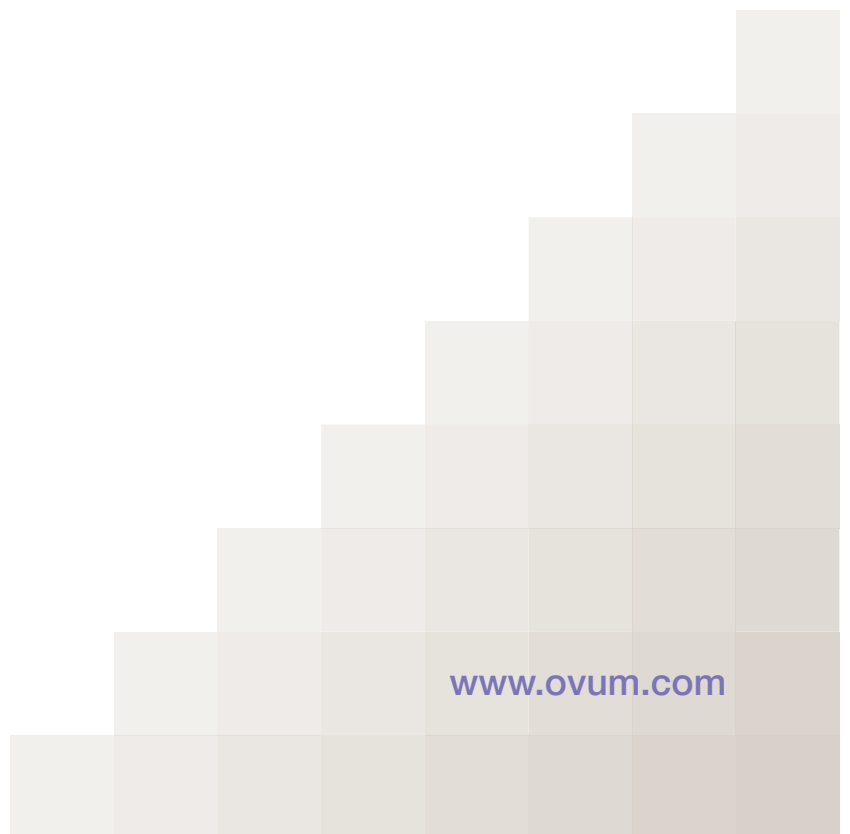




# Evolving Systems: a radical approach to mobile provisioning

17 March 2010

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# Evolving Systems: a radical approach to mobile provisioning

## Executive summary

### In a nutshell

***Evolving Systems has evolved from a conventional operational support system (OSS) company into a champion for dynamic SIM allocation, a new approach to mobile provisioning which could have quite radical implications for MNOs' business practices and cost base. Presently MNO costs include inflated costs for warehousing SIM cards and pre-allocating numbers (MSISDNs), potentially long before they are needed and used.***

***The company's most important challenge is that it needs to capitalize on its first-mover advantage as the market emerges, creating awareness of the solution category at the same time as it positions itself as the most credible supplier.***

### Ovum view

Evolving Systems is a small to medium-sized OSS company focused mainly but not exclusively on mobile network operators (MNOs). Despite its relatively small size it has a significant 'hero' product based on an innovative approach to the activation and provisioning of new customers. There is the potential to turn this already commercialized product into a suite of complementary solutions which could use the same underlying technology to address separate commercial requirements for operators.

We believe that Evolving Systems' approach is a good one. It addresses very real issues for the mobile industry. In particular, it offers the possibility of industrializing what has hitherto been a rather wasteful and flabby set of processes, which have thus far survived in the mobile industry because of business growth and because the value inherent in each customer provided a cushion. The explosion of growth in emerging markets, where customers are of inherently lower monetary value, means that traditional methods of activation and provisioning are really past their sell-by date. The long-expected advent of devices without user interfaces – particularly machine-to-machine (M2M) industrial and consumer devices – will also require a change to provisioning models.

The approach also makes sense from an implementation perspective. Although it adds a new network element, it does not require any big changes to the network; the new element (the dynamic SIM allocation platform) behaves much like an old one, and touches network activities only once per customer.



Evolving Systems' strategic challenge arises from its position as the principal advocate for the new approach. On the one hand, it has first-mover advantage; for the moment, it owns the concept and the implementation of dynamic SIM allocation. On the other hand, it has to educate customers about the value of this kind of solution, as well as position itself as the most credible supplier. Effort towards the first of these tasks is at the same time absolutely crucial and inherently under rewarded.

## SWOT analysis

### Strengths

- Strong financials, with solid revenue growth, no debt, and an increasing proportion of income drawn from the more attractive license sales rather than labor-intensive professional services.
- A track record of providing industry-strength solutions to mobile and fixed operators, and solid commercial implementations of its dynamic SIM allocation solution with major mobile operators.
- First-mover advantage – Evolving Systems is the first to really focus on a platform to facilitate and 'industrialize' the process for provisioning new customers.

### Weaknesses

- The business benefits for the Evolving Systems solution sit uncomfortably across different functions – primarily operations and marketing – within network operators. Although either could establish a case for deployment, this is at its strongest with the buy-in of two disparate functions, making for a complex sale process.
- Evolving Systems' first-to-market position means that it has to define the space in which it is playing; the absence of well-defined offerings from competitors means that the company has to work harder to turn operators' awareness of problems with the provisioning process into a commercial opportunity.

### Opportunities

- In several markets, action by regulators is driving operators towards more efficient provisioning methodologies. Key trends are the requirement to register prepaid users' personal details and the introduction of charging for MSISDN (telephone number) ranges.
- The shift in subscription growth towards high-churn, low-ARPU markets will make it more imperative for operators to industrialize the provisioning of new customers.



- In developed markets, operators' diminishing grip on the world of applications and content may lead to an emphasis on enhancing the retail experience, which Evolving Systems is well placed to support.

### Threats

- Dynamic SIM allocation is potentially a very big market, and Evolving Systems cannot own it for ever. The interest shown by some bigger players such as HP, and by comparably-sized solutions providers such as SmartTrust, suggest that Evolving Systems' window of opportunity will close within a few years.
- Network equipment vendors may respond to pressure on their own license revenues by renegotiating their charging principles, thus reducing the attractiveness to operators of dynamic SIM allocation as a cost-saving strategy.

## External conditions

### Competitive environment

In the provisioning systems market, Evolving competes with traditional OSS companies such as Amdocs, Comptel, and Oracle. Its newer product lines bring it up against a new set of competitors. In the number management space it competes against Neustar, Syniverse, and Telcordia. In the area of dynamic SIM allocation, the primary contenders are HP, SIM solutions vendor SmartTrust (recently acquired by SIM card vendor G&D), and mobile value-added services (VASs) platform vendor Pyro Group.

Network equipment vendors do not provide the same kind of solution as Evolving Systems, but could offer a competing commercial proposition around the sale of databases such as home location registers (HLRs) and authentication centers (AUCs) that would reduce the demand for a more efficient provisioning methodology.

Point of sale provisioning systems offer another alternative approach to addressing the problem which the company's product solves; but it is much less appropriate to emerging markets, where SIM cards are frequently sold through informal channels and outlets with minimal facilities – often out of a briefcase or from the back of a bicycle.

### Regulatory environment

Regulatory conditions are favorable to Evolving Systems' proposition. In several emerging markets, and less commonly in developed markets, regulators are requiring that operators move away from anonymous registration of prepaid users. This is driven largely by an anti-terrorism/security agenda (mobile devices are frequently used in the construction of booby traps) and is only likely to increase. Moreover, the rapid growth of mobile in some emerging markets is driving some



regulators to either restrict the supply of telephone numbers to operators, or to levy a charge for each number. This in turn is making operators more aware of their processes for allocating (and withdrawing) numbers.

### **Customer demand**

Evolving Systems' customers are telecoms network operators. In the case of its flagship new product, dynamic SIM allocation, the addressable market extends as far as all the networks that utilize a SIM component – from GSM through UMTS to LTE. Operators of the networks find themselves at a historic point in the evolution of their own market. The wealthiest developed markets are more or less saturated, at least in terms of personal subscriptions. Revenue per connection is either declining or stabilized.

In earlier years the industry took certain measures to grow the market – the introduction of prepaid as a way to address much broader customer segments than had hitherto been the case, and the creation of a customer-centric provisioning process aimed at fast activation. But these have created a problematic legacy. Prepaid means that operators know little about their customers and find it hard to develop the relationship or add new sources of revenue. The use of pre-provisioned SIM cards made it possible for customers to walk into a store and walk out with their phone working, but it has also made for a cumbersome, expensive, and wasteful process. This is reaching the end of its useful life, and is hard to extend to some of the potential growth segments – low-ARPU customers in emerging markets, and embedded mobile devices.

## **Strategy**

### **Strategic objectives**

The company plans to expand the use of the dynamic SIM allocation product. Although its successes to date have primarily been in emerging markets, it believes the product will also be appropriate for operators in the more developed markets of Europe and North America. Indeed, there is already one commercial customer in a developed European market.

### **Strategy implementation**

Evolving Systems' go-to-market strategy is through partnership with SIM vendors – currently Gemalto and Oberthur. There is a certain irony in this, in that one of the potential benefits of adopting the company's solution is a reduction in the wastage of SIM purchases. However, most SIM vendors are desperate to escape from being positioned as commodity suppliers of cards, and to deepen their relationship with operators through providing more complex and customer-facing solutions. The fit with Evolving Systems is therefore a good one.



Moreover, one of the benefits of Evolving Systems' dynamic SIM allocation solution is that it allows operators to massively increase the supply of SIM cards, whether due to marketing demands to "flood the market" or new distribution arrangements like embedded devices, without incurring the inventory costs of network databases and potentially MSISDNs. Here the alignment between the interests of the solution vendor, the SIM card supplier, and the operator is even clearer.

### **Customer segmentation**

Evolving Systems is aware that customer motivations for its solution are varied. Thus far, most of the operators to which it has sold the solution have been driven by cost-reduction considerations. To date, only one has been primarily motivated by the ability of the platform to create new customer-facing propositions, in particular the opportunity to valorize the value of golden numbers or numbers with a special meaning to a particular customer; however, the company believes that existing and future customers will increasingly look at using the platform for revenue generation.

## Products and services

### **Product strategy**

Evolving Systems sells three products to its non-US customer base (a number portability solution offered in the US only has been widely adopted by some of the largest fixed and mobile carriers):

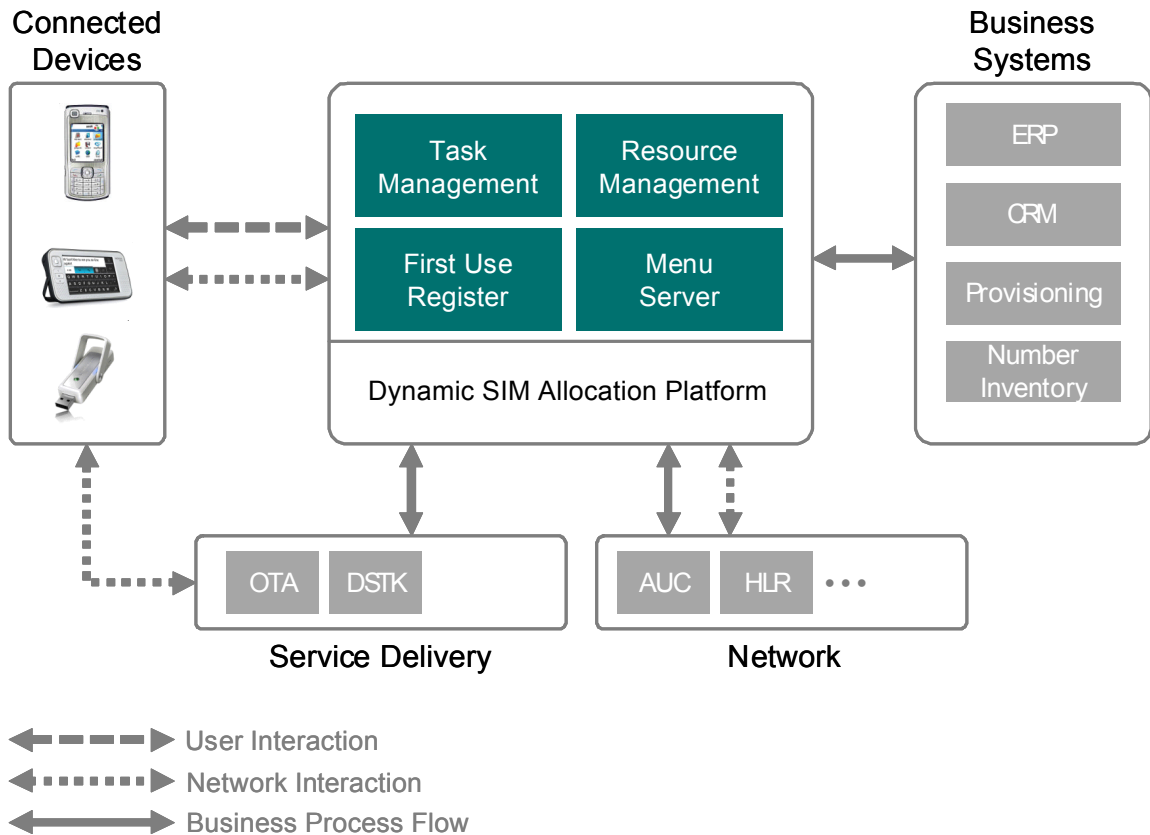
- a conventional provisioning system
- a number management system
- the dynamic SIM allocation (DSA) system.

Of these, the latter is increasingly important and the main focus of the company's expectations for revenue and profit growth.

The DSA platform is a new network element. In essence it consists of a server running a number of databases, of which the most important is a 'First Use Register' – analogous to an HLR. The hardware interfaces with several other network components, and therefore includes standard signaling cards. The platform is illustrated in *Figure 1*.



Figure 1 **The dynamic SIM allocation platform**



Source: *Evolving Systems*

The First Use Register behaves like an HLR, but on a once-only basis for a defined set of SIM cards based on a preset IMSI range. When these SIMs first appear on the network their first interaction is with the DSA platform. This enables the end-user to provide the necessary information for provisioning, and to be activated, and to be allocated a telephone number (MSISDN). As part of this, it may be possible for the user to choose a number from an available range, and for them to be charged a fee for this.

The provisioning process interacts with the network via a variety of possible mechanisms, including USSD or a SIM Toolkit (STK) application, which allow it to be supported on even the simplest and oldest devices, or via the Web. This process may be entirely hidden from the customer, with no user-driven interaction required.

Potential extensions of the product might take it beyond a first-use context – to allow existing customers to choose a new number, for example.

Using the DSA platform allows the operator to:



- Reduce costs, by saving on “wasted entries” in the HLR and other databases, and on an unnecessary inventory of SIM cards – the latter can be a particular issue if cards are pre-provisioned to a particular product type or region.
- Increase revenues by facilitating the sale of special numbers, and perhaps other VASs, at the point of activation.

### **Pricing strategy**

For a solution sale, Evolving Systems’ charges are based on three elements: a core license fee, a support and maintenance element, and a capacity component.

## Company information

### **Business focus**

Founded in 1985, Evolving Systems is a supplier of OSS to mobile and fixed networks. Around half of its revenues come from the sale of provisioning systems, where it competes with other OSS suppliers such as Comptel and Amdocs. Evolving’s focus is quite specific; it does not provide every element of the provisioning system but concentrates on activation engines.

The company’s move into dynamic SIM allocation is shifting its focus and taking it into a new category of activity, for which no convenient label exists. Some 56% of orders in the current YTD are for new products, and 74% of orders are from emerging markets.

### **Company size**

Headquartered in Denver in the US, Evolving Systems has around 270 staff, spread across offices in the US, UK, Germany, India, and Malaysia. The company is publicly owned and listed on the NASDAQ Capital Market.

### **Acquisitions**

Evolving Systems acquired UK-based Tertio in November 2004 for around \$40 million, thereby obtaining an international customer base with a strong orientation towards emerging markets. Until then it had to focus on the supply of provisioning systems to US carriers.

### **Financial highlights**

The company’s financial results are comforting, with most of the key indices pointing upwards.

Net income increased 65% in 2009 to \$4.8 million from \$2.9 million last year. Earnings per share were \$0.49 per basic and \$0.48 per diluted share, up from \$0.30 per basic and diluted share in 2008. EBITDA in 2009 was up 28% to \$8.9



million, from \$7.0 million in 2008. It was Evolving Systems' most profitable year as a global company.

Revenues increased to \$38.2 million in 2009, up 1% from \$37.8 million a year ago. Adjusted for the change in foreign currency exchange rates, full-year revenues increased 6% to \$40.2 million. License fees and services revenues increased 6% to \$21.6 million from \$20.3 million, and more than offset a decline in customer support revenues to \$16.6 million from \$17.5 million a year ago. Revenue mix by product family included \$23.3 million in Activation, \$12.8 million in Numbering Solutions, and \$2.1 million in Mediation.

Total costs of revenue and operating expenses declined by 7% for 2009 to \$31.5 million from \$33.9 million in 2008, primarily due to the effects of foreign currency exchange transactions. Adjusted for currency changes, total expenses were up approximately 2%.

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