Next Generation Networks

Responding to Recent Developments to Protect Consumers,
Promote Effective Competition and Secure Efficient Investment

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Response to Ofcom Consultation

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'How do you think Ofcom should take forward considerations relating to switching involving next generation access and core networks, and which areas should we focus on?'

Key Considerations of a Switching Process involving Next Generation Access and Core Networks

Inter-Operation

1. Introduction

Gemserv specialises in the development and management of efficient and effective industry-wide governance agreements. We are the leading specialist UK consultancy in the field of consensus building between competitors and have expertise in a wide range of industry issues – particularly with regard to supporting and developing the frameworks that enable successful migrations. Our focus is always that all industry participants should have equal opportunity in a competitive market. This is achieved through ensuring the clarity of participant obligations by constructing supportive pro-competition governance arrangements, with a focus on consumer protection at the heart of those arrangements.

Having developed and managed the processes for the opening up of the Energy markets post liberalisation and for the first competitive Water market in the world in Scotland, our experience in setting up and managing migrations frameworks is unparalleled.

We are focusing our response to this consultation on the area in which we have the most expertise: the question relating to switching. Gemserv has extensive experience of developing and evolving processes to make competitive markets work more efficiently better, both for consumers and service providers. In recent years we have responded to consultations pertaining to Ofcom's migrations project and consumer protection initiatives. We have advocated switching harmonisation and presented potential models as to what harmonisation might look like to Ofcom. We have also been actively involved in industry Telecoms meetings, and recently met a number of stakeholders in relation to their perspectives on introducing an optimal switching model and improving consumer protection in Telecoms. Gemserv only works at the market level, for Government bodies, Regulators, or other market-wide entities to ensure impartiality when setting up market governance arrangements, and we ensure processes benefit both small and large providers.   The premise of this paper is based on a need that harmonisation of switching should occur. We first present the case for why we believe change is necessary before offering some practical features Ofcom might consider in moving the migration project forward.

2. The Co-existence of Next Generation and Core Networks and the necessity for change

There are exciting yet challenging times ahead with regards to Next Generation Networks (NGN). The adoption of NGN is positive in that new and improved services will be offered to customers in a more efficient way. With the transition to Internet Protocol (IP) based interconnections, switching will be faster and more responsive to customer needs. However, the future of NGN is unclear at present and the likelihood of gradual adoption alongside existing infrastructure may have a disruptive impact and lead to a greater number of services being offered by different means. The future of copper lines is uncertain in the advent of all-fibre architecture, and investment in a common transport layer has been de-prioritised in light of super-

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fast broadband. The future, at least in the foreseeable years ahead, is likely to consist of an amalgam of gradual adoption of NGN alongside existing networks. With this being the case, the need for a single switching platform, able to cope with the differing demands of a multi-platform migrations infrastructure, is more vital than ever. The existing migrations processes, different for fixed and broadband services, were drawn up to meet requirements that, following advances in technology and competition, are becoming redundant. The inadequacy of existing processes in enabling efficient and customer-centric migrations threatens the effectiveness of competition and equality of opportunity to providers in the market.

Removing unnecessary barriers to switching is vital to enabling a successful competitive market and we wholeheartedly support the operation of both small and large participants offering a broad range of products to customers. We note Ofcom's objective to ensure that there are no barriers to switching, and that customer migration processes are efficient and of high quality. We also note Ofcom's aim to promote switching and competition, whilst protecting customers, as a principle duty in the Communications Act (Section 3) 2003.

Ofcom states four objectives for switching (3.161 in this consultation):

- a good customer experience of switching;
- protection against inappropriate sales and marketing activities;
- well-informed consumers able to discipline CPs by making considered choices, based on timely, objective and reliable information; and
- that competition is supported in retail and wholesale markets to the benefit of consumers, particularly by minimising obstacles to switching.

At present, there are too many factors that mean that the above objectives are not happening. The governance frameworks for switching are not sufficient, processes are flawed or not understood, and no harmonisation of switching for different products leads to a disproportionally high number of complaints compared to other sectors. There are now hundreds of Communications Providers selling fixed line telephone services and insufficient governance to ensure that they understand or are complying with their responsibilities. For fixed line provision, the new General Conditions that are likely to be implemented make some positive step changes, both in strengthening the existing rules to protect consumers from fixed line mis-selling and abuse of 'Cancel Other'. However, this still does not improve the flawed switching process or resolve the issue of too many providers not understanding the processes they are required to work within. Moreover, judging by relatively high complaint numbers (both in comparison to mobile and broadband and other utilities), too many consumers are not experiencing the benefits of good competition where ease of switching, clarity about how to switch and smooth transition to a preferred product is occurring. Consumers should be able to identify the best products for them and be encouraged to switch to the best deal, they should drive the market to deliver what they want. At present, as Ofcom asserts in this consultation, consumers are not switching, even in the case they may get a better deal.

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In terms of migrations, there has been much industry discussion over the past few years, but little action to introduce an optimum switching model. NGN, although not resulting in the fundamental changes expected a few years ago, only heightens the need to re-build switching processes now. In fact, new developments that will increase the mix of products on different platforms increases complexity and uncertainty. A robust switching framework can adapt to future changes, rather than be a cost borne for only the short term. Strong infrastructure and governance enables flexibility and evolution to occur. We advocate and have experience in delivering cost-effective migrations processes with few and simple flows and no need for radical infrastructure change for Communication Providers. We would be happy to discuss in more detail with Ofcom our ideas for what the flows may look like for the Communications market and how costs can be calculated against customer numbers, number of products and number of switches.

3. *Question 6: How do you think Ofcom should take forward considerations relating to switching involving next generation access and core networks, and which areas should we focus on?*

The future of NGN is likely to be a gradual adoption of new technology alongside existing infrastructure. This will inevitably lead to further complexity in migrating products from one provider to another. An amalgamated infrastructure of copper and fibre lines, Time Division Multiplexing and Internet Protocol interconnection will require a migrations process that is able to recognise and respond to the complexities and manage customer migrations consistently.

We believe Ofcom should act now in taking forward practical considerations relating to harmonisation of switching involving next generation access and core networks. We do not propose absolute solutions in this response because it is important that this is driven by what the industry and Ofcom believe is practical and workable, but would like to offer practical, cost-effective considerations and options drawn from our experience across other sectors. Gemserv seeks to develop flexible solutions for specific markets that recognise enduring principles and approaches that are transferable.

Key Considerations of a Switching Process involving Next Generation Access and Core Networks

Inter-operation
In our experience, where retail competition is overlaid on fixed network connections, the most effective means of enabling inter-operation is through a market-centric customer transfer process. This process should be accessible to all relevant participants and should have the objective of easing inter-operation to make customer transfers smooth. Ease of switching between suppliers is paramount. The orderly and ongoing development of the market is served by certainty in the outcome of a customer transfer or migration from one provider to another. The processes underpinning transfers and migrations should be transparent and common to the market. Inter-operation reduces switching barriers and supports an end-to-end migration.

The costs of implementing the switching process has seemingly been contentious, with a perception by some that costs will outweigh benefits. However, the costs are integrated within the market at present, but these are hidden within business costs in developing business processes and managing disputes and exceptions. The cost of mis-selling in fixed line telecoms alone was estimated by Ofcom in the Protecting Consumers from Fixed-line Mis-selling Consultation (March 2009) to be £10-37 million per year. Open and standard inter-operation can reduce direct administrative and legal costs without placing significant infrastructural burden on communications providers.

For the competitive market to function effectively, a clear, simple and standardised transfer process is essential in order to ensure that customers can easily change retailer/reseller in a timely and effective manner, allowing them to take advantage of the benefits of competition and simply transfer the ever growing bundled products. Such a process also ensures that essential customer information is exchanged between retailers/resellers and the network provider. In addition, new and competitive suppliers have more confidence if the incumbent does not administer the process.

Retail, which includes reselling, is the most direct customer-facing activity, and customers should not be required or expected to understand or be implicated in the upstream connection and conveyance of products, be they broadband or future technologies.

Telecoms is a fast-evolving technological market. The scale and rate of innovation needs to be matched by customer uptake, which depends on a customer-driven market. Switching should be triggered by customer needs rather than an extension or replication of legacy arrangements. New providers and retailers/resellers should be able to operate on a level playing-field and legacy Significant Market Players should not acquire advantage through control of the infrastructure as a right. Equality of access should be embedded at a market level. The growth of Wholesale Line Rental (WLR) (where now the number of non-BT WLR lines is approaching 6 million) is positive and should continue by WLR3 being a recognised as a key facilitator for competition. Indeed, looking at Fixed Line services specifically, the suspension of BT's plans to introduce next generation voice products means the continued growth of WLR is important to competition in the market. The migrations process supporting this needs to develop.

Features of a Switching Process

A switching process should allow for monitoring and reporting by Ofcom, which can use such statistics to assess whether mis-selling is prevalent in either the market or by particular participants. In order to ensure the success of switching/migrations, there are a number of key principles which should underpin the agreed process.

- It needs to be simple, seamless and indiscernible to the customer;

- It needs to be appropriate for the level of competition and represent best value for all stakeholders;

- It should be scalable, adaptable and expandable to accommodate the introduction and switching of new products, services or technologies e.g NGN;

- Confirmation of a switch should be communicated in writing to a customer in line with consumer/sales regulations;

- A unique key ("Single Code") associated to the physical premises/exchange should be used in the market, which endures regardless of the existence of particular services/products;

- The process should not frustrate or delay the customer's choice to switch and all participants should have a general duty of co-operation;

- There means by which the losing provider may block a switch should be clearly defined and consistent across the market.

- Customers should be notified of the reason a switch has been cancelled, and any resolutions required to prevent this in any future switch, and

- Customers should be able to change more than once just as easily.

In support of the switching process, there should be a standard definition of the data that must be used when communicating switching information. Using standard terms minimises the risks of switching difficulties arising from poor quality or missing data.

To make the process work effectively, market participants must be able to easily identify the relevant information that needs to be maintained in order to support the process. There must be clear lines of responsibility for the ownership and maintenance of the information. This could include:

- A Data Dictionary could be developed which defines the core data set to support the process and include Market Standing Data, Data Flow definitions and fields.

- Market Standing Data is the set of data required to ensure interoperability and includes the identification of market participants (retailers/resellers, wholesalers) and products. A data flow is a logical flow of information between market participants and is defined in terms of its constituent data fields which are the individual items of data that are transferred as part of the switching process.

There needs to be a structure in place to allow all parties to have input to the running of, and changes to, the switching process as a result of changes in the market. Processes and data structures will inevitably change over time and it is essential that the management of change be controlled to allow all participants in the market the chance to input into proposed changes.

Governance

A governance framework enables a degree of self-regulation to allow all stakeholders to play an appropriate part in shaping the pace and direction of change. The change management process should set out details of the process for initiating change and the timing and implementation of such changes which should be dealt with quickly, with management costs kept to a minimum. Any

decisions taken should be transparent, with no exclusion of relevant information or views and contributions should be allowed from all interested parties.

Consideration could be given as to whether it would be appropriate to extend the remit of one the existing trade associations / Industry fora to accommodate the governance and change management functions. Consideration should also be given on how to extend the participants in Industry fora to represent a wider portion of the market.

The governance framework should also be established in accordance with the UK Government's Better Regulation initiatives and the associated principles of good governance, namely;

1. Effectiveness
2. Efficiency
3. Transparency
4. Participation
5. Accountability
6. 6. Consistency

We would also make the following observations in support of a further 3 principles:

Direction – the governance framework should have relevant and consistent objectives by which to set the scope and purpose, so that all stakeholders understand their duties and rights. It should be clear why they were introduced and how the appropriateness and priority of any proposed revision would be judged. The introduction of relevant objectives into the licences/authorisations should satisfy this general requirement.

Impartiality – the governance framework and decision-making should be operated for the benefit of all legitimate constituencies and without undue influence from any one of them. In addition, the principles of transparency and accountability should make it clear to all that this is the case. Fair and non-discriminatory operation of the framework regime is a tangible symbol of a level playing field.

Evolution – the framework should explicitly set rules governing change control and define the processes for implementing desirable changes. This will future-proof the framework so that it can evolve aligned with market/regulatory developments.

Outline Switching Model

A central switching system could be provided/procured on an independent and collective basis by the market participants and would maintain a register of all customers ("Single Codes"), the products they were receiving and from whom. Data flows will be sent to and from the central switching agent and the other market participants. This provides clearly defined responsibilities, is considered to be easier to audit and allows for appropriate monitoring and interrogation on the number and status of customer switches. A central switching model would recognise whether a customer would be able to receive the product/products offered to them.

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In terms of data shared between providers through a central switching agent, this should be minimal and contain Market Information and Technical information. Customers should have an individual ID number to identify whether they are able to take up the product sold to them against an individual product ID number (this number would identify the platform the product is on e.g. copper/fixed line and be recognisable by the central switching agent). Other key information would be accurate Reseller IDs (RIDs), the industry might consider to keep RIDs confidential between Gaining and Losing providers but visible by the central switching agent. The sending of flows would validate whether customers can receive the product sold, whether the customer is already in a contract (this would not have to be a reason code preventing a switch but a flag generating a process that ensures a customer is aware of existing liabilities) and whether all the information to enable the network provider to make the switch can take place. Management information would allow transparency and dispute processes would ensure, in the reduced cases of customer dissatisfaction, a fair a clear resolution to issues in pre-defined parameters.

Gemserv advocates a migrations infrastructure where the gaining provider initiates the switch. We are flexible and appreciate that the industry may wish initiation to be from the losing provider and we would be able to provide solutions on that basis. We believe the information the gaining provider must send to validate must have clearly come from consent of that customer. We recommend the concept of a customer pin given by the Losing Provider confirming the customer can switch (reason codes may flag issues such as long-term contracts or large debts). We do not propose this blocks the switch but may be a prompt for the, dependent on the issue, a gaining or losing supplier to talk to the customer. Governance around this process would have to be strong to ensure the losing provider acts appropriately, thus an audit framework would need to be built into the Governance framework.

The diagram below illustrates in simple terms the process that could be followed where a customer switches to an alternative provider offering a new product/products. The process is characterised by the following steps:

- The retailer/reseller would send an instruction to the central switching agent informing them of the unique identifier and details of the product/products to be provided (Product ID, service commencement date etc).

- On receipt of the instruction the central switching agent will validate the application against the information held on the central system and will either:

  a. If there are any errors with the data in accordance with the rejection rules, send the retailer/reseller a rejection flow and the original application should be resent with the corrected details; or

  b. If no errors are found, send a Data Flow with a code indicating that the requested switch has been accepted at stage 1.

- The central switching agent would then send duplicate Data Flows to the existing retailer/reseller

- The existing (losing) provider would send a pin to verify there are no reasons not to switch. There may be reasons that flag issues. In this case a reason code rather than a pin is sent and a process would need to be agreed to re-contact a customer to clarify issues.
- Once the pin is sent by the existing retailer/reseller, the central switching agent will send the fully validated information to the network provider to switch the product.

By having defined data for validation, product switches would be have been confirmed as able to take place on the platform from which they are coming or where they are going to. Whether SMPF, XMPF or MPF, the interconnection data required would be validated or rejected to enable clarity that a migration will happen and what information is missing if it cannot happen.

We believe this process would work in a coexisting world where a complex range of wholesale products exists and does not favour or harm any size of provider.

Figure 1 – Gemserv Overview of Switching Process
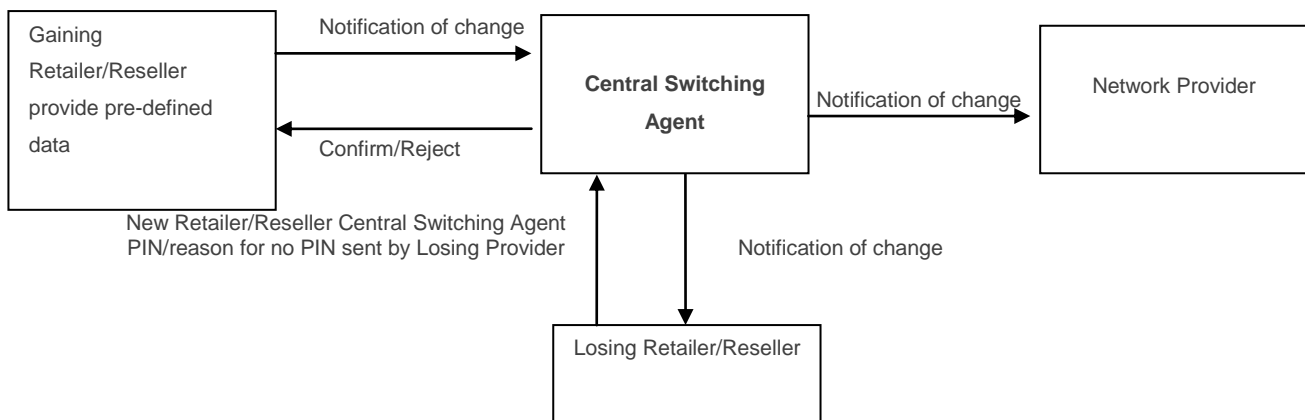
This model allows flexibility to manage Local Loop Unbundling (LLU) and WLR migrations as well as Broadband and bundled offerings. As long as the product code is verified by the Central Switching Agent to determine whether the customer can take the product, the migration will be successful. The issue of a PIN by the losing provider allows for the validation or (temporary) rejection of the customer's switching.

An intelligent Central Switching model will be, to a large degree, automated and built to cater for the complexities of the market. If new products or providers come onto the market, the central switching agent would have to be updated. Gemserv has implemented similar systems in Water and Electricity. Costs would be dependent on two key factors;

1. Number of Transactions

2. Number of customers/products

The Governance pertaining to the process is as crucial as the model itself and would have the following features. It would:

- allow for industry management of the RID database;
- provide independent industry statistics;
- allow an "erroneous transfer process" (i.e. fast transfer back to their previous supplier for a customer who did not want to switch); and
- allow Ofcom to have less day-to-day involvement in mis-selling issues.

Flows

We envisage that there would need to be fewer than ten flows, and we highlight six key flows below.

1. New Provider sends information to Central Switching Agents to validate;
2. Central Switching Agent confirms validation or non validation with the New Provider;
3. Central Switching Agent asks Losing Supplier for a PIN to confirm no significant issues should prevent switch;
4. Losing Supplier sends PIN or No PIN to the Central Switching Agent;
5. Central Switching Agent sends PIN to New Supplier or confirms no PIN and reason code;
6. Central Switching Agent sends loss notice to Losing Supplier, gain notice to New Supplier and Change of Service notice, date and IDs to Network Provider.

Additional flows would have to be created for non-receipt of flows and to resolve reason codes for losing supplier issues etc.

High Volume Interface and Low Volume Interface

We recognise the importance of maintaining a competitive market open to large and small suppliers. Barriers should not be created for any party. A provider can therefore decide whether they invest in a high volume interface where machine talks to machine and flows are highly automated, or invest in a Low Volume Interface which relies on manual data input.

We would welcome the opportunity to provide an overview or further detail of the national energy or Scottish water customer transfer processes and our alternative proposal as set out above, to highlight the benefits that ease of access to information can provide.

We believe the concepts highlighted in this paper aligns with Ofcom's objective for co- and self-regulation as it encourages a co-regulatory arrangement. Moreover, a uniform single switching process should cover non-BT infrastructure so that customers making the switch described above can also benefit from the ability to switch again on the same basis as customers on BT infrastructure. This could be achieved by placing a

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requirement on owners of unbundled local loops to provide access to service providers in a similar manner to the BT WLR product and to allow the customer to switch back to BT controlled local loop infrastructure in a seamless and economic manner. We believe it is a necessary consideration if a stable population of switchable customers is to be maintained, and that it should be a key principle in the development of switching processes across market.

Representation

Governance through representation is seen as a cost effective and efficient means of operating a switching agreement in the presence of a large number of industry stakeholders and views. Decisions based on a majority of parties' needs and views are likely to reflect efficient, timely and cost effective solutions and will embody the principles of self-regulation. Some of the benefits of choosing a representative-style governance arrangement are as follows:

- all parties will have a voice through their designated representative;
- the cost of participation for individual stakeholders is minimised;
- parties will be encouraged to participate in consultation, working groups and sub-committees etc. to ensure that their views are aired;
- stakeholder groups will also be able to undertake their own discrete dialogue in order to reach agreement amongst themselves on their vote;
- parties will be free to invest as much or as little time as they feel appropriate, depending on how the subject, in question, affects them;
- if members are elected, all parties will feel they have had a say in who represents them;
- Central Switching Agent sends loss notice to Losing Supplier, gain notice to New Supplier and Change of Service notice, date and IDs to Network Provider.
- agreed solutions are likely to deliver solutions for the market as a whole;
- less complexity in managing standardised documentation will provide greater clarity in
    - each party's obligations under such an agreement; and
    - a better focus on where/how change/issue resolution should be dealt with; and
- collective rather than diversified management of the agreement.

Change Management

Regarding the principle of evolution, effective change management should set out the process for initiating change and the timing and implementation of such changes. Any decisions taken should be transparent, with no exclusion of relevant information or views, and contributions should be permitted from all interested parties. An appeals process also allows for disputes of foundational agreement issues that may need to be addressed.

The change management process should consider the following:

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1. Pre-assessment – an optional step that allows opinions from all industry participants to be considered. This is a useful step where several options are being considered or where a change is complex or contentious.

2. Impact Assessment Process – when a formal change proposal is raised it should be circulated to all Parties and registered "Interested Industry Participants".

3. Group Consideration – Group members discuss responses to the impact assessment and vote to accept or reject the change proposal.

4. Appeals – If a party wishes to appeal against the Group's approval or rejection of a change proposal, they may appeal the decision to the higher Forum. This decision may in turn be appealed to Ofcom. Changes to certain fundamental clauses of the agreement (called "priority provisions") would require approval from Ofcom as well.

Data Transfer

In support of the switching process, there should be a standard definition of the data that must be used when communicating switching information. Using standard terms minimises the risks of switching difficulties arising from poor quality or missing data.

To make the process work effectively, market participants must be able to easily identify the relevant information that needs to be maintained in order to support the process. There must be clear lines of responsibility for the ownership and maintenance of the information. This could include:

- A Data Dictionary, which defines the core data set to support the process and include Market Standing Data, Data Flow definitions and fields. A data flow is a logical flow of information between market participants and is defined in terms of its constituent data fields, which are the individual items of data that are transferred as part of the switching process.

- Market Standing Data is the set of data required to ensure interoperability and includes the identification of market participants (retailers/resellers, wholesalers) and products.

- A centrally administered master record of data against which the data, used in customer switching, can be checked to ensure that accurate data is transferred. In electricity, each distribution business maintains a meter point administration service (MPAS) for this purpose.

To support the transfer process, the exchange of data needs to occur in accordance with agreed communication media and timescales. A Data Transfer Catalogue (DTC) could operate containing data flows to ensure the availability, integrity and consistency of all items of data needed for providers to transfer a customer. This makes it possible to minimise errors and avoid delays to customer transfer.