

# Extensibility of Enterprise Products to Mobile Platform

## Executive Summary

Mobile devices have ubiquitous presence today and with the incessant advances that mobile technology is making, it is becoming more and more compelling to extend enterprise products all the way to the mobile devices of end customers. It has become imperative to extend product features like dashboards, reports, alerts and task lists on mobile devices, thereby enabling end-users to take decisions and act on them in real time - no matter where they are. This empowers customers to maximize the efficiency and significantly reduce turnaround time in day to day activities of their workforce.

Careful study and review is required to ensure an outright success of product mobile extension. This requires identification of components that are best suited for extensibility to mobile platforms, as well as the choice of Mobile Platforms to support from the variety of those present in the market. This document presents the Approach for Mobile Extensibility of Enterprise Products. It is based on the vast experience of Newgen's Software Engineering Services group in extending enterprise products and solutions across industries to popular mobile platforms like BlackBerry, iPhone, Symbian, Windows Mobile, Android and J2ME.

## Mobile Extensibility Approach

Extending an enterprise product to mobile platforms starts with the study and exploration of the product in its entirety. Facets best suited for extension to mobile platforms are then isolated. A feature and platform support matrix is subsequently developed that captures the development roadmap; this comes especially handy for incremental development wherein, each stage of development covers a section of feature and platform support independently and in its entirety.

The following section describes the *primary factors that help identify the areas* within a pre-existing product for extension to mobile platforms.

**Product End Users** The group of end users of the enterprise product must be identified whose role is such that they would benefit from access to the product features from their mobile devices. Subsequently, the modules/areas of the product catering to these users should be studied and reviewed to plan extending these to mobile devices, either in their entirety, or only the areas of relevance to mobile use. Extension of the system to mobile platform can then either be implemented at one-go or be achieved in phased manner in terms of target-end users. The following are some of the typical user roles that are suited for the same:

- **Executive Users:** Users who require access to select information, like summary dashboards and reports, from the convenience of their mobile device, whether they have immediate access to a workstation or not.
- **Users on the Go:** Field, sales and marketing workforce who might need access to the system but are often travelling.
- **Users with Approval Privileges:** Users who have approval privileges at various work-steps in the system to enable them take actions, no matter where they are located.
- **Un-catered Users:** Mobile access to an Enterprise Product would enable extending the products to users who did not previously have access primarily due to lack of full-time access to a workstation.
- **Casual/Public Users:** Certain sections of the Enterprise Products might be beneficial from the point of providing partial access to Casual/Public users who are otherwise not a part of the end users for the product.

**Mobile Platform** Once the target end-users have been identified, the next important consideration is identifying one or more mobile platforms to target. Here, mobile platforms might be relevant based on the typical roles of the target end-user base as well as the type and requirements of the product. Consider the following scenarios:

- **Customer Base:** If the product has an existing customer base that use particular mobile platforms, then those platforms might be targeted first. On the other hand, target audiences might also drive the mobile platform support.
- **Product Type:** Product type forms another important basis for selection of mobile platforms. E.g. a product that utilizes access to the enterprise network might be best extended on BlackBerry platform, while a product that is extensive on form based UI might be best extended on Windows Mobile platform. Similarly, a product that provides a rich UI experience might be best extended on an iPhone platform.
- **Market Preference:** BlackBerry based devices are popular in North America, as are Symbian based devices in Asia and Europe. If the product does not cater to an exclusive niche of customers, it becomes important to base the support matrix for mobile extensibility on the current and projected market preference of the mobile platforms in the region.
- **Portability:** Java J2ME based applications are probably the best choice for generic applications that require maximum device base support and are not too performance sensitive. Similarly mobile browser based web-applications might be suited for products that need to provide basic access to their product on mobile devices.

### Extension of the Product Core

Apart from deciding the components of the product and the mobile platforms they should be first extended to, another important consideration is integration of the mobile part of the enterprise product with the server or the back-end of the existing product.

There are important considerations to be deliberated here which include apart from the more product specific considerations, the following:

- **Mobile Application Server:** Depending on the types of interfaces that are supported by the server side of the enterprise product, a new server component might be required to optimize the content and provide an interface for the interaction of mobile platforms with the server.
- **Level of Integration:** The mobile part of the product might be loosely or tightly coupled with the server side of the existing product. This would depend on the existing server interfaces, performance requirements, and the generality of the interface required to be presented to the mobile devices.
- **Security:** Another important aspect is security both in terms of authentication/authorization and data transfer/storage in the mobile devices. This becomes all the more important on the mobile platforms since mobile devices are more prone to being lost or stolen.
- **Data Transfer:** The quantum of data transfer is often not a very strict requirement, but this becomes important on mobile platforms since data transfer rates for mobile use are still prohibitive for larger requirements. Optimizing the data to be transferred thus often becomes necessary.

## About Newgen

Newgen Software is a pioneer in providing Software Engineering Services to the enterprise and packaged software product companies. For the last 15 years, our management capability and technical expertise has benefited our customers in meeting their specific challenges. Product development is in Newgen's DNA. Newgen's large portfolio of products is being used by major corporations including Fortune 500 companies from USA, Japan, and Europe. Some of our software product development relationships with clients have extended to over a decade.

Newgen Software is a strategic choice for Outsourced Product Development. We collaborate with our clients to deliver high quality products while maximizing ROI, minimizing time-to-market and making schedules predictable at manageable risks. We associate with clients from the early stage of defining and developing projects, enabling us to contribute comprehensively. Newgen's processes comply with ISO 9001:2000, CMMi Level 3 and ISO 27001 standards.

### Software Engineering Services @ Newgen

Newgen is a specialized provider of Software Engineering Outsourcing services. Over the last decade, Newgen has provided services to leading global ISVs and Product Engineering companies. Product development is in Newgen's DNA which is exemplified by Newgen's BPM and ECM suite of products. Services provided include:

- **Product Strategy and Conceptualization**
- **New Product development**
- **Product Extension**
- **Product Maintenance and Support**
- **Testing & Quality Assurance**
- **Porting / Migration**
- **Internationalization and Localization**
- **SaaS Enablement**
- **Professional Services**

#### **Newgen Software Inc., USA**

1364 Beverly Rd., Ste. 300, McLean, VA 22101

Tel: 703-340-8987 Fax: 703-749-2858

Email: [ses@newgen.net](mailto:ses@newgen.net)

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#### **Newgen Software Technologies Ltd.,**

IndiaA-6, Satsang Vihar Marg, Qutab Institutional Area, New Delhi  
110 067

Tel: +91-11-26964733, 26963571, 26856871

Email: [ses@newgen.net](mailto:ses@newgen.net)

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**UK Office:** 68 Lombard Street, London EC3V, 9LJ, Tel: 2078681736

**UAE Office:** PO Box 120586, Sharjah Airport International Free Zone,  
Sharjah

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E-mail: [ses@newgen.net](mailto:ses@newgen.net)



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