storage account credentials are configured using the StorSimple GUI, telling the StorSimple device where to put data in Azure.
2. The administrator creates volumes on StorSimple.
3. The administrator protects data by configuring data protection policies.
4. The on-premises file server accesses the appliance using iSCSI.
5. StorSimple initially stores data in the fast Solid State Drive (SSD) tier of the appliance.
6. As the SSD tier approaches capacity the oldest data blocks are deduped, compressed, and automatically migrated to the HDD tier.
7. As the HDD tier approaches capacity, the oldest blocks are encrypted and securely sent to Azure blob storage using HTTPS.
8. Azure synchronously replicates the data to two other blob replicas within the same datacenter to insure redundancy.
9. Azure can also replicate the blobs to a secondary Azure datacenter at least 300 miles away using Geo-redundant storage. Three additional copies of the data are asynchronously replicated.
10. When the file server requests data stored in Azure, the data is returned without any impact to the user or their application. A copy of the requested data is then stored locally in the SSD tier.

*Applies to Series 5000 and 7000 appliances only