A telecoms resilience breakthrough. Minimal investment. Maximum protection.

Introduction

GemaTech have created a uniquely portable telecoms recovery unit, designed to re-route and voice record up to 120 concurrent inbound calls per PRU unit. Deployed as a fully managed service and activated within 4 hours, the PRU provides emergency recovery for organisations who believe that a major disruption to their telecoms "would never happen to them".

Company background and philosophy

GemaTech provides essential telecoms flexibility. Focusing on the design and delivery of technologically advanced solutions, GemaTech offer its customers the ability to work from any location, at any time, whether by choice or as a consequence of any disruptive event or disaster, which adversely affects their ability to receive incoming calls or faxes.

Product design philosophy

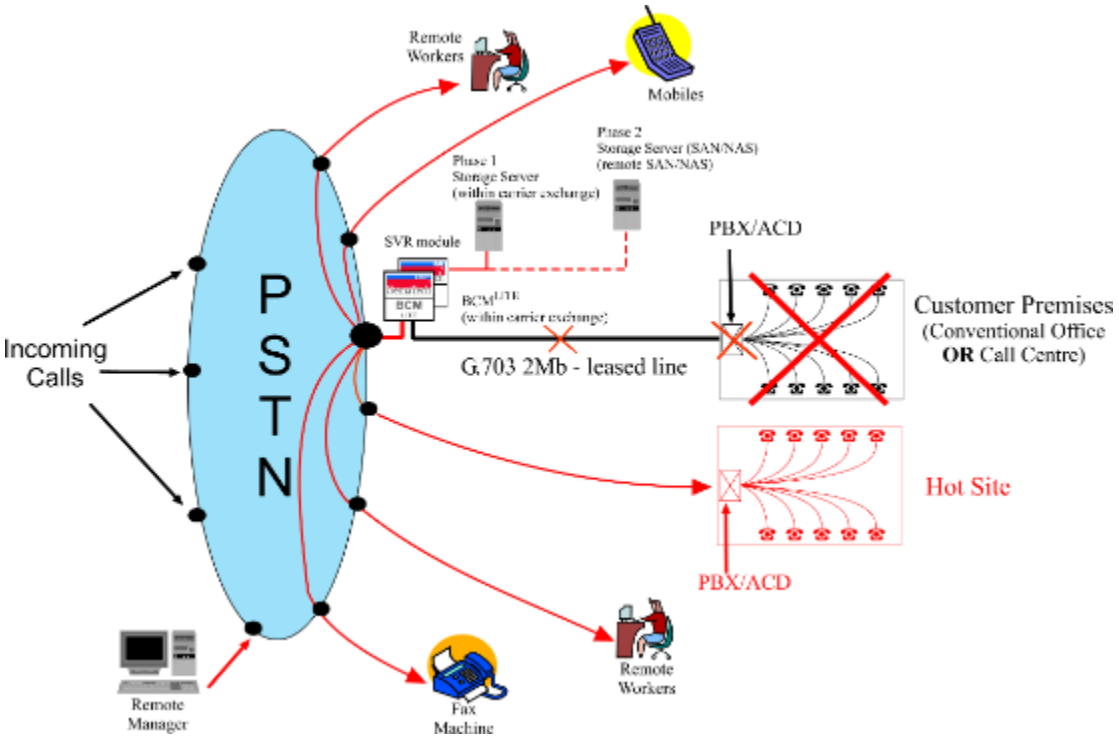
Applying the above philosophy, and understanding the potential weaknesses and single points of failure of "the last mile", GemaTech has developed a modular suite of telecoms products and applications best suited to being installed within any carrier's local exchange (thereby avoiding, and protecting against any communications failure outside of the serving carrier's local exchange) and is truly carrier independent i.e. the combined hardware and software solution is capable of being installed in ANY serving carrier's exchange or customer's premises to simply recover a PBX or building outage.

GemaTech's core product - Combined BCM^{LITE} & SVR^{LITE}

GemaTech's core product is a permanently connected telecoms recovery application, – *shortlisted as one of the top 5 products under the "Most Innovative Product" section in the CIR Business Continuity Awards 2008* – and comprising our own, dedicated hardware platform and software application (for which GemaTech owns ALL of the Intellectual property rights).
It is designed to instantaneously, and seamlessly, recover 100% of an organisation's incoming calls directed to individual geographical DDIs by intelligently re-routing them, on an individual DDI by DDI basis, to any other number, or series of numbers, on any device – with the added ability of being able to voice record all inbound and outbound calls (during normal day to day operations) as well as inbound calls that are re-routed to any remote location / telephone number following an activation – all from the sanctity and security of the serving carrier's exchange.

Current Customers
Organisations who are currently benefiting from GemaTech's solution include:

- Kings College Hospital, London
- Immarsat
- Reigate Borough Council
- HCL (Health Care Locums)
- Travel Counsellors
- KBC Investment Bank



The vision behind GemaTech's new PRU product

While this core application is totally accepted by end-user customers who understand the business need and long term benefits to be gained by adopting a permanent, dedicated, telecoms recovery solution, it has been made clear to us that there are many organisations who simply adopt the view that it will never happen to them, and consequently refuse to take any precautionary measures to protect their mission critical inbound calls – until it is too late. When the inevitable disruptive event happens those organisations will be in desperate need of an emergency solution that can quickly recover their inbound calls, minimising the disruption to their organisation.

Consequently, there is a glaring need for a product that can be immediately deployed to recover any organisation's incoming calls following a major outage.

The Portable Recovery Unit (PRU)

As a result, GemaTech's technical team has developed a unique, "ruggedised" version of the combined BCM^{LITE} & SVR^{LITE} unit, known as the PRU, designed to be deployed within the subscribing organisation's local serving exchange (whether it be BT, C&W, COLT, NTL etc) or a customer's premises, to recover a PBX or building outage within 4 hours of GemaTech receiving notification (on a 365x24x7 basis) that they need an emergency telecoms recovery solution.
During the product's soft launch at a regional BAPCO (British Association of Public Communication Officers) event during April this year, the PRU was extremely well received, particularly by members of the Environmental Agency and Selex Communications (providing communications to central government and corporate customers) who are currently in negotiations with GemaTech to supply the PRU to their customers.
In addition, the PRU was discussed with the Head of Policy and Strategy at the Cabinet Office Civil Contingencies Secretariat who responded with the written statement that:
"GemaTech's portable (suitcase) solution looks like an intriguing Business Continuity solution to the "cannot afford the insurance" or "cannot think ahead to buy the insurance" of the [permanently] installed kit".

Product specification

The PRU is transported safely in a ruggedised metal case measuring some 20cm high, 50cm wide, 60cm deep and weighing approximately 10kg and comprising:

- 4 x combined BCM^{LITE} / SVR^{LITE} units capable of recovering, by re-directing, up to 120 concurrent inbound calls for a single customer or up to 30 concurrent inbound calls for four separate customers affected by the same "outage" and serviced from the same exchange.
- 64kbit modem to accommodate activation of call plans via an ISDN30 dial up data connection.
- Cisco Router providing full firewall protection enabling only authorised access to load and change call re-routing plans and preventing any third party un-authorised access.
- Dual AC Power units (80 – 260 VAC) and/or 48 VDC for use in carrier exchanges.
- 8 x ISDN30 RJ45 connectors – facilitating the recovery of up to 120 concurrent inbound calls using the same 4 x combined BCM^{LITE} / SVR^{LITE} units – *should the*

respective carriers be able to provide additional connectivity within the serving exchange at short notice.

- 3 x RJ45 connections to provide a) a single LAN port to provide for a laptop plug-in to enable live plan activation and/or live edits during initial call plan set up b) two outputs for streaming call recordings to duplicate enterprise grade storage servers c) console/laptop connection to configure Cisco router, if required, during set-up by GemaTech personnel.

Remote access to the unit is provided by a number of alternative methods for ultimate resilience to ensure that access can be achieved, by the end-user customer or the company supplying the fully managed service, under any circumstance in order to activate alternative call routing plans comprising:

- 64kbit dial up modem: – providing access via a single channel on the ISDN30 circuit connected to the combined BCM^{LITE} / SVR^{LITE} units (probably the most likely means of making a remote connection to the unit).
- Internet: – A single RJ45 connection to facilitate an internet connection to the customer's Wide Area Network (WAN) – if such an internet connection is available within the carrier's exchange.
- Wi-Fi: – Standard Wi-Fi connection11Mb/54Mb (limited range of 100m) primarily for use by GemaTech personnel when first configuring the unit.
- GPRS/3G Mobile: – to provide a final attempt for the end-user customer to gain access to the combined BCM^{LITE} / SVR^{LITE} units should all other access routes be unavailable.

Remote / end-user customer activation of selected call re-routing plans including any/all subsequent changes required to individual call re-routing plans can be made by any of the following methods:

- Via the GemaTech Graphical User Interface (GUI) through the WAN
- Via the "right click" selection mode on a laptop incorporating all call plans
- Via a secure web browser incorporating SSL encryption

Should end-user customers consider it necessary and/or appropriate to voice record all re-routed in bound calls following activation, to provide a full and detailed record of all that was said and done during the activation, a ruggedised enterprise grade storage server (or duplicate servers for total resilience) can also be installed as part of the solution offering the following:

- Enterprise Grade Server incorporating Raid 5 disc arrays
- Live (secure) access to all call recordings by any number of authorised personnel at any time during the invocation. (Note: simultaneous access is dependant upon available bandwidth)

All recordings will be automatically time and date stamped and stored using GemaTech's unique "splitting and spanning" technology (rendering all recordings admissible in a Court of Law). Immediately following the removal of the equipment, all

recordings will be “streamed” to the customer’s SAN for record purposes with a copy retained in GemaTech’s secure data archive for comparative purposes, should it be necessary to validate authenticity in a Court of Law at a subsequent date.

GemaTech’s pricing and service offering

All prospective end-user customers/organisations will be invited to pay a basic, subscription of £2,000 per annum enabling GemaTech to set up and hold the following information:

- Identify all ISDN30 circuit numbers (and thus confirm the telecoms provider).
- Identify all incoming geographic number ranges, including any non-geographic numbers.
- Identify the serving carrier’s local exchange including full address and post code.
- Establish the end-user customer’s existing (normal) DDI call distribution plan.
- Work with the end-user customer to develop and agree their “emergency re-routing plan” to be activated by GemaTech personnel immediately following the live connection of the system – and within 4 hours of requesting activation.
- Provide all necessary end-user training on how to set-up any number of call re-routing plans which the customer might choose to activate at varying times during any activation, including how to access voice recordings.
- Liaise with the end-user customer on a monthly basis ensuring all call re-routing plans are current and up to date – and if not, to invite the customer to update them.
- All customer call re-routing plans will be held securely by GemaTech ready for immediate deployment following a request for activation.

Immediately following customer notification, via the GemaTech support desk, that they wish to activate their Emergency Recovery Service, GemaTech personnel will:

- Immediately notify the appropriate carrier that access will be required to the relevant exchange building within a maximum target time of 3 hours from the time of notification (subject to contract with various carriers).
- Load the appropriate customer call re-routing plans onto the standby GemaTech PRU and depart for the relevant serving exchange **(available 365x24x7).**
- Liaise with the on-site engineer at the carrier’s exchange, who will escort the GemaTech Engineer to the exchange MDF (or where all the circuits are connected into the network). In conjunction with the on-site engineer, identify the specific customer circuits, and then disconnect the relevant circuits from the MDF and connect the PRU into the same MDF “slots” Connect the PRU into the appropriate power supply and test the system is fully operational. It is as simple as that!
- Once ISDN30 connectivity has been re-established, using any one of the various methods of connectivity to the PRU identified above, activate the appropriate call re-routing plan and advise the end-user customer that

they now have control of the call re-routing process to load and change alternative call re-routing plans as circumstances dictate.

- In parallel with the previous activity, if secure voice recording of all re-routed calls is required, the secure storage server will be connected to the PRU.
- GemaTech's charges for activating the service will be £2,500 per activation – including the charge for removing the PRU and re-instating normal connectivity once the "disaster" is over – and allowing for an activation /deactivation charge of £500 by the carrier) with an ongoing daily rental charge for the PRU starting at £250 per day with a minimum charge being levied for 10 days hire.

This service is also available to customers who have not subscribed to the service. However activation can only be on a 'reasonable endeavours' basis as it will be necessary to first collate all of the information identified above.

Real Life Scenarios

The following scenarios from recent, major disruptive events illustrate the types of situations where the PRU would have hugely benefited a number of organisations, putting into context the potential uses and consequences of employing GemaTech's PRU solution.

Fire

Melton Mowbray Borough Council struggles with call re-direction following devastating office fire

On Friday 30th May 2008 fire ripped through the county council offices in Melton Mowbray, destroying the entire building.

The council offices accommodated 270 employees including the East Midlands Regional Assembly. The emergency plan was implemented which consisted of re-locating 30 key employees, split between two back-up recovery sites in Nottingham. These sites were shared with other organisations such as Melton Mowbray Building Society.

Using BT's standard call re-direction solution, the main switchboard number was re-routed to one of the recovery sites, however individual DDI information was lost, meaning that it was hard to find the appropriate contact to receive the incoming call. On many occasions it was necessary to transfer calls to the other site in search of the right person, leading to increased frustration on the part of the caller and a multitude of un-resolved calls.

Had Melton Mowbray implemented GemaTech's solution they would have reaped the benefits of the following:

- Instantaneous and seamless recovery of incoming calls
- 100% recovery of all DDI calls to all 270 employees whether they were at the recovery site, home, on their mobile or at another location, thus ensuring 'business as usual' for the council
- Tailored announcements to all employees communicating the issues and the appropriate action they needed to take via phone, SMS and email
- Cheaper transfer call rates from the exchange into the recovery sites as there would have been no need to pay BT's ELSA 1 re-routing charges
- All incoming faxes could have been re-routed to dedicated, individual nominated fax machines

Flood
Exceptional rainfall causes chaos in Carlisle

In January 2005 the city of Carlisle came to a complete standstill as exceptional rainfall led to extreme flooding causing residents to evacuate their homes. The flood was so devastating and widespread that access into, out of and around the city was impossible. Emergency services were all affected, with both the city's police and fire stations flooded and unable to operate. A substantial area of the city lost power, with the only exceptions of the BT exchange and the Iceland retail outlet employing effective back-up supplies via pre-installed generators. In addition, the civic centre building was flooded and power was lost. This was significant as the mobile mast situated on the roof of the civic building had no power supply to make it effective. It was necessary for emergency services to drop new batteries for the mobile mast onto the building using a helicopter. As many electric sub-stations were also flooded, power to resident's homes was also cut off. With many DECT telephones reliant on power to function, normal telephone communications were severely affected.

Following an initial search of local houses, a couple of residents were found dead in their home, leading to an essential, time-consuming house-to-house search.
With no fool-proof way of contacting all residents to check for casualties or people in need of help, the emergency services employed boats to conduct the searches. Even the emergency services were incapacitated, with no reliable means of communication.

With no police or fire stations available, the emergency services de-camped to a recovery site in a castle on higher ground.

Had the Carlisle council and emergency services employed a GemaTech solution they would have benefited from the following:

- Instantaneous and seamless recovery of incoming calls
- 100% recovery of all DDI calls to the recovery site
- Tailored announcements via phone, SMS and email in order to communicate with local residents where possible

Bomb scare
HCL deploy GemaTech solutions following the Haymarket bomb alert

In the early hours of Friday 29th June 2007 police were called to a car in Haymarket near Piccadilly Circus. The car was packed with 60 litres of petrol, gas cylinders and nails, intended to cause large scale damage and loss of life. A 200m cordon was erected around the site and Park Lane was closed at Marble Arch to Hyde Park Corner. Haymarket was closed between Pall Mall and Piccadilly Circus.

What this meant for HCL, the UK's leading specialist health and social care agency, whose head office was located within the cordon, was that employees were unable to get to work.

HCL had already implemented GemaTech's BCM^{LITE} solution following a serious power failure, which left the office without telephones for 2 days. In response to the bomb threat, HCL accelerated its business continuity programme to incorporate additional BCM^{LITE} units in all exchanges.

HCL have now protected their telecoms and benefit from:

- Instantaneous and seamless recovery of incoming calls
- 100% recovery of all DDI calls
- Tailored announcements via phone, SMS and email
- Partial activation enabling full control of which numbers get re-routed

Contact information

For more information, please call
0800 328 8354
Or visit: www.gematech.com/eps

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