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## Comparison of open source maturity models

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### Abstract

Component based development was formerly dependent on propriety/closed source software's (CSS) components. Open Source software components has attracted noteworthy attention and become an operational alternative of proprietary software because of OSS security, cost effectiveness, quality, flexibility and freedom. Due to the increased attention on component-based development in the past decades, companies have widely adopted open source software (OSS), with the view that using the right software is critical to project success. The availability of Internet as a marketplace for components and wide adoption of OSS has introduced new challenges for selection of software components. Source Forge, other general and domain specific software repositories, different software foundations and individual OSS providers offer an abundance of OSS components. Identification, evaluation and selection of best possible OSS Components for the required need is a quite challenging job. As a reaction to these challenges different methods have been proposed for OSS maturity measurements. E.g. Capgemini-Open Source Maturity Model(C-OSSM), Navicasoft-Open Source Maturity Model (N-OSSM), Qualification and Selection of Open Source (QSOS), Open Business Readiness Rating (Open BRR) and Easiest Open Source (E-OSS).In this paper we compare different Open Source software maturity models available in the market that will help user in OSS component selection.

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## 1. Introduction

Now a days Open Source Software (OSS) Components are increasingly being incorporated into commercial products. The basic reasons behind the usage of OSS components is cost savings, fast time-to-market and high-quality software<sup>1,2</sup>.

OSS components are utilized as an alternate to Commercial Off-The-Shelf (COTS) components. Evaluation and selection of OSS components is as challenging as COTS components because of this the research community and industry have proposed evaluation and selection approaches to help practitioners to select appropriate OSS products. However, research has shown that practitioners rarely use formal selection procedures<sup>3</sup>. Instead, OSS products are frequently selected on the basis of component familiarity or colleagues recommendations<sup>4</sup>.

OSS components selection is entirely different than selection of Commercial Off-The-Shelf (COTS) components selection. OSS is available free of charge, whereas COTS are third party companies products or components, OSS components are freely available in public repositories like Source forge etc. which make selection process more complicated and troublesome. Whereas COTS repositories are not as large as compare to OSS as in COTS companies are involved i.e. third party is involved, Source code of OSS components is available i.e. user know full functionality of components which is not possible in COTS as code is not known, OSS components are owned by community who has permissions to modify and extend the code whereas COTS is controlled by the COTS owner, training and communication with vendors, literature reviews and conferences.

There are many OSS selection models available out of which five models focuses on components maturity which are COSMM, NOSMM, QSOS, Open BRR and EOSS. To better understand the selection and evaluation of OSS components a comparison of different OSS components maturity model is done in this research.

## 2. Description of Available Models

The selection and evaluation of OSS components is normally based on recommendation and past experiences. The evaluation is very important for component selection. There are few available methods for Open source software maturity assessment whose primary objective is to select the appropriate components which is trustworthy and suitable for organizational needs.

### 2.1. C-OSMM

C-OSMM (Cappgemini Open source Maturity Model) is developed by Cappgemini in 2003. This model consist product and application Indicators. Product indicator is the objective and measurable facts about the product whereas application indicator are the customer requirements and future needs. The product Indicator are grouped into 4 groups<sup>6</sup>. Application indicator includes usability, interfacing, performance, reliability etc.

Table 1. C-OSMM product indicator

Product Indicator Groups	Description
Product Group	Basic Information of product e.g. age license selling point etc
Integration Group	Check whether the product is able to integrate with the other products and follows standard
Use Group	Information about product support
Acceptance Group	Product ability of growing

### 2.2. N-OSMM

N-OSMM (Navica Open Source Maturity Model) is developed by Navica software in 2004. This model consist of three phases.

Phase1: Assessing key product element maturity which assess key elements shown in table 2 which are divided into 4 steps includes: organization requirements, identifying the available resources, assess its maturity and then assign maturity score.

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