

IT Synergy 1-4-All Strategy Whitepaper

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Executive Summary

Over the duration of the last couple of years, IT Synergy has worked closely on several projects in collaboration and partnership with HP, most prominently in the development, localization, and adaptation of the HP 441 multihead solution. This document embodies a set of proposals to expand this valuable partnership and aggregates a diversity of initiatives for cooperation to the benefit of both HP and IT Synergy in the domain of the 441 multihead solution, representing a transformative step forward warranting our recommendation for the rebranding of the solution to become the IT Synergy 1-4-All.

Background

IT Synergy is an information technology consultancy focusing on open source and enterprise-class solutions as applied to emerging markets. We have worked closely with HP on the further development of the 441 to produce Arabic and French localizations, as well as conducting hardware tests. The maturity of our involvement in the 441 initiative as partners is an asset which we feel, through the implementation of concepts proposed in this document, may bring full benefit to HP, to IT Synergy, and to clients.

We have advanced the multihead solution and now possess the next generation based on Mandrake 10.1 which is marketed as the 1-4-All.

The first sequence of this proposal is perhaps the most influential; it is the proposition of establishing an online resource center for 1-4-All-related matters. Tentatively referred to as the 1-4-All TechWeb, we feel that this is a critical decision which can serve to unify the currently uncoordinated if valuable and innovative efforts directed at working with, improving, and bringing the 1-4-All to the greater market. We are prepared to take the initiative in this matter and will, in addition to establishment of said resource center, assume responsibility for coordination and strategic implementation of the multihead concept as expressed by the 1-4-All.

As a reflection of the wealth of opportunity represented by the 1-4-All solution, a very diverse range of activities have come to light and have been the subject of extensive interest. We present in this document a structured representation of these proposed initiatives segmented semantically into four distinct categories: hardware research, support, services, and sales/marketing initiatives.

Hardware Research

As previously mentioned, IT Synergy has a proven track record of directly relevant work conducting hardware research on the behalf of HP. We recognize the fast pace of development of hardware performance and costs and, correspondingly, the absolute requirement for high value propositions in the 1-4-All solution. In light of this, we propose the institution of two categories of hardware testing and research:

1. Periodical testing to sweep the market for valuable additions
2. On-demand testing with three day turnaround times for hardware requiring testing.

Support

The 1-4-All solution, being based on the open source Linux operating system, will require support for this specific technology and the applications revolving around it. We propose to provide three distinct services to facilitate the provision of support. These three services are as follows:

1. Training for first-level support
2. 1-4-All First-level support
3. 1-4-All Second-level support

Services

To complement the 1-4-All hardware-related initiative proposed above, we will also be able to provide research and development services focused on upgrading the system software and applications to stay current with software updates, operating system releases, and associated application enhancements.

In addition to this, we also propose to serve as the primary localization developer as we did with the French and Arabic editions of the 1-4-All operating system and applications software. In addition to operating as the primary localization center we will, as facilitated by the 1-4-All TechWeb proposed above, serve as a language demand aggregator and serve to transform interest in the architecture into real demand for localized editions with ensuing sales.

From a product positioning point of view, it has also come to our attention that the development of tailored 1-4-All packages targeting specific environments would be well received by the market; we therefore propose to proceed with the formulation and development of 1-4-All Educational and SME editions.

Finally and as affirmation of our belief in the viability of the 1-4-All product and in the interests of strengthening its capabilities, we propose to conduct system-level research with the objectives of improving performance, scalability, and sustainability.

Sales/Marketing Initiatives

The levels of interest we have seen from the market during our development work on the 1-4-All justify beyond doubt the initiation of a sales effort to make the solution available as a product in the regional market as well as, more generally, in emerging markets. The non-traditional architecture suggests that more clients may be encouraged if offered the opportunity to operate the machine under real work conditions before investing. We propose in response to these factors to bring the 1-4-All to the regional market in the form of a *Try and Buy* program.

The 1-4-All TechWeb

Emerging markets' ICT initiatives in general and the 1-4-All specifically represent serious endeavors to create advantage and mutual benefit in a hitherto under-addressed market.

Our close involvement with multihead technology as exemplified by the 1-4-All from a development and strategic perspective has placed us in a unique position from which we have observed much interest and activity revolving around the 1-4-All. We have also perceived the need for establishment of a centralized information and knowledge clearing house.

Our proposal is to establish an online resource center for 1-4-All interest and activity catering to:

1. Those involved in, interested in, or having stakes in the solution development.
2. Those active in or interested in participation in the marketing and selling of the solution
3. parties involved in testing the 1-4-All

IT Synergy will be the primary responsible for the operation of this resource center, tentatively referred to as the 1-4-All TechWeb. It is our intention to position this resource as a centralized location from which to bring about greater coordination and transparency and therefore speedier and higher quality results from the 1-4-All initiative.

We envision the following primary benefits and responsibilities assigned to and carried out through the 1-4-All TechWeb:

1. Centralization of strategy (sales/marketing, development, positioning, &c.)
2. Avoidance of effort duplication by tracking development partners and areas
3. Monitoring and communication of multihead technologies and developments
4. Issuance of periodical newsletters detailing developments and relevant issues

We are prepared to handle this matter in its entirety, starting with appropriation of the requisite resources (domain, hosting provisions, personnel for administering and content production, &c.) down to daily administration and technology tracking.

In general, we anticipate that the institution of the 1-4-All TechWeb under the guidance and supervision of IT Synergy to include the following benefits:

1. Clearer direction and direction
2. Better development practices
3. Best practices for sales/marketing, deployment, &c. documented
4. Stronger synergistic effects arising as a consequence of clearer channels of communication between interested and involved parties

Hardware

The core of IT Synergy's involvement in transformed PC architectures has hitherto revolved around the 1-4-All multihead solution developed under the impetus of the emerging markets requirements. As such, it is natural to start out with a proposition for strengthening the 1-4-All as a solution.

The 1-4-All represents an innovative evolution of the classical PC architecture to maximize hardware utilization. Basing this solution on standard PC hardware yields the additional benefit of persistent potential for greater performance as a consequence of the rapid evolution of the capabilities of PC hardware, whether motherboards, processors, video cards, peripheral technology, or other components. Given the state of continuous performance improvement in PC hardware, the solution will benefit from the institution of a hardware testing program with the objective of identifying and implementing optimal price-performance configurations; the 1-4-All can and will become not only more powerful but also more cost-effective.

IT Synergy is prepared to manage this initiative and we have prepared a work structure which we feel is the most effective modus operandum for balancing hardware status continuity with state of the art implementation where relevant and justified. Our proposal provides for two avenues for the triggering of hardware testing activity, a quarterly periodical review and on-demand.

Quarterly hardware review, auto-initiated

We propose the institution of a quarterly hardware review initiative. The pace of technological advance is sufficient that this periodicity represents what is, in our assessment, an optimal one in terms of giving the industry enough time to generate technology deltas in the state of the art on the one hand, and exercising conservatism in the published specifications of the 1-4-All.

It is our feeling at IT Synergy that further cost reductions may be obtained by matching 1-4-All hardware capability requirements with currently available commodity hardware. We propose to update the 1-4-All hardware compatibility list against previously untested hardware and against newly available hardware. We expect to produce as an output of this process a price-performance assessment of all selected hardware with an emphasis on cost reduction versus adequate performance.

The expected outputs of this phase are:

- 1 An updated 1-4-All hardware compatibility list
- 1 Identification of three optimal hardware configuration points providing best price-performance trade-offs in the following categories:
 - 1.1 Lowest achievable cost with 1-4-All fundamentals preserved
 - 1.2 Best performance per unit cost
 - 1.3 Highest performance achievable within the context of the base 1-4-All specification (i.e. memory limits, &c.)
- 2 An assessment of anticipated hardware advances which will affect the position of either of the three identified hardware configuration points

The state of the art in computer hardware is very dynamic, whether from a pricing or a performance/feature-set perspective; the 1-4-All hardware specification has not been kept up to date with the state of the art. It is our proposal to address this through research; we feel it is inevitable that cost and performance benefits will avail themselves.

As part of the final report on this phase we will also present recommendations and further proposals where applicable for institutionalizing the 1-4-All hardware compatibility list updating on a logical periodic basis.

Criteria for component selection

New hardware components will be shortlisted for testing based on the aggregate of the following criteria:

1. Cost: lower or equivalent to the currently utilized component
2. Performance: stated performance exceeds that of utilized component, or is equivalent if cost is lower.

The component shortlist will be assessed for the following characteristics:

1. Independence of the 1-4-All product from the component vendor: Is the component a true commodity or does it present risks of single sourcing?
1. Technological maturity: Are the cost/performance gains realized by the component based on untested technologies?

The resulting list of hardware will be tested for computability with the 1-4-All solution.

Selected components and Test results

The results of the hardware testing efforts will be communicated in a technical report detailing test results in detail, including assessed causes of failure and any expectations regarding development efforts required to turn a compatibility failure into a working component.

Test results, in addition to being communicated to interested parties, will be incorporated

into an online database in the name of optimal knowledge dissemination.

Reports will, where relevant, include a benchmark versus the then current standard 1-4-All hardware.

Recommendations

Test results reporting will be accompanied with a qualitative assessment of the options provided by the new hardware options and will present concrete recommendations for implementation based on test results. This qualitative recommendation will be supplemented with an assessment of the financial impact of the implementation of each separate recommendation.

On demand

In addition to the institution of a quarterly hardware testing effort, we also propose the establishment of an on-demand hardware testing center for the 1-4-All solution. This center will function as a clearinghouse for hardware-related queries concerning the 1-4-All with respect to hardware compatibility and will operate as a testing and validation facility.

IT Synergy will, in this capacity, receive requests for evaluation of 1-4-All compatibility regarding hardware components specified by the client and will present a report describing the degree of success experienced in using this device with the 1-4-All and, in cases of incompatibility, any expectations regarding development efforts required to turn a compatibility failure into a working component.

Service Level

An initial test report will be issued within 3 working days from receiving the hardware. Compatibility failure will require additional reporting requirements detailing assessed cause of failure and any expectations regarding development efforts required to turn a compatibility failure into a working component; this will take a further 3 working days.

Reporting

Test reports will be communicated to the client within 3 to 6 working days depending on test outcome as specified in the above. Finalized test results will be fed into the online hardware compatibility database established as part of the quarterly hardware testing activity.

Reports will, where relevant, include a benchmark versus the then current standard 1-4-All hardware

Compensation per component

The cost of this activity will be charged per component tested. It will not cover the procurement of test equipment or components, which will be invoiced separately.

Support

The penetration of open source as a solution base in business environments is highly dependent on the provision of strong support services to provide continuity, sustainability, and assurance to the enterprise environment.

The position of IT Synergy as a primary sponsor and adopter of open source solutions and as the most experienced and active open source operator in the region makes it a natural proposition for IT Synergy to take the initiative in the area of support provision.

IT Synergy has been an active participant in open source for close to a decade now. We possess the organizational experience and requisite competencies to offer support services to bolster HP's presence in the regional market for open source solutions.

We envision the commencement of a profitable and beneficial partnership for support services along two primary axes: second level support and training for first level support staff.

We are prepared to function in the role of second-level support to generate and reinforce the quality of first-level support provided by HP for its solutions.

Application scope

The applications for which IT Synergy are initially prepared to provide second level support for are classified into two categories: system level and user level.

System Level Second Level Support Scope

At this level, IT Synergy will provide support for the Linux operating system within the context of its operation in an enterprise-class networked environment in server roles. The service provided will aim to support system and network deployment, administration, configuration, and performance management. This support level will cover knowledge and competency areas such as (and not limited to) those listed below:

- General administration tasks (user, hardware, performance, network, &c.)
- Server-related administration tasks (http, mail, dns, file and print sharing services, &c.)
- Linux network integration tasks (multiple deployment roles such as firewall, gateway, proxy, &c.)

IT Synergy is prepared to proceed immediately with the provision of these defined support services. We will also be able to provide second level support outside the tasks listed above on a need basis.

User Level Second Level Support Scope

IT Synergy can provide second level support catering to users of open source applications covering all major areas of desktop and business functionality. The areas covered by our second level support include and are not limited to:

1. Office application usage (word processing, spreadsheet usage, presentation software, &c.)
2. Internet usage (web browsing, e-mail, instant messaging, &c.)
3. Generic user-level tasks (user configuration, &c.)

IT Synergy is prepared to proceed immediately with the provision of these defined support services. We will also be able to provide second level support outside the tasks listed above on a need basis.

Service level description

Given the nature of second-level support, we intend to mirror the service level temporal availability terms provided by HP for their clients in order to make ourselves available at all times when our support may be needed.

IT Synergy intends to provide second-level support through four primary channels:

1. On-site support, in accompaniment with HP support personnel at the client's premises.
2. Telephone support
3. E-mail support
4. On-line support, through our dedicated IRC server and/or through instant messaging networks such as MSN. We will be providing special software providing one-click access from the 441 desktop to support personnel through our IRC facilities.
5. Voice over IP; this communications medium is provided to ensure that costs associated with support provision remain low in keeping with the profile of the emerging markets initiative from which the 441 product sprang.

Response times for on-site support in Cairo will be X working hours. Where an on-site second-level support request is received for which the X hour response time will fall outside agreed upon hours, it will be addressed the following working day within X hours from the start of the working day. IT Synergy will provide on-site support outside Cairo at rates and service levels to be determined on a per-location basis.

IT Synergy will bill for second level support provided on a monthly basis. The basic second-level support contract will contain a fixed prepaid number of support incidents to provide a reasonable basis of confidence of operation to the beneficiaries of the support service.

441 First level support

The 441 represents, at the moment, the premier product arising from the HP emerging markets initiative. The Egyptian and Middle Eastern information technology market corresponds perfectly to the market profile which prompted the emerging markets initiative; as such, it is our feeling at IT Synergy that, with the added value of the Arabic 441 localization we produced for HP, the 441 experience in the regional market may well become a best practices case for the 441 specifically and for the emerging markets initiative in general.

To support this belief we are prepared to provide first level support for 441 administration as well as end usage. The scope of support covered will be as follows:

- 1 Administrative tasks (configuration, &c.)
- 2 End use functionality
 - 2.1 end user non-system configuration tasks
 - 2.2 Word processing (OpenOffice Writer)
 - 2.3 Spreadsheet usage (OpenOffice Calc)
 - 2.4 Presentations (OpenOffice Impress)
 - 2.5 Web browsing (Mozilla Firefox)
- 3 Other tasks may be supported as well based on the request of either HP or the client as communicated through HP.

For the purposes of provision of this first level support, we will make our support staff available through the four primary media already elaborated upon in the service level description for the second level support proposed above.

441 Second level support

In addition to first level support IT Synergy is also prepared to provide second-level support for the HP 441. The second level support will be provided with the objective of fortifying HP's ability to support the solution and may also be further supported through provision of training for first level HP 441 support.

For the purposes of provision of this first level support, we will make our support staff available through the four primary media already elaborated upon in the service level description for the second level support proposed above.

Services

441 software upgrades

One of the successes of the HP 441 design was the decision to base the solution on open source software. Open source software has the distinct advantage of periodic and bountiful software updates and upgrades providing fixes and adding features to already valuable and powerful software.

The HP 441 solution runs the 9.1 release of the Mandrake Linux operating system. This release dates back to January 2003.

The update cycle for Mandrake operates on two levels:

1. Bug and security fixes – no fixed periodicity, updates issued as the need arises. In reality, this kind of updates occur on an almost daily basis
2. Point and release updates – these are distribution updates and they result in increased Mandrake Linux version numbers. The periodicity is slower; a point release (i.e. from 9.0 to 9.1) can occur over the space of a few months and a version update i.e. the release of 10.0 can occur every one to two years.

The current release of Mandrake at the time of writing this proposal is over one major

release higher than that deployed on the HP 441. It is our proposition to bring the 441 up to the current Mandrake release and to keep it current with subsequent updates and upgrades.

This proposal covers the upgrading of the HP 441's software to Mandrake 10.1, a change which would bring with it major benefits. Release cycles for open source software is extremely rapid as a consequence of rapid turnaround in bug fixing and feature implementation. Mandrake updates abstract a very wide bevy of fixes and improvements in the underlying operating system, components, and applications. The differences between 9.1 and 10.1 are very significant; the accumulated changelogs from the intermediate point updates and release updates number in the hundreds of pages.

The most obvious improvement is the migration from a 2.4 series kernel to a 2.6 series kernel, which has a very material effect on desktop usage due to the integration of kernel pre-emption and sophisticated memory scheduler technology; the 2.6 kernel is the best Linux release ever from the perspective of desktop users.

Additionally, the X window system (the heart of the graphical user interface) in 10.1 is the x.org fork of the xfree86 project which was employed in Mandrake 9.1; this is a very positive change and the x.org project is expected to display a very rapid release cycle over the next few years as technologies providing composite xdamage and native scalable vector graphic rendering are introduced. It will require some research and development to adapt the x.org server to the 441 hardware architecture, but we feel that it is unquestionably worth the investment in time and effort to do this now early in the x.org release cycle.

The benefits of upgrading to 10.1 will also create incidental and very desirable benefits. Just as the software is continually updated so are the localization and language packages. Desktop applications also are updated, as is the general polish of the operating system and the graphical user interface.

Periodicity or triggers for performing an upgrade (e.g. new point releases, etc.)

This proposal covers the immediate activity of upgrading the HP 441 to Mandrake 10.1. Subsequent upgrades will be proposed and initiated with the approval of HP based on version differences and the desirability of performing the upgrade. New software upgrades will be proposed with each new point upgrade or new release of the Mandrake operating system.

Work Procedure

Our proposed activity to upgrade the version of Mandrake Linux deployed on the HP 441 will actually entail two steps:

1. Upgrade the HP 441 to Mandrake 10.1
2. Conduct extensive user and system testing

The second step will create a feedback cycle to the development effort which will ensure that, at the end of the development effort we have a product which not only excels because of the operating system upgrade but also because of the thoroughness of the quality control conducted upon it.

We would additionally propose to execute this project in parallel with the proposal submitted regarding hardware testing; the dual 441 development and testing effort will create unanticipated synergies and we are confident that the output of these efforts will be a product not only suitable for emerging markets but also of a standard of excellence making it attractive in more developed markets.

Open Source Training

As part of the process of bringing to HP the capability and resources to fully present open source based solutions, HP will require the ability to provide very specific and high quality training to enable open source solution clients to take ownership of their technologies.

The client will require training in two possible areas, both which IT Synergy can cover from a know-how and a training point of view: administratorship and end-usage.

System and Network Administrators

The objective of this training is to prepare information technology professionals with no previous Linux experience for roles as Linux administrators in charge of HP 441 deploys. The training will include classroom sessions as well as examination sessions.

Successful course completion will be determined by a passing score in a final practical examination. The successful course participant will be issued a certificate of competence.

Two instructors will be present at all times to ensure a 1:4 instructor to participant ratio to guarantee effective instruction. The instructors are current administrators in charge of large Linux deploys with years of Linux experience behind them.

Attendants

Course participants will be expected to have been in a position of network administrator or server administrator for at least three years to qualify for the Linux course. Areas of expertise expected are as follows:

1. Network design
2. TCP/IP
3. Internet architecture
4. General computing fundamentals such as operating systems, hardware, etc.

Facilities

The course will take place at the client's premises. Classroom facilities will be expected consisting of a computer lab with homogeneous equipment.

The computer lab will require a working LAN connecting the computers the course participants will be using, as well as external IP connectivity. The computers are required to have at least 256 MB of memory and recent processors (1.5 Ghz or better). 10 Gb of disk space will be required for each computer to be used in the course.

The instructors will require access to the facility for two working days prior to commencement of the course.

Course Contents

The training course will cover all the knowledge areas relevant to a Linux administrator in a large enterprise environment. The course contents promulgated by IT Synergy have been drawn from the highly reputable and comprehensive Novell Certified Linux Professional examination knowledge areas. Please find attached a summary of knowledge areas covered in this training option. The duration of this course is 15 full classroom days at six hours per day, not including breaks. One class will consist of eight participants with two instructors.

End users

As a key provider of open source solutions in the Middle East, HP is expected to be dealing extensively in the Linux operating system and user environment, both from a server point of view and from an end-user point of view (as is the case with the HP 441).

Linux is, in the Middle Eastern region, a relatively new entrant from a consumer point of view. While the desktop and graphical user environment are generally acknowledged to be ultimately more friendly than the standard Windows interface, the prevalence of Windows on the global desktop prompts the increased likelihood of the emergence of strong requirements for end-user retraining to use Linux desktops.

IT Synergy is prepared to provide Linux desktop usage courses to ease the transition from a Windows-based to a Linux-based user environment. Since first of all the Linux desktop employs metaphors similar to the Windows one (the WIMP paradigm; windows, icons, menus, pointer) and since end usage is by definition less involved than administration, the course is correspondingly lighter and lasts X working days.

Application and proficiency scope

The objective of the training will be to migrate the skill-set of the desktop users from standard-functionality windows-based applications to their Linux equivalents. The training course is light-weight and assumes the typical skill set of the average business worker,

Open source
strategy
formulation

including the following major expected areas of desktop functionality:

1. Word processing
2. Spreadsheet usage
3. Internet usage (web browsing and browser-based e-mail access)
4. General user-class configuration tasks

The expected output of the course participants will be a level of proficiency enabling the desktop users to resume their work on Linux desktops with minimal to no downtime due to environment variance.

IT Synergy has extensive experience in the general area of technology localization to local and regional market needs as evidenced by our development of the Arabic and French editions of the 441 software on the behalf of HP. Given this multi-lingual experience and familiarity with the Linux operating system and its applications, we are able to provide our Linux desktop end-user training courses in either English or Arabic according to the preference of the client.

IT Synergy is primarily an open source consultancy; the choice of terminology is intended to elucidate the company's primary strength, which is our capability to understand the technologies we work with in the larger context of the enterprise.

We have extensive experience in advisory roles as well as project management and formulation roles with the accompanying monitoring and supervision responsibilities. Our intimate familiarity and long-standing work with open source coupled with our enterprise and government-class consultancy experience are a compelling combination of skills and competencies which can very effectively be placed at the disposal of HP and potential and actual HP clients for open source solutions.

Scope and objective

In general, it has been our experience that the primary requirements on the behalf of regional enterprises regarding open source in terms of consultancy and guidance are as follows:

1. Awareness building
2. Identification of potential benefits specific to their organization expected from the implementation of open source-based solutions
3. Assistance in the formulation of an open source implementation strategy

IT Synergy takes open source as the foundation of its operations and as the technological platform of choice; we understand open source better and we are able to facilitate smooth open source migrations, implementations, and transitions all within the context of coherent and rational organizational strategies.

The provision of IT Synergy consultancies under the aegis of the HP initiative to command the regional open source solutions market stands to benefit HP in three chief areas:

1. Stronger associated hardware and support revenue from increased demand
2. Strengthened solutions to the open source client backed up by a leading open source consultant
3. Improved positioning of HP as the most comprehensive and capable open source solutions provider

The cost and operating conditions under which IT Synergy will provide open source strategic consultancy will vary with the profile of the client in terms of scale and desired technology penetration. We propose to commence this support activity with the formulation of the appropriate marketing literature at the initiative of IT Synergy and with the supervision and approval of HP for dissemination to current and prospective clients at the convenience of HP.

441 Language Localizations

As a product for emerging markets, the HP 441 is well positioned to make a meaningful impact on perceptions regarding access to computing facilities in developing regions. The cost, the architecture, and the sustainability imbued by the reliance on open source all constitute very attractive advantages. Despite this, system and application localization is still the *sine qua non* regarding technology adoption.

IT Synergy are responsible for both the Arabic and the French localizations of the HP 441 system and application software. We are able to produce localizations for any major language with a three week lead time.

Note that version upgrades of the 441 operating system to maintain concurrency with Mandrake releases will in many cases require corresponding localization updates.

Software research

The HP 441 is a fascinating new interpretation of the capabilities of standard PC hardware when placed under the direction of a flexible operating system. We feel that this initiative stands for the potential behind PC hardware as opposed to representing the maximum utilization and as such, we propose the commencement on software research to effect the following:

1. The enabling of more than 4 heads for the solution
2. The enhancement of system performance through incorporation of advanced kernel functionality contained in non-main trunk kernel patch sets
3. Evaluation of end-user application functionality and recustomization of the desktop environment to improve usability, attractiveness, responsiveness and functionality

As part of this initiative, we will be instituting a multihead technology monitoring effort. The rationale is that the architecture behind the 441 solution represents an innovative compromise between the traditionally disparate concepts of stand-alone versus thin-client/mainframe paradigms. HP is to all intents and purposes the first to market with a truly viable and operational realization of this reinterpretation of the capabilities of standard PC hardware, and this position requires careful maintenance.

With an initiative as fresh as the Emerging Markets initiative and in an organization as weighty as HP, the first fruit of such an initiative require careful nurturing and it is our vision at IT Synergy to participate in this effort and to provide support by monitoring and understanding worldwide efforts to replicate and extend this architecture.

It is our proposal to institute and take charge of a periodic reporting effort on the state of the art regarding multihead Linux solutions from a technological/architectural perspective.

Due to the large number of unknowns pertaining to the kind of research proposed here and supported by this technology monitoring, the resource requirements as expressed in man/competency/month units is not defined yet. We propose to initiate the effort with a six month investigative effort culminating in the demonstration of viable software enhancements along the lines described above and with the presentation of a clear and unambiguous work plan aiming at the realization of the software research and placing the gains into production.

441 Packaging Initiative Management

IT Synergy has been active in supporting the promotion and marketing of the 441 solution in the regional market. One key finding of this activity has been the fact that certain environments display particular interest in the solution, most notably at the time of writing this proposal the educational sector and the business sector.

This diverse interest merits the development of individual and distinct 'flavors' of the HP 441 solution tailored to the unique requirements of each individual niche. The application composition will vary to differing extents, and the out-of-the-box configuration will also

differ depending on the intended positioning of each variant.

Definition of requisite packages

At the time of writing this proposal, the clear niches availing themselves are the educational and the SME markets. Each of these two markets has requirements with differences of proportions substantial enough to warrant development of separately tailored, packaged, and marketed editions.

Our initial assessment indicates the need to vary the package contents in the following areas:

1. Default installation software composition
2. Tuning to optimize performance according to likely operating profiles
3. Desktop reconfiguration
4. Graphical theme redesign

Development of requisite packages

The second leg of work on this project is a realization of the flavors promulgated in the previous stage; it is the process of bringing the packages to life. The resources required to effect this development effort are not quantifiable at this stage; there will likely be non-trivial differences in development effort based on individual package specifications. Pricing will be quoted per package to provide HP with greater investment granularity facility.

Sales and Marketing Initiatives

Despite the focus on technology forecasting, open source, and consultancy, IT Synergy has through the course of its cooperation with HP on the 441 project perceived opportunity for performing limited and very high quality sales and marketing. It is our vision to realize this potential with the formalization of a cooperative structure through which mutual benefit may be achieved.

In accordance with previous discussion, the logical framework under which to proceed with such a project is a Try and Buy initiative for the 441 multihead solution.

Activity Description

Under our proposed Try and Buy initiative, IT Synergy will take ownership and responsibility for identification of interested and prospective parties and install 441 machines at the client's premises for a period of two weeks. Upon completion of the two week trial period, the client is presented with an attractive purchase offer defined in conjunction with HP.

It is our experience that such an approach will yield positive results and will serve as a catalyst for driving 441 sales in the region. We feel that a critical mass of sales and satisfied customers will serve as technology validation and will establish the new architecture in the mainstream. It is in fact our intention to make use of initial deploys to generate further marketing literature. The price and performance attracts; the configuration is unusual and prominently successful test cases will create self-marketing conditions.

Responsibilities and role definition between HP and IT Synergy

The responsibilities covered by IT Synergy are defined as follows:

1. Client identification, selection, and approach
2. Try and Buy Deployment
3. Maintenance and supervision for the duration of the trial period
4. End of trial period negotiations
5. Maintenance of communications necessary to keep HP personnel informed at all times

The responsibilities covered by HP are as follows:

1. Provision of equipment for Try and Buy deploys
2. Logistics ensuing from client purchase including provision of purchased hardware, invoicing, &c.

To Proceed

Upon approval of this proposal concerning a Try and Buy initiative, IT Synergy will work with HP to avail adequate test equipment and will present HP with a statement of how we intend to proceed along with prospective clientèle. We recommend executing this initiative in parallel with the package development initiative to maximize information gathering and marketing intelligence accumulation to ensure that the package definition, selection, and development effort is as effective as it can be.