



Ambrosia Infotech

"Synergising Minds"

The Client

The client provides value-added wireless & communications services & products to Telco, Wireless, ISP, Web and Corporate customers. The client was founded in 1995 and during this time, it has won several prestigious awards such as the British Computer Society Medal. The client has strong history of technology innovation and the majority of product and services it supplies are based on its own technology.

The client wanted to create a VOIP framework to enable end-to-end Internet based calling, IP Trunking for long distance calls and to enable PSTN calls to be made from Internet desktop client.

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The Client



The client required an IT solutions partner who could provide product development services. They wanted a team, which could define the technical roadmap of the product this required that the team be aware of the latest VOIP technologies and could rapidly build teams to work on niche technologies.

Ambrosia with its cost-effective delivery model, product development experience and a proven history of delivery innovative products was chosen. Ambrosia was the right choice for the client with its rich expertise in product engineering.

Some broad functions required for the system were:

- Registering, initiating and locating the user.
- Determine the media to use – involves delivering a description of the session that the user is invited to.
- Determine the willingness of the called party to communicate – the called party must send a response message to indicate willingness to communicate – accept or reject.
- Call setup.
- Call modification or handling – example, call transfer.
- Call termination.



Ambrosia – Challenges

The project involved designing and architecting the complete product.

The key challenges of the project were:

- Implementation of signaling protocol stack.
- Security.
- Quality of Service.
- Reliability / availability.
- Call routing and Number Plans.
- Firewall and NAT traversal.
- Billing and Reconciliation.
- Bandwidth Utilization
- Auto-configuration

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Challenges



Ambrosia used its expertise in J2EE technologies, protocol development and knowledge of the telecom domain to implement the worlds first unified messaging and communications platform.

The main highlights of the product were:

- User Agent (V+UA): V+UA is a SIP User Agent with a GUI front end that works with the SIP stack. V+UA provides features to make and receives phone calls from ones PC. V+UA consists of UA Client, which originates calls and a UA server, which listens for calls. The main features and functionality supported by V+UA are:
 - Call Establishment
 - Call Waiting
 - Call transfer
 - Registration with a SIP proxy Server
- SIP Proxy Server: The main features were
 - Relays Call signalling
 - Operates in transactional manner
 - SIP message translation
 - Http Digest Authentication and Security
 - Interact with User Agents
 - Requests routing information from Redirect Server
 - Billing
 - Logging
- Location Server: is used by a SIP redirect or proxy server to obtain information about a called party's possible location.
- SIP Registrar
- RTP Protocol Stack: RTP (real-time transport protocol) provides end-to-end network transport functions suitable for applications transmitting real-time data, such as audio and video, over multicast or unicast network services. RTP is augmented by a control protocol (RTCP) to monitor data delivery and network statistics. Together they resolve of many of the problems a UDP network environment may experience, such as lost packets, jitter, and out of sequence packets.
- UDP Server

Ambrosia – Benefits

Some key benefits of the engagement for the client:

- Access to vast knowledge telecom domain
- Access to high-end technical team.
- Extensive protocol stack development experience
- Ambrosia's could Rapidly Scale up the team size.
- Product Development expertise
- Ambrosia had the expertise to define the product technical roadmap and provide high end product consulting

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Benefits



Ambrosia – Approach

Key features of our approach were:

- Focus on innovation
- Build a scalable and robust system
- Spiral development approach ensured constant improvement of the end product.
- Detailed designing phase resulted in streamlined development.
- Deployed teams with research background and having expertise in delivering high end products

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Approach

