

Horsebridge Network Synchronisation Overview

Synchronisation Related Professional Services and Operational Support Tools



Horsebridge – Company Overview

Horsebridge was founded in 2000, and as a result of continually satisfying our clients, we have consistently grown in difficult times.

Horsebridge deliver a broad range of communication network solutions and services.

Our headquarters are based in Cheltenham, UK, with a reseller and partner program spanning the globe. During 2009 partnership with CXD Group has seen the presence of Horsebridge expand to offices located in Kenya, Nigeria and Dubai.

As a full-service communications service and supply organisation we are committed to delivering innovation. Our services have expanded in both scope and depth, and are constantly evolving in response to the changing market and economic demands.

We collaborate with our clients to help them realise their visions and create tangible value. With deep industry expertise and proven experience in supply, consulting and outsourcing, we can mobilise the right people, skills and technologies.

We provide our clients, who include most of the major telecom operators throughout Europe, with a complete range of modular services. These include the supply of products covering a wide range of technologies, outsourcing of procurement and logistics, consultancy, custom design, manufacture, network installation and commissioning, training and network life-cycle support. We work with our partners, some of the leaders in our industry, to deliver end-to-end business solutions.

All of our clients have stringent requirements for quality and overall excellence in delivery of service. At Horsebridge, we constantly strive for client satisfaction. In light of our long term business relationships and referrals, we are confident that we provide excellent value while meeting our clients' technical and business objectives. Our solution portfolio covers a range of technologies and is segmented into three key business areas:-

- Core and Access Transmission
- Synchronisation, Time & Frequency
- Operational Support Systems

Solutions we have delivered span the globe and to multiple industry sectors including fixed and mobile network operators, communication system integrators. Education, utilities, government, military forces.

Our highly trained and accredited team delivers our full end to end services from three service areas:-

- Professional Services
- Implementation and Integration
- Operational and Maintenance

Our clients, who include the largest UK and European Telecom Network Operators, rely on us whether rolling out complex new networks, considering solutions to technical challenges or planning network maintenance and support strategies. We help them realise their visions and create tangible value.

Horsebridge and Synchronisation

Horsebridges core expertise since its foundation in 2000 has been centred on synchronisation consultancy and design services combined with synchronisation specific operational support systems.

Horsebridge provides operators, systems integrators, originating equipment manufacturers, and managed service providers vendor neutral professional services and operational support tools addressing network and application specific synchronisation requirements.

The focus is not merely on the synchronisation specific hardware; a trait exhibited by the major synchronisation vendors, but is at the influence of synchronisation on network and application performance within communication networks.

The combined results to the major stakeholders are operators who are able to deploy synchronisation within their network more effectively and efficiently gaining accelerated return on investment on what is an overhead cost of operating their network whilst providing high quality user experiences for their customers, aiding customer retention and positive market perception of their service.

Originally targeted at network operators in the UK our services and solutions related to synchronisation have been delivered globally to Network Operators, Military Organisations, OEMs, Systems Integrators and Managed Service Providers. These services and Horsebridges Sync Architect software have been delivered directly and also as white labelled services and products for the largest Telecom and Synchronisation OEMs.

The Requirement for Synchronisation

Synchronisation is not a direct revenue generating technology for networks providing services such as voice, data, bandwidth, video, cellular backhaul, Carrier of Carrier services etc.

However there is a direct correlation between the provision of synchronisation within the transport network providing these services that do generate operators' revenue streams.

Details of the requirements are held in complimentary documentation available from the resource centre of our website www.horsebridge.net

- [Network Synchronisation Overview](#)
- [Synchronising Cellular Networks](#)
- [Optimising WiMAX Efficiency with Synchronisation](#)

Horsebridge Synchronisation Related Professional Services

The objective of our Professional Services is to help build the operational excellence needed to maintain required levels of network performance, reliability and availability, scale and adapt to new business requirements and reduce capital expenditure and operational costs.

Our Professional Services are segmented into four key areas:-

- **Consultancy and Design**

Our consultancy and design services harness the core skills of our senior consultants who have varying levels of experience between 10-20 years each. Harnessing this expertise which has been applied across multiple technology based transport networks including PDH, SDH, ATM and Packet based technologies the key aim of our services in this areas are to design and plan fault tolerant resilient synchronisation architectures and distribution overlaying the transport layer to optimise service performance and delivery whilst aiming to minimise capital investment and ongoing operational expenditure requirements in achieving this goal.

- **Training Services**

At Horsebridge, we provide a complete range of training services covering all aspects of communication technologies. These include: theoretical technology, network design and optimisation, network management, administration, maintenance and operational courses.

- **Evaluation and Testing**

The evaluation and testing services we provide in relation to synchronisation specific hardware and the synchronisation function of transmission equipment includes:-

Functional Testing - measuring and evaluating the functionality and usability of products, applications, technology/user interfaces and management systems.

Simulation and modeling - laboratory testing of products and applications

Interoperability - assessment of hardware/software at specified performance levels

Performance - testing of networks, systems or applications under various load conditions

Conformance - testing to see if new elements can be connected to a network and conformance to relevant industry standards.

- **Network Health Checks**

Horsebridge has developed a series of synchronisation related network health checks to help our clients proactively examine the health of synchronisation resources, provision and application within their networks. The health checks are built around common components and the tailored to each specific network requirement identified by our clients. They utilise field based testing and performance monitoring with network architecture reviews and our interactive network planning and software tools Sync Architect and Sync Architect Distiller.

Horsebridge Synchronisation Related Operational Support Systems

Our synchronisation related operational support systems are vendor and technology agnostic. All of our products are designed for intuitive operation and integration with existing systems and workflow. Sharing a common objective our tools have proven in deployments to date they can maximise network and operational efficiency providing quantifiable financial savings and network performance improvements.

Available directly or via our resale and distribution channels our products are supported by our full service portfolio.

- **Mint Systems - SyncSpy**



The SyncSpy variant of Espy is configured to manage multiple vendor synchronisation devices and deployments. The Espy platform is specifically designed as a generic, vendor independent, element management system. The unique server architecture provides incredible functional flexibility whilst supporting manned or unmanned operations.

The Espy tool has an intuitive user environment backed by a security subsystem providing simple yet secure equipment management.

As an element management system it has inbuilt functionality for integration into higher order network management systems via multiple SNMP northbound interfaces with configurable filters to prevent higher order event storms and workflow integration into trouble ticketing and manpower alert systems through SMTP e-mail and SMS alarm forwarding features.

- **Horsebridge Sync Architect**



The Sync Architect 4.01 is feature rich a tool used to help facilitate the ever growing importance of effective network

synchronization. Sync Architect 4.01 is a unique off-line, desk-top software tool. Designed to aid the Synchronisation Planner to be more effective and productive Sync Architect is a unique modelling tool that allows you to rapidly formulate resilient network designs, and diagnose faults in existing networks. Enables design and simulation of both new and existing networks, allows early identification of faults and providing for considerable long-term capital expenditure and operational expenditure savings.

- **Horsebridge Sync Architect Distiller**



The Sync Architect Distiller is a support tool designed to provide Sync Architect 4.01 with network auto-discovery functionality. This effective

data mining tool can interpret output data streams from virtually any network management system and enable the construction of Sync Architect 4.01 network models. The use of the Sync Architect Distiller tool transforms Sync Architect 4.01 from a planning tool to a rapid network synchronisation tool. Utilising this feature also enables the tool to be utilised by network operational teams to review network wide synchronisation provisioning

Here are just a few of the responses from our customers about our Synchronisation related Professional Services and Operational Support Services.



Consultancy, Evaluation and Testing Services

"Any future migration to packet-based mobile backhaul will inevitably raise the issue of the provision of accurate timing information to base stations. Horsebridges knowledge and experience of network synchronisation techniques is proving very valuable to Vodafone in their assessment of the available options. Our collaboration with Horsebridges team of specialist consultants is ensuring that we understand the benefits, drawbacks and cost implications of each solution."

**Principle Research Engineer
Vodafone, Group**



Consultancy, Product Development and Supply

"WiMAX networks issues can often stem from poor synchronisation — networks tend to be synchronised at the core, but not at the edge. As the industry experts in this space, Horsebridge were highly responsive to our needs by offering one of the first cost-effective carrier class solutions for enabling accurate data transmission across the entire metropolitan area. Through this partnership we will be able to ensure quality of service across the network while reducing the risk of any service interruptions to customers from interference."

Vice President of Marketing and Product Management - Airspan Networks



Network Health Checks, Evaluation and Testing

"Faced with a contentious issue around the performance of our equipment against a major competitor which was preventing payment post network rollout we called upon Horsebridge for an independent specialist opinion. Their expertise in the technology and customer relationships enabled the issue to be resolved and validate our equipment performance and network design..."

MUX/WDM Support Manager - Ericsson



Product Supply, Network Design, Implementation, Support and Training

"We have been a customer of Horsebridge for a number of years receiving a variety of services including training, implementation support and product supply. Horsebridge have recently undertaken an upgrade on the synchronisation equipment within our network including the supply of Sync Architect and initial network modeling, as part of our ongoing network upgrade project. Throughout the deployment the Horsebridge teams were professional and extremely adaptable towards any issues that arose. The end result has been the successful rollout and upgrade of our synchronisation network enabling us to continue the ongoing development of service provision to our customers"

**Head of Network Transmission
O2 Ireland**



Consultancy, Product Supply, Deployment and Support

"We have worked very closely with Horsebridge for a number of years and continue to experience the highest level of pre- and post sales support. With their varied skills and knowledge base, Horsebridge are able to provide a totally joined up solution from the design stage through implementation to after sales support, giving Jersey Telecom the confidence that projects will run smoothly and within agreed timeframes. Furthermore, Horsebridges teams of technical experts are highly responsive to our urgent needs enabling us to focus on our daily core business requirements."

**Transmission and Access Manager
Jersey Telecom**



Consultancy, Product Supply and Training

"We have purchased Horsebridge Sync Architect and undertaken training from Horsebridge for the product and Synchronisation Network Planning. Through their varied skills and knowledge base of Synchronisation and transmission equipment alike, Horsebridge were able to provide comprehensive Training giving Kazakhtelecom the confidence and ability to undertake network planning utilising exclusively the Sync Architect Network Planning Tool. We fully intend to utilise products and services provided by Horsebridge in the future."

Chief Executive Officer - Kazakhtelecom



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