
Technical Platform Evaluation
Communities of Practice software

Executive Summary

The net value of communities of practice software must compare the total productivity benefit to groups adopting the social platform to the total costs of operating and maintaining it.

If the costs of the technical platform are too high, it may be difficult to achieve a positive net value. For example, a “gold plated” solution may not deliver sufficient additional benefits to outweigh the added costs.

Therefore, any value assessment must balance:

- Productivity improvements in “above the line” costs – that is, costs intrinsically associated with operating a CoP such as generating content and answering questions
- Minimising “below the line costs” – that is, costs associated with technical development, administration and maintenance, and managing potential risks of any given approach

A functional, cost, and risk assessment of six competing platforms was carried out as part of this technical platform evaluation. A summary of functional assessment outcomes is provided in Table 1 below. A full product assessment matrix can be found in Appendix A.

| Platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|---|------------|------------|------------|----------------|-------------------|------------|
| Core | 62% | 55% | 42% | 60% | 51% | 58% |
| Add-on (free) | 15% | 13% | 31% | 27% | 7% | 2% |
| Add-on (paid) | 2% | 0% | 11% | 0% | 18% | 4% |
| Features without coding or integration | 78% | 67% | 84% | 87% | 76% | 64% |
| Code required | 11% | 18% | 4% | 7% | 11% | 11% |
| 3rd party service | 4% | 2% | 5% | 5% | 2% | 2% |
| N/A | 7% | 13% | 7% | 0% | 11% | 24% |
| Overall feature availability | 93% | 87% | 93% | 100% | 89% | 76% |

Table 1. Relative feature fit for each assessed platform.

The functional assessment allows for three measures of feature completeness:

- Liferay provides the greatest feature set in the core product (62%)
- Drupal Commons offers the most complete option when considering features available without coding (87%), and with coding and integration of third-party services (100%)

Community-based open source products like Drupal Commons and BuddyPress can provide substantial cost savings over closed-source or single-vendor open source products.

However, it is worth noting both Drupal Commons and BuddyPress require significant numbers of add-ons to achieve feature parity.

While difficult to quantify, it is generally the case that any product relying on add-ons will **deliver a less cohesive administrative experience**. This is reflected in the greater estimated per-community cost of setting up new CoPs. Despite this, incremental administrative costs are comparatively small compared to overall operating costs, as shown in Table 2.

| Costs to create new CoP group | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|--|----------------|----------------|----------------|----------------|-------------------|----------------|
| New CoP design | \$1 000 | \$1 000 | \$2 000 | \$2 000 | \$2 000 | \$ 400 |
| Integration and implementation | \$2 000 | \$2 000 | \$2 000 | \$3 000 | \$ 500 | \$ 500 |
| Training of third party COP administrators and users | \$2 000 | \$2 000 | \$2 000 | \$2 000 | \$2 000 | \$2 000 |
| Total cost | \$5 000 | \$5 000 | \$6 000 | \$7 000 | \$4 500 | \$2 900 |

Table 2. Relative cost to create a new CoP group per platform.

A risk assessment for each platform was also completed as per the summary results in Table 3. In general, more highly packaged options such as SharePoint Online and Jive-X offer lower operating risk, at the cost of a more limited feature set.

Liferay and eXo operate a similar technology stack and are attempting to offer a similar enterprise portal experience, and thus have similar risk levels. Community open source offerings like BuddyPress and Drupal Commons are well-architected and have low risk from a vendor lock-in and infrastructure cost perspective. However, they tend to require a greater commitment to hands-on coding and maintenance to maintain existing features as new software versions are released.

| Risk assessment | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|----------------------|---------|--------|------------|----------------|-------------------|--------|
| Infrastructure risks | Medium | Medium | Low | Low | Low | Low |
| Software risks | Medium | L/M | Medium | M/H | L/M | Medium |
| Vendor risks | Medium | Medium | Low | Low | Low | Medium |
| Network risks | Medium | Medium | Low | Low | Low | L/M |

Table 3. Relative risk of each platform option.

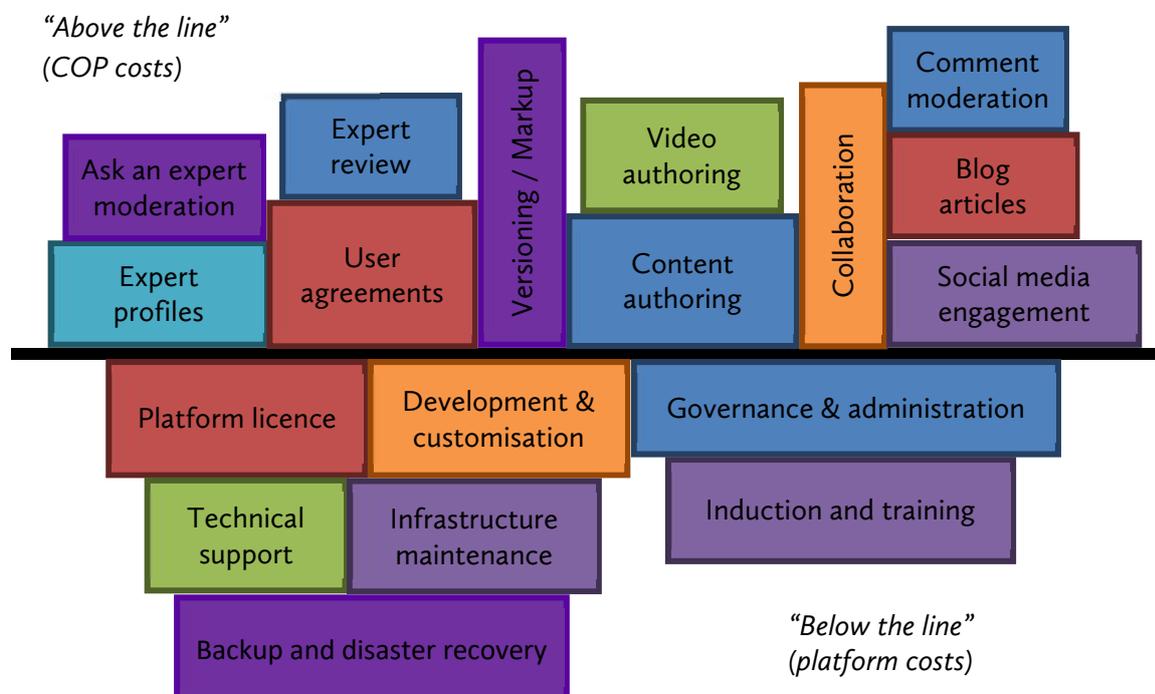
Overall, each platform has strengths and weaknesses. There are three basic Community of Practice models identified:

- **Enterprise suite** (Liferay, eXo) – Niche vendors providing substantial functionality out of the box with high licensing cost, as well as higher development and maintenance costs.
- **Community open source** (BuddyPress, Drupal Commons) – The use of popular open-source frameworks with add-ons can deliver highly functional outcomes with minimal licensing costs. However, this is likely to deliver a more fragmented administrative experience, with a likely greater maintenance and development overhead.
- **Commercial software as a service** (SharePoint Online, Jive-X) - Accepting the feature limitations of a commercial software as a service (SaaS) platform reduces operational risk and maintenance overheads. These platforms scale costs linearly with a known per-user cost per month. However, with a large number of registered users, SaaS options become relatively more expensive unless bulk licensing discounts are negotiated.

The correct model is ultimately one for each organisation to individually determine through their own decision-making processes, based on the perceived relative value of these trade-offs.

Introduction

The operation of Communities of Practice (CoP) platforms entail a range of costs. Examples of “above the line” costs to operate each CoP and “below the line” costs of the CoP infrastructure are shown in Figure 1:



Above the line costs have a direct impact on participants and are inherently a component of the provision of a high-quality CoP. *Below the line* costs relate to the overhead of providing a centrally managed, reusable technical platform for these CoPs.

The value proposition of a social platform lies in its ability to reduce above the line costs and/or improve the value of above the line service delivery to end users. This value delivered must exceed the costs of hosting and administering the platform. Each individual technical platform evaluation therefore considers both the functionality delivered, as well as set up costs and operational costs of the platform.

Risk assessments have also been carried out. Understanding short and long term risks of each platform approach is essential, since unplanned maintenance costs or platform outages may wipe out any nominal cost savings of a cheaper solution.

A full product assessment matrix is provided at the end of this document as Appendix A.

Assumptions and disclaimer

This evaluation makes the following assumptions of typical platform configuration and use:

- 40 Community of Practice (CoP) sites
- 50 users per CoP
- 8000 visitor sessions / month

This assessment is based upon publicly available information about the most recently released version of each platform. All comparisons are intended to provide an overview of capability rather than a rigorous functional evaluation. Scalability of platforms has not been formally assessed.

Product Evaluation Summary

Liferay DXP

Overview

Liferay DXP is the latest iteration of the Liferay collaboration platforms and follows a move away from the Community Edition of Liferay towards a more marketing-oriented product. The Liferay DXP focus is on the end user as a customer rather than the end user as a community member. The focus on an end user portal means the potential for presenting the right information to the right user is prioritised.

Strengths and weaknesses

Advantages

- Customisable and flexible
- Built-in ability to manage organisation and groups
- Most features available out of the box

Disadvantages

- Higher licensing cost
- Not all components are open source
- Limited community support
- Low support for creating custom components

Feature evaluation

| 1. CoP Management | | |
|--------------------------|---------------|--|
| Function | Availability | Notes |
| Create CoP site | Core | |
| Branding and attribution | Core | |
| About us | Core | |
| Contact us | Core | |
| Social media link icons | Add-on (free) | |
| Embed latest tweets | Add-on (free) | Free and paid add-ons from Liferay marketplace |

| | | |
|--|---------------------|--|
| Custom content containers | Core | |
| Custom widgets | Core | |
| Full custom layout controls | Core | |
| Site index widget | Code required | Some scripting required |
| 2. User Management | | |
| Function | Availability | Notes |
| User registration | Core | |
| Custom user profiles | Core | |
| Custom user registration form | Core | Add custom fields to user registration page |
| Self-service user profile management | Core | |
| Organisation management | Core | Organisations only managed from portal administrator and users can belong to only one organisation. User groups can be self-administered and users can belong to multiple user groups. |
| Custom organisation profiles | Core | |
| Self-service org profile management | NA | Need to check - suspect only portal administrator or owner can change profile settings |
| Register approved agreements | NA | A work around might be a corporate user type with an edited Terms of Use agreement, but that still wouldn't be signed. |
| Associate users and organisations w/agreements | NA | |
| Global permissions per user | Core | |
| Global permissions per organisation | Core | |

| | | |
|---|---------------------|---|
| Global permissions per site | Core | |
| Expert profile widget | Add-on (free) | |
| Searchable expert directory | Core | |
| 3. Article workflow | | |
| Function | Availability | Notes |
| Article publishing lifecycle | Core / Add-on | Core allows only one approval. Add-ons available (but pricing not visible) |
| Administer lifecycle steps | Add-on (free) | Kaleo - comes with Business Productivity Suite |
| Article tags and categories | Core | Liferay uses vocabularies, categories and tags |
| Custom article metadata | Core | |
| Custom permissions by lifecycle step | Add-on (free) | Kaleo - comes with Business Productivity Suite |
| Lifecycle permissions based on metadata | Code required | If changing from out of the box Kaleo workflow definitions |
| Deferred publish by date | Core | Schedule allows staged changes to be set for specific dates or recurrent days. Can also set article removal date. |
| WYSIWYG editing | Core | DXP uses AlloyEditor as default WYSIWYG. Other 3rd party libraries are available. |
| Version tracking | Core | History tracking |
| Track changes (redline) | N/A | May be possible to implement using CKEditor plug-in |
| 4. Internal collaboration | | |
| Function | Availability | Notes |
| Document upload | Core | Interoperable with SharePoint and Documentum with add-ons. |
| Content tagging | Core | |

| | | |
|--|---------------------|--|
| Work plan / task management | Add-on (free) | Dynamic data lists could be adapted. Tasks Portlet available also exists, but seems very basic |
| General list management | Core | Dynamic data lists functionality. |
| 5. External community interaction | | |
| Function | Availability | Notes |
| Ask an expert questions | Code required | |
| Ask an expert moderation | Code required | |
| Ask an expert voting | Code required | |
| Ask an expert responses | Code required | |
| Blogging & comments | Core | |
| Blog comment moderation | Core | Blog comments can be edited or deleted |
| Community wikis | Core | |
| Social media integration | Add-on (free) | Twitter app will integrate with Twitter. Liferay portlet can be added as an application on Facebook. |
| General discussion forums | Core | |
| Surveys | Core | Polls are accessible OOTB with the collaboration suite, but there's no documentation |
| Rating of content | Core | New feature for DXP: Rating type like where the type is no longer hardcoded and can be modified at any time by administrators. |
| Mailing lists / newsletters | Core | Asset Publisher |
| 6. Other | | |
| Function | Availability | Notes |
| Federated search across all CoPs | Core | Faceted search |
| Calendar management | Add-on (free) | Liferay CE Calendar |

| | | |
|----------------------------|-------------------|--|
| Online courses (free/paid) | Add-on (paid) | eLearning from Valamis (USD\$8900) or use API for external providers, eg EX LCMS |
| Video / audio conferences | 3rd party service | App Liferay Meetings does not appear to be supported in DXP – use Adobe Connect or similar |
| Webinar management | 3rd party service | Use Adobe Connect or similar |

Cost estimate

| Component | Estimated Cost (\$) |
|--|---------------------|
| Annual operating costs | |
| System hosting, infrastructure, & backups ^[1] | \$4 800 |
| Software platform licensing (base) ^[2] | \$120 000 |
| Software platform licensing (add-ons) | \$0 |
| Upgrades and maintenance ^[3] | \$30 000 |
| Global administration ^[4] | \$15 000 |
| End user technical support (Level 1 + 2) ^[5] | \$8 000 |
| Bug fixes and enhancements (Level 3) ^[6] | \$15 000 |
| Total operating cost per year | \$192 800 |
| Total cost over 3 years | \$578 400 |

Notes

^[1] Typical AWS hosting cost of \$400 / month for dedicated VPC and 2GB RAM

^[2] Estimate, licensing fees are not published

^[3] Assumes 20 days / year @ \$1500 / day

^[4] Assumes 15 sites / year @ \$1000 / site

^[5] Assumes 10 days / year @ \$800 / day

^[6] Assumes 10 days / year @ \$1500 / day

Risk assessment

| Risk area | Risk assessment |
|---|--|
| <p>Infrastructure risks</p> <ul style="list-style-type: none"> - Fault tolerance of infrastructure? - Backup arrangements? - Cost to recover in case of disaster? - How common are the skills needed for administration? | <p>Liferay runs on Java and Tomcat (or JBoss), which is a common enterprise development platform. However, skills for administration and development are less likely to be possessed by existing systems administrators.</p> <p>Risk: Medium</p> |
| <p>Software risks</p> <ul style="list-style-type: none"> - Is the software closed source or open source? - How long will the chosen version be supported? - What costs are involved in upgrading to the next version? - How common are the skills needed for administration? | <p>Liferay provides the highest percentage of features out of the box. This reduces the chance of version obsolescence or conflicts in case of upgrades. Most of Liferay is open source code. Enterprise Editions have a minimum supported lifespan of 4 years.</p> <p>LifeRay 7/DXP is a relatively new platform with few add-ins yet tested as compatible with DXP. The combination of Java, Tomcat, and Liferay administration / development experience is a relatively rare skillset. This situation is likely to be exacerbated with the de-emphasising of the (free) community edition.</p> <p>Risk: Medium</p> |
| <p>Vendor risks</p> <ul style="list-style-type: none"> - How financially stable is the software vendor? - What options are available for third-party consulting support? - If vendor no longer offers their platform, what is the impact? | <p>Liferay has quoted revenue of USD\$80m / year. There are limited Liferay consulting options. The non-open source components of Liferay are a significant risk should the vendor cease to offer Liferay DXP at any point.</p> <p>Risk: Medium</p> |
| <p>Network risks</p> <ul style="list-style-type: none"> - What network bandwidth is required to use the software? - Is the platform usable on mobile? | <p>Liferay's preferred mobile approach is custom development of apps using Liferay Screens.</p> <p>Risk: Medium</p> |

eXo

Overview

eXo was developed as an open source collaboration platform for the US military and has a stronger focus on internal communications within a large organisation than article publication or customer support. The focus of eXo is on open communication and collaboration rather than portal access to permission-managed resources.

Strengths and weaknesses

Advantages

- User friendly administration
- Fully open source platform
- Good granularity for setting permissions

Disadvantages

- Enterprise license strongly recommended for adequate support
- Limited community support

Feature evaluation

| 1. CoP Management | | |
|-----------------------------|---------------|---|
| Function | Availability | Notes |
| Create CoP site | Core | As “Spaces” |
| Branding and attribution | Core | Customisation through global stylesheet |
| About us | Core | |
| Contact us | Core | |
| Social media link icons | Code required | Or 3rd party add-on |
| Embed latest tweets | Code required | See https://goo.gl/8WBCgk |
| Custom content containers | Core | eXo platform “space applications” |
| Custom widgets | Core | eXo platform “gadgets” |
| Full custom layout controls | Core | Page creation wizard allows custom layout. Page and site can be customized. |
| Site index widget | Core | Managed as “public spaces list”. |

| 2. User Management | | |
|--|---------------|---|
| Function | Availability | Notes |
| User registration | Core | Can be linked with social networks using OAuth |
| Custom user profiles | Code required | See https://goo.gl/n7j2Kb |
| Custom user registration form | N/A | |
| Self-service user profile management | Core | |
| Organisation management | Core | Groups can be created and users assigned to groups. |
| Custom organisation profiles | Code required | |
| Self-service org profile management | N/A | |
| Register approved agreements | Core | Documents interface |
| Associate users and organisations w/agreements | N/A | Not available explicitly, but users could be assigned to appropriate groups |
| Global permissions per user | Core | |
| Global permissions per organisation | Core | Group membership |
| Global permissions per site | Core | |
| Expert profile widget | Core | |
| Searchable expert directory | Core | |
| 3. Article workflow | | |
| Function | Availability | Notes |
| Article publishing lifecycle | Core | Standard request approval / approved / published workflow. |
| Administer lifecycle steps | Code required | Customisable |
| Article tags and categories | Core | Categories and tags |

| | | |
|--|---------------------|---|
| Custom article metadata | Code required | |
| Custom permissions by lifecycle step | Core | Publishing Manager feature |
| Lifecycle permissions based on metadata | Code required | |
| Deferred publish by date | Core | Manage publication includes schedule publication and removal by dates. No recurring option. |
| WYSIWYG editing | Add-on (free) | CKEditor |
| Version tracking | Core | Available for documents not web contents |
| Track changes (redline) | N/A | |
| 4. Internal collaboration | | |
| Function | Availability | Notes |
| Document upload | Core | |
| Content tagging | Core | |
| Work plan / task management | Add on (free) | Allows delegation and collaboration through teams |
| General list management | Can't find | Newsletter manager appears to have been deprecated |
| 5. External community interaction | | |
| Function | Availability | Notes |
| Ask an expert questions | Add-on (free) | Answers application BUT can only be viewed by registered users |
| Ask an expert moderation | Add-on (free) | Answers application |
| Ask an expert voting | Add-on (free) | Answers application |
| Ask an expert responses | Add-on (free) | Answers application, can be added to FAQ |
| Blogging & comments | Code required | Previous blog-extension not supported with 4.0 https://github.com/exo-addons/blog-extension |
| Blog comment moderation | 3rd party service | Provided through Disqus |
| Community wikis | Core | |

| | | |
|----------------------------------|---------------------|---|
| Social media integration | N/A | |
| General discussion forums | Core | Guest can view but not post |
| Surveys | Core | Polls |
| Rating of content | Core | 5* rating system available in Forums not for articles |
| Mailing lists / newsletters | N/A | |
| 6. Other | | |
| Function | Availability | Notes |
| Federated search across all CoPs | Core | |
| Calendar management | Core | |
| Online courses (free/paid) | N/A | Moodle can be integrated as a LMS |
| Video / audio conferences | Add-on (free) | Integrated video calling using open source stack |
| Webinar management | Code required | |

Cost estimate

| Component | Estimated Cost (\$) |
|--|---------------------|
| Set up costs | |
| System hosting, infrastructure, & backups | \$0 |
| Software platform licensing (base) | \$0 |
| Software platform licensing (add-ons) | \$0 |
| Initial development & configuration ^[1] | \$25 000 |
| Annual operating costs | |
| System hosting, infrastructure, & backups ^[2] | \$4 800 |
| Software platform licensing (base) | \$27 500 |
| Software platform licensing (add-ons) | \$0 |
| Upgrades and maintenance ^[3] | \$26 000 |
| Global administration ^[4] | \$15 000 |
| End user technical support (Level 1 + 2) ^[5] | \$8 000 |
| Enhancements (Level 3) ^[6] | \$15 000 |
| Total operating cost per year | \$96 300 |
| Total cost over 3 years | \$313 900 |

Notes

^[1] 25 days planning and installation @ \$1000 / day

^[2] Typical AWS hosting cost of \$400 / month for dedicated VPC and 2GB RAM

^[3] Assumes purchase of Enterprise Edition support agreement

^[4] Assumes 15 sites / year @ \$1000 / site

^[5] Assumes 10 days / year @ \$800 / day

^[6] Assumes 10 days / year @ \$1500 / day

Risk assessment

| Risk area | Risk assessment |
|---|--|
| <p>Infrastructure risks</p> <ul style="list-style-type: none"> - Fault tolerance of infrastructure? - Backup arrangements? - Cost to recover in case of disaster? - How common are the skills needed for administration? | <p>eXo runs on Java and Tomcat (or JBoss), which is a common enterprise development platform. However, skills for administration and development are less likely to be possessed by existing systems administrators.</p> <p>Risk: Medium</p> |
| <p>Software risks</p> <ul style="list-style-type: none"> - Is the software closed source or open source? - How long will the chosen version be supported? - What costs are involved in upgrading to the next version? - How common are the skills needed for administration? | <p>eXo software is fully open source and written in the widely used Java language. However, the product is comparatively monolithic and highly driven by configuration files which reduces transferability of skills for the underlying Java platform.</p> <p>The functionality of the software appears to evolve substantially from version to version, increasing the risk that needed functionality may be deprecated or dropped in future version releases. eXo tends to rely upon code for additional features, which will require ongoing access to developers to maintain.</p> <p>Risk: Low-Medium</p> |
| <p>Vendor risks</p> <ul style="list-style-type: none"> - How financially stable is the software vendor? - What options are available for third-party consulting support? - If vendor no longer offers their platform, what is the impact? | <p>The eXo company employs 130 people and has a worldwide network of distributors and partners.</p> <p>Risk: Medium</p> |
| <p>Network risks</p> <ul style="list-style-type: none"> - What network bandwidth is required to use the software? - Is the platform usable on mobile? | <p>Mobile access to eXo is preferred through the Android and iOS apps. The website is responsive, using the Bootstrap 3 framework.</p> <p>Risk: Medium</p> |

BuddyPress

Overview

BuddyPress is a free open source plugin that allows WordPress to operate as a social network platform. It focuses on online community building, including features such as user profiles, groups, activity streams, notifications, and more.

Strengths and weaknesses

Advantages

- Inbuilt support for multisite
- Very easy page publishing workflow
- Low cost option

Disadvantages

- Sub-website admins can not change themes
- No redline track changes for revisions
- Limited support for organisations

Feature evaluation

| 1. CoP Management | | |
|-----------------------------|---------------|--|
| Function | Availability | Notes |
| Create CoP site | Core | BuddyPress Groups or WordPress Multisite |
| Branding and attribution | Core | Using Multisite Network |
| About us | Core | Using WordPress pages |
| Contact us | Core | Using WordPress pages |
| Social media link icons | Add-on (free) | Ultimate Social Media Icons plugin |
| Embed latest tweets | Add-on (free) | Latest Tweets Widget plugin |
| Custom content containers | Core | Through WordPress theme system |
| Custom widgets | Core | Through WordPress plugin system |
| Full custom layout controls | Core | Depends on theme |
| Site index widget | Add-on (free) | Multisite Site Index plugin |

| 2. User Management | | |
|--|---------------|--|
| Function | Availability | Notes |
| User registration | Core | |
| Custom user profiles | Core | |
| Custom user registration form | Add-on (free) | RegistrationMagic-Custom Registration Forms plugin |
| Self-service user profile management | Core | |
| Organisation management | Add-on (paid) | Membership 2 Pro (USD\$480) or MemberPress (USD\$200) allow assignment of users to members |
| Custom organisation profiles | N/A | BuddyPress Groups is closest to what is required |
| Self-service org profile management | N/A | BuddyPress Groups is closest to what is required |
| Register approved agreements | Code required | Custom field linked to media |
| Associate users and organisations w/agreements | Code required | BuddyPress Groups is closest to what is required |
| Global permissions per user | Core | |
| Global permissions per organisation | Core | Membership 2 Pro (USD\$480) or MemberPress (USD\$200) allow assignment of users to members |
| Global permissions per site | Add-on (paid) | Combine BuddyPress Groups and a member plugin (see Organisation Management above) |
| Expert profile widget | Core | |
| Searchable expert directory | Core | |
| 3. Article workflow | | |
| Function | Availability | Notes |
| Article publishing lifecycle | Add-on (free) | Edit Flow plugin |
| Administer lifecycle steps | Add-on (free) | Edit Flow plugin |

| | | |
|--|---------------------|--|
| Article tags and categories | Core | |
| Custom article metadata | Core | |
| Custom permissions by lifecycle step | Add-on (free) | Edit Flow plugin |
| Lifecycle permissions based on metadata | Add-on (free) | Edit Flow plugin |
| Deferred publish by date | Core | |
| WYSIWYG editing | Core | |
| Version tracking | Core | |
| Track changes (redline) | N/A | No currently supported plugin - formerly provided by Ice Visual Revisions plugin |
| 4. Internal collaboration | | |
| Function | Availability | Notes |
| Document upload | Core | Optional addition for end-user uploads of media: BuddyBoss Media |
| Content tagging | Core | |
| Work plan / task management | Add-on (free) | Edit Flow plugin |
| General list management | N/A | Some list functionality possible to implement using custom post types. |
| 5. External community interaction | | |
| Function | Availability | Notes |
| Ask an expert questions | Add-on (free) | DW Question Answer plugin |
| Ask an expert moderation | Add-on (free) | DW Question Answer plugin |
| Ask an expert voting | Add-on (free) | DW Question Answer plugin |
| Ask an expert responses | Add-on (free) | DW Question Answer plugin |
| Blogging & comments | Add-on (paid) | Can be set up as separate WordPress site, or per user blog plugin (USD\$49) from BuddyBoss |

| | | |
|----------------------------------|---------------------|--|
| Blog comment moderation | Core | |
| Community wikis | Add-on (paid) | Userpress plugin (USD\$170) |
| Social media integration | Add-on (free) | Many free social media plugin options. |
| General discussion forums | Core | Integrated with bbPress forums |
| Surveys | Add-on (paid) | Many free options, but TotalPoll Pro (USD\$99) comes highly recommended. |
| Rating of content | Add-on (free) | kk Star Ratings plugin. |
| Mailing lists / newsletters | 3rd party service | MailChimp integration plugin |
| 6. Other | | |
| Function | Availability | Notes |
| Federated search across all CoPs | Add-on (free) | BuddyPress Global Search plugin |
| Calendar management | Add-on (free) | Events management is out of the box, displaying in a calendar view requires Calendar module |
| Online courses (free/paid) | Add-on (paid) | Social Learner, for Sensei plugin (USD\$550 for 25 sites), or an external solution like Moodle. |
| Video / audio conferences | 3rd party service | No inbuilt integration with other services. API integration for calendars or embedded views would require coding. |
| Webinar management | 3rd party service | Use of Adobe Connect or other similar webinar service suggested. API integration for calendars or embedded views would require coding. |

Cost estimate

| Component | Estimated Cost (\$) |
|--|---------------------|
| Set up costs | |
| System hosting, infrastructure, & backups | \$200 |
| Software platform licensing (base) | \$0 |
| Software platform licensing (add-ons) | \$1 500 |
| Initial development & configuration ^[1] | \$8 000 |
| Annual operating costs | |
| System hosting, infrastructure, & backups ^[2] | \$4 800 |
| Software platform licensing (base) | \$0 |
| Software platform licensing (add-ons) | \$0 |
| Upgrades and maintenance ^[3] | \$10 000 |
| Global administration ^[4] | \$9 000 |
| End user technical support (Level 1 + 2) ^[5] | \$8 000 |
| Bug fixes and enhancements (Level 3) ^[6] | \$24 000 |
| Total operating cost per year | \$55 800 |
| Total cost over 3 years | \$177 100 |

Notes

^[1] 20 days planning and installation @ \$1000 / day

^[2] \$400 / month for dedicated VPC and 2GB RAM

^[3] 10 days / year @ \$1000 / day

^[4] Assumes 15 sites / year @ \$600 / site

^[5] Assumes 10 days / year @ \$800 / day

^[6] Assumes 20 days / year @ \$1200 / day

Risk assessment

| Risk area | Risk assessment |
|---|---|
| <p>Infrastructure risks</p> <ul style="list-style-type: none"> - Fault tolerance of infrastructure? - Backup arrangements? - Cost to recover in case of disaster? - How common are the skills needed for administration? | <p>Commodity infrastructure on any supported LAMP/WAMP environment (Linux/Windows, Apache, MySQL, PHP). Fully hosted environments with backups are commodity options.</p> <p>Skills required are widely available, albeit in-house IT administrators are slightly more likely to be familiar with the Microsoft stack (Windows / SharePoint / SQL Server)</p> <p>Risk: Low</p> |
| <p>Software risks</p> <ul style="list-style-type: none"> - Is the software closed source or open source? - How long will the chosen version be supported? - What costs are involved in upgrading to the next version? - How common are the skills needed for administration? | <p>Underlying WordPress platform is fully open-source and ubiquitous, powering 27% of all websites worldwide. The BuddyPress project is managed by Automattic, run by one of the primary developers of WordPress. Users of BuddyPress form part of an active and enthusiastic community.</p> <p>However, the reliance on add-ins from a range of vendors for a substantial part of required functionality increases the risk of add-in version conflict or obsolescence over time.</p> <p>Risk: Medium</p> |
| <p>Vendor risks</p> <ul style="list-style-type: none"> - How financially stable is the software vendor? - What options are available for third-party consulting support? - If vendor no longer offers their platform, what is the impact? | <p>The WordPress software has no single vendor but is supported and maintained by over 37,000 developers globally. BuddyBoss provides commercial support for key BuddyPress plugins.</p> <p>The open-source model provides a wide range of options for ongoing consulting and development support in the unlikely event of Automattic or BuddyBoss ceasing to support the BuddyPress platform. However, working around this issue may increase support costs in the short term.</p> <p>Risk: Low</p> |
| <p>Network risks</p> <ul style="list-style-type: none"> - What network bandwidth is required to use the software? - Is the platform usable on mobile? | <p>Themes can be enhanced with additional bandwidth saving techniques such as on-demand loading of images. A range of BuddyPress themes exist, many optimised for mobile devices.</p> <p>A number of vendors offer fully managed, cloud-hosted options for WordPress and BuddyPress. Local hosting options are also possible.</p> <p>Risk: Low</p> |

Drupal Commons

Overview

Drupal Commons is a popular Drupal distribution (preconfigured set of modules and themes) which aims to provide “community collaboration in a box”. Drupal Commons can leverage Drupal’s extensive range of plugin modules and customisation options to provide a broad range of functional options.

Drupal is a free open source web application framework providing a back-end framework for more than 1 in 50 of all web sites worldwide. Developed to be modular and extensible, the centrally administered cloud platform for government websites ([govCMS](#)) is built using the Drupal platform.

Strengths and weaknesses

Advantages

- Open source and scalable
- No vendor lock-in
- Very large (10,000+) worldwide developer community
- Single platform multi-site support
- Strong customisation options, particularly around user roles
- Metadata support for AGLS Metadata Standard
- No licensing cost

Disadvantages

- Required features not all out of the box
- Some modules rely upon community support

Feature evaluation

| 1. CoP Management | | |
|--------------------------|---------------|---|
| Function | Availability | Notes |
| Create CoP site | Core | CoPs and organisations are both considered types of “Organic Group” |
| Branding and attribution | Core | Using content “blocks” |
| About us | Core | Custom “About us” page |
| Contact us | Add-on (free) | Contact Forms module |
| Social media link icons | Add-on (free) | Social Media Links Block module |
| Embed latest tweets | Core | Twitter Block module |

| | | |
|--|---------------------|--|
| Custom content containers | Core | Using Drupal “block” administration |
| Custom widgets | Core | Either one-off coded blocks, or as supplied from add-on modules |
| Full custom layout controls | Core | 14 regions available out of the box to hold content. Custom themes and sub-themes allow additional regions to be defined as required |
| Site index widget | Code required | |
| 2. User Management | | |
| Function | Availability | Notes |
| User registration | Core | |
| Custom user profiles | Core | |
| Custom user registration form | Code required | See https://goo.gl/lsvGdJ |
| Self-service user profile management | Core | |
| Organisation management | Core | Uses “Organic Groups” concept |
| Custom organisation profiles | Core | Likely to need custom views created to display profiles in blocks |
| Self-service org profile management | Code required | Can be done without code for trusted users through admin interface |
| Register approved agreements | Core | Would require creation of user agreement as custom field type |
| Associate users and organisations w/agreements | Core | Configured as custom field association |
| Global permissions per user | Core | |
| Global permissions per organisation | Core | |
| Global permissions per site | Core | |
| Expert profile widget | Core | |

| Searchable expert directory | Core | Uses Commons Search, could also be created as custom view |
|---|---------------|---|
| 3. Article workflow | | |
| Function | Availability | Notes |
| Article publishing lifecycle | Add-on (free) | Unpublished / published status available out of the box. Workflow or Workbench moderation allows arbitrary lifecycle steps to be configured. Workbench access controls edit access to nodes |
| Administer lifecycle steps | Add-on (free) | For more complex business workflows use https://www.drupal.org/project/maestro , or write custom code. |
| Article tags and categories | Core | Drupal custom vocabularies |
| Custom article metadata | Core | Drupal custom fields |
| Custom permissions by lifecycle step | Add-on (free) | Use Workbench Moderation State Access . |
| Lifecycle permissions based on metadata | Add-on (free) | For more complex business workflows use https://www.drupal.org/project/maestro , or write custom code. |
| Deferred publish by date | Add-on (free) | Scheduler module |
| WYSIWYG editing | Add-on (free) | Choose preferred editor, eg CKEditor, TinyMCE |
| Version tracking | Core | |
| Track changes (redline) | Add-on (free) | Diff module to see differences between versions a la Wikipedia, use CKEditor LITE to see redline of changes during editing. |
| 4. Internal collaboration | | |
| Function | Availability | Notes |
| Document upload | Core | |
| Content tagging | Core | |

| | | |
|--|---------------------|--|
| Work plan / task management | Add-on (free) | Variety of options including Case Tracker module or simply custom content types. See also https://goo.gl/zFpAON |
| General list management | Core | Custom content type. |
| 5. External community interaction | | |
| Function | Availability | Notes |
| Ask an expert questions | Core | |
| Ask an expert moderation | Core | |
| Ask an expert voting | Core | |
| Ask an expert responses | Core | |
| Blogging & comments | Core | |
| Blog comment moderation | Core | |
| Community wikis | Add-on (free) | Not well supported. Best option is PMWiki integration, see Wiki Module and https://goo.gl/8EY7ln |
| Social media integration | Add-on (free) | Post It Everywhere module as well as several other options |
| General discussion forums | Core | Also a variety of enhanced forum modules available |
| Surveys | Add-on (free) | Webform module |
| Rating of content | Add-on (free) | Fivestar module and many other options |
| Mailing lists / newsletters | Add-on (free) | Various levels of sophistication available including |

| 6. Other | | |
|----------------------------------|-------------------|--|
| Function | Availability | Notes |
| Federated search across all CoPs | Core | |
| Calendar management | Add-on (free) | Events management is out of the box, displaying in a calendar view requires Calendar module |
| Online courses (free/paid) | 3rd party service | Moodle as standalone LMS, or consider Opigno for a Drupal-based option |
| Video / audio conferences | 3rd party service | No inbuilt integration with other services. API integration for calendars or embedded views would require coding. |
| Webinar management | 3rd party service | Use of Adobe Connect or other similar webinar service suggested. API integration for calendars or embedded views would require coding. |

Cost estimate

| Component | Estimated Cost (\$) |
|--|---------------------|
| Set up costs | |
| System hosting, infrastructure, & backups | \$200 |
| Software platform licensing (base) | \$0 |
| Software platform licensing (add-ons) | \$0 |
| Initial development & configuration ^[1] | \$20 000 |
| Annual operating costs | |
| System hosting, infrastructure, & backups ^[2] | \$5 000 |
| Software platform licensing (base) | \$0 |
| Software platform licensing (add-ons) | \$0 |
| Upgrades and maintenance ^[3] | \$22 000 |
| Global administration ^[4] | \$9 000 |
| End user technical support (Level 1 + 2) ^[5] | \$8 000 |
| Bug fixes and enhancements (Level 3) ^[6] | \$24 000 |
| Total operating cost per year | \$68 000 |
| Total cost over 3 years | \$224 200 |

Notes

^[1] 20 days planning and installation @ \$1000 / day

^[2] \$349.95 / month for dedicated VPC and 2GB RAM

^[3] 10 days / year @ \$1000 / day + one major upgrade every three years @ \$36000

^[4] Assumes 15 sites / year @ \$600 / site

^[5] Assumes 10 days / year @ \$800 / day

^[6] Assumes 20 days / year @ \$1200 / day

Risk assessment

| Risk area | Risk assessment |
|--|---|
| Infrastructure risks <ul style="list-style-type: none"> - Fault tolerance of infrastructure? - Backup arrangements? - Cost to recover in case of disaster? - How common are the skills needed for administration? | <p>Commodity infrastructure on any supported LAMP/WAMP environment (Linux/Windows, Apache, MySQL, PHP). Fully hosted environments with backups are commodity.</p> <p>Skills required are widely available, albeit in-house IT administrators are slightly more likely to be familiar with the Microsoft stack (Windows / SharePoint / SQL Server)</p> <p>Risk: Low</p> |

| Risk area | Risk assessment |
|---|--|
| <p>Software risks</p> <ul style="list-style-type: none"> - Is the software closed source or open source? - How long will the chosen version be supported? - What costs are involved in upgrading to the next version? - How common are the skills needed for administration? | <p>Underlying Drupal platform is fully open-source and widely supported.</p> <p>Drupal Commons is a distribution that is largely developed by Acquia, the largest Drupal vendor. The install base of Drupal Commons as a distribution is fairly small (2,000 registered site installations).</p> <p>A high percentage of add-ins to provide functionality increases the risk of version conflict or add-in obsolescence over time.</p> <p>Risk: Medium-High</p> |
| <p>Vendor risks</p> <ul style="list-style-type: none"> - How financially stable is the software vendor? - What options are available for third-party consulting support? - If vendor no longer offers their platform, what is the impact? | <p>The Drupal software has no single vendor but is supported and maintained by over 37,000 developers globally. Acquia provides commercial support and has \$100M in revenue.</p> <p>The open-source model provides a wide range of options for ongoing consulting and development support in the unlikely event of Acquia ceasing to support the Drupal Commons platform. This may increase support costs in the short term.</p> <p>Risk: Low</p> |
| <p>Network risks</p> <ul style="list-style-type: none"> - What network bandwidth is required to use the software? - Is the platform usable on mobile? | <p>Themes can be enhanced with additional bandwidth saving techniques such as on-demand loading of images. Drupal Commons uses a fully-responsive theme which works on mobile devices as well as desktops.</p> <p>Acquia offer fully managed, cloud-hosted options for Drupal. Local hosting options are also possible.</p> <p>Risk: Low</p> |

SharePoint Online

Overview

SharePoint is oriented around team sites which fosters high quality collaboration. A key benefit of SharePoint is its tight integration for creating and sharing content with the very commonly used Microsoft Office productivity suite.

Strengths and weaknesses

Advantages

- Allows multisite from single platform with permission inheritance
- Integration with Microsoft Office provides strong online editing and collaboration options
- Low initial cost (flat \$5 / user / month for core capabilities)

Disadvantages

- Designed around internal rather than external facing communication
- Collaboration model is optimized for guest (anonymous) use, based around invitation
- Limited control over content access by guest users
- Requires a third-party provider to deliver a public website platform

Feature evaluation

| 1. CoP Management | | |
|-----------------------------|---------------|--|
| Function | Availability | Notes |
| Create CoP site | Core | Office 365 groups |
| Branding and attribution | Core | Core only allows colour changes, fonts and logo or background images, however there are a range of themes available as paid and free Add-ons |
| About us | Core | |
| Contact us | Core | |
| Social media link icons | Add-on (free) | |
| Embed latest tweets | Add-on (free) | Options include AE Twitter App Part and ConnectWithUs app to show content from Instagram, Twitter, Facebook, Flickr, YouTube & Picasa |
| Custom content containers | Core | SharePoint "Content Web Parts" |
| Custom widgets | Core | SharePoint "Content Web Parts" |
| Full custom layout controls | Core | Drag and drop layout using SharePoint Designer |
| Site index widget | Core | Table of Contents Web Part will produce links to pages within a site within the root site. |

| 2. User Management | | |
|--|---------------|---|
| Function | Availability | Notes |
| User registration | Core | Users added to Office 365 either individually or through csv file. User registration accelerator allowing self-registration available as paid add-on (USD\$1395) |
| Custom user profiles | Core | User profiles edited by Office 365 Admin which allows creation and editing of custom properties. |
| Custom user registration form | N/A | |
| Self-service user profile management | Core | Self-service profile update available through My Sites |
| Organisation management | Core | Managed through Office 365 groups |
| Custom organisation profiles | Core | Managed through Office 365 groups |
| Self-service org profile management | N/A | Group information must be managed by Office 365 admin |
| Register approved agreements | Add-on (paid) | DocuSign for SharePoint Online (USD\$400 / year / user) |
| Associate users and organisations w/agreements | Core | Central document library to host agreements with organisational metadata. |
| Global permissions per user | N/A | Individual permissions shouldn't be assigned to individuals, permission levels are assigned to SharePoint groups. |
| Global permissions per organisation | Core | Each organisation is created as an Office 365 group, with shared SharePoint site. |
| Global permissions per site | Core | Team sites can have global permissions |
| Expert profile widget | Code required | My Sites profile directory supply information but no widget out of the box to display |
| Searchable expert directory | Add-on (free) | People search provides basic directory out of the box. Customisable Display Template for corporate directory search available, as well as a range of other add-ons. |

| 3. Article workflow | | |
|---|---------------|--|
| Function | Availability | Notes |
| Article publishing lifecycle | Add-on (paid) | Microsoft Flow |
| Administer lifecycle steps | Add-on (paid) | Microsoft Flow |
| Article tags and categories | Core | Add keywords to a list or library then add to an item. Note, tags and notes have been retired from SharePoint from 2014 |
| Custom article metadata | Core | Enabling content types allows assigned of custom metadata |
| Custom permissions by lifecycle step | Add-on (paid) | Microsoft Flow |
| Lifecycle permissions based on metadata | Code required | Planned for implementation with Microsoft Flow in the future. Can be implemented using code, SharePoint Designer, or commercial add-ons like Nintex Workflow |
| Deferred publish by date | N/A | Not possible out of the box with SharePoint. If third-party public website technology selected, dependent on that vendor's features. |
| WYSIWYG editing | Core | Office online editors, as well as built in rich text editor for text fields in lists. |
| Version tracking | Core | Versioning is available for all items so long as versioning hasn't been turned off for that library. |
| Track changes (redline) | Core | Track changes available through integrated editing in Word and Excel |
| 4. Internal collaboration | | |
| Function | Availability | Notes |
| Document upload | Core | Upload to Document Libraries |
| Content tagging | Core | Keywords and column metadata for column types |
| Work plan / task management | Add-on (free) | Office 365 Planner |
| General list management | Core | |

| 5. External community interaction | | |
|-----------------------------------|---------------|--|
| Function | Availability | Notes |
| Ask an expert questions | Code required | |
| Ask an expert moderation | Code required | |
| Ask an expert voting | Code required | |
| Ask an expert responses | Code required | |
| Blogging & comments | Core | Blog using a browser, email or via Word. |
| Blog comment moderation | Core | Enable content approval |
| Community wikis | N/A | Intranet wikis only |
| Social media integration | N/A | |
| General discussion forums | Add-on (paid) | HarePoint Discussion Board for SharePoint Online (\$700USD) |
| Surveys | Core | Microsoft forms |
| Rating of content | Core | Either Likes or Star Ratings can be enabled for all items in a library |
| Mailing lists / newsletters | Add-on (paid) | Integration with mail services, such as MailChimp, through Microsoft Flow |
| 6. Other | | |
| Function | Availability | Notes |
| Federated search across all CoPs | Core | Cloud Search Service Application (Hybrid Search) crawls all SharePoint content |
| Calendar management | Core | |
| Online courses (free/paid) | Add-on (paid) | LMS365 (USD\$1.60 / user / month) |
| Video / audio conferences | Core | Skype for Business |
| Webinar management | Core | Skype Meeting Broadcast |

Cost estimate

| Component | Estimated Cost (\$) |
|---|---------------------|
| Set up costs | |
| System hosting, infrastructure, & backups | \$0 |
| Software platform licensing (base) | \$0 |
| Software platform licensing (add-ons) | \$1 400 |
| Initial development & configuration ^[1] | \$20 000 |
| Annual operating costs | |
| System hosting, infrastructure, & backups | \$0 |
| Software platform licensing (base) ^[2] | \$120 000 |
| Software platform licensing (add-ons) ^[3] | \$28 800 |
| Upgrades and maintenance | \$0 |
| Global administration ^[4] | \$9 000 |
| End user technical support (Level 1 + 2) ^[5] | \$8 000 |
| Bug fixes and enhancements (Level 3) ^[6] | \$12 000 |
| Total operating cost per year | \$177 800 |
| Total cost over 3 years | \$609 800 |

Notes

^[1] 20 days planning and installation @ \$1000 / day

^[2] \$5 / user / month for 2000 users

^[3] \$1.20 / user / month for 2000 users of LMS 365

^[4] Assumes 15 sites / year @ \$600 / site

^[5] Assumes 10 days / year @ \$800 / day

^[6] Assumes 10 days / year @ \$1200 / day

Risk assessment

| Risk area | Risk assessment |
|---|--|
| <p>Infrastructure risks</p> <ul style="list-style-type: none"> - Fault tolerance of infrastructure? - Backup arrangements? - Cost to recover in case of disaster? - How common are the skills needed for administration? | <p>Data centres are fully owned, operated, and managed by Microsoft. Backup and disaster recovery is automatic. No infrastructure cost overheads.</p> <p>Risk: Low</p> |
| <p>Software risks</p> <ul style="list-style-type: none"> - Is the software closed source or open source? - How long will the chosen version be supported? - What costs are involved in upgrading to the next version? - How common are the skills needed for administration? | <p>Software is fully closed source, and automatically and incrementally upgraded by Microsoft. There are no “versions” per se, and therefore no upgrade paths. However, this means that integration points may break with minimal notice. Paid add-ins have an unknown lifespan since many are created by fairly small vendors.</p> <p>Skills required to administer SharePoint Online are comparatively common and many partner firms exist to support implementation.</p> <p>Risk: Low-Medium</p> |
| <p>Vendor risks</p> <ul style="list-style-type: none"> - How financially stable is the software vendor? - What options are available for third-party consulting support? - If vendor no longer offers their platform, what is the impact? | <p>Microsoft remains one of the largest technology companies worldwide, and has fostered extensive partner arrangements globally.</p> <p>If Microsoft ceases to offer its cloud-based platform, organisations would be forced to migrate to a new offering.</p> <p>Risk: Low</p> |
| <p>Network risks</p> <ul style="list-style-type: none"> - What network bandwidth is required to use the software? - Is the platform usable on mobile? | <p>SharePoint tends to require slightly greater bandwidth than most web portals, especially when using WebDAV. Mobile usability has improved greatly in the past few years.</p> <p>Risk: Low</p> |

Jive-X

Overview

Jive-x is social community software available as a cloud based or hosted service, but is company rather than community driven, focusing on providing a space for a community of users to collaborate so that the sponsoring company can harvest useful information and reduce technical support costs.

Strengths and weaknesses

Advantages

- Customisable and flexible
- Apps for mobile access
- Good support and training through Jiveworks community
- News streaming customised to each user

Disadvantages

- User groups can be customised, but permissions are insufficiently granular for creating unique communities, for example permission for downloading video files is a global setting.
- Does not support Workflows
- No document version control and limited content management and publishing

Feature evaluation

| 1. CoP Management | | |
|-----------------------------|---------------|--|
| Function | Availability | Notes |
| Create CoP site | Core | Jive Spaces |
| Branding and attribution | Core | Out of the box themes available to change text, background colours, logo images. |
| About us | Core | Overview page |
| Contact us | Core | Overview page |
| Social media link icons | Core | Embedded in footer |
| Embed latest tweets | Code required | Twitter API needs adding as Twitter plugin no longer works |
| Custom content containers | Code required | Create a custom tile to display an HTML view. Limit of two custom view tiles per page https://community.jivesoftware.com/docs/DOC-141800 |
| Custom widgets | Core | Jive tiles |
| Full custom layout controls | Core | Jive comes with templates and the ability to configure tiles and stream integrations |
| Site index widget | N/A | |

| 2. User Management | | |
|--|---------------|--|
| Function | Availability | Notes |
| User registration | Core | Single Sign-on available otherwise manual process for creating a user account. |
| Custom user profiles | Core | Can create custom fields for user profiles |
| Custom user registration form | Code required | |
| Self-service user profile management | Core | Users can control profile information |
| Organisation management | Core | Jive Spaces |
| Custom organisation profiles | N/A | |
| Self-service org profile management | N/A | |
| Register approved agreements | N/A | |
| Associate users and organisations w/agreements | Core | Document upload to Spaces |
| Global permissions per user | Core | Permissions are customisable across users and user groups |
| Global permissions per organisation | N/A | |
| Global permissions per site | Core | |
| Expert profile widget | Code required | |
| Searchable expert directory | Code required | |
| 3. Article workflow | | |
| Function | Availability | Notes |
| Article publishing lifecycle | Core | Simple draft approval/rejection only |
| Administer lifecycle steps | N/A | No real ability to customize publication lifecycle |

| | | |
|--|---------------------|---|
| Article tags and categories | Core | Items can be tagged using # and tags can be followed in streams |
| Custom article metadata | N/A | |
| Custom permissions by lifecycle step | N/A | |
| Lifecycle permissions based on metadata | N/A | |
| Deferred publish by date | Core | Blog posts can be scheduled by date |
| WYSIWYG editing | Core | |
| Version tracking | Core | Version allows view changes, restore or delete. |
| Track changes (redline) | Core | Marking feature shows comments, decisions and actions. |
| 4. Internal collaboration | | |
| Function | Availability | Notes |
| Document upload | Core | Can upload and preview external files. Add-on for working with Office available (live for Office) |
| Content tagging | Core | Can mark for action and assign content items to yourself or others for review. |
| Work plan / task management | Core | Tasks can assign and track tasks |
| General list management | Code required | Register as custom node type |
| 5. External community interaction | | |
| Function | Availability | Notes |
| Ask an expert questions | Core | |
| Ask an expert moderation | Core | |
| Ask an expert voting | Core | |
| Ask an expert responses | Core | |
| Bloggging & comments | Core | |
| Blog comment moderation | Core | Comments can be moderated by admin and users |

| | | |
|----------------------------------|---------------------|---|
| Community wikis | N/A | Wiki functionality is provided by creating a page allowing anybody to add and change content. |
| Social media integration | N/A | |
| General discussion forums | Core | Discussion and question forums |
| Surveys | Core | Any user can create a poll |
| Rating of content | N/A | Status updates and answers can be liked. |
| Mailing lists / newsletters | N/A | |
| 6. Other | | |
| Function | Availability | Notes |
| Federated search across all CoPs | Core | Uses Lucerne search framework |
| Calendar management | Add-on (free) | Jive Events Extension |
| Online courses (free/paid) | 3rd party service | Moodle can be integrated as a LMS |
| Video / audio conferences | Add-on (paid) | Skype integration or Cisco Click to Chat feature |
| Webinar management | Add-on (paid) | Cisco Click to Meet feature |

Cost estimate

| Component | Estimated Cost (\$) |
|---|---------------------|
| Set up costs | |
| System hosting, infrastructure, & backups | \$0 |
| Software platform licensing (base) | \$0 |
| Software platform licensing (add-ons) | \$0 |
| Initial development & configuration ^[1] | \$10 000 |
| Annual operating costs | |
| System hosting, infrastructure, & backups | \$0 |
| Software platform licensing (base) ^[2] | \$120 000 |
| Software platform licensing (add-ons) ^[3] | \$0 |
| Upgrades and maintenance | \$0 |
| Global administration ^[4] | \$9 000 |
| End user technical support (Level 1 + 2) ^[5] | \$8 000 |
| Bug fixes and enhancements (Level 3) ^[6] | \$12 000 |
| Total operating cost per year | \$149 000 |
| Total cost over 3 years | \$457 000 |

Notes

^[1] 10 days planning and installation @ \$1000 / day

^[2] \$5 / user / month for 2000 users – NB: this pricing is estimated and not officially confirmed by vendor

^[3] \$1.20 / user / month for 2000 users of LMS 365

^[4] Assumes 15 sites / year @ \$600 / site

^[5] Assumes 10 days / year @ \$800 / day

^[6] Assumes 10 days / year @ \$1200 / day

Risk assessment

| Risk area | Risk assessment |
|---|--|
| <p>Infrastructure risks</p> <ul style="list-style-type: none"> - Fault tolerance of infrastructure? - Backup arrangements? - Cost to recover in case of disaster? - How common are the skills needed for administration? | <p>Jive can be operated as a full SaaS offering, or locally installed. If cloud option is adopted, backup and disaster recovery is automatic. No infrastructure cost overheads.</p> <p>Risk: Low</p> |
| <p>Software risks</p> <ul style="list-style-type: none"> - Is the software closed source or open source? - How long will the chosen version be supported? - What costs are involved in upgrading to the next version? - How common are the skills needed for administration? | <p>Software is not open-source, with upgrades and bug fixes dependent on vendor. The feature set is limited but largely provided and maintained by the vendor.</p> <p>Cloud versions of Jive are automatically upgraded at no cost. Administrative skills are minimal.</p> <p>JIVE API for extensions are claimed to be highly version independent.</p> <p>Risk: Medium</p> |
| <p>Vendor risks</p> <ul style="list-style-type: none"> - How financially stable is the software vendor? - What options are available for third-party consulting support? - If vendor no longer offers their platform, what is the impact? | <p>Jive has \$200m in annual revenue.</p> <p>Jive has several dozen partners, most of whom appear to be global consulting firms. If Jive ceases to offer its platform, organisations would be forced to migrate to a new offering.</p> <p>Risk: Medium</p> |
| <p>Network risks</p> <ul style="list-style-type: none"> - What network bandwidth is required to use the software? - Is the platform usable on mobile? | <p>Jive is a web-based app with similar network bandwidth requirements to other platforms. It publishes mobile iOS and Android apps for a first-class device experience.</p> <p>Jive offer cloud hosting options, and can also host custom instances locally.</p> <p>Risk: Low-Medium</p> |

Evaluation

The relative functional capability of each platform is summarised in Table 5 below. (Note that a full product assessment matrix can be found in Appendix A.)

| Platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|---|------------|------------|------------|----------------|-------------------|------------|
| Core | 62% | 55% | 42% | 60% | 51% | 58% |
| Add-on (free) | 15% | 13% | 31% | 27% | 7% | 2% |
| Add-on (paid) | 2% | 0% | 11% | 0% | 18% | 4% |
| Features without coding or integration | 78% | 67% | 84% | 87% | 76% | 64% |
| Code required | 11% | 18% | 4% | 7% | 11% | 11% |
| 3rd party service | 4% | 2% | 5% | 5% | 2% | 2% |
| N/A | 7% | 13% | 7% | 0% | 11% | 24% |
| Overall feature availability | 93% | 87% | 93% | 100% | 89% | 76% |

Table 4. Relative feature fit for each assessed platform.

The functional assessment allows for three measures of feature completeness:

- Liferay provides the greatest feature set in the core product (62%)
- Drupal Commons offers the most complete option when considering features available without coding (87%), and with coding and integration of third-party services (100%)

An estimated of annual operating costs and total costs (including setup over three years) was also conducted, with the comparison provided in Table 6.

| Costs per platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|--------------------------------------|-----------|-----------|------------|----------------|-------------------|-----------|
| Total operating cost per year | \$192 800 | \$96 300 | \$55 800 | \$68 000 | \$177 800 | \$149 000 |
| Total cost over 3 years | \$578 400 | \$338 900 | \$202 100 | \$249 200 | \$609 800 | \$492 000 |

Table 5. Relative costs per platform.

These costings suggest that community-based open source products like Drupal Commons and BuddyPress provide substantial cost savings over closed-source or single-vendor open source products.

It is worth noting both Drupal Commons and BuddyPress require significant numbers of add-ons to achieve feature parity. While difficult to quantify, it is generally the case that any product relying on add-ons will **deliver a less cohesive administrative experience**. This is reflected in the greater estimated per-community cost of setting up new CoPs. Despite this, incremental administrative costs are comparatively small compared to overall operating costs, as shown in Table 7.

| Costs to create new CoP group | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|--|----------------|----------------|----------------|----------------|-------------------|----------------|
| New CoP design | \$1 000 | \$1 000 | \$2 000 | \$2 000 | \$2 000 | \$ 400 |
| Integration and implementation | \$2 000 | \$2 000 | \$2 000 | \$3 000 | \$ 500 | \$ 500 |
| Training of third party COP administrators and users | \$2 000 | \$2 000 | \$2 000 | \$2 000 | \$2 000 | \$2 000 |
| Total cost | \$5 000 | \$5 000 | \$6 000 | \$7 000 | \$4 500 | \$2 900 |

Table 6. Relative cost to create a new CoP group per platform.

A risk assessment for each platform was also completed and is shown in Table 8.

| Risk assessment | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|----------------------|---------|--------|------------|----------------|-------------------|--------|
| Infrastructure risks | Medium | Medium | Low | Low | Low | Low |
| Software risks | Medium | L/M | Medium | M/H | L/M | Medium |
| Vendor risks | Medium | Medium | Low | Low | Low | Medium |
| Network risks | Medium | Medium | Low | Low | Low | L/M |

Table 7. Relative risk of each platform option.

In general, more highly packaged options such as SharePoint Online and Jive-X offer lower operating risk, at the cost of a more limited feature set.

Liferay and eXo operate a similar technology stack and are attempting to offer a similar enterprise portal experience, and thus have similar risk levels. Community open source offerings like BuddyPress and Drupal Commons are well-architected and have low risk from a vendor lock-in and infrastructure cost perspective. However, they tend to require a greater commitment to hands-on coding and maintenance to maintain existing features as new software versions are released.

Conclusion

Overall, each platform has strengths and weaknesses. There are three basic models available for organisations to consider:

- **Enterprise suite** (Liferay, eXo) – Niche vendors providing substantial functionality out of the box with high licensing cost, higher development and maintenance costs.
- **Community open source** (BuddyPress, Drupal Commons) – The use of popular open-source frameworks with add-ons can deliver highly functional outcomes with minimal licensing costs. However, this is likely to deliver a more fragmented administrative experience, with a likely greater maintenance and development overhead.
- **Commercial software as a service** (SharePoint Online, Jive-X) - Accepting the feature limitations of a commercial software as a service (SaaS) platform reduces operational risk and maintenance overheads. These platforms scale costs linearly with a known per-user cost per month. Organisations can deliver a highly-functional solution with very low cost in the short term. However, SaaS options become relatively more expensive unless bulk licensing discounts are negotiated.¹

The correct model is ultimately one for each organisation to individually determine through their own decision-making processes, based on the perceived relative value of these trade-offs.

¹ Note that eXo offers the eXo Cloud product to deliver a similar SaaS experience to Jive-X.

Appendix A: Full feature comparison matrix

| Platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|-----------------------------|---------------|---------------|---------------|----------------|-----------------------|---------------|
| 1. CoP Management | | | | | | |
| Create CoP site | Core | Core | Core | Core | 3rd party service | Core |
| Branding and attribution | Core | Core | Core | Core | Core | Core |
| About us | Core | Core | Core | Core | Core | Core |
| Contact us | Core | Core | Core | Add-on (free) | Core | Core |
| Social media link icons | Add-on (free) | Code required | Add-on (free) | Add-on (free) | Add-on (free) | Core |
| Embed latest tweets | Add-on (free) | Code required | Add-on (free) | Core | Add-on (free) | Code required |
| Custom content containers | Core | Core | Core | Core | Core | Code required |
| Custom widgets | Add-on (free) | Core | Core | Core | Add-on (free or paid) | Core |
| Full custom layout controls | Core | Core | Core | Core | Core | Core |
| Site index widget | Code required | Core | Add-on (free) | Code required | Core | N/A |

| Platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|--|---------------|---------------|---------------|----------------|-------------------|---------------|
| 2. User Management | | | | | | |
| User registration | Core | Core | Core | Core | Core | Core |
| Custom user profiles | Core | Code required | Core | Core | Core | Core |
| Custom user registration form | Core | N/A | Add-on (free) | Code required | N/A | Code required |
| Self-service user profile management | Core | Core | Core | Core | Core | Core |
| Organisation management | Core | Core | Add-on (paid) | Core | Core | Core |
| Custom organisation profiles | Core | Code required | N/A | Core | Core | N/A |
| Self-service org profile management | N/A | N/A | N/A | Code required | N/A | N/A |
| Register approved agreements | N/A | Core | Code required | Core | Add-on (paid) | N/A |
| Associate users and organisations w/agreements | N/A | N/A | Code required | Core | Core | Core |
| Global permissions per user | Core | Core | Core | Core | N/A | Core |
| Global permissions per organisation | Core | Core | Core | Core | Core | N/A |
| Global permissions per site | Core | Core | Add-on (paid) | Core | Core | Core |
| Expert profile widget | Add-on (free) | Core | Core | Core | Code required | Code required |
| Searchable expert directory | Core | Core | Core | Core | Add-on (free) | Code required |

| Platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|---|---------------|---------------|---------------|----------------|-------------------|--------|
| 3. Article workflow | | | | | | |
| Article publishing lifecycle | Core / Add-on | Core | Add-on (free) | Add-on (free) | Add-on (paid) | Core |
| Administer lifecycle steps | Add-on (free) | Code required | Add-on (free) | Add-on (free) | Add-on (paid) | N/A |
| Article tags and categories | Core | Core | Core | Core | Core | Core |
| Custom article metadata | Core | Code required | Core | Core | Core | N/A |
| Custom permissions by lifecycle step | Add-on (free) | Core | Add-on (free) | Add-on (free) | Add-on (paid) | N/A |
| Lifecycle permissions based on metadata | Code required | Code required | Add-on (free) | Add-on (free) | Code required | N/A |
| Deferred publish by date | Core | Core | Core | Add-on (free) | N/A | Core |
| WYSIWYG editing | Core | Add-on (free) | Core | Add-on (free) | Add-on (paid) | Core |
| Version tracking | Core | Core | Core | Core | Core | Core |
| Track changes (redline) | N/A | N/A | N/A | Add-on (free) | Add-on | Core |
| 4. Internal collaboration | | | | | | |
| Document upload | Core | Core | Core | Core | Core | Core |
| Content tagging | Core | Core | Core | Core | Core | Core |

| Platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|--|---------------|-------------------|-------------------|----------------|-------------------|---------------|
| Work plan / task management | Add-on (free) | Add on (free) | Add-on (free) | Code required | Core | Core |
| General list management | Core | Code required | N/A | Core | Add-on | Code required |
| 5. External community interaction | | | | | | |
| Ask an expert questions | Code required | Add-on (free) | Add-on (free) | Core | Code required | Core |
| Ask an expert moderation | Code required | Add-on (free) | Add-on (free) | Core | Code required | Core |
| Ask an expert voting | Code required | Add-on (free) | Add-on (free) | Core | Code required | Core |
| Ask an expert responses | Code required | Add-on (free) | Add-on (free) | Core | Code required | Core |
| Bloggng & comments | Core | Code required | Add-on (paid) | Core | Core | Core |
| Blog comment moderation | Core | 3rd party service | Core | Core | Core | Core |
| Community wikis | Core | Core | Add-on (paid) | Add-on (free) | N/A | Limited |
| Social media integration | Add-on (free) | N/A | Add-on (free) | Add-on (free) | N/A | N/A |
| General discussion forums | Core | Core | Core | Core | Add-on (paid) | Core |
| Surveys | Core | Core | Add-on (paid) | Add-on (free) | Core | Core |
| Rating of content | Core | Core | Add-on (free) | Add-on (free) | Core | Limited |
| Mailing lists / newsletters | Core | N/A | 3rd party service | Add-on (free) | Add-on (paid) | N/A |

| Platform | Liferay | eXo | BuddyPress | Drupal Commons | SharePoint Online | Jive-X |
|----------------------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|
| 6. Other | | | | | | |
| Federated search across all CoPs | Core | Core | Add-on (free) | Core | Core | Core |
| Calendar management | Add-on (free) | Core | Add-on (free) | Add-on (free) | Core | Add-on (free) |
| Online courses (free/paid) | Add-on (paid) | N/A | Add-on (paid) | 3rd party service | Add-on (paid) | 3rd party service |
| Video / audio conferences | 3rd party service | Add-on (free) | 3rd party service | 3rd party service | Add-on (paid) | Add-on (paid) |
| Webinar management | 3rd party service | Code required | 3rd party service | 3rd party service | Add-on (paid) | Add-on (paid) |