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Attorneys for The SCO Group, Inc.

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF UTAH

THE SCO GROUP, INC. Plaintiff/Counterclaim-Defendant v. INTERNATIONAL BUSINESS MACHINES CORPORATION, Defendant/Counterclaim-Plaintiff	**UNSEALED EXHIBITS TO THE DECLARATION OF JEREMY O. EVANS IN SUPPORT OF SCO'S MEMORANDUM IN OPPOSITION TO IBM'S MOTION FOR SUMMARY JUDGMENT ON BREACH OF CONTRACT CLAIMS** **[Docket No. 350]** Case No. 2:03CV0294DAK Honorable Dale A. Kimball Magistrate Judge Brooke C. Wells

EXHIBIT S1

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that you executed standard form agreements used by AT&T Technologies.
A. Yes AT&T provided a document, and -- which is the document that's here under Tab 1, and they represented it as the form that they used routinely with all of their customers, all of their partners, to provide access to the source code,
Q. Did anyone from AT&T at any point ever communicate to you that they intended to treat their licensees for Unix System V the same way?
MR. HEISE: Objection to form.
You may answer
THE WITNESS: I don't recall that particular content.
MR. KAO: Q. Turning now to paragraph 7 of your declaration, can you read paragraph 7 --
A. Yes.
Q. -- for me, please
A. "Section 2 01 of the Software Agreement states that Sequent's 'right to use includes the right to modify such SOFTWARE PRODUCT and to prepare derivative works based on such SOFTWARE PRODUCT, providing that the resulting materials are treated hereunder as part of the original SOFTWARE PRODUCT.' I

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did not understand this language to give AT&T Technologies the right to assert ownership or control over modifications or derivative works prepared by Sequent, except to the extent that the licensed Unix software product was included in such modifications or derivative works. I would never have signed an agreement that would grant ownership or control to AT&T Technologies over modifications or derivative works prepared by Sequent to the extent those modifications or derivative works contained no part of the Unix software product licensed from AT&T Technologies."
Q. Are the statements that you make in paragraph 7 of your declaration true and accurate?
A. They are.
Q. Can you -- well, first, let's look at the document behind Tab 1, at the software agreement.
A. Yes.
Q. Is the language that you read from in your declaration contained in Section 2.01 of this agreement that's attached as Tab 1?
A. Yes, it is.
Q. And can you explain to me -- well, strike

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that.
You state that you did not understand this language to give AT&T Technologies the right to assert ownership or control over modifications or derivative works prepared by Sequent, except to the extent that the licensed Unix software product was included in such modifications or derivative works
Do you see that?
MR. HEISE: Objection; form
You may answer.
MR KAO: Q. Do you see that in your declaration?
A. Yes, I do see that.
Q Can you explain to me what you mean by that?
A It would have been foolish of me, as an officer of a venture finance start-up company, to give away the rights to the company's core products in perpetuity. I mean, I certainly would not have done that. So my understanding -- and this was confirmed in some phone calls -- my understanding was that what AT&T wanted to hold private was their contribution, their source code contribution, and that that work which had already been created by Sequent and any work that in the future was created by Sequent, not based upon that source code, remained the property of Sequent.

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Q. Did you understand Section 2.01 of the software agreement to impose any restrictions on Sequent's use of code that Sequent developed on its own?
A. No, I did not.
Q. Even if that code was contained in a Dynix product that had Unix System V code in it?
MR. HEISE: Objection to form.
You may answer.
THE WITNESS: Yes. My understanding of the license is that the Unix System V code had to be maintained as the AT&T private property and withheld from disclosure but, if there were other elements of the software product created by Sequent, that those were Sequent's to dispose of as it chose.
MR. KAO: Q. If you can turn to page 4 of your declaration, I'll have you read paragraph 8 of your declaration, if you could. I guess, for the court reporter's benefit and for the jury's benefit, if you could take your time and read it slowly.
A. Certainly.
"As I understood the Software Agreement between Sequent and AT&T Technologies, Sequent was free to use, copy, distribute or disclose any modifications or derivative works developed by Sequent, provided that it

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did not copy, distribute or disclose any portion of the licensed Unix software product source code (except as otherwise permitted by the licensing agreements)."

Q. Are the statements that you make in paragraph 8 of your declaration --

A. They are.

Q. -- true and accurate?

And can you tell me what you base your understanding of the software agreement on?

A. A combination of reading of the document and conversations with my staff and the AT&T parties to the agreement.

Q. And when you say "my staff," can you --

A. Principally, Roger Swanson and Bob Beck and others.

Q. And is that the understanding you had when you executed these agreements?

A. Yes, it is.

Q. I'll ask you to now read paragraph 9 into the record, if you could. Take your time.

A. "It is my understanding that Sequent's Dynix products might include some small parts of the licensed Unix System V source code, although I don't [sic] personally know

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whether it does or not. I also do not know whether Dynix is so similar to Unix System V that it may be" -- "may properly be viewed as a 'derivative work' based on Unix System V, particularly in light of the fact that Dynix was originally created using Berkeley Software Design" -- parenthetically -- "('BSD') Unix as a base and not AT&T Technologies' Unix System V. In any event, as I understood the Sequent Agreements, Sequent was free to use, copy, distribute, or disclose Dynix (including source code), provided that it did not copy, distribute or disclose any Unix System V source code that might be contained therein (except as otherwise permitted by the licensing agreements)."

Q. Mr. Rodgers, are the statements that you make in paragraph 9 of your declaration true and accurate?

A. Yes, they are.

Q. Now, in paragraph 9 you discuss the fact that -- well, strike that.

Do you know -- do you have any personal knowledge as to what Unix System V code is contained in Dynix?

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A. I do not.

Q. Do you have any personal knowledge as to what BSD Unix code is contained in Dynix?

A. A substantial portion, but I couldn't claim to know what proportion

Q. What is your understanding of what the term "derivative work" means?

A. A derivative work is something that contains all or part of some other piece of work.

Q. Do you have an understanding of what the term "modifications" mean?

A. "Modifications" means either an augmentation, meaning an additional function, or a change to accommodate some other factor

Q. And by "augmentation," do you mean adding -- well, how do you augment something?

MR. HEISE: Objection; form.

You may answer.

MR. KAO: Q. You could answer.

A. "Augmentation" means an additional function

If I can use an example, based on the earlier description, the Unix operating environment, as conceived both by Berkeley and by AT&T, had no notion of multiple processors and the need to preserve the content of a cache memory system in order to improve

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performance. So an augmentation that exists in Dynix is so-called processor affinity. It's the ability of a program to say: I would like to continue running on the processor that I was running on before so that I can preserve those dynamic memory contents and, as a result, operate at a higher speed.

So an augmentation that exists in Dynix is processor affinity. It's a system call that doesn't exist in another version of Unix, that specifically allows for a program to get higher execution speed.

Q. And is an augmentation implemented through new source code?

A. It's completely new source code.

Q. Now, you also mentioned, in your understanding of the word "modification," that it could include changes.

A. That's right

Q. Can you explain to me what you mean by that?

A. Certainly. For example, the compilers that were used to build the Dynix operating system are the Berkeley-derived compilers, and there are subtle differences in the way symbols are treated. And so it might be necessary, if you wanted to compile, without adding additional function, a System V source module to make a modification that was really cosmetic or had no

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Q. Was there anybody that would be, in your mind, the person who was the lead negotiator on behalf of Sequent since, as you've indicated, you had no personal contact with AT&T?
MR. KAO: Objection; mischaracterizes the witness's testimony.
MR. HEISE: Q. Okay. You can answer the question.
A. Roger is the lead negotiator, was the lead negotiator. I was certainly on phone calls with AT&T personnel at various points in time.
Q. Did you participate, or were you just listening?
A. Be hard to imagine me not participating.
Q. Okay. Who at AT&T was on these phone calls?
A. That, I don't have a precise recollection of. As I said, I don't think it was Mr. Wilson, and I don't remember the name of the lead guy on the AT&T side.
Q. Was it just one person from AT&T?
A. There's certainly one person with whom we worked most frequently, but I recall that there were other people involved in the process.
Q. What do you mean by that, others involved in the process?
A. Preparing the drafts and transmitting the

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documents, things like that.
Q. When you say "preparing the drafts," what drafts are you referring to?
A. The drafts of this license agreement.
Q. Well, Sequent didn't prepare those drafts.
A. That's correct. They were prepared by AT&T.
Q. So I thought from your testimony before you indicated that this was a -- you had been told this was a standard form agreement --
A. Yes.
Q. -- and that you had to sign it?
A. Yeah.
Q. So what terms, if any, were negotiated differently from the standard form agreement?
A. None that I'm aware of. I mean, you had to put the names and addresses and parties into the document.
Q. So would it be fair, then, to say that there really was no negotiation other than price?
MR. KAO: Objection to form.
MR. HEISE: Q. You may answer.
A. Okay.
MR. KAO: Yeah, sorry.
MR. HEISE: You can tack that onto the end of every time somebody says "objection" unless he says it's

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attorney-client privilege.
MR. KAO: Yeah. Unless I instruct you not to answer, you can still answer the question.
THE WITNESS: It wasn't -- I would say except for price, it wasn't about the language. It was -- and all of the discussions about intent or meaning were oral.
MR. HEISE: Q. Okay. And that's -- I'm just trying to make sure we're very clear on this.
AT&T said, "Here's the agreement.". No terms are negotiated, changed in any way, other than discussions of price?
MR. KAO: Objection to form.
THE WITNESS: I don't think it was that heavy-handed. I mean, I think they said, "We want to recruit you as a System V licensee. Is there anything here that gives you particular heartburn?"
But it wasn't -- you know, it wasn't like, "Let's start drafting from the first paragraph."
MR. HEISE: Q. Okay. And when you were asked something along the lines of "Is there anything here that gives you particular heartburn?" if there was anything, none of those terms were changed from the standard agreement?
A. Not that I recall. It was a pretty benign

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agreement.
Q. If you could, sir, just at a general level of what you've described as a benign agreement, this Exhibit 1, the software agreement, what is your understanding as to what it provided to Sequent?
A. You're speaking just of the first agreement?
Q. Just to the first agreement.
A. The first agreement provides Sequent with access to the AT&T System V source code for its interna use, and that internal use was preparation of a derivative work that incorporated System V APIs
Q. Did it incorporate anything from System V other than the application programming interfaces, the APIs?
MR. KAO: Objection to form.
You can answer.
THE WITNESS: Not that I know of. As I've said before, there were probably some things like copyright notices and header files and things like that that had to be, just as a matter of making it useful, copied from the System V source.
MR. HEISE: Q. And do you recall whether Sequent had licensed System V, Release 3, or System V, Release 4, or any other particular release of System V?
A. To my recollection, only 5.2 was licensed

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Q. Did you understand that the resulting materials referred to the modifications and derivative works based on the software products?
A. I don't understand your question.
Q. In this sentence where it says, ". . . provided the resulting materials are treated hereunder as part of the original SOFTWARE PRODUCT," did you understand, sir, that the phrase "the resulting materials" was referring to the modifications and derivative works based on the software product?
A. No, I did not.
Q. What did you believe it was referring to?
A. To the original System V source code and object code
Q Well, if that's the case then, sir, why wouldn't there just be a period after "software product" and you would eliminate the entire second half of that sentence?
MR KAO: Objection to form.
THE WITNESS: I don't know
MR. HEISE: Q. Isn't that what you are now telling us you understood the sentence to mean, that the second half of that sentence didn't mean anything differently than the first half?
MR. KAO: Objection to form.

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THE WITNESS: No. My comprehension of this paragraph is that there's an unmodified software product and a modified software product that incorporates other things created by Sequent and that with regard to the unmodified portion, the same treatment applies.
MR. HEISE: Q. Well, when you would give a customer a copy of Dynix code --
A. Yes.
Q. Source code, not object code.
A. That didn't occur frequently.
Q. But you did make provision for that? There were licenses for customers to get source code, was there not?
A. There was at least one that I know of.
Q. When a customer would get source code, would it come on a CD or a digital tape as "Here is Dynix," or how would it be provided to a customer?
A. I don't actually recall how the distribution was done.
Q. Would it separate out, this part is Unix System V; this part is BSD; this is Sequent's changes, additions, modifications?
A. The source code distributions that I recall were piecemeal, that as they -- for instance, it was a parallel programming library that was distributed. They

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were specific to -- the one that I recall very precisely is that in working with Oracle, we needed their help to modify a particular treatment so that Oracle would run better.
Q. So --
A. So it was a piece, is the short answer.
Q. So is Oracle the only company that you can recall Sequent ever providing access to source code?
MR. KAO: Objection to form.
THE WITNESS: There probably were others. That's the one I recall.
MR. HEISE: Q. So whenever Sequent would provide Dynix to customers, with the exception of Oracle and possibly a few others, it was always in object code format?
A. The typical distribution was object, yes.
Q. Would the object code format encompass all of Dynix, including the BSD portions, the Unix System V portions, and whatever changes, modifications, derivative works that Sequent created for Dynix?
A. If your meaning is that, for instance, for the System V environment, there would be header files that are different and the object code to do the conditional symbolic link treatment was included in that object code, yes.

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Q. It would be one unified product that would be given to a customer?
MR. KAO: Objection.
MR. HEISE: Q. Wouldn't be in bits and pieces, would it?
MR. KAO: Objection to form.
THE WITNESS: Well, now there were optional components. I mean, you didn't get everything.
MR. HEISE: Q. What would be an optional component?
Well, first, you said, ". . . now there are optional components." Was that a change, or is that how it always was?
A. No, it was always -- starting at the beginning, there was only one product; but --
Q. Well, what are you refer- --
A. -- after there were subsequent developments to enhance the product, then the customer didn't, for example, get the compiler if they didn't buy the compiler.
Q. So is that what you're referring to when you talk about "optional components," the compiler?
A. That's an example.
Q. What else are you referring to when you say "optional components"?

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A -- who can do this; but my approach, if that was your question, would be to get some sort of comparison tool -- and there are now some very sophisticated ones that are being used by universities to detect plagiarism -- identify suspect areas, and then have a software expert identify whether the similarity that arose in that -- as a result of that activity was as a consequence of the movement of source code or simply because the algorithm required that particular expression.

Q. And just to put this in context, how many lines of code does Dynix -- a version of Dynix comprise?

A. Oh, I have no idea today. I would guess that it's on the order of 1 to 2 million.

Q. And what about the Unix System V code that you'd have to be comparing it against?

A. System V.2 is actually pretty small, if you exclude the utilities and the --

Q. Right.

A. -- things like that.

So it wouldn't be huge. It would be in the hundreds of thousands maybe.

Q. And then you would have to get this computer program to do the comparison for you?

A. Right.

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MR. KAO: Objection to form.

THE WITNESS: And most importantly, you'd have to -- once you had suspect areas, you'd have to have someone who is a technical expert in the expression of algorithms say, "Yeah, it's for sure that that's a copy of the source code because it's written so badly" or some other reason; or "Oh, no. There's only one way to express that."

And I gave an example earlier. There's really only a couple of ways to do digit production when you're printing, and so everybody's going to write the same code.

MR. HEISE: Q. Right. That, of course, is a time-consuming task?

A. Yes.

MR. KAO: Objection to form.

MR. HEISE: Q. With respect to Section 7 of your affidavit, you are making reference to Section 2.01.

A. Let me -- yes, I am.

Q. And in particular, you quote the portion that appears in the second sentence of 2.01.

A. Yes.

Q. I'm curious, in Section 2.01, you identify in the next sentence, you state:

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"I did not understand this language to give AT&T Technologies the right to assert ownership or control over modifications or derivative works prepared by Sequent, except to the extent that the licensed Unix software product was included in such modifications or derivative works."

Rather than telling us what you did not understand this language to give AT&T Technologies the right to, what did you understand it, in fact, did give AT&T the right with respect to Sequent?

MR. KAO: Objection to form.

THE WITNESS: My understanding of AT&T's rights were to the ownership, authorship and ownership of the source code that was delivered to Sequent and, to such extent as that source code was carried forward in the derivative work, that ownership prevailed; the consequence being that they had a right to control the distribution of the portions which they owned.

MR. HEISE: Q. Well, what I don't understand, sir -- and hopefully you can clear up for us -- is nowhere in Section 2.01 does the word "own" or "ownership" or "control" appear. So where is it that you're coming up with your understanding of what this language did not do?

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MR. KAO: Objection to form.

THE WITNESS: The keyword in my reading of Section 2.01 of the document is in the last phrase:

"... provided [that] the resulting materials are treated hereunder as part of the original SOFTWARE PRODUCT."

MR. HEISE: Q. Right.

A. So "treatment," again, is an open-ended word. Treated in what context?

Q. What did you understand them to be treated?

A. So my understanding of the word "treated" here was with regard to confidentiality, not with regard to intellectual property ownership.

Q. So then what you understood on Section 2.01 was that it was not discussing ownership but, instead, was stating that the right to use includes the right to modify and to prepare derivative works, providing the resulting materials are treated confidentially?

MR. KAO: Objection to form.

MR. HEISE: Q. Is that what you're telling us?

A. Yes.

Q. Did Sequent maintain in confidence its Dynix source code?

A. To the best of my knowledge, we did.

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such as ownership and control that are nowhere mentioned in there.
MR. KAO: Objection to form.
THE WITNESS: Well, I think that's my point, is that the word "treated" is pretty open-ended.
MR. HEISE: Q. And I understand that's your statement and that you've said you believe that to mean to be covering confidential --
A. Right.
Q. -- or confidentiality requirements.
A. *So if you're asking how did I come to that* understanding of the word "treated," it was through a conversation with the AT&T guys.
Q. Tell us about that conversation.
A. You know, I don't think I can recount it word for word, but it would have been along the lines of "You're certainly not trying to capture my source code."
And it's not something I would have done or even could have done.
Q. Well, when you say "capture," are you talking about that AT&T indicated to you that it would not be claiming ownership in --
A. Yes.
Q. -- Dynix?
A. That's correct.

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MR. KAO: Objection to form.
MR. HEISE: Q. Do you understand there to be a difference between ownership and control?
A. There can be.
Q. What's your understanding of the difference between ownership and control?
A. I mean, to own something means that I have the right to dispose of it as I choose. To control something -- examples might be restrictive covenants in a deed or something like that -- simply means that I have the ability to restrain certain actions.
Q. Would you agree that the ability to restrain certain actions would also include the right to dictate what an owner of the property can do with that property?
MR. KAO: Objection to form.
THE WITNESS: As in my example, yes.
MR. HEISE: Q. And included in your example, would it be that the fact that somebody owns something, they can be restricted in disposing of what it is that they own?
MR. KAO: Objection to form.
THE WITNESS: It's possible.
MR. HEISE: Q. Now, you conclude in paragraph 7 that you never -- I quote:
"I would never have signed an agreement that

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would grant ownership or control to AT&T Technologies . . . ."
And then you continue on. Is this a statement on your part as to what you would do, or is this a statement of Sequent's corporate position?
MR. KAO: Objection to form.
THE WITNESS: I think it can be interpreted both ways; that is, acting on behalf of Sequent, I was not authorized to bargain away the intellectual property rights of Sequent's investment of years in the Dynix source code.
As an individual -- and I hope that, you know, I wasn't being made a fool by the AT&T lawyers. As an individual, I did not interpret this language and the words of explanation that were given to me as meaning that AT&T had any -- was making any attempt to take control of my source code.
MR. HEISE: Q. Did you understand, when you viewed the word "treated" as restricting confidentiality, that that was going to place restrictions on your source code?
MR. KAO: Objection to form.
THE WITNESS: Yes, with regard to disclosure.
MR. HEISE: Q. And in fact, from what you've described to us, other than what you may have read in a

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Web posting, Dynix -- or excuse me -- Sequent did not make public Dynix that contained Unix System V at any point in time?
MR. KAO: Objection to form.
THE WITNESS: Not to my knowledge.
MR. HEISE: Q. Based upon what we've discussed so far, I'd like to clarify your understanding of Dynix.
Is it your understanding, as you sit here today, that Dynix or Dynix/ptx contains some or no part of Unix System V?
A. First, let me state, I don't know --
Q. Okay.
A. -- today. I have no idea.
Q. Well, how about let's then take you back to a time when were you there last in 1996.
A. In the past, I think I can state with reasonable confidence that Dynix did not contain any System V source code --
Q. Okay.
A. -- given its derivation.
I can be reasonably certain that Dynix/ptx had some elements of System V source code embodied in it; in particular, some of the utilities.
Q. Would you agree then that with Dynix/ptx

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embodying or containing Unix System V, that it was subject at least to this confidentiality restriction that we've been discussing?
A. Those portions --
MR. KAO: Objection to form.
THE WITNESS: -- which were derived from System V, yes
MR. HEISE: Q. And we've already discussed about how you would, at least according to you, go about and identify those, quote, portions of Dynix.
A. Yes.
Q. Why is it that you believe it only restricts those portions as opposed to Dynix/ptx?
A. Because in my interpretation, the restrictions apply to those things which are owned by AT&T and do not apply to those things which are owned by Sequent.
Q. And according to the way that you're interpreting this, only if you found actual System V source code, that's the only thing that could not be -- that had to be treated confidentially?
A. Essentially We've talked earlier about the methods and procedures issue as well.
Q. We're going to get to that, but I'm trying to just follow the format of your --
A. Yeah.

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Q. Okay. When you state that you don't know whether Dynix is a derivative work based on Unix System V, what's preventing you from being able to make that determination?
A. And you're now saying Dynix or Dynix/ptx?
Q. Well, I'm going to -- I'll clarify it as Dynix/ptx.
A. Okay.
Q And I guess what I should do -- I'll let you answer the question as to Dynix/ptx; then I'll ask you another question
A. Okay. Dynix/ptx is almost certainly a derivative work of Unix System V.
Q. In paragraph 8 of your declaration, sir, you start the sentence with "As I understood the Software Agreement between Sequent and AT&T Technologies . . ," and then you continue on I just want to focus on your first part there of --
A. Yes.
Q. -- "as I understood . ."
Is that from your reading of the agreement only, or is that from some other sources?
A. It relies upon my conversations with the AT&T individuals
Q. In paragraph 9 is when you first used the word "Dynix." So I know you talked about this a little bit earlier, so I just want to see if I can make sure the record's clear.
Dynix starts out, and then after Unix System V is licensed, Dynix/ptx is created, but at the same time, they're both being sold. And eventually, does Dynix cease or does it just -- what happens?
MR. KAO: Objection to form.
THE WITNESS: Both products continue on. Ultimately, the marketplace for Dynix/ptx was larger than the marketplace for Dynix for Sequent.
MR. HEISE: Q. Given that statement, that the Dynix/ptx became the larger marketplace, did there come a point in time when Dynix just stopped being worked on or sold and that it was strictly Dynix/ptx?
MR. KAO: Objection to form.
THE WITNESS: I don't know that from own knowledge. I can't speculate. I don't know.
MR. HEISE: Q. In terms of just trying to give us a broad view of Dynix and Dynix/ptx, when Dynix/ptx is where the marketplace was going for the high-end business computing, what is the relative ratio between how much of Sequent was devoted to Dynix/ptx versus its former product of Dynix?
MR. KAO: Objection to form.

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THE WITNESS: Certainly within development, the bulk of the resources would have been working on Dynix/ptx because it was under development.
MR. HEISE: Q. Right.
A. And Dynix itself would have been getting, of course, bug fixes and customer support attention from development and probably enhancement. As I've previously described, the hardware platform evolved over time. So with each new hardware platform, then Dynix would get revisited to test it, make it compatible, take advantage of any new hardware.
Q. Would it be fair to say that more than 50 percent of the company's revenues, expenses, resources, and the like were devoted to Dynix/ptx once that was the product line that was being developed by --
MR. KAO: Objection
MR. HEISE: Q. -- Sequent?
MR. KAO: Excuse me. Objection to form.
THE WITNESS: After some period of time, I would say yes to revenues. Expenses, I would say no to. SG&A was always bigger. And so it depends.
MR. HEISE: Q. Okay. That's a fair response. But I think you've made clear Dynix/ptx was on the upswing and Dynix without the ptx was on the downswing Is that --

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might subtract lines of code. That is, it might simply return successful.

Q. Okay. In that situation where, however, you have to add lines of code to this code module X so that it functions properly with Dynix/ptx, what is your understanding as to what Sequent's obligations are to maintain in confidence the source code? In the example I just gave you, you've got source code that Sequent wrote so that it would work, and then you've got the original Unix System V source code that appears in code module X.

A. Right. On the presumption that it's a single file, if it were a mix of Unix System V code and Sequent-authored code, most likely the entirety would be held in confidence because it would be hard to expose only the changed lines.

Q. Okay. What about if, after going through numerous changes because of programmers dealing with it through Version 1 to Version 2, the Unix System V code lines don't appear as they did in Unix System V? What, if anything, is Sequent obligated to do now with that code module X?

MR. KAO: Objection to form.

THE WITNESS: In my reasoning, if the function X is now performed in some other way, including the null

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way, then it ceases to have any System V content and it's disclosable at the choice of Sequent, of course.

MR. HEISE: Q. So if the lines get rewritten so that they no longer appear as they were in Unix System V, at that point Sequent is no longer obligated to maintain it in confidence?

A. Now it's on a fine point. That is, you know, did you just change A to B? I wouldn't consider that to be a sufficient difference. If the module was rewritten to implement the function with a new algorithm and there were no lines of the original code, then I would say yes.

Q. Even though it's performing the same function as originally?

A. Right. The functions are specified by the operating system interface.

Q. Do you make any distinction in this example as to whether we're taking about C code versus header file code?

MR. KAO: Objection to form.

THE WITNESS: Yes. I mean, again, you can have the same either huge difference or small difference as the possibility. But because header files generally have to be exposed in order to allow use, they're treated differently.

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MR. HEISE: Q If there was a code module that -- let's call it code module Y, that contains structures and sequences and organization as it appears in System V, is that, according to your understanding of the software agreement, restricted in any manner?

MR. KAO: Objection to form.

THE WITNESS: It would depend. If the reason for the similarity were essentially that there wasn't any other way to do it, then it would hinge on who authored it and when. If the reason the similarity was there was because it was just copied, then yeah, I would agree that that would be subject to the constraints.

MR. HEISE: Q. So if you have code module Y that has structure, sequence, and organization that came from Unix System V and it's not the only way to do something, your understanding is that that would be restricted and would have to be maintained in confidence; is that correct?

MR. KAO: Objection to form.

THE WITNESS: Yes.

MR. HEISE: Q. What if over time that same code module Y that contained the structure, sequence, and organization from System V was rewritten so many times between Version 1 and Version 2 that came out from Sequent so that it no longer followed that original Unix

Page 160

System V structure, sequence, and organization? Would you consider that something that also had to be maintained in confidence, or could that be provided publicly?

MR. KAO: Objection to form.

THE WITNESS: Generally, no.

MR. HEISE: Q. No, it would not need to be maintained --

A. Would not need to be maintained.

Q. -- in confidence?

No, it would not need to be maintained in confidence?

A. Yes. Or yes to a no.

Q. Yes, I am correct that would not need to be maintained in confidence, according to you?

A. Yes.

(Mr. James joins the proceedings.)

MR. HEISE: Q. Are you aware of any publications that provided source code for Unix System V, Release 4.0?

A. I have no awareness.

Q. Well, you had mentioned earlier -- I need to maybe look at my notes -- that you had -- you had a book -- I think it was the Unix System Primer.

A. Mm-hmm.

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was correspondence regarding the sublicensing agreement, meaning the one for the binary --
A. That's correct.
Q. -- code?
And was this an example of how terms would be discussed or clarified when AT&T and Sequent concluded that something needed to be clarified?
MR. KAO: Objection to form.
THE WITNESS: In this particular case, I believe that this was a general -- a general change in terms that was not initiated by Sequent. There was nothing new requested by Sequent. They obviously had somebody whose behavior they didn't like and they wanted to clarify.
MR. HEISE: Q. And Sequent agreed to it by indicating --
A. By acknowledging the letter.
Q. -- by indicating and countersigning the document and returning it to AT&T; is that correct?
A. Yes, we did.
Q. Having had the opportunity to review Exhibits 101, 102, and 103, does this refresh your recollection at all as to written correspondence being the manner in which changes or clarifications to the various agreements would occur; namely, they would be

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done in writing and countersigned by Sequent or somebody at Sequent?
MR. KAO: Objection to form.
THE WITNESS: If there was a material change, if it was an increment of rights or content.
MR. HEISE: Q. Continuing on, sir, with your declaration, in paragraph 14, again, you start a sentence with "As I understood the agreement . . ."
Is that from your reading of the agreement or from any other basis?
A. It's based on having read the agreement, having had the conversations with the parties.
Q. And then in paragraph 15, we touched on this before, about the phrase from Section 7 06 of "available without restriction to the general public" not having a particular definition or example attached to it. Do you recall that?
A. Yes
Q. You indicate in your declaration under oath that you believe there are a number of circumstances that would meet the definition of "available without restriction to the general public"?
A. Yes, I do
Q. The example that's provided here, was that provided by the lawyers or is that an example that was

Page 171

provided by you?
A. The example was mine.
Q. Did you provide any other examples that do not appear in your declaration?
MR. KAO: To -- let me -- let me ask. Are you asking did he provide other examples in discussions with counsel, or did he provide other examples in the declaration, which I think speaks for itself?
MR. HEISE: I will clarify.
Q. Prior to orally agreeing to have Cravath, Swaine & Moore, IBM's lawyers, represent you, did you have any discussions with them about other examples from you, not from them, of instances that would meet the definition of, quote, available without restriction to the general public?
A. I don't have a specific recollection. In recollecting the conversation, I explicitly remember mentioning books, and I probably -- this is speculation -- I probably would have mentioned public speaking engagements by AT&T personnel.
Q. Backtracking for just one second, but you just brought it up a few minutes ago and it jogged my memory you talked about this situation where Dynix code was revealed to AT&T. Was that pursuant to a written agreement?

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A. Yes, it was
Q. When's the last time that you looked at that agreement?
A. I don't think I ever looked at that agreement.
Q. Okay I guess I assumed something that did not occur.
How is it that you became aware of the terms of that agreement between AT&T and IBM for AT&T to review the Dynix code?
MR. JAMES: AT&T and Sequent?
MR. KAO: Objection to form.
MR. JAMES: You said "AT&T and IBM."
MR. HEISE: Thank you. I will go ahead and start that one over.
Q. How is it you became aware of any of the terms between AT&T and Sequent for AT&T to view the Dynix code?
A. Again, no specific recollection. The likely occurrence was that Michael Simon spoke at an executive staff meeting about the agreement with AT&T, and my part in that would be to execute on the fulfillment.
Q. Okay. Are you aware of any books, going back to your paragraph 15, that provide source code from Unix System V in greater than a fragment?
A. I personally am unaware of them. It would not

EXHIBIT S2

Ron Smith 11/03/97 08:28 AM

To: Terry McKenna/Austin/IBM@IBMUS
cc:
From: Ron Smith/Austin/IBM @ IBMUS
Subject: Re: AIX Source Code Prerequisite Licensing (Will Sun work)
Importance: FYI

Ron Smith, Sr. Program Manager
IBM Corporation AIX OEM Relations IMAD 9581
11400 Burnet Rd. Austin, TX 78758

512-838-3207 / Fax 512-838-3882 / T/L 678-3207
Internal: Ron Smith/Austin/IBM @ IBMUS
Internet: sron@us.ibm.com

---------- Forwarded by Ron Smith/Austin/IBM on 11/03/97 08:27 AM ----------

AUSVMR.CRAIGS @ D04AU035
08/26/97 08:41 AM

Please respond to AUSVMR.CRAIGS @ VM

To: Ron Smith/Austin/IBM
cc:
Subject: Re: AIX Source Code Prerequisite Licensing (Will Sun work)

IBM's license to the UNIX System V code stipulates that IBM may distribute copies of the code in source code form to third parties having a license from AT&T (now SCO) of equivalent scope as IBM's license for the same code.

I spoke with Bill Boderick, Manager of Law and Corporate Affairs at SCO, last week inquiring whether IBM could recognize a source code license from Sun Microsystems as an equivalent license. I was told that the Sun license may or may not be of equivalent scope as the SCO license and as such could not be recognized as such. The requirement for an equivalent license can only be satisfied by a source code license from SCO or prior copyright owner for the code (Novell/AT&T).

Hope this helps,

Visit Procurement's Home Page http://wwprocure.fishkill.ibm.com
CRAIG SCHNEIDER
CUSTOMER SOLUTIONS PROCUREMENT
(512) 823-8694 / FAX (512) 823-8712
*** Forwarding note from SRON --IBMUSM26 08/26/97 07:58 ***

From: Ron Smith
To: ausvmr.craigs

Subject: Re: AIX Source Code Prerequisite Licensing (Will Sun work)
Craig,

I got your phone mail message last week about the applicability of the Sun license to meet USL licensing prerequisite requirements. Would you please

document your reasponse back to me for my records/files.

Thanks.

Ron

Ron Smith, Sr. Program Manager
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Internet: sron@us.ibm.com

---------- Forwarded by Ron Smith/Austin/IBM on 08/26/97 07:00 AM ----------

Ron Smith 08/05/97 05:20 PM

To: AUSVMR.CRAIGS @ VM
cc:
From: Ron Smith/Austin/IBM @ IBMUS
Subject: Re: AIX Source Code Prerequisite Licensing (Will Sun work)

Craig,

Thanks for the response, but you included a caveat(s) that I have a question about.

I LOVED your 1st paragraph, but you followed it up in the second paragraph with "If SUN is a co-licensor ..... and the terms under shich SUN licenses the SVR4 source code are quivalent to the terms under which SCO licenses the same code, IBM can ..... provided that:" .....

My questions/response is:

A) I have no idea what terms Sun licenses the USL source code under; I just know that Sun can act as an original licensor of USL source code and its licensees do not have to acquire a USL source code as a prerequisite license -- even though the Sun source code contains USL source code.

B) Regarding your 3 points:
1) No, we don't do that -- I don't think it applies. These are not IBM employees nor is it work for hire.
2) No on this also -- the customer can keep the source code as long as he abides by the terms
of the contract (no expiration date).
3) No again, this doesn't have anything to do with the 50 Source code licenses received from USL.

C) I hate to be negative about verifying the Sun co-licensor business, but I think this is something you should do as the owner of the USL contract. I am just asking the question of: does a Sun source code license (which the customer claims is a SVR4 license) qualify for satisfying the USL prerequisite requirement in our contract with USL).

Craig, maybe we need to talk again about this. I do not believe the 3 points you raised in your note apply to how we normally licesne AIX source code.

And finally, I will apologize for speculating. I do not know if Sun is a co-licensor. I do not know if Sun is granting a SVR4 license to its licensees. I have just heard Sun referred to as a co-licensor or as a USL source code license originator. What I do know is the following two things:
1) A Sun source code licensee does not have to obtain a USL source code license as a pre-requisite license prior to receiving Sun source code, even though the Sun source code contains USL source code. I know this was the result of a large buyout (maybe $20M) by Sun to SCO (or Novell).
2) Our customer claims that he has a SVR4 source code license that he received as part or or consequence of receiving a Sun source code license, but of course the contract he has with Sun is confidential. However, we can be certain that the customer has USL source code under some sort of license granted by Sun.

Ron

Ron Smith, Sr. Program Manager
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AUSVMR.CRAIGS @ D04AU035
08/05/97 09:55 AM
Please respond to AUSVMR.CRAIGS @ VM

To: Ron Smith/Austin/IBM
cc:
Subject: Re: AIX Source Code Prerequisite Licensing (Will Sun work)

Based on an August 15, 1991 letter from AT&T indicating that customers may acquire SVR3 technology by licensing SVR4 products, we can accept an SVR4 license as an equivalent license under the terms of our USL Source Code License Agreement.

I do not know the terms or scope of the "SUN buyout of the USL licensing rights". If SUN is a co-licensor of the UNIX System V, Release 4 (SVR4) source code and the terms under which SUN licenses the SVR4 source are equivalent to the terms under which SCO licenses the same code, IBM can contractually provide AIX source code containing SRV3 source to a customer for use in support of the customer's use of the USL binaries licensed by IBM or its distributor, provided that:

1) IBM's customer executes a Developer's CDA and Pass-Thru Agreement;

2) once IBM's customer is finished with the AIX source code containing USL source, all copies of such source will be returned to IBM or certified destroyed by IBM's customer; and

3) Development tracks the distribution of the USL source being provided to the IBM customer to ensure that the 50 source copy limit placed on IBM by SCO is not exceeded.

Once again, it must be verified with SCO that Sun is a co-licensor of the SVR4 source code and that its license is equivalent to that of SCO.

Hope this helps.

Visit Procurement's Home Page http://wwprocure.fishkill.ibm.com
CRAIG SCHNEIDER
CUSTOMER SOLUTIONS PROCUREMENT
(512) 823-8694 / FAX (512) 823-8712
*** Forwarding note from SRON --IBMUSM26 08/04/97 08:35 ***

From: Ron Smith
To: ausvmr.craigs

Subject: Re: AIX Source Code Prerequisite Licensing (Will Sun work)
Craig,

Can we wrap this up so that I can get back to my customer with a definitive answer.

Please call me if you have any questions, but please respond to this note.

Thanks.

Ron

Ron Smith, Sr. Program Manager
IBM Corporation AIX OEM Relations IMAD 9581
11400 Burnet Rd. Austin, TX 78758

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Internal: Ron Smith/Austin/IBM @ IBMUS
Internet: sron@us.ibm.com

---------- Forwarded by Ron Smith/Austin/IBM on 08/04/97 07:38 AM

Ron Smith 07/28/97 07:30 AM

To: AUSVMR.CRAIGS @ VM
cc:

From: Ron Smith/Austin/IBM @ IBMUS
Subject: Re: AIX Source Code Prerequisite Licensing (Will Sun work)

Craig,

I think I received the answer I needed, but I am not sure you understood my question -- and perhaps that was my error. I want to focus on you response of ".... having license(s) from AT&T of equivalent scope as IBM's ....".

1. We have a customer with a SUN SVR4 (System 5, Release 4) USL source code license. I guess it is a USL license -- anyway, it is the license that Sun now distributes/grants after the buyout of the USL licensing rights (i.e. Sun can now distribute USL source code to people without a USL license because they, Sun, are now an SVR4 originator; some sort of co-licensing arrangement, I guess). I think you probably know more about this Sun buyout than I do.

2. We (IBM) want to license IBM Source Code to the customer in item 1 above.

3. We understand that a SVR4 license is a superset of the SVR3 license and therefore we can distribute our IBM source code (which contains USL SVR3 source code) to an enterprise that has a USL SVR4 source code license.

4. QUESTION: Does the SVR4 license distributed/granted by Sun qualify as the pre-requisite licensing requirement that we (IBM) have in our contract for distribution of USL source code.

Give me a call if this is still unclear. Thanks.

Ron

Regrading your other points,
1) Yes, your are right; we do not have any USL SVR4 code in our system (poor wording in my original question).
2) I am not sure I agree (see #3 above); we have always said SVR3 or higher.

Ron Smith, Sr. Program Manager
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AUSVMR.CRAIGS @ D04AU035
07/24/97 01:27 PM
Please respond to AUSVMR.CRAIGS @ VM

To: Ron Smith/Austin/IBM
cc:
Subject: AIX Source Code Prerequisite Licensing (Will Sun work)

Ron:

I could not find my prior response, so I will reiterate it again here.

IBM's license to the UNIX System V code stipulates that IBM may distribute copies of the code in source code form to third parties having license(s) from AT&T (now SCO) of equivalent scope as IBM's license for the same code. IBM's license is for UNIX System V, Release 3.

The problems I see with you request are:

1) to the best of my knowledge, IBM does not hold a license to UNIX System V Release 4 and, therefore, should not have SVR4 code to give to the customer;

2) the requirement customers license needs to be to SRV3 and from the current copyright holder of the code (at this time SCO for SVR3).

Hope this answers your question,

Visit Procurement's Home Page http://wwprocure.fishkill.ibm.com
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*** Forwarding note from SRON --IBMUSM26 07/24/97 13:07 ***

From: Ron Smith
To: ausvmr.craigs

Subject: AIX Source Code Prerequisite Licensing (Will Sun work)
Craig,

Did you ever respond to this note -- if so, please resend -- if not, could you please look into this situation; I still need the answer.

Ron

Ron Smith, Sr. Program Manager
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11400 Burnet Rd. Austin, TX 78758

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---------- Forwarded by Ron Smith/Austin/IBM on 07/24/97 12:09 PM

Ron Smith 06/04/97 04:59 PM
To: ausvmr.craigs @ vm
cc:
From: Ron Smith/Austin/IBM @ IBMUS
Subject: AIX Source Code Prerequisite Licensing (Will Sun work)

Craig,

We have a customer that holds a Sun generated USL System 5, Release 4 (SVR4) source code license. Since it is a valid SVR4 license, will that license work to satisfy the USL SVR4 licensing requriement under the terms of our USL agreement. (By Sun generated, I mean that is is a SVR4 license issued by Sun under their SVR4 buyout agreement with Novell/SCO.)

Ron

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EXHIBIT S3

From: CN=Bill Sandve/OU=Austin/O=IBM on behalf of Bill Sandve [CN=Bill Sandve/OU=Austin/O=IBM]
Sent: Tuesday, January 22, 2002 10:25 PM
To: Kim Tran
Cc: Jay Kruemcke; Joe Graham; Zachary J Lembo
Subject: *IBM Confidential: Re: AIX and System V

Lotus Notes v5 Reply Note
Body:
I would also instructively challenge the statement - Sun and HP moved away from proprietary Unix OSs years ago.
> Solaris is based on UNIX SVR4, HP -UX is based on UNIX SVR3 (as is AIX). UNIX SVR4 and UNIX SVR3 are not proprietary specifications (there are other which are also very much in use such as BSD4.4 licensed code base versions, etc.
> the "Open" UNIX standard requires compliance to The Open Group's Single UNIX Specification (currently version2) which results in the right to bear the UNIX 98 brand. AIX was among the first to comply with the predecessor of that spec, and UNIX95 brand, as well the current one, with UNIX98 conformance. HP, for example, only recently (within the last month) certified compliance with UNIX95 for their current OS and have not yet even gotten UNIX98 certification. Solaris, I think, does have the UNIX98 brand currently. The next rev of UNIX compliance will require compliance with Single UNIX Spec v3 and will result in another update UNIXxx brand sometime in 2003 timeframe. AIX will again be a leader in certifying against that updated UNIX spec. There is no other standard definition of UNIX today, than the one certified by Open Group.

> the differences which cause admins/user compatibility issue have more to do with implementation value-adds which are not covered in UNIX stds definitions and which in many cases are different because of each OS's platform support which evolved to support particular system hardware designs--ie. different boot process, different diagnostics, different LPAR design, different device driver model and interfaces, etc.

Regards, Bill
Director, UNIX Product Management
IBM Austin, sandve@us.ibm.com
phone 512-838-3250, fax 512-838-4025

Kim Tran
01/21/02 05:08 PM

To: Joe Graham/Woodbridge/IBM@IBMUS
cc: Zachary J Lembo/Philadelphia/IBM@IBMUS, Bill Sandve/Austin/IBM@IBMUS, Jay Kruemcke/Austin/IBM@IBMUS
From: Kim Tran/Austin/IBM@IBMUS
Subject: Re: AIX and System V

Joe,

A short answer to your question is AIX is embracing System V now.

Actually, AIX was derived from System V. But it's System V Release 3 instead of System V Release 4 which was the base for Solaris. However, due to our partnership with SCO, we have been able to make AIX closer to SVR4 as best as we can. For example, AIX 5.1 has /proc, System V print subsystem, System V packaging and installation tools, prtconf, etc. In our next release, we are planning to provide System V user management commands, such as useradd, userdel, usermod, etc. We also are planning to add new flags to some commands to bring them up to the SVR4 level. Unfortunately, Solaris has added their value adds to their system and so has AIX. Regardless of how much we have done and are going to do, AIX is still perceived as different. There are number of technical papers, comparison tables out in the external website that you may find helpful.

http://www.ibm.com/servers/aix/library/whitepapers.html

I am also cc'ing this note to Bill Sandve and Jay Kruemcke for their response.

Regards,
Kim Tran
AIX System Management and Consumability
(512) 838-3412 (T/L 678-3412)

Joe Graham
01/21/2002 03:45 PM
To: Kim Tran/Austin/IBM@IBMUS
cc: Zachary J Lembo/Philadelphia/IBM@IBMUS
From: Joe Graham/Woodbridge/IBM@IBMUS
Subject: AIX and System V

Hi Kim,

I am a local pSeries Field Technical Sales Support representative in the PA/NJ/DE area. I got your name from a previous note that was forwarded to me regarding AIX 5L and its Solaris Affinity. I am working with a pSeries Sales Specialist, Zack Lembo, on a very large competitive account in Pennsylvania. They are a huge SUN shop and we are trying to get our foot in the door and get IBM pSeries installed in their Unix space. The decision maker is a very big SUN advocate and we are working on trying to get him to consider IBM and our pSeries line of products.

He has sent the following question to us and would like an answer. We need to be very tactful and conscientious of any answer that we give back to him, so that we don't jeopardize any potential business that we may be able to WIN. If you could help me with answering the following question or direct me to any information or contacts that you know of that would be beneficial, I would be extremely grateful. Thanks for your time and I look forward to hearing from you soon.

QUESTION:

When is IBM going to embrace System V? Sun and HP moved away from proprietary Unix OSs years ago. This incompatibility would prohibit us from ever considering IBM RISC processors.

Regards,
Joe

I/T Specialist - pSeries FTSS
1000 Atrium Way
Mount Laurel, NJ 08054
(856)439-5658 T/L 242-5658
Internet ID : jvgraham@us.ibm.com

EXHIBIT S5

INTERNATIONAL BUSINESS MACHINES CORPORATION

ROYALTY STATEMENT AS OF JUNE 30, 1987

AT & T TECHNOLOGIES, INC.
P.O. BOX 65080
CHARLOTTE, N.CAROLINA 28265

ATTN: MR. O. L. WILSON
DIVISION MANAGER

ROYALTY PER LICENSE: $250.00
NEW RATE PER LICENSE: $125.00

ROYALTY PAYMENT PERIOD:04/01/87-06/30/87

PGRM NAME: AIX (16 USER SYSTEM
DERIVED FROM SYSTEM V)

TYPE/MODEL: 5669/061

	QTY ITD	TOTAL ROY. EARNED ITD	PRIOR ROY. PAID ITD	TOT. QTY THIS QTR	TOTAL ROY. THIS PERIOD
CUSTOMER INSTALLS:	2667	$333,375.00	$259,125.00	594	$74,250.00
INTERNAL INSTALLS:	2113	$331,000.00	$326,000.00	40	$5,000.00
TOTALS:	4780	$664,375.00	$585,125.00	634	$79,250.00
TOTAL ROYALTY DUE:					$79,250.00

CONFIDENTIAL

1710031838

EXHIBIT S7

Linux Strategy Presentation Version 1.0

The objective of this presentation is to present the Linux Strategy and integrate IBM's core competencies into customer's expectations. By establishing the vision of Linux as an integral part of IBM's ebusiness corporate strategy and the ebusiness cycle, we intend to block niche competitors from substituting their products into our vision as well as clearly demonstrate IBM's differentiated position with Linux.

We understand that one presentation will not acheive this objective, but it is necessary to start establishing the vision from the first engagement with the customer, up until the phase of deploying the solution.

Version 1.0 of this presentation does not intend to have every aspect covered. Our plan is to enhance it with you input. Please send your comments to Georgina Castanon/Mount Pleasant/IBM@ibmus or Andy S Wachs/Somers/IBM@ibmus. Thank you.

1. **Overview of objectives by chart**

	Objective
Pain:	Why you have to become e-business **Chart:e-business is Exploding** **Chart:e-business Demands New Business Models**
Pain:	Why you need a new computing model to become e-business **Chart:New business models require a new computing model**
Position:	Drivers to ebusiness, highlighting the role of standards **Chart:Evolving to e-business**
Position:	Role of Emerging Standards for ebusiness, Linux as an emerging standard. **Chart:"Linux will do for applications,** **what the Internet did for networks"**
Position:	Characteristics that make Linux not JUST another operating system. **Chart:What makes Linux Different**
Positon:	Benefits that Linux provides to the customers e-business implementation **Chart:Linux is having an Impact TODAY on e-business implementations**
Proof Point:	LINUX IS BEING ADOPTED **Chart:Linux new OS model translates into Increased Usage**
Proof Point:	IT HAS REACHED FULL SCALE DEPLOYMENT IN KEY WORKLOADS **Chart:Linux Adds Value to the Right Environments - Today**
Proof Point:	CUSTOMERS ARE USING IT TODAY EFFECTIVELY Chart:**Hill House Hammond Insurance transforms it's core business**

process with Linux.

Position: Where does Linux play in the process of becoming ebusiness
Link Linux implementation into IBM ebusiness cycle
Chart:Depoying the new computing model The e-business cycle

Position: Linux represents a paradigm shift which helps new ideas blossom
Chart:Innovation at a Frantic Pace

Proof Point: NUMBER OF APPLICATIONS IS GROWING AND WILL CONTINUE
Chart:Choice from expanded set of applications

Proof Point: NEW APPLICATIONS ARE BEING USED TO BUILD SOLUTIONS
Chart:Worklab's online guides help consumers eat well and sleep easy.

Pain: You need the flexibility that Linux provides to move swifter
Chart: Net-Generation Business Applications require more flexibility

Position: You need a vendor that can provide you with hardware options to take FULL advantage of Linux
Chart: One size does not fit all environments ...

Proof Point: CUSTOMERS ARE TAKING ADVANTAGE OF LINUX PORTABILITY
Chart: Deckchair.com

IBM Capability: IBM has what is needed to become an e-biz taking full advantage of Linux
Chart: Our e-business Linux Portfolio

IBM Capability: IBM has all aspects covered into taking advantage of the paradigm shift and is contributing to make solutions out of the ideas that are Blossoming.
Chart: Open/Standards-based Application Environment
Chart: IBM is Enhancing Linux set of applications

----------Elaboration of the message.----------

IBM Capability: IBM has better programs to support Linux application innovators than anyone in the industry, this supports enables us to provide Solutions that are better fit to specifi customers business problems.
Chart: Our Linux Portfolio for Developers
Chart: PartnerWorld for Developers

IBM Capability:IBM is an Linux ISV itself.
Chart: IBM Linux Middleware

Linux Strategy Presentation Version 1.0

Proof Point: USING IBM MIDDLEWARE ON LINUX PROVIDE TANGIBLE BENEFITS TO CUSTOMERS
Chart: ERP Central puts time cards online for on-the-road consultants

IBM Capability: IBM is an active membership of Linux Community.
Chart: Linux Technology Center

IBM Capability: We are closer to Linux Distribution partners than any other vendor.
Chart: Linux Distribution Partnerships
----------End of Elaboration of the message.---------

Proof Point IBM DELIVERS SOLUTIONS BASED ON IBM NON IBM PRODUCTS TO MAKE CUSTOMERS ENVIRONMENTS MORE EFFICIENT
Chart: Efffective Distance Learning with Linux by Integrating IBM Middleware with an ISV app.

IBM Capability: IBM understands that solutions involve all aspects of the new computing model for e-business in a heterogenous environment. We can DELIVER.
Chart: Running a scaleable, available, and safe systems environment `on Linux

----------Elaboration of the message.----------
IBM Capability: Enhancing the Intelligent Infrastructure with Linux
Chart: Linux Based Intelligent Networking
IBM Capability: The ONLY vendor that can give you the hardware options to take full advantage of Linux.
Chart: With IBM you can run a responsive Linux environment on the server of your choice
IBM Capability: Description of the hardware options
Chart: Linux on eServer xSeries and Netfinity
Chart: Linux on eServer pSeries and RS/6000
Chart: Linux on eServer iSeries
Chart: Linux on eServer zSeries
Chart: Linux Clusters
----------End of Elaboration of the message.----------

IBM Capability: Global Services ties it all up.
Chart: Linux Enablement - Global Services

IBM Capability: We are the only company that has the breath of products to make companies Take advantage of Linux today, in the most efficient way possible.

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Chart:Linux is Becoming Ubiquitous, Delivering Unprecedented Flexibility& Openness

Proof Point and Summary: IBM has the Vision, the Commitment and the Viability to successfully partner with customers in the deployment of Linux environment.

Why IBM for Linux

2. Detailed Script

Title: **e-business is Exploding**
Objective: **Pain - Why you have to become e-business**
Early on, IBM was saying that e-business wasn't only about Web sites and business-to-consumer trade. Significant action was in business-to-business transactions. E-commerce in this arena totaled $43 billion last year, and is expected to be $1.3 trillion by the year 2003.
This growth is surpassing everyone's expectations. A year ago, Forrester projected that business-to-business e-commerce would reach just under $500 billion in 2002. This year, they upped their estimate by 150%. Some industries -- such as financial services -- have moved aggressively into the e-business space. Others are moving forward at a more moderate pace. But we believe that, before long, e-business will affect virtually every business, in every industry.

Title: **e-business Demands New Business Models**
Objective: **Pain - Why you have to become e-business**
There are several trends shaping the move to e-business.

First, businesses of all sizes are impacted by globalization and deregulation, which lowers barriers to entry and dramatically reshapes the competitive landscape.

Second, customers now have a broader array of choices and, therefore, are becoming more sophisticated and more demanding -- both in what they want from a supplier and how they choose to acquire goods and services.

Third, these first two trends are causing markets to become increasingly fragmented. As a consequence, mass marketing is fading in importance as mass customization becomes the path to serving discriminating customers.

Fourth, technology continues to evolve rapidly to support this environment. The global reach of the World Wide Web enables companies to reach customers anywhere and to connect to employees, suppliers and trading partners wherever they are. This will create an expanding amount of data, which now can be mined for insight leading to knowledge -- creating ways to know and serve your customers better and more profitably ... and ways to gain a competitive advantage.

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Net-generation companies present stiff competitive challenges to companies many times their size. Because they thrive on flexibility, speed and innovation, they are able to cherry pick profitable customers from traditional businesses.
Due to the fact that e-business organizations, have a unique opportunity to capture international business opportunities. what traditional organizations must do is chart a course to migrate above the e-line. In other words, become e-businesses themselves.

Title: New business models require a new computing model
Objective: Pain - Why you need a new computing model to become e-business
Because of the growing usage of the network and the IT systems e-business is placing a staggering transaction burden on servers. In the past five years, transaction volumes have tripled. This has been accompanied by a six-fold increase in computing power to support those IT transactions.

Imagine the explosion in transactions and computing power that will be necessary to respond to the billions of requests from e-markets, pervasive computing devices, deep computing applications and Web sites with rich media. Web traffic is expected to increase by as much as 1000-fold in the next few years.

Yes, broadband makes it possible to transmit the necessary transactions, but servers will have to generate those transactions. In simple terms, the bottleneck in the network is shifting from the modem to the server.

In the future, one billion people will become Internet users by 2003. They will be accessing the Net not only from PC-based Web browsers but also a wide array of other devices and technologies including cell phones, PDAs, Web kiosks, cars and household applications. One click of the mouse or call from a cell phone will trigger a chain reaction of transactions through the system ranging from authentication to authorization, order processing, inventory checking, build instructions, credit checking, payment, shipping, as well as customer relationship and business intelligence transactions.

Further adding to transaction complexity, there will be a 100-fold increase in data storage in the next few years... that data will become a valuable corporate asset... and that value increases when computing-intensive complex business intelligence solutions are implemented.

This is placing unprecedented demands on IT systems: A NEW COMPUTING MODEL IS REQUIRED (IBM came to this conclusion from 18,000 e-business customer engagements, and our own hard-learned lessons at the IBM Global Services)

Some server vendors try to convince customers that one server platform can meet all e-business computing requirements. Experience and market research have shown us that few companies are willing to bet on a single server technology. One size simply fits almost no one. That's because customers realize that an optimized infrastructure requires the deployment of different server technologies for different workloads.

The concept of deploying different classes of servers against different types of workloads is not a new idea. Customers have been utilizing this strategy for distributing processing power among different types and classes of servers to optimize system performance. We called it client-server. The difference today is that this strategy is not just necessary to optimize investments, it's a requirement for achieving the flexibility needed to survive in the rapidly evolving e-business economy. In fact, the old ways of implementing servers are proving inadequate.
e-business requires a computing model in which computing power migrates out of traditional, centralized IT systems into distributed high-speed networks so that usage of servers, applications and other IT resources becomes pervasive. This new computing model consists of high-speed networks, seamlessly integrated applications and powerful servers specifically designed for specific workloads within the intelligence infrastructure.

In fact, the new computing model will generate three classes of workload:

Data transaction servers to manage core business processes
Web application servers to manage end-user experience
Appliance servers to manage specific network functions

To manage business processes, workloads with high volume, complex, data-intensive, highly integrated transactions. Examples include BI, customer relationship management, supply chain management, and back-end functions of enterprise resource planning.

To manage the end-user experience, workloads with very high volume and unpredictable spikes, accompanied with relatively simple transactions and moderate data models. Examples include Web serving, e-commerce, collaboration and front-end functions of enterprise resource planning.

To manage specific functions of the network, workloads with extremely high-volume of essentially identical transactions. Examples include firewalls, caching and network-attached storage.

Title: Evolving to ebusiness
Objective: Position -Role of Emerging Standards for ebusiness.
The Internet has been evolving from being a communications medium facilitating information publishing and dissemination through browsers to a foundation on which business processes are transformed to better capitalize on the business opportunities provided by the Internet. A few key trends or drivers are accelerating this evolution to the next generation of e-businsess. This next generation will facilitate the delivering of new e-business applications, helping companies provide new value & content to new customers, interacting with new devices from new locations.

Clearly, technology advances will play a big role in the next generation of e-business. The roll out of high-speed Internet access provided by DSL and cable-modem technology will enable users to enjoy a media rich experience when interacting with businesses. This "client" bandwidth increase will need to be supported by significantly higher bandwidth backbone networks to accommodate the greater demand. But bandwidth is just one part of the technology story. Companies have always relied on having private interactions with its customers and this will become even more

important as competitors vie for customers in digital marketplaces placing security and firewall technology as a critical requirement of the network. Quality of Service (QOS) provisioning, which has always been an integral part of private networks will need to become an integral part of the Internet to ensure a satisfactory experience by all classes of users.

As businesses, both large and small, increasingly realize the bottom line effect of more tightly integrating the various constituents of their value net, not only are they achieving better internal efficiencies, but they are also gaining longer term top-line effects. This occurs as a result of the strengthening of partnerships with suppliers as well as with individual customers through one to one customized marketing and sales efforts enabled through the Internet.

The net has spawned all manner of new business models. Consider forward and reverse auctions, the patented name your price demand aggregation of a Priceline.com and most recently, e-marketplaces for b2c, and increasingly b2b, making business partners of former business rivals all to streamline operations and provide a differentiated quality of service using the flexibility and reach of the Internet. Now that Napstar, the first company to bring a successful peer-to-peer music sharing business model to market, has agreed to deliver royalties to the Intellectual Property owners through service fees, demonstrates the market pull for these new innovative market approaches.

While all of these factors will contribute significantly to the next wave of e-business, IBM contends that there is another key factor that sometime goes overlooked, because, to some extent, we have all come to expect it. That is the factor of open standards, which has underpinned the Internet from its inception.

IBM conducted a survey in early 2000 to get a sense of the diversity in server deployments from different companies. We asked companies of different sizes around the world how many different server platforms were running mission-critical applications. We told the respondents to omit the client applications from their response and those environments that they didn't consider mission-critical, like file and print. The results were not surprising but very insightful, only 5% of the companies were using one server platform they considered mission-critical. 95% were using 2, 3 or 4 different platforms. How else, but through standards, would these platforms be able to participate on the Internet.

Title: **"Linux will do for applications, what the Internet did for networks"**
Objective: **Position-Role of Emerging Standards for ebusiness, Linux as an emerging standard**

A few years ago when the Internet burst on the scene, companies found that we were capable of connecting systems that had stood in isolation for years, and companies had many diverse systems to connect as we learned from the survey. The primary reason for that was standards ... key Internet standards like browsers, HTTP, and HTML providing open, portable presentation services. Other examples include: xml - open, portable data representation and java - open, portable business logic

In the early days, the type of interaction required by systems on the Internet was at the level of file sharing and ftp functions through browser technology
Now, five years later, we can envision networks of networks linking billions of people and trillions of devices -- a connected and transformed economy and society. That adoption of standards lets us take networks to lengths we'd never dreamed of before and sparked the emergence of e-business.
Clearly, in the next generation of e-business, growth of the infrastructure; the integration of technologies, applications and business processes; and promise of tremendous strides in innovation, hinge on commonly accepted standards that provide application integration, portability and deployment flexibility.

IBM's vision is that Linux continues to garner ubiquitous industry support and becomes an integral part of the application framework used to build and deliver e-business applications. Being open in the purest sense of the word and commonly accepted by some of the best technical minds in the business, Linux is clearly the prime, perhaps the only, legitimate candidate to become such a standard

Now you may be thinking this is a pretty bold statement to make. Give us some latitude and we will take you through the details behind our claims.

In fact IBM believes, Linux potentially can have the same kind of dramatic effect on applications that the Internet had on networks. As an open, standards-based environment, Linux can streamline development, accelerate deployment and integrate applications across the enterprise. And in doing that, it can liberate the creative forces that will make e-business in the next generation more productive than anyone had dreamed of.

Title: What makes Linux Different
Objective: Position-Characteristics that make Linux not JUST another operating system.
It may not be obvious why Linux is special and different. After all, there are many other operating systems in the world, like UNIX NT, AIX, OS/390, the brains behind the powerhouse System 390 mainframe and many others. Surely, we don't believe that Linux today provides the breadth of mission-critical and industrial-strength capability offered by mainframe operating systems. We wouldn't even try to argue that Linux today delivers the vast set of features for scalable, highly-available computing available with UNIX.

So first let's explore IBM's perspective of what makes Linux unique and then discuss the technical and business benefits that these attributes bring to companies building and deploying ebusiness solutions.

Probably the greatest source of uniqueness of Linux comes from its heritage. Linux is one of a very small set of operating systems that is developed using the Open Source Software (OSS) paradigm. By definition, software developed using open source is done by an open community of developers that cross all boundaries that you can think of: company, geography, industry,

organization, etc. That means not only does Linux reflect the collective wisdom and experience of this diverse population, but it is truly open, available for any qualified developer in the world to participate in its maturity. It is not owned by any one company. It is not subject to the selfish interests of any one company. It's future is determined by the collective interests of its value-net, from distributors, to value-add providers to customers. This characteristic provides a neutral playing field, making it very attractive for vendors of all types to support it, while seeking differentiated solutions by layering value around it to give customers what they want: a high-volume, standards-based foundation hosting leading technology solutions.

And speaking about standards which we already said are the underpinning of the Internet and therefore of ebusiness, Linux by definition supports features that are developed and ratified by the community. It is therefore not going to be vehicle to drive standards that are the strategic interest of only one company or consortium. It will reflect the standards developed by the community and therefore we see significant interest by many top technology companies that have technologies that they believe will help drive the industry forward to have these technologies submitted to the open source community for ultimate standardization. IBM has been very active in this endeavor, as have other companies, and we believe that this will drive rapid maturity of Linux over the next several years.

Maturity is good because it will help Linux deliver value to a wider range of workloads and applications, but it is likely to cause Linux to become larger. The small footprint of Linux as been one characteristic that has made Linux an excellent choice for small deployments such as server appliances and even the emerging wave of pervasive devices. But even as Linux becomes more feature rich, remember it has been developed to be very modular. Whenever a new platform architecture support is added or hardware dependent feature is developed and released to open source, the enhancement is placed in a specific isolated location in the Linux library, leaving the rest of the code untouched. And because it is easily accessible from the web and capable of being customized, it will never loose its unique ability to be molded into the fabric (i.e. becomes one with) of whatever special-purpose a company may have for it. For this reason we continue to see substantial interest by thousands of companies in using Linux as the software platform for the build-out of the next generation network infrastructure that will use IP-based protocols to deliver integrated voice, video and data services to enterprises and consumers alike.

Whenever companies embark on new ventures, cost becomes a factor. It takes a while before companies are able to generate revenues to deliver a return on their upfront investments. The fact that Linux is essentially free makes it very attractive to startup companies or breakout initiative from established companies. Of course purchase price is but one issue. Companies who have UNIX trained IT skills will benefit from the fact that Linux was derived from UNIX making the skills highly transferable to Linux.

These attributes are what make Linux different. Now, as compelling as they may be from a technology/IT point-of-view, the real factors that make customers like yourself standup and take notice are the market dynamics that are in play as a direct result of these factors.

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Title: Linux is having an Impact TODAY on e-business implementations
Objective: Position-Benefits that Linux provides to the customers ebusiness implementation.

It is an interesting, but academic debate whether Linux is an evolution, an uprising or a revolution. I will trust your judgment on that, but from our perspective something big is in play here.

This industry has seen operating system platforms emerge with a vigorous value-net in the past, like AIX, Solaris and Windows NT, but never has an OS developed so quickly and so broadly as Linux. This new open paradigm has garnered so much enthusiasm that it has already, in its short active life, become the most ubiquitous server OS. If you think about it, Linux is running on the widest range of platforms in the industry: from all of the Intel vendor's server platforms, to all of the UNIX RISK vendors platforms all the way up to the mightiest platform of all - the mainframe. Customers have looked to open systems to provide flexibility and choice and the movement to open computing has driven dramatic improvements in price/performance.

Enterprise-class UNIX is open but fragmentation has limited the ubiquity of any one version. Windows NT offers many of the values of open computing, but Microsoft's tight control and desire to dictate standards have limited its potential.

Never before have customers had this much flexibility in selecting server platforms to run their preferred application. And never before have customers been able connect these servers together as seamlessly as they can with a single common OS.

This flexibility and choice can provide a mighty advantage to ebusiness environments. It's nearly impossible to predict the factors that are going drive and alter the computing requirements of ebusiness. Being able to select from the long list of server options available for any single Linux application gives ebusiness designers the ability to create an optimized solution. And if extensions, or alterations are needed, well get the list back out because if the option exists in the industry, it is bound to be available for your Linux application.

Now of course that assumes that you have a Linux application. What's the likelihood of that? Well it's good and getting better. IBM believes that ebusiness application development is the single most significant beneficiary of the Linux "movement"?.

What drives success of developing ebusiness applications? How about, extensive skills availability, new business model innovations, inexpensive development platforms, robust standards-based development tools and utilities, ample web server application server middleware and wealth of ISV support.

These are the areas where the Linux market dynamics are most active. Find a computer science university student who hasn't heard of Linux and you found one that probably hasn't surfed the Internet. The two are inextricably linked. If you have an operating system whose most prevalent use is web serving then you can bet that most of the development of new ebusiness applications are using that same operating system. Especially since that same operating system is inexpensive, easily accessible and inherently standards-based.

Now you couple those dynamics with the energetic support by hardware, middleware and application vendors, you have the ideal application platform for your ebusiness application environment.

Title: Linux new OS model translates into Increased Usage
Objective: Proof Point-LINUX IS BEING ADOPTED.
Now surely this popularity and enthusiasm makes sense, but what do the pundits think? Firstly, they all don't think alike, now that's no surprise. But no one old argue that when it comes to numbers, IDC is a solid, reputable source.

In fact IDC estimated that in 1999 Linux shipments grew more than 93% YTY. OK your thinking that growing from a small base is easy. Well when you end up as the #2 volume OS in terms of unit shipments, holding 24.4% share, with NT as the only higher volume server OS, that's impressive. It's also interesting that the combined enterprise UNIX shipments -- predominantly AIX, Solaris, HP-UX, accounted for only 15.3%. Now of course, UNIX has been a revenue (and not volume) platform and so the revenue picture is different and enterprise UNIX still plays a vital role in large, mission-critical deployments according to the numbers.
Another interesting question is the future. IDC's experienced crystal ball says that Linux will OUTGROW, from a unit shipment perspective, ALL other OS platforms. Projected to grow at 28.8%, IDC believes that Linux will eventually become the highest volume OS sometime in the middle of the decade.

And by the way these numbers do NOT include the Internet downloads of Linux, only the instances where Linux was pre-loaded on a server or purchased from a retail channel.
Now that doesn't mean that Linux will be "all things to all people", in fact if you look at the next slide you will see that Linux has honed in on a few very key workloads.

Title: Linux Adds Value to the Right Environments - Today
Objective: Proof Point-IT HAS REACHED FULL SCALE DEPLOYMENT IN KEY WORKLOADS.
So now that we kind of explored the "why", what about the "where". Because I know that you are an innovator, a leading company in your field, so you may be wondering have I missed a key boat. Absolutely not! Let's be honest, Linux today, in most instances, is still in the pilot stage and, in general, it has reached full scale deployment only in a few key workloads. So the boat is securely tied to the dock, waiting on major players like yourself to set out to sea.
How do we know? Well, there have been a number of surveys conducted to determine where Linux is being used, some of which IBM have participated in. And while we are highlighting one such survey, the Information Week Research Survey of 300 IT managers, all of them tell a similar story.

As I had indicated before, the most prevalent use of Linux is in web-based workloads. This includes basic web serving, web application serving and Internet server appliances like web acceleration, content management, firewalls, directory services, etc.

Secondly, as I indicated application development on Linux simply makes sense since the support structure is there. And many companies and development groups are using Linux.
Beyond those workloads, there are number of environments on this chart that are solid second tier uses for Linux. Some may be surprising, like database, some may be as expected, like network file & print.
It is also interesting to note that some of the key workloads are being piloted by a minority of companies. Workloads like e-commerce and ERP are likely to be later adopters of Linux, but it is interesting to see that they made the list.

And this is a list that is likely to grow. InformationWeek also queried its respondents about their plans for Linux. They issued this survey at three points of time initially in the middle of 1998. At that time most respondents essentially said, "Linux? huh? But you can see the swift moving "movement? In 3/99 the awareness had increased quite dramatically. Then in late 1999 when IBM was supporting Linux but had yet to make its historic announcement in 1/2000 as the first company to establish Linux as a strategic OS, a position that many have followed since, the response increased to nearly 1/3 that were either using or planning to use Linux within 1 year.
So, as the research shows, Linux is being used today. In some cases it is being used in pilot installations, in others as production deployments. An increasing number of companies are using Linux, mainly in web-based environments, but its use stretches as far as commerce and ERP.

Title: **Hill House Hammond Insurance transforms it's core business process with Linux.**
Objective: **Proof Point-CUSTOMERS ARE USING IT TODAY EFFECTIVELY**
Hill House Hammond Insurance (HHH) is one such company that has looked to Linux to solve a business problem. Not surprisingly, HHH came to IBM, the undisputed industry leading supplier of Linux solutions, support and technology (more on that enviable position later).

Hill House Hammond (HHH) is an insurance broker operating a three tier business model, comprising 250 high street branches, a call center, and Web-based offerings. It is one of the UK's largest insurance intermediaries, providing general insurance services to consumers and small businesses through high street branches.

The customer's branch infrastructure was nonexistent. It needed a low cost transaction database application to meet its growth targets.

HHH had been using IBM's RS/6000, now known as the eServer pSeries, for their call center installation. The application are running on this server was developed on Pick D3 software.

Creating a whole new tier in a business architecture can require a significant up-front investment. You have to look carefully at the risk/reward analysis. Placing the computer closer to the consumer can deliver improved response and enable the delivery of new applications. That's the reward sought by HHH. But, as they explained to us, the systems must be very low-cost and very reliable to be a viable path for HHH.

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After an evaluation of Windows NT for other non-business critical environments, which uncovered some reliability shortcomings, HHH turned to the aNix Group, HHH's business partner, for their recommendation.

aNix Group recommended IBM's Netfinity platform running Linux in order to obtain the reliability, low-cost and performance HHH needed. Having PickD3 available for Linux made it easy for HHH. As we discussed earlier, more and more software is being developed on or rehosted to Linux and Pick D3 was available on Linux.

IBM's full support capabilities for Linux, made Netfinity running Linux the natural platform choice. HHH selected the Netfinity 3000 server with powerful X-architecture design. These reliable, robust, high-availability servers have been designed to deliver maximum up-time because IBM's vast technology portfolio has been leveraged into their industry standard systems.

But equally important was the very low-cost nature of the solution. It only took an entry Netfinity 3000 server configured with a Pentium II processor, 64MB of RAM and a single 9.1GB disk to satisfy the intial performance requirements. Not very many operating systems can run well in such a small configuration. Linux is one such OS because it is very small, modular and configurable. Additionally, it is very low-cost, contributing to a cost effective total system cost. This coupled with the impressive reliability HHH measured during their trials, closed the deal.

The customer installed 290 Netfinity 3000 servers, one per branch office all connected over the Internet. The servers will run the company's sales and services database application, generating quotations from a panel of insurers and producing policy documents on the spot.

So Linux can deliver real value to customers today and HHH is just one example. In this case, HHH used Linux, Netfinity, aNix Group and IBM to transform it's core business delivery architecture. Transformation of core business processes is typically the first stage that companies go through on their way to becoming an ebusiness.

Title: **Depoying the new computing model The e-business cycle**
Objective: **Position-Where does Linux play in the process of becoming ebusiness.**
Tie Linux implementation into IBM ebusiness cycle

In order to understand better why Linux is a game changer in the ebusiness computing environment, we have to talk about how companies are becoming an e-business and how integrating Linux when you are becoming an e-business help you maximize the value of your information technology investment. How can it help you reduce your costs and grow your performance. Essentialy, we need to talk about where does Linux play in the process of becoming ebusiness.

Based on the experience of the companies we've worked with, we recommend you consider four important areas or stages. We think of these four stages collectively as the e-business cycle. But there isn't a set order or hierarchy here. Successful e-businesses have started this cycle at different points and you can too.

Let's start with the Transform stage. Companies that succeed at e-business use the possibilities of the Web, intranets and extranets to transform core business processes. They fundamentally change the way they do business. These companies tend to (1) be very open to changing core processes and (2) have a vision of how such a transformation will improve their business.
(Such as in the case of HHH)

Another stage in the cycle is that of building new applications. Companies that succeed at e-business build applications quickly and easily. And they do so without reinventing the wheel; they build on the systems and applications they already have in place. We will be talking during the presentation about how Linux is playing, and will play, a very important role in building new e-business aplications.

The third stage or area in the cycle addresses running a scaleable, available, and safe systems environment. Successful e-businesses establish a hardware infrastructure that can grow easily with the business. They also understand how to manage a network computing environment and how to keep it secure. We will see how with Linux, customers have the option of deploying thier applications on the platform of their choice - flexibility.

Finally, successful e-businesses take a strategic approach to leveraging their knowledge and information over time. They capitalize on the information and experience they already have and quickly apply new intelligence as it becomes available. Organizational knowledge is shared and everyone is the wiser.

Our goal at IBM is to help you move through this cycle -- to maximize the business value of your information technology as your company becomes an e-business.

Even though we have an increasing number of customers Transforming their core business processes using Linux, such as HHH, and Lawson in Japan, during the next half an hour we will be focusing on how Linux helps you BUILD new applications and the flexibility it provides to design and RUN a scalable and reliable environment for ebusiness implementations.

Title: Innovation at a Frantic Pace
Objective: Position-Linux represents a paradigm shift which helps new ideas blossom.

So let's start with with the BUILD stage of the ebusiness cycle. When thinking about building new applications the first step is innovation. The concept of innovation is critical to ebusiness and is a natural for Linux - so I want to stay on this point a little longer.

Many new business models are arising with e-business - take peer-to-peer for example. These new innovative architectures require standards to proliferate, they require new functionality and this takes a community to do it right and do it fast.

While a new innovation is being explored and cultivated, the optimal goal is to have the best minds in the industry working on the problem but at the same time you don't want any one company to take the base innovation for their own.

Establish a solid base that delivers new customer value and then let companies build new applications using the new model. That is why Intel, IBM and others are working on the peer-to-peer working group as an open source project. At its conclusion, once standards have been developed and some of the hard issues solved, new Napstar-like companies will flourish.

Open souce is the natural fit for these innovations - it promotes community involvement, provides diversity of experience and enables an equitable business environment. As these innovations continue to emerge, Linux, as an open operating system itself, will become the pilot OS of choice to test out these new innovations.

Building Linux skills and capability in your organization makes sense to exploit these innovations to give you firstmover advantage.

And the good news is that the word is out. Linux skills are begining to flourish. They are emerging from vendor-sponsored certification programs, universities and research organizations. This makes your job easier in securing the resources needed to get the job done.

And the job you need done may be to purchase an pre-packaged application, rent an application as a service from a Service Provider, or build your own application. Since Linux is available for anyone to customize, if you need to tune the environment to meet a specific needs, there are no licensing or source availability issues to deal with. If you want to run a popular application, it is becoming increasingly likely that the application has been, or is planning to be, hosted on Linux. In short, the "ecosystem" is building and that will make your life easier. It will enable you to implement innovation faster. It will enable you to have all of the great flexibility we spoke of earlier for the applications you are most interested in running.

Title: Choice from expanded set of applications
Objective: Proof Point: Number of applications is growing and will continue to do so.

But... does this mean that this is for the future and not for me now? All these characteristics are great, but we only can be measured by results. Where are the LINUX applications you need to make your business run? Do they exist? or are all Linux apps. some obscure university project with NO business application whatsoever? - technology for technology sake? Is the only option you have today is to write your own?

While you can port your applications to Linux if you wish, and companies that have done it, are acheiving outstanding results...there are other options. If you decide to go this route, choose a partner that has the tools and the enterprise expertise in Linux to help your development personnel acheive the results you are expecting.

On the other side, today, you would be amazed by the amount of ISVs that are porting their current applications to Linux. Companies that are serious about Linux are workiing closely with these ISV's in order to optimize their platforms to take full advantage of ths innovative operating system.

Additonally, there are many new ISVs and many new applications that are arising due to the Open Souce movement, the flexibility and low cost that Linux provides. Many developers are not only writing them but they are putting them to use in the companies they work for. Working closely with the Linux community gives you the opportunity of finding new ways of solving problems.

But, you must run these applications on top of a reliable operating system, and you must have the conifdence that there are people and companies behind it that can help you solve problems if they arise. Several years ago Linux Distributions where essentially that, Distributors of the Linux code. Today they have gone through a great deal of evolution, They have become services and product companies.They not only take the operating system off the web, but also develop, integrate, and tune the operating system, develop applications and optimize the code to run better on hardware platfoms and ISV apps. They also provide education and services.

Title: Worklab's online guides help consumers eat well and sleep easy.
Objective: Proof Point-NEW APPLICATIONS ARE BEING USED TO BUILD SOLUTIONS

So, we have seen that there are applications, there are vendors that are building solutions for Linux, but are these integrating efforts really providing an advantage for Linux users? Are customers that build solutions on Linux obtaining economical benefits for their business?
YES. The availability of middleware and talented applications developers for the Linux operating system is driving many companies to use Linux as a preferred platform for new e-buisness applications Here we show a company that is providing tangible evidence of how their solutions provide an advantage for them and for their customers.

Worklab Technologies, a German e-business solutions developer founded in 1996 and an IBM Business Partner, develops e-buisness solutions using IBM DB2 Universal Database for Linux, Lotus Notes and Lotus Domino.

Worklab views Linux and Java as cutting-edge technologies which are vital to their success. These technologies enable development and deployment on the widest range of platforms, allowing Worklab to build solutions around their customer's platform of choice, leveraging past investments, skills availability, and system familiarity.

So sure is Workloab on the value of IBM middleware and Linux that when Worklab decided to provide prospective customers tangible evidence of their capabilities, by designing, building and operating two active business to consumer sites, they used Linux.

Not only are these sites displaying the capabilities and creativity of Worklab, but they are generating revenue. One of the ecommerce sites, www.eatndrink.com, an online restaurant guide is expected to generate 400 percent revenue growth over the next 3 years. The other site,

www.hotel-vacancy.com, an on-line search and bookings system, is expected to generate upwards of $20M US by its fourth and fifth year of operation.

Why did worklab select Linux - because of its robust e-business middleware support and its flexible deployment options.

Title: Net-Generation Business Applications require more flexibility
Objective: Pain-You need the flexibility that Linux provides to move swifter

Now let's take a look at the RUN stage of the ebuisness cycle and how Linux ubiquity (i.e. support on just about every platform in the world) can provide value to companies.
Before ebusiness, deployment platforms were highly vertical like you see on the left of the slide. Applications were built to an application environment that was dictated by the operating sytem. The OS in turn was supported by a subset of vendors and platforms and therefore there were real limitations in your ability to select your optimal platform deployment scheme.

However, ebusiness is creating new requirements: tight electronic integration of the constituencies in your value chain, responding to dramatic shifts in your customer's demand, the inability to predict the timing of these shifts, rapid introduction of new services, like personalization and the seamless insertion of new technologies, like pervasive device access. Enter middleware. A layer of abstraction that enables an application developer to focus on the problem without having to deal with platform dependencies and the intricacies of managing data and communications. Develop to middleware and it is much easier to deal with the dynamic nature of your environment. Middleware can provide a framework for developing applications that can be deployed anywhere. As an example, IBM offers an Application Framework for e-business to help customers develop and deploy e-business applications. Because the Framework is built on open industry standards, customers can choose IBM offerings, other vendors' offerings or a combination.

While its not middleware, Linux, as an operating system available on the widest range of platforms in the world has an important role to play in delivering flexibility. Firstly, some applications get built to the OS or built in a way that the OS shows through. Some technologies that are employed by an application environment are specific to an operating system. Often the ability to deploy an application using the same operating system that was used for development makes the transition a bit smoother, and that translates to speed-to-market. And then there is the administration and operations processes that are typically associated with an operating system. So developing to middleware, like IBM's Application Framework for ebusiness provides a significant advantage in delivering flexibility. Using middleware in an application environment where some applications require a particular OS can be limiting unless that operating system provides vast platform and vendor support. Such is the case with Linux. In fact Linux supports more platforms from more vendors than any other operating system. So whether you have OS dependent aspects of your application environment or not an application framework with Linux delivers the flexibility you need.

Title: One size does not fit all environments ...

Linux Strategy Presentation Version 1.0

Objective: Position-You need a vendor that can provide you with hardware options to take FULL advantage of Linux

We have already seen that the dynamic environment of ebusiness - demand peeks and valleys, legacy transformations, new ebusiness applications, etc, requires, as a key capability, flexibility and choice to create an ebusiness solution architecture that is custom tailored to your needs. You are likely to want to deploy different platforms, possibly from different vendors, for different tasks in order to create an optimal deployment architecture. Additionally, you may want to consolidate a portion, or all, of your ebusiness applications on a preferred platform or platform family. You may also want to closely integrate new ebusiness applications with applications running on existing platforms, which probably include one or more flavors of UNIX and possibly a mainframe.

The ubiquity of Linux gives you the option, and that is the key - it's your choice, of implementing all of these strategies to allow you to create the best ebusiness environment.

For example, Linux applications can run directly on servers running Linux ranging from Intel to RISC to the Mainframe, from Compaq to IBM, as previously mentioned. This in itself gives you great flexibility because you have such a wealth of technology to select from to run your application and such a wide range of platforms that you can administrate and operate in a common way. As your options go up and your administrative complexity goes down, the cost/performance of your implementation will improve. But what if 1 year down the road a new technolgy emerges or your application characteristics change and you need to make a change in your deployment architecture. Having a single operating system makes that easier than it would have been otherwise.

In addition to evaluating new server platforms you may have existing platforms that have served you well over the years. You would love to bring the new applications emerging on Linux to these deployment platforms. It may be that a particular operating system, like IBM's AIX, contains features that you understand and that have proven its value, you just need to get the application integrated into that environment. Remember, Linux is derived from UNIX and the ability to seamlessly run Linux applications in enterprise UNIX environents is emerging in the industry.
You may have a key database or transaction system running on your mainframe. You would love to be able to snuggle your Linux application up against these legacy systems to get the best performance and make the best your of your existing investments. Technologies from leaders like IBM are making this possible.

So I ask you what operating system gives you so many deployment options - direct on just about every server in the land, integrated with your enterprise UNIX installations and co-existing with your mainframe systems as Linux? None.

Title: Deckchair.com
Objective: Proof Point-CUSTOMERS ARE TAKING ADVANTAGE OF LINUX PORTABILITY

Linux Strategy Presentation Version 1.0

The wealth of options that Linux provides - platforms, vendors, microprocessor technologies, middleware and deployment schemes, convinced Deckchair.com that Linux was the vechicle to find the best price/performance, hardware and software.
Deckchair.com, a London based travel web site, has chosen IBM DB2 Universal Database for Linux (using the SuSE distribution) running on an IBM Netfinity server to power its record-breaking travel search engine. Deckchair needed a highly portable and scalable solution to support version 2 of its popular web site which went live in May/2000.
Deckchair turned to an IBM Linux-based solution to fulfill its needs. As of the middle of the year, Deckchair's database is the largest DB2 database running on Linux and is delivering the scalability the company expected.
Why did Deckchair select Linux - because of its portability and the scalability provided by the middleware running on top.

Title: Our e-business Linux Portfolio
Objective: IBM Capability-IBM has what is needed to become an ebusiness taking full advantage of Linux

As we have stated in IBM's Strategic Priorities, we believe that e-business is about business -- not technology -- we help customers understand how it changes the rules for Customer Relationship Management, Electronic Commerce, Supply Chain Management, etc.
Our Linux strategy follows exactly the same path, and is complety aligned with our Corporate strategy. We are not interested in Linux only to run on our hardware platforms and run our middleware. We truly believe that we must take advantage of this emerging operating system to help our cusotmers solve buisness problems in new and efficent ways. Linux being a disruptive technology can help us do it very efficently.

Our Linux Strategy is based on enabling our customers to depoly solutions on all stages of the e-buisness cycle and use Linux where the tangible benefits provide a competitive advantage to you - our customer.
Transforming core business processes requires a new generation of applications. Because of the Linux characteristics we have been talking about (open, flexible, easy to change) and the high degree of innovation it provides, we believe that it fits tightly into our e-business application framework which is designed to help customers build and deploy a new generation of applications.TODAY we are delivering market-leading middleware on Linux that enables customers to integrate existing applications and connect back-end systems to the Web,as well as a large number of program, products and services designed to help customers, ISVs and the Linux Community take full advantage of Linux while BUILDING applications.

We said that e-business demands an IT environment with fast, reliable servers and an infrastructure that is up and running 24 hours a day, 365 days a year. And that an infrastructure that scales efficiently as business volumes grow, that is easy to manage, and that ensures the security of your data and the privacy of your customers is needed on evey customer implementation. We have enabled all our hardware platforms - from pervasive devices (even a wristwatch), clients, thin servers, to the FULL line of eServers to run the Linux application environment so you can pick the platform to runs your business in the most effective way, and gives you the flexibility of growing easily when required.

e-business also provides the opportunity to collect, share and reuse valuable information -- information about your customers, insights into customer buying patterns that lie hidden within volumes of transactional data, the collective knowledge of your employees. IBM provides the business intelligence and knowledge management solutions that enable businesses to capitalize on information and knowledge to achieve competitive advantage. We are working very closely with the Linux community and ISVs in order to acheive this objective and move Linux into becoming a true enterprise application envirionment..

Finally, IBM offers a full slate of e-business services for Linux -- such as systems integration, Web hosting, strategic outsourcing, Infrastructure consulting and planning, Open Source consulting, Installation, Configuration, Application enablement and Integrated solutions portfolio -- to assist customers into introducing Linux in different stages of the e-business cycle.
But, we are not done, we have strategies in place for each one of the cycles to enhance,grow and extend the options for you to take full advantage of Linux.

Title: **Open/Standards-based Application Environment**
Objective: **IBM Capability: IBM has all aspects covered into taking advantage of the paradigm shift and is contributing to make solutions out of the ideas that are Blossoming.**

As we showed earlier, application development, especially ebusiness applications is an area where Linux is experiencing significant use and an area that IBM has a major focus. As Linux increasingly becomes the development platform of choice for these environments, a significant wave of new aplications will emerge. These applications will bring new workloads and innovations for IBM's full and vast eServer line of systems, which when combined with the vast portfolio of applications already availble for these systems, will enable customers to enjoy greater flexibility in deploying ebusiness applications and integrating these applications with legacy environments than they can achieve from other vendors. Linux will not be the only applications source for these systems, but it provides an important new source of innovation

To Facilitate this cycle, a robust, open and pervasive application development environment must continue to evolve with Linux. Therefore IBM's goal is to establish Linux as 1st tier app dev platform

How: Conform to established practice - There are some very popular and effective tools there today - many of them GNU or other open source tools - like GCC, GNU make, the "autoconf" facility for constructing portable builds. We know about gooses and golden eggs, that's why we are supporting the best of what application development on Linux offers today and building on it.

Add to the open source momentum - We've contributed open source projects for AD - like the "Jikes" Java compiler that now ships in a number of Linux distributions, the XML parsers we contributed to the Apache XML project, and the ICU services for portable handling of Unicode. We'll continue to enhance the Linux environment this way.

Linux Strategy Presentation Version 1.0

Add IBM "value add" - We're doing a lot of work in IBM with e-Business, the development and deployment of Web-based business applications. Linux will be a first-class host for the WebSphere platform, that provides everything that is required for fast development of e-business applications that integrate their business with web and third parties such as business partners, consumers, suppliers and now B2B e-marketplaces.
Community Cooperation - Working with Open Source and other industry partners, we'll bring all this together - the strength of the traditional Linux tools base, our e-Business know-how, and products from other vendors. The result is a rich and accessible development platform for a wide spectrum of applications.

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The continuing maturation of Linux as a development platform, which is really what we're discussing here, increases its attractiveness for high-end, enterprise ready applications. Those applications will be very demanding, on the scalability, robustness, and manageability of Linux itself and of the hardware system it runs on, and of course on connectivity to the enterprise data those applications typically demand. We're betting that when customers look for high-end systems to host those high-end applications they will find our native Linux and of Linux-compatible runtime environments on IBM systems tremendously compelling.

Title: **IBM is Enhancing Linux set of applications**
Objective: **IBM Capability: IBM has all aspects covered into taking advantage of the paradigm shift and is contributing to make solutions out of the ideas that are Blossoming.**

But... does this mean Linux is for the future and not for me now? All these characteristics are great, but I only can be measured by results. Where are the LINUX applications you need to make your business run? Do they exist? or are all Linux apps. some obscure university project with NO business application whatsoever? - technology for technology sake?
Is the only option you have today is to write your own?

While you can port your applications to Linux if you wish, and companies that have done it, are acheiving outstanding results...there are other options. If you decide to go this route, choose a partner that has the tools and the enterprise expertise in Linux to help your development personnel acheive the results you are expecting.

On the other side, today, you would be amazed by the amount of ISVs that are porting their current applications to Linux. Companies that are serious about Linux are workiing closely with these ISV's in order to optimize their platforms to take full advantage of ths innovative operating system.

Additonally, there are many new ISVs and many new applications that are arising due to the Open Souce movement, the flexibility and low cost that Linux provides. Many developers are not only writing them but they are putting them to use in the companies they work for. Working closely with the Linux community gives you the opportunity of finding new ways of solving problems.

But, you must run these applications on top of a reliable operating system, and you must have the conifdence that there are people and companies behind it that can help you solve problems if they arise. Several years ago Linux Distributions where essentially that, Distributors of the Linux code. Today they have gone through a great deal of evolution, They have become services and product companies.They not only take the operating system off the web, but also develop, integrate, and tune the operating system, develop applications and optimize the code to run better on hardware platfoms and ISV apps. They also provide education and services.

Elaboration of message.

Title: **Our Linux Portfolio for Developers**
Objective: **IBM Capability-IBM has better programs to support Linux application innovators than anyone in the industry, this supports enables us to provide Solutions that are better fit to specific customers business problems.**

In an effort to support and accelerate the momentun towards Linux as a tier 1 development platform, IBM provides a host of programs and offerings for Linux developers.
IBM has packaged its server software, discussed earlier, along with its key development software into a single kit for developers to use. A complementary offering for development purposes, this kit will help developers speed their businesses to adopt the Internet for competitive advantage. It is available on IBM and partners web sites and has just been upgraded with the latest version of the software. Over 13,000 kits have been downloaded thus far. The kit includes

Visual Age for Java: Allows Java developers to quickly create, beans, applets, servlets and applications. Includes: project-based source control, language sensitive editor with code assist, object browser, source level debug capability and many other features

WebSphere Application Server 3.02 - Turns ordinary Linux Apache HTTP Web servers into Java-based Web application servers. Provides a development & runtime environment for dynamic Websites. Includes: Database connection manager, Java servlet run-time and services, Java Server Page support, XML document structure services.

DB2 UDB 7.1 for Linux - DB2 Universal Database is the industry's first multimedia, Web-ready relational database management system. Combines integrated power for business intelligence, content management, enterprise information portals and e-business with industry-leading performance and reliability to drive the most demanding industry solutions.

Includes DB2 Connect for Linux for host connectivity, JDBC, SQLJ, Java, Lotus Domino Application Server, the industry's most advanced integrated messaging and collaborative Web application software platform

In addition to providing a robust, fully featured Java-based web development environment, IBM is extending its PartnerWorld for Developers program to Linux by populating its 15 worldwide porting centers with substantial resources geared to helping the Linux developer improve effectiveness and speed. IBM is investing hundreds of millions of dollars over the next several years to upgrade its worldwide porting centers with comprehensive development support including: Linux systems, a broad range of Linux support programs, Linux development utilities and tools and highly trained Linux technical support experts. These developer services will assist the development through all of the phases, including design, coding, quality-of-service testing and validation and proof-of-concept testing. New support programs have been added to rovide technical support and consultancy for startups using the Linux operating system. The full range of

IBM's eServer products will be available for testing to ensure the developer has access to the environment that they plan to deploy on and to enable solution providers the option of supporting a wide range of configurations.

IBM is also adding new content to the Linux Zone on developerWorks - a free online resource providing Linux developers with credible and reliable content from both IBM and industry-leading sources.

Title: **PartnerWorld for Developers**
Objective: **IBM Capability-IBM has better programs to support Linux application innovators than anyone in the industry, this support enables us to provide Solutions that are better fit to specific customers business problems.**

Our commitment to bring customers e-business solutions does not end at IBM's borders. We're reaching out to combine the industry's best software applications with IBM technologies, services and knowledge of our customers business issues to create powerful new solutions that no other IT company can match.

Companies purchasing Intel-based servers today are buying a complex array of hardware and software manufactured by many different vendors and assembled into one package. If compatibility problems occur, finger pointing - not problem solving - is usually the result. IBM believes it is essential that the buyer knows in advance that the complete package has been tried and tested.

Our ServerProven program, is built around industry alliances--the solutions are preconfigured and tested to provide confidence that all the components work together.
This program also provides substantial support to developers so that we can build the market for Linux applications together.

ServerProven solutions can integrate the capabilities of leading industry application providers with the reliable technology of IBMeServers xSeries in ready-to-run solutions that are easy to implement

Hardware, middleware and software tested and preconfigured on a range of network operating systems

Takes the complexity out of configuring, installing and maintaining networked business systems, helping you improve reliability and availability and lower total cost of ownership
To date, we have over 1000 applications supporting Linux which cover a wide range of areas including accounting, e-commerce, collaboration and retail solutions.

Title: IBM Linux Middleware
Objective: IBM Capability-IBM is an Linux ISV itself.
IBM is swiftly porting its powerful server middleware to the Linux platform.
Given the breadth of our middleware and the importance of top quality and optimized performance, we are moving our software onto Linux in logical waves.

The first wave includes the basic software that comprises the IBM Application Framework for e-business. Standards-based and feature-rich, this framework helps customers, partners, and developers get to e-business quickly and safely. The basis for the Application Framework is IBM's new extended WebSphere family of products. This family consists of three layers: the Foundation, Foundation Extensions and Application Accelerators.

The WebSphere Foundation, now fully supported on Linux as both a development and deployment platform, is based on IBM's industry-leading WebSphere Application Servers and IBM's MQSeries* business integration software. The WebSphere Foundation provides the essential e-business functions of handling transactions and extending back-end business data and applications to the Web.

In addition to WebSphere Foundation products, IBM now supports some of its Foundation Extensions, which are integrated services and tools, such as WebSphere HomePage Builder on Linux. More of these extensions, such as IBM's WebSphere Commerce Suite for building advanced e-business applications, will be available on Linux next year.

Finally, IBM today supports Lotus Domino, one of WebSphere's Application Accelerators and the industry's most advanced integrated messaging and collaborative Web application software platform along with IBM's DB2 Universal Database software, industry's first multimedia, Web-ready relational database management system

Title: ERP Central puts time cards online for on-the-road consultants.
Objective: Proof Point-USING IBM MIDDLEWARE ON LINUX PROVIDES TANGIBLE BENEFITS TO CUSTOMERS.
The life of a consultant doesn't allow for much planning. These experts must be ready, at a moment's notice, to travel to customer sites, lending their expertise, advice and troubleshooting skills. Often, the office is wherever they can sit down--in a car or on a plane--so their office equipment must be portable.

However, portability isn't enough to keep mobile workers productive. They also need to be connected--Internet access enables them to communicate with colleagues and catch up on the latest industry news. Landry Fevre understands life on-the-go because he lives this way. As a enterprise resource planning (ERP) consultant, Fevre created a portal site called ERP Central to tap into the burgeoning market for e-business solutions serving mobile workers.
At www.erpcentral.com, consultants can find technical forums or news about ERP vendors, search for jobs in the field, link to relevant sites and sign up for a free e-mail account. With these features, Fevre knew he could carve out a niche market, but he also wanted to make sure that visitors kept returning. To enhance the stickiness of his portal site, Fevre began offering a free time- and expense-tracking program created by IBM Independent Software Vendor Journyx. Using www.freetimesheet.com, developed for multiple platforms using IBM WebSphere Application Server, Standard Edition and IBM DB2 Universal Database--users don't have to worry about scrambling back to their office each day to submit their time cards--they can do it online.

"Our solution presents an inexpensive and very convenient way to complete a rather routine task," says Fevre. "And the beauty of it is, users keep returning to our site to do it--ERP Central is now attracting 100,000 page views monthly, and this number is increasing 20 percent to 30 percent each month. It has also increased banner ad inventory."

A relationship built on e-business
It was, perhaps, serendipity that while Fevre was seeking a magnet for return visitors, Bill Leake, vice president of marketing at Journyx, came across ERP Central. Knowing that many portal sites incorporate applications from third-party vendors, Leake was seeking prospective customers for his company's Freetimesheet.com solution.

Says Leake, "We're finding vertically focused portals like ERP Central and offering them our behind-the-scenes tool--as very sticky content for their Web sites. And employers should encourage their mobile workers to use our solution. On average, by using a Web-based time tracking solution, companies with 250 users can save 75 percent of their time managing such matters and up to $500,000 annually, with a payback period of less than one month."

A solution tailored for any portal. Accessible from any computer with an Internet connection, the Freetimesheet.com service can be customized and can be hosted either by Journyx or by the customer. "In ERP Central's case, we incorporated their color scheme and logo into our time tracking solution and host it on our Linux server, which has proven to be a reliable, scalable platform," notes Meredith Zachritz, marketing communications manager at Journyx.

What users see on their screens when they're tracking time or expenses are HTML pages. WebSphere Application Server serves up the HTML pages, while DB2 Universal Database stores all of the relevant user information. The solution is designed to scale up to 100,000 users. "DB2 is a very robust, very scalable, very dependable database platform. We looked around and didn't find a better one," says Leake. "As for WebSphere, it is a robust application server, and we envision taking advantage of its support for the lightweight directory access protocol (LDAP) and XML."

Offering convenient features for busy professionals, ERP Central looks to have a bright future in the portal playing field. Fevre will make sure of it--he intends to turn his portal venture into a full-fledged application service provider (ASP)--giving ERP consultants the online business tools they need to succeed.

Says Fevre, "ERP Central is my pride and joy, so I wouldn't offer less than the best tools and features, such as Journyx's IBM–powered online timesheet. The Freetimesheet.com service is proving to be an integral driver of traffic to my portal--which shows that it is filling a void."

Title: Linux Technology Center
Objective: IBM Capability-Active membership of Linux Community.
A large part of what makes Linux unique is its open source heritage. This attribute makes Linux part of our culture like the internet - we all can benefit from it, but we also must nurture it and cultivate its potential. IBM takes on this opportunity with pride and enthusiasm, because we believe that Linux will be, for most companies, an integral part of their ebusiness solutions and we have highly regarded technologies, products and experience that can help Linux eliver maximum value in this role.

To help Linux evolve, IBM has formed the The IBM Linux Technology Center (LTC) with a broad, company-wide mission of helping Linux become a premier ebusiness platform, through IBM technology contributions and IBM product support.

Through the LTC, IBM is developing a world-wide development team working within the Linux community. Our goal is to utilize our world-class IBM programming resources and IBM's best-of-breed software technology to actively accelerate the maturation of Linux. The LTC has programmers working in many facets of Linux already with more to come.

We're involved in

Networking - Token Ring
Systems Management - cluster installation
Journalled File System - JFS port to Linux
Kernel performance - scheduler, Java
IA-64 port - Project Trillian participation glibc/mathlib work - IA-64 high-precision math functions
Linux Standards Base participation
Logical Volume Manager, the Linux Standards Base, Linux cluster installation and many others

Note: To get a list of the latest IBM open source projects, review the site::
http://oss.software.ibm.com/developerworks/opensource/linux.

The amount of effort being expended in IBM around Linux today is astonishing. The overall IBM Linux effort is beyond the scope of any one group. The LTC provides the interface between the

IBM Engineering group and the open source community . Additionally, the LTC coordinates the world-wide net of FTP sites for Linux downloads, the ibm-linux-tech mailing list, and works very closely with the developerWorks team to host the external Open Source and Linux Zones. Our active involvement in the open source community delivers value to our customers. Leading technologies and IBM innovation and robustness wil get injected into Linux. IBM is developing expertise in all facets of Linux, much like we have expertise and knowledge of our own operating systems. This will allow us to provide high-quality support with fast response and high reliability, capabilities that many of competitors cannot provide.

The open source development process is a bit different than traditional development cycles. The Linux community is comprised of developers from thousands of companies including IBM. The community as a whole has the say as to the devlopment direction of Linux. Our active role in the community allows us to bring the requirements and nterests of our customers to the community and to Linux. Contributions made by IBM, including technology and skills are used to form community development projects, possibly in combination with contributions from other companies. The base Linux kernel matures and new versions are released. For example, the 2.4 version of the kernel with many new features is about to be released. Some of the features include IBM contributions of all flavors, including those that enable IBM servers to work in an optimal way. The code that we developed for providing optimal support for the IBM zSeries mainframe is included in the 2.4 release. Companies that provide Linux distributions, combine the standard kernel releases with open source modules to deliver a distribution solution. So its sort of a cyclical process, enabling interested companies like IBM to very involved to ensure that our customer's interests and needs are represented.

Title: Linux Distribution Partnerships
Objective: IBM Capability-We are closer to Linux Distribution partners than any other vendor.

People often make the mistake of thinking that marketing merely consists of cool TV advertisements, and that selling is all about handshakes. The 30-second spot, the big signed deal: these are the kinds of things that get noticed.

Effective marketing involves much more than glossy collateral materials and high-visibility advertising: it is achieved only after thorough study of market segmentation, competitive analysis and future trajectories, which in turn guide our decisions and job definitions with the broad understanding of how we fit into the Linux market. It also involves beginning our work from the customers in, rather than from the company's preferences or capabilities out. Most essentially, it involves holistic thinking about the entire invention-production-marketing-selling chains.

This is they type of objective that we have on our relationship with Linux Distribution partners, we want to grow the market togther, therefore we are not taking the oportunistic stance of using their products and services just to bundle them with ours and create marketing communications campaigns. We are truly collaborating in different ways to give customers a broader range of solutions on the Linux Distribution version of their choice. Starting from reaserch and development all the way to customer engagements, they are an integral part of our strategy.

SuSE, RedHat and Turbolinux are closely working with us on improving Linux on our hardware platforms (Clients, and eServers), they are also part of our services value chain (help center, consulting, education, etc.) and now, our software portfolio is an integral part of the products they offer.

Our developers are very closely linked with those of these partners, as well as our marketing and sales personnel.

We are in continous communication regarding new product introductions and how to provide the best fit of each companies existing products and services into a solution that provides a tangible benefit for customers who decide to depoy it.

Interestingly enough, these companies such as we, are not centralized in one country. We have built strong relationships with them at a geographical level as well, where our international laboratories and sales personel interact on a regular basis, joint solutions are also being created to solve problems that affect each region, where different phases of Linux adoption is being experienced.

Title: **Efffective Distance Learning with Linux by Integrating IBM Middleware with an ISV app.**

Objective: **Proof Point-IBM DELIVERS SOLUTIONS BASED ON IBM NON IBM PRODUCTS TO MAKE CUSTOMERS ENVIRONMENTS MORE EFFICIENT.**

Integrating new Linux applications using IBM middlware into existing processes is not a thing of the future. Companies are effectively BUILDING Linux ebusiness solutions TODAY.
One organisation that's already using Linux for a key web application is Manchester Metropolitan University in the UK.

They provide a distance learning course about the Internet, via the Internet, to over 5,000 remote students.

And their previous solution was unreliable.

Students, of course, don't just work from 9 in the morning to 5 in the evening. They might work at 3am in the middle of the night.

And they expect their distance learning courses to be available, whenever they want to use them. The business partner, Descartes, who was supporting the previous system, found that they had to get out of bed at 3am to restart the server when it crashed.

So they implemented a new distance learning application, built on top of IBM's DB2 database, and Linux.

And it's provided improved reliability - at lower cost.

And happy students.

Title: **Running a scaleable, available, and safe systems environment on Linux**
Objective: **IBM Capability-IBM understands that solutions involve all aspects of the new computing model for e-business in a heterogenous environment. We can DELIVER.**

Title: **Linux Based Intelligent Networking**
Objective: **IBM Capability-Enhancing the Intelligent Infrastructure with Linux**
The web today contains caching solutions, which accelerate access to information on websites. So, for example when the Olympics ran in Sydney, and a million users asked for the result of the 100m race, this doesn't result in a million hits to the original website, all asking for the same piece of information.

Akamai and IBM recently announced an agreement to collaborate in building the next generation of intelligent networking - based on Linux
Intelligent Infrastructure Creation and Operation: Akamai uses caching technology to speed access to Web pages, offering a high-performance, reliable content delivery service. It markets to content providers and Web hosters, offloading much of the Web hosting burden (saving 40% to 70% of server bandwidth and CPU cycles) and reducing backbone traffic for ISP partners. Akamai's new EdgeAdvantage application development platform will allow it to shift to application delivery, threatening to move transaction processing from the data center to the edge of the network and increasingly intertwining Akamai's technology with their customers infrastructure – their new source of strategic control. Sales are projected to increase from $3M in 1999 to $50M in 2000, and $133M in 2001.

Title: **With IBM you can run a responsive Linux environment on the server of your choice**
Objective: **IBM Capability-IBM is the ONLY vendor that can give you the hardware options to take full advantage of Linux.**
Earlier Ipresented the various Linux deployment options that may provide value to your unique ebusiness - native on your server, integrated with your enterprise UNIX installations and co-existing with your mainframe systems. We realize that for many companies, one size simply will not fit all requirements. That's because customers realize that an optimized infrastructure requires the deployment of different server technologies for different workloads.

With IBM you can realize the full flexibility of Linux. We can provide you with a wider range of options than any other company. And each option is finely tuned, capable of realizing its full potential. Taking advantage of Linux's interoperability across disparate plafoms, we have or soon plan to enable all of our servers to run on Linux in creative and optimized ways. With IBM you

have a choice to decide what is the best server, group of servers or families of servers for your Linux ebusiness implementation.

xSeries-- Makes an excellent platform for low to medium capacity web serving or for providing distributed intelligent network functions, such as web caching, firewall, data streaming, and directory services. (Linux runs natively)
pSeries, iSeries -- higher transaction rates & more users, more storage, processing power, and MP capability. Optimal in demanding database environments. iSeries also excells in customer environments where ease-of-use and tight, seamless integration are critical. (pSeries - runs Linux natively or integrated with AIX5L) (iSeries - will run Linux in coexistance with OS/400)
zSeries - high # of transactions & near perfect degree of availability & reliability -- Enables consolidation of workloads onto a single, integrated platform inceasing performance, simpliying administration and lowering cost per unit of work. (Runs Linux natively and in coexistance with eOS)

Let's explore this flexibility in more detail on the next few slides.

Description of the hardware options.

Title: Linux on eServer xSeries and Netfinity
IBM Netfinity® servers offer a reliable foundation for leading Linux-based computing, providing outstanding performance, reliability and manageability for core business applications.
Rreliable, scalable, available - what makes Netfinity different?
X-Architecture. It's our vision of X-architecture which brings leading technology and expertise from our enterprise servers to the Intel processor-based platform.
The X-architecture vision extends to a variety of Netfinity server components all meant to provide you with the highest degree of reliability.

Manageability:Netfinity Director,Light-Path Diagnostics
High Availability:OnForever,Fault Tolerance,Active PCI
Clustering:Operating Systems,Middleware
Core Logic:Processors, Memory, Microelectronics
It's important to note that while not all of these features are available for Linux today, many are, and we continue to strive to provide and support the necessary drivers to continue with this vision.

IBM is working closely with four leading Linux distributors--Caldera Systems, Red Hat Inc., SuSE, AG and TurboLinux-- to optimize their code for IBM Netfinity servers to ensure maximum performance and functionality.
Besides being one of the first hardware vendors to announce support for Linux, we continue to lead with support for more versions of Linux than any other major hardware vendor.
We have also certified and documented the largest number of server models and distributions in multiple languages.

This certification is the first step to a wide range of customer support...including 24x7 HelpCenter Support at no additional charge....

Not just hardware - total IBM solutions, tested and proven.

Wrap it all up with award wining IBM service and support.

Title: Linux on eServer pSeries and RS/6000

IBM's RS/6000 and new pSeries UNIX family has gained the reputation for being the leading family for scalable, reliable UNIX servers in the industry. Now, flexibility is being added to that list of distinguishing features through the addition of Linux support

Flexibility is enhanced by supporting Linux in a variety of ways to help customers meet the widest range of requirements by any one product line. Linux is offered both as native execution on RS/6000 and soon pSeries servers and as an integrated deployment with IBM's award-winning UNIX operating system, AIX. Let's explore each option:

Already available today from SuSE, one of IBM's commercial Linux distribution partners, Linux runs natively on select 32-bit models. The B50 was created specifically for the service provider industry. As a high-performance UNIX solution platform, it is ideally suited for applications, including Web hosting, caching, messaging, firewalls, and directory services. Packaged in a space saving, 2U (3.5") rack-mount enclosure designed for industry-standard 19" racks, the B50 enables installation of as many as 20 servers, 60 discrete network connections and over 720GB of internal storage in the very small footprint of a single rack. The RS/6000 43P Model 150 is is an affordable mid-range workstation for high-performance CAD/CAM and other scientific environments.

IBM is working with open source partners to create an optimized, native Linux implemtation for IBM's 64-bit pSeries servers. The IBM pSeries offers the world's leading RISC / UNIX performance with large symmetric multiprocessor (SMP) scalability, industry-leading clustering advantages and industry-leading storage area network (SAN) solutions. Furthermore, IBM's High Availability Cluster Multiprocessing (HACMP), available in the pSeries, has been rated the highest availability solution in the UNIX market. All pSeries servers have incorporated the latest reliability features like hot-plug redundant fans and power, hot-swappable disk storage bays, dynamic CPU de-allocation and a service processor.

In addition to native Linux execution, IBM supports the intergated deployment approach with the pSeries Servers using the Linux Affinity facility provided with our next generation AIX operating system known as AIX 5L. Uisng this facility,customers can run applications developed for Linux with a simple recompilation to enable those applications to run on AIX. This facility enables Linux applications to gain maximum advantage of AIX's industrial-strength features and the advanced scalability of the pSeries UNIX platform. Features such as up to 24-way SMP, the industry's top rated high-availability clustering, comprehensive workload management and other industrial-strength UNIX capabilities that are the result of 10 years of development can now be enabled for your Linux applications. So if you want the flexibility of maximum application protability and openess which you get from Linux combined with the comfort and security of a field-proven, industrial-strenght delivery platform provided by AIX and pSeries, IBMcan provide this powerful combination.

Finally, IBM's implementation relieves you of the concern about the complexities of rehosting an application in a "foreign" environment. The popular GNU Application Programming Interfaces (APIs) - the standard APIs used by Linux - are being implemented in AIX 5L to provide a fully compatible and standards-based interface. No application changes are needed. Moreover, the implementation will include many popular GNU/Linux development and build tools and provide a Linux "look and feel" application environment to optimize the developer's experience and leverage their skills for enabling rapid, effective re-hosting.
IBM is providing customers the flexibility to include both Unix and Linux environments as components of their e-Business solutions in order to allow them to adapt to changes in their businesses and to integrate new technologies. This easy "movement" of Linux applications to AIX helps customers protect their investments in hardware, applications, data, processes, and skills. Application portability is essential if customers are to be able to adjust to the dynamic nature of e-Business.

Title: Linux on eServer iSeries Preview
The eServer iSeries is the premier integrated business server that's ideal for small- to medium-size businesses who want to enter the sophisticated world of e-business without having to manage the complexity the new world can bring.The iSeries integrates open system functions you'll need for a networked environment. Built-in and pre-tested at the factory, iSeries incorporates an innovative operating system (OS/400), universal database (IBM DB2 Universal Database), communications (TCP/IP), web servers (Apache and IBM HTTP) and IBM Websphere. Also included are system management functions, security, and transaction processing.
The world's most integrated server will shortly provide even greater integration by adding the capability to run Linux in 2001. For existing installations, Linux support in the iSeries Server will bring a new stream of innovative internet applications and functions. iSeries also makes a great Linux deployment platform for a new business application. It's highly integrated, easy to install, easy to use and yet provides greater scalability and higher availability than you can get from a typical Intel server. These features that once were only available on a proprietary operating system, will be made available with the open, ubiquitous Linux operating system.
Using technology developed by IBM known as Logical Partition (LPAR), Linux support will be provided in a way that allows customers to be able to run either exclusive Linux-based workloads or mixed OS/400- and Linux-based workloads for maximum flexibility.

Title: Linux for eServer zSeries (S/390)
Anchoring the eServer line is the mighty zSeries, formerly known as the S/390 mainframe. We have expanded the already rich set of capabilities of the zSeries by providing comprehensive support for Linux. Your not alone if you are wondering a bit about the wisdom and value of marrying the upstart Linux operating system with the worlds most reliable, mission-critical server. You may be thinking that having many options is compelling, but is this one viable. Well, IBM has put alot of thought and a significant investment into Linux for our top end server and I think when you see what we have to offer you will agree that our decision was a truly enlightened one.
The majority of corporate data resides on S/390 systems. Running Linux on an S/390 gives you the advantage of Linux applications accessing enterprise data where it's stored, providing improved responsiveness and reducing unnecessary duplication of data.S/390's legendary capacity makes it the perfect platform to help you simplify your operation and reduce your costs by cutting

the number of servers in your business. One S/390 can do the job of a host of servers scattered across the enterprise, usually offering greater security and reliability in addition to reducing the complexity of maintaining a large number of servers. S/390's flexibility and management characteristics make it possible to add new Linux servers in minutes rather than days.
All of the great flexibility and openness of Linux combined with the qualities of service of S/390 results in an industrial strength Linux environment. And, when you blend the data richness of the S/390 with the web capability of Linux applications you can deliver a highly integrated e-business solution.
The Linux application portfolio will greatly increase the number of applications available to the S/390 customer from the large numbers of highly skilled programmers familiar with Linux. The appeal of running Linux on the S/390 and soon on the zSeries has prompted many companies to recompile their Linux applications to the S/390. Recompilation is all that is required in just about all of the cases we have seen, despite the extraordinary architectural advances provided by the S/390 compared with the standard Intel server. There are hundreds of compiled open source applications available for the S/390. IBM also makes available its application framework for e-buisness on Linux for he S/390 and zSeries servers making these servers the most advanced ebuisness deployment platforms in the industry.
IBM invented the technology often referred to as "virtual server". It is the most advanced technology in the industry for providing fully protected, fully functional and dynamic "zones" for running different workloads on the same physical platform. Others have copied it but no company provides a capability as complete, dynamic, secure and optimized as we do. This technology delivers many advantages, chief among them is the ability to safely consolidate workloads to improve response, simplify administration and reduce costs. Now, this advanced technology is available with Linux.
It can be obtained through our Logical Partition (LPAR) technology and through our VM/ESA or z/VM facilities, enabling use of Linux from all of the environments available for the original S/390 and new zSeries servers.
Also, available now with Linux, is a new S/390 Virtual Image Facility for Linux, a complete server environment for multiple Linux systems on one S/390 processor, another virtual server facility. It is an easy-to-use high performance supervisor that operates within a logical partition or in native S/390 mode and provides the capability to create a significant number of Linux images.
Additionally, IBM provides the IBM S/390 Integrated Facility for Linux, an exciting optional feature, for the S/390 and soon for the zSeries. The Integrated Facility enables an installation to purchase additional processing capacity, exclusively for Linux workloads, with no additional software charges for software running on the other existing processors
A new Linux, Linux for zSeries will support the new 64 bit architecture in real and virtual mode on zSeries processors. 64 bit support eliminates the existing main storage limitation of 2 GB. We expect availability in early 2001, but .
Linux for S/390, currently available on the S/390 Parallel Enterprise Server G5 and G6 and the Multiprise 3000 processors, will also run on zSeries in 31 bit mode.
All of IBM's Linux distribution partners for the eServer line have signed up for supporting the zSeries servers. SuSE and TurboLinux have commercial distributions today, while Red Hat will be providing a commercial distribution for zSeries early next year.

Title: **Linux Clusters**

Title: **Linux Enablement - Global Services**
Objective: **IBM Capability-Global Services ties it all up.**
Service and Support is available 24X7 for the major Linux distributions. Both usage and defect support is provided, and is accessible via a toll-free number or the web. Support is enabled for Netfinity and S/390 servers, along with some OEM servers . Our premium support offerings such as Account Advocate, Advanced Support, and Consult Line have also been enable to meet our Linux customer support requirements.

-Note: we support OEM servers that are certified by the distribution partners
-Note: Advanced Support is the offering used to meet business and mission critical support requirements
-Note: IGS has agreements with key Linux Distribution partners to assist with Linux service and support

Education and Training:
IGS Learning Services has already developed classroom and web based Linux Education and Training, and deployed it in 20 countries and 5 languages. Training is available for everyone from end users to system administrators. IGS Learning Services is also responsible for our Redbooks that assist with Linux implementation, and is a sponsor of the Linux Professional Institute certification.

Professional Services provides our on-site consultant expertise for Linux. For the new Linux company that doesn't know where to begin, to the experienced Enterprise wanting to run Linux on all server platforms, Professional Services can provide a solution. Infrastructure planning and Installation & Configuration consulting are just a few of the capabilities within the IGS Professional Services portfolio. If you need experienced Linux skills to assist with any Linux consideration, Professional Services has the consultants that are required.

Title: **Linux is Becoming Ubiquitous, Delivering Unprecedented Flexibility & Openness**
Objective: IBM Capability-We are the only company that has the breath of products to make companies take advantage of Linux today, in the most efficient way possible.
All of this growth, popularity & optimism around Linux is fueled by a strong value proposition. Customers have looked to open systems to provide flexibility & choice and the movement to open computing has driven dramatic improvements in price/performance.
Enterprise-class UNIX is open, like IBM's AIX operating system, but fragmentation has limited the ubiquity of any one version. Windows NT offers many of the values of open computing, but Microsoft's tight control and desire to dictate standards have limited its potential.
Based on open source development, Linux is truly open and has the potential f delivering the full value of open computing.

This new open paradigm has garnered so much enthusiasm that it has already, in its short active life, become the most ubiquitous server OS.
Never before have customers had this much flexibility in selecting server platforms to run their preferred application. And never before have customers been able connect these servers together as seamlessly as they can with a single common OS.
What you see on this slide is a slice of this enthusiasm - IBM's Linux enablement of its products, from servers, any many of them, to middleware, support, service and development programs.

Objective: **Proof Point-IBM has the Vision, the Commitment and the Viability to successfully partner with customers in the deployment of Linux Environments.**

CERTIFICATE OF SERVICE

Plaintiff/Counterclaim Defendant, The SCO Group, Inc., hereby certifies that a true and correct copy of the foregoing was served on Defendant IBM on the 6th day of July, 2005 by U.S. Mail to:

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