

# CIVICA

## Civica Expert Services

Accelerating **embedded  
software** delivery



Transforming the way you work

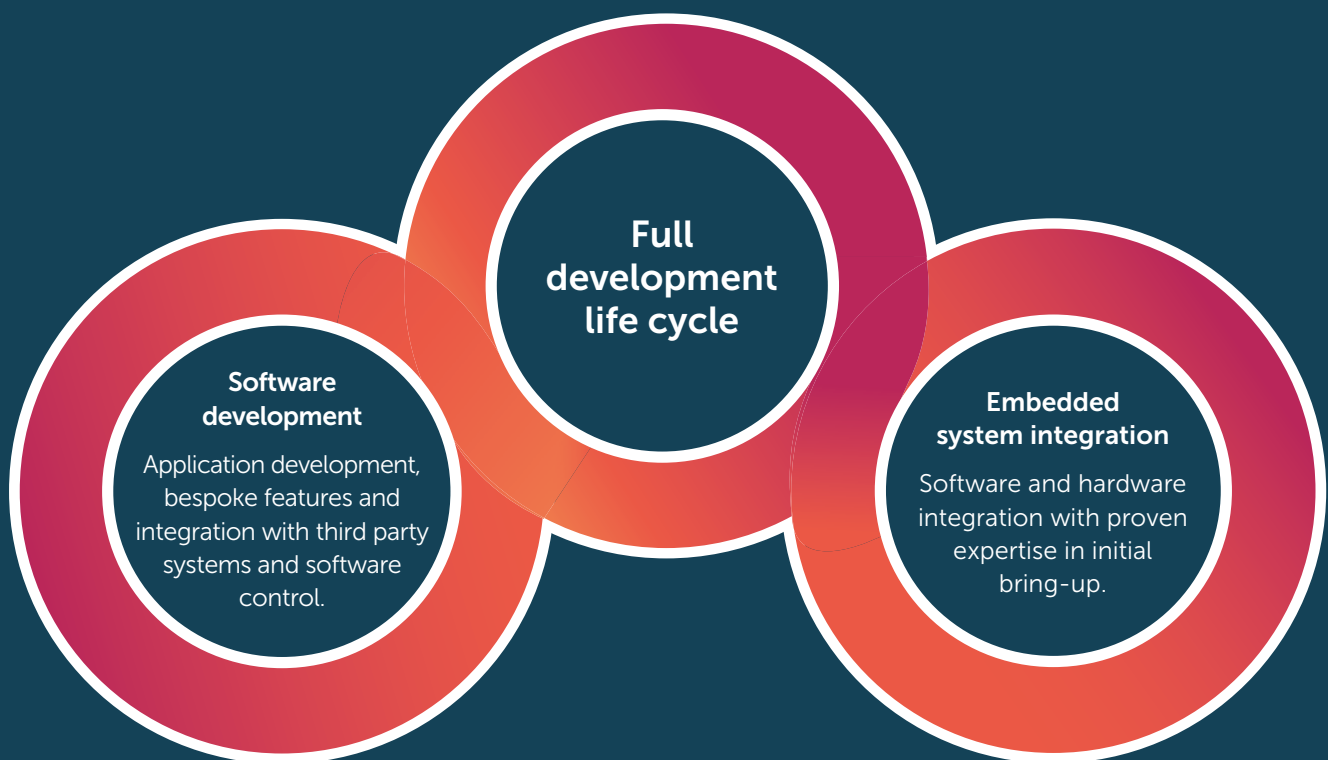
## Embedded applications continue to shape our digital revolution with new technologies, increasing customer expectations and demands.

In this fast-paced environment manufacturers and service providers need to continually innovate, evolve and efficiently create new technologies quicker than their competition.

Working globally across a range of sectors including Aerospace and Defence, Health & Care and Telecoms, we help our customers respond to this challenge.

With more than 16 years' experience and domain expertise across Microchip WinPath and Sckipio G.fast chipsets, our Expert Services team **accelerate solution delivery** and **deliver significant cost savings** from Legacy TDM through to next generation network applications.

In addition, our WanStaX portfolio of licensable software components are designed to further help our customers accelerate their time to market and harness the full potential of their network processors.





## Fast-tracked deployment of next generation broadband

### UK telecoms equipment manufacturer

We accelerated the deployment of our customers next generation broadband G.fast DPU using our WanStaX portfolio.

#### Key outcomes

- ▶ Accelerated software control and management delivery of a WinPath based DPU required for a next generation G.fast product
- ▶ The flexibility of data services facilitated by WanStaX enabled the customer to target multiple markets around the world
- ▶ Bespoke training and support services to enable the customer to facilitate knowledge sharing, training and front-end support services to their own customer base.

# Why Civica

Combining exceptional customer focus, experience and commitment, we help customers around the world to transform the way they work.

## A trusted partner

Helping more than 2 million professionals around the world.



## Dedicated global support

Ongoing support from our team of UK and Ireland based engineers.



## Strong domain expertise

More than 16 years' experience in developing next generation networks.



## Full development life cycle

Covering software development and embedded system integration.



## Long-term partnerships

Strong partnerships with Sckipio, Microchip and a global customer base.



## Training & support

Bespoke training and knowledge sharing on projects.



## Proven technical skills

Proven board bring-up, hardware and software expertise with a fully equipped and secure lab.



## Our culture & values

With a global team of more than 4,500 professionals, its our people and culture that really sets us apart.



### Case study

## A trusted development partner for over 10 years

### Irish telecoms equipment manufacturer

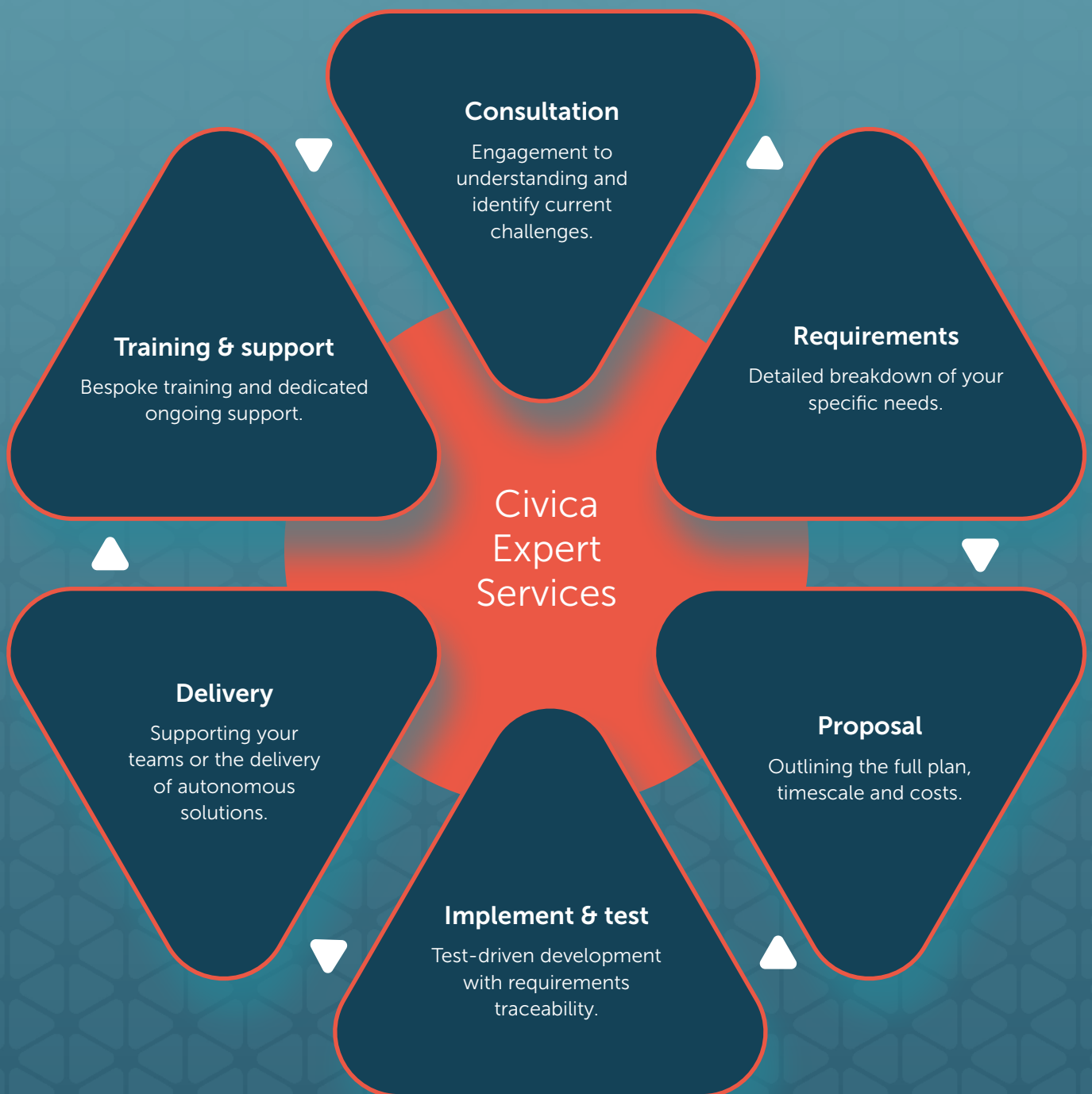
A turn-key software solution for WinPath based legacy migration products and software development for a range of ADSL/VDSL routers and remote access servers. The project required board bring-up, schematics review and the development of FPGA and device driver code.

#### Key outcomes

- ▶ Extended and modified our WanStaX software portfolio to support the legacy migration of customer services.
- ▶ Clock recovery available from TDM line, pseudo-wires and Synchronous Ethernet interfaces.
- ▶ Developed a range of innovative pseudo-wire solutions using CESoP and SAToP that provide legacy services such as ATM, HDLC and transparent channels over an IP network.
- ▶ Management interfaces for customer products and extended their CLI and SNMP support.
- ▶ Added support for configurations in Unified Configuration Interface (UCI) format as used in the customer's other products.

# Support through every development stage

We deliver better outcomes for our customers through every stage of the development cycle - from initial engagement through to delivering innovative solutions and their ongoing support.



## Accelerated deployment of G.fast DPU delivered using SDN

### Californian telecoms equipment manufacturer

Our WanStaX portfolio enabled the delivery of a bespoke solution - providing voice, video and data services, seamlessly integrating with our customers' existing management and control stack.

#### Key outcomes

- ▶ WanStaX OpenFlow solution enabled an accelerated deployment of an SDN ready G.fast solution
- ▶ Agile approach and resource augmentation allowed for quick identification of customer processes and our team were recognised as key contributors to the project
- ▶ Further resource augmentation at our partner Sckipio's headquarters helped with bring-up of the first and second generation of G.fast DPUs
- ▶ G.fast EFM Bonding support which required significant integration with specialist third party.

## Highly flexible software stack with adaption layer

### German telecoms equipment manufacturer

Using our WanStaX portfolio, we improved business internet access, cloud services, internet based storage applications and prioritized voice and data services within the L2 Metro Ethernet Networks.

#### Key outcomes

- ▶ Utilised WinPath's full feature set to accelerate development and generate resource savings.
- ▶ Facilitated successful integration with the customer's application, allowing for Layer 2/3 Carrier Ethernet service routers, MEF certified business services and IPv4/IPv6 routing applications.
- ▶ WanStaX Ethernet stacks supported MEF services such as E-Line, E-LAN, E-Tree and E-Access including QoS services as defined by MEF 6.1 and MEF 10.3.

"The quality and level of support from Civica paired with high expertise of the WinPath processor family perfectly complements their WanStaX software offerings and helped to speed up development cycles."

#### Product Development Manager

German telecoms equipment manufacturer

# Our technical capabilities

Our extensive experience in current and next generation networks helps us to support our customer's current and future needs.

<b>Software</b> <ul style="list-style-type: none"><li>▶ Expertise using C and C++ programming for embedded software solutions.</li><li>▶ TCL and Python scripting languages to develop suites of regression tests.</li></ul>	<b>Hardware</b> <ul style="list-style-type: none"><li>▶ Extensive experience in board bring-up, which is critical to successful product delivery.</li><li>▶ Hardware troubleshooting.</li></ul>
<b>Software life cycle</b> <ul style="list-style-type: none"><li>▶ Experience of full software life cycle from initial requirements through to design/development, product conformance testing, deployment and support.</li></ul>	<b>Agile</b> <ul style="list-style-type: none"><li>▶ Projects managed using agile techniques.</li><li>▶ Regular involvement with the customer.</li><li>▶ TDD - Auto generation of test specifications from tests scripts, including test case to requirement cross referencing.</li></ul>
<b>Diagnostics &amp; fault-finding</b> <ul style="list-style-type: none"><li>▶ Diagnosing challenging problems during development.</li><li>▶ Troubleshooting interoperability issues with third party equipment.</li><li>▶ Troubleshooting issues after field deployment.</li></ul>	<b>Telecoms</b> <ul style="list-style-type: none"><li>▶ Solutions in the telecommunications market and knowledge of protocols and standards.</li><li>▶ Expertise in Legacy TDM, xDSL, G.fast, MPLS, PTP, OAM, SDN, Openflow and Carrier Grade Ethernet.</li><li>▶ MEF CECP certified engineers.</li></ul>
<b>Linux</b> <ul style="list-style-type: none"><li>▶ BSP development for Linux OS kernel.</li><li>▶ Buildroot to provide customisable Linux distributions and applications.</li><li>▶ Linux user and kernel space applications.</li><li>▶ Linux device driver development.</li></ul>	<b>Performance improvements</b> <ul style="list-style-type: none"><li>▶ Specialised experience of improving and fine-tuning performance of applications deployed using WinPath network processors.</li><li>▶ Experience of developing software for real time applications.</li></ul>
<b>Device drivers</b> <ul style="list-style-type: none"><li>▶ Device driver development (xDSL, G.fast chipsets and Ethernet Phys).</li><li>▶ Developed for host processors (MIPS, ARM &amp; PowerPC).</li><li>▶ Peripheral blocks low level operation development (GPIO, UTOPIA, I2C, SERDES).</li></ul>	<b>CAD &amp; hardware reviews</b> <ul style="list-style-type: none"><li>▶ Hardware debugging experience.</li><li>▶ Review of schematics and hardware layout.</li><li>▶ Board bring-up.</li></ul>
<b>Quality standards</b> <ul style="list-style-type: none"><li>▶ Fully compliant with ISO9001 and ISO27001 quality and security standards.</li></ul>	<b>Testing &amp; lab</b> <ul style="list-style-type: none"><li>▶ Fully functional in-house lab facility.</li><li>▶ Extensive test equipment.</li><li>▶ Automated regression tests (1500+ per night).</li></ul>

To find out more and book a demonstration please  
call: **+44 (0)28 9072 5000**  
or  
email: **embedded@civica.co.uk**

Accelerate your  
embedded solution  
delivery with Civica  
Expert Services



Cert No. 663  
ISO 9001  
ISO 14001  
OHSAS 18001



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